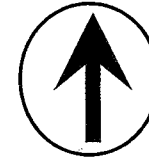


Date : 06/06/19

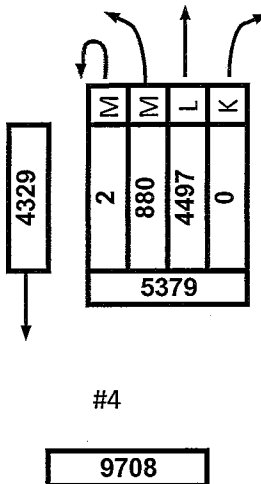
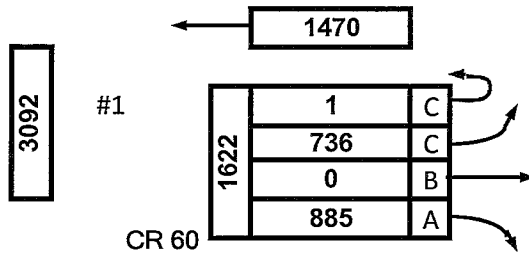
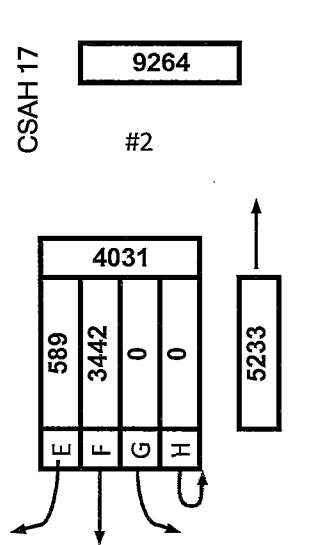
Count Number : TMC 1913

Location : CR 60 (Constance Blvd.)
@ CSAH 17 (Lexington Ave.)

Collection Period : 24 Hours



North



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

Anoka County Highway Department

Traffic Volume and Turning

Movement Study

Date : 06/06/19

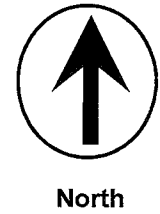
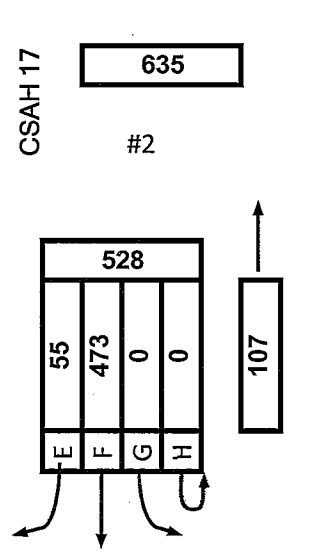
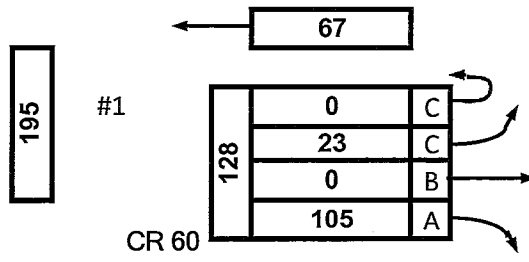
Count Number : TMC 1913

Location : CR 60 (Constance Blvd.)

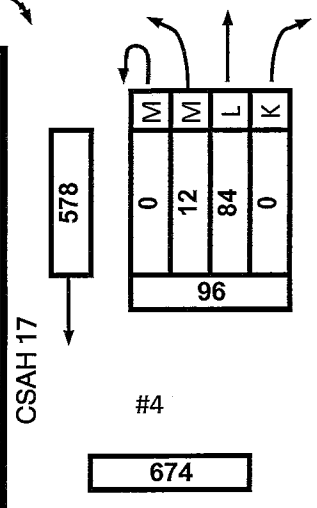
@ CSAH 17 (Lexington Ave.)

Collection Period : 6:15 - 7:15 AM

AM PEAK



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



Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 06/06/19

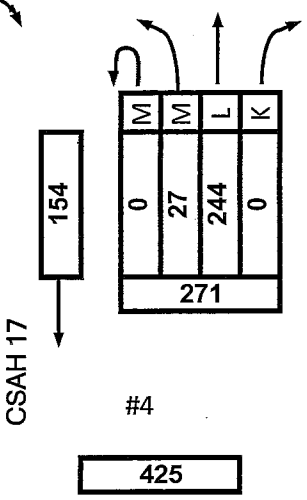
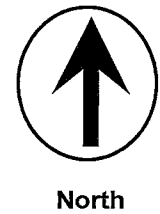
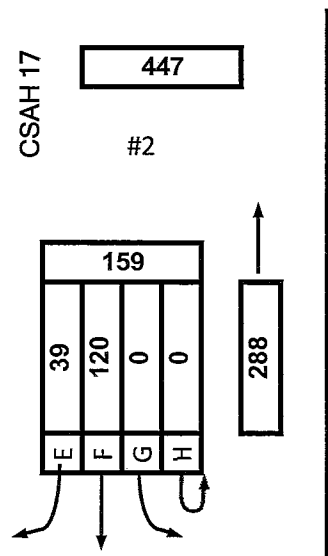
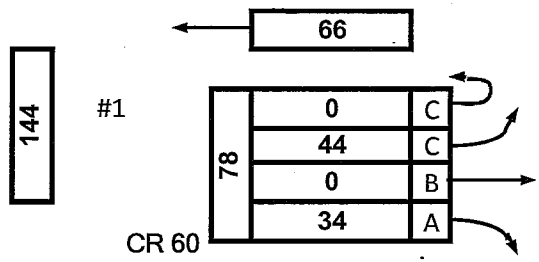
Count Number : TMC 1913

Location : CR 60 (Constance Blvd.)

@ CSAH 17 (Lexington Ave.)

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	0	2
#2	0	0	1	1
#3	0	0	0	0
#4	0	0	1	1

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 06/06/19

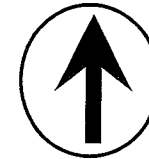
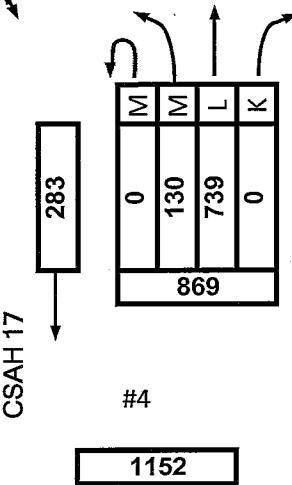
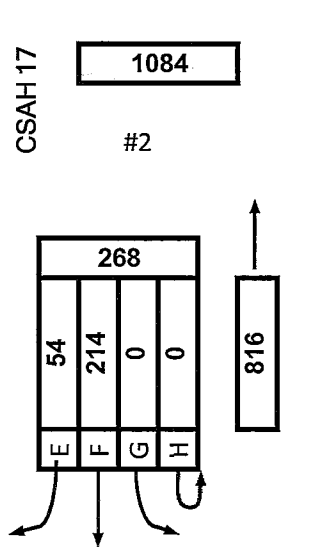
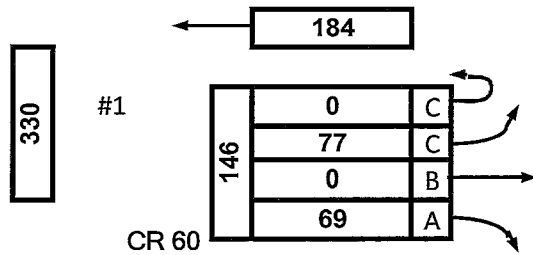
Count Number : TMC 1913

Location : CR 60 (Constance Blvd.)

@ CSAH 17 (Lexington Ave.)

Collection Period : 4:30 - 5:30 PM

PM PEAK



North

EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	1	1	0	2
#2	0	0	1	1
#3	0	0	0	0
#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 & Sunny
 CountCam 200
 Study Conducted By: Ethan

File Name : TMC 1913
 Site Code :
 Start Date : 07/09/2019
 Page No : 1

Groups Printed- Cars + - Trucks

Start Time	CSAH 17 Southbound						Westbound						CSAH 17 Northbound						CR 60 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	0	2	1	0	3	0	0	0	0	0	0	0	1	5	0	0	0	6	0	1	0	0	0	1	0	10	10
00:15	0	0	1	0	0	1	0	0	0	0	0	0	0	1	11	0	0	0	12	0	0	0	1	0	1	0	14	14
00:30	0	0	6	2	0	8	0	0	0	0	0	0	0	2	7	0	0	0	9	0	0	0	0	0	0	0	17	17
00:45	0	0	5	0	0	5	0	0	0	0	0	0	0	2	3	0	0	0	5	0	0	0	0	0	0	0	10	10
Total	0	0	14	3	0	17	0	0	0	0	0	0	0	6	26	0	0	32	0	1	0	1	0	2	0	51	51	
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	0	1	0	4	4	
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	1	0	1	0	5	5	
01:30	0	0	4	1	0	5	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	8	8	
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	2	2	
Total	0	0	4	1	0	5	0	0	0	0	0	0	0	2	10	0	0	12	0	1	0	1	0	2	0	19	19	
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	3	3	
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	1	0	0	0	1	0	4	4	
02:30	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3	3	
02:45	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	0	1	0	4	4	
Total	0	0	1	1	0	2	0	0	0	0	0	0	0	1	9	0	0	10	0	1	0	1	0	2	0	14	14	
03:00	0	0	5	0	0	5	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	6	6	
03:15	0	0	5	0	0	5	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	1	0	1	0	10	10	
03:30	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	5	5	
03:45	0	0	3	0	0	3	0	0	0	0	0	0	0	1	4	0	0	5	0	2	0	0	0	2	0	10	10	
Total	0	0	17	0	0	17	0	0	0	0	0	0	0	4	6	0	0	10	0	2	0	2	0	4	0	31	31	
04:00	0	0	8	0	0	8	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	0	1	0	11	11	
04:15	0	0	18	5	0	23	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	2	0	3	0	28	28	
04:30	0	0	27	4	0	31	0	0	0	0	0	0	0	0	2	0	0	2	0	6	0	4	0	10	0	43	43	
04:45	0	0	29	1	0	30	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	7	0	8	0	40	40	
Total	0	0	82	10	0	92	0	0	0	0	0	0	0	0	8	0	0	8	0	8	0	14	0	22	0	122	122	
05:00	0	0	64	2	0	66	0	0	0	0	0	0	0	1	8	0	0	9	0	2	0	7	0	9	0	84	84	
05:15	0	0	85	2	0	87	0	0	0	0	0	0	0	0	9	0	0	9	0	5	0	18	0	23	0	119	119	
05:30	0	0	113	4	0	117	0	0	0	0	0	0	0	0	8	0	0	8	0	4	0	18	0	22	0	147	147	
05:45	0	0	89	7	0	96	0	0	0	0	0	0	0	4	6	0	0	10	0	5	0	19	0	24	0	130	130	
Total	0	0	351	15	0	366	0	0	0	0	0	0	0	5	31	0	0	36	0	16	0	62	0	78	0	480	480	



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1913
 Site Code :
 Start Date : 07/09/2019
 Page No : 2

Groups Printed- Cars + - Trucks

Start Time	CSAH 17 Southbound						Westbound						CSAH 17 Northbound						CR 60 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				
06:00	0	0	93	5	0	98	0	0	0	0	0	0	0	4	8	0	0	12	0	5	0	24	0	29	0	0	139	139
06:15	0	0	117	10	0	127	0	0	0	0	0	0	0	1	16	0	0	17	0	6	0	31	0	37	0	0	181	181
06:30	0	0	132	13	0	145	0	0	0	0	0	0	0	5	22	0	0	27	0	11	0	37	0	48	0	0	220	220
06:45	0	0	118	9	0	127	0	0	0	0	0	0	0	2	32	0	0	34	0	3	0	20	0	23	0	0	184	184
Total	0	0	460	37	0	497	0	0	0	0	0	0	0	12	78	0	0	90	0	25	0	112	0	137	0	0	724	724
07:00	0	0	106	23	0	129	0	0	0	0	0	0	0	4	14	0	0	18	0	3	0	17	0	20	0	0	167	167
07:15	0	0	95	10	0	105	0	0	0	0	0	0	0	8	23	0	0	31	0	12	0	33	0	45	0	0	181	181
07:30	0	0	94	15	0	109	0	0	0	0	0	0	0	11	26	0	0	37	0	12	0	28	0	40	0	0	186	186
07:45	0	0	88	19	0	107	0	0	0	0	0	0	0	6	26	0	0	32	0	12	0	30	0	42	0	0	181	181
Total	0	0	383	67	0	450	0	0	0	0	0	0	0	29	89	0	0	118	0	39	0	108	0	147	0	0	715	715
08:00	0	0	61	13	0	74	0	0	0	0	0	0	0	5	23	0	0	28	0	8	0	16	0	24	0	0	126	126
08:15	0	0	71	6	0	77	0	0	0	0	0	0	0	10	22	0	0	32	0	5	0	18	0	23	0	0	132	132
08:30	0	0	62	9	0	71	0	0	0	0	0	0	0	4	23	0	0	27	0	8	0	14	0	22	0	0	120	120
08:45	0	0	52	14	0	66	0	0	0	0	0	0	0	9	26	0	0	35	0	2	0	10	0	12	0	0	113	113
Total	0	0	246	42	0	288	0	0	0	0	0	0	0	28	94	0	0	122	0	23	0	58	0	81	0	0	491	491
09:00	0	0	45	10	0	55	0	0	0	0	0	0	0	11	30	0	0	41	0	12	0	13	0	25	0	0	121	121
09:15	0	0	48	11	0	59	0	0	0	0	0	0	0	4	28	0	0	32	0	6	0	10	0	16	0	0	107	107
09:30	0	0	48	8	0	56	0	0	0	0	0	0	0	9	23	0	0	32	0	12	0	9	0	21	0	0	109	109
09:45	0	0	43	3	0	46	0	0	0	0	0	0	0	8	27	0	0	35	0	11	0	10	0	21	0	0	102	102
Total	0	0	184	32	0	216	0	0	0	0	0	0	0	32	108	0	0	140	0	41	0	42	0	83	0	0	439	439
10:00	0	0	27	5	0	32	0	0	0	0	0	0	1	4	29	0	0	34	0	11	0	14	0	25	0	0	91	91
10:15	0	0	34	6	0	40	0	0	0	0	0	0	0	6	42	0	0	48	0	7	0	15	0	22	0	0	110	110
10:30	0	0	33	5	0	38	0	0	0	0	0	0	0	10	45	0	0	55	0	11	0	10	0	21	0	0	114	114
10:45	0	0	31	2	0	33	0	0	0	0	0	0	0	7	32	0	0	39	0	5	0	8	0	13	0	0	85	85
Total	0	0	125	18	0	143	0	0	0	0	0	0	1	27	148	0	0	176	0	34	0	47	0	81	0	0	400	400
11:00	0	0	28	6	0	34	0	0	0	0	0	0	0	8	38	0	0	46	0	9	0	11	0	20	0	0	100	100
11:15	0	0	39	3	0	42	0	0	0	0	0	0	0	7	39	0	0	46	0	6	0	7	1	13	1	0	101	102
11:30	0	0	35	3	0	38	0	0	0	0	0	0	0	12	47	0	0	59	0	14	0	13	0	27	0	0	124	124
11:45	0	0	38	4	0	42	0	0	0	0	0	0	0	11	37	0	0	48	0	8	0	5	0	13	0	0	103	103
Total	0	0	140	16	0	156	0	0	0	0	0	0	0	38	161	0	0	199	0	37	0	36	1	73	1	0	428	429
12:00	0	0	40	3	0	43	0	0	0	0	0	0	0	10	37	0	0	47	0	10	0	10	0	20	0	0	110	110
12:15	0	0	28	8	0	36	0	0	0	0	0	0	0	17	58	0	0	75	0	15	0	9	0	24	0	0	135	135
12:30	0	0	32	7	0	39	0	0	0	0	0	0	0	10	36	0	0	46	0	9	0	10	0	19	0	0	104	104



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1913
 Site Code :
 Start Date : 07/09/2019
 Page No : 3

Groups Printed- Cars + - Trucks

Start Time	CSAH 17 Southbound						Westbound						CSAH 17 Northbound						CR 60 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	0	28	8	0	36	0	0	0	0	0	0	0	14	45	0	0	59	0	8	0	11	0	19	0	0	114	114
Total	0	0	128	26	0	154	0	0	0	0	0	0	0	51	176	0	0	227	0	42	0	40	0	82	0	0	463	463
13:00	0	0	24	10	0	34	0	0	0	0	0	0	0	5	61	0	0	66	0	9	0	5	0	14	0	0	114	114
13:15	0	0	28	7	0	35	0	0	0	0	0	0	0	12	49	0	0	61	0	9	0	16	0	25	0	0	121	121
13:30	0	0	39	10	0	49	0	0	0	0	0	0	0	2	74	0	0	76	0	12	0	6	0	18	0	0	143	143
13:45	0	0	29	12	0	41	0	0	0	0	0	0	0	8	60	0	0	68	0	14	0	7	0	21	0	0	130	130
Total	0	0	120	39	0	159	0	0	0	0	0	0	0	27	244	0	0	271	0	44	0	34	0	78	0	0	508	508
14:00	0	0	42	1	0	43	0	0	0	0	0	0	0	17	78	0	0	95	0	16	0	5	0	21	0	0	159	159
14:15	0	0	35	9	0	44	0	0	0	0	0	0	0	11	62	0	0	73	0	13	0	9	0	22	0	0	139	139
14:30	0	0	29	9	0	38	0	0	0	0	0	0	0	14	96	0	0	110	0	11	0	4	0	15	0	0	163	163
14:45	0	0	36	8	0	44	0	0	0	0	0	0	0	22	107	0	0	129	0	10	0	13	0	23	0	0	196	196
Total	0	0	142	27	0	169	0	0	0	0	0	0	0	64	343	0	0	407	0	50	0	31	0	81	0	0	657	657
15:00	0	0	45	13	0	58	0	0	0	0	0	0	0	28	123	0	0	151	0	16	0	12	0	28	0	0	237	237
15:15	0	0	43	9	0	52	0	0	0	0	0	0	0	23	138	0	0	161	0	13	0	13	0	26	0	0	239	239
15:30	0	0	31	11	0	42	0	0	0	0	0	0	0	24	136	0	0	160	0	18	0	15	0	33	0	0	235	235
15:45	0	0	45	9	0	54	0	0	0	0	0	0	0	24	186	0	0	210	0	16	0	11	0	27	0	0	291	291
Total	0	0	164	42	0	206	0	0	0	0	0	0	0	99	583	0	0	682	0	63	0	51	0	114	0	0	1002	1002
16:00	0	0	40	8	0	48	0	0	0	0	0	0	0	37	157	0	0	194	0	18	0	17	0	35	0	0	277	277
16:15	0	0	54	8	0	62	0	0	0	0	0	0	0	32	169	0	0	201	0	28	0	13	0	41	0	0	304	304
16:30	0	0	65	9	0	74	0	0	0	0	0	0	0	38	188	0	0	226	0	13	0	24	0	37	0	0	337	337
16:45	0	0	45	18	0	63	0	0	0	0	0	0	0	36	179	0	0	215	0	23	0	11	0	34	0	0	312	312
Total	0	0	204	43	0	247	0	0	0	0	0	0	0	143	693	0	0	836	0	82	0	65	0	147	0	0	1230	1230
17:00	0	0	48	13	0	61	0	0	0	0	0	0	0	32	171	0	0	203	0	21	0	17	0	38	0	0	302	302
17:15	0	0	56	14	0	70	0	0	0	0	0	0	0	24	201	0	0	225	0	20	0	17	0	37	0	0	332	332
17:30	0	0	32	16	0	48	0	0	0	0	0	0	0	36	171	0	0	207	0	14	0	13	0	27	0	0	282	282
17:45	0	0	43	19	0	62	0	0	0	0	0	0	0	16	174	0	0	190	0	14	0	17	0	31	0	0	283	283
Total	0	0	179	62	0	241	0	0	0	0	0	0	0	108	717	0	0	825	0	69	0	64	0	133	0	0	1199	1199
18:00	0	0	31	8	0	39	0	0	0	0	0	0	0	24	105	0	0	129	0	19	0	10	0	29	0	0	197	197
18:15	0	0	31	8	0	39	0	0	0	0	0	0	0	18	105	0	0	123	0	11	0	14	0	25	0	0	187	187
18:30	0	0	40	10	0	50	0	0	0	0	0	0	0	13	95	0	0	108	0	12	0	14	0	26	0	0	184	184
18:45	0	0	41	2	0	43	0	0	0	0	0	0	0	15	67	0	0	82	0	8	0	6	0	14	0	0	139	139
Total	0	0	143	28	0	171	0	0	0	0	0	0	0	70	372	0	0	442	0	50	0	44	0	94	0	0	707	707



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 1913
 Site Code :
 Start Date : 07/09/2019
 Page No : 4

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

Groups Printed- Cars + - Trucks

Start Time	CSAH 17 Southbound						Westbound						CSAH 17 Northbound						CR 60 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	0	28	6	0	34	0	0	0	0	0	0	1	14	59	0	0	74	0	8	0	3	0	11	0	0	119	119
19:15	0	0	33	6	0	39	0	0	0	0	0	0	0	7	56	0	0	63	0	17	0	9	0	26	0	0	128	128
19:30	0	0	29	5	0	34	0	0	0	0	0	0	0	10	58	0	0	68	0	9	0	6	1	15	1	0	117	118
19:45	0	0	31	6	0	37	0	0	0	0	0	0	0	10	43	0	0	53	0	7	0	3	0	10	0	0	100	100
Total	0	0	121	23	0	144	0	0	0	0	0	0	1	41	216	0	0	258	0	41	0	21	1	62	1	0	464	465
20:00	0	0	34	4	0	38	0	0	0	0	0	0	0	15	37	0	0	52	0	9	0	4	0	13	0	0	103	103
20:15	0	0	23	7	0	30	0	0	0	0	0	0	0	6	35	0	0	41	1	5	0	1	0	7	0	0	78	78
20:30	0	0	20	7	0	27	0	0	0	0	0	0	0	8	28	0	0	36	0	2	0	11	0	13	0	0	76	76
20:45	0	0	17	8	0	25	0	0	0	0	0	0	0	12	42	0	0	54	0	7	0	3	0	10	0	0	89	89
Total	0	0	94	26	0	120	0	0	0	0	0	0	0	41	142	0	0	183	1	23	0	19	0	43	0	0	346	346
21:00	0	0	30	6	0	36	0	0	0	0	0	0	0	11	29	0	0	40	0	6	0	5	0	11	0	0	87	87
21:15	0	0	24	6	0	30	0	0	0	0	0	0	0	8	41	0	0	49	0	8	0	7	0	15	0	0	94	94
21:30	0	0	16	4	0	20	0	0	0	0	0	0	0	2	27	0	0	29	0	6	0	4	0	10	0	0	59	59
21:45	0	0	16	5	0	21	0	0	0	0	0	0	0	6	31	0	0	37	0	4	0	2	0	6	0	0	64	64
Total	0	0	86	21	0	107	0	0	0	0	0	0	0	27	128	0	0	155	0	24	0	18	0	42	0	0	304	304
22:00	0	0	12	2	0	14	0	0	0	0	0	0	0	9	20	0	0	29	0	4	0	9	0	13	0	0	56	56
22:15	0	0	12	2	0	14	0	0	0	0	0	0	0	3	23	0	0	26	0	2	0	1	0	3	0	0	43	43
22:30	0	0	11	2	0	13	0	0	0	0	0	0	0	4	20	0	0	24	0	6	0	0	0	6	0	0	43	43
22:45	0	0	6	1	0	7	0	0	0	0	0	0	0	3	11	0	0	14	0	4	0	2	0	6	0	0	27	27
Total	0	0	41	7	0	48	0	0	0	0	0	0	0	19	74	0	0	93	0	16	0	12	0	28	0	0	169	169
23:00	0	0	6	1	0	7	0	0	0	0	0	0	0	3	9	0	0	12	0	1	0	1	0	2	0	0	21	21
23:15	0	0	5	2	0	7	0	0	0	0	0	0	0	2	13	0	0	15	0	1	0	0	0	1	0	0	23	23
23:30	0	0	1	0	0	1	0	0	0	0	0	0	0	1	12	0	0	13	0	0	0	1	0	1	0	0	15	15
23:45	0	0	1	0	0	1	0	0	0	0	0	0	0	0	7	0	0	7	0	2	0	0	0	2	0	0	10	10
Total	0	0	13	3	0	16	0	0	0	0	0	0	0	6	41	0	0	47	0	4	0	2	0	6	0	0	69	69
Grand Total	0	0	3442	589	0	4031	0	0	0	0	0	0	2	880	4497	0	0	5379	1	736	0	885	2	1622	2	0	11032	11034
Apprch %	0	0	85.4	14.6			0	0	0	0			0	16.4	83.6	0			0.1	45.4	0	54.6						
Total %	0	0	31.2	5.3		36.5	0	0	0	0		0	0	8	40.8	0		48.8	0	6.7	0	8		14.7	0	0	100	
Cars +	0	0	3366	510		3876	0	0	0	0		0	2	854	4393	0		5249	1	680	0	864		1547	0	0	10672	
% Cars +	0	0	97.8	86.6	0	96.2	0	0	0	0	0	0	100	97	97.7	0	0	97.6	100	92.4	0	97.6	100	95.3	0	0	96.7	
Trucks	0	0	76	79		155	0	0	0	0		0	0	26	104	0		130	0	56	0	21		77	0	0	362	
% Trucks	0	0	2.2	13.4	0	3.8	0	0	0	0	0	0	0	3	2.3	0	0	2.4	0	7.6	0	2.4	0	4.7	0	0	3.3	



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1913
 Site Code :
 Start Date : 07/09/2019
 Page No : 5

Start Time	CSAH 17 Southbound					Westbound					CSAH 17 Northbound					CR 60 Eastbound					Int. Total
	UTm	Left	Thru	Right	App. Total	UTm	Left	Thru	Right	App. Total	UTm	Left	Thru	Right	App. Total	UTm	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 06:15																					
06:15	0	0	117	10	127	0	0	0	0	0	0	1	16	0	17	0	6	0	31	37	181
06:30	0	0	132	13	145	0	0	0	0	0	0	5	22	0	27	0	11	0	37	48	220
06:45	0	0	118	9	127	0	0	0	0	0	0	2	32	0	34	0	3	0	20	23	184
07:00	0	0	106	23	129	0	0	0	0	0	0	4	14	0	18	0	3	0	17	20	167
Total Volume	0	0	473	55	528	0	0	0	0	0	0	12	84	0	96	0	23	0	105	128	752
% App. Total	0	0	89.6	10.4		0	0	0	0	0	0	12.5	87.5	0		0	18	0	82		
PHF	.000	.000	.896	.598	.910	.000	.000	.000	.000	.000	.000	.600	.656	.000	.706	.000	.523	.000	.709	.667	.855
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	0	24	10	34	0	0	0	0	0	0	5	61	0	66	0	9	0	5	14	114
13:15	0	0	28	7	35	0	0	0	0	0	0	12	49	0	61	0	9	0	16	25	121
13:30	0	0	39	10	49	0	0	0	0	0	0	2	74	0	76	0	12	0	6	18	143
13:45	0	0	29	12	41	0	0	0	0	0	0	8	60	0	68	0	14	0	7	21	130
Total Volume	0	0	120	39	159	0	0	0	0	0	0	27	244	0	271	0	44	0	34	78	508
% App. Total	0	0	75.5	24.5		0	0	0	0	0	0	10	90	0		0	56.4	0	43.6		
PHF	.000	.000	.769	.813	.811	.000	.000	.000	.000	.000	.000	.563	.824	.000	.891	.000	.786	.000	.531	.780	.888
Peak Hour Analysis From 14:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	65	9	74	0	0	0	0	0	0	38	188	0	226	0	13	0	24	37	337
16:45	0	0	45	18	63	0	0	0	0	0	0	36	179	0	215	0	23	0	11	34	312
17:00	0	0	48	13	61	0	0	0	0	0	0	32	171	0	203	0	21	0	17	38	302
17:15	0	0	56	14	70	0	0	0	0	0	0	24	201	0	225	0	20	0	17	37	332
Total Volume	0	0	214	54	268	0	0	0	0	0	0	130	739	0	869	0	77	0	69	146	1283
% App. Total	0	0	79.9	20.1		0	0	0	0	0	0	15	85	0		0	52.7	0	47.3		
PHF	.000	.000	.823	.750	.905	.000	.000	.000	.000	.000	.000	.855	.919	.000	.961	.000	.837	.000	.719	.961	.952



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1913
 Site Code :
 Start Date : 07/09/2019
 Page No : 1

Groups Printed- Trucks

Start Time	CSAH 17 Southbound					Westbound					CSAH 17 Northbound					CR 60 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	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
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
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	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
05:45	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	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
06:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	2
06:15	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:30	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	4	4
06:45	0	0	1	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	3
Total	0	0	3	1	4	0	0	0	0	0	0	0	3	0	3	0	2	0	1	3	10	10
07:00	0	0	3	5	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
07:15	0	0	2	1	3	0	0	0	0	0	0	0	2	0	2	0	1	0	1	2	7	7
07:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	3	3
07:45	0	0	0	3	3	0	0	0	0	0	0	0	3	0	3	0	3	0	0	3	9	9
Total	0	0	6	9	15	0	0	0	0	0	0	0	5	0	5	0	5	0	2	7	27	27
08:00	0	0	1	2	3	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	6	6
08:15	0	0	5	1	6	0	0	0	0	0	0	0	2	0	2	0	1	0	2	3	11	11
08:30	0	0	0	2	2	0	0	0	0	0	0	1	2	0	3	0	3	0	0	3	8	8
08:45	0	0	5	5	10	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	14	14
Total	0	0	11	10	21	0	0	0	0	0	0	3	7	0	10	0	6	0	2	8	39	39
09:00	0	0	1	0	1	0	0	0	0	0	0	1	3	0	4	0	2	0	1	3	8	8



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 1913
 Site Code :
 Start Date : 07/09/2019
 Page No : 2

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

Groups Printed- Trucks

Start Time	CSAH 17 Southbound					Westbound					CSAH 17 Northbound					CR 60 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	2	2	0	0	0	0	0	0	0	4	0	4	0	2	0	1	3	9
09:30	0	0	1	2	3	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	6
09:45	0	0	6	2	8	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	9
Total	0	0	8	6	14	0	0	0	0	0	0	1	10	0	11	0	5	0	2	7	32
10:00	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
10:15	0	0	3	2	5	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	7
10:30	0	0	1	0	1	0	0	0	0	0	0	0	5	0	5	0	2	0	1	3	9
10:45	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	3
Total	0	0	5	3	8	0	0	0	0	0	0	1	7	0	8	0	5	0	1	6	22
11:00	0	0	2	2	4	0	0	0	0	0	0	1	2	0	3	0	0	0	1	1	8
11:15	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:30	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3	6
11:45	0	0	0	1	1	0	0	0	0	0	0	0	2	0	2	0	2	0	0	2	5
Total	0	0	6	4	10	0	0	0	0	0	0	1	4	0	5	0	4	0	2	6	21
12:00	0	0	2	1	3	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	6
12:15	0	0	2	0	2	0	0	0	0	0	0	0	7	0	7	0	1	0	3	4	13
12:30	0	0	2	1	3	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	5
12:45	0	0	0	1	1	0	0	0	0	0	0	2	3	0	5	0	0	0	0	0	6
Total	0	0	6	3	9	0	0	0	0	0	0	3	13	0	16	0	2	0	3	5	30
13:00	0	0	1	4	5	0	0	0	0	0	0	0	2	0	2	0	1	0	0	1	8
13:15	0	0	0	1	1	0	0	0	0	0	0	0	2	0	2	0	1	0	0	1	4
13:30	0	0	1	3	4	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	7
13:45	0	0	0	3	3	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	6
Total	0	0	2	11	13	0	0	0	0	0	0	0	8	0	8	0	4	0	0	4	25
14:00	0	0	1	1	2	0	0	0	0	0	0	1	4	0	5	0	4	0	0	4	11
14:15	0	0	2	4	6	0	0	0	0	0	0	1	2	0	3	0	2	0	0	2	11
14:30	0	0	2	0	2	0	0	0	0	0	0	0	2	0	2	0	1	0	0	1	5
14:45	0	0	4	2	6	0	0	0	0	0	0	2	5	0	7	0	1	0	1	2	15
Total	0	0	9	7	16	0	0	0	0	0	0	4	13	0	17	0	8	0	1	9	42
15:00	0	0	3	3	6	0	0	0	0	0	0	1	2	0	3	0	1	0	1	2	11
15:15	0	0	3	1	4	0	0	0	0	0	0	0	3	0	3	0	2	0	0	2	9
15:30	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	0	3	5
15:45	0	0	3	2	5	0	0	0	0	0	0	1	4	0	5	0	1	0	0	1	11
Total	0	0	9	6	15	0	0	0	0	0	0	2	11	0	13	0	7	0	1	8	36
16:00	0	0	2	3	5	0	0	0	0	0	0	0	5	0	5	0	1	0	0	1	11
16:15	0	0	1	2	3	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	7
16:30	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	0	0	0	2	2	6
16:45	0	0	1	3	4	0	0	0	0	0	0	0	4	0	4	0	1	0	0	1	9
Total	0	0	4	8	12	0	0	0	0	0	0	4	13	0	17	0	2	0	2	4	33
17:00	0	0	0	2	2	0	0	0	0	0	0	1	1	0	2	0	1	0	1	2	6
17:15	0	0	1	1	2	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	5
17:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
17:45	0	0	1	5	6	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	10
Total	0	0	2	8	10	0	0	0	0	0	0	4	5	0	9	0	3	0	1	4	23
18:00	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
18:15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	0	2	4
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
18:45	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Total	0	0	1	2	3	0	0	0	0	0	0	0	3	0	3	0	2	0	1	3	9



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1913
 Site Code :
 Start Date : 07/09/2019
 Page No : 3

Groups Printed- Trucks

Start Time	CSAH 17 Southbound					Westbound					CSAH 17 Northbound					CR 60 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
19:30	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0
19:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	1	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	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	0	1	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
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	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
21:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
22:00	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
22:30	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
Total	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
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	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
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	76	79	155	0	0	0	0	0	0	26	104	0	130	0	56	0	21	77	362
Apprch %	0	0	49	51		0	0	0	0		0	20	80	0		0	72.7	0	27.3		
Total %	0	0	21	21.8	42.8	0	0	0	0	0	0	7.2	28.7	0	35.9	0	15.5	0	5.8	21.3	

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 1913

Study Date: 07/15/2019

Page No: 1

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 17

Number of Lanes : 1

Total Approach Volume: 5,379

Southbound: CSAH 17

Number of Lanes : 1

Total Approach Volume: 4,031

Minor Street Approaches

Eastbound: CR 60

Number of Lanes : 1

Total Approach Volume: 1,622

Westbound:

Number of Lanes : 1

Total Approach Volume: 0

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 7 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic.....Not Satisfied

Required volumes reached for 7 hours, 8 are needed

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

Required 1A volumes reached for 10 hours, 8 are needed

Required 1B volumes reached for 9 hours, 8 are needed

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

Number of hours (6) 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 1913**

Study Date: **07/15/2019**

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 7 hours meet minimums.
Warrant is NOT met.

Site Data Required

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

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **350**

Veh/Hr Minor = **105**

Time	Major Road CSAH 17				Total	Minor Road CR 60		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:45 - 17:45	850	+	242	=	1092	136	0	Yes
15:45 - 16:45	831	+	238	=	1069	140	0	Yes
14:45 - 15:45	601	+	196	=	797	110	0	Yes
17:45 - 18:45	550	+	190	=	740	111	0	Yes
06:30 - 07:30	110	+	506	=	616	136	0	Yes
07:30 - 08:30	129	+	367	=	496	129	0	Yes
05:30 - 06:30	47	+	438	=	485	112	0	Yes
14:30 - 15:30	551	+	192	=	743	92	0	No
14:15 - 15:15	463	+	184	=	647	88	0	No
14:00 - 15:00	407	+	169	=	576	81	0	No
13:45 - 14:45	346	+	166	=	512	79	0	No
13:30 - 14:30	312	+	177	=	489	82	0	No
13:15 - 14:15	300	+	168	=	468	85	0	No
18:45 - 19:45	287	+	150	=	437	66	0	No
05:15 - 06:15	39	+	398	=	437	98	0	No
13:00 - 14:00	271	+	159	=	430	78	0	No
12:45 - 13:45	262	+	154	=	416	76	0	No
19:00 - 20:00	258	+	144	=	402	62	0	No
05:00 - 06:00	36	+	366	=	402	78	0	No
12:15 - 13:15	246	+	145	=	391	76	0	No
11:30 - 12:30	229	+	159	=	388	84	0	No
08:30 - 09:30	135	+	251	=	386	75	0	No
19:15 - 20:15	236	+	148	=	384	64	0	No
12:00 - 13:00	227	+	154	=	381	82	0	No
12:30 - 13:30	232		144		376	77	0	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMC 1913**
 Study Date: **07/15/2019**
 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

Only 7 hours meet minimums.
 Warrant is NOT met.

Site Data Required

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

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **525**
 Veh/Hr Minor = **53**

Time	Major Road CSAH 17				Total	Minor Road CR 60		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	836	+	247	=	1083	147	0	Yes
17:00 - 18:00	825	+	241	=	1066	133	0	Yes
15:00 - 16:00	682	+	206	=	888	114	0	Yes
18:00 - 19:00	442	+	171	=	613	94	0	Yes
06:45 - 07:45	120	+	470	=	590	128	0	Yes
14:00 - 15:00	407	+	169	=	576	81	0	Yes
05:45 - 06:45	66	+	466	=	532	138	0	Yes
13:45 - 14:45	346	+	166	=	512	79	0	No
13:30 - 14:30	312	+	177	=	489	82	0	No
05:30 - 06:30	47	+	438	=	485	112	0	No
13:15 - 14:15	300	+	168	=	468	85	0	No
07:45 - 08:45	119	+	329	=	448	111	0	No
05:15 - 06:15	39	+	398	=	437	98	0	No
13:00 - 14:00	271	+	159	=	430	78	0	No
12:45 - 13:45	262	+	154	=	416	76	0	No
08:00 - 09:00	122	+	288	=	410	81	0	No
08:15 - 09:15	135	+	269	=	404	82	0	No
19:00 - 20:00	258	+	144	=	402	62	0	No
05:00 - 06:00	36	+	366	=	402	78	0	No
12:15 - 13:15	246	+	145	=	391	76	0	No
11:30 - 12:30	229	+	159	=	388	84	0	No
08:30 - 09:30	135	+	251	=	386	75	0	No
19:15 - 20:15	236	+	148	=	384	64	0	No
12:00 - 13:00	227	+	154	=	381	82	0	No
12:30 - 13:30	232		144		376	77	0	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMC 1913**

Study Date: **07/15/2019**

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

10 hours meet 1A minimums.
9 hours meet 1B minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **280 420**

Veh/Hr Minor = **84 42**

Major Road

CSAH 17

Minor Road

CR 60

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:15 - 17:15	845	+	260	=	1105	150	0	Yes
17:15 - 18:15	751	+	219	=	970	124	0	Yes
15:15 - 16:15	725	+	196	=	921	121	0	Yes
14:15 - 15:15	463	+	184	=	647	88	0	Yes
06:15 - 07:15	96	+	528	=	624	128	0	Yes
07:15 - 08:15	128	+	395	=	523	151	0	Yes
13:15 - 14:15	300	+	168	=	468	85	0	Yes
05:15 - 06:15	39	+	398	=	437	98	0	Yes
11:30 - 12:30	229	+	159	=	388	84	0	Yes
09:30 - 10:30	149	+	174	=	323	89	0	Yes
18:15 - 19:15	387	+	166	=	553	76	0	No
18:30 - 19:30	327	+	166	=	493	77	0	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:00 - 17:00	836	+	247	=	1083	147	0	Yes
17:00 - 18:00	825	+	241	=	1066	133	0	Yes
15:00 - 16:00	682	+	206	=	888	114	0	Yes
06:15 - 07:15	96	+	528	=	624	128	0	Yes
18:00 - 19:00	442	+	171	=	613	94	0	Yes
14:00 - 15:00	407	+	169	=	576	81	0	Yes
07:15 - 08:15	128	+	395	=	523	151	0	Yes
05:15 - 06:15	39	+	398	=	437	98	0	Yes
13:00 - 14:00	271	+	159	=	430	78	0	Yes
12:45 - 13:45	262	+	154	=	416	76	0	No
08:15 - 09:15	135	+	269	=	404	82	0	No
05:00 - 06:00	36	+	366	=	402	78	0	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMC 1913**

Study Date: **07/15/2019**

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.

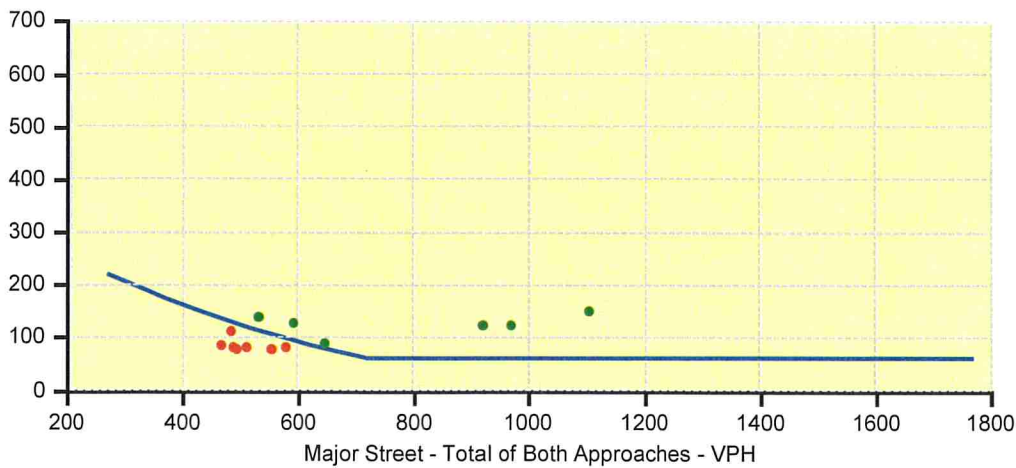
Summary

6 hours meet minimums.
Warrant IS met.

Site Data Required

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

Time	Major Road CSAH 17				Total	Minor Road CR 60		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	845	+	260	=	1105	150	0	Yes
17:15 - 18:15	751	+	219	=	970	124	0	Yes
15:15 - 16:15	725	+	196	=	921	121	0	Yes
14:15 - 15:15	463	+	184	=	647	88	0	Yes
06:45 - 07:45	120	+	470	=	590	128	0	Yes
05:45 - 06:45	66	+	466	=	532	138	0	Yes
14:00 - 15:00	407	+	169	=	576	81	0	No
18:15 - 19:15	387	+	166	=	553	76	0	No
13:45 - 14:45	346	+	166	=	512	79	0	No
18:30 - 19:30	327	+	166	=	493	77	0	No
13:30 - 14:30	312	+	177	=	489	82	0	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMC 1913**

Study Date: **07/15/2019**

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

11 hours meet minimums.
Warrant IS met.

Site Data Required

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

Time	Major Road CSAH 17				Total	Minor Road CR 60		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:30 - 17:30	869	+	268	=	1137	146	0	Yes
16:15 - 17:15	845	+	260	=	1105	150	0	Yes
16:45 - 17:45	850	+	242	=	1092	136	0	Yes
16:00 - 17:00	836	+	247	=	1083	147	0	Yes
15:45 - 16:45	831	+	238	=	1069	140	0	Yes
17:00 - 18:00	825	+	241	=	1066	133	0	Yes
15:30 - 16:30	765	+	206	=	971	136	0	Yes
17:15 - 18:15	751	+	219	=	970	124	0	Yes
15:15 - 16:15	725	+	196	=	921	121	0	Yes
15:00 - 16:00	682	+	206	=	888	114	0	Yes
17:30 - 18:30	649	+	188	=	837	112	0	Yes
							0	No

