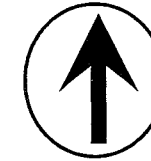


Date : 08/02/17

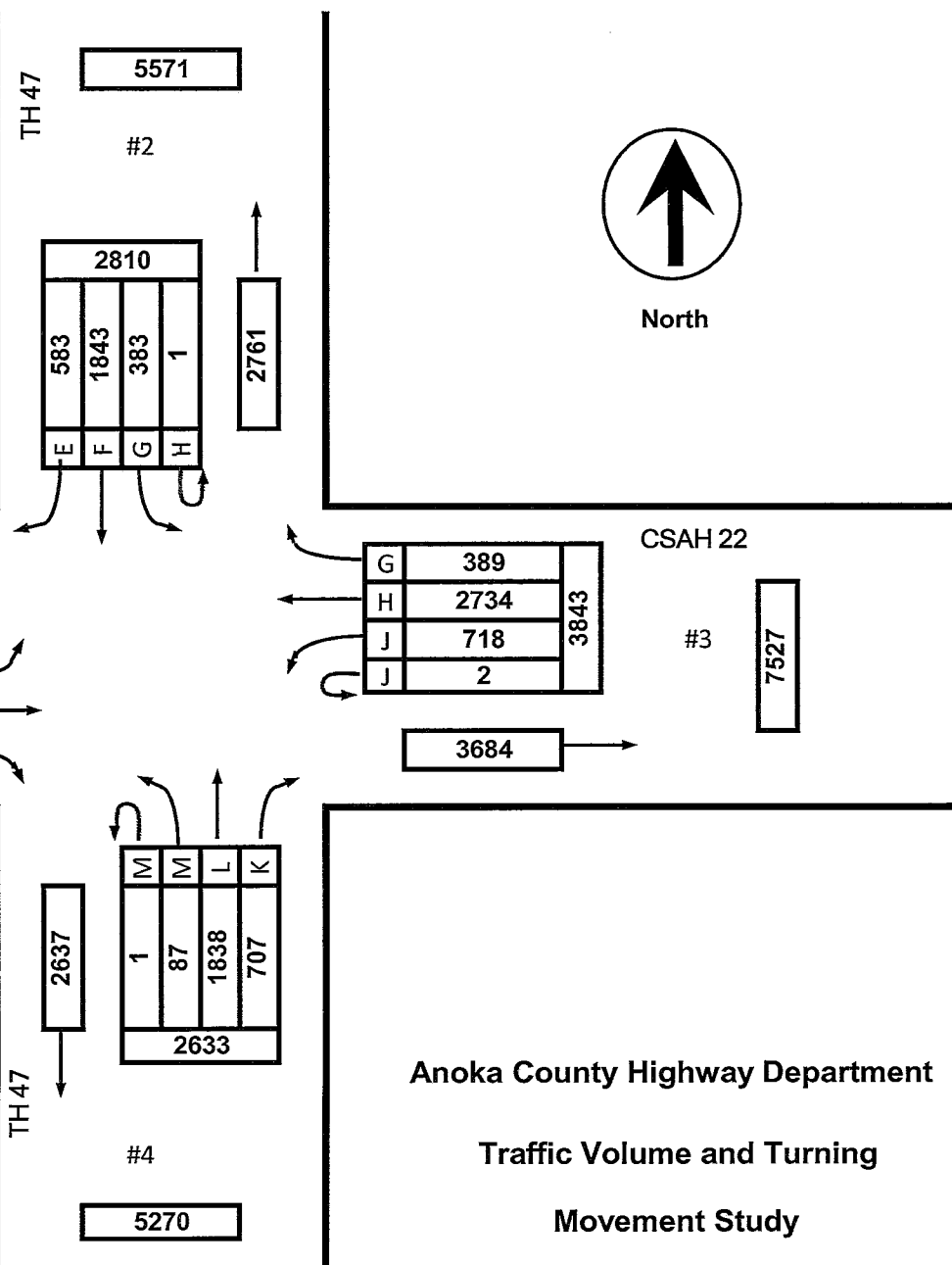
Count Number : TMC 1733

Location : CSAH 22 (Viking Blvd.)
TH 47 (Saint Francis Blvd.)

Collection Period : 24 HOURS



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 08/02/17

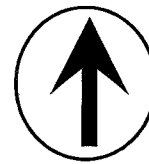
Count Number : TMC 1733

Location : CSAH 22 (Viking Blvd.)

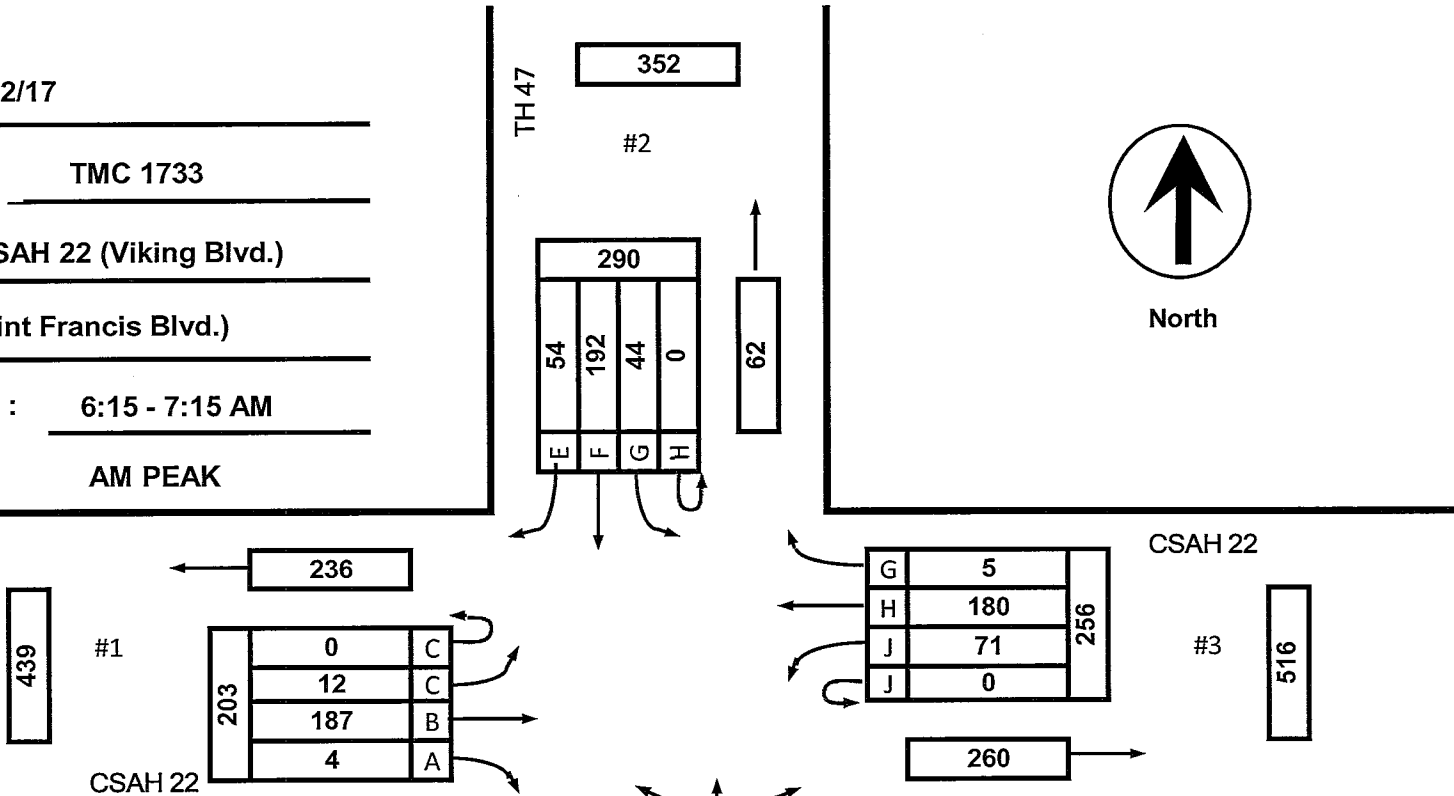
TH 47 (Saint Francis Blvd.)

Collection Period : 6:15 - 7:15 AM

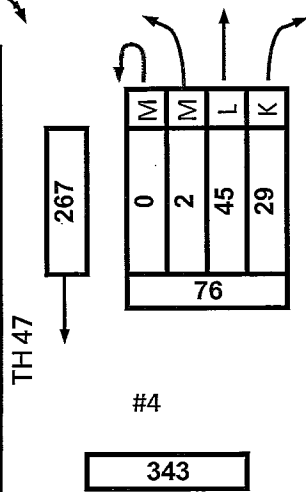
AM PEAK



North



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



Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 08/02/17

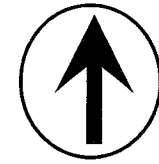
Count Number : TMC 1733

Location : CSAH 22 (Viking Blvd.)

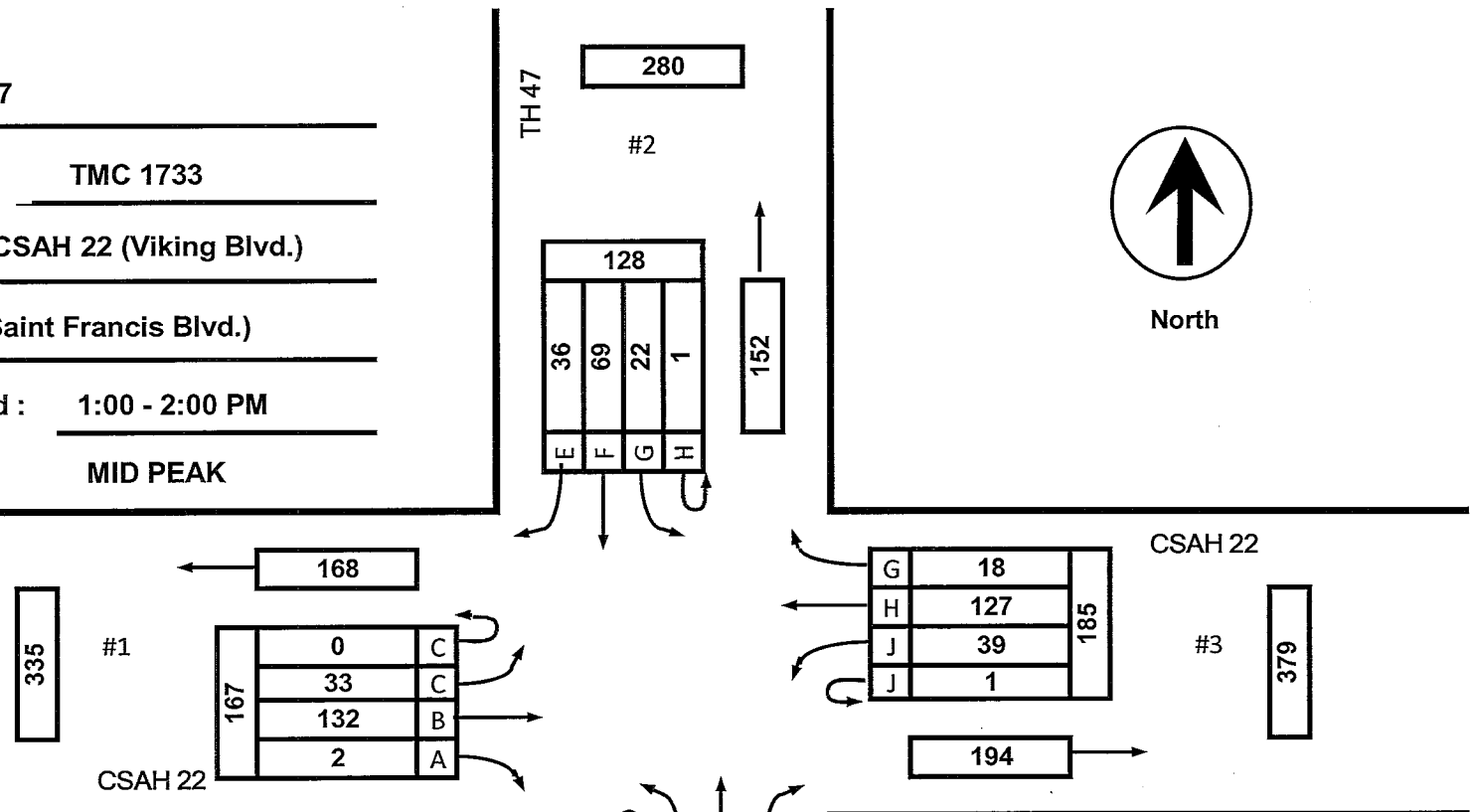
TH 47 (Saint Francis Blvd.)

Collection Period : 1:00 - 2:00 PM

MID PEAK



North



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

Anoka County Highway Department
Traffic Volume and Turning
Movement Study

Date : 08/02/17

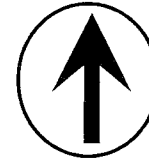
Count Number : TMC 1733

Location : CSAH 22 (Viking Blvd.)

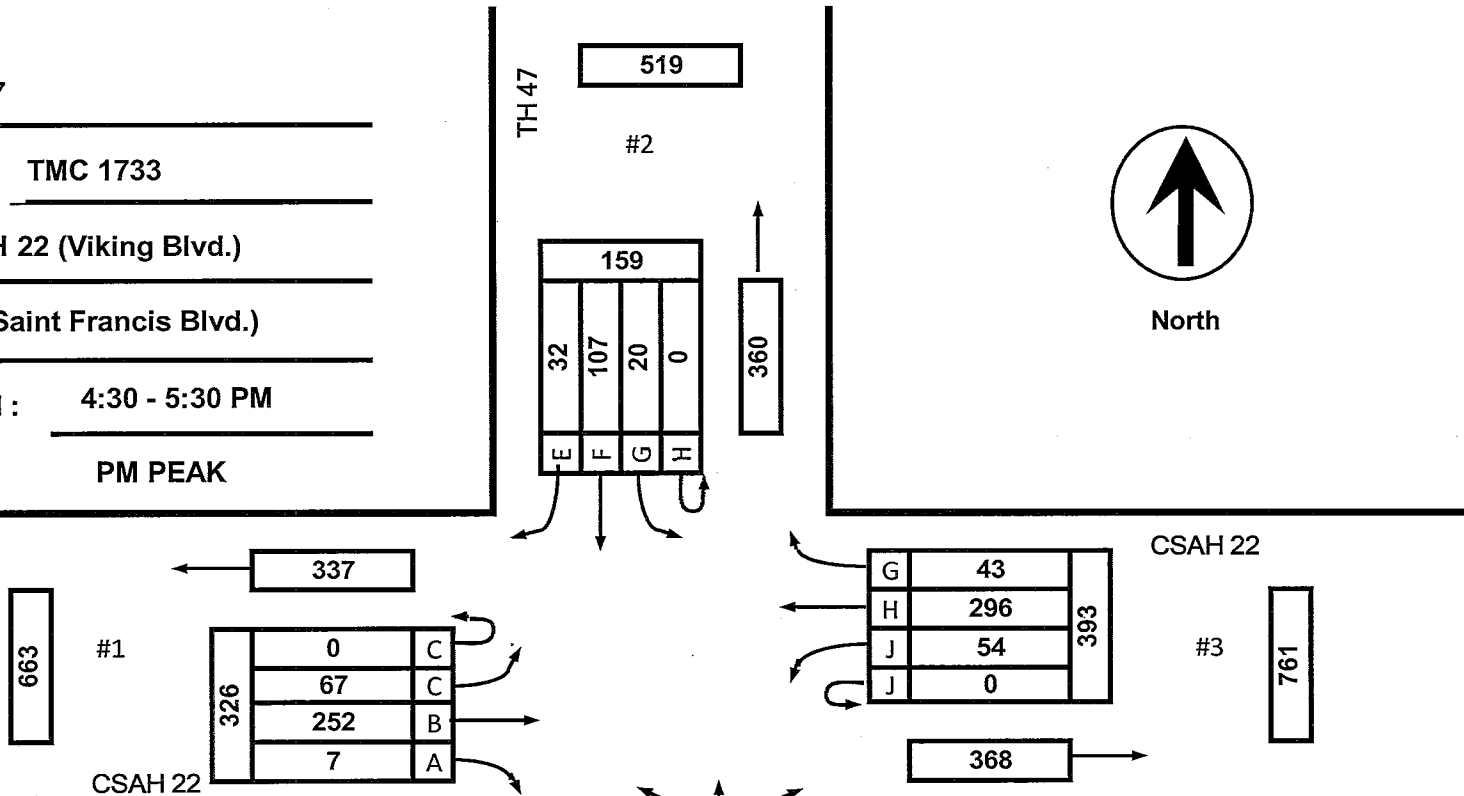
TH 47 (Saint Francis Blvd.)

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

Anoka County Highway Department

Traffic Volume and Turning

Movement Study



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1733
 Site Code :
 Start Date : 03/13/2018
 Page No : 1

Groups Printed- Cars + - Trucks

Start Time	TH 47 Southbound						CSAH 22 Westbound						TH 47 Northbound						CSAH 22 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			
00:00	0	1	0	1	0	2	0	1	3	2	0	6	0	0	1	2	0	3	0	1	5	0	0	6	0	17	17
00:15	0	1	3	0	0	4	0	2	2	0	0	4	0	1	1	2	0	4	0	0	1	0	0	1	0	13	13
00:30	0	0	2	0	0	2	0	1	3	1	0	5	0	0	5	0	0	5	0	0	0	0	0	0	0	12	12
00:45	0	1	4	1	0	6	0	1	2	0	0	3	0	0	5	0	0	5	0	0	2	0	0	2	0	16	16
Total	0	3	9	2	0	14	0	5	10	3	0	18	0	1	12	4	0	17	0	1	8	0	0	9	0	58	58
01:00	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
01:15	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	1	2	0	0	3	0	6	6
01:30	0	0	2	0	0	2	0	1	1	0	0	2	0	0	3	0	0	3	0	0	2	0	0	2	0	9	9
01:45	0	0	1	0	0	1	0	0	1	0	0	1	0	0	2	1	0	3	0	0	0	0	0	0	0	5	5
Total	0	0	4	0	0	4	0	1	4	1	0	6	0	0	6	1	0	7	0	1	4	0	0	5	0	22	22
02:00	0	1	2	1	0	4	0	1	1	1	0	3	0	0	4	2	0	6	0	0	0	0	0	0	0	13	13
02:15	0	0	1	1	0	2	0	1	0	0	0	1	0	0	4	0	0	4	0	0	0	0	0	0	0	7	7
02:30	0	0	1	0	0	1	0	1	2	1	0	4	0	0	1	1	0	2	0	1	1	0	0	2	0	9	9
02:45	0	0	4	2	0	6	0	0	2	0	0	2	0	0	1	1	0	2	0	1	1	0	0	2	0	12	12
Total	0	1	8	4	0	13	0	3	5	2	0	10	0	0	10	4	0	14	0	2	2	0	0	4	0	41	41
03:00	0	0	2	0	0	2	0	0	1	1	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	5	5
03:15	0	0	8	1	0	9	0	0	1	0	0	1	0	0	5	1	0	6	0	1	2	0	0	3	0	19	19
03:30	0	1	7	0	0	8	0	1	5	0	0	6	0	0	0	0	0	0	0	1	1	0	0	2	0	16	16
03:45	0	1	6	1	0	8	0	2	3	1	0	6	0	0	0	1	0	1	0	0	4	0	0	4	0	19	19
Total	0	2	23	2	0	27	0	3	10	2	0	15	0	0	6	2	0	8	0	2	7	0	0	9	0	59	59
04:00	0	0	8	4	0	12	1	0	6	1	0	8	0	1	2	1	0	4	0	0	4	0	0	4	0	28	28
04:15	0	0	14	1	0	15	0	3	9	0	0	12	0	0	2	0	0	2	0	0	5	0	0	5	0	34	34
04:30	0	0	12	4	0	16	0	3	5	0	0	8	0	0	1	0	0	1	0	1	5	0	0	6	0	31	31
04:45	0	1	24	3	0	28	0	4	9	0	0	13	0	0	0	0	0	0	0	1	7	1	0	9	0	50	50
Total	0	1	58	12	0	71	1	10	29	1	0	41	0	1	5	1	0	7	0	2	21	1	0	24	0	143	143
05:00	0	6	40	5	0	51	0	5	24	1	0	30	0	1	3	0	0	4	0	1	8	0	0	9	0	94	94
05:15	0	2	57	16	1	75	0	5	37	0	0	42	0	0	3	3	0	6	0	2	22	1	0	25	1	148	149
05:30	0	6	57	12	0	75	0	15	32	1	0	48	1	1	3	6	0	11	0	1	26	0	0	27	0	161	161
05:45	0	6	60	13	0	79	0	15	31	1	0	47	0	0	5	2	0	7	0	4	25	1	0	30	0	163	163
Total	0	20	214	46	1	280	0	40	124	3	0	167	1	2	14	11	0	28	0	8	81	2	0	91	1	566	567
06:00	0	7	52	14	0	73	0	8	39	0	0	47	0	0	4	3	0	7	0	2	31	1	0	34	0	161	161
06:15	0	10	54	19	0	83	0	15	40	0	0	55	0	1	13	9	0	23	0	3	42	0	0	45	0	206	206



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1733
 Site Code :
 Start Date : 03/13/2018
 Page No : 2

Groups Printed- Cars + - Trucks

Start Time	TH 47 Southbound						CSAH 22 Westbound						TH 47 Northbound						CSAH 22 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			
06:30	0	13	54	12	0	79	0	25	59	1	0	85	0	0	9	12	0	21	0	4	52	0	0	56	0	241	241
06:45	0	8	42	12	0	62	0	15	45	1	0	61	0	1	12	4	0	17	0	3	47	1	0	51	0	191	191
Total	0	38	202	57	0	297	0	63	183	2	0	248	0	2	38	28	0	68	0	12	172	2	0	186	0	799	799
07:00	0	13	42	11	0	66	0	16	36	3	0	55	0	0	11	4	0	15	0	2	46	3	0	51	0	187	187
07:15	0	11	35	12	0	58	0	16	36	2	0	54	0	0	16	9	0	25	0	5	36	2	0	43	0	180	180
07:30	0	5	58	12	0	75	0	22	47	3	0	72	0	1	17	8	0	26	0	6	50	1	0	57	0	230	230
07:45	0	6	48	14	0	68	0	22	44	5	0	71	0	1	15	12	0	28	0	7	47	1	0	55	0	222	222
Total	0	35	183	49	0	267	0	76	163	13	0	252	0	2	59	33	0	94	0	20	179	7	0	206	0	819	819
08:00	0	9	35	12	2	56	0	16	28	8	0	52	0	2	19	5	0	26	0	6	38	0	0	44	2	178	180
08:15	0	6	31	13	0	50	0	15	41	4	0	60	0	2	17	7	0	26	0	2	36	0	0	38	0	174	174
08:30	0	5	36	5	0	46	0	13	43	3	0	59	0	2	19	10	0	31	0	2	36	1	0	39	0	175	175
08:45	0	7	41	9	0	57	0	8	46	6	0	60	0	1	14	8	2	23	0	8	36	3	0	47	2	187	189
Total	0	27	143	39	2	209	0	52	158	21	0	231	0	7	69	30	2	106	0	18	146	4	0	168	4	714	718
09:00	0	4	19	10	0	33	0	8	24	6	0	38	0	0	14	5	0	19	0	6	28	1	0	35	0	125	125
09:15	0	5	25	13	0	43	0	9	41	6	0	56	0	0	27	10	0	37	0	4	33	1	0	38	0	174	174
09:30	0	5	26	8	0	39	0	5	41	5	0	51	0	1	13	8	0	22	0	5	30	4	0	39	0	151	151
09:45	0	6	21	6	0	33	0	4	24	1	0	29	0	1	18	11	0	30	0	3	21	0	0	24	0	116	116
Total	0	20	91	37	0	148	0	26	130	18	0	174	0	2	72	34	0	108	0	18	112	6	0	136	0	566	566
10:00	0	5	18	7	0	30	0	9	32	6	0	47	0	1	19	5	0	25	0	5	24	1	0	30	0	132	132
10:15	0	6	25	4	0	35	0	6	35	2	0	43	0	0	14	4	0	18	0	4	31	1	0	36	0	132	132
10:30	0	5	25	7	0	37	0	2	35	3	0	40	0	0	11	8	0	19	0	4	30	2	0	36	0	132	132
10:45	0	6	12	7	1	25	0	6	25	3	0	34	0	2	17	7	0	26	0	6	25	3	0	34	1	119	120
Total	0	22	80	25	1	127	0	23	127	14	0	164	0	3	61	24	0	88	0	19	110	7	0	136	1	515	516
11:00	0	6	25	1	0	32	0	6	19	6	0	31	0	0	11	4	0	15	0	7	29	1	0	37	0	115	115
11:15	0	3	19	9	0	31	0	4	35	7	0	46	0	0	21	2	0	23	0	6	21	0	0	27	0	127	127
11:30	0	7	21	13	0	41	0	6	30	4	0	40	0	1	20	8	0	29	0	5	33	1	0	39	0	149	149
11:45	0	3	17	10	0	30	0	5	30	3	0	38	0	2	15	7	0	24	0	6	27	0	0	33	0	125	125
Total	0	19	82	33	0	134	0	21	114	20	0	155	0	3	67	21	0	91	0	24	110	2	0	136	0	516	516
12:00	0	4	9	7	0	20	0	8	23	8	0	39	0	0	10	12	0	22	0	4	20	1	0	25	0	106	106
12:15	0	7	17	7	0	31	0	7	24	1	0	32	0	1	23	4	0	28	0	7	32	2	0	41	0	132	132
12:30	0	4	21	4	0	29	0	3	27	7	0	37	0	2	19	6	0	27	0	9	27	0	0	36	0	129	129
12:45	0	5	22	8	0	35	0	7	28	4	0	39	0	1	18	7	0	26	0	5	32	1	0	38	0	138	138
Total	0	20	69	26	0	115	0	25	102	20	0	147	0	4	70	29	0	103	0	25	111	4	0	140	0	505	505



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 1733
 Site Code :
 Start Date : 03/13/2018
 Page No : 3

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

Groups Printed- Cars + - Trucks

Start Time	TH 47 Southbound						CSAH 22 Westbound						TH 47 Northbound						CSAH 22 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			
13:00	0	7	15	7	0	29	0	7	34	4	0	45	0	2	31	13	0	46	0	9	28	1	0	38	0	158	158
13:15	0	9	20	11	0	40	0	13	33	3	0	49	0	1	22	7	0	30	0	8	34	1	0	43	0	162	162
13:30	0	2	20	7	0	29	1	10	30	3	0	44	0	2	25	8	0	35	0	8	30	0	0	38	0	146	146
13:45	1	4	14	11	0	30	0	9	30	8	0	47	0	0	22	11	0	33	0	8	40	0	0	48	0	158	158
Total	1	22	69	36	0	128	1	39	127	18	0	185	0	5	100	39	0	144	0	33	132	2	0	167	0	624	624
14:00	0	2	21	10	0	33	0	12	36	3	0	51	0	1	32	6	0	39	0	6	35	1	0	42	0	165	165
14:15	0	5	23	3	0	31	0	8	31	5	0	44	0	1	30	8	0	39	0	7	28	2	0	37	0	151	151
14:30	0	4	27	9	0	40	0	11	44	9	0	64	0	1	44	14	1	59	0	10	43	1	0	54	1	217	218
14:45	0	9	16	9	0	34	0	8	44	4	0	56	0	1	46	13	1	60	0	10	32	0	0	42	1	192	193
Total	0	20	87	31	0	138	0	39	155	21	0	215	0	4	152	41	2	197	0	33	138	4	0	175	2	725	727
15:00	0	1	15	5	0	21	0	12	38	13	0	63	0	1	39	9	0	49	0	7	36	0	0	43	0	176	176
15:15	0	8	20	9	0	37	0	14	55	5	0	74	0	1	50	23	0	74	0	12	41	0	0	53	0	238	238
15:30	0	6	22	11	0	39	0	12	50	9	0	71	0	2	48	19	0	69	0	8	56	5	0	69	0	248	248
15:45	0	5	20	4	0	29	0	16	66	10	0	92	0	5	73	24	0	102	0	13	60	2	0	75	0	298	298
Total	0	20	77	29	0	126	0	54	209	37	0	300	0	9	210	75	0	294	0	40	193	7	0	240	0	960	960
16:00	0	4	17	4	0	25	0	14	61	13	0	88	0	3	51	21	0	75	0	15	56	2	0	73	0	261	261
16:15	0	7	27	8	0	42	0	13	75	10	0	98	0	4	69	21	1	94	0	19	57	0	0	76	1	310	311
16:30	0	5	24	8	0	37	0	9	73	12	0	94	0	1	52	18	0	71	0	17	65	3	0	85	0	287	287
16:45	0	5	28	8	1	41	0	19	60	10	0	89	0	1	78	37	0	116	0	17	62	2	0	81	1	327	328
Total	0	21	96	28	1	145	0	55	269	45	0	369	0	9	250	97	1	356	0	68	240	7	0	315	2	1185	1187
17:00	0	7	26	7	0	40	0	15	76	9	0	100	0	2	63	18	0	83	0	18	56	1	0	75	0	298	298
17:15	0	3	29	9	0	41	0	11	87	12	0	110	0	5	57	23	0	85	0	15	69	1	0	85	0	321	321
17:30	0	7	19	17	0	43	0	20	65	12	0	97	0	2	43	18	0	63	0	19	64	0	0	83	0	286	286
17:45	0	7	12	6	0	25	0	10	59	9	0	78	0	2	45	28	0	75	0	14	74	0	0	88	0	266	266
Total	0	24	86	39	0	149	0	56	287	42	0	385	0	11	208	87	0	306	0	66	263	2	0	331	0	1171	1171
18:00	0	4	22	12	0	38	0	7	68	12	0	87	0	3	33	7	0	43	0	6	52	3	0	61	0	229	229
18:15	0	5	23	8	0	36	0	13	41	11	0	65	0	3	42	14	0	59	0	14	39	2	0	55	0	215	215
18:30	0	9	17	4	0	30	0	6	42	4	0	52	0	2	30	9	1	41	0	11	44	1	0	56	1	179	180
18:45	0	6	19	4	0	29	0	6	39	10	0	55	0	1	30	13	0	44	0	18	46	0	0	64	0	192	192
Total	0	24	81	28	0	133	0	32	190	37	0	259	0	9	135	43	1	187	0	49	181	6	0	236	1	815	816
19:00	0	2	20	6	0	28	0	6	33	5	0	44	0	3	28	10	0	41	0	10	38	1	0	49	0	162	162
19:15	0	4	11	7	0	22	0	7	34	6	0	47	0	2	29	7	0	38	0	7	33	1	0	41	0	148	148
19:30	0	3	11	6	2	20	0	5	40	5	0	50	0	2	12	10	0	24	0	7	26	0	0	33	2	127	129
19:45	0	3	11	7	0	21	0	5	26	2	0	33	0	2	25	7	0	34	0	7	26	2	0	35	0	123	123
Total	0	12	53	26	2	91	0	23	133	18	0	174	0	9	94	34	0	137	0	31	123	4	0	158	2	560	562



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1733
 Site Code :
 Start Date : 03/13/2018
 Page No : 4

Groups Printed- Cars + - Trucks

Start Time	TH 47 Southbound							CSAH 22 Westbound							TH 47 Northbound							CSAH 22 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							
20:00	0	2	14	2	0	18	0	8	26	5	0	39	0	1	17	6	0	24	0	4	26	0	0	30	0	111	111				
20:15	0	4	10	8	0	22	0	5	18	4	0	27	0	0	20	10	0	30	0	3	29	1	0	33	0	112	112				
20:30	0	6	14	3	0	23	0	4	29	6	0	39	0	0	23	4	0	27	0	7	24	1	0	32	0	121	121				
20:45	0	2	11	2	0	15	0	5	17	4	0	26	0	0	20	8	0	28	0	5	27	1	0	33	0	102	102				
Total	0	14	49	15	0	78	0	22	90	19	0	131	0	1	80	28	0	109	0	19	106	3	0	128	0	446	446				
21:00	0	2	13	5	0	20	0	12	18	7	0	37	0	0	14	5	0	19	0	2	19	2	0	23	0	99	99				
21:15	0	3	11	2	0	16	0	9	22	3	0	34	0	0	24	4	0	28	0	3	24	0	0	27	0	105	105				
21:30	0	3	14	1	0	18	0	7	14	7	0	28	0	0	16	4	0	20	0	7	25	0	0	32	0	98	98				
21:45	0	0	6	2	0	8	0	7	10	5	0	22	0	0	8	3	0	11	0	4	19	0	0	23	0	64	64				
Total	0	8	44	10	0	62	0	35	64	22	0	121	0	0	62	16	0	78	0	16	87	2	0	105	0	366	366				
22:00	0	1	5	1	0	7	0	5	11	2	0	18	0	1	11	6	0	18	0	7	12	0	0	19	0	62	62				
22:15	0	3	8	3	0	14	0	3	7	4	0	14	0	1	7	3	0	11	0	7	10	0	0	17	0	56	56				
22:30	0	2	4	1	0	7	0	2	6	1	0	9	0	1	6	7	0	14	0	4	8	1	0	13	0	43	43				
22:45	0	2	5	2	0	9	0	2	9	1	0	12	0	0	5	1	0	6	0	1	6	0	0	7	0	34	34				
Total	0	8	22	7	0	37	0	12	33	8	0	53	0	3	29	17	0	49	0	19	36	1	0	56	0	195	195				
23:00	0	0	4	0	0	4	0	3	8	0	0	11	0	0	5	1	0	6	0	0	4	0	0	4	0	25	25				
23:15	0	1	1	1	0	3	0	0	4	1	0	5	0	0	12	1	0	13	0	5	12	1	0	18	0	39	39				
23:30	0	0	6	1	0	7	0	0	5	1	0	6	0	0	6	5	0	11	0	0	6	0	0	6	0	30	30				
23:45	0	1	2	0	0	3	0	0	1	0	0	1	0	0	6	1	0	7	0	2	8	1	0	11	0	22	22				
Total	0	2	13	2	0	17	0	3	18	2	0	23	0	0	29	8	0	37	0	7	30	2	0	39	0	116	116				
Grand Total	1	383	1843	583	7	2810	2	718	2734	389	0	3843	1	87	1838	707	6	2633	0	533	2592	75	0	3200	13	12486	12499				
Apprch %	0	13.6	65.6	20.7			0.1	18.7	71.1	10.1			0	3.3	69.8	26.9			0	16.7	81	2.3									
Total %	0	3.1	14.8	4.7		22.5	0	5.8	21.9	3.1		30.8	0	0.7	14.7	5.7		21.1	0	4.3	20.8	0.6		25.6	0.1	99.9					
Cars +	1	368	1792	562		2730	1	678	2511	369		3559	1	83	1797	681		2568	0	518	2378	70		2966	0	0	11823				
% Cars +	100	96.1	97.2	96.4	100	96.9	50	94.4	91.8	94.9	0	92.6	100	95.4	97.8	96.3	100	97.3	0	97.2	91.7	93.3	0	92.7	0	0	94.6				
Trucks	0	15	51	21		87	1	40	223	20		284	0	4	41	26		71	0	15	214	5		234	0	0	676				
% Trucks	0	3.9	2.8	3.6	0	3.1	50	5.6	8.2	5.1	0	7.4	0	4.6	2.2	3.7	0	2.7	0	2.8	8.3	6.7	0	7.3	0	0	5.4				



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 1733
 Site Code :
 Start Date : 03/13/2018
 Page No : 5

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

Start Time	TH 47 Southbound					CSAH 22 Westbound					TH 47 Northbound					CSAH 22 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 06:15																					
06:15	0	10	54	19	83	0	15	40	0	55	0	1	13	9	23	0	3	42	0	45	206
06:30	0	13	54	12	79	0	25	59	1	85	0	0	9	12	21	0	4	52	0	56	241
06:45	0	8	42	12	62	0	15	45	1	61	0	1	12	4	17	0	3	47	1	51	191
07:00	0	13	42	11	66	0	16	36	3	55	0	0	11	4	15	0	2	46	3	51	187
Total Volume	0	44	192	54	290	0	71	180	5	256	0	2	45	29	76	0	12	187	4	203	825
% App. Total	0	15.2	66.2	18.6		0	27.7	70.3	2		0	2.6	59.2	38.2		0	5.9	92.1	2		
PHF	.000	.846	.889	.711	.873	.000	.710	.763	.417	.753	.000	.500	.865	.604	.826	.000	.750	.899	.333	.906	.856
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	15	7	29	0	7	34	4	45	0	2	31	13	46	0	9	28	1	38	158
13:15	0	9	20	11	40	0	13	33	3	49	0	1	22	7	30	0	8	34	1	43	162
13:30	0	2	20	7	29	1	10	30	3	44	0	2	25	8	35	0	8	30	0	38	146
13:45	1	4	14	11	30	0	9	30	8	47	0	0	22	11	33	0	8	40	0	48	158
Total Volume	1	22	69	36	128	1	39	127	18	185	0	5	100	39	144	0	33	132	2	167	624
% App. Total	0.8	17.2	53.9	28.1		0.5	21.1	68.6	9.7		0	3.5	69.4	27.1		0	19.8	79	1.2		
PHF	.250	.611	.863	.818	.800	.250	.750	.934	.563	.944	.000	.625	.806	.750	.783	.000	.917	.825	.500	.870	.963
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	5	24	8	37	0	9	73	12	94	0	1	52	18	71	0	17	65	3	85	287
16:45	0	5	28	8	41	0	19	60	10	89	0	1	78	37	116	0	17	62	2	81	327
17:00	0	7	26	7	40	0	15	76	9	100	0	2	63	18	83	0	18	56	1	75	298
17:15	0	3	29	9	41	0	11	87	12	110	0	5	57	23	85	0	15	69	1	85	321
Total Volume	0	20	107	32	159	0	54	296	43	393	0	9	250	96	355	0	67	252	7	326	1233
% App. Total	0	12.6	67.3	20.1		0	13.7	75.3	10.9		0	2.5	70.4	27		0	20.6	77.3	2.1		
PHF	.000	.714	.922	.889	.970	.000	.711	.851	.896	.893	.000	.450	.801	.649	.765	.000	.931	.913	.583	.959	.943



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

Weather: Hot & Cloudy
 Camera: 200
 Study Conducted By: Logan

File Name : TMC 1733
 Site Code :
 Start Date : 03/13/2018
 Page No : 1

Groups Printed- Trucks

Start Time	TH 47 Southbound					CSAH 22 Westbound					TH 47 Northbound					CSAH 22 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	1	0	1	1	1
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	1	0	1	1	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	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
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	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
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	1	0	1	1	1
03:45	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	2
04:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	2
05:00	0	0	0	0	0	0	0	2	0	2	0	0	1	0	1	0	0	1	0	1	4	4
05:15	0	0	0	0	0	0	0	4	0	4	0	0	1	0	1	0	0	3	0	3	8	8
05:30	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	2	3	3
05:45	0	1	2	0	3	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	5	5
Total	0	1	2	0	3	0	0	8	0	8	0	0	2	0	2	0	0	7	0	7	20	20
06:00	0	3	3	0	6	0	0	2	0	2	0	0	1	1	2	0	0	7	0	7	17	17
06:15	0	2	0	0	2	0	0	3	0	3	0	0	0	1	1	0	0	2	0	2	8	8
06:30	0	0	0	1	1	0	0	7	0	7	0	0	0	3	3	0	0	4	0	4	15	15
06:45	0	2	0	1	3	0	0	6	0	6	0	1	2	0	3	0	0	7	0	7	19	19
Total	0	7	3	2	12	0	0	18	0	18	0	1	3	5	9	0	0	20	0	20	59	59
07:00	0	0	1	0	1	0	0	1	1	2	0	0	0	0	0	0	0	5	1	6	9	9
07:15	0	0	0	1	1	0	0	3	0	3	0	0	0	0	0	0	0	4	0	4	8	8
07:30	0	1	1	0	2	0	3	6	1	10	0	0	1	0	1	0	1	7	0	8	21	21
07:45	0	0	0	2	2	0	2	6	0	8	0	0	0	0	0	0	0	2	0	2	12	12
Total	0	1	2	3	6	0	5	16	2	23	0	0	1	0	1	0	1	18	1	20	50	50
08:00	0	0	2	2	4	0	0	4	1	5	0	0	3	0	3	0	1	7	0	8	20	20
08:15	0	0	2	0	2	0	1	8	0	9	0	0	0	0	0	0	1	4	0	5	16	16
08:30	0	0	1	0	1	0	0	6	0	6	0	0	1	0	1	0	1	8	0	9	17	17
08:45	0	0	1	0	1	0	0	6	1	7	0	0	1	1	2	0	0	3	1	4	14	14
Total	0	0	6	2	8	0	1	24	2	27	0	0	5	1	6	0	3	22	1	26	67	67
09:00	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	0	1	4	0	5	8	8
09:15	0	0	1	1	2	0	1	3	2	6	0	0	1	2	3	0	0	6	0	6	17	17
09:30	0	0	3	0	3	0	1	7	0	8	0	0	0	0	0	0	1	5	0	6	17	17



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

Weather: Hot & Cloudy
 Camera: 200
 Study Conducted By: Logan

File Name : TMC 1733
 Site Code :
 Start Date : 03/13/2018
 Page No : 2

Groups Printed- Trucks

Start Time	TH 47 Southbound					CSAH 22 Westbound					TH 47 Northbound					CSAH 22 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	
09:45	0	0	2	0	2	0	0	0	0	0	0	0	1	1	2	0	0	2	0	2	6
Total	0	0	6	1	7	0	3	11	2	16	0	0	3	3	6	0	2	17	0	19	48
10:00	0	0	1	0	1	0	0	6	0	6	0	0	1	0	1	0	0	6	0	6	14
10:15	0	0	3	0	3	0	2	5	0	7	0	0	0	0	0	0	0	10	0	10	20
10:30	0	0	1	0	1	0	0	4	1	5	0	0	0	0	0	0	0	1	0	1	7
10:45	0	0	1	0	1	0	0	4	1	5	0	0	0	0	0	0	1	4	0	5	11
Total	0	0	6	0	6	0	2	19	2	23	0	0	1	0	1	0	1	21	0	22	52
11:00	0	1	2	0	3	0	0	2	1	3	0	0	1	0	1	0	2	3	0	5	12
11:15	0	0	0	1	1	0	0	6	0	6	0	0	1	0	1	0	1	2	0	3	11
11:30	0	1	0	0	1	0	2	1	0	3	0	0	0	0	0	0	1	7	0	8	12
11:45	0	0	2	1	3	0	1	1	0	2	0	0	1	1	2	0	0	3	0	3	10
Total	0	2	4	2	8	0	3	10	1	14	0	0	3	1	4	0	4	15	0	19	45
12:00	0	1	1	0	2	0	1	4	0	5	0	0	0	1	1	0	0	4	0	4	12
12:15	0	0	0	1	1	0	0	2	0	2	0	0	1	0	1	0	0	1	0	1	5
12:30	0	0	1	0	1	0	0	7	0	7	0	0	0	1	1	0	0	3	0	3	12
12:45	0	1	1	0	2	0	0	2	0	2	0	0	0	0	0	0	0	2	1	3	7
Total	0	2	3	1	6	0	1	15	0	16	0	0	1	2	3	0	0	10	1	11	36
13:00	0	0	2	0	2	0	0	6	1	7	0	0	1	1	2	0	0	4	0	4	15
13:15	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	5	0	5	8
13:30	0	0	0	1	1	0	2	3	0	5	0	0	3	0	3	0	0	4	0	4	13
13:45	0	0	2	1	3	0	0	7	1	8	0	0	1	2	3	0	0	4	0	4	18
Total	0	1	4	2	7	0	2	17	2	21	0	0	6	3	9	0	0	17	0	17	54
14:00	0	0	0	0	0	0	1	4	0	5	0	0	2	1	3	0	0	2	0	2	10
14:15	0	0	1	0	1	0	1	5	0	6	0	0	0	0	0	0	0	0	0	0	7
14:30	0	0	1	1	2	0	2	3	0	5	0	1	1	1	3	0	0	1	0	1	11
14:45	0	1	1	0	2	0	1	9	1	11	0	1	2	1	4	0	0	4	0	4	21
Total	0	1	3	1	5	0	5	21	1	27	0	2	5	3	10	0	0	7	0	7	49
15:00	0	0	0	0	0	0	2	2	1	5	0	0	1	0	1	0	0	3	0	3	9
15:15	0	0	2	1	3	0	1	4	0	5	0	0	1	0	1	0	0	3	0	3	12
15:30	0	0	0	1	1	0	3	2	0	5	0	0	1	0	1	0	0	6	1	7	14
15:45	0	0	0	0	0	0	3	9	0	12	0	0	0	2	2	0	1	6	0	7	21
Total	0	0	2	2	4	0	9	17	1	27	0	0	3	2	5	0	1	18	1	20	56
16:00	0	0	0	1	1	0	2	3	3	8	0	0	0	0	0	0	0	3	0	3	12
16:15	0	0	3	1	4	0	1	4	3	8	0	0	2	2	4	0	0	3	0	3	19
16:30	0	0	1	0	1	0	0	7	0	7	0	0	0	0	0	0	0	4	0	4	12
16:45	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	3
Total	0	0	4	3	7	0	4	14	6	24	0	0	2	2	4	0	0	11	0	11	46
17:00	0	0	0	0	0	0	1	4	0	5	0	0	0	0	0	0	0	3	0	3	8
17:15	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	6	0	6	8
17:30	0	0	0	0	0	0	1	4	0	5	0	0	0	0	0	0	0	0	0	0	5
17:45	0	0	0	1	1	0	0	1	0	1	0	0	0	1	1	0	0	3	0	3	6
Total	0	0	0	1	1	0	2	9	1	12	0	0	0	2	2	0	0	12	0	12	27
18:00	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	2	0	2	6
18:15	0	0	0	0	0	0	2	2	0	4	0	0	1	1	2	0	1	3	0	4	10
18:30	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	1	1	0	2	4
18:45	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2	0	1	1	0	2	5
Total	0	0	0	0	0	0	2	7	0	9	0	1	3	2	6	0	3	7	0	10	25
19:00	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	1	0	1	4
19:15	0	0	0	0	0	0	0	2	0	2	0	0	1	0	1	0	0	1	0	1	4



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

Weather: Hot & Cloudy
 Camera: 200
 Study Conducted By: Logan

File Name : TMC 1733
 Site Code :
 Start Date : 03/13/2018
 Page No : 3

Groups Printed- Trucks

Start Time	TH 47 Southbound					CSAH 22 Westbound					TH 47 Northbound					CSAH 22 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	
19:30	0	0	1	0	1	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	6
19:45	0	0	0	0	0	0	0	3	0	3	0	0	1	0	1	0	0	1	0	1	5
Total	0	0	1	0	1	0	0	13	0	13	0	0	2	0	2	0	0	3	0	3	19
20:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
20:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
20:30	0	0	2	0	2	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	4
20:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	3	0	3	0	0	2	0	2	0	0	1	0	1	0	0	1	0	1	7
21:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
21:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	2	3
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	4	1	5	7
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	1	0	1	0	0	0	0	0	0	0	1	0	1	2
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	1	0	1	0	0	0	0	0	0	0	1	0	1	2
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	15	51	21	87	1	40	223	20	284	0	4	41	26	71	0	15	214	5	234	676
Approch %	0	17.2	58.6	24.1		0.4	14.1	78.5	7		0	5.6	57.7	36.6		0	6.4	91.5	2.1		
Total %	0	2.2	7.5	3.1	12.9	0.1	5.9	33	3	42	0	0.6	6.1	3.8	10.5	0	2.2	31.7	0.7	34.6	

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 1733

Study Date : 06/08/2018

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 22

Number of Lanes : 1

Total Approach Volume: 3,200

Westbound: CSAH 22

Number of Lanes : 1

Total Approach Volume: 3,841

Minor Street Approaches

Northbound: TH 47

Number of Lanes : 1

Total Approach Volume: 2,632

Southbound: TH 47

Number of Lanes : 1

Total Approach Volume: 2,809

Warrant Summary (Rural Values Apply)

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

Warrant 1A - Minimum Vehicular Volume.....Satisfied

Required volumes reached for 10 hours, 8 are needed

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

Required volumes reached for 3 hours, 8 are needed

Warrant 1C - Combination of Warrants.....Not Satisfied

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

Required 1B volumes reached for 6 hours, 8 are needed

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

Number of hours (9) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

Warrant 3A - Peak Hour Delay.....Satisfied

Number of one hour periods (19) volumes exceed minimum >= required (1). Delay data not evaluated.

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

Volumes exceed minimums for at least one hour period.

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 1733

Study Date : 06/08/2018

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

10 one hour periods meet 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
Veh/Hr Major = 350

Veh/Hr Minor = 105

Time	Major Road CSAH 22				Total	Minor Road TH 47		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
17:00 - 18:00	331	+	385	=	716	306	149	Yes
16:00 - 17:00	315	+	369	=	684	356	145	Yes
15:00 - 16:00	240	+	300	=	540	294	126	Yes
18:00 - 19:00	236	+	259	=	495	187	133	Yes
06:45 - 07:45	202	+	242	=	444	83	261	Yes
07:45 - 08:45	176	+	242	=	418	111	220	Yes
05:45 - 06:45	165	+	234	=	399	58	314	Yes
14:00 - 15:00	175	+	215	=	390	197	138	Yes
08:45 - 09:45	159	+	205	=	364	101	172	Yes
13:00 - 14:00	167	+	184	=	351	144	127	Yes
12:45 - 13:45	157	+	176	=	333	137	133	No
05:30 - 06:30	136	+	197	=	333	47	310	No
19:00 - 20:00	158	+	174	=	332	137	91	No
12:30 - 13:30	155	+	170	=	325	129	133	No
19:15 - 20:15	139	+	169	=	308	120	81	No
12:15 - 13:15	153	+	153	=	306	127	124	No
10:00 - 11:00	136	+	164	=	300	88	127	No
05:15 - 06:15	116	+	184	=	300	30	302	No
10:15 - 11:15	143	+	148	=	291	78	129	No
11:00 - 12:00	136	+	155	=	291	91	134	No
10:45 - 11:45	137	+	151	=	288	93	129	No
12:00 - 13:00	140	+	147	=	287	103	115	No
11:30 - 12:30	138	+	149	=	287	103	122	No
11:15 - 12:15	124	+	163	=	287	98	122	No
10:30 - 11:30	134	+	151	=	285	83	125	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 1733

Study Date : 06/08/2018

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 3 one hour periods 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 = **52**

Time	Major Road CSAH 22				Total	Minor Road TH 47		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
17:00 - 18:00	331	+	385	=	716	306	149	Yes
16:00 - 17:00	315	+	369	=	684	356	145	Yes
15:00 - 16:00	240	+	300	=	540	294	126	Yes
18:00 - 19:00	236	+	259	=	495	187	133	No
14:45 - 15:45	207	+	264	=	471	252	131	No
06:15 - 07:15	203	+	256	=	459	76	290	No
07:00 - 08:00	206	+	252	=	458	94	267	No
06:30 - 07:30	201	+	255	=	456	78	265	No
07:30 - 08:30	194	+	255	=	449	106	249	No
14:30 - 15:30	192	+	257	=	449	242	132	No
07:15 - 08:15	199	+	249	=	448	105	257	No
06:45 - 07:45	202	+	242	=	444	83	261	No
18:15 - 19:15	224	+	216	=	440	185	123	No
06:00 - 07:00	186	+	248	=	434	68	297	No
07:45 - 08:45	176	+	242	=	418	111	220	No
18:30 - 19:30	210	+	198	=	408	164	109	No
14:15 - 15:15	176	+	227	=	403	207	126	No
08:00 - 09:00	168	+	231	=	399	106	209	No
05:45 - 06:45	165	+	234	=	399	58	314	No
14:00 - 15:00	175	+	215	=	390	197	138	No
13:45 - 14:45	181	+	206	=	387	170	133	No
18:45 - 19:45	187	+	196	=	383	147	99	No
08:15 - 09:15	159	+	217	=	376	99	186	No
08:30 - 09:30	159	+	213	=	372	110	179	No
08:45 - 09:45	159	+	205	=	364	101	172	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 1733

Study Date : 06/08/2018

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

15 hours meet 1A minimums.
Only 6 hours meet 1B 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
Warrant 1A 1B
Veh/Hr Major = **280 420**

Veh/Hr Minor = **84 42**

Major Road CSAH 22

Minor Road TH 47

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:15 - 17:15	317	+	381	=	698	364	160	Yes
17:15 - 18:15	317	+	372	=	689	266	147	Yes
15:15 - 16:15	270	+	325	=	595	320	130	Yes
06:15 - 07:15	203	+	256	=	459	76	290	Yes
07:15 - 08:15	199	+	249	=	448	105	257	Yes
18:15 - 19:15	224	+	216	=	440	185	123	Yes
14:15 - 15:15	176	+	227	=	403	207	126	Yes
08:15 - 09:15	159	+	217	=	376	99	186	Yes
13:15 - 14:15	171	+	190	=	361	137	131	Yes
09:15 - 10:15	131	+	183	=	314	114	145	Yes
19:15 - 20:15	139	+	169	=	308	120	81	Yes
12:15 - 13:15	153	+	153	=	306	127	124	Yes

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:30 - 17:30	326	+	393	=	719	355	159	Yes
15:30 - 16:30	293	+	349	=	642	340	135	Yes
17:30 - 18:30	287	+	327	=	614	240	142	Yes
07:00 - 08:00	206	+	252	=	458	94	267	Yes
14:30 - 15:30	192	+	257	=	449	242	132	Yes
06:00 - 07:00	186	+	248	=	434	68	297	Yes
18:30 - 19:30	210	+	198	=	408	164	109	No
14:15 - 15:15	176	+	227	=	403	207	126	No
08:00 - 09:00	168	+	231	=	399	106	209	No
05:45 - 06:45	165	+	234	=	399	58	314	No
14:00 - 15:00	175	+	215	=	390	197	138	No
13:45 - 14:45	181	+	206	=	387	170	133	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 1733

Study Date : 06/08/2018

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.

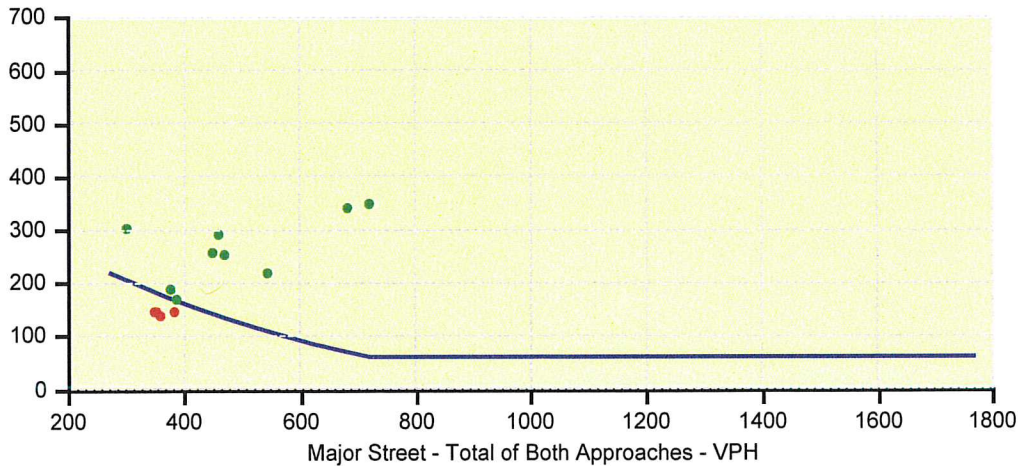
Summary

9 one hour periods 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 22		+	Minor Road TH 47		=	Total	Minor NB	Minor SB	Met?
	Major EB	Major WB		Minor NB	Minor SB					
16:45 - 17:45	324	396	+	347	165	=	720	347	165	Yes
15:45 - 16:45	309	372	+	342	133	=	681	342	133	Yes
17:45 - 18:45	260	282	+	218	129	=	542	218	129	Yes
14:45 - 15:45	207	264	+	252	131	=	471	252	131	Yes
06:15 - 07:15	203	256	+	76	290	=	459	76	290	Yes
07:15 - 08:15	199	249	+	105	257	=	448	105	257	Yes
13:45 - 14:45	181	206	+	170	133	=	387	170	133	Yes
08:15 - 09:15	159	217	+	99	186	=	376	99	186	Yes
05:15 - 06:15	116	184	+	30	302	=	300	30	302	Yes
18:45 - 19:45	187	196	+	147	99	=	383	147	99	No
13:15 - 14:15	171	190	+	137	131	=	361	137	131	No
					127				127	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 1733
 Study Date : 06/08/2018

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.

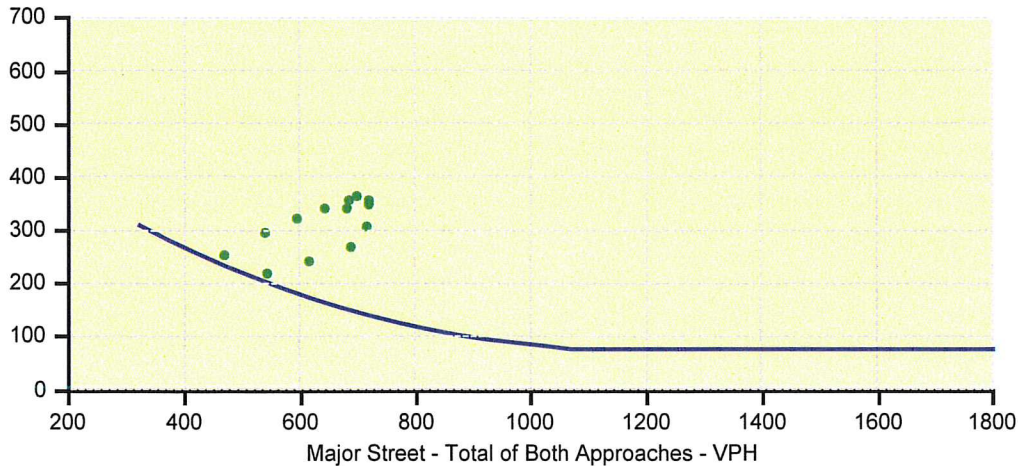
Summary

22 one hour periods 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 22				Total	Minor Road TH 47		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:45 - 17:45	324	+	396	=	720	347	165	Yes
16:30 - 17:30	326	+	393	=	719	355	159	Yes
17:00 - 18:00	331	+	385	=	716	306	149	Yes
16:15 - 17:15	317	+	381	=	698	364	160	Yes
17:15 - 18:15	317	+	372	=	689	266	147	Yes
16:00 - 17:00	315	+	369	=	684	356	145	Yes
15:45 - 16:45	309	+	372	=	681	342	133	Yes
15:30 - 16:30	293	+	349	=	642	340	135	Yes
17:30 - 18:30	287	+	327	=	614	240	142	Yes
15:15 - 16:15	270	+	325	=	595	320	130	Yes
17:45 - 18:45	260	+	282	=	542	218	129	Yes
							126	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 1733

Study Date : 06/08/2018 7:55:38 AM

Multiway Stop Warrants - Summary

Major Street Approaches

Eastbound: TH 47
 Number of Lanes : 2
 Total Approach Volume: 2,633

Westbound: TH 47
 Number of Lanes : 2
 Total Approach Volume: 2,810

Minor Street Approaches

Northbound: CSAH 22
 Number of Lanes : 2
 Total Approach Volume: 3,200

Southbound: CSAH 22
 Number of Lanes : 2
 Total Approach Volume: 3,843

Warrant Summary (Urban Values Apply)

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 Satisfied
Number of crashes (-1) is less than minimum required (5).	
Criteria C - Minimum Volumes and Delays	Satisfied
Average Delay Per Vehicle (-01.0) meets or exceeds minimum required (30). Average of 8 highest hours meets or exceeds volume criteria.	
Criteria D - 80% of Volumes, Delays, and Crashes	Not Satisfied
Average Delay Per Vehicle (-01.0) meets or exceeds minimum required (30). Number of crashes (-1) is less than minimum required (4). Average of 8 highest hours meets or exceeds volume criteria.	

Criteria C Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
16:30 - 17:30	514	483.6	720	694.1	300	200	Yes
16:45 - 17:45	512		721				
16:15 - 17:15	524		699				
16:00 - 17:00	501		684				
17:00 - 18:00	455		717				
15:45 - 16:45	475		681				
15:30 - 16:30	475		642				
17:15 - 18:15	413		689				
15:15 - 16:15	450		595				
17:30 - 18:30	382		614				
15:00 - 16:00	420		540				
17:45 - 18:45	347		542				

Criteria D Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
16:30 - 17:30	514	483.6	720	694.1	240	160	Yes
16:45 - 17:45	512		721				
16:15 - 17:15	524		699				
16:00 - 17:00	501		684				
17:00 - 18:00	455		717				
15:45 - 16:45	475		681				
15:30 - 16:30	475		642				
17:15 - 18:15	413		689				
15:15 - 16:15	450		595				
17:30 - 18:30	382		614				
15:00 - 16:00	420		540				
17:45 - 18:45	347		542				