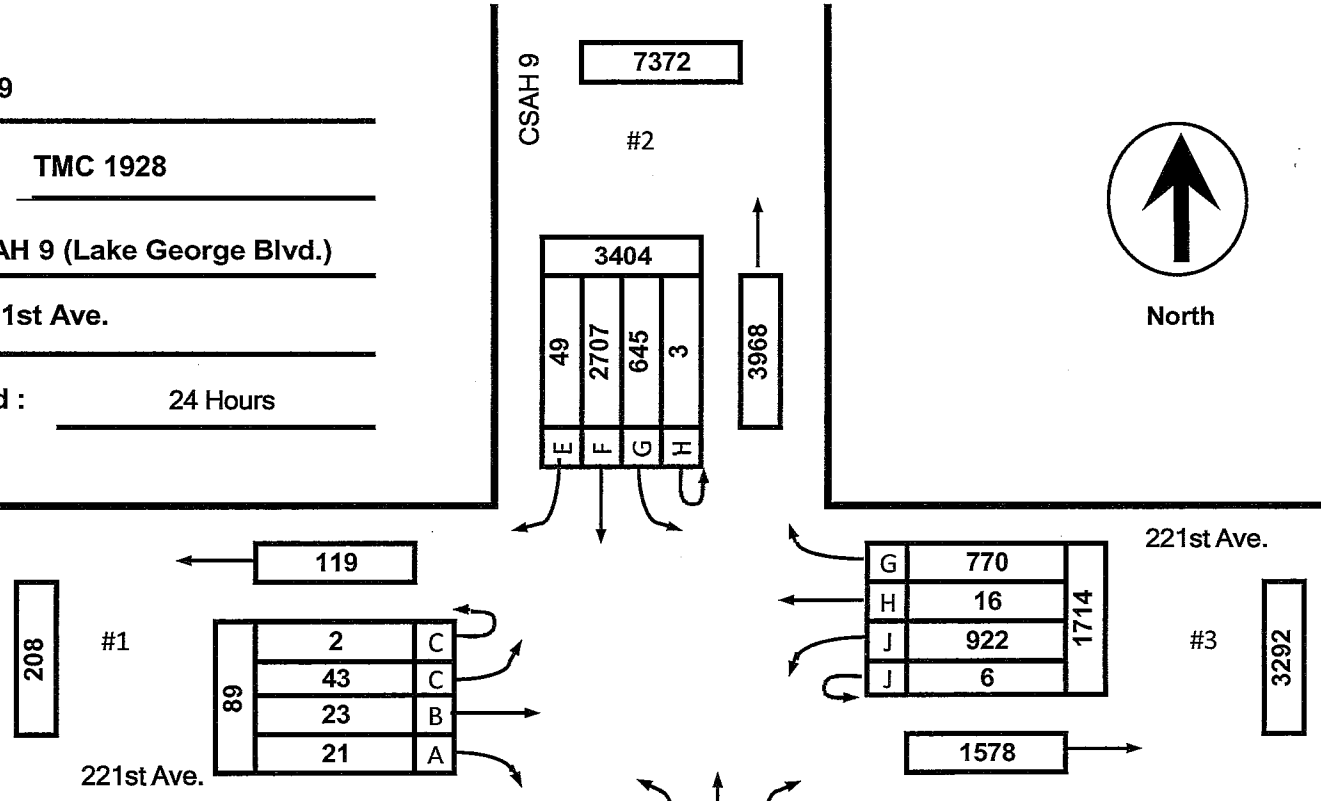
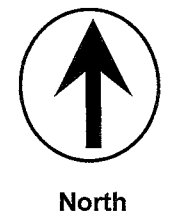


Date : 06/13/19

Count Number : TMC 1928

Location : CSAH 9 (Lake George Blvd.)
@ 221st Ave.

Collection Period : 24 Hours



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

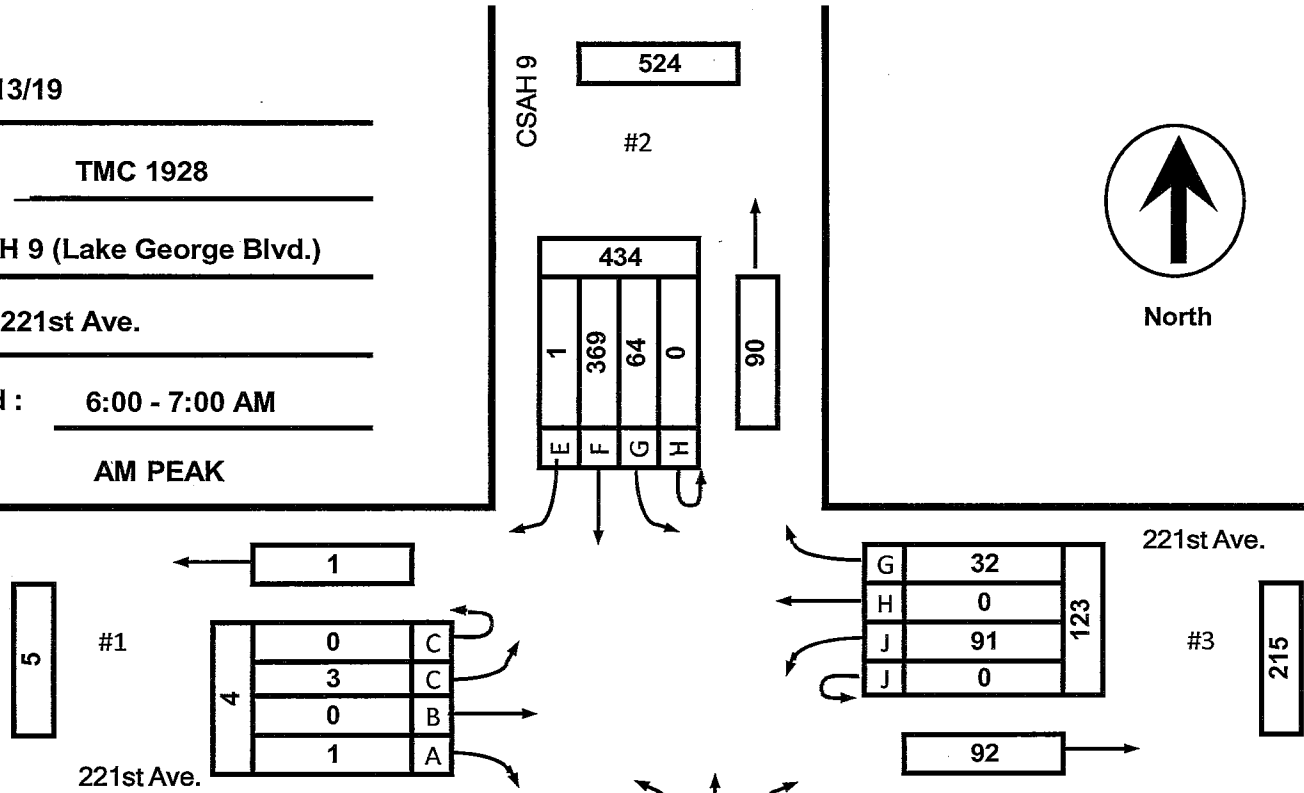
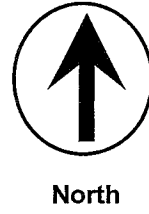
Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 06/13/19

Count Number : TMC 1928

Location : CSAH 9 (Lake George Blvd.)
@ 221st Ave.

Collection Period : 6:00 - 7:00 AM
AM PEAK



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 06/13/19

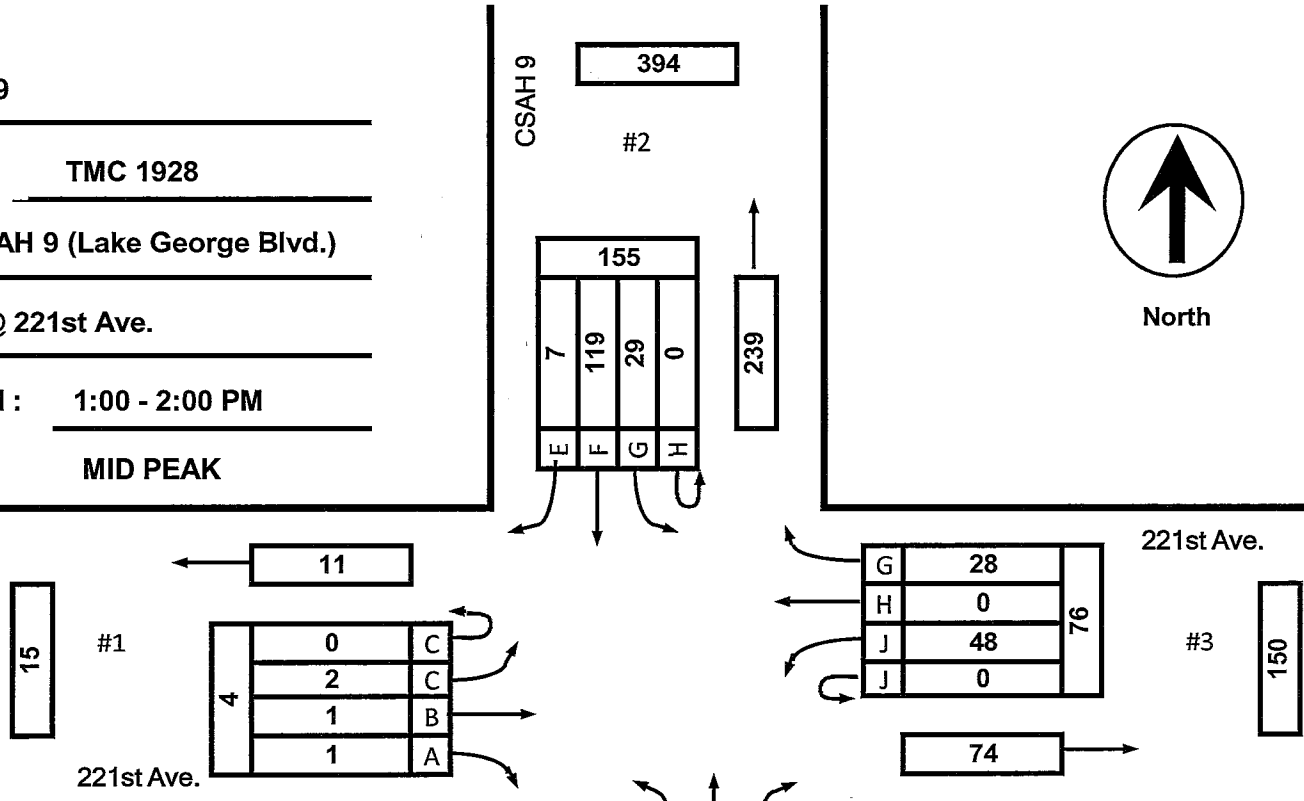
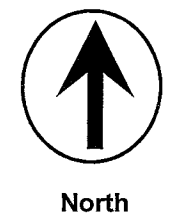
Count Number : TMC 1928

Location : CSAH 9 (Lake George Blvd.)

@ 221st Ave.

Collection Period : 1:00 - 2:00 PM

MID PEAK



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

Anoka County Highway Department
Traffic Volume and Turning
Movement Study

Date : 06/13/19

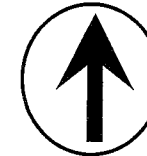
Count Number : TMC 1928

Location : CSAH 9 (Lake George Blvd.)

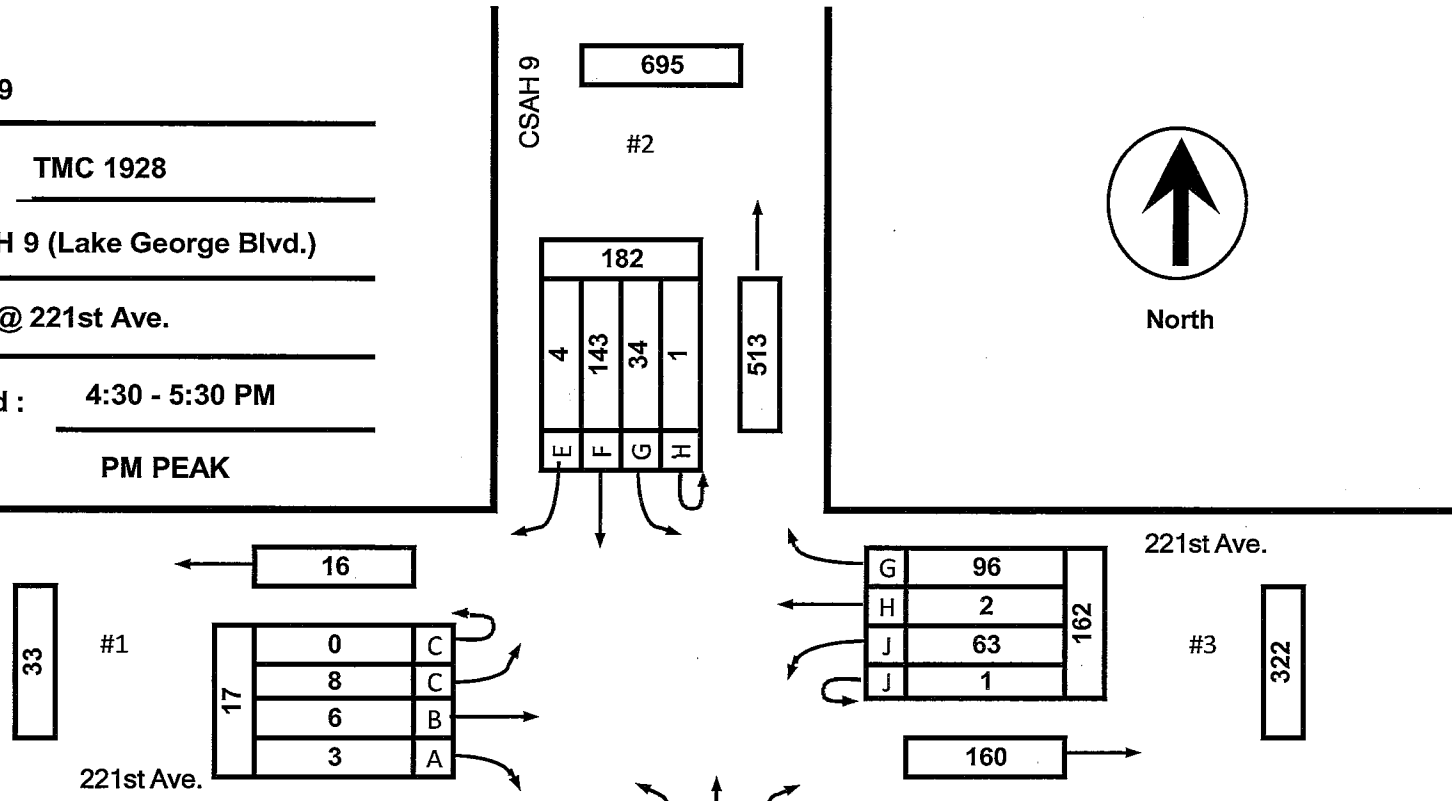
@ 221st Ave.

Collection Period : 4:30 - 5:30 PM

PM PEAK



North



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

File Name : TMC 1928
 Site Code :
 Start Date : 06/28/2019
 Page No : 1

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

Groups Printed- Cars + - Trucks

Start Time	CSAH 9 Southbound						221st Ave. Westbound						CSAH 9 Northbound						221st Ave. 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	0	2	0	0	2	0	1	0	2	0	3	0	0	8	2	0	10	0	0	0	0	0	0	0	15	15
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	0	8	0	0	0	0	0	0	0	8	8
00:30	0	2	0	0	0	2	0	0	0	1	0	1	0	0	3	3	0	6	0	0	0	0	0	0	0	9	9
00:45	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	4	4
Total	0	2	3	0	0	5	0	1	0	3	0	4	0	0	19	8	0	27	0	0	0	0	0	0	0	36	36
01:00	0	1	3	0	0	4	0	1	0	0	0	1	0	0	3	0	0	3	0	0	0	0	0	0	0	8	8
01:15	0	0	1	0	0	1	0	0	0	1	0	1	0	0	1	2	0	3	0	0	0	0	0	0	0	5	5
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	2	2
01:45	0	0	2	0	0	2	0	1	0	0	0	1	0	0	0	2	0	2	0	0	0	0	0	0	0	5	5
Total	0	1	6	0	0	7	0	2	0	1	0	3	0	0	5	5	0	10	0	0	0	0	0	0	0	20	20
02:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	1	3	0	0	0	0	0	0	1	4	5
02:15	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	4	4
02:30	0	0	3	0	0	3	0	1	0	0	0	1	0	0	3	1	0	4	0	0	0	0	0	0	0	8	8
02:45	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	2
Total	0	1	6	0	0	7	0	1	0	0	0	1	0	0	9	1	1	10	0	0	0	0	0	0	1	18	19
03:00	0	1	3	0	0	4	0	2	0	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	8	8
03:15	0	1	7	1	0	9	0	0	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0	13	13
03:30	0	0	3	0	0	3	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
03:45	0	0	10	0	0	10	0	1	0	1	0	2	0	0	4	0	0	4	0	0	0	0	0	0	0	16	16
Total	0	2	23	1	0	26	0	4	0	1	0	5	0	0	8	2	0	10	0	0	0	0	0	0	0	41	41
04:00	0	1	12	0	0	13	0	1	0	0	0	1	0	0	1	1	0	2	0	0	0	0	0	0	0	16	16
04:15	0	3	20	0	0	23	0	2	0	0	0	2	0	0	4	2	0	6	0	0	0	0	0	0	0	31	31
04:30	0	3	33	0	0	36	0	12	0	2	0	14	0	0	4	1	0	5	0	0	0	0	0	0	0	55	55
04:45	0	2	36	0	0	38	0	7	0	0	0	7	0	0	1	1	0	2	0	0	0	0	0	0	0	47	47
Total	0	9	101	0	0	110	0	22	0	2	0	24	0	0	10	5	0	15	0	0	0	0	0	0	0	149	149
05:00	0	5	31	0	0	36	1	10	0	5	0	16	0	0	1	3	0	4	0	0	0	0	0	0	0	56	56
05:15	0	5	47	0	0	52	0	18	0	2	0	20	0	0	4	2	0	6	0	0	0	0	0	0	0	78	78
05:30	0	13	84	0	0	97	0	24	0	1	0	25	0	0	6	1	0	7	0	1	0	0	0	1	0	130	130
05:45	0	8	52	0	0	60	0	19	0	2	0	21	0	0	15	4	0	19	0	0	0	0	0	0	0	100	100
Total	0	31	214	0	0	245	1	71	0	10	0	82	0	0	26	10	0	36	0	1	0	0	0	1	0	364	364



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1928
 Site Code :
 Start Date : 06/28/2019
 Page No : 2

Groups Printed- Cars + - Trucks

Start Time	CSAH 9 Southbound						221st Ave. Westbound						CSAH 9 Northbound						221st Ave. 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	17	82	0	0	99	0	24	0	8	0	32	0	0	26	6	1	32	0	1	0	1	0	2	1	165	166
06:15	0	18	114	0	0	132	0	23	0	3	0	26	0	0	4	7	0	11	0	0	0	0	0	0	0	169	169
06:30	0	19	100	1	0	120	0	20	0	12	0	32	0	0	12	8	0	20	0	1	0	0	0	1	0	173	173
06:45	0	10	73	0	0	83	0	24	0	9	0	33	0	0	13	7	0	20	0	1	0	0	0	1	0	137	137
Total	0	64	369	1	0	434	0	91	0	32	0	123	0	0	55	28	1	83	0	3	0	1	0	4	1	644	645
07:00	0	14	79	1	0	94	2	25	0	5	0	32	0	1	11	8	0	20	0	0	0	2	0	2	0	148	148
07:15	0	7	73	1	0	81	0	21	0	0	0	21	0	0	23	7	0	30	0	1	0	1	0	2	0	134	134
07:30	0	14	77	0	0	91	0	17	0	9	0	26	0	1	16	4	0	21	0	2	2	1	0	5	0	143	143
07:45	0	16	69	0	0	85	0	13	1	18	0	32	0	0	24	6	0	30	0	0	0	0	0	0	0	147	147
Total	0	51	298	2	0	351	2	76	1	32	0	111	0	2	74	25	0	101	0	3	2	4	0	9	0	572	572
08:00	0	15	67	2	0	84	0	8	0	8	0	16	0	0	25	6	0	31	0	0	0	0	0	0	0	131	131
08:15	0	8	37	0	0	45	0	17	0	8	0	25	0	0	16	7	0	23	0	0	0	1	0	1	0	94	94
08:30	0	7	40	0	0	47	0	15	0	13	0	28	0	0	31	8	0	39	0	0	0	0	0	0	0	114	114
08:45	0	8	39	0	0	47	0	9	0	7	0	16	0	0	16	6	0	22	0	0	0	0	0	0	0	85	85
Total	0	38	183	2	0	223	0	49	0	36	0	85	0	0	88	27	0	115	0	0	0	1	0	1	0	424	424
09:00	0	9	31	0	0	40	0	11	0	5	0	16	0	0	25	5	0	30	0	1	0	0	0	1	0	87	87
09:15	0	12	32	0	0	44	0	16	0	5	0	21	0	0	25	5	0	30	0	0	0	0	0	0	0	95	95
09:30	0	8	33	0	0	41	0	18	0	8	0	26	0	0	23	8	0	31	0	0	0	1	0	1	0	99	99
09:45	0	10	38	0	0	48	0	6	1	10	0	17	0	0	22	8	1	30	0	1	0	1	0	2	1	97	98
Total	0	39	134	0	0	173	0	51	1	28	0	80	0	0	95	26	1	121	0	2	0	2	0	4	1	378	379
10:00	0	7	39	1	0	47	0	8	0	3	0	11	0	1	21	1	0	23	0	0	0	0	0	0	0	81	81
10:15	0	4	34	0	0	38	0	14	0	4	0	18	0	1	28	4	0	33	0	3	1	0	0	4	0	93	93
10:30	0	3	31	1	0	35	0	13	0	8	0	21	0	3	32	4	0	39	0	1	0	0	0	1	0	96	96
10:45	0	16	40	2	0	58	0	12	1	5	0	18	0	0	41	8	0	49	0	0	0	0	0	0	0	125	125
Total	0	30	144	4	0	178	0	47	1	20	0	68	0	5	122	17	0	144	0	4	1	0	0	5	0	395	395
11:00	0	7	40	0	0	47	0	15	0	5	0	20	0	1	28	11	0	40	0	1	0	3	0	4	0	111	111
11:15	0	5	40	3	0	48	0	14	0	16	0	30	0	0	22	13	0	35	0	0	0	0	0	0	0	113	113
11:30	0	8	39	0	0	47	0	12	0	4	0	16	0	1	31	11	0	43	0	1	0	0	0	1	0	107	107
11:45	0	6	26	1	0	33	1	21	0	8	0	30	0	2	40	14	0	56	0	1	1	0	0	2	0	121	121
Total	0	26	145	4	0	175	1	62	0	33	0	96	0	4	121	49	0	174	0	3	1	3	0	7	0	452	452
12:00	1	8	30	0	0	39	0	7	0	10	0	17	0	1	32	10	0	43	0	0	0	0	0	0	0	99	99
12:15	0	6	40	0	0	46	0	10	0	10	0	20	0	0	38	8	3	46	0	0	0	0	0	0	3	112	115
12:30	0	9	33	0	0	42	0	10	0	5	0	15	0	0	53	5	0	58	0	0	1	1	0	2	0	117	117



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1928
 Site Code :
 Start Date : 06/28/2019
 Page No : 3

Groups Printed- Cars + - Trucks

Start Time	CSAH 9 Southbound						221st Ave. Westbound						CSAH 9 Northbound						221st Ave. 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	7	28	1	0	36	0	5	0	8	0	13	1	1	33	13	0	48	0	1	0	0	0	1	0	0	98	98
Total	1	30	131	1	0	163	0	32	0	33	0	65	1	2	156	36	3	195	0	1	1	1	0	3	3	426	429	
13:00	0	16	21	1	0	38	0	8	0	8	0	16	0	3	55	9	0	67	0	0	0	0	0	0	0	121	121	
13:15	0	2	28	2	0	32	0	16	0	7	0	23	0	1	49	11	0	61	0	0	0	0	0	0	0	116	116	
13:30	0	7	31	3	0	41	0	14	0	6	0	20	0	0	47	15	0	62	0	0	1	0	0	1	0	124	124	
13:45	0	4	39	1	0	44	0	10	0	7	0	17	0	0	58	9	0	67	0	2	0	1	0	3	0	131	131	
Total	0	29	119	7	0	155	0	48	0	28	0	76	0	4	209	44	0	257	0	2	1	1	0	4	0	492	492	
14:00	0	10	38	1	0	49	0	13	1	7	0	21	0	0	23	12	0	35	0	0	0	0	0	0	0	105	105	
14:15	0	5	37	0	0	42	0	14	0	9	0	23	0	1	49	10	0	60	0	1	0	1	0	2	0	127	127	
14:30	0	17	38	1	0	56	0	14	0	6	0	20	0	1	64	18	0	83	0	0	0	0	0	0	0	159	159	
14:45	0	12	24	0	0	36	0	13	0	7	0	20	0	2	67	24	0	93	0	0	0	0	0	0	0	149	149	
Total	0	44	137	2	0	183	0	54	1	29	0	84	0	4	203	64	0	271	0	1	0	1	0	2	0	540	540	
15:00	0	8	24	1	1	33	0	18	1	6	0	25	0	0	84	21	1	105	0	1	2	1	0	4	2	167	169	
15:15	0	9	48	3	0	60	0	12	0	9	0	21	0	0	95	26	0	121	0	2	0	0	0	2	0	204	204	
15:30	0	3	23	0	0	26	0	10	1	18	0	29	0	2	78	17	1	97	0	0	0	0	0	0	1	152	153	
15:45	0	5	30	0	0	35	0	10	0	14	1	24	0	0	77	27	1	104	0	0	1	0	0	1	2	164	166	
Total	0	25	125	4	1	154	0	50	2	47	1	99	0	2	334	91	3	427	0	3	3	1	0	7	5	687	692	
16:00	0	11	46	0	0	57	0	15	0	26	1	41	0	1	80	21	1	102	0	0	1	0	0	1	2	201	203	
16:15	0	7	25	3	0	35	0	14	0	25	0	39	0	3	115	18	0	136	0	0	0	0	0	0	0	210	210	
16:30	0	14	37	0	0	51	1	8	0	22	1	31	0	2	101	25	0	128	0	3	0	0	0	3	1	213	214	
16:45	1	7	34	3	0	45	0	19	1	23	1	43	0	3	114	33	0	150	0	3	5	1	0	9	1	247	248	
Total	1	39	142	6	0	188	1	56	1	96	3	154	0	9	410	97	1	516	0	6	6	1	0	13	4	871	875	
17:00	0	6	34	0	0	40	0	21	1	28	0	50	0	2	90	30	0	122	0	1	1	1	0	3	0	215	215	
17:15	0	7	38	1	0	46	0	15	0	23	1	38	0	3	103	31	0	137	0	1	0	1	0	2	1	223	224	
17:30	0	14	30	3	0	47	0	8	1	19	0	28	0	1	105	22	0	128	0	0	0	0	0	0	0	203	203	
17:45	0	18	32	1	0	51	1	13	0	18	0	32	0	1	97	21	0	119	0	0	0	0	0	0	0	202	202	
Total	0	45	134	5	0	184	1	57	2	88	1	148	0	7	395	104	0	506	0	2	1	2	0	5	1	843	844	
18:00	0	21	49	0	0	70	0	16	0	20	0	36	0	0	67	20	0	87	0	0	0	0	0	0	0	193	193	
18:15	0	10	17	0	0	27	0	7	0	15	0	22	0	0	53	13	1	66	0	1	1	1	0	3	1	118	119	
18:30	0	9	31	0	0	40	0	10	1	18	0	29	0	0	63	28	0	91	0	1	1	0	0	2	0	162	162	
18:45	0	8	11	0	0	19	0	13	0	17	0	30	0	4	75	19	0	98	0	4	0	0	0	4	0	151	151	
Total	0	48	108	0	0	156	0	46	1	70	0	117	0	4	258	80	1	342	0	6	2	1	0	9	1	624	625	



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 1928
 Site Code :
 Start Date : 06/28/2019
 Page No : 4

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

Groups Printed- Cars + - Trucks

Start Time	CSAH 9 Southbound						221st Ave. Westbound						CSAH 9 Northbound						221st Ave. Eastbound						Exclu. Total	Inclu. Total	Inf. 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	1	6	8	2	0	17	0	8	0	15	0	23	0	0	63	12	0	75	0	0	0	0	0	0	0	0	115	115
19:15	0	6	10	1	0	17	0	11	0	13	0	24	0	1	54	19	0	74	0	0	0	0	0	0	0	0	115	115
19:30	0	5	8	0	0	13	0	10	0	21	0	31	0	1	44	15	0	60	1	3	2	1	0	7	0	0	111	111
19:45	0	7	12	1	0	20	0	11	1	15	0	27	0	0	29	8	0	37	0	0	0	1	0	1	0	0	85	85
Total	1	24	38	4	0	67	0	40	1	64	0	105	0	2	190	54	0	246	1	3	2	2	0	8	0	0	426	426
20:00	0	6	14	0	0	20	0	8	0	11	0	19	0	0	57	20	1	77	0	1	0	0	0	1	1	0	117	118
20:15	0	6	21	2	0	29	0	2	0	14	0	16	0	0	48	16	0	64	0	0	1	0	0	1	0	0	110	110
20:30	0	8	18	1	0	27	0	9	0	11	0	20	0	0	28	4	0	32	0	0	0	0	0	0	0	0	79	79
20:45	0	7	16	2	0	25	0	10	1	8	0	19	0	3	34	8	0	45	0	0	0	0	0	0	0	0	89	89
Total	0	27	69	5	0	101	0	29	1	44	0	74	0	3	167	48	1	218	0	1	1	0	0	2	1	0	395	396
21:00	0	6	12	0	0	18	0	8	1	22	2	31	0	1	52	9	0	62	0	0	0	0	0	0	2	0	111	113
21:15	0	6	13	0	0	19	0	4	0	6	0	10	0	0	23	10	0	33	0	0	0	0	0	0	0	0	62	62
21:30	0	3	6	0	0	9	0	7	0	10	0	17	0	0	22	19	0	41	0	0	0	0	0	0	0	0	67	67
21:45	0	4	6	0	0	10	0	7	0	6	0	13	0	0	16	7	0	23	0	1	0	0	0	1	0	0	47	47
Total	0	19	37	0	0	56	0	26	1	44	2	71	0	1	113	45	0	159	0	1	0	0	0	1	2	0	287	289
22:00	0	11	10	0	0	21	0	1	1	8	0	10	0	0	24	8	0	32	0	0	1	0	0	1	0	0	64	64
22:15	0	3	11	0	0	14	0	0	0	5	0	5	0	1	12	13	0	26	0	0	0	0	0	0	0	0	45	45
22:30	0	0	7	0	0	7	0	2	1	2	0	5	0	2	12	4	0	18	1	0	0	0	0	1	0	0	31	31
22:45	0	0	4	0	0	4	0	1	0	3	0	4	0	0	7	4	0	11	0	0	0	0	0	0	0	0	19	19
Total	0	14	32	0	0	46	0	4	2	18	0	24	0	3	55	29	0	87	1	0	1	0	0	2	0	0	159	159
23:00	0	1	3	1	0	5	0	1	0	4	0	5	0	0	8	4	0	12	0	0	1	0	0	1	0	0	23	23
23:15	0	1	0	0	0	1	0	1	0	3	0	4	0	0	13	0	0	13	0	0	0	0	0	0	0	0	18	18
23:30	0	1	4	0	0	5	0	1	1	2	0	4	0	0	4	1	0	5	0	1	0	0	0	1	0	0	15	15
23:45	0	4	2	0	0	6	0	0	0	2	0	2	0	0	5	4	0	9	0	0	0	0	0	0	0	0	17	17
Total	0	7	9	1	0	17	0	3	1	11	0	15	0	0	30	9	0	39	0	1	1	0	0	2	0	0	73	73
Grand Total	3	645	2707	49	1	3404	6	922	16	770	7	1714	1	52	3152	904	12	4109	2	43	23	21	0	89	20	0	9316	9336
Apprch %	0.1	18.9	79.5	1.4			0.4	53.8	0.9	44.9			0	1.3	76.7	22			2.2	48.3	25.8	23.6						
Total %	0	6.9	29.1	0.5		36.5	0.1	9.9	0.2	8.3		18.4	0	0.6	33.8	9.7		44.1	0	0.5	0.2	0.2		1	0.2	0	99.8	
Cars +	3	603	2661	46		3314	5	855	16	727		1610	1	49	3083	858		4002	1	38	21	19		79	0	0	9005	
% Cars +	100	93.5	98.3	93.9	100	97.3	83.3	92.7	100	94.4	100	93.6	100	94.2	97.8	94.9	91.7	97.1	50	88.4	91.3	90.5	0	88.8	0	0	96.5	
Trucks	0	42	46	3		91	1	67	0	43		111	0	3	69	46		119	1	5	2	2		10	0	0	331	
% Trucks	0	6.5	1.7	6.1	0	2.7	16.7	7.3	0	5.6	0	6.4	0	5.8	2.2	5.1	8.3	2.9	50	11.6	8.7	9.5	0	11.2	0	0	3.5	



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1928
 Site Code :
 Start Date : 06/28/2019
 Page No : 5

Start Time	CSAH 9 Southbound					221st Ave. Westbound					CSAH 9 Northbound					221st Ave. 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 06:00																					
06:00	0	17	82	0	99	0	24	0	8	32	0	0	26	6	32	0	1	0	1	2	165
06:15	0	18	114	0	132	0	23	0	3	26	0	0	4	7	11	0	0	0	0	0	169
06:30	0	19	100	1	120	0	20	0	12	32	0	0	12	8	20	0	1	0	0	1	173
06:45	0	10	73	0	83	0	24	0	9	33	0	0	13	7	20	0	1	0	0	1	137
Total Volume	0	64	369	1	434	0	91	0	32	123	0	0	55	28	83	0	3	0	1	4	644
% App. Total	0	14.7	85	0.2		0	74	0	26		0	0	66.3	33.7		0	75	0	25		
PHF	.000	.842	.809	.250	.822	.000	.948	.000	.667	.932	.000	.000	.529	.875	.648	.000	.750	.000	.250	.500	.931

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	16	21	1	38	0	8	0	8	16	0	3	55	9	67	0	0	0	0	0	121
13:15	0	2	28	2	32	0	16	0	7	23	0	1	49	11	61	0	0	0	0	0	116
13:30	0	7	31	3	41	0	14	0	6	20	0	0	47	15	62	0	0	1	0	1	124
13:45	0	4	39	1	44	0	10	0	7	17	0	0	58	9	67	0	2	0	1	3	131
Total Volume	0	29	119	7	155	0	48	0	28	76	0	4	209	44	257	0	2	1	1	4	492
% App. Total	0	18.7	76.8	4.5		0	63.2	0	36.8		0	1.6	81.3	17.1		0	50	25	25		
PHF	.000	.453	.763	.583	.881	.000	.750	.000	.875	.826	.000	.333	.901	.733	.959	.000	.250	.250	.250	.333	.939

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	14	37	0	51	1	8	0	22	31	0	2	101	25	128	0	3	0	0	3	213
16:45	1	7	34	3	45	0	19	1	23	43	0	3	114	33	150	0	3	5	1	9	247
17:00	0	6	34	0	40	0	21	1	28	50	0	2	90	30	122	0	1	1	1	3	215
17:15	0	7	38	1	46	0	15	0	23	38	0	3	103	31	137	0	1	0	1	2	223
Total Volume	1	34	143	4	182	1	63	2	96	162	0	10	408	119	537	0	8	6	3	17	898
% App. Total	0.5	18.7	78.6	2.2		0.6	38.9	1.2	59.3		0	1.9	76	22.2		0	47.1	35.3	17.6		
PHF	.250	.607	.941	.333	.892	.250	.750	.500	.857	.810	.000	.833	.895	.902	.895	.000	.667	.300	.750	.472	.909



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

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

File Name : TMC 1928
 Site Code :
 Start Date : 06/28/2019
 Page No : 1

Groups Printed- Trucks

Start Time	CSAH 9 Southbound					221st Ave. Westbound					CSAH 9 Northbound					221st Ave. 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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	0	1	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:45	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	3
Total	0	0	2	0	2	0	3	0	0	3	0	0	1	0	1	0	0	0	0	0	0	6
06:00	0	3	1	0	4	0	1	0	0	1	0	0	1	1	2	0	0	0	0	0	0	7
06:15	0	1	1	0	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3
06:30	0	1	1	1	3	0	2	0	1	3	0	0	0	1	1	0	0	0	0	0	0	7
06:45	0	1	1	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	3
Total	0	6	4	1	11	0	3	0	1	4	0	0	2	3	5	0	0	0	0	0	0	20
07:00	0	0	6	0	6	0	0	0	0	0	0	0	2	1	3	0	0	0	1	1	1	10
07:15	0	1	0	0	1	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	3
07:30	0	3	1	0	4	0	2	0	1	3	0	1	0	0	1	0	1	0	0	1	1	9
07:45	0	0	2	0	2	0	1	0	2	3	0	0	2	3	5	0	0	0	0	0	0	10
Total	0	4	9	0	13	0	3	0	3	6	0	1	5	5	11	0	1	0	1	2	2	32
08:00	0	0	3	0	3	0	1	0	1	2	0	0	2	1	3	0	0	0	0	0	0	8
08:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
08:30	0	1	0	0	1	0	1	0	1	2	0	0	2	0	2	0	0	0	0	0	0	5
08:45	0	1	0	0	1	0	3	0	2	5	0	0	2	1	3	0	0	0	0	0	0	9
Total	0	2	3	0	5	0	7	0	4	11	0	0	6	2	8	0	0	0	0	0	0	24
09:00	0	0	2	0	2	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	5



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 1928
 Site Code :
 Start Date : 06/28/2019
 Page No : 2

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

Groups Printed- Trucks

Start Time	CSAH 9 Southbound					221st Ave. Westbound					CSAH 9 Northbound					221st Ave. 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	2	0	0	2	0	1	0	1	2	0	0	3	0	3	0	0	0	0	0	0	7
09:30	0	0	1	0	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	3
09:45	0	1	3	0	4	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	3	6	0	9	0	2	0	2	4	0	0	6	1	7	0	0	0	0	0	0	20
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	1	2	0	3	0	2	0	0	2	0	0	0	1	1	0	1	1	0	0	2	8
10:30	0	1	2	0	3	0	2	0	1	3	0	0	3	0	3	0	0	0	0	0	0	9
10:45	0	4	2	0	6	0	1	0	1	2	0	0	3	1	4	0	0	0	0	0	0	12
Total	0	6	6	0	12	0	5	0	2	7	0	0	6	2	8	0	1	1	0	0	2	29
11:00	0	1	1	0	2	0	4	0	1	5	0	0	4	3	7	0	0	0	0	0	0	14
11:15	0	0	1	0	1	0	2	0	3	5	0	0	1	2	3	0	0	0	0	0	0	9
11:30	0	0	2	0	2	0	1	0	0	1	0	0	1	1	2	0	0	0	0	0	0	5
11:45	0	0	0	0	0	0	2	0	2	4	0	0	3	2	5	0	0	0	0	0	0	9
Total	0	1	4	0	5	0	9	0	6	15	0	0	9	8	17	0	0	0	0	0	0	37
12:00	0	1	0	0	1	0	1	0	4	5	0	0	0	1	1	0	0	0	0	0	0	7
12:15	0	0	2	0	2	0	0	0	2	2	0	0	2	2	4	0	0	0	0	0	0	8
12:30	0	1	0	0	1	0	2	0	1	3	0	0	3	1	4	0	0	0	0	0	0	8
12:45	0	0	0	0	0	0	1	0	0	1	0	0	2	2	4	0	0	0	0	0	0	5
Total	0	2	2	0	4	0	4	0	7	11	0	0	7	6	13	0	0	0	0	0	0	28
13:00	0	4	0	0	4	0	1	0	2	3	0	1	3	0	4	0	0	0	0	0	0	11
13:15	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2
13:30	0	0	0	0	0	0	1	0	1	2	0	0	0	2	2	0	0	0	0	0	0	4
13:45	0	0	1	0	1	0	1	0	0	1	0	0	1	0	1	0	1	0	0	0	1	4
Total	0	4	1	0	5	0	4	0	3	7	0	1	5	2	8	0	1	0	0	0	1	21
14:00	0	0	0	0	0	0	1	0	1	2	0	0	0	1	1	0	0	0	0	0	0	3
14:15	0	1	1	0	2	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	4
14:30	0	5	2	1	8	0	1	0	0	1	0	0	1	1	2	0	0	0	0	0	0	11
14:45	0	1	0	0	1	0	1	0	0	1	0	1	0	1	2	0	0	0	0	0	0	4
Total	0	7	3	1	11	0	4	0	1	5	0	1	2	3	6	0	0	0	0	0	0	22
15:00	0	1	1	0	2	0	3	0	0	3	0	0	2	0	2	0	0	0	0	0	0	7
15:15	0	0	0	1	1	0	0	0	0	0	0	0	1	1	2	0	2	0	0	0	2	5
15:30	0	0	0	0	0	0	1	0	3	4	0	0	1	0	1	0	0	0	0	0	0	5
15:45	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	2	1	1	4	0	7	0	3	10	0	0	4	1	5	0	2	0	0	0	2	21
16:00	0	0	0	0	0	0	3	0	0	3	0	0	1	3	4	0	0	0	0	0	0	7
16:15	0	0	0	0	0	0	1	0	1	2	0	0	4	1	5	0	0	0	0	0	0	7
16:30	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	0	2
16:45	0	0	0	0	0	0	3	0	1	4	0	0	1	0	1	0	0	1	0	0	1	6
Total	0	0	0	0	0	0	7	0	3	10	0	0	7	4	11	0	0	1	0	0	1	22
17:00	0	0	1	0	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	3
17:15	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	2
17:30	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	1	2	0	3	0	0	1	0	1	0	0	0	0	0	0	4
Total	0	0	1	0	1	0	1	3	0	6	0	0	2	1	3	0	0	0	0	0	0	10
18:00	0	0	0	0	0	0	1	0	2	3	0	0	0	0	0	0	0	0	0	0	0	3
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
18:30	0	1	0	0	1	0	0	0	2	2	0	0	1	2	3	0	0	0	0	0	0	6
18:45	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2
Total	0	1	0	0	1	0	2	0	4	6	0	0	2	2	4	0	0	0	0	1	1	12



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 1928
 Site Code :
 Start Date : 06/28/2019
 Page No : 3

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

Groups Printed- Trucks

Start Time	CSAH 9 Southbound					221st Ave. Westbound					CSAH 9 Northbound					221st Ave. 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	1	1	2	0	0	0	0	0	0
19:15	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0
19:30	0	0	0	0	0	0	1	0	0	1	0	0	2	2	4	0	0	0	0	0	0
19:45	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	3	0	0	3	0	0	3	4	7	0	0	0	0	0	0
20:00	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
20:15	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	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
21:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	1	0	1	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0
21:45	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	3	0	3	0	1	0	1	2	0	0	1	1	2	0	0	0	0	0	0
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	1	0	0	0	1	1
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	1	0	0	0	1	1
23:00	0	0	0	0	0	0	0	0	1	1	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	1	1	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	42	46	3	91	1	67	0	43	111	0	3	69	46	118	1	5	2	2	10	330
Apprch %	0	46.2	50.5	3.3		0.9	60.4	0	38.7		0	2.5	58.5	39		10	50	20	20		
Total %	0	12.7	13.9	0.9	27.6	0.3	20.3	0	13	33.6	0	0.9	20.9	13.9	35.8	0.3	1.5	0.6	0.6	3	

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMc 1928

Study Date: 07/22/2019

Page No: 1

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 9

Number of Lanes : 1

Total Approach Volume: 4,109

Southbound: CSAH 9

Number of Lanes : 1

Total Approach Volume: 3,404

Minor Street Approaches

Eastbound: 221s Ave.

Number of Lanes : 1

Total Approach Volume: 89

Westbound: 221st Ave.

Number of Lanes : 1

Total Approach Volume: 1,714

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes.....Not Satisfied

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

Required volumes reached for 6 hours, 8 are needed

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

Required volumes reached for 4 hours, 8 are needed

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

Required 1A volumes reached for 12 hours, 8 are needed

Required 1B volumes reached for 7 hours, 8 are needed

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

Number of hours (4) 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 1928**

Study Date: **07/22/2019**

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 6 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 9				Total	Minor Road 221s Ave.		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	536	+	171	=	707	15	163	Yes
17:15 - 18:15	471	+	214	=	685	2	134	Yes
15:15 - 16:15	424	+	178	=	602	4	115	Yes
05:45 - 06:45	82	+	411	=	493	3	111	Yes
06:45 - 07:45	91	+	349	=	440	10	112	Yes
18:30 - 19:30	338	+	93	=	431	6	106	Yes
14:30 - 15:30	402	+	185	=	587	6	86	No
15:00 - 16:00	427	+	154	=	581	7	99	No
14:45 - 15:45	416	+	155	=	571	6	95	No
14:15 - 15:15	341	+	167	=	508	6	88	No
05:30 - 06:30	69	+	388	=	457	3	104	No
14:00 - 15:00	271	+	183	=	454	2	84	No
13:45 - 14:45	245	+	191	=	436	5	81	No
18:15 - 19:15	330	+	103	=	433	9	104	No
13:00 - 14:00	257	+	155	=	412	4	76	No
13:30 - 14:30	224	+	176	=	400	6	81	No
13:15 - 14:15	225	+	166	=	391	4	81	No
12:45 - 13:45	238	+	147	=	385	2	72	No
07:45 - 08:45	123	+	261	=	384	1	101	No
12:30 - 13:30	234	+	148	=	382	3	67	No
12:15 - 13:15	219	+	162	=	381	3	64	No
05:15 - 06:15	64	+	308	=	372	3	98	No
10:45 - 11:45	167	+	200	=	367	5	84	No
11:45 - 12:45	203	+	160	=	363	4	82	No
12:00 - 13:00	195		163		358	3	65	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMc 1928**

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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 4 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 9				Total	Minor Road 221s Ave.		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:30 - 17:30	537	+	182	=	719	17	162	Yes
17:30 - 18:30	400	+	195	=	595	3	118	Yes
15:30 - 16:30	439	+	153	=	592	2	133	Yes
14:30 - 15:30	402	+	185	=	587	6	86	Yes
06:00 - 07:00	83	+	434	=	517	4	123	No
14:15 - 15:15	341	+	167	=	508	6	88	No
06:15 - 07:15	71	+	429	=	500	4	123	No
05:45 - 06:45	82	+	411	=	493	3	111	No
06:30 - 07:30	90	+	378	=	468	6	118	No
05:30 - 06:30	69	+	388	=	457	3	104	No
14:00 - 15:00	271	+	183	=	454	2	84	No
07:15 - 08:15	112	+	341	=	453	7	95	No
07:00 - 08:00	101	+	351	=	452	9	111	No
06:45 - 07:45	91	+	349	=	440	10	112	No
13:45 - 14:45	245	+	191	=	436	5	81	No
18:30 - 19:30	338	+	93	=	431	6	106	No
13:00 - 14:00	257	+	155	=	412	4	76	No
07:30 - 08:30	105	+	305	=	410	6	99	No
13:30 - 14:30	224	+	176	=	400	6	81	No
13:15 - 14:15	225	+	166	=	391	4	81	No
12:45 - 13:45	238	+	147	=	385	2	72	No
07:45 - 08:45	123	+	261	=	384	1	101	No
12:30 - 13:30	234	+	148	=	382	3	67	No
12:15 - 13:15	219	+	162	=	381	3	64	No
18:45 - 19:45	307		66		373	11	108	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMc 1928**

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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

12 hours meet 1A minimums.
Only 7 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 9

Minor Road 221s Ave.

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:00 - 17:00	516	+	188	=	704	13	154	Yes
17:00 - 18:00	506	+	184	=	690	5	148	Yes
15:00 - 16:00	427	+	154	=	581	7	99	Yes
06:15 - 07:15	71	+	429	=	500	4	123	Yes
18:00 - 19:00	342	+	156	=	498	9	117	Yes
14:00 - 15:00	271	+	183	=	454	2	84	Yes
07:15 - 08:15	112	+	341	=	453	7	95	Yes
05:15 - 06:15	64	+	308	=	372	3	98	Yes
10:30 - 11:30	163	+	188	=	351	5	89	Yes
19:00 - 20:00	246	+	67	=	313	8	105	Yes
20:15 - 21:15	203	+	99	=	302	1	86	Yes
08:15 - 09:15	114	+	179	=	293	2	85	Yes

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:45 - 17:45	537	+	178	=	715	14	159	Yes
15:45 - 16:45	470	+	178	=	648	5	135	Yes
14:45 - 15:45	416	+	155	=	571	6	95	Yes
17:45 - 18:45	363	+	188	=	551	5	119	Yes
06:30 - 07:30	90	+	378	=	468	6	118	Yes
05:30 - 06:30	69	+	388	=	457	3	104	Yes
13:45 - 14:45	245	+	191	=	436	5	81	Yes
13:00 - 14:00	257	+	155	=	412	4	76	No
07:30 - 08:30	105	+	305	=	410	6	99	No
13:30 - 14:30	224	+	176	=	400	6	81	No
13:15 - 14:15	225	+	166	=	391	4	81	No
12:45 - 13:45	238	+	147	=	385	2	72	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMc 1928**

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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.

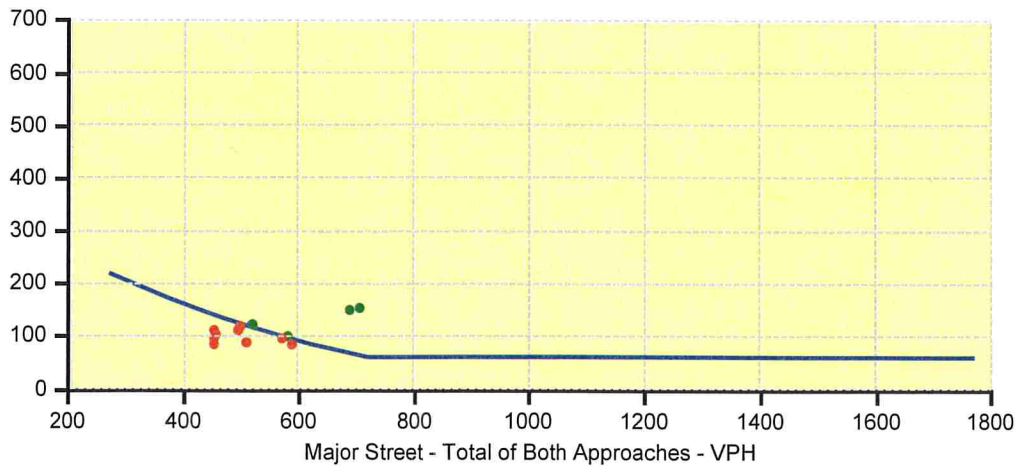
Summary

4 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 9				Total	Minor Road 221s Ave.		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	516	+	188	=	704	13	154	Yes
17:00 - 18:00	506	+	184	=	690	5	148	Yes
15:00 - 16:00	427	+	154	=	581	7	99	Yes
06:00 - 07:00	83	+	434	=	517	4	123	Yes
14:30 - 15:30	402	+	185	=	587	6	86	No
14:45 - 15:45	416	+	155	=	571	6	95	No
14:15 - 15:15	341	+	167	=	508	6	88	No
18:00 - 19:00	342	+	156	=	498	9	117	No
05:45 - 06:45	82	+	411	=	493	3	111	No
05:30 - 06:30	69	+	388	=	457	3	104	No
14:00 - 15:00	271	+	183	=	454	2	84	No
							95	No



ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMc 1928**
 Study Date: **07/22/2019**
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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

5 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 9				Total	Minor Road 221s Ave.		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:30 - 17:30	537	+	182	=	719	17	162	Yes
16:45 - 17:45	537	+	178	=	715	14	159	Yes
16:15 - 17:15	536	+	171	=	707	15	163	Yes
16:00 - 17:00	516	+	188	=	704	13	154	Yes
17:00 - 18:00	506	+	184	=	690	5	148	Yes
17:15 - 18:15	471	+	214	=	685	2	134	No
15:45 - 16:45	470	+	178	=	648	5	135	No
15:15 - 16:15	424	+	178	=	602	4	115	No
17:30 - 18:30	400	+	195	=	595	3	118	No
15:30 - 16:30	439	+	153	=	592	2	133	No
14:30 - 15:30	402	+	185	=	587	6	86	No
							99	No

