

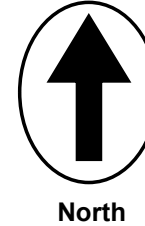
Date : 04/18/23

Count Number : TMC 2301

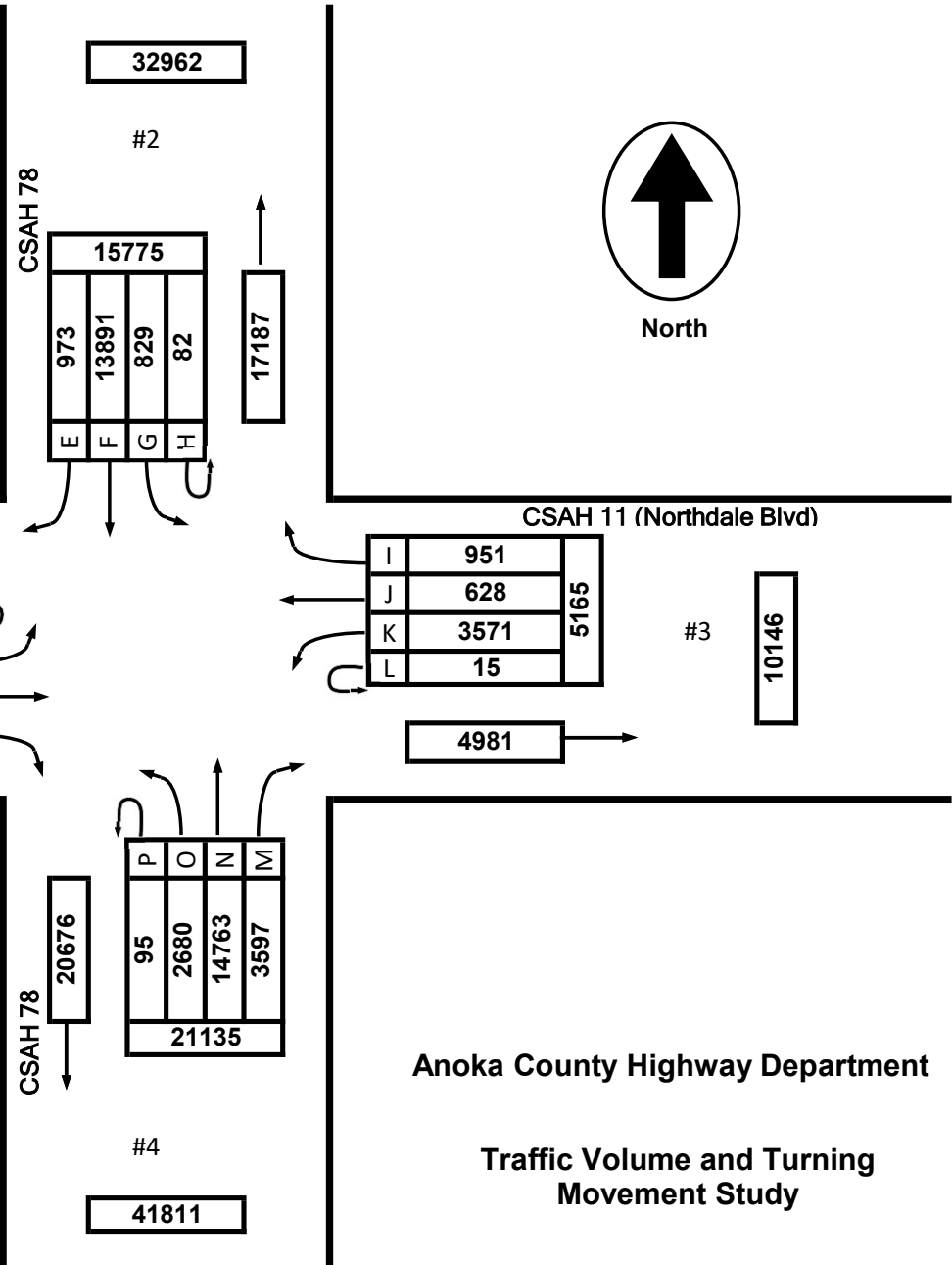
Location : CSAH 78

@ CSAH 11 (Northdale Blvd)/Gateway Dr.

Collection Period : 24 HR



North



0	D
1391	C
540	B
3119	A

I	951	5165
J	628	
K	3571	
L	15	

P	95	O	2680	N	14763	M	3597
21135							

EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	1	2	1	4
#2	1	1	4	6
#3	1	2	1	4
#4	1	1	3	5

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

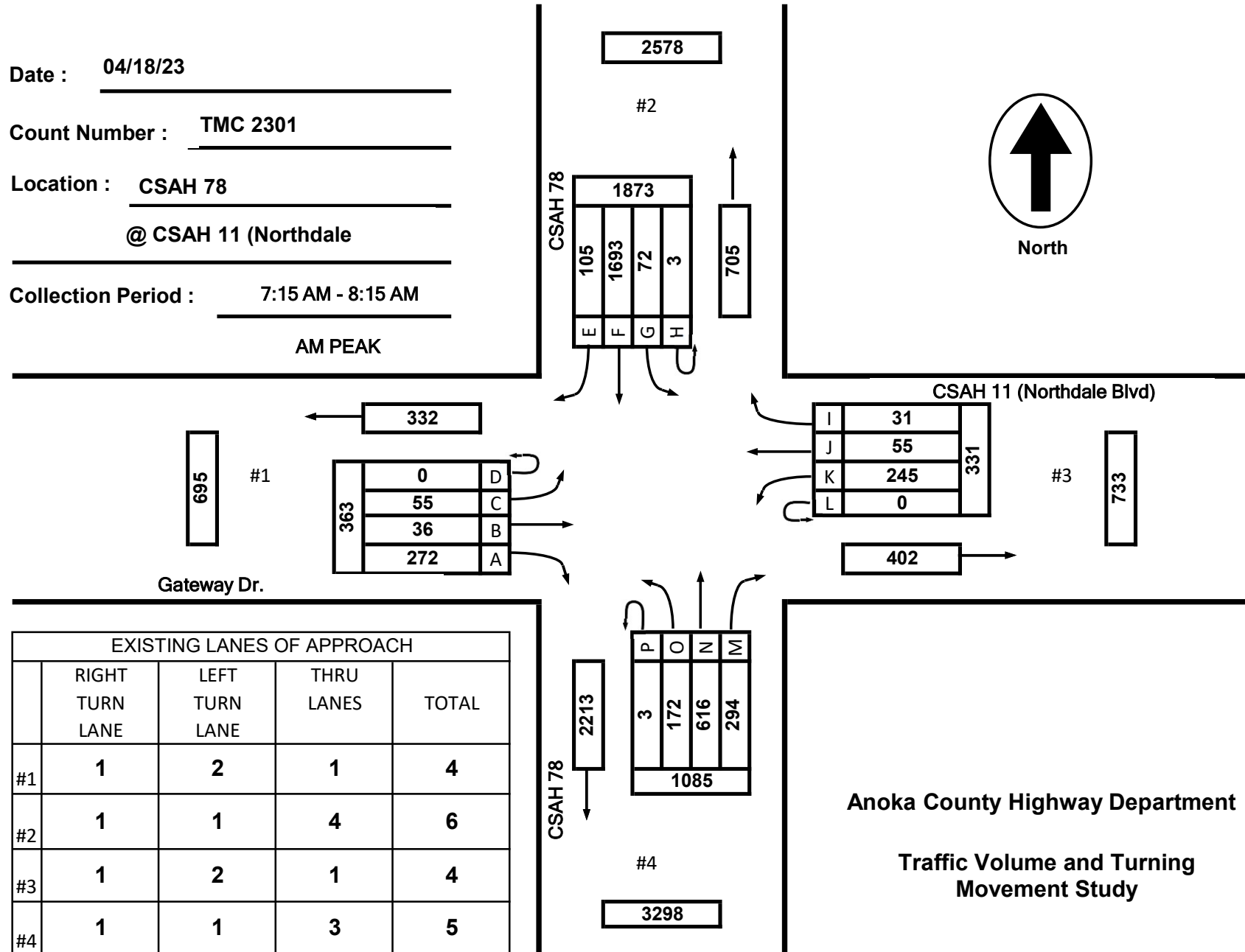
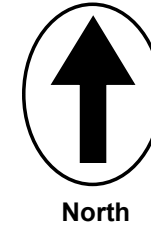
Date : 04/18/23

Count Number : TMC 2301

Location : CSAH 78
@ CSAH 11 (Northdale)

Collection Period : 7:15 AM - 8:15 AM

AM PEAK



EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	1	2	1	4
#2	1	1	4	6
#3	1	2	1	4
#4	1	1	3	5

Anoka County Highway Department

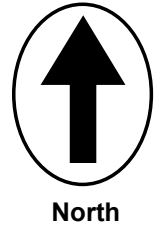
Traffic Volume and Turning Movement Study

Date : 04/18/23

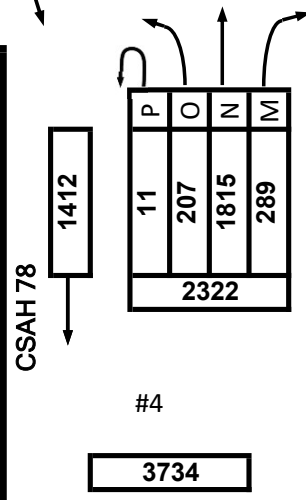
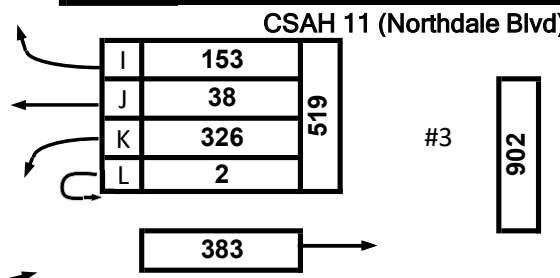
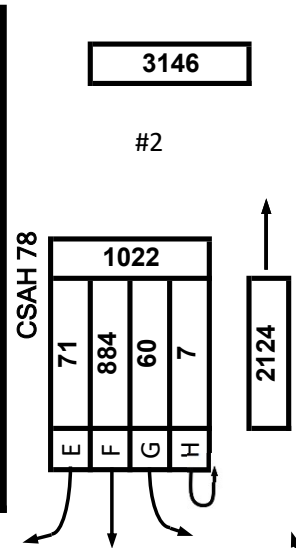
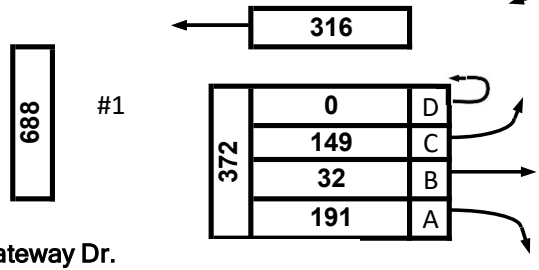
Count Number : TMC 2301

Location : CSAH 78
@ CSAH 11 (Northdale)

Collection Period : 4 PM - 5 PM
PM PEAK



North



Gateway Dr.

CSAH 11 (Northdale Blvd)

CSAH 78

EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	1	2	1	4
#2	1	1	4	6
#3	1	2	1	4
#4	1	1	3	5

Anoka County Highway Department

Traffic Volume and Turning Movement Study

TMC 2301 - CSAH 78 @ CSAH 11Gateway Dr
0 0

Tuesday, April 18, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:00 AM	0	0	7	4	0	11	0	2	0	0	0	2	1	9	28	4	0	42	0	2	2	3	0	7	62
12:15 AM	0	1	7	1	0	9	0	3	4	1	0	8	0	13	23	7	0	43	0	6	2	10	0	18	78
12:30 AM	0	2	7	0	0	9	0	6	1	1	0	8	0	5	19	1	0	25	0	4	1	10	0	15	57
12:45 AM	0	0	8	0	0	8	0	0	1	0	0	1	0	2	14	2	0	18	0	3	0	8	0	11	38
Hourly Total	0	3	29	5	0	37	0	11	6	2	0	19	1	29	84	14	0	128	0	15	5	31	0	51	235
1:00 AM	0	0	13	0	0	13	0	2	1	0	0	3	1	3	23	3	0	30	0	1	1	0	0	2	48
1:15 AM	0	0	15	3	0	18	0	1	3	0	0	4	0	1	17	3	0	21	0	1	1	5	0	7	50
1:30 AM	0	0	10	0	0	10	0	0	1	0	0	1	0	4	10	2	0	16	0	3	0	5	0	8	35
1:45 AM	0	1	6	0	0	7	0	1	1	1	0	3	0	3	9	4	0	16	0	1	0	1	0	2	28
Hourly Total	0	1	44	3	0	48	0	4	6	1	0	11	1	11	59	12	0	83	0	6	2	11	0	19	161
2:00 AM	0	0	9	1	0	10	0	4	0	0	0	4	0	4	14	4	0	22	0	2	0	6	0	8	44
2:15 AM	0	1	7	0	0	8	0	6	0	0	0	6	0	7	13	3	0	23	0	1	0	3	0	4	41
2:30 AM	0	1	9	1	0	11	0	1	1	0	0	2	0	3	9	1	0	13	0	3	0	3	0	6	32
2:45 AM	0	0	10	1	0	11	0	1	1	0	0	2	0	3	6	0	0	9	0	0	0	6	0	6	28
Hourly Total	0	2	35	3	0	40	0	12	2	0	0	14	0	17	42	8	0	67	0	6	0	18	0	24	145
3:00 AM	0	0	13	0	0	13	0	3	3	0	0	6	0	2	11	3	0	16	0	1	1	3	0	5	40
3:15 AM	0	0	23	1	0	24	0	2	0	0	0	2	0	3	18	1	0	22	0	0	3	1	0	4	52
3:30 AM	0	0	25	1	0	26	0	3	1	2	0	6	0	3	3	2	0	8	0	1	1	8	0	10	50
3:45 AM	0	0	31	3	0	34	0	4	1	0	0	5	0	5	8	1	0	14	0	1	1	6	0	8	61
Hourly Total	0	0	92	5	0	97	0	12	5	2	0	19	0	13	40	7	0	60	0	3	6	18	0	27	203
4:00 AM	0	1	37	1	0	39	0	4	1	1	0	6	0	9	11	7	0	27	0	0	0	11	0	11	83
4:15 AM	0	2	53	1	0	56	0	3	3	1	0	7	0	5	14	5	0	24	0	1	1	6	0	8	95
4:30 AM	0	2	70	3	0	75	0	6	2	0	0	8	0	5	12	6	0	23	0	0	1	10	0	11	117
4:45 AM	0	2	73	4	0	79	0	10	3	0	0	13	0	8	19	12	0	39	0	1	0	10	0	11	142
Hourly Total	0	7	233	9	0	249	0	23	9	2	0	34	0	27	56	30	0	113	0	2	2	37	0	41	437
5:00 AM	0	4	110	4	0	118	0	10	3	0	0	13	0	5	25	12	0	42	0	0	2	17	0	19	192
5:15 AM	0	5	131	12	0	148	0	13	1	4	0	18	0	5	26	22	0	53	0	1	2	23	0	26	245
5:30 AM	0	6	205	12	0	223	0	26	1	4	0	31	0	17	39	16	0	72	0	1	3	24	0	28	354
5:45 AM	0	7	211	10	0	228	0	18	5	1	0	24	1	15	33	35	0	84	0	3	4	32	0	39	375
Hourly Total	0	22	657	38	0	717	0	67	10	9	0	86	1	42	123	85	0	251	0	5	11	96	0	112	1166
6:00 AM	0	9	193	11	0	213	0	37	8	5	0	50	0	20	49	26	0	95	0	2	1	25	0	28	386
6:15 AM	1	10	306	13	0	330	0	32	4	2	0	38	0	22	74	46	0	142	0	2	2	50	0	54	564
6:30 AM	0	16	341	20	0	377	0	40	7	4	0	51	0	32	74	53	0	159	0	9	6	61	2	76	663
6:45 AM	1	13	379	17	0	410	0	39	8	2	1	49	0	31	111	55	0	197	0	10	9	40	0	59	715
Hourly Total	2	48	1219	61	0	1330	0	148	27	13	1	188	0	105	308	180	0	593	0	23	18	176	2	217	2328
7:00 AM	0	8	421	20	2	449	0	44	4	7	0	55	0	45	105	46	0	196	0	12	2	64	0	78	778
7:15 AM	0	7	507	23	0	537	0	80	10	6	0	96	1	46	167	59	0	273	0	15	15	61	0	91	997
7:30 AM	0	16	463	25	1	504	0	64	11	7	0	82	1	37	142	74	0	254	0	19	8	68	0	95	935
7:45 AM	1	26	428	30	0	485	0	57	15	10	0	82	0	42	152	83	0	277	0	7	9	72	0	88	932
Hourly Total	1	57	1819	98	3	1975	0	245	40	30	0	315	2	170	566	262	0	1000	0	53	34	265	0	352	3642

TMC 2301 - CSAH 78 @ CSAH 11 Gateway Dr

0 0

Tuesday, April 18, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
8:00 AM	2	23	295	27	0	347	0	44	19	8	0	71	1	47	155	78	0	281	0	14	6	71	0	91	790
8:15 AM	3	25	283	20	0	331	0	52	13	11	0	76	1	54	131	56	0	242	0	20	9	79	0	108	757
8:30 AM	0	8	261	14	0	283	0	44	11	10	0	65	2	45	129	41	0	217	0	23	17	74	0	114	679
8:45 AM	1	14	259	22	0	296	0	37	14	7	0	58	0	51	133	29	0	213	0	20	8	53	0	81	648
Hourly Total	6	70	1098	83	0	1257	0	177	57	36	0	270	4	197	548	204	0	953	0	77	40	277	0	394	2874
9:00 AM	2	17	229	22	0	270	1	47	8	16	0	72	0	43	134	56	0	233	0	20	14	55	0	89	664
9:15 AM	1	14	226	11	1	252	0	47	6	7	0	60	3	37	137	53	0	230	0	19	3	54	0	76	618
9:30 AM	0	14	239	10	0	263	0	52	7	9	0	68	0	35	129	40	0	204	0	14	7	41	0	62	597
9:45 AM	2	13	182	13	0	210	0	48	5	9	0	62	0	34	111	52	0	197	0	14	7	48	0	69	538
Hourly Total	5	58	876	56	1	995	1	194	26	41	0	262	3	149	511	201	0	864	0	67	31	198	0	296	2417
10:00 AM	1	8	140	17	0	166	0	38	6	9	0	53	1	41	111	45	0	198	0	13	7	39	0	59	476
10:15 AM	2	10	174	11	0	197	0	50	9	13	0	72	1	36	113	34	0	184	0	24	7	34	0	65	518
10:30 AM	2	12	177	10	0	201	0	47	6	8	0	61	1	33	121	50	0	205	0	14	8	38	0	60	527
10:45 AM	0	13	164	17	1	194	1	50	7	6	0	64	2	41	148	65	0	256	0	16	4	50	1	70	584
Hourly Total	5	43	655	55	1	758	1	185	28	36	0	250	5	151	493	194	0	843	0	67	26	161	1	254	2105
11:00 AM	2	10	132	8	0	152	0	50	11	13	0	74	2	33	149	46	0	230	0	14	6	38	0	58	514
11:15 AM	2	11	182	10	0	205	1	50	11	12	0	74	2	37	164	52	0	255	0	23	15	37	0	75	609
11:30 AM	3	15	167	10	1	195	0	60	16	15	0	91	4	43	166	51	0	264	0	7	9	36	0	52	602
11:45 AM	2	8	160	18	2	188	0	56	19	11	0	86	4	48	155	59	0	266	0	21	10	57	0	88	628
Hourly Total	9	44	641	46	3	740	1	216	57	51	0	325	12	161	634	208	0	1015	0	65	40	168	0	273	2353
12:00 PM	0	12	164	12	1	188	1	64	16	18	0	99	3	56	177	57	0	293	0	25	16	37	0	78	658
12:15 PM	4	7	128	19	0	158	0	66	12	15	0	93	1	37	178	52	0	268	0	19	13	50	0	82	601
12:30 PM	0	11	161	15	0	187	0	53	13	14	0	80	5	56	190	50	0	301	0	24	12	44	1	80	648
12:45 PM	0	11	132	10	1	153	0	56	17	19	0	92	1	38	153	60	0	252	0	20	17	44	0	81	578
Hourly Total	4	41	585	56	2	686	1	239	58	66	0	364	10	187	698	219	0	1114	0	88	58	175	1	321	2485
1:00 PM	4	14	166	11	0	195	0	48	6	10	0	64	4	38	175	68	0	285	0	20	11	44	0	75	619
1:15 PM	0	7	161	9	0	177	1	49	7	16	0	73	4	51	172	46	0	273	0	13	8	49	0	70	593
1:30 PM	2	17	157	18	0	194	1	43	9	6	0	59	0	33	162	47	0	242	0	26	8	41	0	75	570
1:45 PM	1	23	158	8	0	190	0	58	8	14	0	80	1	27	203	47	0	278	0	19	8	34	0	61	609
Hourly Total	7	61	642	46	0	756	2	198	30	46	0	276	9	149	712	208	0	1078	0	78	35	168	0	281	2391
2:00 PM	1	11	227	12	0	251	0	84	15	21	3	120	2	48	228	54	0	332	0	13	8	48	1	69	772
2:15 PM	2	13	170	14	1	199	1	53	4	21	0	79	0	38	279	76	0	393	0	32	11	45	0	88	759
2:30 PM	1	19	170	18	1	208	0	76	7	13	0	96	1	44	310	94	0	449	0	20	8	42	0	70	823
2:45 PM	1	17	172	14	1	204	1	65	12	25	0	103	1	57	355	74	0	487	0	28	10	48	2	86	880
Hourly Total	5	60	739	58	3	862	2	278	38	80	3	398	4	187	1172	298	0	1661	0	93	37	183	3	313	3234
3:00 PM	0	7	191	15	4	213	0	65	5	21	0	91	1	44	386	52	0	483	0	31	5	54	6	90	877
3:15 PM	1	12	233	9	1	255	0	104	8	24	0	136	3	49	415	76	0	543	0	22	1	50	10	73	1007
3:30 PM	2	17	182	19	5	220	0	85	7	26	0	118	1	51	432	66	0	550	0	34	8	43	4	85	973
3:45 PM	1	25	207	13	3	246	1	78	8	28	0	115	1	54	434	67	0	556	0	34	9	51	4	94	1011
Hourly Total	4	61	813	56	13	934	1	332	28	99	0	460	6	198	1667	261	0	2132	0	121	23	198	24	342	3868

TMC 2301 - CSAH 78 @ CSAH 11Gateway Dr
0 0

Tuesday, April 18, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:00 PM	2	19	218	19	3	258	0	88	11	43	0	142	5	45	425	68	0	543	0	32	9	40	2	81	1024
4:15 PM	3	12	224	25	2	264	1	84	10	38	0	133	4	57	423	53	0	537	0	37	10	44	1	91	1025
4:30 PM	1	11	223	7	2	242	1	87	8	34	0	130	1	52	464	81	0	598	0	38	8	52	2	98	1068
4:45 PM	1	18	219	20	2	258	0	67	9	38	0	114	1	53	503	87	0	644	0	42	5	55	0	102	1118
Hourly Total	7	60	884	71	9	1022	2	326	38	153	0	519	11	207	1815	289	0	2322	0	149	32	191	5	372	4235
5:00 PM	2	15	212	12	0	241	0	65	13	31	0	109	2	48	461	64	0	575	0	35	10	41	2	86	1011
5:15 PM	1	16	193	7	0	217	0	53	15	18	0	86	2	44	488	79	0	613	0	32	10	45	7	87	1003
5:30 PM	0	13	201	14	0	228	0	65	5	31	0	101	2	43	403	67	0	515	0	31	8	51	6	90	934
5:45 PM	3	11	178	16	1	208	0	47	10	17	0	74	0	33	339	63	0	435	0	25	5	44	1	74	791
Hourly Total	6	55	784	49	1	894	0	230	43	97	0	370	6	168	1691	273	0	2138	0	123	33	181	16	337	3739
6:00 PM	2	15	224	8	0	249	0	67	7	30	0	104	0	32	300	68	0	400	0	29	13	38	0	80	833
6:15 PM	2	16	200	10	6	228	0	54	11	15	0	80	2	39	343	52	0	436	0	21	6	38	6	65	809
6:30 PM	5	6	184	11	0	206	1	48	11	18	0	78	2	29	257	65	0	353	0	31	11	30	1	72	709
6:45 PM	5	14	156	10	1	185	1	38	9	11	0	59	1	27	257	53	0	338	0	21	10	33	0	64	646
Hourly Total	14	51	764	39	7	868	2	207	38	74	0	321	5	127	1157	238	0	1527	0	102	40	139	7	281	2997
7:00 PM	3	10	154	19	1	186	0	39	7	13	0	59	1	31	231	56	0	319	0	20	8	38	8	66	630
7:15 PM	0	9	107	12	2	128	1	40	8	12	0	61	2	28	207	53	0	290	0	24	7	34	3	65	544
7:30 PM	2	9	110	10	2	131	0	32	10	13	0	55	1	29	186	33	0	249	0	20	2	27	0	49	484
7:45 PM	0	7	124	6	0	137	0	29	7	11	0	47	0	28	168	48	0	244	0	19	3	29	1	51	479
Hourly Total	5	35	495	47	5	582	1	140	32	49	0	222	4	116	792	190	0	1102	0	83	20	128	12	231	2137
8:00 PM	0	8	104	11	1	123	0	46	6	8	0	60	0	18	205	46	0	269	0	18	6	27	0	51	503
8:15 PM	0	8	107	9	0	124	1	34	6	9	0	50	0	21	174	32	0	227	0	18	6	29	2	53	454
8:30 PM	1	5	78	7	2	91	0	31	5	9	0	45	2	21	167	28	0	218	0	14	5	27	0	46	400
8:45 PM	0	6	84	6	0	96	0	33	5	7	0	45	2	29	160	35	0	226	0	13	3	14	0	30	397
Hourly Total	1	27	373	33	3	434	1	144	22	33	0	200	4	89	706	141	0	940	0	63	20	97	2	180	1754
9:00 PM	0	8	61	5	0	74	0	34	0	7	0	41	1	16	123	24	0	164	0	16	1	23	0	40	319
9:15 PM	0	4	64	6	0	74	0	19	4	3	0	26	2	21	133	23	0	179	0	10	0	24	0	34	313
9:30 PM	0	2	53	7	0	62	0	13	3	1	0	17	2	19	109	6	0	136	0	11	4	19	0	34	249
9:45 PM	0	4	34	7	0	45	0	21	6	2	0	29	0	19	77	21	0	117	0	11	4	21	0	36	227
Hourly Total	0	18	212	25	0	255	0	87	13	13	0	113	5	75	442	74	0	596	0	48	9	87	0	144	1108
10:00 PM	0	0	37	5	0	42	0	11	2	8	0	21	0	13	76	22	0	111	0	11	4	19	0	34	208
10:15 PM	0	1	36	5	0	42	0	15	4	4	0	23	0	14	67	15	0	96	0	7	2	20	0	29	190
10:30 PM	1	1	35	6	0	43	0	19	1	3	0	23	1	16	59	20	0	96	0	7	1	15	0	23	185
10:45 PM	0	0	28	2	0	30	0	6	5	0	0	11	1	11	59	16	0	87	0	5	6	13	0	24	152
Hourly Total	1	2	136	18	0	157	0	51	12	15	0	78	2	54	261	73	0	390	0	30	13	67	0	110	735
11:00 PM	0	3	19	4	0	26	0	11	0	2	0	13	0	12	53	11	0	76	0	7	0	12	0	19	134
11:15 PM	0	0	18	1	0	19	0	20	2	1	0	23	0	13	51	6	0	70	0	6	1	13	0	20	132
11:30 PM	0	0	20	4	0	24	0	11	1	0	0	12	0	12	49	6	0	67	0	5	3	13	0	21	124
11:45 PM	0	0	9	4	0	13	0	3	0	0	0	3	0	14	33	5	0	52	0	6	1	11	0	18	86
Hourly Total	0	3	66	13	0	82	0	45	3	3	0	51	0	51	186	28	0	265	0	24	5	49	0	78	476
DAILY TOTAL	82	829	13891	973	51	15775	15	3571	628	951	4	5165	95	2680	14763	3697	0	21235	0	1391	540	3119	73	5050	47225
Cars	82	792	13601	967	43	15442	15	3352	623	921	4	4911	95	2655	14484	3429	0	20663	0	1386	532	3079	60	4997	46013
Heavy Vehicles	0	37	290	6	8	333	0	219	5	30	0	254	0	25	279	268	0	572	0	5	8	40	13	53	1212
Heavy Vehicle %	0.00%	4.46%	2.09%	0.62%	15.69%	2.11%	0.00%	6.13%	0.80%	3.15%	0.00%	4.92%	0.00%	0.93%	1.89%	7.25%	0.00%	2.69%	0.00%	0.36%	1.48%	1.28%	17.81%	1.05%	2.57%

TMC 2301 - CSAH 78 @ CSAH 11 Gateway Dr
0 0
Tuesday, April 18, 2023

AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:15 AM	0	7	507	23	0	537	0	80	10	6	0	96	1	46	167	59	0	273	0	15	15	61	0	91	997
7:30 AM	0	16	463	25	1	504	0	64	11	7	0	82	1	37	142	74	0	254	0	19	8	68	0	95	935
7:45 AM	1	26	428	30	0	485	0	57	15	10	0	82	0	42	152	83	0	277	0	7	9	72	0	88	932
8:00 AM	2	23	295	27	0	347	0	44	19	8	0	71	1	47	155	78	0	281	0	14	6	71	0	91	790
Peak Hour Total	3	72	1693	105	1	1873	0	245	55	31	0	331	3	172	616	294	0	1085	0	55	38	272	0	365	3654
PHF	0.375	0.692	0.835	0.875	0.250	0.872	0.000	0.766	0.724	0.775	0.000	0.862	0.750	0.915	0.922	0.886	0.000	0.965	0.000	0.724	0.633	0.944	0.000	0.961	0.916

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
4:00 PM	2	19	218	19	3	258	0	88	11	43	0	142	5	45	425	68	0	543	0	32	9	40	2	81	1024
4:15 PM	3	12	224	25	2	264	1	84	10	38	0	133	4	57	423	53	0	537	0	37	10	44	1	91	1025
4:30 PM	1	11	223	7	2	242	1	87	8	34	0	130	1	52	464	81	0	598	0	38	8	52	2	98	1068
4:45 PM	1	18	219	20	2	258	0	67	9	38	0	114	1	53	503	87	0	644	0	42	5	55	0	102	1118
Peak Hour Total	7	60	884	71	9	1022	2	326	38	153	0	519	11	207	1815	289	0	2322	0	149	32	191	5	372	4235
PHF	0.583	0.789	0.987	0.710	0.750	0.968	0.500	0.926	0.864	0.890	0.000	0.914	0.550	0.908	0.902	0.830	0.000	0.901	0.000	0.887	0.800	0.868	0.625	0.912	0.947

Total Vehicles On Leg				32962	
Vehicles Entering Intersection		15775	Vehicles Exiting Intersection		17187
Southbound					
Cars	967	13601	792	82	43
Heavy	6	290	37	0	8
Total	973	13891	829	82	51

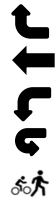


Total Vehicles on Leg 9331	Vehicles Entering Intersection 5050	Eastbound	Cars	60	13	73
			Heavy	0	0	0
			Total	1386	5	1391
	Vehicles Exiting Intersection 4281		Cars	532	8	540
			Total	3079	40	3119



Daily Volumes

Cars	921	30	951
Heavy	623	5	628
Total	3352	219	3571
Cars	15	0	15
Heavy	4	0	4
Total	19	0	19



Total Vehicles on Leg 10246

Vehicles Entering Intersection 5165

Vehicles Exiting Intersection 5081



Cars	0	95	2655	14484	3429	
Heavy	0	0	25	279	268	
Total	0	95	2680	14763	3697	
Northbound						
Vehicles Entering Intersection			21235	Vehicles Exiting Intersection		20676
Total Vehicles On Leg			41911			

Heavy Vehicles

Date	Time	Southbound						Westbound						Northbound						Eastbound					
		U Turns	Left Turns	Straight Through	Right Turns	EB Bicycles in Crosswalk	WB Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	NB Bicycles in Crosswalk	SB Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	EB Bicycles in Crosswalk	WB Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	NB Bicycles in Crosswalk	SB Bicycles in Crosswalk
04/18/2023	0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	0:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
	1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
	2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0
	2:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
	2:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
	3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	3:45	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0
	4:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
	4:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
	5:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
	5:45	0	0	5	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:00	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	3	1	0	0	0	0	1	0	0
	6:15	0	0	3	1	0	0	0	1	0	0	0	0	0	0	4	2	0	0	0	0	0	2	0	0
	6:30	0	0	8	0	0	0	0	2	0	0	0	0	0	0	6	1	0	0	0	0	0	1	1	0
	6:45	0	1	13	0	0	0	0	3	0	0	0	0	0	0	5	5	0	0	0	0	0	2	0	0
	7:00	0	0	6	0	2	0	0	2	0	1	0	0	0	0	4	1	0	0	0	1	0	0	0	0
	7:15	0	0	8	0	0	0	0	7	0	0	0	0	0	0	2	7	9	0	0	0	0	2	0	0
	7:30	0	4	7	0	0	0	0	2	1	1	0	0	0	0	6	6	0	0	0	1	0	0	0	0
	7:45	0	2	9	0	0	0	0	8	0	1	0	0	0	0	1	5	10	0	0	0	0	1	0	0
	8:00	0	3	11	0	0	0	0	4	0	1	0	0	0	0	2	13	11	0	0	0	0	2	0	0
	8:15	0	0	3	0	0	0	0	7	0	1	0	0	0	0	1	4	8	0	0	0	0	0	0	0
	8:30	0	0	3	0	0	0	0	6	0	1	0	0	0	0	0	5	8	0	0	0	0	2	0	0
	8:45	0	1	3	0	0	0	0	5	1	0	0	0	0	0	0	4	5	0	0	0	0	1	0	0
	9:00	0	1	5	0	0	0	0	9	0	1	0	0	0	0	0	7	4	0	0	0	0	1	0	0
	9:15	0	0	3	0	0	0	0	6	0	0	0	0	0	0	1	16	3	0	0	0	0	0	0	0
	9:30	0	1	4	1	0	0	0	3	0	1	0	0	0	0	0	12	9	0	0	0	0	1	0	0
	9:45	0	0	5	0	0	0	0	5	0	0	0	0	0	0	1	5	6	0	0	0	0	1	0	0
	10:00	0	1	6	0	0	0	0	5	0	1	0	0	0	0	0	1	4	0	0	0	0	1	0	0
	10:15	0	0	6	0	0	0	0	6	0	1	0	0	0	0	0	3	1	0	0	0	0	0	0	0
	10:30	0	0	6	0	0	0	0	4	0	0	0	0	0	0	0	6	10	0	0	0	0	0	0	0
	10:45	0	1	7	1	0	0	0	10	0	1	0	0	0	0	1	5	7	0	0	0	0	1	0	0
	11:00	0	1	11	0	0	0	0	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	11:15	0	1	4	0	0	0	0	6	0	1	0	0	0	0	1	3	1	0	0	0	0	0	0	0
	11:30	0	1	5	0	0	0	0	3	1	1	0	0	0	0	2	9	5	0	0	0	0	1	0	0
	11:45	0	0	0	0	0	0	0	9	0	3	0	0	0	0	0	3	5	0	0	0	0	0	0	0

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2301

Study Date : 05/01/2023

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 78

Number of Lanes : 2+

Total Approach Volume: 21,235

Southbound: CSAH 78

Number of Lanes :2+

Total Approach Volume: 15,775

Minor Street Approaches

Eastbound: Gateway Dr

Number of Lanes :2+

Total Approach Volume: 5,050

Westbound: CSAH 11

Number of Lanes :2+

Total Approach Volume: 5,165

Warrant Summary (Urban Values Apply)

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

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

Required volumes reached for 15 hours, 8 are needed

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

Required volumes reached for 16 hours, 8 are needed

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

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

Required 1B volumes reached for 17 hours, 8 are needed

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

Number of hours (15) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (60) 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 2301

Study Date : 05/01/2023

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

15 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

Veh/Hr Major = **600**

Veh/Hr Minor = **200**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CSAH 78					Gateway Dr		
16:00 - 17:00	2322	+	1022	=	3344	372	519	Yes
15:00 - 16:00	2132	+	934	=	3066	342	460	Yes
17:00 - 18:00	2138	+	894	=	3032	337	370	Yes
07:00 - 08:00	1000	+	1975	=	2975	352	315	Yes
14:00 - 15:00	1661	+	862	=	2523	313	398	Yes
18:00 - 19:00	1527	+	868	=	2395	281	321	Yes
08:00 - 09:00	953	+	1257	=	2210	394	270	Yes
06:00 - 07:00	593	+	1330	=	1923	217	188	Yes
09:00 - 10:00	864	+	995	=	1859	296	262	Yes
13:00 - 14:00	1078	+	756	=	1834	281	276	Yes
12:00 - 13:00	1114	+	686	=	1800	321	364	Yes
11:00 - 12:00	1015	+	740	=	1755	273	325	Yes
19:00 - 20:00	1102	+	582	=	1684	231	222	Yes
10:00 - 11:00	843	+	758	=	1601	254	250	Yes
20:00 - 21:00	940	+	434	=	1374	180	200	Yes
05:45 - 06:45	480	+	1148	=	1628	197	163	No
05:30 - 06:30	393	+	994	=	1387	149	143	No
05:15 - 06:15	304	+	812	=	1116	121	123	No
05:00 - 06:00	251	+	717	=	968	112	86	No
21:00 - 22:00	596	+	255	=	851	144	113	No
04:45 - 05:45	206	+	568	=	774	84	75	No
21:15 - 22:15	543	+	223	=	766	138	93	No
21:30 - 22:30	460	+	191	=	651	133	90	No
21:45 - 22:45	420	+	172	=	592	122	96	No
04:30 - 05:30	157		420		577	67	52	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2301

Study Date : 05/01/2023

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

16 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

Veh/Hr Major = **900**

Veh/Hr Minor = **100**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	2322	+	1022	=	3344	372	519	Yes
15:00 - 16:00	2132	+	934	=	3066	342	460	Yes
17:00 - 18:00	2138	+	894	=	3032	337	370	Yes
07:00 - 08:00	1000	+	1975	=	2975	352	315	Yes
14:00 - 15:00	1661	+	862	=	2523	313	398	Yes
18:00 - 19:00	1527	+	868	=	2395	281	321	Yes
08:00 - 09:00	953	+	1257	=	2210	394	270	Yes
06:00 - 07:00	593	+	1330	=	1923	217	188	Yes
09:00 - 10:00	864	+	995	=	1859	296	262	Yes
13:00 - 14:00	1078	+	756	=	1834	281	276	Yes
12:00 - 13:00	1114	+	686	=	1800	321	364	Yes
11:00 - 12:00	1015	+	740	=	1755	273	325	Yes
19:00 - 20:00	1102	+	582	=	1684	231	222	Yes
10:00 - 11:00	843	+	758	=	1601	254	250	Yes
20:00 - 21:00	940	+	434	=	1374	180	200	Yes
05:00 - 06:00	251	+	717	=	968	112	86	Yes
21:00 - 22:00	596	+	255	=	851	144	113	No
04:45 - 05:45	206	+	568	=	774	84	75	No
21:15 - 22:15	543	+	223	=	766	138	93	No
21:30 - 22:30	460	+	191	=	651	133	90	No
21:45 - 22:45	420	+	172	=	592	122	96	No
04:30 - 05:30	157	+	420	=	577	67	52	No
22:00 - 23:00	390	+	157	=	547	110	78	No
22:15 - 23:15	355	+	141	=	496	95	70	No
04:15 - 05:15	128		328		456	49	41	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2301

Study Date : 05/01/2023

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.
17 hours meet 1B minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

Warrant 1A 1B
Veh/Hr Major = **480 720**

Veh/Hr Minor = **160 80**

Major Road CSAH 78

Minor Road Gateway Dr

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:45 - 17:45	2347	+	944	=	3291	365	410	Yes
15:45 - 16:45	2234	+	1010	=	3244	364	520	Yes
14:45 - 15:45	2063	+	892	=	2955	334	448	Yes
06:45 - 07:45	920	+	1900	=	2820	323	282	Yes
17:45 - 18:45	1624	+	891	=	2515	291	336	Yes
07:45 - 08:45	1017	+	1446	=	2463	401	294	Yes
13:45 - 14:45	1452	+	848	=	2300	288	375	Yes
08:45 - 09:45	880	+	1081	=	1961	308	258	Yes
11:45 - 12:45	1128	+	721	=	1849	328	358	Yes
18:45 - 19:45	1196	+	630	=	1826	244	234	Yes
12:45 - 13:45	1052	+	719	=	1771	301	288	Yes
10:45 - 11:45	1005		746		1751	255	303	Yes

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:45 - 17:45	2347	+	944	=	3291	365	410	Yes
15:45 - 16:45	2234	+	1010	=	3244	364	520	Yes
14:45 - 15:45	2063	+	892	=	2955	334	448	Yes
06:45 - 07:45	920	+	1900	=	2820	323	282	Yes
17:45 - 18:45	1624	+	891	=	2515	291	336	Yes
07:45 - 08:45	1017	+	1446	=	2463	401	294	Yes
13:45 - 14:45	1452	+	848	=	2300	288	375	Yes
08:45 - 09:45	880	+	1081	=	1961	308	258	Yes
11:45 - 12:45	1128	+	721	=	1849	328	358	Yes
18:45 - 19:45	1196	+	630	=	1826	244	234	Yes
12:45 - 13:45	1052	+	719	=	1771	301	288	Yes
10:45 - 11:45	1005		746		1751	255	303	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2301

Study Date : 05/01/2023

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

15 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Time	Major Road CSAH 78				Total	Minor Road Gateway Dr		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:30 - 17:30	2430	+	958	=	3388	373	439	Yes
15:30 - 16:30	2186	+	988	=	3174	351	508	Yes
14:30 - 15:30	1962	+	880	=	2842	319	426	Yes
07:30 - 08:30	1054	+	1667	=	2721	382	311	Yes
17:30 - 18:30	1786	+	913	=	2699	309	359	Yes
06:30 - 07:30	825	+	1773	=	2598	304	251	Yes
13:30 - 14:30	1245	+	834	=	2079	293	338	Yes
18:30 - 19:30	1300	+	705	=	2005	267	257	Yes
08:30 - 09:30	893	+	1101	=	1994	360	255	Yes
12:30 - 13:30	1111	+	712	=	1823	306	309	Yes
11:30 - 12:30	1091	+	729	=	1820	300	369	Yes
10:30 - 11:30	946	+	752	=	1698	263	273	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2301

Study Date : 05/01/2023

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

56 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Time	Major Road CSAH 78				Total	Minor Road Gateway Dr		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:30 - 17:30	2430	+	958	=	3388	373	439	Yes
16:15 - 17:15	2354	+	1005	=	3359	377	486	Yes
16:00 - 17:00	2322	+	1022	=	3344	372	519	Yes
16:45 - 17:45	2347	+	944	=	3291	365	410	Yes
15:45 - 16:45	2234	+	1010	=	3244	364	520	Yes
15:30 - 16:30	2186	+	988	=	3174	351	508	Yes
15:15 - 16:15	2192	+	979	=	3171	333	511	Yes
15:00 - 16:00	2132	+	934	=	3066	342	460	Yes
17:00 - 18:00	2138	+	894	=	3032	337	370	Yes
07:00 - 08:00	1000	+	1975	=	2975	352	315	Yes
07:15 - 08:15	1085	+	1873	=	2958	365	331	Yes
14:45 - 15:45	2063		892		2955	334	448	Yes

