

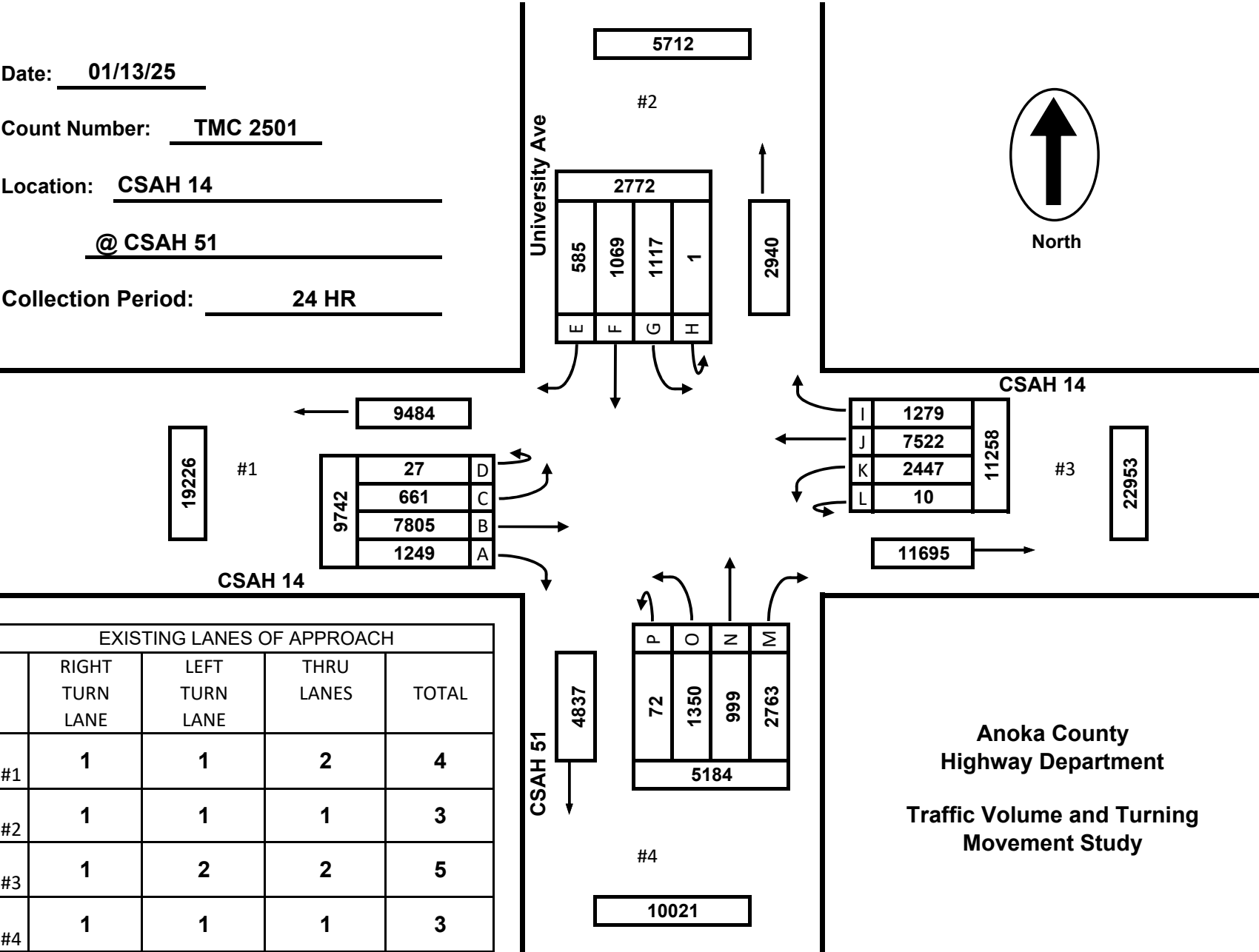
Date: 01/13/25

Count Number: TMC 2501

Location: CSAH 14

@ CSAH 51

Collection Period: 24 HR



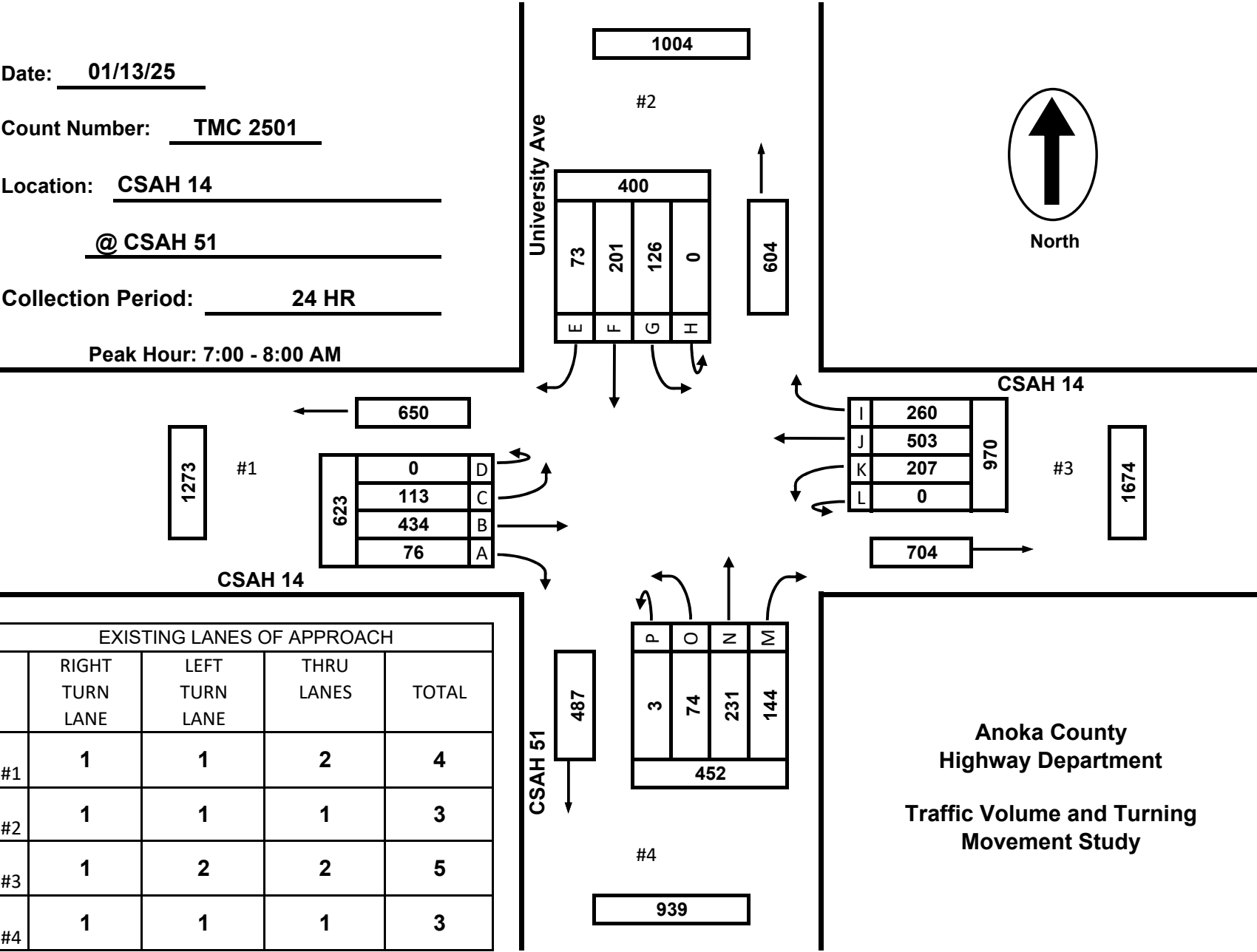
Date: 01/13/25

Count Number: TMC 2501

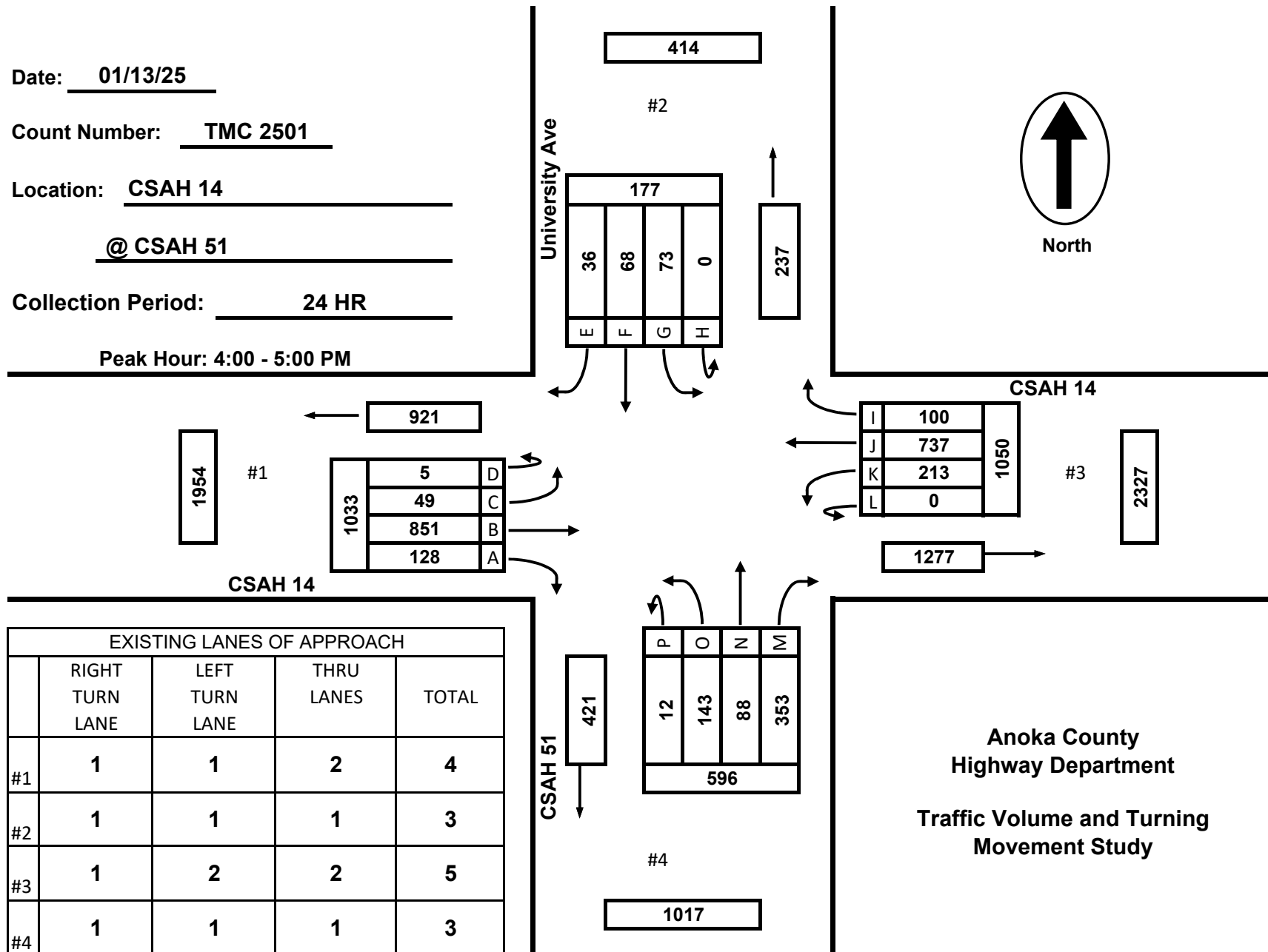
Location: CSAH 14
@ CSAH 51

Collection Period: 24 HR

Peak Hour: 7:00 - 8:00 AM



Peak Hour: 4:00 - 5:00 PM



TMC 2501 - CSAH 14 @ CSAH 51
Blaine MN
Monday, January 13, 2025

Time	Southbound University Ave						Westbound CSAH 14						Northbound CSAH 51						Eastbound CSAH 14						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	0	0	0	0	0	4	7	0	0	11	0	0	0	2	0	2	0	0	6	2	0	8	21
12:15 AM	0	0	1	0	0	1	0	1	10	0	0	11	0	1	0	0	0	1	0	0	3	3	0	6	19
12:30 AM	0	0	0	0	0	0	0	1	1	0	0	2	0	3	2	2	0	7	0	0	4	0	0	4	13
12:45 AM	0	0	0	0	0	0	0	3	4	0	0	7	0	1	0	1	0	2	0	1	3	2	0	6	15
Hourly Total	0	0	1	0	0	1	0	9	22	0	0	31	0	5	2	5	0	12	0	1	16	7	0	24	68
1:00 AM	0	0	0	0	0	0	0	0	8	0	0	8	0	1	0	1	0	2	0	0	3	2	0	5	15
1:15 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	2	1	3	0	6	0	0	8	0	0	8	18
1:30 AM	0	0	0	1	0	1	0	0	1	0	0	1	0	1	0	2	0	3	0	0	1	1	0	2	7
1:45 AM	0	0	0	1	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	5	0	0	5	8
Hourly Total	0	0	0	2	0	2	0	0	15	0	0	15	0	4	1	6	0	11	0	0	17	3	0	20	48
2:00 AM	0	1	0	0	0	1	0	0	2	0	0	2	0	0	1	2	0	3	0	0	3	0	0	3	9
2:15 AM	0	0	0	0	0	0	1	2	1	0	0	4	0	0	1	1	0	2	0	0	4	0	0	4	10
2:30 AM	0	0	1	0	0	1	0	2	4	0	0	6	0	0	1	0	0	1	0	0	1	1	0	2	10
2:45 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	0	3	0	0	1	0	0	1	6
Hourly Total	0	1	1	0	0	2	1	4	9	0	0	14	0	3	3	3	0	9	0	0	9	1	0	10	35
3:00 AM	0	0	2	0	0	2	0	2	2	0	0	4	0	2	0	0	0	2	0	0	2	0	0	2	10
3:15 AM	0	0	1	0	0	1	0	4	5	1	0	10	0	0	0	3	0	3	0	0	1	1	0	2	16
3:30 AM	0	0	0	0	0	0	0	5	4	0	0	9	0	2	1	0	0	3	0	0	8	2	0	10	22
3:45 AM	0	0	0	0	0	0	0	3	2	0	0	5	0	2	0	0	0	2	0	0	8	1	0	9	16
Hourly Total	0	0	3	0	0	3	0	14	13	1	0	28	0	6	1	3	0	10	0	0	19	4	0	23	64
4:00 AM	0	0	0	0	0	0	0	3	8	0	0	11	1	2	0	2	0	5	0	0	7	0	0	7	23
4:15 AM	0	1	0	0	0	1	0	7	15	0	0	22	0	4	0	1	0	5	0	0	8	1	0	9	37
4:30 AM	0	0	4	0	0	4	0	5	29	0	0	34	0	7	0	2	0	9	0	0	13	2	0	15	62
4:45 AM	0	1	1	0	0	2	0	8	24	0	0	32	1	1	1	6	0	9	0	1	18	1	0	20	63
Hourly Total	0	2	5	0	0	7	0	23	76	0	0	99	2	14	1	11	0	28	0	1	46	4	0	51	185
5:00 AM	0	0	4	0	0	4	0	8	22	0	0	30	0	5	0	5	0	10	0	0	10	0	0	10	54
5:15 AM	0	1	1	0	0	2	0	14	24	3	0	41	0	3	2	5	0	10	0	2	24	3	0	29	82
5:30 AM	0	2	3	2	0	7	0	22	50	3	0	75	1	13	1	9	0	24	0	1	43	4	0	48	154
5:45 AM	0	1	3	1	0	5	0	11	44	5	0	60	0	10	2	15	0	27	0	5	40	4	0	49	141
Hourly Total	0	4	11	3	0	18	0	55	140	11	0	206	1	31	5	34	0	71	0	8	117	11	0	136	431
6:00 AM	0	5	3	3	0	11	0	21	52	1	0	74	0	15	0	8	0	23	0	3	53	7	0	63	171
6:15 AM	0	5	9	2	0	16	0	34	65	1	0	100	0	9	5	15	0	29	0	4	59	4	0	67	212
6:30 AM	0	1	5	3	0	9	0	37	84	4	0	125	0	18	3	17	0	38	0	8	102	20	0	130	302
6:45 AM	0	12	14	6	0	32	0	45	99	36	0	180	0	26	26	29	0	81	0	22	75	16	0	113	406
Hourly Total	0	23	31	14	0	68	0	137	300	42	0	479	0	68	34	69	0	171	0	37	289	47	0	373	1091
7:00 AM	0	20	38	17	0	75	0	45	111	71	0	227	0	15	75	39	0	129	0	43	101	15	0	159	590
7:15 AM	0	53	88	32	0	173	0	52	134	120	2	306	0	27	100	21	1	148	0	49	98	10	0	157	784
7:30 AM	0	43	50	21	0	114	0	59	132	47	2	238	1	12	43	41	0	97	0	16	118	22	0	156	605
7:45 AM	0	10	25	3	0	38	0	51	126	22	1	199	2	20	13	43	0	78	0	5	117	29	0	151	466
Hourly Total	0	126	201	73	0	400	0	207	503	260	5	970	3	74	231	144	1	452	0	113	434	76	0	623	2445

TMC 2501 - CSAH 14 @ CSAH 51

Blaine MN

Monday, January 13, 2025

Time	Southbound University Ave						Westbound CSAH 14						Northbound CSAH 51						Eastbound CSAH 14						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	
8:00 AM	0	9	32	11	1	52	0	83	131	71	2	285	2	12	45	44	1	103	0	16	98	19	0	133	573
8:15 AM	0	49	57	17	0	123	0	50	115	117	2	282	1	12	106	70	0	189	0	43	115	18	0	176	770
8:30 AM	0	30	29	12	0	71	0	57	153	27	0	237	1	26	30	46	0	103	0	7	103	23	0	133	544
8:45 AM	0	14	15	3	0	32	0	58	115	16	1	189	1	17	10	39	0	67	0	4	101	19	0	124	412
Hourly Total	0	102	133	43	1	278	0	248	514	231	5	993	5	67	191	199	1	462	0	70	417	79	0	566	2299
9:00 AM	0	11	3	6	0	20	0	48	97	15	0	160	0	15	6	27	0	48	1	6	94	9	0	110	338
9:15 AM	0	7	9	6	0	22	1	44	114	15	0	174	1	28	16	35	0	80	2	4	77	14	0	97	373
9:30 AM	0	16	7	6	0	29	0	25	131	12	0	168	1	26	8	22	0	57	1	8	89	19	0	117	371
9:45 AM	0	10	6	3	0	19	0	26	111	8	0	145	2	16	9	28	0	55	0	11	81	18	0	110	329
Hourly Total	0	44	25	21	0	90	1	143	453	50	0	647	4	85	39	112	0	240	4	29	341	60	0	434	1411
10:00 AM	0	8	11	4	0	23	0	15	93	17	0	125	0	11	6	20	0	37	1	7	92	8	0	108	293
10:15 AM	0	6	6	2	0	14	0	27	99	13	1	139	1	12	11	28	0	52	0	9	103	16	0	128	333
10:30 AM	0	14	11	13	0	38	1	14	101	6	0	122	0	25	4	21	0	50	1	5	91	6	0	103	313
10:45 AM	0	1	5	5	0	11	0	15	100	8	0	123	0	13	5	32	0	50	1	4	108	11	0	124	308
Hourly Total	0	29	33	24	0	86	1	71	393	44	1	509	1	61	26	101	0	189	3	25	394	41	0	463	1247
11:00 AM	0	2	8	8	0	18	0	30	103	6	0	139	2	13	5	23	0	43	0	2	91	19	0	112	312
11:15 AM	0	4	5	5	0	14	0	30	94	17	0	141	2	13	10	25	0	50	0	8	115	10	0	133	338
11:30 AM	0	19	17	20	0	56	0	22	111	3	0	136	0	16	5	27	0	48	0	4	115	9	0	128	368
11:45 AM	0	5	6	10	0	21	1	29	124	5	0	159	0	9	3	25	0	37	0	5	106	15	0	126	343
Hourly Total	0	30	36	43	0	109	1	111	432	31	0	575	4	51	23	100	0	178	0	19	427	53	0	499	1361
12:00 PM	0	6	5	5	0	16	0	24	112	4	0	140	2	25	1	29	0	57	0	2	98	18	0	118	331
12:15 PM	0	4	10	2	0	16	0	20	111	8	0	139	1	20	5	23	0	49	0	2	111	21	0	134	338
12:30 PM	0	6	7	6	0	19	0	34	123	8	0	165	0	19	6	36	0	61	0	2	122	11	0	135	380
12:45 PM	0	7	6	2	0	15	0	25	137	6	0	168	0	22	3	31	0	56	1	7	131	15	0	154	393
Hourly Total	0	23	28	15	0	66	0	103	483	26	0	612	3	86	15	119	0	223	1	13	462	65	0	541	1442
1:00 PM	0	8	8	3	0	19	0	20	108	6	0	134	1	17	7	24	0	49	0	2	114	10	0	126	328
1:15 PM	0	8	6	5	0	19	0	23	116	6	1	145	0	25	6	24	0	55	1	4	127	15	0	147	366
1:30 PM	0	7	3	5	0	15	0	29	106	9	0	144	0	23	8	35	0	66	1	11	128	22	0	162	387
1:45 PM	0	6	5	1	0	12	0	26	99	15	0	140	0	14	9	38	0	61	1	27	133	19	0	180	393
Hourly Total	0	29	22	14	0	65	0	98	429	36	1	563	1	79	30	121	0	231	3	44	502	66	0	615	1474
2:00 PM	0	22	10	17	2	49	0	37	131	28	0	196	0	21	21	41	0	83	2	40	141	15	0	198	526
2:15 PM	0	119	100	25	0	244	0	27	97	27	17	151	1	19	24	55	0	99	2	14	161	19	0	196	690
2:30 PM	0	129	108	50	0	287	0	46	141	27	4	214	2	24	27	53	0	106	0	18	152	25	0	195	802
2:45 PM	0	30	29	27	0	86	0	43	127	24	0	194	0	26	14	61	0	101	0	11	147	23	0	181	562
Hourly Total	0	300	247	119	2	666	0	153	496	106	21	755	3	90	86	210	0	389	4	83	601	82	0	770	2580
3:00 PM	0	24	15	19	0	58	0	69	155	21	1	245	2	27	9	66	1	104	2	1	184	23	0	210	617
3:15 PM	0	15	21	13	0	49	1	61	158	24	0	244	4	32	14	88	0	138	0	6	156	28	0	190	621
3:30 PM	0	18	13	15	0	46	0	57	188	25	0	270	1	42	24	89	0	156	0	8	164	29	0	201	673
3:45 PM	0	18	21	5	0	44	1	43	129	42	0	215	2	42	29	100	0	173	0	15	170	35	0	220	652
Hourly Total	0	75	70	52	0	197	2	230	630	112	1	974	9	143	76	343	1	571	2	30	674	115	0	821	2563

TMC 2501 - CSAH 14 @ CSAH 51
Blaine MN
Monday, January 13, 2025

Time	Southbound University Ave						Westbound CSAH 14						Northbound CSAH 51						Eastbound CSAH 14						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach Total</i>	
4:00 PM	0	36	30	14	0	80	0	52	169	34	2	255	2	27	24	74	0	127	0	14	218	35	0	267	729
4:15 PM	0	13	10	11	0	34	0	54	181	18	0	253	3	40	16	96	0	155	2	14	227	35	0	278	720
4:30 PM	0	13	14	7	0	34	0	48	211	20	0	279	5	38	20	83	0	146	2	6	207	34	1	249	708
4:45 PM	0	11	14	4	0	29	0	59	176	28	0	263	2	38	28	100	0	168	1	15	199	24	0	239	699
Hourly Total	0	73	68	36	0	177	0	213	737	100	2	1050	12	143	88	353	0	596	5	49	851	128	1	1033	2856
5:00 PM	0	24	21	15	1	60	0	48	152	36	0	236	1	33	31	101	1	166	0	25	187	24	0	236	698
5:15 PM	0	25	20	10	0	55	0	43	159	25	0	227	1	24	12	67	0	104	0	15	191	24	0	230	616
5:30 PM	0	6	4	3	0	13	0	36	154	31	0	221	1	31	15	66	0	113	0	11	136	26	0	173	520
5:45 PM	0	24	11	11	0	46	0	31	110	34	0	175	0	31	11	63	0	105	0	11	153	30	0	194	520
Hourly Total	0	79	56	39	1	174	0	158	575	126	0	859	3	119	69	297	1	488	0	62	667	104	0	833	2354
6:00 PM	0	6	5	4	0	15	1	50	130	11	0	192	1	13	6	53	0	73	0	7	138	24	0	169	449
6:15 PM	0	11	10	6	0	27	0	32	112	5	0	149	2	15	7	55	0	79	0	6	120	38	0	164	419
6:30 PM	0	15	13	11	0	39	0	34	136	7	0	177	3	16	7	34	0	60	0	6	148	19	0	173	449
6:45 PM	0	15	1	3	0	19	0	42	104	6	1	152	4	12	8	42	0	66	0	5	116	23	0	144	381
Hourly Total	0	47	29	24	0	100	1	158	482	29	1	670	10	56	28	184	0	278	0	24	522	104	0	650	1698
7:00 PM	0	15	4	2	0	21	0	38	76	5	0	119	1	28	6	24	0	59	0	5	103	22	0	130	329
7:15 PM	0	8	2	5	0	15	0	22	76	16	0	114	0	11	6	26	0	43	0	5	69	17	0	91	263
7:30 PM	0	16	8	6	0	30	1	20	45	9	0	75	1	6	5	19	0	31	0	3	85	14	0	102	238
7:45 PM	0	5	2	0	0	7	0	19	62	3	0	84	0	8	4	34	0	46	0	2	82	15	0	99	236
Hourly Total	0	44	16	13	0	73	1	99	259	33	0	392	2	53	21	103	0	179	0	15	339	68	0	422	1066
8:00 PM	0	6	3	0	0	9	0	25	43	5	0	73	1	10	1	14	0	26	2	6	64	14	0	86	194
8:15 PM	1	7	4	6	0	18	1	21	53	9	0	84	2	5	7	29	0	43	1	3	69	9	0	82	227
8:30 PM	0	41	20	30	0	91	0	18	42	14	1	74	1	12	3	37	0	53	0	5	64	6	0	75	293
8:45 PM	0	12	11	4	0	27	0	20	52	4	0	76	0	12	3	17	0	32	0	4	77	17	0	98	233
Hourly Total	1	66	38	40	0	145	1	84	190	32	1	307	4	39	14	97	0	154	3	18	274	46	0	341	947
9:00 PM	0	4	3	4	0	11	0	20	51	3	0	74	2	10	2	32	0	46	0	7	61	11	0	79	210
9:15 PM	0	5	1	2	0	8	1	21	35	0	0	57	0	8	2	21	0	31	1	2	43	9	0	55	151
9:30 PM	0	9	6	2	0	17	0	10	46	1	0	57	0	10	1	10	0	21	0	2	43	11	0	56	151
9:45 PM	0	1	0	1	0	2	0	15	28	3	0	46	1	6	0	17	0	24	1	1	36	6	0	44	116
Hourly Total	0	19	10	9	0	38	1	66	160	7	0	234	3	34	5	80	0	122	2	12	183	37	0	234	628
10:00 PM	0	0	1	0	0	1	0	10	42	0	0	52	0	6	1	13	0	20	0	3	38	8	0	49	122
10:15 PM	0	0	3	1	0	4	0	18	49	2	0	69	0	11	2	14	0	27	0	2	40	10	0	52	152
10:30 PM	0	1	0	0	0	1	0	11	33	0	0	44	0	11	2	13	0	26	0	0	31	9	0	40	111
10:45 PM	0	0	0	0	0	0	0	6	24	0	0	30	0	4	1	8	0	13	0	0	19	3	0	22	65
Hourly Total	0	1	4	1	0	6	0	45	148	2	0	195	0	32	6	48	0	86	0	5	128	30	0	163	450
11:00 PM	0	0	0	0	0	0	0	6	21	0	0	27	1	3	1	6	0	11	0	0	23	10	0	33	71
11:15 PM	0	0	0	0	0	0	0	3	19	0	0	22	0	1	0	8	0	9	0	1	23	6	0	30	61
11:30 PM	0	0	0	0	0	0	0	7	17	0	0	24	1	2	2	2	0	7	0	1	10	0	0	11	42
11:45 PM	0	0	1	0	0	1	0	2	6	0	0	8	0	1	1	5	0	7	0	1	20	2	0	23	39
Hourly Total	0	0	1	0	0	1	0	18	63	0	0	81	2	7	4	21	0	34	0	3	76	18	0	97	213
DAILY TOTAL	1	1117	1069	585	4	2772	10	2447	7522	1279	38	11258	72	1350	999	2763	4	5184	27	661	7805	1249	1	9742	28956
Cars	1	1081	1035	556	4	2673	10	2412	7353	1238	38	11013	72	1306	974	2723	4	5075	26	592	7639	1212	1	9469	28230
Heavy Vehicles	0	36	34	29	0	99	0	35	169	41	0	245	0	44	25	40	0	109	1	69	166	37	0	273	726
Heavy Vehicle %	0.00%	3.22%	3.18%	4.96%	0.00%	3.57%	0.00%	1.43%	2.25%	3.21%	0.00%	2.18%	0.00%	3.26%	2.50%	1.45%	0.00%	2.10%	3.70%	10.44%	2.13%	2.96%	0.00%	2.80%	2.51%

TMC 2501 - CSAH 14 @ CSAH 51

Blaine MN

Monday, January 13, 2025

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	
7:00 AM	0	20	38	17	0	75	0	45	111	71	0	227	0	15	75	39	0	129	0	43	101	15	0	159	590
7:15 AM	0	53	88	32	0	173	0	52	134	120	2	306	0	27	100	21	1	148	0	49	98	10	0	157	784
7:30 AM	0	43	50	21	0	114	0	59	132	47	2	238	1	12	43	41	0	97	0	16	118	22	0	156	605
7:45 AM	0	10	25	3	0	38	0	51	126	22	1	199	2	20	13	43	0	78	0	5	117	29	0	151	466
Peak Hour Total	0	126	201	73	0	400	0	207	503	260	5	970	3	74	231	144	1	452	0	113	434	76	0	623	2445
PHF	0.000	0.594	0.571	0.570	0.000	0.578	0.000	0.877	0.938	0.542	0.625	0.792	0.375	0.685	0.578	0.837	0.250	0.764	0.000	0.577	0.919	0.655	0.000	0.980	0.780

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	0	36	30	14	0	80	0	52	169	34	2	255	2	27	24	74	0	127	0	14	218	35	0	267	729
4:15 PM	0	13	10	11	0	34	0	54	181	18	0	253	3	40	16	96	0	155	2	14	227	35	0	278	720
4:30 PM	0	13	14	7	0	34	0	48	211	20	0	279	5	38	20	83	0	146	2	6	207	34	1	249	708
4:45 PM	0	11	14	4	0	29	0	59	176	28	0	263	2	38	28	100	0	168	1	15	199	24	0	239	699
Peak Hour Total	0	73	68	36	0	177	0	213	737	100	2	1050	12	143	88	353	0	596	5	49	851	128	1	1033	2856
PHF	0.000	0.507	0.567	0.643	0.000	0.553	0.000	0.903	0.873	0.735	0.250	0.941	0.600	0.894	0.786	0.883	0.000	0.887	0.625	0.817	0.937	0.914	0.250	0.929	0.979

Total Vehicles On Leg			5712		
Vehicles Entering Intersection 2772			Vehicles Exiting Intersection 2940		
Southbound					
Cars	556	1035	1081	1	4
Heavy	29	34	36	0	0
Total	585	1069	1117	1	4



Total Vehicles on Leg 19226	Vehicles Entering Intersection 9742	Eastbound	Cars	Heavy	Total
			1	0	1
			26	1	27
	Vehicles Exiting Intersection 9484		592	69	661
			7639	166	7805
			1212	37	1249



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 11258	Total Vehicles on Leg 22953
1238	41	1279			
7353	169	7522			
2412	35	2447			
10	0	10			
38	0	38		Vehicles Exiting Intersection 11695	



Cars	4	72	1306	974	2723
Heavy	0	0	44	25	40
Total	4	72	1350	999	2763
Northbound					
Vehicles Entering Intersection			Vehicles Exiting Intersection		
5184			4837		
Total Vehicles On Leg			10021		



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2501

Study Date : 02/03/2025

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 14

Number of Lanes : 2+

Total Approach Volume: 9,742

Westbound: CSAH 14

Number of Lanes :2+

Total Approach Volume: 11,258

Minor Street Approaches

Northbound: CSAH 51

Number of Lanes :2+

Total Approach Volume: 2,421

Southbound: University Ave

Number of Lanes :1

Total Approach Volume: 2,187

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 8 hours, 8 are needed

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

Required volumes reached for 15 hours, 8 are needed

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

Required 1A volumes reached for 11 hours, 8 are needed

Required 1B volumes reached for 16 hours, 8 are needed

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

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

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (25) 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 2501

Study Date : 02/03/2025

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

8 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

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

Veh/Hr Minor = **140 105**

Major Road						Minor Road		
CSAH 14						CSAH 51		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
15:30 - 16:30	966	+	993	=	1959	252	159	Yes
16:30 - 17:30	954	+	1005	=	1959	233	142	Yes
14:30 - 15:30	776	+	897	=	1673	181	371	Yes
07:15 - 08:15	597	+	1028	=	1625	277	310	Yes
08:15 - 09:15	543	+	868	=	1411	225	208	Yes
13:30 - 14:30	736	+	631	=	1367	140	272	Yes
06:15 - 07:15	469	+	632	=	1101	177	104	Yes
20:00 - 21:00	341	+	307	=	648	57	105	Yes
17:30 - 18:30	700	+	737	=	1437	133	77	No
17:45 - 18:45	700	+	693	=	1393	112	95	No
18:00 - 19:00	650	+	670	=	1320	94	76	No
13:15 - 14:15	687	+	625	=	1312	127	67	No
18:15 - 19:15	611	+	597	=	1208	109	84	No
12:45 - 13:45	589	+	591	=	1180	112	53	No
13:00 - 14:00	615	+	563	=	1178	110	51	No
12:30 - 13:30	562	+	612	=	1174	106	56	No
12:15 - 13:15	549	+	606	=	1155	101	56	No
12:00 - 13:00	541	+	612	=	1153	104	51	No
11:45 - 12:45	513	+	603	=	1116	91	49	No
18:30 - 19:30	538	+	562	=	1100	102	73	No
11:15 - 12:15	505	+	576	=	1081	86	67	No
11:30 - 12:30	506	+	574	=	1080	87	72	No
11:00 - 12:00	499	+	575	=	1074	78	66	No
09:15 - 10:15	432	+	612	=	1044	124	74	No
09:30 - 10:30	463		577		1040	103	70	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2501

Study Date : 02/03/2025

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

15 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

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

Veh/Hr Minor = **70 52**

Major Road						Minor Road		
CSAH 14						CSAH 51		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:00 - 17:00	1033	+	1050	=	2083	243	141	Yes
15:00 - 16:00	821	+	974	=	1795	228	145	Yes
17:00 - 18:00	833	+	859	=	1692	191	135	Yes
07:00 - 08:00	623	+	970	=	1593	308	327	Yes
08:00 - 09:00	566	+	993	=	1559	263	235	Yes
14:00 - 15:00	770	+	755	=	1525	179	547	Yes
18:00 - 19:00	650	+	670	=	1320	94	76	Yes
13:00 - 14:00	615	+	563	=	1178	110	51	Yes
12:00 - 13:00	541	+	612	=	1153	104	51	Yes
09:00 - 10:00	434	+	647	=	1081	128	69	Yes
11:00 - 12:00	499	+	575	=	1074	78	66	Yes
10:00 - 11:00	463	+	509	=	972	88	62	Yes
06:00 - 07:00	373	+	479	=	852	102	54	Yes
19:00 - 20:00	422	+	392	=	814	76	60	Yes
20:00 - 21:00	341	+	307	=	648	57	105	Yes
05:45 - 06:45	309	+	359	=	668	62	32	No
05:30 - 06:30	227	+	309	=	536	56	31	No
21:00 - 22:00	234	+	234	=	468	42	29	No
05:15 - 06:15	189	+	250	=	439	47	19	No
21:30 - 22:30	201	+	224	=	425	38	20	No
21:15 - 22:15	204	+	212	=	416	35	23	No
21:45 - 22:45	185	+	211	=	396	40	6	No
22:00 - 23:00	163	+	195	=	358	38	5	No
05:00 - 06:00	136	+	206	=	342	37	15	No
22:15 - 23:15	147		170		317	36	4	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2501

Study Date : 02/03/2025

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

11 hours meet 1A minimums.
16 hours meet 1B minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **336 504**
Veh/Hr Minor NB = **112 56**
Veh/Hr Minor SB = **84 42**

Major Road						Minor Road					
CSAH 14						CSAH 51					
Time	Major EB	+	Major WB	=	Total		Minor NB		Minor SB		Met1A?
15:45 - 16:45	1014	+	1002	=	2016		248		155		Yes
16:45 - 17:45	878	+	947	=	1825		217		125		Yes
14:45 - 15:45	782	+	953	=	1735		195		165		Yes
07:15 - 08:15	597	+	1028	=	1625		277		310		Yes
13:45 - 14:45	769	+	701	=	1470		162		499		Yes
08:15 - 09:15	543	+	868	=	1411		225		208		Yes
17:45 - 18:45	700	+	693	=	1393		112		95		Yes
12:45 - 13:45	589	+	591	=	1180		112		53		Yes
06:15 - 07:15	469	+	632	=	1101		177		104		Yes
09:15 - 10:15	432	+	612	=	1044		124		74		Yes
19:45 - 20:45	342	+	315	=	657		54		89		Yes
12:30 - 13:30	562		612		1174		106		56		No

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?	
15:30 - 16:30	966	+	993	=	1959	252	159	Yes	
16:30 - 17:30	954	+	1005	=	1959	233	142	Yes	
14:30 - 15:30	776	+	897	=	1673	181	371	Yes	
07:30 - 08:30	616	+	1004	=	1620	269	275	Yes	
17:30 - 18:30	700	+	737	=	1437	133	77	Yes	
06:30 - 07:30	559	+	838	=	1397	290	231	Yes	
13:30 - 14:30	736	+	631	=	1367	140	272	Yes	
08:30 - 09:30	464	+	760	=	1224	151	118	Yes	
12:30 - 13:30	562	+	612	=	1174	106	56	Yes	
18:30 - 19:30	538	+	562	=	1100	102	73	Yes	
11:30 - 12:30	506	+	574	=	1080	87	72	Yes	
09:30 - 10:30	463		577		1040	103	70	Yes	

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2501

Study Date : 02/03/2025

Warrant 2 - Four Hour Volumes

Description

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

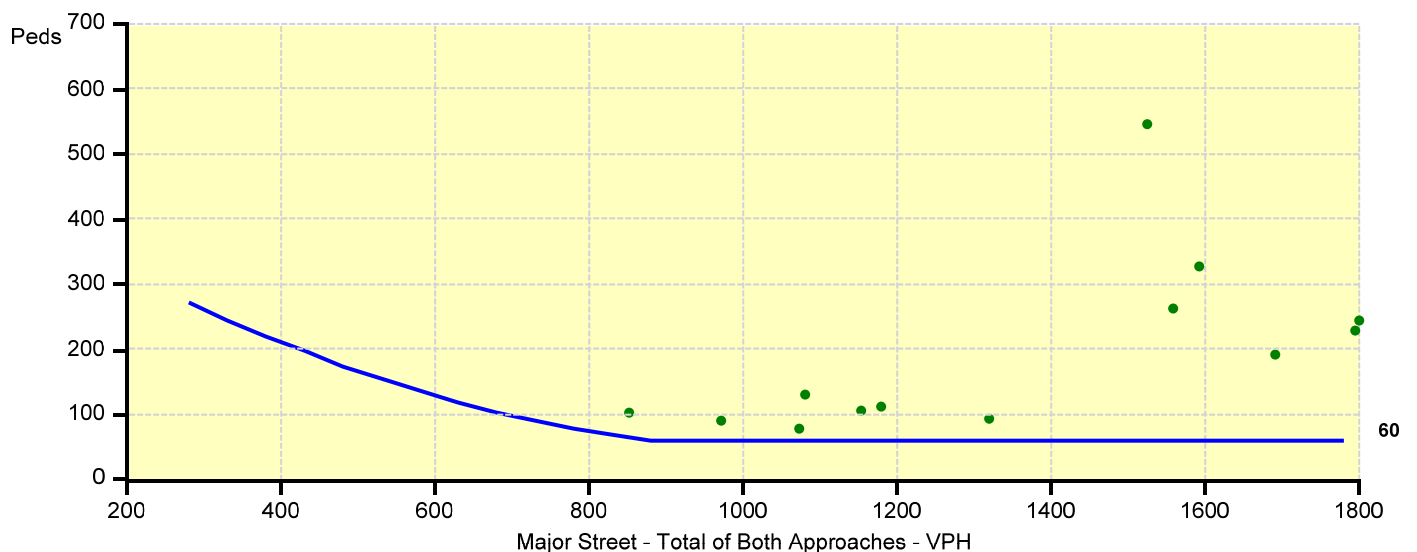
Summary

14 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Major Road CSAH 14						Minor Road CSAH 51		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:00 - 17:00	1033	+	1050	=	2083	243	141	Yes
15:00 - 16:00	821	+	974	=	1795	228	145	Yes
17:00 - 18:00	833	+	859	=	1692	191	135	Yes
07:00 - 08:00	623	+	970	=	1593	308	327	Yes
08:00 - 09:00	566	+	993	=	1559	263	235	Yes
14:00 - 15:00	770	+	755	=	1525	179	547	Yes
18:00 - 19:00	650	+	670	=	1320	94	76	Yes
13:00 - 14:00	615	+	563	=	1178	110	51	Yes
12:00 - 13:00	541	+	612	=	1153	104	51	Yes
09:00 - 10:00	434	+	647	=	1081	128	69	Yes
11:00 - 12:00	499	+	575	=	1074	78	66	Yes
10:00 - 11:00	463	+	509	=	972	88	62	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2501

Study Date : 02/03/2025

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

42 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Major Road						Minor Road		
CSAH 14						CSAH 51		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:00 - 17:00	1033	+	1050	=	2083	243	141	Yes
16:15 - 17:15	1002	+	1031	=	2033	255	120	Yes
15:45 - 16:45	1014	+	1002	=	2016	248	155	Yes
15:30 - 16:30	966	+	993	=	1959	252	159	Yes
16:30 - 17:30	954	+	1005	=	1959	233	142	Yes
15:15 - 16:15	878	+	984	=	1862	243	172	Yes
16:45 - 17:45	878	+	947	=	1825	217	125	Yes
15:00 - 16:00	821	+	974	=	1795	228	145	Yes
14:45 - 15:45	782	+	953	=	1735	195	165	Yes
17:00 - 18:00	833	+	859	=	1692	191	135	Yes
14:30 - 15:30	776	+	897	=	1673	181	371	Yes
07:15 - 08:15	597		1028		1625	277	310	Yes

