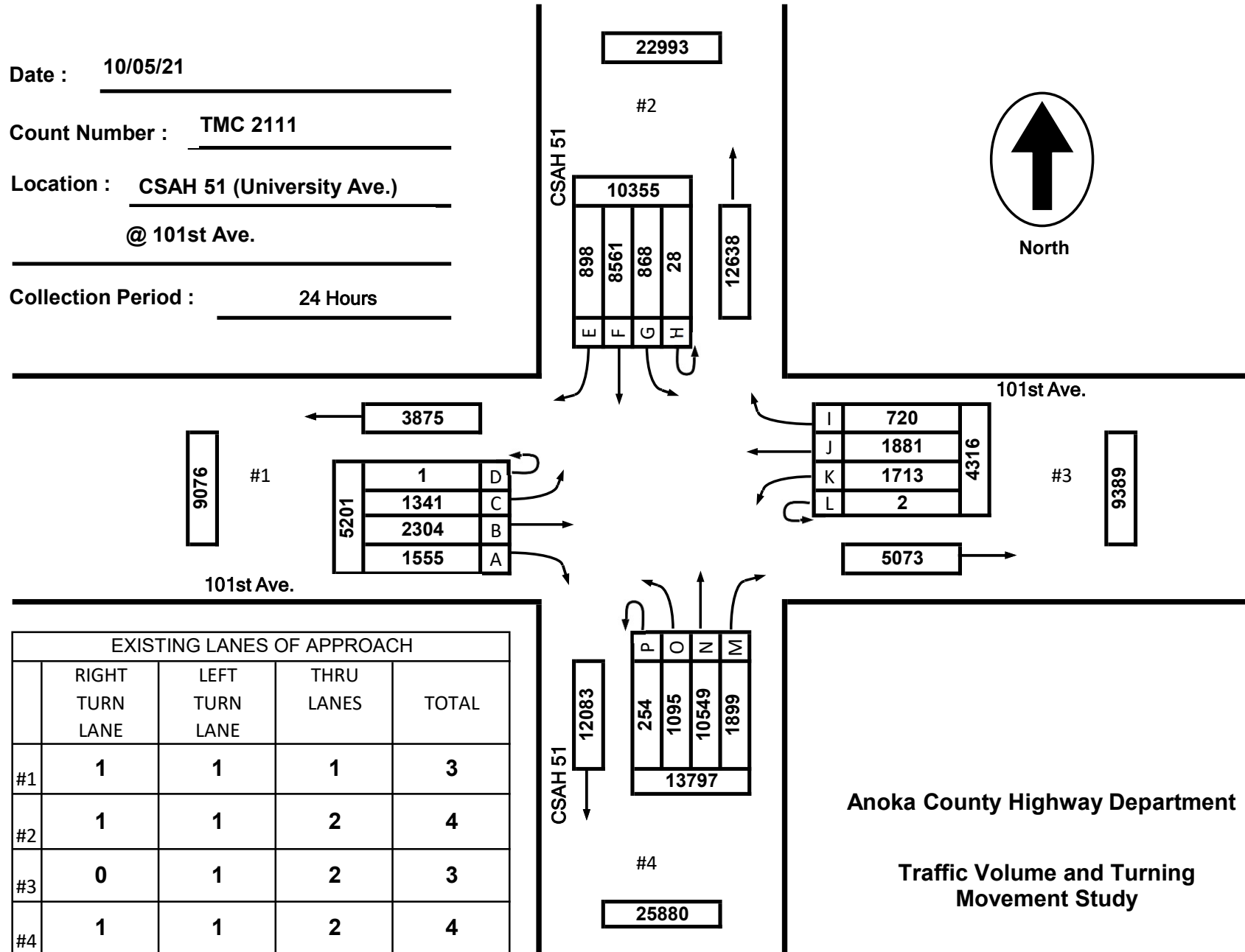
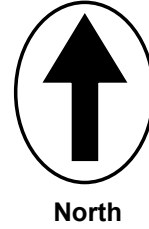


Date : 10/05/21

Count Number : TMC 2111

Location : CSAH 51 (University Ave.)  
@ 101st Ave.

Collection Period : 24 Hours



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

Anoka County Highway Department  
 Traffic Volume and Turning Movement Study

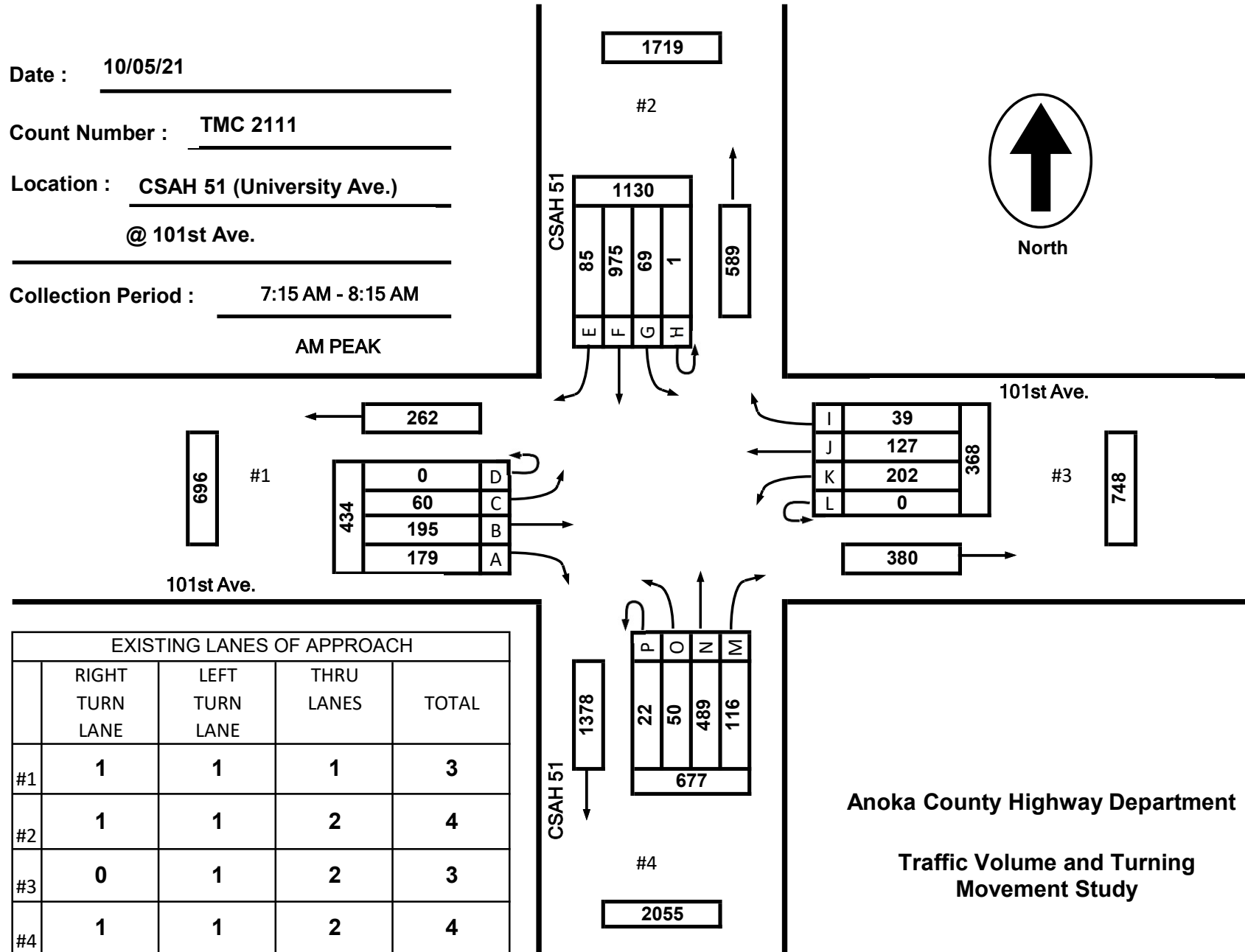
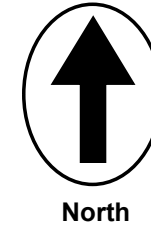
Date : 10/05/21

Count Number : TMC 2111

Location : CSAH 51 (University Ave.)  
@ 101st Ave.

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

Anoka County Highway Department

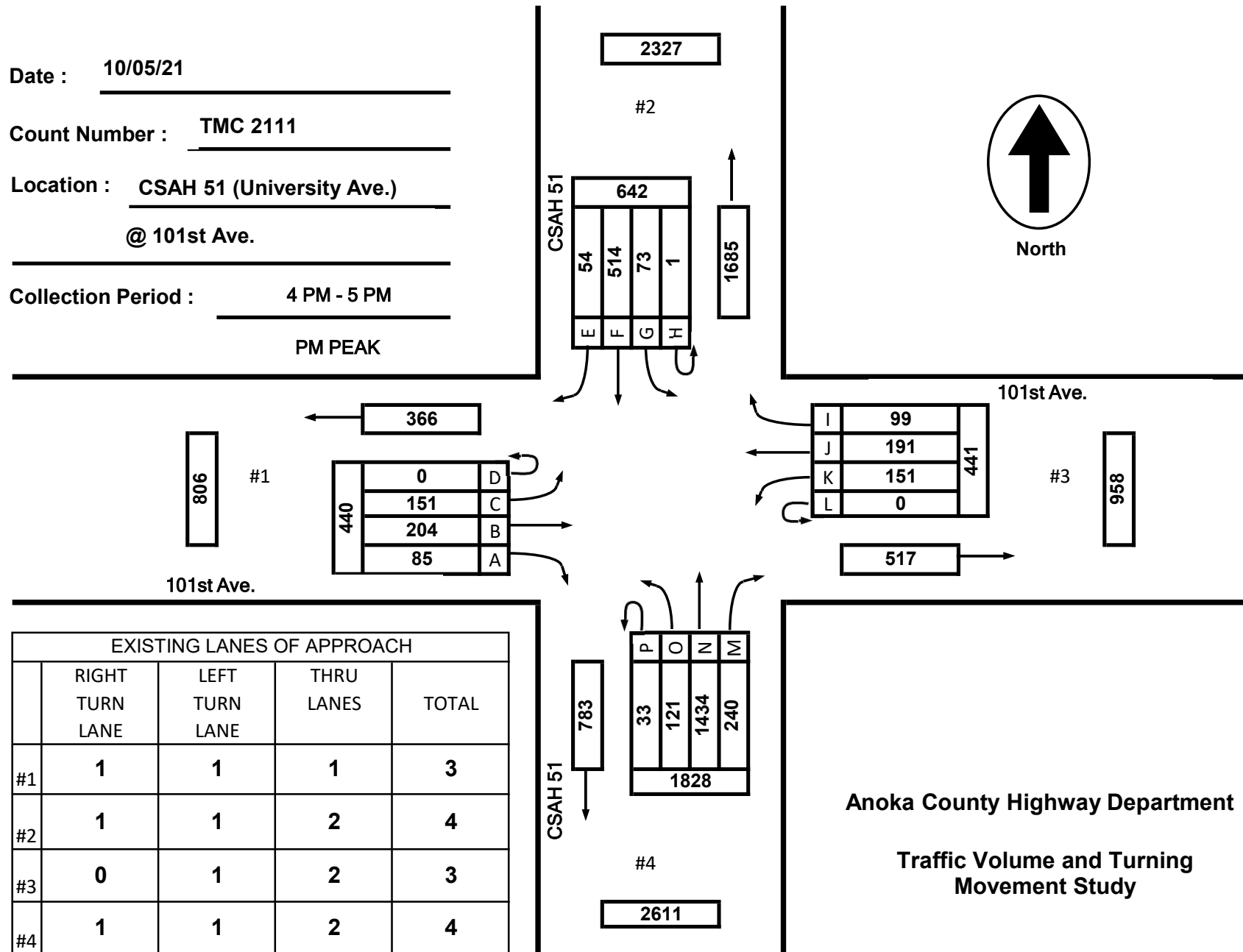
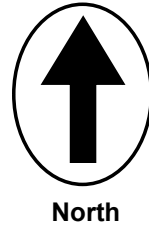
Traffic Volume and Turning Movement Study

Date : 10/05/21

Count Number : TMC 2111

Location : CSAH 51 (University Ave.)  
@ 101st Ave.

Collection Period : 4 PM - 5 PM  
**PM PEAK**



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

**Anoka County Highway Department**  
**Traffic Volume and Turning Movement Study**

**CSAH 51 @ 101st Ave  
Blaine MN  
Tuesday, October 5, 2021**

Time	Southbound CSAH 51						Westbound 101st Ave						Northbound CSAH 51						Eastbound 101st Ave						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	3	2	1	5	0	0	0	3	0	3	2	3	20	9	0	34	0	0	0	3	0	3	45
12:15 AM	0	1	5	1	0	7	0	3	0	2	0	5	1	1	17	2	0	21	0	0	2	2	0	4	37
12:30 AM	0	0	5	0	0	5	0	3	0	1	0	4	0	5	13	3	0	21	0	3	0	1	0	4	34
12:45 AM	1	2	3	0	0	6	0	0	1	0	0	1	2	0	10	2	0	14	0	1	2	2	0	5	26
Hourly Total	1	3	16	3	1	23	0	6	1	6	0	13	5	9	60	16	0	90	0	4	4	8	0	16	142
1:00 AM	0	0	5	0	0	5	0	2	0	0	0	2	1	1	20	4	0	26	0	0	2	1	0	3	36
1:15 AM	0	0	7	2	0	9	0	3	1	1	0	5	0	0	11	5	0	16	0	0	1	1	0	2	32
1:30 AM	0	2	6	2	0	10	0	0	1	0	0	1	1	2	11	4	0	18	0	1	2	1	0	4	33
1:45 AM	0	0	5	0	0	5	0	2	2	0	0	4	0	2	9	3	0	14	0	1	5	0	1	6	29
Hourly Total	0	2	23	4	0	29	0	7	4	1	0	12	2	5	51	16	0	74	0	2	10	3	1	15	130
2:00 AM	0	0	4	1	0	5	0	2	0	1	0	3	0	1	6	2	1	9	0	1	4	0	1	5	22
2:15 AM	0	0	6	0	0	6	0	1	4	2	0	7	0	3	13	0	0	16	1	1	3	1	0	6	35
2:30 AM	0	2	7	0	0	9	0	0	1	2	0	3	0	0	9	3	0	12	0	1	1	2	0	4	28
2:45 AM	0	0	6	0	1	6	0	1	2	0	0	3	2	3	11	3	1	19	0	0	2	2	1	4	32
Hourly Total	0	2	23	1	1	26	0	4	7	5	0	16	2	7	39	8	2	56	1	3	10	5	2	19	117
3:00 AM	0	0	9	0	0	9	0	0	2	0	0	2	0	0	4	1	0	5	0	1	0	3	0	4	20
3:15 AM	0	0	14	0	0	14	0	2	1	0	0	3	0	1	8	1	0	10	0	1	1	3	1	5	32
3:30 AM	0	0	24	2	0	26	0	2	2	1	0	5	0	0	5	1	0	6	0	0	1	2	0	3	40
3:45 AM	0	1	14	3	0	18	0	3	0	0	0	3	0	1	2	1	0	4	0	0	2	3	0	5	30
Hourly Total	0	1	61	5	0	67	0	7	5	1	0	13	0	2	19	4	0	25	0	2	4	11	1	17	122
4:00 AM	0	0	20	1	0	21	0	3	1	1	0	5	3	0	5	1	0	9	0	1	2	3	0	6	41
4:15 AM	1	0	39	3	0	43	0	8	3	1	0	12	1	0	6	2	0	9	0	0	0	9	0	9	73
4:30 AM	0	0	57	5	0	62	0	12	10	1	0	23	0	5	5	0	0	10	0	1	4	8	0	13	108
4:45 AM	0	1	45	5	0	51	0	4	7	2	0	13	0	1	5	1	0	7	0	0	6	10	0	16	87
Hourly Total	1	1	161	14	0	177	0	27	21	5	0	53	4	6	21	4	0	35	0	2	12	30	0	44	309
5:00 AM	0	1	75	5	0	81	0	11	9	1	0	21	2	1	12	4	0	19	0	3	2	13	0	18	139
5:15 AM	0	1	116	6	0	123	0	18	10	1	0	29	0	6	9	5	0	20	0	5	10	12	0	27	199
5:30 AM	0	1	136	7	0	144	0	22	20	2	0	44	4	3	14	1	0	22	0	1	5	17	0	23	233
5:45 AM	0	3	123	7	0	133	0	26	21	2	1	49	0	5	16	4	0	25	0	2	12	17	0	31	238
Hourly Total	0	6	450	25	0	481	0	77	60	6	1	143	6	15	51	14	0	86	0	11	29	59	0	99	809
6:00 AM	0	1	136	15	0	152	0	35	15	2	0	52	3	5	29	0	0	37	0	3	10	17	0	30	271
6:15 AM	0	7	171	11	0	189	0	25	22	3	0	50	1	6	46	9	0	62	0	7	11	22	0	40	341
6:30 AM	0	3	206	18	1	227	0	56	31	5	0	92	2	9	55	7	1	73	0	2	12	31	0	45	437
6:45 AM	1	14	202	17	1	234	0	39	26	5	0	70	5	10	81	17	0	113	0	9	26	26	0	61	478
Hourly Total	1	25	715	61	2	802	0	155	94	15	0	264	11	30	211	33	1	285	0	21	59	96	0	176	1527
7:00 AM	0	7	193	16	0	216	0	53	43	10	0	106	5	14	100	11	0	130	0	15	48	40	0	103	555
7:15 AM	0	16	257	19	0	292	0	57	39	10	0	106	8	13	103	18	0	142	0	22	45	35	0	102	642
7:30 AM	0	15	268	28	0	311	0	52	42	8	0	102	9	13	127	27	0	176	0	9	34	46	0	89	678
7:45 AM	0	21	243	20	0	284	0	46	25	13	0	84	2	13	124	42	0	181	0	16	60	49	0	125	674
Hourly Total	0	59	961	83	0	1103	0	208	149	41	0	398	24	53	454	98	0	629	0	62	187	170	0	419	2549

**CSAH 51 @ 101st Ave  
Blaine MN  
Tuesday, October 5, 2021**

Time	Southbound CSAH 51						Westbound 101st Ave						Northbound CSAH 51						Eastbound 101st Ave						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	1	17	207	18	0	243	0	47	21	8	0	76	3	11	135	29	0	178	0	13	56	49	0	118	615
8:15 AM	0	14	226	16	0	256	0	20	23	10	0	53	4	13	128	38	0	183	0	18	62	53	0	133	625
8:30 AM	0	10	172	15	0	197	0	33	18	6	0	57	5	16	131	26	1	178	0	23	73	63	0	159	591
8:45 AM	0	16	171	12	0	199	0	37	25	8	0	70	6	21	121	44	0	192	0	16	67	57	0	140	601
Hourly Total	1	57	776	61	0	895	0	137	87	32	0	256	18	61	515	137	1	731	0	70	258	222	0	550	2432
9:00 AM	0	21	124	6	0	151	0	30	24	9	0	63	9	21	74	27	2	131	0	18	79	35	0	132	477
9:15 AM	0	21	131	14	0	166	0	37	30	10	1	77	20	27	99	26	0	172	0	18	47	30	0	95	510
9:30 AM	0	2	113	13	0	128	0	21	21	5	0	47	4	24	74	15	0	117	0	14	31	22	1	67	359
9:45 AM	2	6	124	16	0	148	0	24	29	7	0	60	0	11	89	14	0	114	0	12	16	12	0	40	362
Hourly Total	2	50	492	49	0	593	0	112	104	31	1	247	33	83	336	82	2	534	0	62	173	99	1	334	1708
10:00 AM	0	4	104	13	0	121	0	23	17	3	0	43	10	13	78	16	0	117	0	18	19	24	1	61	342
10:15 AM	0	9	113	10	0	132	0	29	28	10	0	67	0	12	91	16	0	119	0	12	26	25	1	63	381
10:30 AM	0	10	85	9	0	104	0	18	20	7	0	45	2	8	78	13	0	101	0	11	14	18	0	43	293
10:45 AM	1	4	90	16	0	111	0	17	25	9	0	51	0	15	91	24	3	130	0	16	20	16	2	52	344
Hourly Total	1	27	392	48	0	468	0	87	90	29	0	206	12	48	338	69	3	467	0	57	79	83	4	219	1360
11:00 AM	1	8	100	15	0	124	0	21	25	4	0	50	3	4	106	7	0	120	0	16	22	22	0	60	354
11:15 AM	1	10	96	14	1	121	0	15	22	4	1	41	2	17	102	16	0	137	0	15	26	15	0	56	355
11:30 AM	1	12	93	12	3	118	0	20	19	12	0	51	1	11	103	17	0	132	0	20	21	17	0	58	359
11:45 AM	0	5	90	6	1	101	0	16	24	9	0	49	2	11	112	20	0	145	0	20	28	12	0	60	355
Hourly Total	3	35	379	47	5	464	0	72	90	29	1	191	8	43	423	60	0	534	0	71	97	66	0	234	1423
12:00 PM	0	16	99	12	0	127	0	21	36	7	1	64	3	11	90	21	0	125	0	21	25	12	0	58	374
12:15 PM	1	18	103	9	0	131	0	18	37	12	0	67	3	21	139	21	0	184	0	11	22	13	2	46	428
12:30 PM	1	15	83	8	0	107	0	25	25	14	0	64	2	17	96	27	0	142	0	24	25	25	1	74	387
12:45 PM	1	11	99	16	0	127	0	24	24	8	0	56	5	13	137	28	3	183	0	18	28	17	4	63	429
Hourly Total	3	60	384	45	0	492	0	88	122	41	1	251	13	62	462	97	3	634	0	74	100	67	7	241	1618
1:00 PM	0	17	115	6	0	138	0	22	23	14	0	59	5	13	118	20	1	156	0	18	28	24	1	70	423
1:15 PM	1	7	103	11	2	122	0	17	32	6	1	55	4	19	113	19	1	155	0	26	27	13	2	66	398
1:30 PM	0	12	100	18	0	130	0	21	39	7	0	67	3	16	143	19	1	181	0	32	21	19	1	72	450
1:45 PM	0	7	96	10	0	113	0	15	28	9	0	52	1	20	156	24	0	201	0	19	27	16	3	62	428
Hourly Total	1	43	414	45	2	503	0	75	122	36	1	233	13	68	530	82	3	693	0	95	103	72	7	270	1699
2:00 PM	1	9	100	11	0	121	0	21	28	7	0	56	5	20	151	26	0	202	0	24	29	18	0	71	450
2:15 PM	0	7	117	14	0	138	0	14	21	9	0	44	0	18	206	32	1	256	0	25	29	23	0	77	515
2:30 PM	1	20	131	16	0	168	0	26	34	7	1	67	1	17	227	22	0	267	0	23	27	20	1	70	572
2:45 PM	0	15	130	14	0	159	0	19	31	10	0	60	3	22	300	43	0	368	0	21	46	21	1	88	675
Hourly Total	2	51	478	55	0	586	0	80	114	33	1	227	9	77	884	123	1	1093	0	93	131	82	2	306	2212
3:00 PM	1	18	126	12	0	157	0	24	43	10	1	77	3	13	217	33	0	266	0	29	40	16	1	85	585
3:15 PM	0	23	139	10	0	172	0	20	31	9	0	60	1	21	304	42	0	368	0	23	45	22	0	90	690
3:30 PM	1	29	133	16	0	179	0	25	42	12	0	79	5	18	323	19	0	365	0	38	55	22	1	115	738
3:45 PM	0	24	152	14	0	190	0	28	27	18	0	73	4	26	364	53	0	447	0	32	63	19	0	114	824
Hourly Total	2	94	550	52	0	698	0	97	143	49	1	289	13	78	1208	147	0	1446	0	122	203	79	2	404	2837

**CSAH 51 @ 101st Ave  
Blaine MN  
Tuesday, October 5, 2021**

Time	Southbound CSAH 51						Westbound 101st Ave						Northbound CSAH 51						Eastbound 101st Ave						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	15	138	16	1	169	0	37	45	20	1	102	14	35	351	48	1	448	0	47	38	23	0	108	827
4:15 PM	0	17	105	12	0	134	0	43	60	20	0	123	9	21	368	76	0	474	0	46	66	13	0	125	856
4:30 PM	0	22	115	10	1	147	0	46	46	25	2	117	7	36	352	58	0	453	0	31	47	27	0	105	822
4:45 PM	1	19	156	16	1	192	0	25	40	34	0	99	3	29	363	58	0	453	0	27	53	22	0	102	846
Hourly Total	1	73	514	54	3	642	0	151	191	99	3	441	33	121	1434	240	1	1828	0	151	204	85	0	440	3351
5:00 PM	2	20	118	15	1	155	0	37	40	21	0	98	3	23	311	55	0	392	0	45	58	21	2	124	769
5:15 PM	0	25	131	23	1	179	0	18	44	15	1	77	2	20	303	66	0	391	0	41	53	18	1	112	759
5:30 PM	0	14	133	14	0	161	0	20	30	25	0	75	4	21	277	62	0	364	0	30	35	13	0	78	678
5:45 PM	1	23	123	13	0	160	0	20	42	19	2	81	5	26	272	54	2	357	0	22	37	15	2	74	672
Hourly Total	3	82	505	65	2	655	0	95	156	80	3	331	14	90	1163	237	2	1504	0	138	183	67	5	388	2878
6:00 PM	0	25	128	14	0	167	0	28	29	19	0	76	4	15	184	35	0	238	0	28	41	21	0	90	571
6:15 PM	1	22	126	15	1	164	0	20	38	10	2	68	2	21	202	37	0	262	0	28	29	20	1	77	571
6:30 PM	0	12	101	21	2	134	0	21	21	14	0	56	4	17	173	24	0	218	0	27	34	12	1	73	481
6:45 PM	0	14	92	16	0	122	0	26	20	19	0	65	2	9	173	33	1	217	0	22	38	15	0	75	479
Hourly Total	1	73	447	66	3	587	0	95	108	62	2	265	12	62	732	129	1	935	0	105	142	68	2	315	2102
7:00 PM	1	14	75	11	0	101	0	13	17	9	0	39	3	8	143	22	0	176	0	24	29	8	1	61	377
7:15 PM	0	14	92	12	0	118	0	10	21	17	0	48	1	21	163	18	0	203	0	17	34	21	2	72	441
7:30 PM	0	15	55	12	0	82	1	14	19	10	0	44	0	16	129	17	0	162	0	15	30	23	3	68	356
7:45 PM	0	11	54	11	0	76	0	11	22	10	0	43	0	19	108	26	0	153	0	20	21	12	0	53	325
Hourly Total	1	54	276	46	0	377	1	48	79	46	0	174	4	64	543	83	0	694	0	76	114	64	6	254	1499
8:00 PM	0	9	69	8	0	86	0	15	22	15	0	52	3	8	123	31	0	165	0	12	23	12	0	47	350
8:15 PM	0	8	61	7	0	76	0	13	11	6	0	30	0	13	96	22	0	131	0	11	19	12	0	42	279
8:30 PM	0	6	52	7	0	65	0	6	16	6	0	28	0	7	101	12	0	120	0	10	27	15	0	52	265
8:45 PM	0	7	43	10	0	60	0	6	17	6	0	29	0	12	115	27	0	154	0	14	11	10	0	35	278
Hourly Total	0	30	225	32	0	287	0	40	66	33	0	139	3	40	435	92	0	570	0	47	80	49	0	176	1172
9:00 PM	1	6	39	6	0	52	0	5	10	8	0	23	3	8	107	25	0	143	0	9	24	11	0	44	262
9:15 PM	0	2	42	5	0	49	0	10	15	3	0	28	2	6	95	20	0	123	0	10	16	12	0	38	238
9:30 PM	1	6	54	3	0	64	0	8	9	5	0	22	0	5	57	11	0	73	0	14	15	3	0	32	191
9:45 PM	0	3	34	4	0	41	0	4	6	4	0	14	2	4	59	10	1	75	0	4	10	8	1	22	152
Hourly Total	2	17	169	18	0	206	0	27	40	20	0	87	7	23	318	66	1	414	0	37	65	34	1	136	843
10:00 PM	0	3	29	3	0	35	0	4	6	6	0	16	2	7	55	9	0	73	0	9	11	2	0	22	146
10:15 PM	1	3	29	4	0	37	0	1	3	4	0	8	1	10	52	14	0	77	0	5	10	6	0	21	143
10:30 PM	0	5	23	3	0	31	0	4	9	3	0	16	2	4	52	9	0	67	0	8	11	7	0	26	140
10:45 PM	1	1	15	1	0	18	0	3	2	0	1	5	0	9	42	5	0	56	0	2	5	6	0	13	92
Hourly Total	2	12	96	11	0	121	0	12	20	13	1	45	5	30	201	37	0	273	0	24	37	21	0	82	521
11:00 PM	0	0	21	1	1	22	1	2	2	0	0	5	0	7	27	8	0	42	0	4	7	7	0	18	87
11:15 PM	0	5	12	4	0	21	0	2	3	4	0	9	2	4	33	3	0	42	0	4	6	3	0	13	85
11:30 PM	0	2	11	1	0	14	0	1	3	2	0	6	1	1	38	8	0	48	0	2	4	3	0	9	77
11:45 PM	0	4	10	2	0	16	0	1	0	1	0	2	0	6	23	6	0	35	0	2	3	2	0	7	60
Hourly Total	0	11	54	8	1	73	1	6	8	7	0	22	3	18	121	25	0	167	0	12	20	15	0	47	309
<b>DAILY TOTAL</b>	<b>28</b>	<b>868</b>	<b>8561</b>	<b>898</b>	<b>20</b>	<b>10355</b>	<b>2</b>	<b>1713</b>	<b>1881</b>	<b>720</b>	<b>16</b>	<b>4316</b>	<b>254</b>	<b>1095</b>	<b>10549</b>	<b>1899</b>	<b>21</b>	<b>13797</b>	<b>1</b>	<b>1341</b>	<b>2304</b>	<b>1555</b>	<b>41</b>	<b>5201</b>	<b>33669</b>
<b>Cars</b>	28	847	8455	879	17	10209	2	1694	1856	715	11	4267	250	1064	10388	1867	16	13569	1	1321	2238	1518	37	5078	33123
<b>Heavy Vehicles</b>	0	21	106	19	3	146	0	19	25	5	5	49	4	31	161	32	5	228	0	20	66	37	4	123	546
<b>Heavy Vehicle %</b>	0.00%	2.42%	1.24%	2.12%	15.00%	1.41%	0.00%	1.11%	1.33%	0.69%	31.25%	1.14%	1.57%	2.83%	1.53%	1.69%	23.81%	1.65%	0.00%	1.49%	2.86%	2.38%	9.76%	2.36%	1.62%

**CSAH 51 @ 101st Ave  
Blaine MN  
Tuesday, October 5, 2021  
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	16	257	19	0	292	0	57	39	10	0	106	8	13	103	18	0	142	0	22	45	35	0	102	642
7:30 AM	0	15	268	28	0	311	0	52	42	8	0	102	9	13	127	27	0	176	0	9	34	46	0	89	678
7:45 AM	0	21	243	20	0	284	0	46	25	13	0	84	2	13	124	42	0	181	0	16	60	49	0	125	674
8:00 AM	1	17	207	18	0	243	0	47	21	8	0	76	3	11	135	29	0	178	0	13	56	49	0	118	615
Peak Hour Total	1	69	975	85	0	1130	0	202	127	39	0	368	22	50	489	116	0	677	0	60	195	179	0	434	2609
PHF	0.250	0.821	0.910	0.759	0.000	0.908	0.000	0.886	0.756	0.750	0.000	0.868	0.611	0.962	0.906	0.690	0.000	0.935	0.000	0.682	0.813	0.913	0.000	0.868	0.962

**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	15	138	16	1	169	0	37	45	20	1	102	14	35	351	48	1	448	0	47	38	23	0	108	827
4:15 PM	0	17	105	12	0	134	0	43	60	20	0	123	9	21	368	76	0	474	0	46	66	13	0	125	856
4:30 PM	0	22	115	10	1	147	0	46	46	25	2	117	7	36	352	58	0	453	0	31	47	27	0	105	822
4:45 PM	1	19	156	16	1	192	0	25	40	34	0	99	3	29	363	58	0	453	0	27	53	22	0	102	846
Peak Hour Total	1	73	514	54	3	642	0	151	191	99	3	441	33	121	1434	240	1	1828	0	151	204	85	0	440	3351
PHF	0.250	0.830	0.824	0.844	0.750	0.836	0.000	0.821	0.796	0.728	0.375	0.896	0.589	0.840	0.974	0.789	0.250	0.964	0.000	0.803	0.773	0.787	0.000	0.880	0.979

Total Vehicles On Leg		22993	
Vehicles Entering Intersection	10355	Vehicles Exiting Intersection	12638
<b>Southbound</b>			
Cars	879	8455	847
Heavy	19	106	21
<b>Total</b>	<b>898</b>	<b>8561</b>	<b>868</b>

Total Vehicles on Leg 9076	Vehicles Entering Intersection 5201	Eastbound	Cars	Heavy	Total
			37	4	41
	1		0	1	
	1321		20	1341	
	Vehicles Exiting Intersection 3875		2238	66	2304
1518	37	1555			

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 4316	Total Vehicles on Leg 9389
715	5	720			
1856	25	1881			
1694	19	1713			
2	0	2			
11	5	16	Vehicles Exiting Intersection 5073		

Daily Volumes

Cars	16	250	1064	10388	1867
Heavy	5	4	31	161	32
<b>Total</b>	<b>21</b>	<b>254</b>	<b>1095</b>	<b>10549</b>	<b>1899</b>
<b>Northbound</b>					
Vehicles Entering Intersection	13797	Vehicles Exiting Intersection	12083		
Total Vehicles On Leg	25880				

# Heavy Vehicles

Date	Time	Southbound					Westbound					Northbound					Eastbound				
		U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk
10/5/2021	0:00	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	0	0	0	0	0
	0:30	0	0	0	0	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	1	0	0
	1:00	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
	1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	2:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	2:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15	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	0	0	0	0	0	0
	3:45	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	0	0	0	0	0	0
	4:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	4:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0
	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
	5:15	0	0	2	0	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	0	0	0	0	0
	5:45	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	6:00	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	1	0	0
	6:15	0	1	2	0	0	0	0	0	0	0	1	2	0	0	0	1	1	0	0	0
	6:30	0	0	2	0	0	0	1	1	0	0	0	0	1	1	0	0	0	1	0	0
	6:45	0	1	2	1	1	0	0	0	1	0	1	2	2	0	0	0	0	1	0	0
	7:00	0	0	1	1	0	0	1	0	0	0	0	6	0	0	0	0	0	0	0	0
	7:15	0	0	8	0	0	0	2	0	0	0	0	1	1	0	0	1	3	2	0	0
	7:30	0	0	1	1	0	0	2	0	0	0	0	7	0	0	0	1	2	2	0	0
	7:45	0	1	6	1	0	0	0	1	1	0	1	5	3	0	0	2	2	1	0	0
	8:00	0	0	3	0	0	0	0	1	0	0	0	2	1	0	0	1	2	1	0	0
	8:15	0	0	3	2	0	0	0	0	0	0	0	7	2	0	0	0	5	1	0	0
	8:30	0	0	4	0	0	0	1	0	0	0	0	5	2	1	0	0	7	0	0	0
	8:45	0	3	3	1	0	0	1	1	0	0	1	5	1	0	0	2	5	5	0	0
	9:00	0	2	1	1	0	0	0	0	2	0	3	2	4	0	0	0	10	0	0	0
	9:15	0	2	1	0	0	0	0	0	0	2	9	10	0	0	0	0	1	1	0	0
	9:30	0	0	2	1	0	0	0	0	0	0	3	5	1	0	0	0	3	2	0	0
	9:45	0	0	3	0	0	0	0	0	0	0	1	2	0	0	0	0	2	0	0	0
	10:00	0	0	3	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	10:15	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	2	0	0	0
	10:30	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
	10:45	0	0	1	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0
	11:00	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
	11:15	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	2	1	0	0
	11:30	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	1	5	0	0	0
	11:45	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0





# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2111

Study Date : 11/02/2021

## Signal Warrants - Summary

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### Major Street Approaches

Northbound: CSAH 51 (University Ave.)

Number of Lanes : 2+

Total Approach Volume: 13,797

Southbound: CSAH 51 (University Ave.)

Number of Lanes :2+

Total Approach Volume: 10,355

### Minor Street Approaches

Eastbound: 101st Ave.

Number of Lanes :1

Total Approach Volume: 5,201

Westbound: 101st Ave.

Number of Lanes :2+

Total Approach Volume: 4,316

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### Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 17 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 17 hours, 8 are needed

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

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

Number of hours (17) volumes exceed minimum >= minimum required (4).

**Warrant 3 - Peak Hour.....Satisfied**

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

Number of one hour periods (65) 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 2111

Study Date : 11/02/2021

## 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

17 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 = **105 140**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CSAH 51 (University Ave.)					101st Ave.		
16:00 - 17:00	1828	+	642	=	2470	440	441	Yes
17:00 - 18:00	1504	+	655	=	2159	388	331	Yes
15:00 - 16:00	1446	+	698	=	2144	404	289	Yes
07:00 - 08:00	629	+	1103	=	1732	419	398	Yes
14:00 - 15:00	1093	+	586	=	1679	306	227	Yes
08:00 - 09:00	731	+	895	=	1626	550	256	Yes
18:00 - 19:00	935	+	587	=	1522	315	265	Yes
13:00 - 14:00	693	+	503	=	1196	270	233	Yes
09:00 - 10:00	534	+	593	=	1127	334	247	Yes
12:00 - 13:00	634	+	492	=	1126	241	251	Yes
06:00 - 07:00	285	+	802	=	1087	176	264	Yes
19:00 - 20:00	694	+	377	=	1071	254	174	Yes
11:00 - 12:00	534	+	464	=	998	234	191	Yes
10:00 - 11:00	467	+	468	=	935	219	206	Yes
20:00 - 21:00	570	+	287	=	857	176	139	Yes
21:00 - 22:00	414	+	206	=	620	136	87	Yes
05:00 - 06:00	86	+	481	=	567	99	143	Yes
04:45 - 05:45	68	+	399	=	467	84	107	No
22:00 - 23:00	273	+	121	=	394	82	45	No
04:30 - 05:30	56	+	317	=	373	74	86	No
22:15 - 23:15	242	+	108	=	350	78	34	No
22:30 - 23:30	207	+	92	=	299	70	35	No
04:15 - 05:15	45	+	237	=	282	56	69	No
22:45 - 23:45	188	+	75	=	263	53	25	No
23:00 - 00:00	167		73		240	47	22	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2111

Study Date : 11/02/2021

## 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 = **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 = **52 70**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CSAH 51 (University Ave.)					101st Ave.		
16:15 - 17:15	1772	+	628	=	2400	456	437	Yes
15:15 - 16:15	1628	+	710	=	2338	427	314	Yes
17:15 - 18:15	1350	+	667	=	2017	354	309	Yes
07:15 - 08:15	677	+	1130	=	1807	434	368	Yes
14:15 - 15:15	1157	+	622	=	1779	320	248	Yes
08:15 - 09:15	684	+	803	=	1487	564	243	Yes
18:15 - 19:15	873	+	521	=	1394	286	228	Yes
06:15 - 07:15	378	+	866	=	1244	249	318	Yes
13:15 - 14:15	739	+	486	=	1225	271	230	Yes
12:15 - 13:15	665	+	503	=	1168	253	246	Yes
09:15 - 10:15	520	+	563	=	1083	263	227	Yes
19:15 - 20:15	683	+	362	=	1045	240	187	Yes
11:15 - 12:15	539	+	467	=	1006	232	205	Yes
10:15 - 11:15	470	+	471	=	941	218	213	Yes
20:15 - 21:15	548	+	253	=	801	173	110	Yes
05:15 - 06:15	104	+	552	=	656	111	174	Yes
05:00 - 06:00	86	+	481	=	567	99	143	No
21:15 - 22:15	344	+	189	=	533	114	80	No
21:30 - 22:30	298	+	177	=	475	97	60	No
04:45 - 05:45	68	+	399	=	467	84	107	No
21:45 - 22:45	292	+	144	=	436	91	54	No
22:00 - 23:00	273	+	121	=	394	82	45	No
04:30 - 05:30	56	+	317	=	373	74	86	No
22:15 - 23:15	242	+	108	=	350	78	34	No
22:30 - 23:30	207		92		299	70	35	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2111

Study Date : 11/02/2021

## 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

17 hours meet 1A minimums.  
17 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 EB = **84 42**  
Veh/Hr Minor WB = **112 56**

#### Major Road CSAH 51 (University Ave.)

#### Minor Road 101st Ave.

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:00 - 17:00	1828	+	642	=	2470	440	441	Yes
17:00 - 18:00	1504	+	655	=	2159	388	331	Yes
15:00 - 16:00	1446	+	698	=	2144	404	289	Yes
07:00 - 08:00	629	+	1103	=	1732	419	398	Yes
14:00 - 15:00	1093	+	586	=	1679	306	227	Yes
08:00 - 09:00	731	+	895	=	1626	550	256	Yes
18:00 - 19:00	935	+	587	=	1522	315	265	Yes
13:00 - 14:00	693	+	503	=	1196	270	233	Yes
09:00 - 10:00	534	+	593	=	1127	334	247	Yes
12:00 - 13:00	634	+	492	=	1126	241	251	Yes
06:00 - 07:00	285	+	802	=	1087	176	264	Yes
19:00 - 20:00	694	+	377	=	1071	254	174	Yes

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:00 - 17:00	1828	+	642	=	2470	440	441	Yes
17:00 - 18:00	1504	+	655	=	2159	388	331	Yes
15:00 - 16:00	1446	+	698	=	2144	404	289	Yes
07:00 - 08:00	629	+	1103	=	1732	419	398	Yes
14:00 - 15:00	1093	+	586	=	1679	306	227	Yes
08:00 - 09:00	731	+	895	=	1626	550	256	Yes
18:00 - 19:00	935	+	587	=	1522	315	265	Yes
13:00 - 14:00	693	+	503	=	1196	270	233	Yes
09:00 - 10:00	534	+	593	=	1127	334	247	Yes
12:00 - 13:00	634	+	492	=	1126	241	251	Yes
06:00 - 07:00	285	+	802	=	1087	176	264	Yes
19:00 - 20:00	694	+	377	=	1071	254	174	Yes

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2111

Study Date : 11/02/2021

## 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.

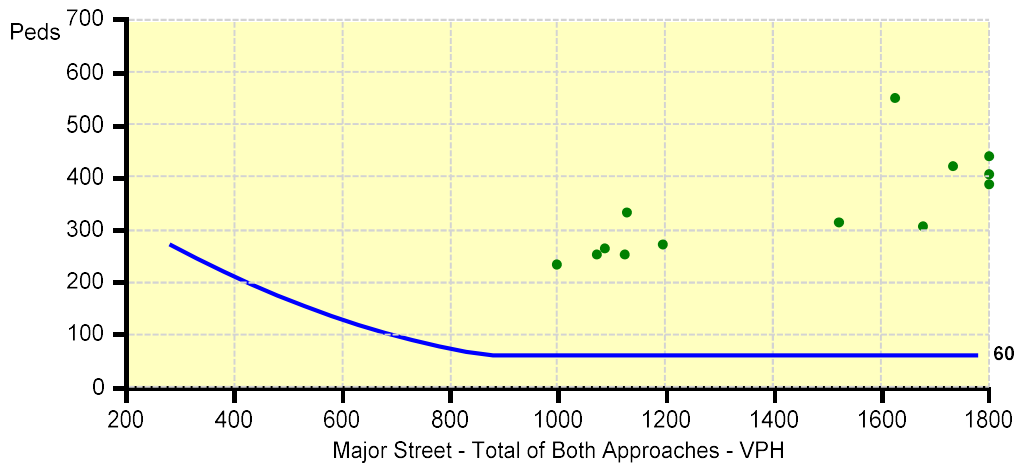
#### Summary

17 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**

Time	Major Road CSAH 51 (University Ave.)				Total	Minor Road 101st Ave.		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	1828	+	642	=	2470	440	441	Yes
17:00 - 18:00	1504	+	655	=	2159	388	331	Yes
15:00 - 16:00	1446	+	698	=	2144	404	289	Yes
07:00 - 08:00	629	+	1103	=	1732	419	398	Yes
14:00 - 15:00	1093	+	586	=	1679	306	227	Yes
08:00 - 09:00	731	+	895	=	1626	550	256	Yes
18:00 - 19:00	935	+	587	=	1522	315	265	Yes
13:00 - 14:00	693	+	503	=	1196	270	233	Yes
09:00 - 10:00	534	+	593	=	1127	334	247	Yes
12:00 - 13:00	634	+	492	=	1126	241	251	Yes
06:00 - 07:00	285	+	802	=	1087	176	264	Yes
							174	Yes



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2111

Study Date : 11/02/2021

## 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

60 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**

Time	Major Road CSAH 51 (University Ave.)				Total	Minor Road 101st Ave.		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	1828	+	642	=	2470	440	441	Yes
15:45 - 16:45	1822	+	640	=	2462	452	415	Yes
15:30 - 16:30	1734	+	672	=	2406	462	377	Yes
16:15 - 17:15	1772	+	628	=	2400	456	437	Yes
16:30 - 17:30	1689	+	673	=	2362	443	391	Yes
15:15 - 16:15	1628	+	710	=	2338	427	314	Yes
16:45 - 17:45	1600	+	687	=	2287	416	349	Yes
17:00 - 18:00	1504	+	655	=	2159	388	331	Yes
15:00 - 16:00	1446	+	698	=	2144	404	289	Yes
14:45 - 15:45	1367	+	667	=	2034	378	276	Yes
17:15 - 18:15	1350	+	667	=	2017	354	309	Yes
							264	Yes

