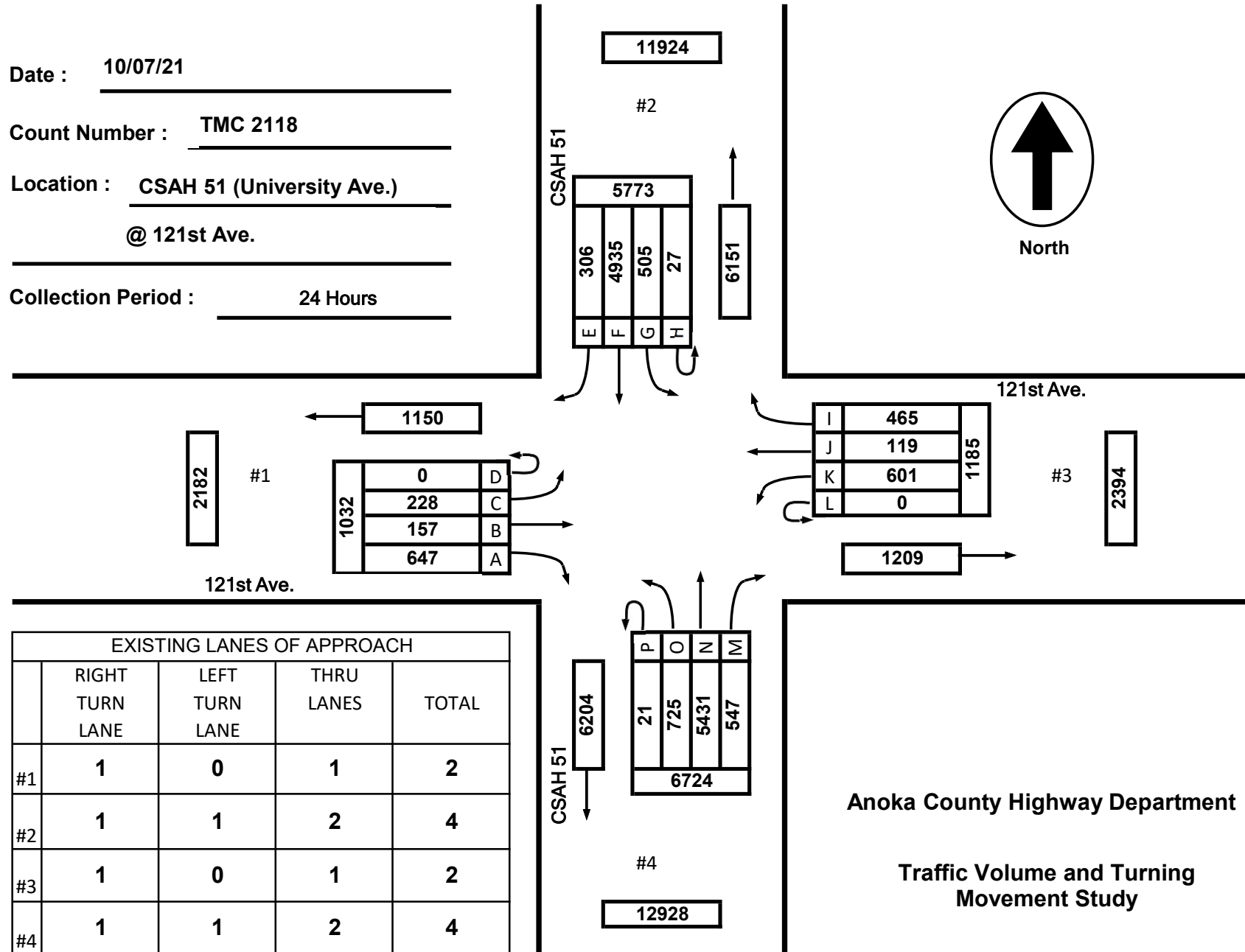


Date : 10/07/21

Count Number : TMC 2118

Location : CSAH 51 (University Ave.)  
@ 121st Ave.

Collection Period : 24 Hours



Anoka County Highway Department

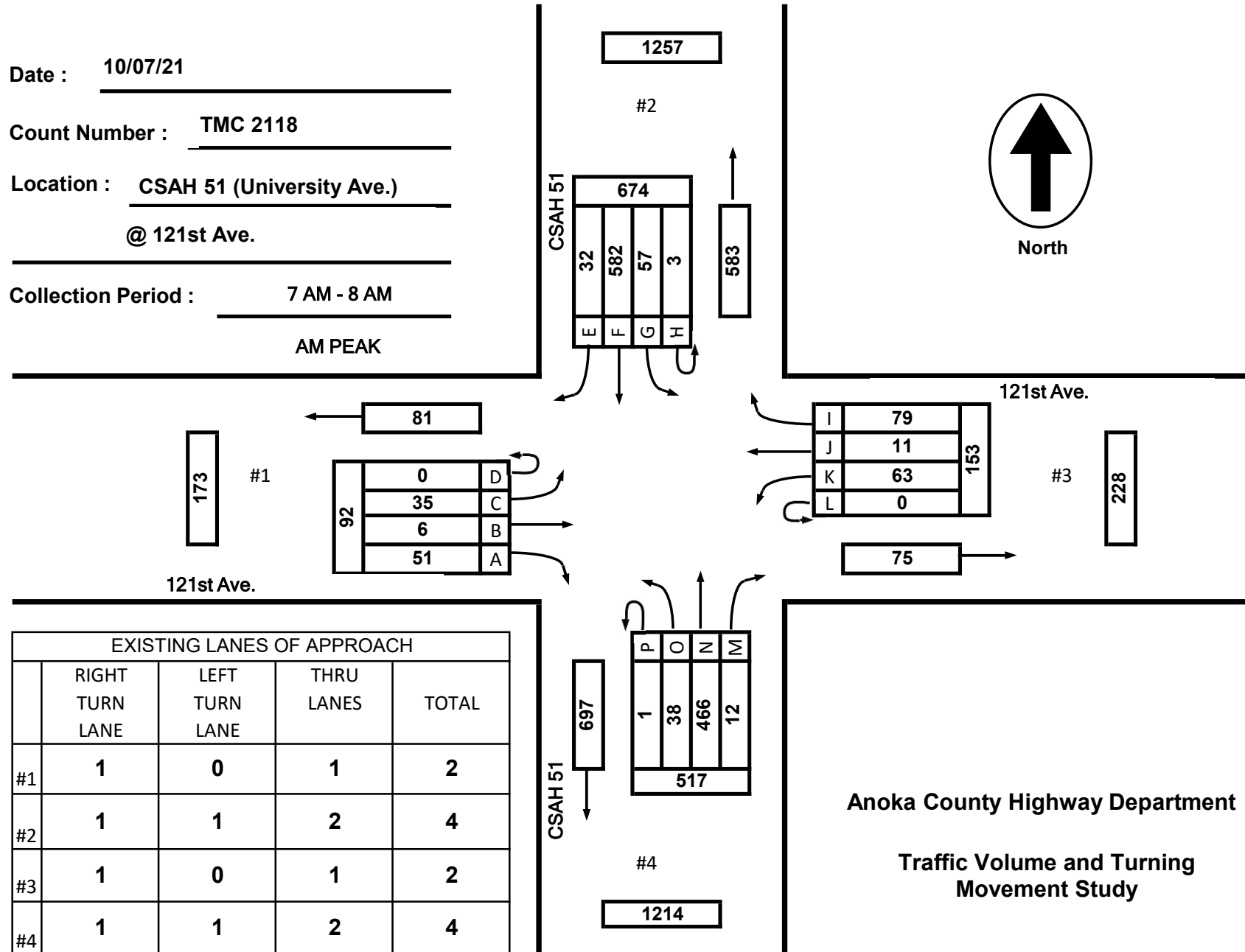
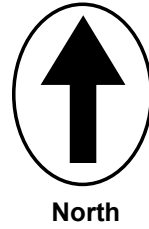
Traffic Volume and Turning Movement Study

Date : 10/07/21

Count Number : TMC 2118

Location : CSAH 51 (University Ave.)  
@ 121st Ave.

Collection Period : 7 AM - 8 AM  
AM PEAK



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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

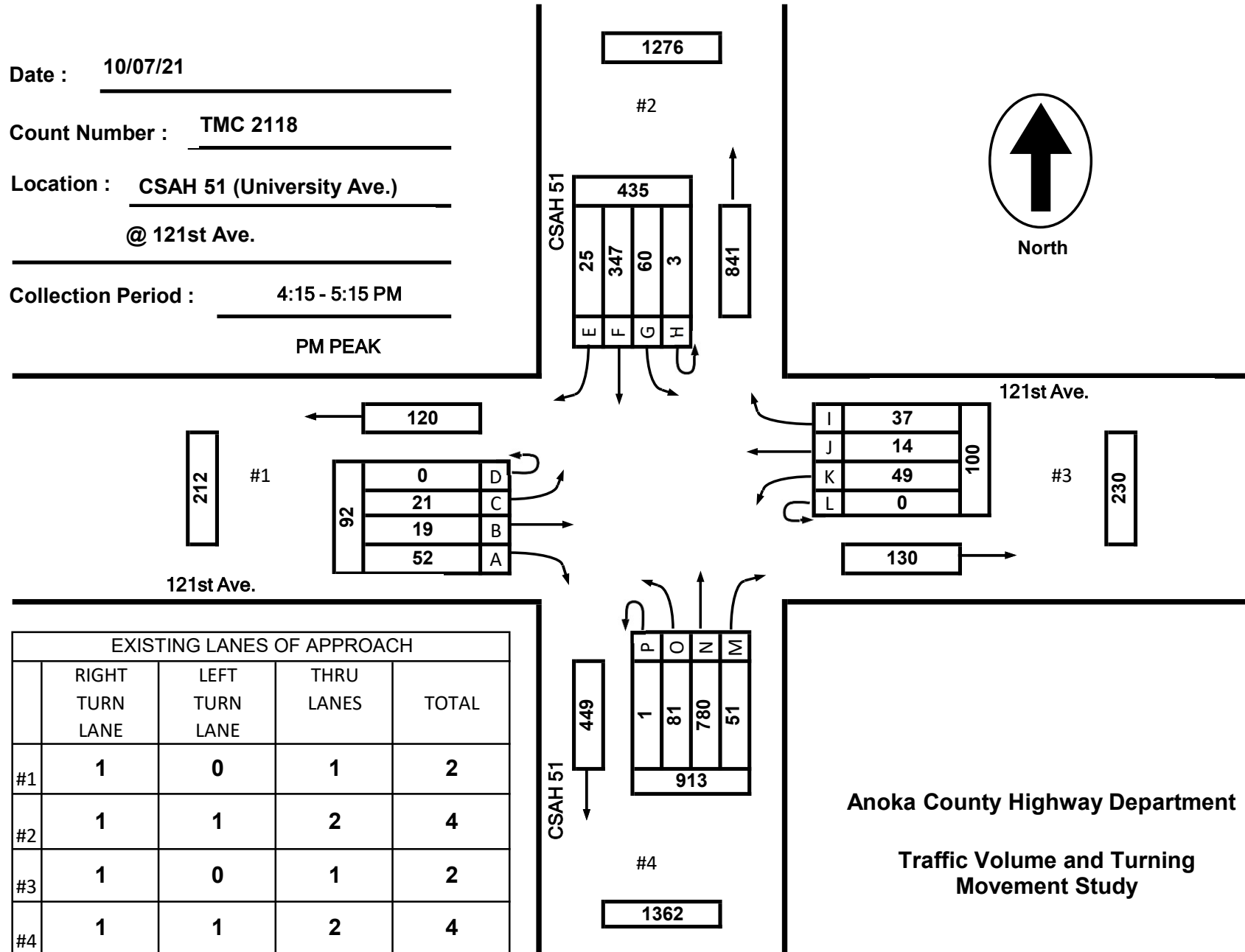
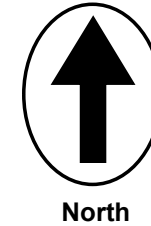
Date : 10/07/21

Count Number : TMC 2118

Location : CSAH 51 (University Ave.)  
@ 121st Ave.

Collection Period : 4:15 - 5:15 PM

PM PEAK



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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

**TMC 2118  
Blaine MN  
Thursday, October 7, 2021**

Time	Southbound CSAH 51						Westbound 121st Ave.						Northbound CSAH 51						Eastbound 121st 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	0	0	3	0	0	0	0	0	0	0	2	4	2	0	8	0	0	0	0	0	0	0	0	0	0	0	0	11
12:15 AM	0	0	5	0	0	5	0	1	0	0	0	1	0	2	7	2	0	11	0	0	0	0	0	0	0	0	0	0	0	0	17
12:30 AM	0	1	3	0	0	4	0	1	0	0	0	1	0	0	5	1	0	6	0	0	0	2	0	2	0	0	0	2	0	2	13
12:45 AM	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	0	0	0	0	0	4
Hourly Total	0	1	12	0	0	13	0	2	0	0	0	2	0	4	18	6	0	28	0	0	0	2	0	2	0	0	0	2	0	2	45
1:00 AM	0	2	2	0	0	4	0	0	0	1	0	1	1	2	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	9
1:15 AM	0	0	2	0	0	2	0	0	0	2	0	0	0	1	5	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	8
1:30 AM	0	1	4	0	0	5	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
1:45 AM	0	0	2	0	0	2	0	2	0	0	0	2	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	8
Hourly Total	0	3	10	0	0	13	0	3	0	1	0	4	1	3	9	1	0	14	0	0	0	0	0	0	0	0	0	0	0	0	31
2:00 AM	0	0	2	0	0	2	0	2	0	0	0	2	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	7
2:15 AM	0	0	5	0	0	5	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	8
2:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	10
2:45 AM	0	0	5	0	0	5	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	9
Hourly Total	0	0	12	0	0	12	0	3	0	0	0	3	0	2	16	1	0	19	0	0	0	0	0	0	0	0	0	0	0	0	34
3:00 AM	0	0	1	0	0	1	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
3:15 AM	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	1	0	4	0	0	0	1	0	1	0	0	0	1	0	1	9
3:30 AM	0	0	6	0	0	6	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	1	0	1	0	0	0	1	0	1	10
3:45 AM	0	0	7	0	0	7	0	1	0	0	0	1	0	0	2	0	0	2	0	1	0	1	0	2	0	0	0	1	0	2	12
Hourly Total	0	0	18	0	0	18	0	1	0	0	0	1	0	0	7	2	0	9	0	1	0	3	0	4	0	0	0	3	0	4	32
4:00 AM	0	0	4	0	0	4	0	1	0	0	0	1	0	1	4	1	0	6	0	0	0	0	2	2	0	0	0	2	0	2	13
4:15 AM	0	0	15	1	0	16	0	1	0	0	0	1	0	0	6	0	0	6	0	0	0	1	0	1	0	0	0	1	0	1	24
4:30 AM	0	0	12	0	0	12	0	1	0	1	0	2	0	0	8	1	0	9	0	1	0	3	0	4	0	0	0	3	0	4	27
4:45 AM	0	0	18	0	0	18	0	2	1	0	0	3	0	0	5	2	0	7	0	1	0	2	0	3	0	0	0	2	0	3	31
Hourly Total	0	0	49	1	0	50	0	5	1	1	0	7	0	1	23	4	0	28	0	2	0	8	0	10	0	0	0	8	0	10	95
5:00 AM	0	0	25	0	0	25	0	2	0	1	0	3	0	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	41
5:15 AM	0	0	29	0	0	29	0	8	0	0	0	8	0	2	11	0	0	13	0	0	0	6	0	6	0	0	0	6	0	6	56
5:30 AM	0	0	34	0	0	34	0	8	2	3	0	13	1	0	17	0	0	18	0	2	0	6	0	8	0	0	0	6	0	8	73
5:45 AM	0	0	33	1	0	34	0	7	1	1	0	9	0	4	15	0	0	19	0	0	0	5	0	5	0	0	0	5	0	5	67
Hourly Total	0	0	121	1	0	122	0	25	3	5	0	33	1	6	56	0	0	63	0	2	0	17	0	19	0	0	0	17	0	19	237
6:00 AM	0	2	46	0	0	48	0	8	0	4	0	12	0	2	20	0	0	22	0	0	0	5	0	5	0	0	0	5	0	5	87
6:15 AM	0	0	48	2	0	50	0	16	1	5	0	22	0	3	30	3	0	36	0	1	2	9	0	12	0	0	0	9	0	12	120
6:30 AM	0	0	87	1	0	88	0	11	1	8	0	20	0	2	46	2	0	50	0	3	0	6	0	9	0	0	0	6	0	9	167
6:45 AM	0	1	80	5	0	86	0	11	0	12	0	23	0	5	70	2	0	77	0	6	0	9	0	15	0	0	0	9	0	15	201
Hourly Total	0	3	261	8	0	272	0	46	2	29	0	77	0	12	166	7	0	185	0	10	2	29	0	41	0	0	0	29	0	41	575
7:00 AM	1	11	103	8	0	123	0	24	2	15	0	41	0	9	120	5	0	134	0	16	1	15	0	32	0	0	0	15	0	32	330
7:15 AM	1	17	156	9	0	183	0	14	6	27	0	47	0	11	151	2	0	164	0	10	1	19	0	30	0	0	0	19	0	30	424
7:30 AM	1	21	156	8	1	186	0	18	0	19	0	37	1	7	116	0	0	124	0	8	1	6	0	15	0	0	0	6	0	15	362
7:45 AM	0	8	167	7	0	182	0	7	3	18	0	28	0	11	79	5	0	95	0	1	3	11	0	15	0	0	0	11	0	15	320
Hourly Total	3	57	582	32	1	674	0	63	11	79	0	153	1	38	466	12	0	517	0	35	6	51	0	92	0	0	0	51	0	92	1436

**TMC 2118  
Blaine MN  
Thursday, October 7, 2021**

Time	Southbound CSAH 51						Westbound 121st Ave.					Northbound CSAH 51					Eastbound 121st 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	12	94	6	0	113	0	9	3	17	0	29	0	9	53	5	0	67	0	8	1	8	0	17	226
8:15 AM	0	9	69	1	0	79	0	12	0	8	0	20	2	5	52	6	0	65	0	2	3	13	0	18	182
8:30 AM	0	4	45	2	0	51	0	10	1	8	0	19	1	9	49	4	0	63	0	1	2	11	0	14	147
8:45 AM	0	4	60	4	0	68	0	10	6	5	0	21	0	4	45	5	0	54	0	1	3	5	0	9	152
Hourly Total	1	29	268	13	0	311	0	41	10	38	0	89	3	27	199	20	0	249	0	12	9	37	0	58	707
9:00 AM	1	8	61	2	1	72	0	9	1	8	0	18	0	4	46	3	0	53	0	6	2	17	0	25	168
9:15 AM	0	4	60	2	0	66	0	11	2	4	0	17	1	8	51	6	0	66	0	3	2	10	0	15	164
9:30 AM	0	2	60	1	0	63	0	3	3	3	0	9	0	4	58	4	0	66	0	1	1	10	0	12	150
9:45 AM	0	5	48	3	0	56	0	7	0	10	0	17	0	10	51	8	0	69	0	3	2	10	0	15	157
Hourly Total	1	19	229	8	1	257	0	30	6	25	0	61	1	26	206	21	0	254	0	13	7	47	0	67	639
10:00 AM	0	7	52	1	0	60	0	8	3	3	0	14	0	8	42	5	0	55	0	2	2	9	0	13	142
10:15 AM	1	3	34	2	0	40	0	7	4	4	1	15	0	7	54	0	0	61	0	1	0	6	1	7	123
10:30 AM	0	3	32	3	0	38	0	6	2	3	0	11	0	6	53	3	0	62	0	0	2	8	0	10	121
10:45 AM	0	3	56	4	0	63	0	7	1	3	0	11	1	11	49	5	0	66	0	3	3	7	0	13	153
Hourly Total	1	16	174	10	0	201	0	28	10	13	1	51	1	32	198	13	0	244	0	6	7	30	1	43	539
11:00 AM	1	3	44	0	0	48	0	5	2	5	0	12	0	9	51	3	0	63	0	7	4	16	0	27	150
11:15 AM	0	3	50	3	0	56	0	5	2	7	0	14	0	10	47	6	0	63	0	4	1	9	0	14	147
11:30 AM	0	7	39	3	0	49	0	8	2	4	0	14	0	7	47	5	0	59	0	3	2	17	1	22	144
11:45 AM	1	2	43	4	0	50	0	4	2	5	0	11	0	5	53	7	0	65	0	2	4	7	0	13	139
Hourly Total	2	15	176	10	0	203	0	22	8	21	0	51	0	31	198	21	0	250	0	16	11	49	1	76	580
12:00 PM	0	5	44	4	0	53	0	4	1	2	0	7	1	12	59	5	0	77	0	1	0	10	0	11	148
12:15 PM	0	3	59	3	0	65	0	7	0	3	0	10	0	9	46	5	0	60	0	5	2	11	0	18	153
12:30 PM	0	1	48	2	0	51	0	10	1	4	0	15	0	6	44	11	0	61	0	1	6	9	1	16	143
12:45 PM	0	3	49	3	0	55	0	7	3	3	0	13	0	10	66	6	0	82	0	4	0	9	0	13	163
Hourly Total	0	12	200	12	0	224	0	28	5	12	0	45	1	37	215	27	0	280	0	11	8	39	1	58	607
1:00 PM	0	4	57	3	0	64	0	13	1	6	0	20	0	5	73	11	0	89	0	9	5	12	0	26	199
1:15 PM	0	5	78	7	2	90	0	13	0	3	0	16	0	9	90	6	0	105	0	1	2	3	0	6	217
1:30 PM	2	13	149	5	2	169	0	8	1	8	5	17	1	16	86	6	0	109	0	13	2	6	1	21	316
1:45 PM	1	12	121	18	0	152	0	12	1	9	0	22	0	15	90	8	0	113	0	1	4	10	0	15	302
Hourly Total	3	34	405	33	4	475	0	46	3	26	5	75	1	45	339	31	0	416	0	24	13	31	1	68	1034
2:00 PM	1	7	72	4	0	84	0	8	1	3	0	12	0	13	90	11	0	114	0	4	3	13	0	20	230
2:15 PM	0	7	95	8	4	110	0	7	2	5	0	14	0	21	90	20	0	131	0	4	2	11	1	17	272
2:30 PM	1	13	110	7	0	131	0	6	0	14	0	20	0	12	83	11	0	106	0	8	2	9	0	19	276
2:45 PM	3	4	78	1	0	86	0	7	6	7	0	20	1	12	100	7	0	120	0	3	2	6	0	11	237
Hourly Total	5	31	355	20	4	411	0	28	9	29	0	66	1	58	363	49	0	471	0	19	9	39	1	67	1015
3:00 PM	3	11	86	4	0	104	0	8	2	12	0	22	1	16	119	5	0	141	0	2	5	16	0	23	290
3:15 PM	1	20	85	6	0	112	0	10	2	12	0	24	1	21	150	7	0	179	0	4	5	16	0	25	340
3:30 PM	0	8	97	8	0	113	0	5	1	10	0	16	0	23	140	12	0	175	0	5	2	21	0	28	332
3:45 PM	0	9	69	6	0	84	0	12	4	15	0	31	0	21	143	13	0	177	0	1	7	10	0	18	310
Hourly Total	4	48	337	24	0	413	0	35	9	49	0	93	2	81	552	37	0	672	0	12	19	63	0	94	1272

**TMC 2118  
Blaine MN  
Thursday, October 7, 2021**

Time	Southbound CSAH 51						Westbound 121st Ave.					Northbound CSAH 51					Eastbound 121st 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	1	11	91	8	0	111	0	9	1	10	0	20	1	8	174	18	0	201	0	3	3	8	0	14	346
4:15 PM	2	15	91	9	0	117	0	16	3	8	0	27	0	26	197	16	0	239	0	6	3	10	0	19	402
4:30 PM	0	14	87	6	0	107	0	11	1	13	0	25	0	14	233	11	0	258	0	7	8	20	0	35	425
4:45 PM	0	11	70	5	0	86	0	13	5	6	0	24	0	15	169	15	0	199	0	7	6	11	0	24	333
Hourly Total	3	51	339	28	0	421	0	49	10	37	0	96	1	63	773	60	0	897	0	23	20	49	0	92	1506
5:00 PM	1	20	99	5	0	125	0	9	5	10	0	24	1	26	181	9	0	217	0	1	2	11	0	14	380
5:15 PM	0	15	83	5	0	103	0	13	0	7	0	20	0	18	170	16	0	204	0	7	6	16	0	29	356
5:30 PM	0	11	107	5	0	123	0	10	1	15	0	26	2	17	159	8	0	186	0	3	2	8	0	13	348
5:45 PM	0	7	104	15	0	126	0	15	5	4	0	24	2	13	123	16	0	154	0	3	2	18	0	23	327
Hourly Total	1	53	393	30	0	477	0	47	11	36	0	94	5	74	633	49	0	761	0	14	12	53	0	79	1411
6:00 PM	0	6	84	4	0	94	0	10	0	7	0	17	0	12	99	11	0	122	0	5	0	9	0	14	247
6:15 PM	0	11	90	4	0	105	0	8	3	8	0	19	0	11	74	16	0	101	0	3	1	13	0	17	242
6:30 PM	0	7	62	7	0	76	0	16	3	5	0	24	1	12	75	17	0	105	0	2	2	11	0	15	220
6:45 PM	1	11	82	4	0	98	0	6	0	7	0	13	0	17	92	13	0	122	0	2	3	6	0	11	244
Hourly Total	1	35	318	19	0	373	0	40	6	27	0	73	1	52	340	57	0	450	0	12	6	39	0	57	953
7:00 PM	0	13	76	8	0	97	0	4	1	4	0	9	0	20	60	12	0	92	0	2	3	4	0	9	207
7:15 PM	0	9	48	2	0	59	0	13	2	2	0	17	0	10	73	5	0	88	0	0	1	8	0	9	173
7:30 PM	0	11	49	5	0	65	0	9	1	3	0	13	0	18	51	13	0	82	0	3	1	5	0	9	169
7:45 PM	0	7	53	6	0	66	0	7	3	5	0	15	0	9	49	10	0	68	0	0	4	3	0	7	156
Hourly Total	0	40	226	21	0	287	0	33	7	14	0	54	0	57	233	40	0	330	0	5	9	20	0	34	705
8:00 PM	1	5	68	2	0	76	0	5	2	4	0	11	0	2	45	8	0	55	0	2	1	5	0	8	150
8:15 PM	0	2	48	6	0	56	0	2	0	3	0	5	1	7	46	11	0	65	0	2	2	1	0	5	131
8:30 PM	0	12	40	5	0	57	0	3	1	2	0	6	0	4	39	6	0	49	0	1	4	5	0	10	122
8:45 PM	0	6	52	4	0	62	0	5	0	2	0	7	0	10	64	8	0	82	0	1	1	7	0	9	160
Hourly Total	1	25	208	17	0	251	0	15	3	11	0	29	1	23	194	33	0	251	0	6	8	18	0	32	563
9:00 PM	0	3	58	3	0	64	0	1	1	1	0	3	0	9	36	5	0	50	0	0	0	2	0	2	119
9:15 PM	0	12	23	3	0	38	0	1	1	3	0	5	0	5	17	7	0	29	0	1	0	3	0	4	76
9:30 PM	0	3	19	3	0	25	0	1	0	1	0	2	0	6	22	4	0	32	0	0	2	3	0	5	64
9:45 PM	0	2	30	1	0	33	0	1	0	1	0	2	0	4	23	9	0	36	0	2	3	5	0	10	81
Hourly Total	0	20	130	10	0	160	0	4	2	6	0	12	0	24	98	25	0	147	0	3	5	13	0	21	340
10:00 PM	0	6	28	2	0	36	0	3	1	1	0	5	0	6	25	10	0	41	0	1	3	1	0	5	87
10:15 PM	0	2	12	3	0	17	0	0	1	1	0	2	0	6	27	7	0	40	0	0	1	0	0	1	60
10:30 PM	0	0	17	1	0	18	0	1	0	1	0	2	0	1	18	3	0	22	0	0	1	1	0	2	44
10:45 PM	0	1	14	0	0	15	0	0	0	2	0	2	0	0	17	2	0	19	0	0	0	0	0	0	36
Hourly Total	0	9	71	6	0	86	0	4	2	5	0	11	0	13	87	22	0	122	0	1	5	2	0	8	227
11:00 PM	0	2	13	3	0	18	0	0	1	1	0	2	0	4	15	2	0	21	0	0	1	3	0	4	45
11:15 PM	0	0	11	0	0	11	0	1	0	0	0	1	0	4	10	1	0	15	0	0	0	2	0	2	29
11:30 PM	1	2	11	0	0	14	0	1	0	0	0	1	0	6	8	3	0	17	0	0	0	3	0	3	35
11:45 PM	0	0	6	0	0	6	0	1	0	0	0	1	0	2	9	3	0	14	0	1	0	0	0	1	22
Hourly Total	1	4	41	3	0	49	0	3	1	1	0	5	0	16	42	9	0	67	0	1	1	8	0	10	131
<b>DAILY TOTAL</b>	<b>27</b>	<b>505</b>	<b>4935</b>	<b>306</b>	<b>10</b>	<b>5773</b>	<b>0</b>	<b>601</b>	<b>119</b>	<b>465</b>	<b>6</b>	<b>1185</b>	<b>21</b>	<b>725</b>	<b>5431</b>	<b>547</b>	<b>0</b>	<b>6724</b>	<b>0</b>	<b>228</b>	<b>157</b>	<b>647</b>	<b>5</b>	<b>1032</b>	<b>14714</b>
<b>Cars</b>	27	491	4804	294	7	5616	0	595	117	455	2	1167	21	715	5317	541	0	6594	0	216	150	634	1	1000	14377
<b>Heavy Vehicles</b>	0	14	131	12	3	157	0	6	2	10	4	18	0	10	114	6	0	130	0	12	7	13	4	32	337
<b>Heavy Vehicle %</b>	0.00%	2.77%	2.65%	3.92%	30.00%	2.72%	0.00%	1.00%	1.68%	2.15%	66.67%	1.52%	0.00%	1.38%	2.10%	1.10%	0.00%	1.93%	0.00%	5.26%	4.46%	2.01%	80.00%	3.10%	2.29%

**TMC 2118**  
**Blaine MN**  
**Thursday, October 7, 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							
7:00 AM	1	11	103	8	0	123	0	24	2	15	0	41	0	9	120	5	0	134	0	16	1	15	0	32	0	16	1	15	0	32	330
7:15 AM	1	17	156	9	0	183	0	14	6	27	0	47	0	11	151	2	0	164	0	10	1	19	0	30	0	10	1	19	0	30	424
7:30 AM	1	21	156	8	1	186	0	18	0	19	0	37	1	7	116	0	0	124	0	8	1	6	0	15	0	8	1	6	0	15	362
7:45 AM	0	8	167	7	0	182	0	7	3	18	0	28	0	11	79	5	0	95	0	1	3	11	0	15	0	1	3	11	0	15	320
Peak Hour Total	3	57	582	32	1	674	0	63	11	79	0	153	1	38	466	12	0	517	0	35	6	51	0	92	0	35	6	51	0	92	1436
PHF	0.750	0.679	0.871	0.889	0.250	0.906	0.000	0.656	0.458	0.731	0.000	0.814	0.250	0.864	0.772	0.600	0.000	0.788	0.000	0.547	0.500	0.671	0.000	0.719	0.000	0.547	0.500	0.671	0.000	0.719	0.847

**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							
4:15 PM	2	15	91	9	0	117	0	16	3	8	0	27	0	26	197	16	0	239	0	6	3	10	0	19	0	6	3	10	0	19	402
4:30 PM	0	14	87	6	0	107	0	11	1	13	0	25	0	14	233	11	0	258	0	7	8	20	0	35	0	7	8	20	0	35	425
4:45 PM	0	11	70	5	0	86	0	13	5	6	0	24	0	15	169	15	0	199	0	7	6	11	0	24	0	7	6	11	0	24	333
5:00 PM	1	20	99	5	0	125	0	9	5	10	0	24	1	26	181	9	0	217	0	1	2	11	0	14	0	1	2	11	0	14	380
Peak Hour Total	3	60	347	25	0	435	0	49	14	37	0	100	1	81	780	51	0	913	0	21	19	52	0	92	0	21	19	52	0	92	1540
PHF	0.375	0.750	0.876	0.694	0.000	0.870	0.000	0.766	0.700	0.712	0.000	0.926	0.250	0.779	0.837	0.797	0.000	0.885	0.000	0.750	0.594	0.650	0.000	0.657	0.000	0.750	0.594	0.650	0.000	0.657	0.906

Total Vehicles On Leg				11924	
Vehicles Entering Intersection		5773	Vehicles Exiting Intersection		6151
<b>Southbound</b>					
Cars	294	4804	491	27	7
Heavy	12	131	14	0	3
<b>Total</b>	<b>306</b>	<b>4935</b>	<b>505</b>	<b>27</b>	<b>10</b>



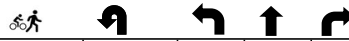
Total Vehicles on Leg 2182	Vehicles Entering Intersection 1032	Eastbound	Cars	Heavy	Total	
			1	4	5	
	0		0	0		
	216		12	228		
	Vehicles Exiting Intersection 1150		150	7	157	
634	13	647				

Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 1185	Total Vehicles on Leg 2394
455	10	465			
117	2	119			
595	6	601			
0	0	0			
2	4	6	Vehicles Exiting Intersection 1209		



Cars	0	21	715	5317	541
Heavy	0	0	10	114	6
<b>Total</b>	<b>0</b>	<b>21</b>	<b>725</b>	<b>5431</b>	<b>547</b>
<b>Northbound</b>					
Vehicles Entering Intersection			5724	Vehicles Exiting Intersection	
Total Vehicles On Leg				6204	
				12928	



# 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
10/7/2021	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	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
	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	0	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	0	0	0	0	0	0	0	0	0
	2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30	0	0	0	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	0	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	0	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	0	0	0	0	0	0	0	0	0
	4:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	5:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	5:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:00	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	6:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:30	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	6:45	0	0	5	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0
	7:00	0	1	10	0	0	0	0	0	0	0	0	1	12	1	0	0	3	0	1	0
	7:15	0	2	9	0	0	0	1	0	1	0	0	1	2	0	0	0	0	0	0	0
	7:30	0	0	9	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	7:45	0	0	9	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0
	8:00	0	0	5	1	0	0	0	0	0	0	0	0	8	2	0	0	1	0	0	0
	8:15	0	1	3	0	0	0	0	0	0	0	0	0	5	1	0	0	0	1	0	0
	8:30	0	0	1	1	0	0	0	0	1	0	0	1	5	0	0	0	0	1	0	0
	8:45	0	0	4	1	0	0	1	0	1	0	0	0	4	0	0	0	0	1	1	0
	9:00	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	9:15	0	0	2	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0
	9:30	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	9:45	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
	10:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:15	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	10:30	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
	10:45	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0
	11:00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
	11:15	0	0	2	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
	11:30	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	11:45	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0





# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2118

Study Date : 11/08/2021

## Signal Warrants - Summary

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### Major Street Approaches

**Northbound: CSAH 51 (University Ave.)**

Number of Lanes : 2+

Total Approach Volume: 6,724

**Southbound: CSAH 51 (University Ave.)**

Number of Lanes :2+

Total Approach Volume: 5,773

### Minor Street Approaches

**Eastbound: 121st Ave.**

Number of Lanes :1

Total Approach Volume: 1,032

**Westbound: 121st Ave.**

Number of Lanes :1

Total Approach Volume: 1,185

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### Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 2 hours, 8 are needed

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

Required volumes reached for 8 hours, 8 are needed

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

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

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

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

Number of hours (8) volumes exceed minimum  $\geq$  minimum required (4).

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

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

Number of one hour periods (9) volumes exceed minimum  $\geq$  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 2118

Study Date : 11/08/2021

## 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

Only 2 one hour periods meet minimums.  
Warrant is NOT met.

#### Site Data Required

Rural Settings Apply = **True**  
 Number of Major Lanes = **2 or more**  
 Number of Minor Lanes = **1**

#### Volume Requirements

Rural Factor of 70 % applied  
 Veh/Hr Major = **420**  
 Veh/Hr Minor = **105**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	<b>CSAH 51 (University Ave.)</b>					<b>121st Ave.</b>		
07:15 - 08:15	450	+	664	=	1114	77	141	Yes
06:15 - 07:15	297	+	347	=	644	68	106	Yes
16:15 - 17:15	913	+	435	=	1348	92	100	No
16:00 - 17:00	897	+	421	=	1318	92	96	No
16:30 - 17:30	878	+	421	=	1299	102	93	No
15:45 - 16:45	875	+	419	=	1294	86	103	No
16:45 - 17:45	806	+	437	=	1243	80	94	No
17:00 - 18:00	761	+	477	=	1238	79	94	No
15:30 - 16:30	792	+	425	=	1217	79	94	No
15:15 - 16:15	732	+	420	=	1152	85	91	No
17:15 - 18:15	666	+	446	=	1112	79	87	No
15:00 - 16:00	672	+	413	=	1085	94	93	No
14:45 - 15:45	615	+	415	=	1030	87	82	No
17:30 - 18:30	563	+	448	=	1011	67	86	No
13:30 - 14:30	467	+	515	=	982	73	65	No
14:30 - 15:30	546	+	433	=	979	78	86	No
13:45 - 14:45	464	+	477	=	941	71	68	No
13:15 - 14:15	441	+	495	=	936	62	67	No
14:15 - 15:15	498	+	431	=	929	70	76	No
13:00 - 14:00	416	+	475	=	891	68	75	No
17:45 - 18:45	482	+	401	=	883	69	84	No
14:00 - 15:00	471	+	411	=	882	67	66	No
18:00 - 19:00	450	+	373	=	823	57	73	No
18:15 - 19:15	420	+	376	=	796	52	65	No
12:45 - 13:45	385		378		763	66	66	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2118

Study Date : 11/08/2021

## 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

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 = **1**

#### Volume Requirements

Rural Factor of 70 % applied  
 Veh/Hr Major = **630**  
 Veh/Hr Minor = **53**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CSAH 51 (University Ave.)					121st Ave.		
15:45 - 16:45	875	+	419	=	1294	86	103	Yes
16:45 - 17:45	806	+	437	=	1243	80	94	Yes
07:15 - 08:15	450	+	664	=	1114	77	141	Yes
14:45 - 15:45	615	+	415	=	1030	87	82	Yes
13:45 - 14:45	464	+	477	=	941	71	68	Yes
17:45 - 18:45	482	+	401	=	883	69	84	Yes
12:45 - 13:45	385	+	378	=	763	66	66	Yes
06:15 - 07:15	297	+	347	=	644	68	106	Yes
18:45 - 19:45	384	+	319	=	703	38	52	No
19:00 - 20:00	330	+	287	=	617	34	54	No
12:30 - 13:30	337	+	260	=	597	61	64	No
19:15 - 20:15	293	+	266	=	559	33	56	No
19:30 - 20:30	270	+	263	=	533	29	44	No
12:15 - 13:15	292	+	235	=	527	73	58	No
09:00 - 10:00	254	+	257	=	511	67	61	No
08:45 - 09:45	239	+	269	=	508	61	65	No
08:15 - 09:15	235	+	270	=	505	66	78	No
12:00 - 13:00	280	+	224	=	504	58	45	No
20:00 - 21:00	251	+	251	=	502	32	29	No
09:15 - 10:15	256	+	245	=	501	55	57	No
08:30 - 09:30	236	+	257	=	493	63	75	No
19:45 - 20:45	237	+	255	=	492	30	37	No
20:15 - 21:15	246	+	239	=	485	26	21	No
11:45 - 12:45	263	+	219	=	482	58	43	No
11:30 - 12:30	261		217		478	64	42	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2118

Study Date : 11/08/2021

## 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

Only 6 hours meet 1A minimums.  
11 hours meet 1B minimums.  
Warrant is NOT met.

#### Site Data Required

Rural Settings Apply = **True**  
Number of Major Lanes = **2 or more**  
Number of Minor Lanes = **1**

#### Volume Requirements

Rural Factor of 70% applied  
Warrant 1A 1B  
Veh/Hr Major = **336 504**

Veh/Hr Minor = **84 42**

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

#### Minor Road 121st Ave.

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:30 - 17:30	878	+	421	=	1299	102	93	Yes
15:30 - 16:30	792	+	425	=	1217	79	94	Yes
07:15 - 08:15	450	+	664	=	1114	77	141	Yes
17:30 - 18:30	563	+	448	=	1011	67	86	Yes
14:30 - 15:30	546	+	433	=	979	78	86	Yes
06:15 - 07:15	297	+	347	=	644	68	106	Yes
13:30 - 14:30	467	+	515	=	982	73	65	No
13:45 - 14:45	464	+	477	=	941	71	68	No
13:15 - 14:15	441	+	495	=	936	62	67	No
14:15 - 15:15	498	+	431	=	929	70	76	No
13:00 - 14:00	416	+	475	=	891	68	75	No
14:00 - 15:00	471	+	411	=	882	67	66	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:00 - 17:00	897	+	421	=	1318	92	96	Yes
17:00 - 18:00	761	+	477	=	1238	79	94	Yes
07:15 - 08:15	450	+	664	=	1114	77	141	Yes
15:00 - 16:00	672	+	413	=	1085	94	93	Yes
13:00 - 14:00	416	+	475	=	891	68	75	Yes
14:00 - 15:00	471	+	411	=	882	67	66	Yes
18:00 - 19:00	450	+	373	=	823	57	73	Yes
06:15 - 07:15	297	+	347	=	644	68	106	Yes
19:00 - 20:00	330	+	287	=	617	34	54	Yes
08:15 - 09:15	235	+	270	=	505	66	78	Yes
12:00 - 13:00	280	+	224	=	504	58	45	Yes
20:00 - 21:00	251	+	251	=	502	32	29	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2118

Study Date : 11/08/2021

## 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.

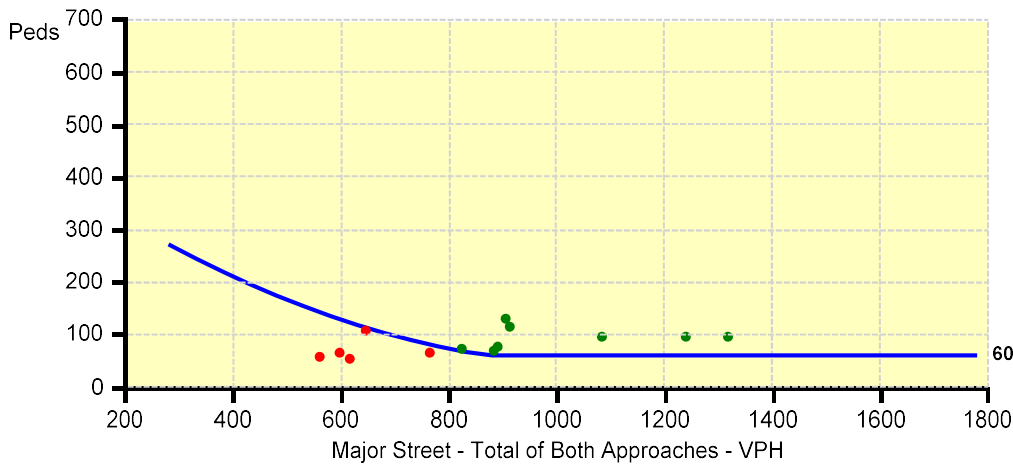
#### Summary

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 = **1**

Time	Major Road CSAH 51 (University Ave.)				Total	Minor Road 121st Ave.		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	897	+	421	=	1318	92	96	Yes
17:00 - 18:00	761	+	477	=	1238	79	94	Yes
15:00 - 16:00	672	+	413	=	1085	94	93	Yes
07:30 - 08:30	351	+	560	=	911	65	114	Yes
06:30 - 07:30	425	+	480	=	905	86	131	Yes
13:00 - 14:00	416	+	475	=	891	68	75	Yes
14:00 - 15:00	471	+	411	=	882	67	66	Yes
18:00 - 19:00	450	+	373	=	823	57	73	Yes
12:45 - 13:45	385	+	378	=	763	66	66	No
06:15 - 07:15	297	+	347	=	644	68	106	No
19:00 - 20:00	330	+	287	=	617	34	54	No
							64	No



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2118

Study Date : 11/08/2021

## 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

12 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 = **1**

Time	Major Road CSAH 51 (University Ave.)				Total	Minor Road 121st Ave.		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	913	+	435	=	1348	92	100	Yes
16:00 - 17:00	897	+	421	=	1318	92	96	Yes
16:30 - 17:30	878	+	421	=	1299	102	93	Yes
15:45 - 16:45	875	+	419	=	1294	86	103	Yes
16:45 - 17:45	806	+	437	=	1243	80	94	Yes
17:00 - 18:00	761	+	477	=	1238	79	94	Yes
15:30 - 16:30	792	+	425	=	1217	79	94	Yes
07:00 - 08:00	517	+	674	=	1191	92	153	Yes
15:15 - 16:15	732	+	420	=	1152	85	91	Yes
07:15 - 08:15	450	+	664	=	1114	77	141	Yes
15:00 - 16:00	672	+	413	=	1085	94	93	Yes
							148	Yes

