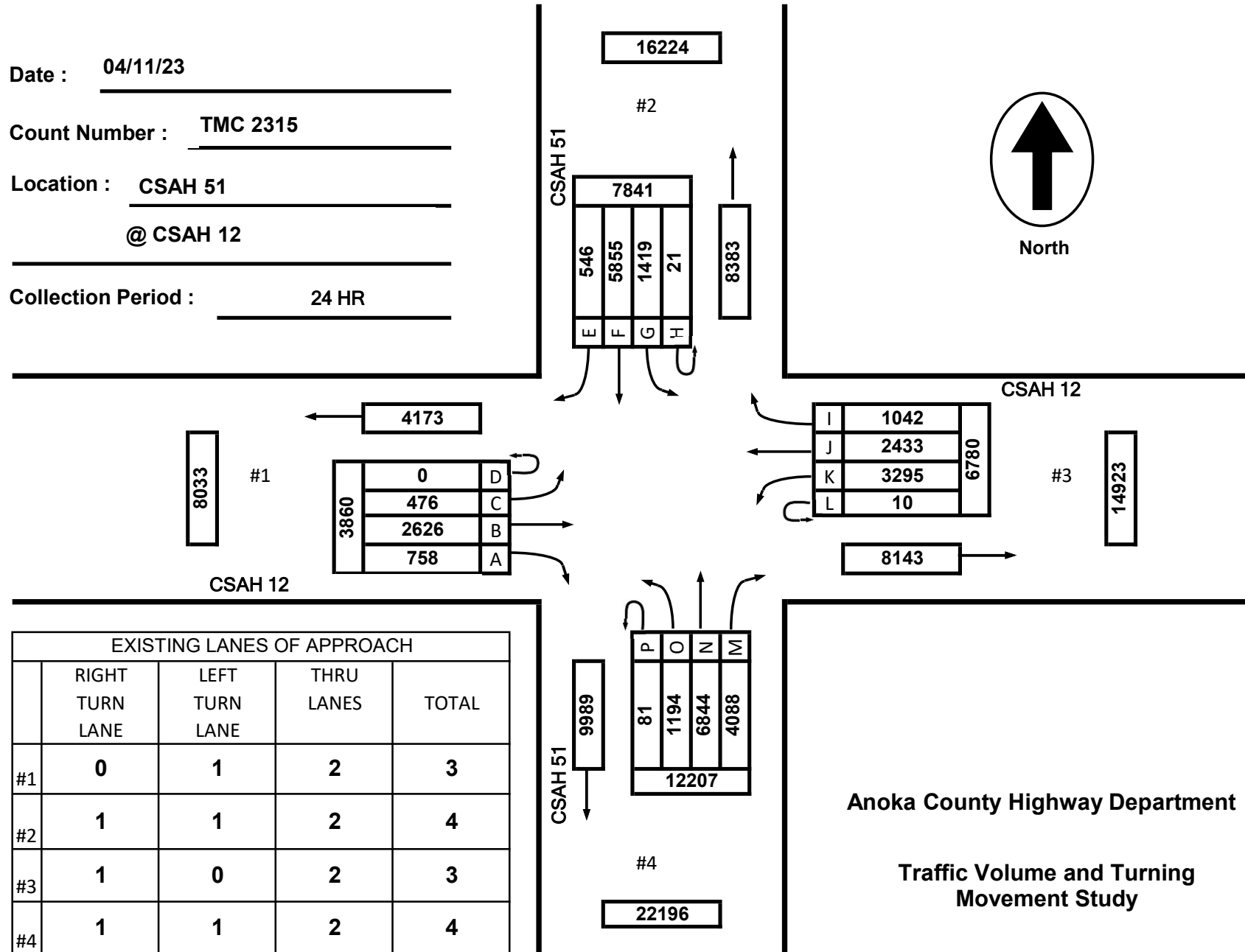


Date : 04/11/23

Count Number : TMC 2315

Location : CSAH 51  
@ CSAH 12

Collection Period : 24 HR



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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

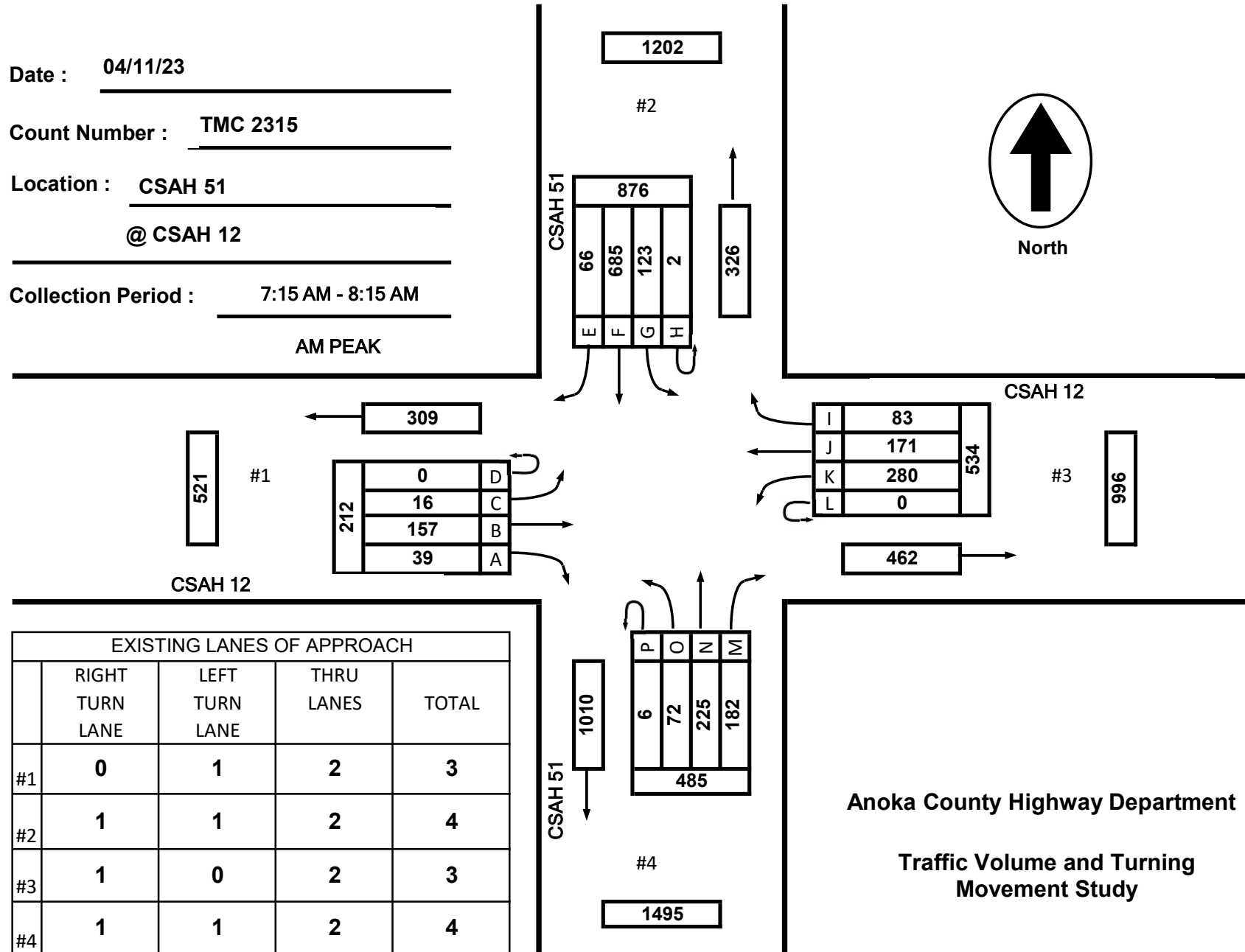
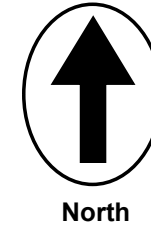
Date : 04/11/23

Count Number : TMC 2315

Location : CSAH 51  
@ CSAH 12

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

AM PEAK



EXISTING LANES OF APPROACH

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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

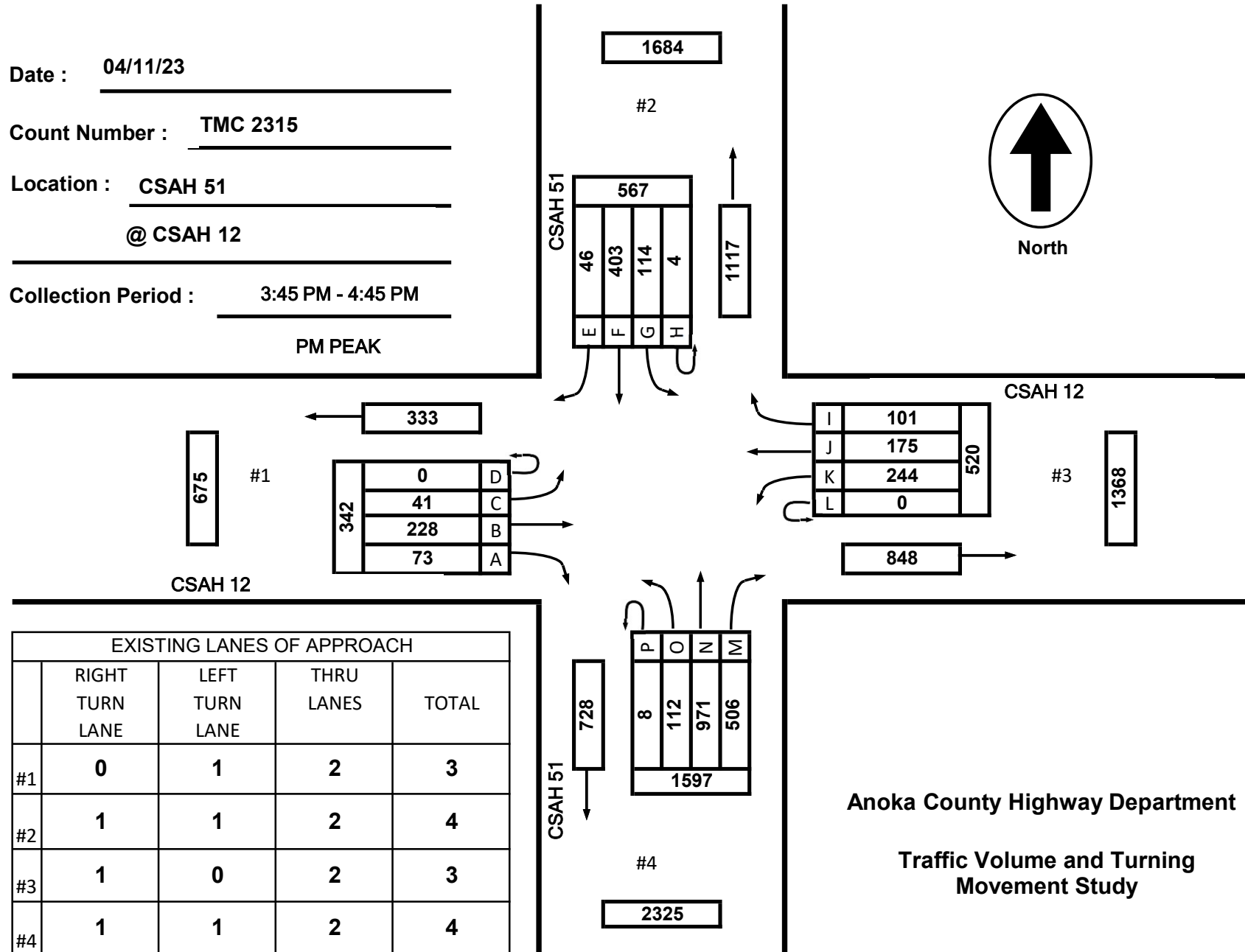
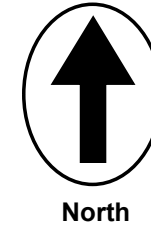
Date : 04/11/23

Count Number : TMC 2315

Location : CSAH 51  
@ CSAH 12

Collection Period : 3:45 PM - 4:45 PM

PM PEAK



EXISTING LANES OF APPROACH

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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

TMC 2315 - CSAH 51 @ CSAH 12

0 0

Tuesday, April 11, 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	1	6	2	0	9	0	1	3	2	0	6	0	0	17	6	0	23	0	0	0	1	0	1	39
12:15 AM	0	0	7	1	0	8	0	2	4	2	0	8	0	2	12	3	0	17	0	2	1	0	0	3	36
12:30 AM	0	2	3	0	0	5	0	3	1	4	0	8	1	2	9	2	0	14	0	0	0	0	0	0	27
12:45 AM	0	0	4	0	0	4	0	3	3	2	0	8	0	3	7	6	0	16	0	1	2	0	0	3	31
Hourly Total	0	3	20	3	0	26	0	9	11	10	0	30	1	7	45	17	0	70	0	3	3	1	0	7	133
1:00 AM	0	1	3	0	0	4	0	3	3	0	0	6	0	1	13	2	0	16	0	1	2	0	0	3	29
1:15 AM	0	1	1	1	0	3	0	4	0	1	0	5	1	1	14	1	0	17	0	0	3	2	0	5	30
1:30 AM	0	2	7	0	0	9	0	5	0	1	0	6	0	0	7	3	0	10	0	0	2	0	0	2	27
1:45 AM	0	1	3	0	0	4	0	2	0	1	0	3	0	1	6	3	0	10	0	0	0	1	0	1	18
Hourly Total	0	5	14	1	0	20	0	14	3	3	0	20	1	3	40	9	0	53	0	1	7	3	0	11	104
2:00 AM	0	2	4	0	0	6	0	1	1	0	0	2	0	0	8	3	0	11	0	0	0	1	0	1	20
2:15 AM	0	1	2	0	0	3	0	1	1	0	0	2	0	0	8	3	0	11	0	0	0	0	0	0	16
2:30 AM	0	1	4	0	0	5	0	2	1	0	0	3	0	4	14	3	0	21	0	0	0	2	0	2	31
2:45 AM	0	0	3	0	0	3	0	0	3	3	0	6	0	0	3	1	0	4	0	0	0	1	0	1	14
Hourly Total	0	4	13	0	0	17	0	4	6	3	0	13	0	4	33	10	0	47	0	0	0	4	0	4	81
3:00 AM	0	1	6	0	0	7	0	3	0	0	0	3	0	2	4	4	0	10	0	0	0	0	0	0	20
3:15 AM	0	0	7	0	0	7	0	4	0	2	0	6	0	0	6	1	0	7	0	0	2	1	0	3	23
3:30 AM	0	2	13	0	0	15	0	6	1	0	0	7	0	0	6	1	0	7	0	0	2	1	0	3	32
3:45 AM	0	4	6	0	0	10	0	4	0	0	0	4	0	0	2	1	0	3	0	0	1	1	0	2	19
Hourly Total	0	7	32	0	0	39	0	17	1	2	0	20	0	2	18	7	0	27	0	0	5	3	0	8	94
4:00 AM	0	2	20	0	0	22	0	4	0	0	0	4	1	2	6	7	0	16	0	0	6	1	0	7	49
4:15 AM	0	2	32	2	0	36	0	2	5	2	0	9	0	1	4	7	0	12	0	0	2	3	0	5	62
4:30 AM	0	0	35	2	0	37	1	20	2	2	0	25	0	0	4	6	0	10	0	0	8	4	0	12	84
4:45 AM	0	7	39	0	0	46	0	17	4	1	0	22	0	1	3	8	0	12	0	0	6	4	0	10	90
Hourly Total	0	11	126	4	0	141	1	43	11	5	0	60	1	4	17	28	0	50	0	0	22	12	0	34	285
5:00 AM	0	7	42	0	0	49	0	16	4	3	0	23	0	1	8	3	0	12	0	1	10	2	0	13	97
5:15 AM	0	6	71	1	0	78	0	37	7	2	0	46	1	2	9	4	0	16	0	3	10	5	0	18	158
5:30 AM	0	9	87	2	0	98	0	28	7	3	0	38	1	0	13	14	0	28	0	1	9	4	0	14	178
5:45 AM	0	8	82	1	0	91	0	29	9	6	0	44	0	1	12	12	0	25	0	1	18	5	0	24	184
Hourly Total	0	30	282	4	0	316	0	110	27	14	0	151	2	4	42	33	0	81	0	6	47	16	0	69	617
6:00 AM	0	7	109	1	0	117	0	42	4	2	0	48	1	3	16	16	0	36	0	3	14	3	0	20	221
6:15 AM	0	5	136	4	0	145	0	49	6	5	0	60	1	2	23	28	0	54	0	0	18	8	0	26	285
6:30 AM	0	13	173	2	0	188	0	49	17	4	0	70	1	5	41	40	1	87	0	1	21	12	0	34	379
6:45 AM	0	16	143	6	0	165	0	56	26	13	0	95	2	9	63	24	0	98	0	1	23	11	0	35	393
Hourly Total	0	41	561	13	0	615	0	196	53	24	0	273	5	19	143	108	1	275	0	5	76	34	0	115	1278
7:00 AM	0	12	150	8	0	170	0	57	23	23	1	103	2	7	88	26	0	123	0	9	24	7	0	40	436
7:15 AM	0	31	205	12	0	248	0	69	27	34	0	130	3	14	58	34	0	109	0	5	30	9	0	44	531
7:30 AM	1	24	196	14	0	235	0	82	42	22	0	146	0	15	45	46	1	106	0	5	45	8	0	58	545
7:45 AM	1	37	163	12	0	213	0	80	49	15	0	144	2	24	60	57	0	143	0	2	49	10	0	61	561
Hourly Total	2	104	714	46	0	866	0	288	141	94	1	523	7	60	251	163	1	481	0	21	148	34	0	203	2073

TMC 2315 - CSAH 51 @ CSAH 12

0 0

Tuesday, April 11, 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	0	31	121	28	0	180	0	49	53	12	0	114	1	19	62	45	0	127	0	4	33	12	0	49	470
8:15 AM	0	22	121	13	0	156	0	45	29	16	0	90	1	15	49	45	0	110	0	5	57	13	1	75	431
8:30 AM	0	15	119	6	0	140	0	55	33	12	0	100	1	11	44	51	0	107	0	3	32	10	0	45	392
8:45 AM	0	12	91	16	1	119	0	48	30	8	0	86	4	16	53	43	0	116	0	7	35	10	0	52	373
Hourly Total	0	80	452	63	1	595	0	197	145	48	0	390	7	61	208	184	0	460	0	19	157	45	1	221	1666
9:00 AM	0	13	84	24	0	121	0	47	46	7	0	100	1	12	55	50	0	118	0	10	40	17	0	67	406
9:15 AM	2	8	95	19	1	124	0	50	39	11	0	100	1	15	73	42	0	131	0	15	47	31	0	93	448
9:30 AM	0	19	97	7	1	123	0	53	28	5	2	86	1	11	59	42	0	113	0	6	30	10	0	46	368
9:45 AM	0	23	59	2	0	84	0	46	24	6	0	76	2	6	54	45	0	107	0	3	32	6	0	41	308
Hourly Total	2	63	335	52	2	452	0	196	137	29	2	362	5	44	241	179	0	469	0	34	149	64	0	247	1530
10:00 AM	0	17	56	5	0	78	1	37	31	9	1	78	0	12	49	45	0	106	0	4	33	15	0	52	314
10:15 AM	2	19	63	9	0	93	0	42	38	13	0	93	0	16	43	32	0	91	0	0	41	10	0	51	328
10:30 AM	0	17	67	2	1	86	0	47	31	6	2	84	0	13	43	44	0	100	0	5	40	13	0	58	328
10:45 AM	0	20	60	2	0	82	0	37	33	10	0	80	0	10	51	48	0	109	0	6	39	7	0	52	323
Hourly Total	2	73	246	18	1	339	1	163	133	38	3	335	0	51	186	169	0	406	0	15	153	45	0	213	1293
11:00 AM	0	8	50	6	0	64	0	34	35	8	0	77	1	21	59	48	0	129	0	7	42	7	0	56	326
11:15 AM	0	21	58	3	0	82	0	45	31	12	0	88	2	21	55	47	0	125	0	4	42	7	0	53	348
11:30 AM	0	12	69	6	0	87	2	49	37	13	0	101	2	20	73	45	0	140	0	1	35	9	1	45	373
11:45 AM	0	16	60	6	0	82	0	40	36	13	0	89	0	23	52	54	0	129	0	2	39	7	0	48	348
Hourly Total	0	57	237	21	0	315	2	168	139	46	0	355	5	85	239	194	0	523	0	14	158	30	1	202	1395
12:00 PM	0	17	52	7	0	76	0	39	43	6	0	88	0	17	65	51	0	133	0	7	40	10	0	57	354
12:15 PM	2	19	67	3	0	91	0	29	32	20	0	81	2	18	88	53	0	161	0	12	45	14	0	71	404
12:30 PM	0	23	76	2	0	101	0	43	36	11	0	90	1	20	71	61	0	153	0	4	49	12	1	65	409
12:45 PM	0	17	61	3	0	81	0	46	35	9	0	90	2	24	96	52	2	174	0	6	47	12	0	65	410
Hourly Total	2	76	256	15	0	349	0	157	146	46	0	349	5	79	320	217	2	621	0	29	181	48	1	258	1577
1:00 PM	0	20	60	6	0	86	0	41	35	10	0	86	0	10	84	51	1	145	0	8	40	11	1	59	376
1:15 PM	0	22	78	7	0	107	0	48	32	13	1	93	0	24	92	56	1	172	0	5	43	8	1	56	428
1:30 PM	1	20	73	5	0	99	0	46	34	9	1	89	2	29	90	64	0	185	0	7	35	12	1	54	427
1:45 PM	0	25	64	4	0	93	0	51	34	21	1	106	1	14	86	63	2	164	0	5	54	12	0	71	434
Hourly Total	1	87	275	22	0	385	0	186	135	53	3	374	3	77	352	234	4	666	0	25	172	43	3	240	1665
2:00 PM	0	17	62	7	1	86	0	55	49	16	5	120	2	25	76	62	0	165	0	6	34	12	0	52	423
2:15 PM	0	29	79	4	0	112	0	42	32	15	2	89	1	23	120	77	0	221	0	16	44	9	0	69	491
2:30 PM	1	45	107	13	0	166	0	48	36	20	0	104	1	28	132	84	0	245	0	9	44	18	0	71	586
2:45 PM	0	22	73	12	0	107	0	48	52	23	1	123	0	33	156	96	0	285	0	10	43	7	0	60	575
Hourly Total	1	113	321	36	1	471	0	193	169	74	8	436	4	109	484	319	0	916	0	41	165	46	0	252	2075
3:00 PM	0	26	79	9	0	114	0	59	40	16	0	115	0	27	153	87	2	267	0	12	57	14	0	83	579
3:15 PM	0	28	99	8	0	135	0	61	62	18	1	141	1	24	192	119	2	336	0	11	69	20	0	100	712
3:30 PM	0	25	108	14	1	147	0	63	48	24	0	135	1	23	193	117	1	334	0	14	53	8	3	75	691
3:45 PM	0	36	79	14	0	129	0	57	54	30	4	141	0	32	224	133	1	389	0	6	56	17	0	79	738
Hourly Total	0	115	365	45	1	525	0	240	204	88	5	532	2	106	762	456	6	1326	0	43	235	59	3	337	2720

TMC 2315 - CSAH 51 @ CSAH 12

0 0

Tuesday, April 11, 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	1	34	119	16	0	170	0	56	49	25	0	130	3	35	228	122	1	388	0	15	54	23	2	92	780
4:15 PM	1	26	99	9	0	135	0	68	42	20	5	130	2	16	245	130	1	393	0	9	62	20	0	91	749
4:30 PM	2	18	106	7	0	133	0	63	30	26	1	119	3	29	274	121	0	427	0	11	56	13	0	80	759
4:45 PM	0	19	82	12	0	113	0	60	59	21	8	140	1	29	235	137	0	402	0	6	56	16	0	78	733
Hourly Total	4	97	406	44	0	551	0	247	180	92	14	519	9	109	982	510	2	1610	0	41	228	72	2	341	3021
5:00 PM	0	36	84	9	0	129	0	53	53	26	6	132	4	36	226	131	2	397	0	15	49	16	2	80	738
5:15 PM	0	26	96	12	0	134	0	58	60	17	0	135	1	32	242	96	2	371	0	11	60	12	0	83	723
5:30 PM	0	36	89	7	0	132	0	46	48	16	1	110	2	25	227	117	0	371	0	11	47	13	0	71	684
5:45 PM	0	29	69	13	1	111	0	46	68	21	1	135	4	21	172	100	1	297	0	13	38	17	0	68	611
Hourly Total	0	127	338	41	1	506	0	203	229	80	8	512	11	114	867	444	5	1436	0	50	194	58	2	302	2756
6:00 PM	0	29	71	10	1	110	0	75	49	22	3	146	2	25	134	70	0	231	0	16	33	14	0	63	550
6:15 PM	0	28	72	9	2	109	0	63	45	17	4	125	0	24	120	68	0	212	0	9	44	8	1	61	507
6:30 PM	0	22	61	11	2	94	1	52	39	23	4	115	2	20	123	57	0	202	0	14	39	9	0	62	473
6:45 PM	1	21	72	12	1	106	0	23	42	23	1	88	0	16	103	50	0	169	0	6	36	13	0	55	418
Hourly Total	1	100	276	42	6	419	1	213	175	85	12	474	4	85	480	245	0	814	0	45	152	44	1	241	1948
7:00 PM	2	22	49	10	1	83	0	36	43	11	2	90	0	19	81	58	0	158	0	9	40	8	0	57	388
7:15 PM	0	19	51	5	2	75	0	29	36	10	1	75	0	18	68	48	2	134	0	5	29	14	2	48	332
7:30 PM	0	19	43	5	3	67	0	30	31	17	1	78	0	12	107	46	0	165	0	7	35	5	0	47	357
7:45 PM	1	15	43	6	0	65	0	35	31	15	0	81	0	16	86	42	1	144	0	10	29	7	0	46	336
Hourly Total	3	75	186	26	6	290	0	130	141	53	4	324	0	65	342	194	3	601	0	31	133	34	2	198	1413
8:00 PM	0	21	45	10	0	76	0	37	45	13	0	95	0	12	62	52	0	126	0	11	34	10	0	55	352
8:15 PM	0	16	42	2	0	60	3	29	28	12	0	72	1	13	68	40	0	122	0	4	34	11	0	49	303
8:30 PM	0	19	37	8	0	64	1	34	18	12	0	65	0	7	72	37	1	116	0	11	30	3	0	44	289
8:45 PM	1	17	51	11	0	80	0	28	16	17	0	61	1	16	70	26	1	113	0	9	23	10	0	42	296
Hourly Total	1	73	175	31	0	280	4	128	107	54	0	293	2	48	272	155	2	477	0	35	121	34	0	190	1240
9:00 PM	0	12	49	3	0	64	0	25	22	17	0	64	1	11	78	31	0	121	0	5	17	5	0	27	276
9:15 PM	0	11	27	2	0	40	0	22	22	11	0	55	0	4	60	20	0	84	0	1	19	4	0	24	203
9:30 PM	2	10	36	1	0	49	0	17	18	13	0	48	0	4	47	27	0	78	0	2	11	5	0	18	193
9:45 PM	0	8	20	2	0	30	0	16	15	7	0	38	1	10	50	27	0	88	0	3	17	3	0	23	179
Hourly Total	2	41	132	8	0	183	0	80	77	48	0	205	2	29	235	105	0	371	0	11	64	17	0	92	851
10:00 PM	0	7	15	0	0	22	0	26	12	12	0	50	1	7	62	19	0	89	0	3	14	5	0	22	183
10:15 PM	0	6	18	2	0	26	1	16	11	5	0	33	1	5	57	16	0	79	0	0	10	0	0	10	148
10:30 PM	0	9	14	3	0	26	0	23	14	8	0	45	0	2	41	24	0	67	0	1	8	0	0	9	147
10:45 PM	0	5	16	2	0	23	0	15	6	9	0	30	1	4	26	10	0	41	0	0	7	3	0	10	104
Hourly Total	0	27	63	7	0	97	1	80	43	34	0	158	3	18	186	69	0	276	0	4	39	8	0	51	582
11:00 PM	0	3	10	1	0	14	0	11	9	6	0	26	1	2	35	15	0	53	0	2	7	1	0	10	103
11:15 PM	0	3	8	3	0	14	0	11	4	7	0	22	1	3	29	9	0	42	0	0	4	1	0	5	83
11:30 PM	0	3	7	0	0	10	0	6	3	3	0	12	0	2	21	11	0	34	0	1	3	1	0	5	61
11:45 PM	0	1	5	0	0	6	0	5	4	3	0	12	0	4	14	4	0	22	0	0	3	1	0	4	44
Hourly Total	0	10	30	4	0	44	0	33	20	19	0	72	2	11	99	39	0	151	0	3	17	4	0	24	291
<b>DAILY TOTAL</b>	<b>21</b>	<b>1419</b>	<b>5855</b>	<b>546</b>	<b>19</b>	<b>7841</b>	<b>10</b>	<b>3295</b>	<b>2433</b>	<b>1042</b>	<b>60</b>	<b>6780</b>	<b>81</b>	<b>1194</b>	<b>6844</b>	<b>4088</b>	<b>26</b>	<b>12207</b>	<b>0</b>	<b>476</b>	<b>2626</b>	<b>758</b>	<b>16</b>	<b>3860</b>	<b>30688</b>
<b>Cars</b>	21	1384	5778	520	10	7703	10	3263	2387	1019	45	6679	80	1179	6729	4034	19	12022	0	467	2571	748	6	3786	30190
<b>Heavy Vehicles</b>	0	35	77	26	9	138	0	32	46	23	15	101	1	15	115	54	7	185	0	9	55	10	10	74	498
<b>Heavy Vehicle %</b>	0.00%	2.47%	1.32%	4.76%	47.37%	1.76%	0.00%	0.97%	1.89%	2.21%	25.00%	1.49%	1.23%	1.26%	1.68%	1.32%	26.92%	1.52%	0.00%	1.89%	2.09%	1.32%	62.50%	1.92%	1.62%

## TMC 2315 - CSAH 51 @ CSAH 12

0 0

Tuesday, April 11, 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	31	205	12	0	248	0	69	27	34	0	130	3	14	58	34	0	109	0	5	30	9	0	44	0	5	30	9	0	44	531
7:30 AM	1	24	196	14	0	235	0	82	42	22	0	146	0	15	45	46	1	106	0	5	45	8	0	58	0	5	45	8	0	58	545
7:45 AM	1	37	163	12	0	213	0	80	49	15	0	144	2	24	60	57	0	143	0	2	49	10	0	61	0	2	49	10	0	61	561
8:00 AM	0	31	121	28	0	180	0	49	53	12	0	114	1	19	62	45	0	127	0	4	33	12	0	49	0	4	33	12	0	49	470
Peak Hour Total	2	123	685	66	0	876	0	280	171	83	0	534	6	72	225	182	1	485	0	16	157	39	0	212	0	16	157	39	0	212	2107
PHF	0.500	0.831	0.835	0.589	0.000	0.883	0.000	0.854	0.807	0.610	0.000	0.914	0.500	0.750	0.907	0.798	0.250	0.848	0.000	0.800	0.801	0.813	0.000	0.869	0.000	0.800	0.801	0.813	0.000	0.869	0.939

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							
3:45 PM	0	36	79	14	0	129	0	57	54	30	4	141	0	32	224	133	1	389	0	6	56	17	0	79	0	6	56	17	0	79	738
4:00 PM	1	34	119	16	0	170	0	56	49	25	0	130	3	35	228	122	1	388	0	15	54	23	2	92	0	15	54	23	2	92	780
4:15 PM	1	26	99	9	0	135	0	68	42	20	5	130	2	16	245	130	1	393	0	9	62	20	0	91	0	9	62	20	0	91	749
4:30 PM	2	18	106	7	0	133	0	63	30	26	1	119	3	29	274	121	0	427	0	11	56	13	0	80	0	11	56	13	0	80	759
Peak Hour Total	4	114	403	46	0	567	0	244	175	101	10	520	8	112	971	506	3	1597	0	41	228	73	2	342	0	41	228	73	2	342	3026
PHF	0.500	0.792	0.847	0.719	0.000	0.834	0.000	0.897	0.810	0.842	0.500	0.922	0.667	0.800	0.886	0.951	0.750	0.935	0.000	0.683	0.919	0.793	0.250	0.929	0.000	0.683	0.919	0.793	0.250	0.929	0.970

Total Vehicles On Leg				16224	
Vehicles Entering Intersection		7841	Vehicles Exiting Intersection		8383
<b>Southbound</b>					
Cars	520	5778	1384	21	10
Heavy	26	77	35	0	9
<b>Total</b>	<b>546</b>	<b>5855</b>	<b>1419</b>	<b>21</b>	<b>19</b>



Total Vehicles on Leg 8033	Vehicles Entering Intersection	Eastbound	Cars	Heavy	Total
	3860		6	10	16
			0	0	0
	Vehicles Exiting Intersection		467	9	476
	4173		2571	55	2626
	748	10	758		



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection	Total Vehicles on Leg 14923
1019	23	1042		6780	
2387	46	2433			
3263	32	3295		Vehicles Exiting Intersection	
10	0	10		8143	
45	15	60			



Cars	19	80	1179	6729	4034
Heavy	7	1	15	115	54
<b>Total</b>	<b>26</b>	<b>81</b>	<b>1194</b>	<b>6844</b>	<b>4088</b>
<b>Northbound</b>					
Vehicles Entering Intersection			Vehicles Exiting Intersection		
12207			9989		
Total Vehicles On Leg			22196		



# 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
04/11/2023	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	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	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	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	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	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	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	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	0	0	0	0
	3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	1	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	2	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	5:45	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	6:00	0	1	3	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	6:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	6:30	0	0	3	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	6:45	0	2	1	1	0	0	0	0	1	2	0	0	1	0	1	0	0	0	0	0	2	0	0	0
	7:00	0	1	2	1	0	0	0	1	2	2	0	0	0	0	7	2	0	0	0	1	1	0	0	0
	7:15	0	6	4	1	0	0	0	1	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0
	7:30	0	1	2	1	0	0	0	1	0	0	0	0	0	0	1	2	0	0	0	0	1	0	0	0
	7:45	0	1	2	1	0	0	0	0	0	0	0	0	0	0	8	3	0	0	0	0	4	0	0	0
	8:00	0	4	3	4	0	0	0	1	6	1	0	0	0	2	6	0	0	0	0	0	2	0	0	0
	8:15	0	1	2	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	3	2	1	0
	8:30	0	0	2	0	0	0	0	1	5	0	0	0	0	2	3	0	0	0	0	0	2	0	0	0
	8:45	0	0	1	0	1	0	0	4	0	1	0	0	0	0	5	0	0	0	0	0	1	0	0	0
	9:00	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2	3	0	0	0	0	0	1	0	0
	9:15	0	1	4	2	0	0	0	1	0	0	0	0	0	0	11	0	0	0	0	1	4	0	0	0
	9:30	0	1	2	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	1	0	0	0
	9:45	0	0	2	0	0	0	0	1	1	0	0	0	0	0	2	4	0	0	0	0	3	0	0	0
	10:00	0	0	1	0	0	0	0	2	4	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
	10:15	0	1	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	10:30	0	0	0	0	0	0	0	0	1	0	1	0	0	1	3	2	0	0	0	0	1	0	0	0
	10:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0
	11:00	0	0	3	0	0	0	0	1	2	0	0	0	0	0	1	3	0	0	0	0	1	0	0	0
	11:15	0	1	1	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	0	0
	11:30	0	0	0	1	0	0	0	1	1	1	0	0	0	0	3	1	0	0	0	0	0	0	0	0
	11:45	0	0	3	2	0	0	0	0	1	1	0	0	0	0	1	2	0	0	0	0	2	1	0	0





# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2315

Study Date : 05/02/2023

## Signal Warrants - Summary

### Major Street Approaches

Northbound: CSAH 51

Number of Lanes : 2+

Total Approach Volume: 12,207

Southbound: CSAH 51

Number of Lanes :2+

Total Approach Volume: 7,841

### Minor Street Approaches

Eastbound: CSAH 12

Number of Lanes :1

Total Approach Volume: 3,860

Westbound: CSAH 12

Number of Lanes :1

Total Approach Volume: 6,780

### 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 15 hours, 8 are needed

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

Required 1A volumes reached for 18 hours, 8 are needed

Required 1B volumes reached for 16 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 (63) 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 2315

Study Date : 05/02/2023

## 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

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 = **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</b>					<b>CSAH 12</b>		
16:15 - 17:15	1619	+	510	=	2129	329	521	Yes
15:15 - 16:15	1447	+	581	=	2028	346	547	Yes
17:15 - 18:15	1270	+	487	=	1757	285	526	Yes
14:15 - 15:15	1018	+	499	=	1517	283	431	Yes
07:15 - 08:15	485	+	876	=	1361	212	534	Yes
18:15 - 19:15	741	+	392	=	1133	235	418	Yes
13:15 - 14:15	686	+	385	=	1071	233	408	Yes
06:15 - 07:15	362	+	668	=	1030	135	328	Yes
12:15 - 13:15	633	+	359	=	992	260	347	Yes
08:15 - 09:15	451	+	536	=	987	239	376	Yes
09:15 - 10:15	457	+	409	=	866	232	340	Yes
11:15 - 12:15	527	+	327	=	854	203	366	Yes
19:15 - 20:15	569	+	283	=	852	196	329	Yes
10:15 - 11:15	429	+	325	=	754	217	334	Yes
20:15 - 21:15	472	+	268	=	740	162	262	Yes
05:15 - 06:15	105	+	384	=	489	76	176	Yes
21:15 - 22:15	339	+	141	=	480	87	191	Yes
05:00 - 06:00	81	+	316	=	397	69	151	No
04:45 - 05:45	68	+	271	=	339	55	129	No
22:15 - 23:15	240	+	89	=	329	39	134	No
22:30 - 23:30	203	+	77	=	280	34	123	No
04:30 - 05:30	50	+	210	=	260	53	116	No
22:45 - 23:45	170	+	61	=	231	30	90	No
04:15 - 05:15	46	+	168	=	214	40	79	No
23:00 - 00:00	151		44		195	24	72	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2315

Study Date : 05/02/2023

## 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

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 = **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	
	<b>CSAH 51</b>					<b>CSAH 12</b>		
15:45 - 16:45	1597	+	567	=	2164	342	520	Yes
16:45 - 17:45	1541	+	508	=	2049	312	517	Yes
14:45 - 15:45	1222	+	503	=	1725	318	514	Yes
17:45 - 18:45	942	+	424	=	1366	254	521	Yes
06:45 - 07:45	436	+	818	=	1254	177	474	Yes
13:45 - 14:45	795	+	457	=	1252	263	419	Yes
07:45 - 08:45	487	+	689	=	1176	230	448	Yes
12:45 - 13:45	676	+	373	=	1049	234	358	Yes
08:45 - 09:45	478	+	487	=	965	258	372	Yes
18:45 - 19:45	626	+	331	=	957	207	331	Yes
11:45 - 12:45	576	+	350	=	926	241	348	Yes
10:45 - 11:45	503	+	315	=	818	206	346	Yes
19:45 - 20:45	508	+	265	=	773	194	313	Yes
09:45 - 10:45	404	+	341	=	745	202	331	Yes
05:45 - 06:45	202	+	541	=	743	104	222	Yes
20:45 - 21:45	396	+	233	=	629	111	228	No
05:30 - 06:30	143	+	451	=	594	84	190	No
21:00 - 22:00	371	+	183	=	554	92	205	No
05:15 - 06:15	105	+	384	=	489	76	176	No
21:15 - 22:15	339	+	141	=	480	87	191	No
21:30 - 22:30	334	+	127	=	461	73	169	No
21:45 - 22:45	323	+	104	=	427	64	166	No
05:00 - 06:00	81	+	316	=	397	69	151	No
22:00 - 23:00	276	+	97	=	373	51	158	No
04:45 - 05:45	68		271		339	55	129	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2315

Study Date : 05/02/2023

## 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

18 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 = **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

#### Minor Road CSAH 12

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
15:45 - 16:45	1597	+	567	=	2164	342	520	Yes
16:45 - 17:45	1541	+	508	=	2049	312	517	Yes
14:45 - 15:45	1222	+	503	=	1725	318	514	Yes
17:45 - 18:45	942	+	424	=	1366	254	521	Yes
06:45 - 07:45	436	+	818	=	1254	177	474	Yes
13:45 - 14:45	795	+	457	=	1252	263	419	Yes
07:45 - 08:45	487	+	689	=	1176	230	448	Yes
12:45 - 13:45	676	+	373	=	1049	234	358	Yes
08:45 - 09:45	478	+	487	=	965	258	372	Yes
18:45 - 19:45	626	+	331	=	957	207	331	Yes
11:45 - 12:45	576	+	350	=	926	241	348	Yes
10:45 - 11:45	503	+	315	=	818	206	346	Yes

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:30 - 17:30	1597	+	509	=	2106	321	526	Yes
15:30 - 16:30	1504	+	581	=	2085	337	536	Yes
14:30 - 15:30	1133	+	522	=	1655	314	483	Yes
17:30 - 18:30	1111	+	462	=	1573	263	516	Yes
07:30 - 08:30	486	+	784	=	1270	243	494	Yes
06:30 - 07:30	417	+	771	=	1188	153	398	Yes
13:30 - 14:30	735	+	390	=	1125	246	404	Yes
18:30 - 19:30	663	+	358	=	1021	222	368	Yes
12:30 - 13:30	644	+	375	=	1019	245	359	Yes
08:30 - 09:30	472	+	504	=	976	257	386	Yes
11:30 - 12:30	563	+	336	=	899	221	359	Yes
19:30 - 20:30	557	+	268	=	825	197	326	Yes

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2315

Study Date : 05/02/2023

## 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.

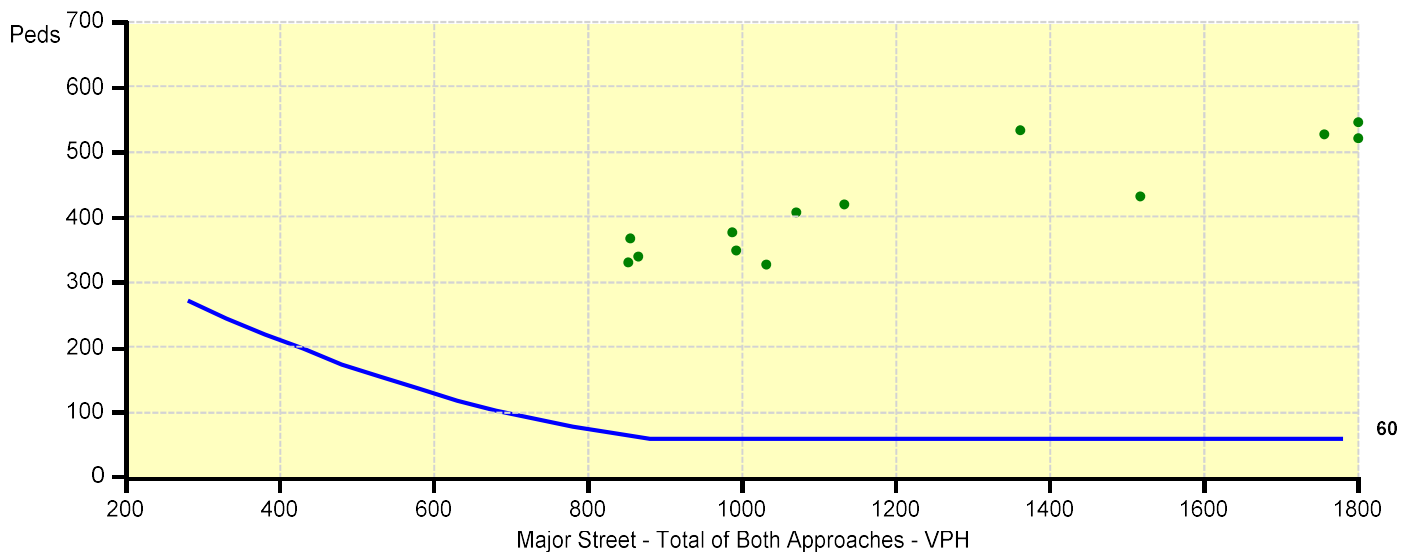
#### Summary

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 = **1**

Time	Major Road CSAH 51				Total	Minor Road CSAH 12		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	1619	+	510	=	2129	329	521	Yes
15:15 - 16:15	1447	+	581	=	2028	346	547	Yes
17:15 - 18:15	1270	+	487	=	1757	285	526	Yes
14:15 - 15:15	1018	+	499	=	1517	283	431	Yes
07:15 - 08:15	485	+	876	=	1361	212	534	Yes
18:15 - 19:15	741	+	392	=	1133	235	418	Yes
13:15 - 14:15	686	+	385	=	1071	233	408	Yes
06:15 - 07:15	362	+	668	=	1030	135	328	Yes
12:15 - 13:15	633	+	359	=	992	260	347	Yes
08:15 - 09:15	451	+	536	=	987	239	376	Yes
09:15 - 10:15	457	+	409	=	866	232	340	Yes
11:15 - 12:15	527		327		854	203	366	Yes



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2315

Study Date : 05/02/2023

## 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

61 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				Total	Minor Road CSAH 12		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
15:45 - 16:45	1597	+	567	=	2164	342	520	Yes
16:00 - 17:00	1610	+	551	=	2161	341	519	Yes
16:15 - 17:15	1619	+	510	=	2129	329	521	Yes
16:30 - 17:30	1597	+	509	=	2106	321	526	Yes
15:30 - 16:30	1504	+	581	=	2085	337	536	Yes
16:45 - 17:45	1541	+	508	=	2049	312	517	Yes
15:15 - 16:15	1447	+	581	=	2028	346	547	Yes
17:00 - 18:00	1436	+	506	=	1942	302	512	Yes
15:00 - 16:00	1326	+	525	=	1851	337	532	Yes
17:15 - 18:15	1270	+	487	=	1757	285	526	Yes
14:45 - 15:45	1222	+	503	=	1725	318	514	Yes
14:30 - 15:30	1133		522		1655	314	483	Yes

