

Date : 03/28/23

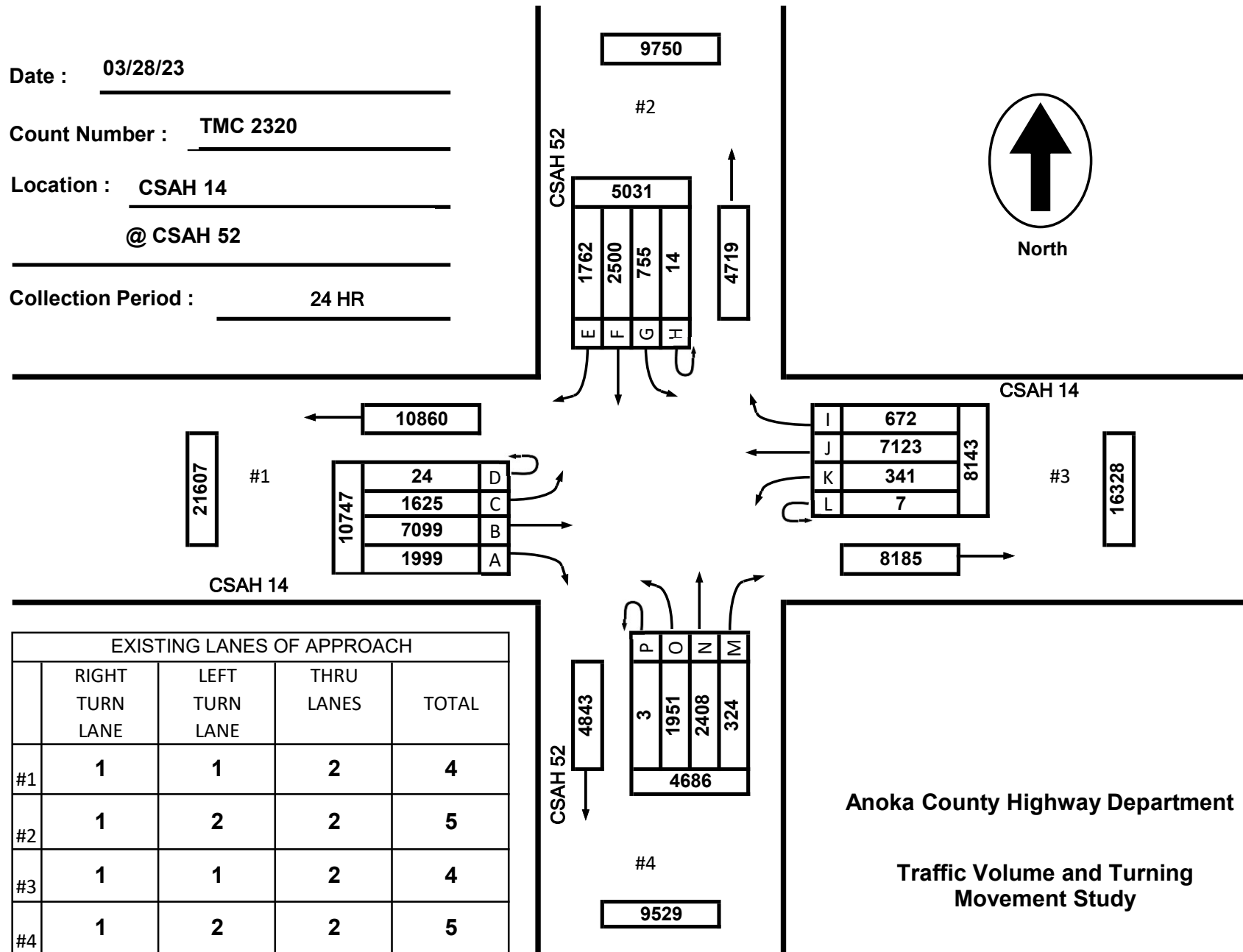
Count Number : TMC 2320

Location : CSAH 14
@ CSAH 52

Collection Period : 24 HR



North



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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

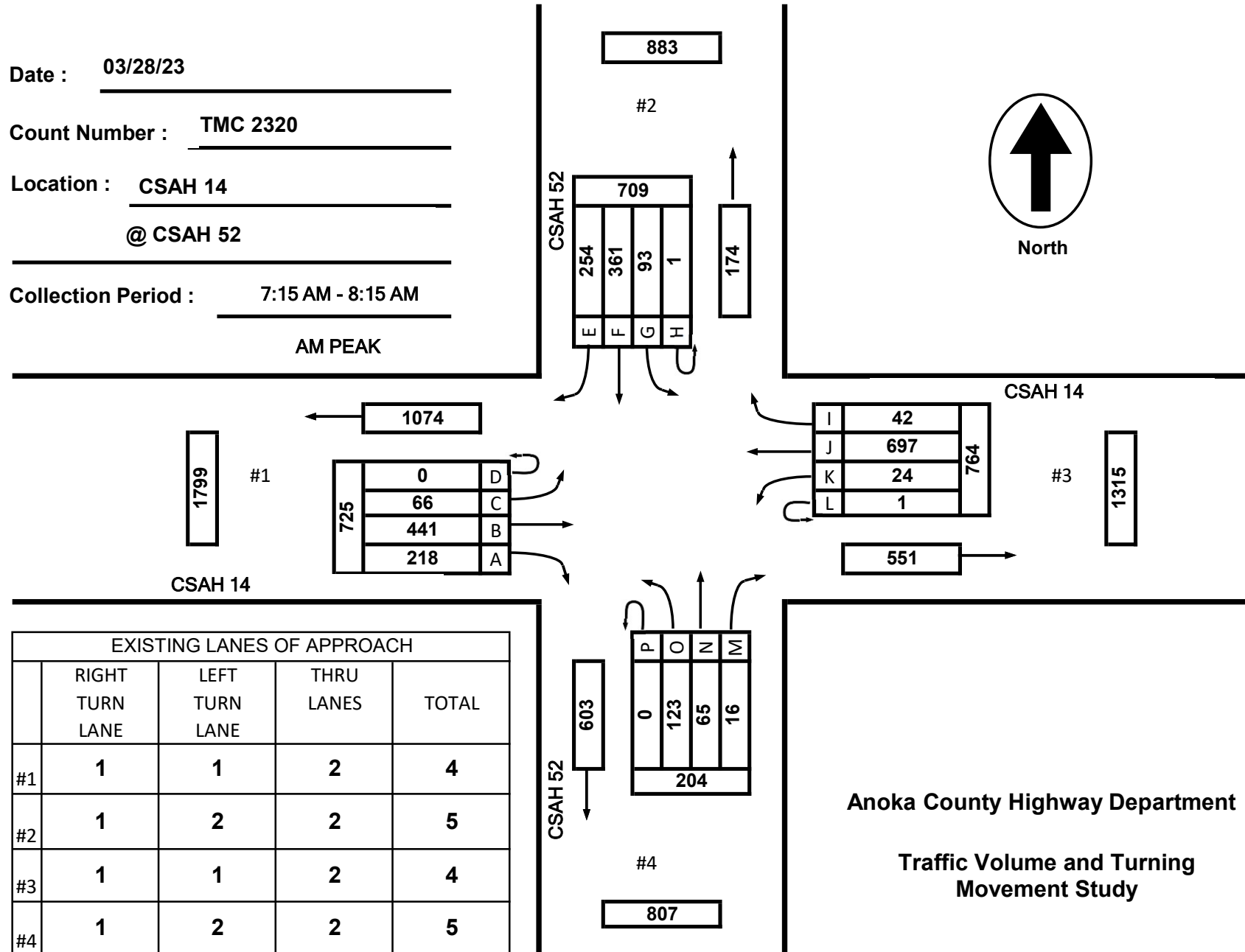
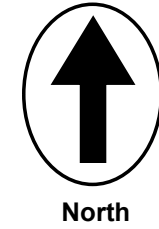
Date : 03/28/23

Count Number : TMC 2320

Location : CSAH 14
@ CSAH 52

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	2	4
#2	1	2	2	5
#3	1	1	2	4
#4	1	2	2	5

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

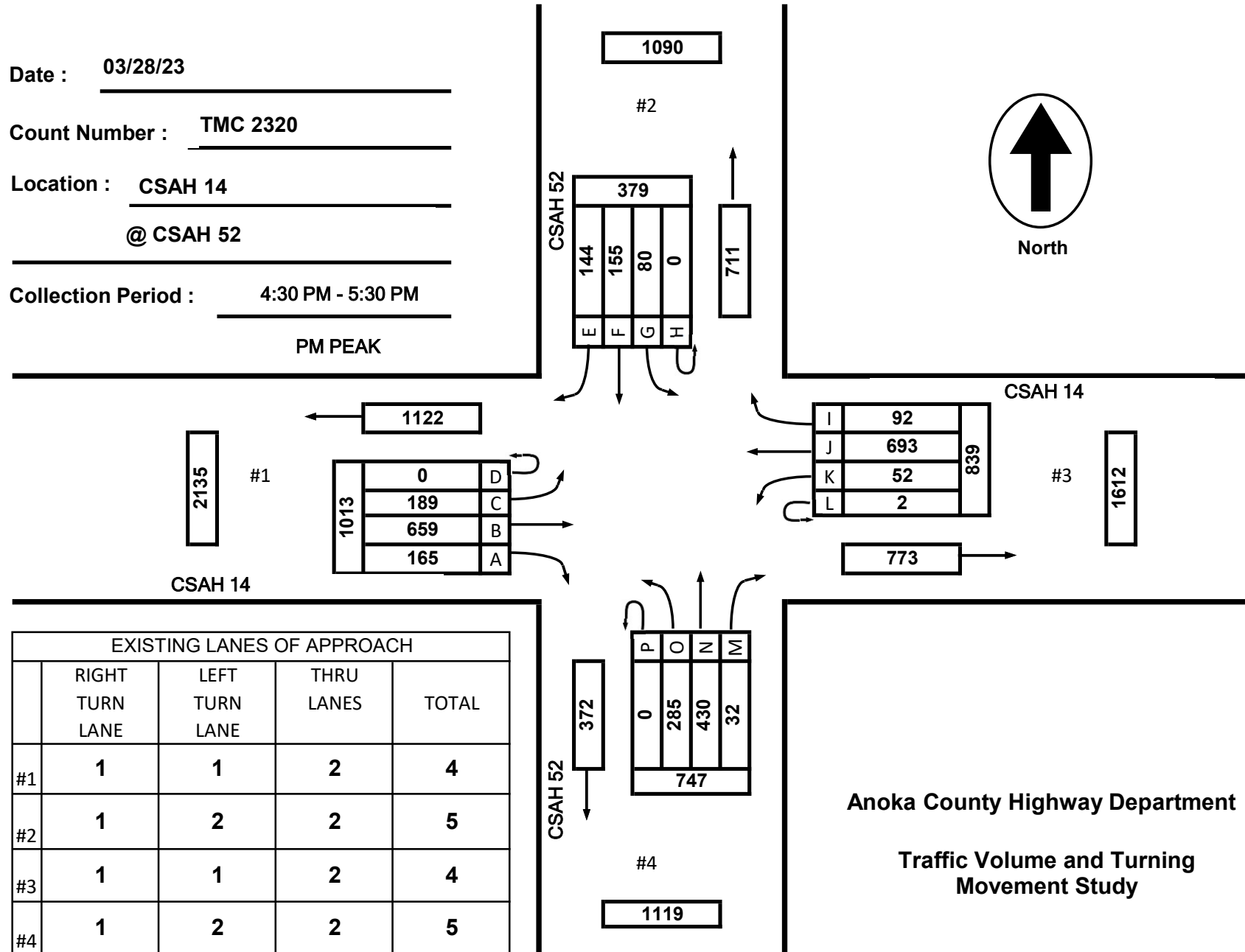
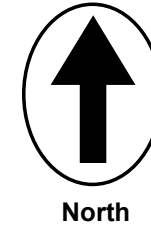
Date : 03/28/23

Count Number : TMC 2320

Location : CSAH 14
@ CSAH 52

Collection Period : 4:30 PM - 5:30 PM

PM PEAK



CSAH 14

CSAH 52

CSAH 14

CSAH 52

EXISTING LANES OF APPROACH

	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	1	1	2	4
#2	1	2	2	5
#3	1	1	2	4
#4	1	2	2	5

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

TMC 2320 - CSAH 14 @ CSAH 52

0 0

Tuesday, March 28, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:00 AM	0	0	2	2	0	4	0	0	5	0	0	5	0	3	3	0	0	6	0	0	7	2	0	9	24
12:15 AM	0	0	1	1	0	2	0	0	5	1	0	6	0	2	6	0	0	8	0	1	6	2	0	9	25
12:30 AM	0	0	0	1	0	1	0	0	1	0	0	1	0	1	3	0	0	4	0	1	6	2	0	9	15
12:45 AM	0	0	0	1	0	1	0	0	3	0	0	3	0	1	1	0	0	2	0	0	4	0	0	4	10
Hourly Total	0	0	3	5	0	8	0	0	14	1	0	15	0	7	13	0	0	20	0	2	23	6	0	31	74
1:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	2	0	0	2	0	0	3	0	0	3	7
1:15 AM	0	0	2	0	0	2	0	0	3	0	0	3	0	1	1	0	0	2	0	1	2	0	0	3	10
1:30 AM	0	0	1	3	0	4	0	0	3	0	0	3	0	0	1	0	0	1	0	1	5	0	0	6	14
1:45 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	5	0	0	5	0	2	5	0	0	7	14
Hourly Total	0	0	3	3	0	6	0	0	10	0	0	10	0	1	9	0	0	10	0	4	15	0	0	19	45
2:00 AM	1	0	1	0	0	2	0	0	1	2	0	3	0	1	1	0	0	2	0	0	1	0	0	1	8
2:15 AM	0	0	0	1	0	1	0	0	2	0	0	2	0	1	0	0	0	1	0	3	3	0	0	6	10
2:30 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	0	0	2	5
2:45 AM	0	0	3	0	0	3	0	0	3	0	0	3	0	4	0	0	0	4	0	0	3	2	0	5	15
Hourly Total	1	0	4	1	0	6	0	0	9	2	0	11	0	6	1	0	0	7	0	3	9	2	0	14	38
3:00 AM	0	0	0	1	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	3	6
3:15 AM	0	2	1	0	0	3	0	0	2	0	0	2	0	0	2	0	0	2	0	0	1	1	0	2	9
3:30 AM	0	0	3	1	0	4	0	0	2	0	0	2	0	1	1	0	0	2	0	0	3	3	0	6	14
3:45 AM	0	1	4	0	0	5	0	0	6	0	0	6	0	1	0	0	0	1	0	0	2	4	0	6	18
Hourly Total	0	3	8	2	0	13	0	0	12	0	0	12	0	2	3	0	0	5	0	0	9	8	0	17	47
4:00 AM	0	0	10	2	0	12	0	0	1	0	0	1	0	1	0	0	0	1	0	0	5	5	0	10	24
4:15 AM	0	0	8	5	0	13	0	0	8	0	0	8	0	0	0	0	0	0	0	0	10	7	0	17	38
4:30 AM	0	3	8	7	0	18	0	0	16	0	0	16	0	2	3	0	0	5	0	0	9	10	0	19	58
4:45 AM	0	1	17	10	0	28	0	0	20	2	0	22	0	3	2	0	0	5	0	1	7	6	0	14	69
Hourly Total	0	4	43	24	0	71	0	0	45	2	0	47	0	6	5	0	0	11	0	1	31	28	0	60	189
5:00 AM	1	0	13	7	0	21	0	5	22	0	0	27	0	3	0	0	0	3	0	0	10	11	0	21	72
5:15 AM	0	1	28	8	0	37	0	3	31	0	0	34	0	3	1	0	0	4	0	2	31	31	0	64	139
5:30 AM	0	2	36	23	0	61	0	1	45	1	0	47	0	8	2	0	0	10	0	2	34	23	0	59	177
5:45 AM	1	1	40	12	0	54	0	4	42	2	0	48	0	11	8	0	0	19	0	3	37	26	0	66	187
Hourly Total	2	4	117	50	0	173	0	13	140	3	0	156	0	25	11	0	0	36	0	7	112	91	0	210	575
6:00 AM	0	5	53	17	0	75	0	0	43	0	0	43	0	5	5	0	0	10	0	2	85	33	0	120	248
6:15 AM	0	6	76	19	0	101	0	2	53	2	0	57	0	8	2	2	0	12	0	3	68	25	0	96	266
6:30 AM	0	16	66	29	0	111	0	2	78	4	0	84	0	13	6	3	0	22	0	4	94	34	0	132	349
6:45 AM	0	16	95	29	0	140	0	5	119	5	0	129	0	14	11	3	0	28	1	8	86	35	0	130	427
Hourly Total	0	43	290	94	0	427	0	9	293	11	0	313	0	40	24	8	0	72	1	17	333	127	0	478	1290
7:00 AM	0	24	79	63	0	166	0	3	147	9	0	159	0	32	9	1	0	42	0	10	83	21	0	114	481
7:15 AM	0	25	99	96	0	220	1	6	220	5	0	232	0	42	11	5	0	58	0	11	101	42	0	154	664
7:30 AM	0	25	105	65	0	195	0	7	165	11	0	183	0	34	21	4	0	59	0	17	115	53	0	185	622
7:45 AM	1	25	96	50	0	172	0	4	158	14	0	176	0	25	17	3	0	45	0	20	126	71	0	217	610
Hourly Total	1	99	379	274	0	753	1	20	690	39	0	750	0	133	58	13	0	204	0	58	425	187	0	670	2377

TMC 2320 - CSAH 14 @ CSAH 52

0 0

Tuesday, March 28, 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	18	61	43	0	122	0	7	154	12	0	173	0	22	16	4	0	42	0	18	99	52	0	169	506
8:15 AM	1	10	53	22	0	86	0	5	107	8	0	120	0	16	14	4	0	34	0	17	100	32	0	149	389
8:30 AM	0	8	44	37	0	89	0	3	100	7	0	110	0	19	7	3	0	29	0	13	88	32	0	133	361
8:45 AM	0	9	56	24	0	89	0	6	117	4	0	127	0	12	17	6	0	35	1	10	79	23	0	113	364
Hourly Total	1	45	214	126	0	386	0	21	478	31	0	530	0	69	54	17	0	140	1	58	366	139	0	564	1620
9:00 AM	0	16	37	25	0	78	0	8	114	10	0	132	0	25	13	7	0	45	0	20	108	28	0	156	411
9:15 AM	0	17	25	24	0	66	0	7	152	9	0	168	1	21	28	6	0	56	1	14	97	20	0	132	422
9:30 AM	0	15	45	19	0	79	0	6	105	6	0	117	0	18	14	13	0	45	1	14	76	27	0	118	359
9:45 AM	0	10	31	26	0	67	0	7	94	7	0	108	0	15	14	2	0	31	0	9	72	19	0	100	306
Hourly Total	0	58	138	94	0	290	0	28	465	32	0	525	1	79	69	28	0	177	2	57	353	94	0	506	1498
10:00 AM	0	8	23	27	0	58	0	3	68	5	0	76	0	15	14	3	0	32	0	18	87	20	1	125	291
10:15 AM	0	7	43	21	0	71	0	6	80	5	0	91	0	14	14	2	0	30	0	13	60	26	0	99	291
10:30 AM	0	11	19	14	0	44	0	6	71	5	0	82	1	18	16	1	0	36	0	9	88	25	0	122	284
10:45 AM	1	11	28	21	0	61	0	5	90	4	0	99	1	17	21	3	0	42	0	7	89	27	0	123	325
Hourly Total	1	37	113	83	0	234	0	20	309	19	0	348	2	64	65	9	0	140	0	47	324	98	1	469	1191
11:00 AM	0	10	29	20	0	59	0	4	85	5	0	94	0	23	9	4	0	36	0	19	78	22	0	119	308
11:15 AM	0	9	39	18	0	66	0	4	102	6	0	112	0	24	32	4	0	60	1	17	78	16	0	112	350
11:30 AM	0	1	28	26	0	55	0	3	92	11	0	106	0	16	26	6	0	48	0	14	77	20	0	111	320
11:45 AM	0	5	28	22	0	55	0	3	75	8	0	86	0	15	20	4	1	39	1	27	89	22	1	139	319
Hourly Total	0	25	124	86	0	235	0	14	354	30	0	398	0	78	87	18	1	183	2	77	322	80	1	481	1297
12:00 PM	0	6	31	22	0	59	0	6	84	6	0	96	0	25	23	5	0	53	0	27	99	23	0	149	357
12:15 PM	0	7	22	17	0	46	0	4	79	7	0	90	0	24	30	8	0	62	1	24	87	17	0	129	327
12:30 PM	3	7	29	22	0	61	0	5	97	7	0	109	0	21	31	6	0	58	1	13	74	15	0	103	331
12:45 PM	0	5	21	21	0	47	1	6	83	6	0	96	0	22	15	8	1	45	0	23	97	26	0	146	334
Hourly Total	3	25	103	82	0	213	1	21	343	26	0	391	0	92	99	27	1	218	2	87	357	81	0	527	1349
1:00 PM	0	6	35	22	0	63	0	4	84	14	0	102	0	26	23	5	0	54	0	24	94	16	0	134	353
1:15 PM	2	4	22	15	0	43	0	3	68	6	0	77	0	22	35	3	0	60	0	17	86	32	0	135	315
1:30 PM	0	3	22	16	0	41	0	7	85	8	0	100	0	29	26	5	0	60	0	14	95	18	0	127	328
1:45 PM	0	12	24	18	0	54	0	4	99	9	0	112	0	26	38	3	0	67	0	17	113	25	0	155	388
Hourly Total	2	25	103	71	0	201	0	18	336	37	0	391	0	103	122	16	0	241	0	72	388	91	0	551	1384
2:00 PM	0	4	35	15	0	54	0	5	114	10	0	129	0	24	30	7	0	61	0	18	95	24	0	137	381
2:15 PM	0	11	17	23	0	51	0	5	87	7	0	99	0	29	38	4	0	71	0	24	130	30	1	184	405
2:30 PM	1	8	28	25	0	62	0	2	122	13	0	137	0	41	46	7	0	94	0	67	105	30	0	202	495
2:45 PM	0	10	27	30	0	67	0	6	136	15	0	157	0	34	49	11	0	94	0	32	120	36	0	188	506
Hourly Total	1	33	107	93	0	234	0	18	459	45	0	522	0	128	163	29	0	320	0	141	450	120	1	711	1787
3:00 PM	0	14	33	23	0	70	0	5	110	11	0	126	0	57	63	3	0	123	0	36	116	20	0	172	491
3:15 PM	0	11	28	30	0	69	0	6	135	16	0	157	0	48	65	5	0	118	0	33	153	39	0	225	569
3:30 PM	0	21	42	24	0	87	0	5	133	14	0	152	0	53	57	9	0	119	3	45	156	39	0	243	601
3:45 PM	1	15	30	36	0	82	0	10	197	17	0	224	0	71	113	2	0	186	1	32	159	43	0	235	727
Hourly Total	1	61	133	113	0	308	0	26	575	58	0	659	0	229	298	19	0	546	4	146	584	141	0	875	2388

TMC 2320 - CSAH 14 @ CSAH 52

0 0

Tuesday, March 28, 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	15	34	35	0	85	0	8	150	32	0	190	0	72	102	14	0	188	1	38	120	45	0	204	667
4:15 PM	0	15	44	29	0	88	0	9	183	25	0	217	0	85	109	10	0	204	0	47	176	33	0	256	765
4:30 PM	0	18	48	28	0	94	1	6	174	26	0	207	0	70	113	6	0	189	0	41	157	40	0	238	728
4:45 PM	0	17	37	35	0	89	0	12	167	30	0	209	0	68	88	9	0	165	0	44	176	44	0	264	727
Hourly Total	1	65	163	127	0	356	1	35	674	113	0	823	0	295	412	39	0	746	1	170	629	162	0	962	2887
5:00 PM	0	25	34	41	0	100	0	16	178	20	0	214	0	64	109	9	0	182	0	56	164	39	0	259	755
5:15 PM	0	20	36	40	0	96	1	18	174	16	0	209	0	83	120	8	0	211	0	48	162	42	0	252	768
5:30 PM	0	15	33	29	0	77	0	7	179	19	0	205	0	57	83	10	0	150	0	49	164	33	0	246	678
5:45 PM	0	9	29	34	0	72	0	5	164	18	0	187	0	49	52	5	0	106	0	46	157	35	0	238	603
Hourly Total	0	69	132	144	0	345	1	46	695	73	0	815	0	253	364	32	0	649	0	199	647	149	0	995	2804
6:00 PM	0	15	37	33	0	85	0	5	107	7	0	119	0	42	65	7	0	114	2	46	109	36	0	193	511
6:15 PM	0	7	28	29	0	64	0	1	128	10	0	139	0	35	53	8	0	96	3	37	156	35	0	231	530
6:30 PM	0	18	38	28	0	84	0	10	110	11	0	131	0	36	44	3	0	83	1	32	112	23	0	168	466
6:45 PM	0	15	22	21	0	58	0	4	88	11	0	103	0	23	42	8	0	73	1	34	109	25	0	169	403
Hourly Total	0	55	125	111	0	291	0	20	433	39	0	492	0	136	204	26	0	366	7	149	486	119	0	761	1910
7:00 PM	0	7	28	29	0	64	0	2	79	12	0	93	0	21	38	7	0	66	1	34	97	19	0	151	374
7:15 PM	0	7	16	25	0	48	0	1	86	10	0	97	0	22	29	2	0	53	0	31	103	21	0	155	353
7:30 PM	0	6	22	18	0	46	1	1	52	7	0	61	0	20	28	5	0	53	0	24	114	17	0	155	315
7:45 PM	0	9	14	16	0	39	0	2	74	8	0	84	0	25	25	2	0	52	0	26	103	24	0	153	328
Hourly Total	0	29	80	88	0	197	1	6	291	37	0	335	0	88	120	16	0	224	1	115	417	81	0	614	1370
8:00 PM	0	8	15	12	0	35	0	6	47	10	0	63	0	11	32	1	0	44	0	25	87	20	0	132	274
8:15 PM	0	13	11	14	0	38	1	2	60	12	0	75	0	9	39	5	0	53	1	15	87	18	0	121	287
8:30 PM	0	7	14	10	0	31	0	3	64	11	0	78	0	15	16	4	0	35	0	35	74	18	0	127	271
8:45 PM	0	16	19	16	0	51	0	2	76	9	0	87	0	20	17	5	0	42	0	28	82	21	0	131	311
Hourly Total	0	44	59	52	0	155	1	13	247	42	0	303	0	55	104	15	0	174	1	103	330	77	0	511	1143
9:00 PM	0	5	16	7	0	28	1	4	62	7	0	74	0	11	22	2	0	35	0	15	61	20	0	96	233
9:15 PM	0	3	8	8	0	19	0	1	35	5	0	41	0	14	24	6	0	44	0	16	60	12	0	88	192
9:30 PM	0	3	2	6	0	11	0	3	33	4	0	40	0	8	17	0	0	25	0	12	54	22	0	88	164
9:45 PM	0	5	5	4	0	14	0	0	14	3	0	17	0	3	13	0	0	16	0	15	49	7	0	71	118
Hourly Total	0	16	31	25	0	72	1	8	144	19	0	172	0	36	76	8	0	120	0	58	224	61	0	343	707
10:00 PM	0	3	4	5	0	12	0	1	20	2	0	23	0	7	10	0	0	17	0	18	53	14	0	85	137
10:15 PM	0	2	7	3	0	12	0	0	12	3	0	15	0	7	11	0	0	18	0	12	91	19	0	122	167
10:30 PM	0	3	5	1	0	9	0	1	20	1	0	22	0	3	7	1	0	11	1	8	36	11	0	56	98
10:45 PM	0	3	2	2	0	7	0	0	13	4	0	17	0	1	6	0	0	7	0	5	22	7	0	34	65
Hourly Total	0	11	18	11	0	40	0	2	65	10	0	77	0	18	34	1	0	53	1	43	202	51	0	297	467
11:00 PM	0	1	2	2	0	5	0	3	14	3	0	20	0	4	3	1	0	8	1	5	21	2	0	29	62
11:15 PM	0	1	5	1	0	7	0	0	8	0	0	8	0	3	4	1	0	8	0	4	18	2	0	24	47
11:30 PM	0	0	3	0	0	3	0	0	11	0	0	11	0	1	1	1	0	3	0	0	13	1	0	14	31
11:45 PM	0	2	0	0	0	2	0	0	9	0	0	9	0	0	5	0	0	5	0	2	11	1	0	14	30
Hourly Total	0	4	10	3	0	17	0	3	42	3	0	48	0	8	13	3	0	24	1	11	63	6	0	81	170
DAILY TOTAL	14	755	2500	1762	0	5031	7	341	7123	672	0	8143	3	1951	2408	324	2	4686	24	1625	7099	1999	3	10747	28607
Cars	14	731	2474	1730	0	4949	7	331	6929	658	0	7925	3	1924	2385	304	2	4616	24	1599	6933	1952	1	10508	27998
Heavy Vehicles	0	24	26	32	0	82	0	10	194	14	0	218	0	27	23	20	0	70	0	26	166	47	2	239	609
Heavy Vehicle %	0.00%	3.18%	1.04%	1.82%	0.00%	1.63%	0.00%	2.93%	2.72%	2.08%	0.00%	2.68%	0.00%	1.38%	0.96%	6.17%	0.00%	1.49%	0.00%	1.60%	2.34%	2.35%	66.67%	2.22%	2.13%

TMC 2320 - CSAH 14 @ CSAH 52

0 0

Tuesday, March 28, 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	25	99	96	0	220	1	6	220	5	0	232	0	42	11	5	0	58	0	11	101	42	0	154	664
7:30 AM	0	25	105	65	0	195	0	7	165	11	0	183	0	34	21	4	0	59	0	17	115	53	0	185	622
7:45 AM	1	25	96	50	0	172	0	4	158	14	0	176	0	25	17	3	0	45	0	20	126	71	0	217	610
8:00 AM	0	18	61	43	0	122	0	7	154	12	0	173	0	22	16	4	0	42	0	18	99	52	0	169	506
Peak Hour Total	1	93	361	254	0	709	1	24	697	42	0	764	0	123	65	16	0	204	0	66	441	218	0	725	2402
PHF	0.250	0.930	0.860	0.661	0.000	0.806	0.250	0.857	0.792	0.750	0.000	0.823	0.000	0.732	0.774	0.800	0.000	0.864	0.000	0.825	0.875	0.768	0.000	0.835	0.904

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	
4:30 PM	0	18	48	28	0	94	1	6	174	26	0	207	0	70	113	6	0	189	0	41	157	40	0	238	728
4:45 PM	0	17	37	35	0	89	0	12	167	30	0	209	0	68	88	9	0	165	0	44	176	44	0	264	727
5:00 PM	0	25	34	41	0	100	0	16	178	20	0	214	0	64	109	9	0	182	0	56	164	39	0	259	755
5:15 PM	0	20	36	40	0	96	1	18	174	16	0	209	0	83	120	8	0	211	0	48	162	42	0	252	768
Peak Hour Total	0	80	155	144	0	379	2	52	693	92	0	839	0	285	430	32	0	747	0	189	659	165	0	1013	2978
PHF	0.000	0.800	0.807	0.878	0.000	0.948	0.500	0.722	0.973	0.767	0.000	0.980	0.000	0.858	0.896	0.889	0.000	0.885	0.000	0.844	0.936	0.938	0.000	0.959	0.969

Total Vehicles On Leg				9750	
Vehicles Entering Intersection		5031	Vehicles Exiting Intersection		4719
Southbound					
Cars	1730	2474	731	14	0
Heavy	32	26	24	0	0
Total	1762	2500	755	14	0



Total Vehicles on Leg 21607	Vehicles Entering Intersection 10747	Eastbound	Cars	Heavy	Total	
			1	2	3	
	24		0	24		
	1599		26	1625		
	Vehicles Exiting Intersection 10860		6933	166	7099	
1952	47	1999				

Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 8143	Total Vehicles on Leg 16328
658	14	672			
6929	194	7123			
331	10	341			
Vehicles Exiting Intersection 8185	7	7			
0	0	0			



Cars	2	3	1924	2385	304
Heavy	0	0	27	23	20
Total	2	3	1951	2408	324
Northbound					
Vehicles Entering Intersection			4686	Vehicles Exiting Intersection	
				4843	
Total Vehicles On Leg			9529		

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
03/28/2023	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	1	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	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	1	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	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	0	0	0	0
	3:30	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0
	4:15	0	0	0	0	0	0	0	0	1	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	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	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	2	2	0	0	0	0	1	0	0	0
	6:15	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0
	6:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	2	1	0	0
	6:45	0	0	2	0	0	0	0	0	7	1	0	0	0	0	0	0	0	0	0	2	4	2	0	0
	7:00	0	1	1	3	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0
	7:15	0	0	1	1	0	0	0	0	4	1	0	0	0	0	0	1	0	0	0	1	7	2	0	0
	7:30	0	0	1	0	0	0	0	0	5	1	0	0	0	0	2	0	0	0	0	1	6	1	0	0
	7:45	0	2	1	4	0	0	0	0	6	0	0	0	0	0	1	0	0	0	0	1	3	3	0	0
	8:00	0	1	0	0	0	0	0	0	4	1	0	0	0	0	1	1	0	0	0	0	7	1	0	0
	8:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	2	6	1	0	0
	8:30	0	0	0	0	0	0	0	0	6	2	0	0	0	0	2	0	0	0	0	1	5	0	0	0
	8:45	0	0	1	3	0	0	0	0	3	1	0	0	0	0	1	0	0	0	0	2	9	3	0	0
	9:00	0	3	1	2	0	0	0	0	9	1	0	0	0	0	0	1	1	0	0	0	3	1	0	0
	9:15	0	0	0	0	0	0	0	1	17	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0
	9:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	4	0	0	0
	9:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0
	10:00	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	6	0	0	1
	10:15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0
	10:45	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	7	1	0	0
	11:00	0	0	1	1	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	1	5	2	0	0
	11:15	0	0	1	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:30	0	0	0	0	0	0	0	0	4	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0
	11:45	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 04/20/2023

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 14

Number of Lanes : 2+

Total Approach Volume: 10,747

Westbound: CSAH 14

Number of Lanes :2+

Total Approach Volume: 8,143

Minor Street Approaches

Northbound: CSAH 52

Number of Lanes :2+

Total Approach Volume: 4,686

Southbound: CSAH 52

Number of Lanes :2+

Total Approach Volume: 5,031

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 16 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 16 hours, 8 are needed

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

Number of hours (16) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (61) 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:

Study Date : 04/20/2023

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

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 = **2 or more**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **420**
 Veh/Hr Minor = **140**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	1017	+	847	=	1864	740	371	Yes
17:15 - 18:15	929	+	720	=	1649	581	330	Yes
15:15 - 16:15	907	+	723	=	1630	611	323	Yes
07:15 - 08:15	725	+	764	=	1489	204	709	Yes
14:15 - 15:15	746	+	519	=	1265	382	250	Yes
18:15 - 19:15	719	+	466	=	1185	318	270	Yes
08:15 - 09:15	551	+	489	=	1040	143	342	Yes
13:15 - 14:15	554	+	418	=	972	248	192	Yes
09:15 - 10:15	475	+	469	=	944	164	270	Yes
11:15 - 12:15	511	+	400	=	911	200	235	Yes
12:15 - 13:15	512	+	397	=	909	219	217	Yes
06:15 - 07:15	472	+	429	=	901	104	518	Yes
19:15 - 20:15	595	+	305	=	900	202	168	Yes
10:15 - 11:15	463	+	366	=	829	144	235	Yes
20:15 - 21:15	475	+	314	=	789	165	148	Yes
05:15 - 06:15	309	+	172	=	481	43	227	Yes
21:30 - 22:30	366	+	95	=	461	76	49	No
21:15 - 22:15	332	+	121	=	453	102	56	No
21:45 - 22:45	334	+	77	=	411	62	47	No
22:00 - 23:00	297	+	77	=	374	53	40	No
05:00 - 06:00	210	+	156	=	366	36	173	No
22:15 - 23:15	241	+	74	=	315	44	33	No
04:45 - 05:45	158	+	130	=	288	22	147	No
04:30 - 05:30	118	+	99	=	217	17	104	No
22:30 - 23:30	143		67		210	34	28	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 04/20/2023

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

16 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

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

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:45 - 17:45	1021	+	837	=	1858	708	362	Yes
15:45 - 16:45	933	+	838	=	1771	767	349	Yes
14:45 - 15:45	828	+	592	=	1420	454	293	Yes
17:45 - 18:45	830	+	576	=	1406	399	305	Yes
06:45 - 07:45	583	+	703	=	1286	187	721	Yes
07:45 - 08:45	668	+	579	=	1247	150	469	Yes
13:45 - 14:45	678	+	477	=	1155	293	221	Yes
08:45 - 09:45	519	+	544	=	1063	181	312	Yes
18:45 - 19:45	630	+	354	=	984	245	216	Yes
12:45 - 13:45	542	+	375	=	917	219	194	Yes
11:45 - 12:45	520	+	381	=	901	212	221	Yes
10:45 - 11:45	465	+	411	=	876	186	241	Yes
19:45 - 20:45	533	+	300	=	833	184	143	Yes
09:45 - 10:45	446	+	357	=	803	129	240	Yes
05:45 - 06:45	414	+	232	=	646	63	341	Yes
20:45 - 21:45	403	+	242	=	645	146	109	Yes
05:30 - 06:30	341	+	195	=	536	51	291	No
05:15 - 06:15	309	+	172	=	481	43	227	No
21:45 - 22:45	334	+	77	=	411	62	47	No
22:00 - 23:00	297	+	77	=	374	53	40	No
05:00 - 06:00	210	+	156	=	366	36	173	No
22:15 - 23:15	241	+	74	=	315	44	33	No
04:45 - 05:45	158	+	130	=	288	22	147	No
04:30 - 05:30	118	+	99	=	217	17	104	No
22:30 - 23:30	143		67		210	34	28	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 04/20/2023

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

17 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 = **2 or more**

Volume Requirements

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

Veh/Hr Minor = **112 56**

Major Road CSAH 14

Minor Road CSAH 52

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
17:00 - 18:00	995	+	815	=	1810	649	345	Yes
16:00 - 17:00	962	+	823	=	1785	746	356	Yes
15:00 - 16:00	875	+	659	=	1534	546	308	Yes
07:00 - 08:00	670	+	750	=	1420	204	753	Yes
18:00 - 19:00	761	+	492	=	1253	366	291	Yes
14:00 - 15:00	711	+	522	=	1233	320	234	Yes
08:00 - 09:00	564	+	530	=	1094	140	386	Yes
09:00 - 10:00	506	+	525	=	1031	177	290	Yes
19:00 - 20:00	614	+	335	=	949	224	197	Yes
13:00 - 14:00	551	+	391	=	942	241	201	Yes
12:00 - 13:00	527	+	391	=	918	218	213	Yes
11:00 - 12:00	481		398		879	183	235	Yes

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:30 - 17:30	1013	+	839	=	1852	747	379	Yes
15:30 - 16:30	938	+	783	=	1721	697	342	Yes
17:30 - 18:30	908	+	650	=	1558	466	298	Yes
07:30 - 08:30	720	+	652	=	1372	180	575	Yes
14:30 - 15:30	787	+	577	=	1364	429	268	Yes
06:30 - 07:30	530	+	604	=	1134	150	637	Yes
08:30 - 09:30	534	+	537	=	1071	165	322	Yes
18:30 - 19:30	643	+	424	=	1067	275	254	Yes
13:30 - 14:30	603	+	440	=	1043	259	200	Yes
11:30 - 12:30	528	+	378	=	906	202	215	Yes
12:30 - 13:30	518	+	384	=	902	217	214	Yes
10:30 - 11:30	476		387		863	174	230	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 04/20/2023

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.

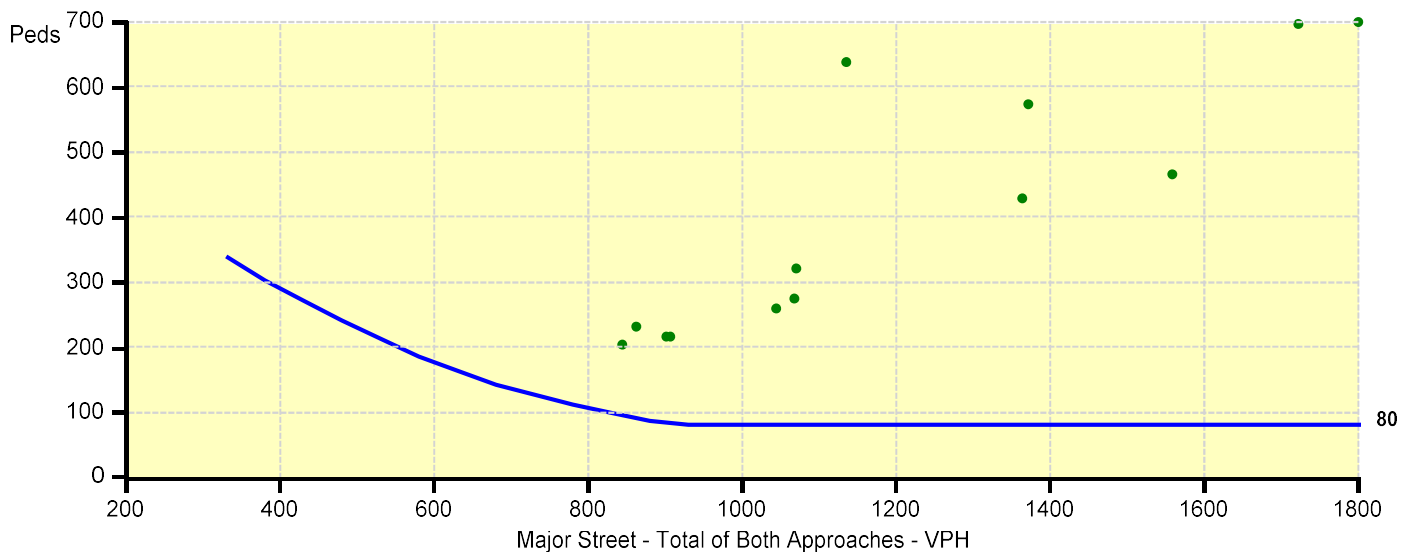
Summary

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 = **2 or more**

Time	Major Road CSAH 14				Total	Minor Road CSAH 52		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:30 - 17:30	1013	+	839	=	1852	747	379	Yes
15:30 - 16:30	938	+	783	=	1721	697	342	Yes
17:30 - 18:30	908	+	650	=	1558	466	298	Yes
07:30 - 08:30	720	+	652	=	1372	180	575	Yes
14:30 - 15:30	787	+	577	=	1364	429	268	Yes
06:30 - 07:30	530	+	604	=	1134	150	637	Yes
08:30 - 09:30	534	+	537	=	1071	165	322	Yes
18:30 - 19:30	643	+	424	=	1067	275	254	Yes
13:30 - 14:30	603	+	440	=	1043	259	200	Yes
11:30 - 12:30	528	+	378	=	906	202	215	Yes
12:30 - 13:30	518	+	384	=	902	217	214	Yes
10:30 - 11:30	476		387		863	174	230	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 04/20/2023

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

Summary

56 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Time	Major Road CSAH 14				Total	Minor Road CSAH 52		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:15 - 17:15	1017	+	847	=	1864	740	371	Yes
16:45 - 17:45	1021	+	837	=	1858	708	362	Yes
16:30 - 17:30	1013	+	839	=	1852	747	379	Yes
17:00 - 18:00	995	+	815	=	1810	649	345	Yes
16:00 - 17:00	962	+	823	=	1785	746	356	Yes
15:45 - 16:45	933	+	838	=	1771	767	349	Yes
15:30 - 16:30	938	+	783	=	1721	697	342	Yes
17:15 - 18:15	929	+	720	=	1649	581	330	Yes
15:15 - 16:15	907	+	723	=	1630	611	323	Yes
17:30 - 18:30	908	+	650	=	1558	466	298	Yes
15:00 - 16:00	875	+	659	=	1534	546	308	Yes
07:15 - 08:15	725		764		1489	204	709	Yes

