

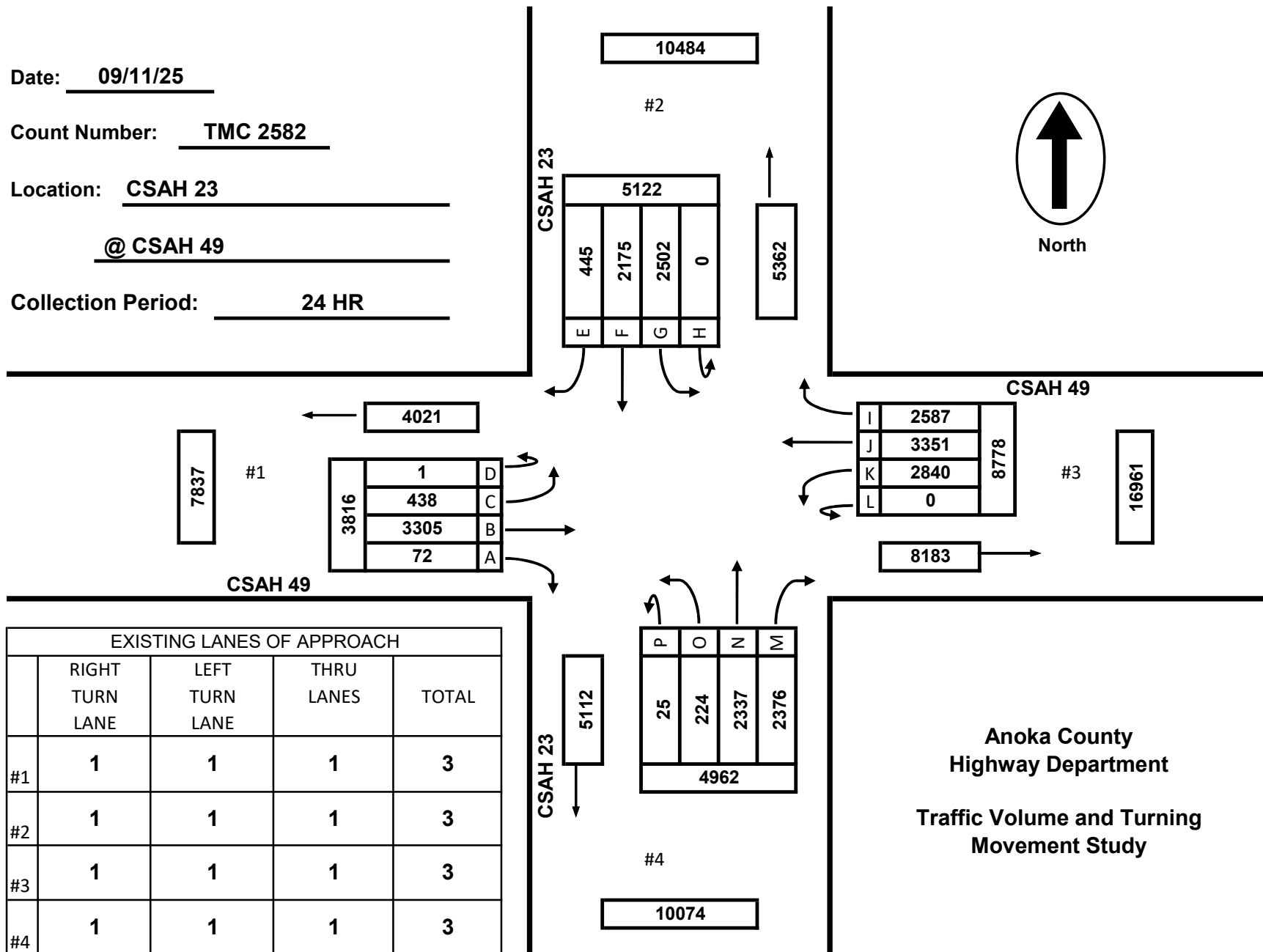
Date: 09/11/25

Count Number: TMC 2582

Location: CSAH 23

@ CSAH 49

Collection Period: 24 HR



Date: 09/11/25

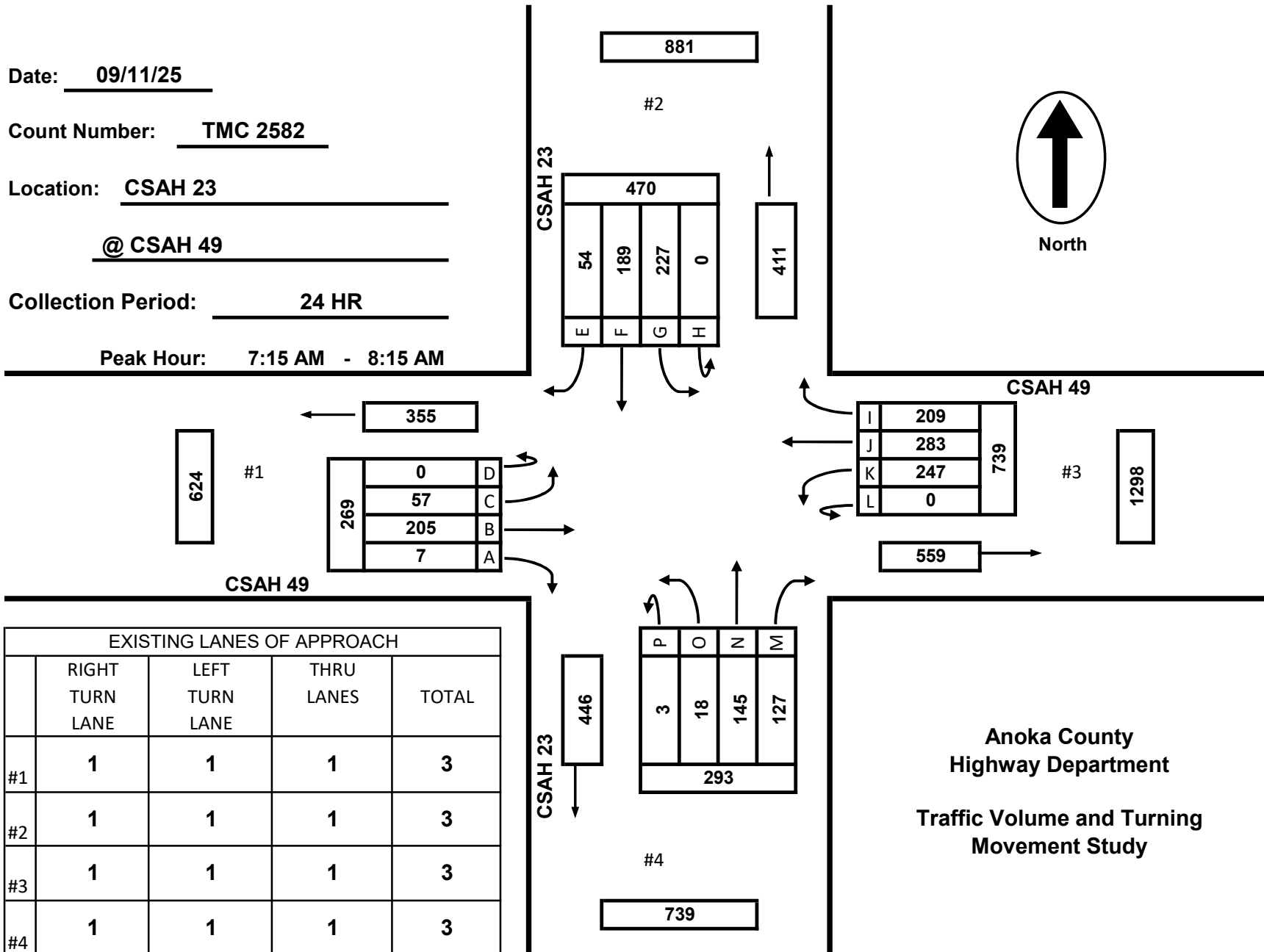
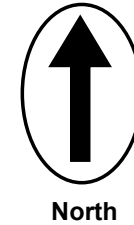
Count Number: TMC 2582

Location: CSAH 23

@ CSAH 49

Collection Period: 24 HR

Peak Hour: 7:15 AM - 8:15 AM



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

Date: 09/11/25

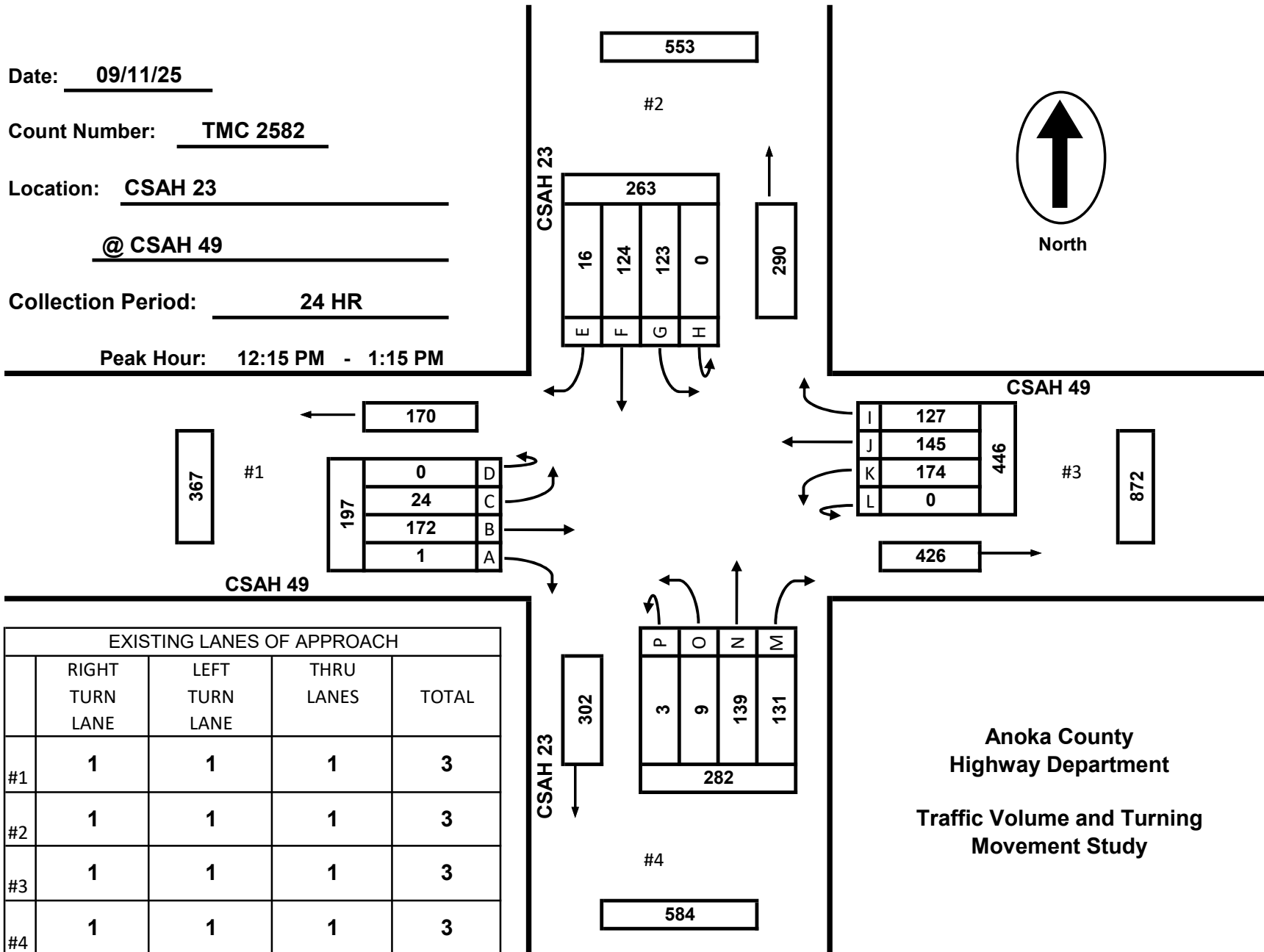
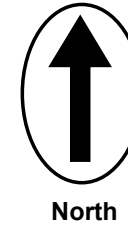
Count Number: TMC 2582

Location: CSAH 23

@ CSAH 49

Collection Period: 24 HR

Peak Hour: 12:15 PM - 1:15 PM



Anoka County
Highway Department
Traffic Volume and Turning
Movement Study

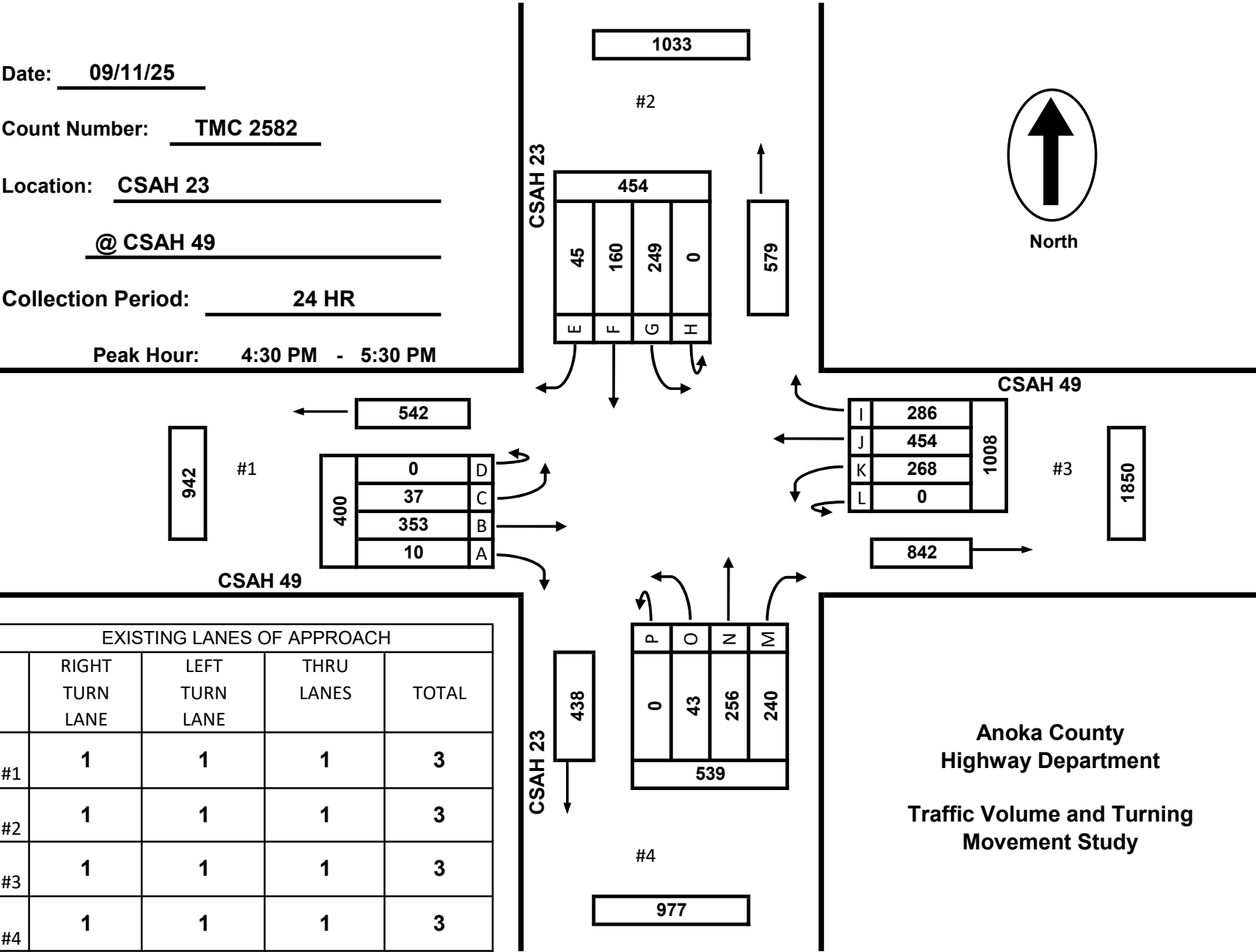
Date: 09/11/25

Count Number: TMC 2582

Location: CSAH 23
@ CSAH 49

Collection Period: 24 HR

Peak Hour: 4:30 PM - 5:30 PM



Anoka County
Highway Department
Traffic Volume and Turning
Movement Study

TMC 2582 - CSAH 23 @ CSAH 49
Lino Lakes MN
Thursday, September 11, 2025

Time	Southbound CSAH 23						Westbound CSAH 49						Northbound CSAH 23						Eastbound CSAH 49						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	1	0	4	0	3	0	0	0	3	0	2	1	4	0	7	0	0	2	0	0	2	16
12:15 AM	0	0	2	0	0	2	0	3	1	0	0	4	0	0	1	1	0	2	0	0	1	1	0	2	10
12:30 AM	0	1	0	0	0	1	0	1	2	2	0	5	0	0	2	2	0	4	0	0	1	0	0	1	11
12:45 AM	0	0	1	0	0	1	0	0	3	1	0	4	0	0	0	2	0	2	0	0	1	0	0	1	8
Hourly Total	0	1	6	1	0	8	0	7	6	3	0	16	0	2	4	9	0	15	0	0	5	1	0	6	45
1:00 AM	0	0	0	0	0	0	0	3	2	0	0	5	0	0	1	1	0	2	0	0	1	0	0	1	8
1:15 AM	0	2	0	0	0	2	0	0	2	1	0	3	0	0	1	2	0	3	0	0	1	0	0	1	9
1:30 AM	0	2	3	0	0	5	0	1	2	1	0	4	0	0	1	1	0	2	0	0	1	0	0	1	12
1:45 AM	0	0	2	0	0	2	0	2	1	0	0	3	0	0	1	1	0	2	0	0	0	0	0	0	7
Hourly Total	0	4	5	0	0	9	0	6	7	2	0	15	0	0	4	5	0	9	0	0	3	0	0	3	36
2:00 AM	0	0	0	0	0	0	0	2	1	3	0	6	0	0	0	1	0	1	0	3	1	0	0	4	11
2:15 AM	0	1	1	0	0	2	0	0	0	2	0	2	0	0	0	2	0	2	0	0	0	0	0	0	6
2:30 AM	0	0	1	0	0	1	0	3	1	1	0	5	0	0	2	0	0	2	0	0	0	0	0	0	8
2:45 AM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Hourly Total	0	1	2	0	0	3	0	9	2	6	0	17	0	0	2	3	0	5	0	3	1	0	0	4	29
3:00 AM	0	0	0	0	0	0	0	1	0	2	0	3	0	0	1	3	0	4	0	0	0	0	0	0	7
3:15 AM	0	2	1	0	0	3	0	1	0	1	0	2	0	0	2	0	0	2	0	0	0	0	0	0	7
3:30 AM	0	0	0	0	0	0	0	0	1	2	0	3	1	0	2	3	0	6	0	0	1	0	0	1	10
3:45 AM	0	1	4	0	0	5	0	4	1	3	0	8	0	0	4	2	0	6	0	0	0	0	0	0	19
Hourly Total	0	3	5	0	0	8	0	6	2	8	0	16	1	0	9	8	0	18	0	0	1	0	0	1	43
4:00 AM	0	4	4	0	0	8	0	3	0	1	0	4	0	0	0	2	0	2	0	0	1	0	0	1	15
4:15 AM	0	3	4	0	0	7	0	4	0	2	0	6	1	1	1	2	0	5	0	0	1	0	0	1	19
4:30 AM	0	3	7	0	0	10	0	8	3	0	0	11	0	0	1	6	0	7	0	1	6	0	0	7	35
4:45 AM	0	4	10	0	0	14	0	10	5	5	0	20	0	0	2	5	0	7	0	3	3	0	0	6	47
Hourly Total	0	14	25	0	0	39	0	25	8	8	0	41	1	1	4	15	0	21	0	4	11	0	0	15	116
5:00 AM	0	5	6	1	0	12	0	7	1	3	0	11	0	1	2	8	0	11	0	0	3	0	0	3	37
5:15 AM	0	7	13	0	0	20	0	23	3	5	0	31	1	0	9	5	0	15	0	1	8	0	0	9	75
5:30 AM	0	8	13	0	0	21	0	20	7	3	0	30	0	1	6	8	0	15	0	2	12	1	0	15	81
5:45 AM	0	14	13	1	0	28	0	24	19	13	0	56	0	0	7	12	0	19	0	0	10	0	0	10	113
Hourly Total	0	34	45	2	0	81	0	74	30	24	0	128	1	2	24	33	0	60	0	3	33	1	0	37	306
6:00 AM	0	14	20	1	0	35	0	24	13	8	0	45	0	1	6	13	0	20	0	1	20	1	0	22	122
6:15 AM	0	22	25	0	0	47	0	27	12	9	0	48	0	0	11	19	0	30	0	0	24	0	0	24	149
6:30 AM	0	28	25	3	0	56	0	44	24	22	0	90	0	1	7	25	0	33	0	0	30	0	0	30	209
6:45 AM	0	40	37	4	0	81	0	45	40	57	0	142	0	4	23	29	0	56	0	3	45	1	0	49	328
Hourly Total	0	104	107	8	0	219	0	140	89	96	0	325	0	6	47	86	0	139	0	4	119	2	0	125	808
7:00 AM	0	48	30	11	0	89	0	41	60	37	0	138	0	3	28	25	0	56	0	2	49	1	0	52	335
7:15 AM	0	31	32	16	0	79	0	53	81	58	0	192	1	3	29	18	0	51	0	6	40	2	0	48	370
7:30 AM	0	52	36	20	0	108	0	76	116	57	0	249	2	8	36	31	0	77	0	22	49	2	2	73	507
7:45 AM	0	64	71	16	0	151	0	61	54	58	0	173	0	4	52	44	0	100	0	28	72	2	0	102	526
Hourly Total	0	195	169	63	0	427	0	231	311	210	0	752	3	18	145	118	0	284	0	58	210	7	2	275	1738

TMC 2582 - CSAH 23 @ CSAH 49
Lino Lakes MN
Thursday, September 11, 2025

Time	Southbound CSAH 23						Westbound CSAH 49						Northbound CSAH 23						Eastbound CSAH 49						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	80	50	2	0	132	0	57	32	36	0	125	0	3	28	34	0	65	0	1	44	1	0	46	368
8:15 AM	0	29	45	7	0	81	0	35	44	40	0	119	0	4	21	33	0	58	0	1	41	1	0	43	301
8:30 AM	0	39	26	2	0	67	0	46	46	31	0	123	0	0	24	20	0	44	0	3	44	0	0	47	281
8:45 AM	0	49	20	10	0	79	0	49	41	29	0	119	1	5	41	38	0	85	0	4	51	1	0	56	339
Hourly Total	0	197	141	21	0	359	0	187	163	136	0	486	1	12	114	125	0	252	0	9	180	3	0	192	1289
9:00 AM	0	42	44	5	0	91	0	56	56	53	0	165	0	1	33	35	0	69	0	2	59	0	0	61	386
9:15 AM	0	56	34	3	0	93	0	58	48	39	0	145	1	1	32	37	0	71	0	5	36	0	0	41	350
9:30 AM	0	29	25	6	0	60	0	51	39	41	0	131	0	3	33	30	0	66	0	3	25	2	0	30	287
9:45 AM	0	27	34	7	0	68	0	39	39	34	0	112	0	0	23	21	0	44	0	5	35	1	0	41	265
Hourly Total	0	154	137	21	0	312	0	204	182	167	0	553	1	5	121	123	0	250	0	15	155	3	0	173	1288
10:00 AM	0	24	22	1	0	47	0	32	24	29	0	85	0	3	30	22	0	55	0	5	31	0	0	36	223
10:15 AM	0	29	29	8	0	66	0	37	29	37	0	103	0	0	39	21	1	60	0	5	23	1	0	29	258
10:30 AM	0	28	30	3	0	61	0	25	35	30	0	90	1	1	31	26	0	59	0	1	35	2	0	38	248
10:45 AM	0	24	28	3	0	55	0	28	37	32	0	97	0	5	35	37	0	77	0	9	55	4	0	68	297
Hourly Total	0	105	109	15	0	229	0	122	125	128	0	375	1	9	135	106	1	251	0	20	144	7	0	171	1026
11:00 AM	0	21	30	4	0	55	0	44	30	22	0	96	2	2	28	35	0	67	0	4	32	3	0	39	257
11:15 AM	0	30	31	5	0	66	0	41	35	27	0	103	0	2	29	45	0	76	0	8	26	0	0	34	279
11:30 AM	0	24	30	4	0	58	0	61	43	40	0	144	0	1	23	35	0	59	0	5	30	1	0	36	297
11:45 AM	0	31	47	5	0	83	0	26	37	35	0	98	0	1	38	29	0	68	0	3	44	2	0	49	298
Hourly Total	0	106	138	18	0	262	0	172	145	124	0	441	2	6	118	144	0	270	0	20	132	6	0	158	1131
12:00 PM	0	23	23	9	0	55	0	39	30	19	0	88	0	3	17	31	0	51	0	4	34	3	0	41	235
12:15 PM	0	29	41	1	0	71	0	45	42	34	0	121	0	3	28	36	0	67	0	2	54	0	0	56	315
12:30 PM	0	30	18	7	0	55	0	51	36	37	1	124	1	1	36	35	0	73	0	5	30	0	0	35	287
12:45 PM	0	28	38	2	0	68	0	35	39	27	1	101	1	3	34	32	0	70	0	10	45	0	0	55	294
Hourly Total	0	110	120	19	0	249	0	170	147	117	2	434	2	10	115	134	0	261	0	21	163	3	0	187	1131
1:00 PM	0	36	27	6	0	69	0	43	28	29	0	100	1	2	41	28	0	72	0	7	43	1	0	51	292
1:15 PM	0	32	37	4	0	73	0	31	41	26	0	98	1	0	38	28	0	67	0	6	30	0	0	36	274
1:30 PM	0	39	29	7	0	75	0	38	36	33	0	107	1	2	40	28	0	71	0	3	38	1	0	42	295
1:45 PM	0	41	39	6	0	86	0	32	47	34	0	113	0	2	37	32	1	71	0	5	50	0	0	55	325
Hourly Total	0	148	132	23	0	303	0	144	152	122	0	418	3	6	156	116	1	281	0	21	161	2	0	184	1186
2:00 PM	0	43	33	4	0	80	0	39	45	41	0	125	1	4	37	32	0	74	0	9	47	2	0	58	337
2:15 PM	0	29	42	13	0	84	0	34	66	50	0	150	1	4	44	42	0	91	0	8	50	0	0	58	383
2:30 PM	0	33	36	7	0	76	0	48	64	65	0	177	1	2	57	38	0	98	0	4	58	0	0	62	413
2:45 PM	0	44	35	6	0	85	0	40	64	40	0	144	0	6	51	46	0	103	1	25	98	2	0	126	458
Hourly Total	0	149	146	30	0	325	0	161	239	196	0	596	3	16	189	158	0	366	1	46	253	4	0	304	1591
3:00 PM	0	73	61	14	0	148	0	44	72	57	0	173	0	8	58	43	0	109	0	9	71	0	0	80	510
3:15 PM	0	48	49	14	0	111	0	61	73	50	0	184	0	8	54	50	1	112	0	12	71	1	0	84	491
3:30 PM	0	61	37	4	0	102	0	42	58	56	0	156	1	3	85	58	1	147	0	10	72	2	0	84	489
3:45 PM	0	56	53	14	0	123	0	79	105	89	0	273	1	8	54	48	0	111	0	8	80	2	0	90	597
Hourly Total	0	238	200	46	0	484	0	226	308	252	0	786	2	27	251	199	2	479	0	39	294	5	0	338	2087

TMC 2582 - CSAH 23 @ CSAH 49
Lino Lakes MN
Thursday, September 11, 2025

Time	Southbound CSAH 23						Westbound CSAH 49						Northbound CSAH 23						Eastbound CSAH 49						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	50	42	7	0	99	0	69	97	79	0	245	0	9	53	61	0	123	0	9	68	1	0	78	545
4:15 PM	0	47	25	3	0	75	0	65	94	75	0	234	0	6	69	67	0	142	0	9	61	1	0	71	522
4:30 PM	0	70	55	9	0	134	0	55	99	78	0	232	0	15	63	52	0	130	0	10	72	4	0	86	582
4:45 PM	0	59	29	15	0	103	0	66	114	67	0	247	0	5	73	67	0	145	0	7	78	2	0	87	582
Hourly Total	0	226	151	34	0	411	0	255	404	299	0	958	0	35	258	247	0	540	0	35	279	8	0	322	2231
5:00 PM	0	45	39	13	1	97	0	79	136	84	0	299	0	13	65	59	1	137	0	15	102	2	0	119	652
5:15 PM	0	75	37	8	0	120	0	68	105	57	0	230	0	10	55	62	0	127	0	5	101	2	0	108	585
5:30 PM	0	50	43	7	0	100	0	48	97	74	0	219	0	4	50	75	0	129	0	17	78	2	0	97	545
5:45 PM	0	54	37	10	0	101	0	47	90	74	0	211	0	6	59	46	0	111	0	10	74	3	0	87	510
Hourly Total	0	224	156	38	1	418	0	242	428	289	0	959	0	33	229	242	1	504	0	47	355	9	0	411	2292
6:00 PM	0	45	34	5	0	84	0	46	71	48	0	165	0	1	53	49	0	103	0	12	97	3	0	112	464
6:15 PM	0	49	34	9	0	92	0	41	65	49	0	155	0	3	40	42	0	85	0	3	64	1	0	68	400
6:30 PM	0	41	41	9	0	91	0	47	55	34	0	136	0	1	31	37	0	69	0	9	36	2	0	47	343
6:45 PM	0	34	30	19	0	83	0	35	45	31	0	111	0	3	42	37	0	82	0	8	64	1	0	73	349
Hourly Total	0	169	139	42	0	350	0	169	236	162	0	567	0	8	166	165	0	339	0	32	261	7	0	300	1556
7:00 PM	0	38	32	7	0	77	0	37	49	31	0	117	0	2	35	36	0	73	0	5	79	1	0	85	352
7:15 PM	0	52	26	14	0	92	0	27	53	26	1	106	0	3	24	40	0	67	0	8	46	1	0	55	320
7:30 PM	0	39	21	6	0	66	0	32	44	29	0	105	1	1	18	32	0	52	0	6	59	0	0	65	288
7:45 PM	0	48	24	5	0	77	0	34	27	18	0	79	0	6	16	28	0	50	0	4	56	0	0	60	266
Hourly Total	0	177	103	32	0	312	0	130	173	104	1	407	1	12	93	136	0	242	0	23	240	2	0	265	1226
8:00 PM	0	27	20	10	0	57	0	25	45	18	0	88	0	1	23	24	0	48	0	5	33	0	0	38	231
8:15 PM	0	18	25	3	0	46	0	11	30	17	0	58	0	1	14	20	0	35	0	3	58	0	0	61	200
8:30 PM	0	17	13	2	0	32	0	21	14	14	0	49	1	0	12	25	0	38	0	6	40	1	0	47	166
8:45 PM	0	16	19	1	0	36	0	16	18	7	0	41	1	1	21	17	0	40	0	2	37	0	0	39	156
Hourly Total	0	78	77	16	0	171	0	73	107	56	0	236	2	3	70	86	0	161	0	16	168	1	0	185	753
9:00 PM	0	10	5	4	0	19	0	19	18	15	0	52	1	0	12	19	0	32	0	1	29	1	0	31	134
9:15 PM	0	9	8	4	0	21	0	10	13	10	0	33	0	3	7	21	0	31	0	4	27	0	0	31	116
9:30 PM	0	6	8	3	0	17	0	13	6	13	0	32	0	0	7	8	0	15	0	2	27	0	0	29	93
9:45 PM	0	4	5	0	0	9	0	7	12	6	0	25	0	0	15	19	0	34	0	1	7	0	0	8	76
Hourly Total	0	29	26	11	0	66	0	49	49	44	0	142	1	3	41	67	0	112	0	8	90	1	0	99	419
10:00 PM	0	2	7	0	0	9	0	10	9	5	0	24	0	1	9	13	0	23	0	3	11	0	0	14	70
10:15 PM	0	3	6	0	0	9	0	8	10	8	0	26	0	2	12	13	0	27	0	7	8	0	0	15	77
10:30 PM	0	12	6	2	0	20	0	5	1	7	0	13	0	0	3	8	0	11	0	1	7	0	0	8	52
10:45 PM	0	9	4	0	0	13	0	1	6	4	0	11	0	0	4	2	0	6	0	0	2	0	0	2	32
Hourly Total	0	26	23	2	0	51	0	24	26	24	0	74	0	3	28	36	0	67	0	11	28	0	0	39	231
11:00 PM	0	3	2	1	0	6	0	3	4	3	0	10	0	1	1	4	0	6	0	1	9	0	0	10	32
11:15 PM	0	2	2	2	0	6	0	5	3	3	0	11	0	1	4	4	0	9	0	0	4	0	0	4	30
11:30 PM	0	3	5	0	0	8	0	1	3	1	0	5	0	4	5	6	0	15	0	2	4	0	0	6	34
11:45 PM	0	2	4	0	0	6	0	5	2	3	0	10	0	1	4	1	0	6	0	0	2	0	0	2	24
Hourly Total	0	10	13	3	0	26	0	14	12	10	0	36	0	7	14	15	0	36	0	3	19	0	0	22	120
DAILY TOTAL	0	2502	2175	445	1	5122	0	2840	3351	2587	3	8778	25	224	2337	2376	5	4962	1	438	3305	72	2	3816	22678
Cars	0	2363	2117	431	0	4911	0	2736	3268	2483	2	8487	25	217	2290	2270	4	4802	1	421	3245	69	2	3736	21936
Heavy Vehicles	0	139	58	14	1	211	0	104	83	104	1	291	0	7	47	106	1	160	0	17	60	3	0	80	742
Heavy Vehicle %	0.00%	5.56%	2.67%	3.15%	100.00%	4.12%	0.00%	3.66%	2.48%	4.02%	33.33%	3.32%	0.00%	3.13%	2.01%	4.46%	20.00%	3.22%	0.00%	3.88%	1.82%	4.17%	0.00%	2.10%	3.27%

TMC 2582 - CSAH 23 @ CSAH 49
Lino Lakes MN
Thursday, September 11, 2025
AM Peak Hour (00:00 to 10:00)

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	32	16	0	79	0	53	81	58	0	192	1	3	29	18	0	51	0	6	40	2	0	48	370
7:30 AM	0	52	36	20	0	108	0	76	116	57	0	249	2	8	36	31	0	77	0	22	49	2	2	73	507
7:45 AM	0	64	71	16	0	151	0	61	54	58	0	173	0	4	52	44	0	100	0	28	72	2	0	102	526
8:00 AM	0	80	50	2	0	132	0	57	32	36	0	125	0	3	28	34	0	65	0	1	44	1	0	46	368
Peak Hour Total	0	227	189	54	0	470	0	247	283	209	0	739	3	18	145	127	0	293	0	57	205	7	2	269	1771
Peak Hour Heavy Vehicles	0	29	13	1	0	43	0	27	12	6	0	45	0	0	7	5	0	12	0	10	6	0	0	16	116
Peak Hour Heavy Vehicles % PHF	0.00%	12.78%	6.88%	1.85%	0.00%	9.15%	0.00%	10.93%	4.24%	2.87%	0.00%	6.09%	0.00%	0.00%	4.83%	3.94%	0.00%	4.10%	0.00%	17.54%	2.93%	0.00%	0.00%	5.95%	6.55%
	0.000	0.709	0.665	0.675	0.000	0.778	0.000	0.813	0.610	0.901	0.000	0.742	0.375	0.563	0.697	0.722	0.000	0.733	0.000	0.509	0.712	0.875	0.250	0.659	0.842

Mid Peak Hour (10:00 - 14:00)

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	
12:15 PM	0	29	41	1	0	71	0	45	42	34	0	121	0	3	28	36	0	67	0	2	54	0	0	56	315
12:30 PM	0	30	18	7	0	55	0	51	36	37	1	124	1	1	36	35	0	73	0	5	30	0	0	35	287
12:45 PM	0	28	38	2	0	68	0	35	39	27	1	101	1	3	34	32	0	70	0	10	45	0	0	55	294
1:00 PM	0	36	27	6	0	69	0	43	28	29	0	100	1	2	41	28	0	72	0	7	43	1	0	51	292
Peak Hour Total	0	123	124	16	0	263	0	174	145	127	2	446	3	9	139	131	0	282	0	24	172	1	0	197	1188
Peak Hour Heavy Vehicles	0	4	4	1	0	9	0	11	5	5	0	21	0	0	3	12	0	15	0	1	4	0	0	5	50
Peak Hour Heavy Vehicles % PHF	0.00%	3.25%	3.23%	6.25%	0.00%	3.42%	0.00%	6.32%	3.45%	3.94%	0.00%	4.71%	0.00%	0.00%	2.16%	9.16%	0.00%	5.32%	0.00%	4.17%	2.33%	0.00%	0.00%	2.54%	4.21%
	0.000	0.854	0.756	0.571	0.000	0.926	0.000	0.853	0.863	0.858	0.500	0.899	0.750	0.750	0.848	0.910	0.000	0.966	0.000	0.600	0.796	0.250	0.000	0.879	0.943

PM Peak Hour (14:00 - 24:00)

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	70	55	9	0	134	0	55	99	78	0	232	0	15	63	52	0	130	0	10	72	4	0	86	582
4:45 PM	0	59	29	15	0	103	0	66	114	67	0	247	0	5	73	67	0	145	0	7	78	2	0	87	582
5:00 PM	0	45	39	13	1	97	0	79	136	84	0	299	0	13	65	59	1	137	0	15	102	2	0	119	652
5:15 PM	0	75	37	8	0	120	0	68	105	57	0	230	0	10	55	62	0	127	0	5	101	2	0	108	585
Peak Hour Total	0	249	160	45	1	454	0	268	454	286	0	1008	0	43	256	240	1	539	0	37	353	10	0	400	2401
Peak Hour Heavy Vehicles	0	10	3	1	1	14	0	4	1	3	0	8	0	0	2	6	1	8	0	0	5	0	0	5	35
Peak Hour Heavy Vehicles % PHF	0.00%	4.02%	1.88%	2.22%	100.00%	3.08%	0.00%	1.49%	0.22%	1.05%	0.00%	0.79%	0.00%	0.00%	0.78%	2.50%	100.00%	1.48%	0.00%	0.00%	1.42%	0.00%	0.00%	1.25%	1.46%
	0.000	0.830	0.727	0.750	0.250	0.847	0.000	0.848	0.835	0.851	0.000	0.843	0.000	0.717	0.877	0.896	0.250	0.929	0.000	0.617	0.865	0.625	0.000	0.840	0.921

Total Vehicles On Leg				10484	
Vehicles Entering Intersection		5122		Vehicles Exiting Intersection	
		Southbound		Northbound	
Cars	431	2117	2363	0	0
Heavy	14	58	139	0	1
Total	445	2175	2502	0	1



Total Vehicles on Leg 7837	Vehicles Entering Intersection 3816	Eastbound	Cars	Heavy	Total
			2	0	2
			1	0	1
	Vehicles Exiting Intersection 4021		421	17	438
			3245	60	3305
			69	3	72



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 8778	Total Vehicles on Leg 16961
2483	104	2587			
3268	83	3351			
2736	104	2840			
0	0	0			
2	1	3		Vehicles Exiting Intersection 8183	



Cars	4	25	217	2290	2270
Heavy	1	0	7	47	106
Total	5	25	224	2337	2376
Vehicles Entering Intersection 4962			Vehicles Exiting Intersection 5112		
Total Vehicles On Leg			10074		

TMC 2582 - CSAH 23 @ CSAH 49
Lino Lakes MN
Thursday, September 11, 2025

Time	Southbound Heavy CSAH 23						Westbound Heavy CSAH 49						Northbound Heavy CSAH 23						Eastbound Heavy CSAH 49						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
12:15 AM	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
12:30 AM	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
12:45 AM	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
Hourly 'Heavy Vehicles'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1:00 AM	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
1:15 AM	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
1:30 AM	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
1:45 AM	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
Hourly 'Heavy Vehicles'	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
2:00 AM	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
2:15 AM	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
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
2:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly 'Heavy Vehicles'	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
3:00 AM	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
3:15 AM	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
3:30 AM	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
3:45 AM	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
Hourly 'Heavy Vehicles'	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
4:00 AM	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
4:15 AM	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
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
4:45 AM	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
Hourly 'Heavy Vehicles'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
5:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
5:30 AM	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
5:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
Hourly 'Heavy Vehicles'	0	0	0	0	0	0	0	1	0	1	0	2	0	0	1	0	0	0	0	0	1	0	0	1	4
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	2	1	0	3	0	0	2	2	0	0	0	0	0	0	0	0	7
6:30 AM	0	2	0	0	0	2	0	1	2	1	0	4	0	0	0	2	0	0	0	0	0	0	0	0	8
6:45 AM	0	0	1	0	0	1	0	0	3	0	0	3	0	0	0	1	0	0	0	1	2	0	0	3	8
Hourly 'Heavy Vehicles'	0	2	1	0	0	3	0	1	7	2	0	10	0	0	3	5	0	0	0	1	2	0	0	3	24
7:00 AM	0	0	1	0	0	1	0	3	3	8	0	14	0	0	2	0	0	0	0	0	1	1	0	2	19
7:15 AM	0	0	1	0	0	1	0	9	3	2	0	14	0	0	0	0	0	0	0	0	0	0	0	0	15
7:30 AM	0	2	1	1	0	4	0	15	6	1	0	22	0	0	1	0	0	0	0	2	0	0	0	2	29
7:45 AM	0	5	2	0	0	7	0	2	2	1	0	5	0	0	3	3	0	0	0	8	4	0	0	12	30
Hourly 'Heavy Vehicles'	0	7	5	1	0	13	0	29	14	12	0	55	0	0	6	3	0	0	0	10	5	1	0	16	93

TMC 2582 - CSAH 23 @ CSAH 49

Lino Lakes MN

Thursday, September 11, 2025

Time	Southbound Heavy CSAH 23						Westbound Heavy CSAH 49						Northbound Heavy CSAH 23						Eastbound Heavy CSAH 49						VEHICLE 'Heavy Vehicles'
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach 'Heavy Vehicles'</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach 'Heavy Vehicles'</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach 'Heavy Vehicles'</i>	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	<i>Vehicle Approach 'Heavy Vehicles'</i>	
8:00 AM	0	22	9	0	0	31	0	1	1	2	0	4	0	0	3	2	0	5	0	0	2	0	0	2	42
8:15 AM	0	2	2	0	0	4	0	2	0	2	0	4	0	1	0	2	0	3	0	0	1	0	0	1	12
8:30 AM	0	6	0	0	0	6	0	6	0	1	0	7	0	0	1	3	0	4	0	0	1	0	0	1	18
8:45 AM	0	3	1	2	0	6	0	4	1	0	0	5	0	2	1	4	0	7	0	0	2	0	0	2	20
Hourly 'Heavy Vehicles'	0	33	12	2	0	47	0	13	2	5	0	20	0	3	5	11	0	19	0	0	6	0	0	6	92
9:00 AM	0	2	0	0	0	2	0	4	2	5	0	11	0	0	3	3	0	6	0	0	4	0	0	4	23
9:15 AM	0	14	1	1	0	16	0	0	1	1	0	2	0	0	2	6	0	8	0	0	8	0	0	8	34
9:30 AM	0	2	0	0	0	2	0	1	0	2	0	3	0	0	0	5	0	5	0	1	0	0	0	1	11
9:45 AM	0	0	1	1	0	2	0	1	0	2	0	3	0	0	0	1	0	1	0	0	1	0	0	1	7
Hourly 'Heavy Vehicles'	0	18	2	2	0	22	0	6	3	10	0	19	0	0	5	15	0	20	0	1	13	0	0	14	75
10:00 AM	0	1	1	0	0	2	0	3	1	1	0	5	0	0	0	2	0	2	0	0	0	0	0	0	9
10:15 AM	0	3	0	0	0	3	0	1	0	0	0	1	0	0	2	0	1	2	0	0	0	0	0	0	6
10:30 AM	0	1	2	0	0	3	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	5
10:45 AM	0	0	2	0	0	2	0	0	1	3	0	4	0	0	0	2	0	2	0	0	0	1	0	1	9
Hourly 'Heavy Vehicles'	0	5	5	0	0	10	0	4	2	5	0	11	0	0	3	4	1	7	0	0	0	1	0	1	29
11:00 AM	0	1	0	0	0	1	0	1	0	2	0	3	0	0	0	3	0	3	0	0	2	0	0	2	9
11:15 AM	0	3	2	0	0	5	0	3	0	0	0	3	0	0	0	2	0	2	0	0	0	0	0	0	10
11:30 AM	0	1	1	0	0	2	0	1	3	3	0	7	0	0	0	1	0	1	0	0	0	0	0	0	10
11:45 AM	0	0	0	0	0	0	0	2	0	1	0	3	0	1	1	4	0	6	0	0	1	0	0	1	10
Hourly 'Heavy Vehicles'	0	5	3	0	0	8	0	7	3	6	0	16	0	1	1	10	0	12	0	0	3	0	0	3	39
12:00 PM	0	3	0	1	0	4	0	1	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	1	7
12:15 PM	0	2	1	0	0	3	0	1	2	0	0	3	0	0	0	2	0	2	0	0	1	0	0	1	9
12:30 PM	0	1	0	1	0	2	0	3	2	2	0	7	0	0	2	5	0	7	0	0	1	0	0	1	17
12:45 PM	0	1	2	0	0	3	0	2	1	0	0	3	0	0	1	3	0	4	0	1	1	0	0	2	12
Hourly 'Heavy Vehicles'	0	7	3	2	0	12	0	7	5	2	0	14	0	0	3	11	0	14	0	1	4	0	0	5	45
1:00 PM	0	0	1	0	0	1	0	5	0	3	0	8	0	0	0	2	0	2	0	0	1	0	0	1	12
1:15 PM	0	2	0	0	0	2	0	1	0	3	0	4	0	0	1	3	0	4	0	0	0	0	0	0	10
1:30 PM	0	1	1	0	0	2	0	4	0	3	0	7	0	0	0	0	0	0	0	0	0	0	0	0	9
1:45 PM	0	1	0	0	0	1	0	1	1	2	0	4	0	0	0	1	0	1	0	0	1	0	0	1	7
Hourly 'Heavy Vehicles'	0	4	2	0	0	6	0	11	1	11	0	23	0	0	1	6	0	7	0	0	2	0	0	2	38
2:00 PM	0	2	2	0	0	4	0	0	5	5	0	10	0	0	0	1	0	1	0	1	0	0	0	1	16
2:15 PM	0	3	1	1	0	5	0	2	22	6	0	30	0	0	1	1	0	2	0	0	0	0	0	0	37
2:30 PM	0	3	2	0	0	5	0	1	1	14	0	16	0	0	3	2	0	5	0	0	1	0	0	1	27
2:45 PM	0	8	3	0	0	11	0	2	1	7	0	10	0	1	1	1	0	3	0	0	1	0	0	1	25
Hourly 'Heavy Vehicles'	0	16	8	1	0	25	0	5	29	32	0	66	0	1	5	5	0	11	0	1	2	0	0	3	105
3:00 PM	0	15	5	3	0	23	0	2	5	1	0	8	0	0	0	0	0	0	0	1	2	0	0	3	34
3:15 PM	0	4	1	0	0	5	0	2	2	1	0	5	0	0	1	1	0	2	0	0	1	0	0	1	13
3:30 PM	0	2	1	1	0	4	0	3	1	2	0	6	0	0	4	5	0	9	0	1	4	0	0	5	24
3:45 PM	0	2	3	0	0	5	0	1	1	2	0	4	0	1	2	4	0	7	0	0	1	1	0	2	18
Hourly 'Heavy Vehicles'	0	23	10	4	0	37	0	8	9	6	0	23	0	1	7	10	0	18	0	2	8	1	0	11	89

TMC 2582 - CSAH 23 @ CSAH 49
Lino Lakes MN

Thursday, September 11, 2025

Time	Southbound Heavy CSAH 23						Westbound Heavy CSAH 49						Northbound Heavy CSAH 23						Eastbound Heavy CSAH 49						VEHICLE 'Heavy Vehicles'	
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach 'Heavy Vehicles'	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach 'Heavy Vehicles'	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach 'Heavy Vehicles'	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach 'Heavy Vehicles'		
4:00 PM	0	3	2	1	0	6	0	3	3	3	0	9	0	0	0	9	0	0	0	0	0	0	0	0	24	
4:15 PM	0	2	0	0	0	2	0	2	1	5	0	8	0	0	2	6	0	8	0	0	3	0	0	3	21	
4:30 PM	0	5	1	0	0	6	0	2	0	1	0	3	0	0	1	2	0	3	0	0	3	0	0	3	15	
4:45 PM	0	5	2	1	0	8	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	10	
Hourly 'Heavy Vehicles'	0	15	5	2	0	22	0	7	4	9	0	20	0	0	4	18	0	22	0	0	6	0	0	6	70	
5:00 PM	0	0	0	0	1	0	0	1	1	1	0	3	0	0	0	2	0	2	0	0	1	0	0	1	6	
5:15 PM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	1	0	1	0	0	1	0	0	1	4	
5:30 PM	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:45 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	3	
Hourly 'Heavy Vehicles'	0	0	1	0	1	1	0	4	2	2	0	8	0	0	0	4	0	4	0	0	2	0	0	2	15	
6:00 PM	0	0	1	0	0	1	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	3	
6:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
6:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	
6:45 PM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4	
Hourly 'Heavy Vehicles'	0	4	1	0	0	5	0	0	1	1	0	2	0	0	1	0	0	1	0	1	1	0	0	2	10	
7:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:15 PM	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	
7:30 PM	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	
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	
Hourly 'Heavy Vehicles'	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	2
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3	0	0	3	4	
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	
8:45 PM	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	
Hourly 'Heavy Vehicles'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	4	0	0	4	6	
9:00 PM	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	
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
9:45 PM	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	
Hourly 'Heavy Vehicles'	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	2	
10:00 PM	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	
10:15 PM	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	
10:30 PM	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	
10:45 PM	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	
Hourly 'Heavy Vehicles'	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	
11:00 PM	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	
11:15 PM	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	
11:30 PM	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	
11:45 PM	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	
Hourly 'Heavy Vehicles'	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	
DAILY 'Heavy Vehicles'	0	139	58	14	1	211	0	104	83	104	1	291	0	7	47	106	1	160	0	17	60	3	0	80	742	

Traffic Signal Warrant Analysis

Warrants 1 - 3 (Volume Warrants)

TMC	2582
Date	09/11/2025
Intersection Geometrics	Signal

Intersection Information			
Major Street (E/W Road)	CSAH 49	Minor Street (N/S Road)	CSAH 23
Analyzed with	2 or more approach lanes	Analyzed with	2 or more approach lanes
Total Approach Volume	12594 vehicles	Total Approach Volume	7263 vehicles
Total Ped/Bike Volume	5 crossings	Total Ped/Bike Volume	6 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	100% applied for NB/SB

No high speed or isolated community reduction applied to the Volume Warrant thresholds.

Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Satisfied	Satisfied	Satisfied
Required values reached for	15 hours	9 hours	15 (Cond. A) & 13 (Cond. B)
Criteria - Major Street (veh/hr)	420	630	336 (Cond. A) & 504 (Cond. B)
Criteria - Minor Street (veh/hr)	140	70	112 (Cond. A) & 56 (Cond. B)

* Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume	
Condition Satisfied?	Satisfied
Required values reached for	13 hours
Criteria	See Figure Below

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Examined	Satisfied
Required values reached for		9 hours
Criteria - Total Approach Volume (veh in one hour)		See Figure Below
Criteria - Minor Street High Side Volume (veh in one hour)		
Criteria - Minor Street High Side Delay (veh-hrs)		

Figure 4C-2 (Warrant 2 - 70% Factor) & Figure 4C-4 (Warrant 3 - 70% Factor)

