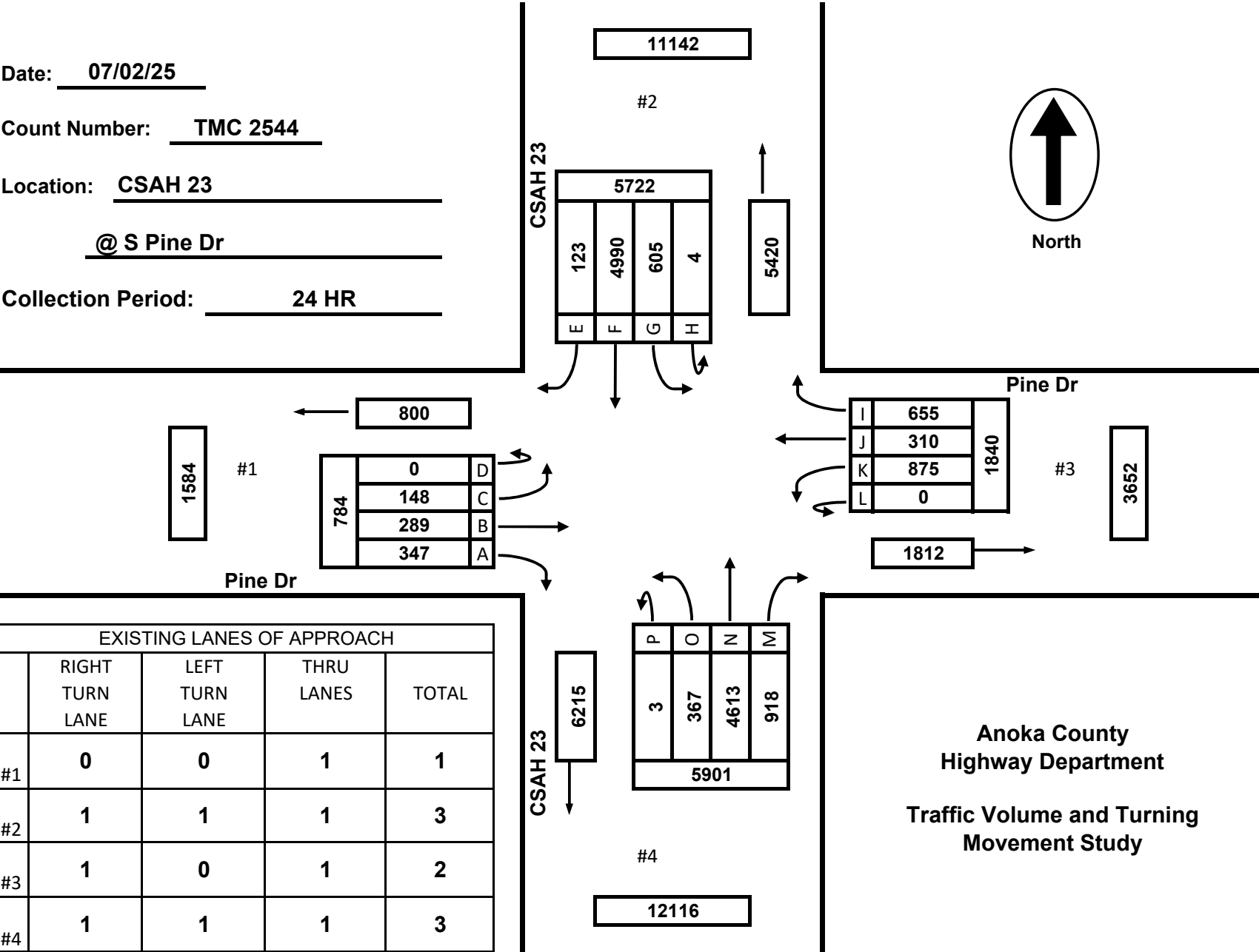


Date: 07/02/25
Count Number: TMC 2544
Location: CSAH 23
@ S Pine Dr
Collection Period: 24 HR



Anoka County
Highway Department
Traffic Volume and Turning
Movement Study

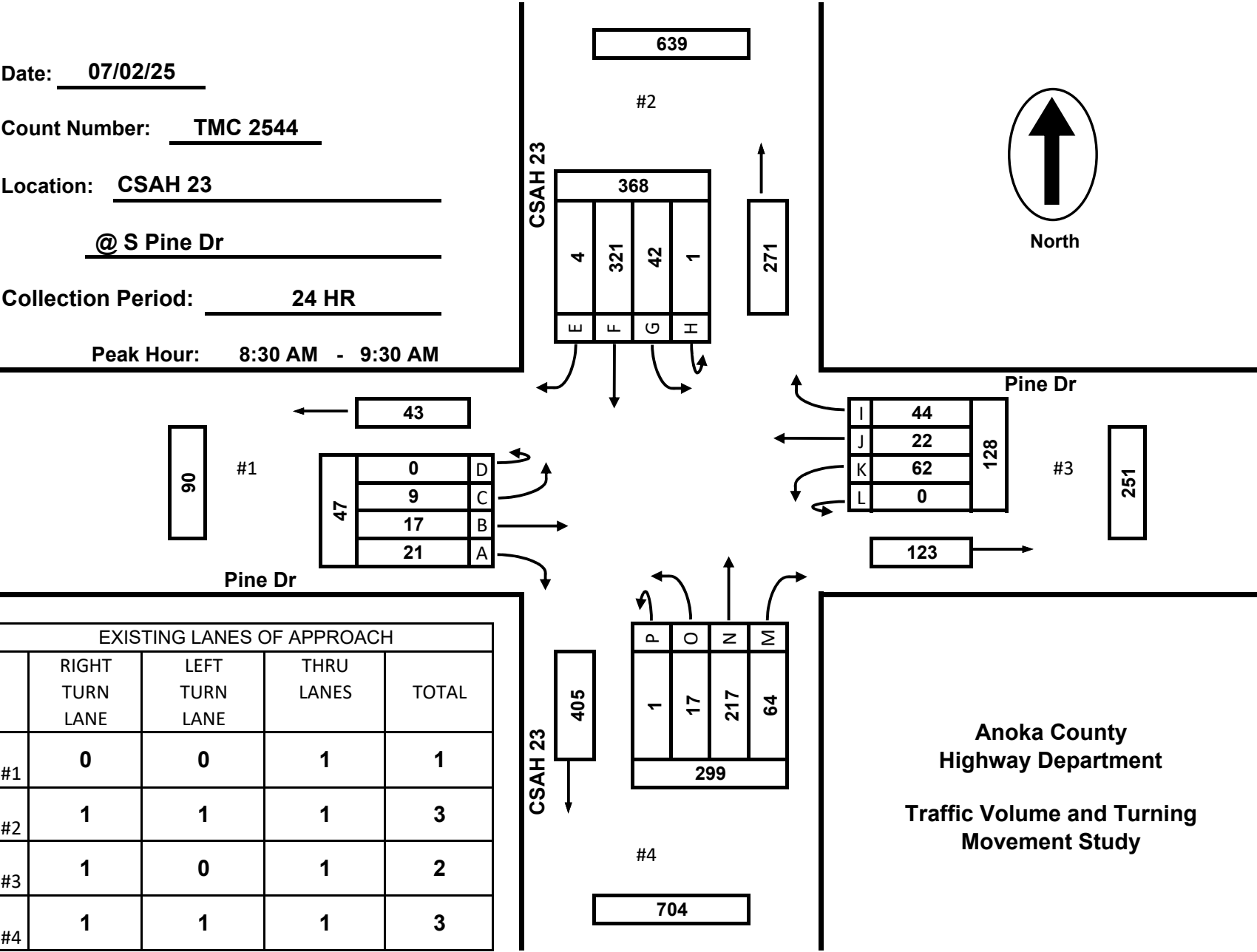
Date: 07/02/25

Count Number: TMC 2544

Location: CSAH 23
@ S Pine Dr

Collection Period: 24 HR

Peak Hour: 8:30 AM - 9:30 AM



Anoka County
 Highway Department

Traffic Volume and Turning
 Movement Study

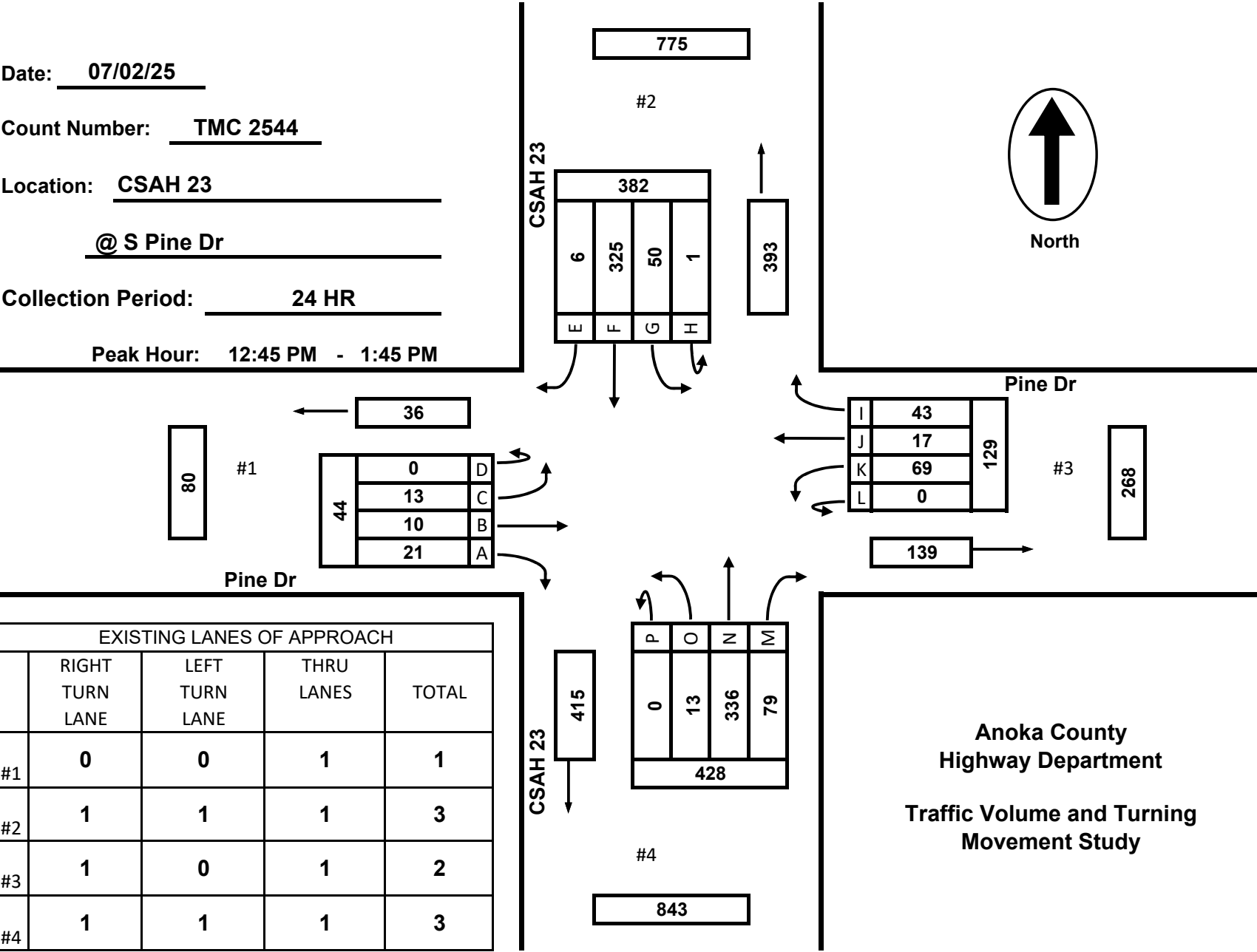
Date: 07/02/25

Count Number: TMC 2544

Location: CSAH 23
@ S Pine Dr

Collection Period: 24 HR

Peak Hour: 12:45 PM - 1:45 PM



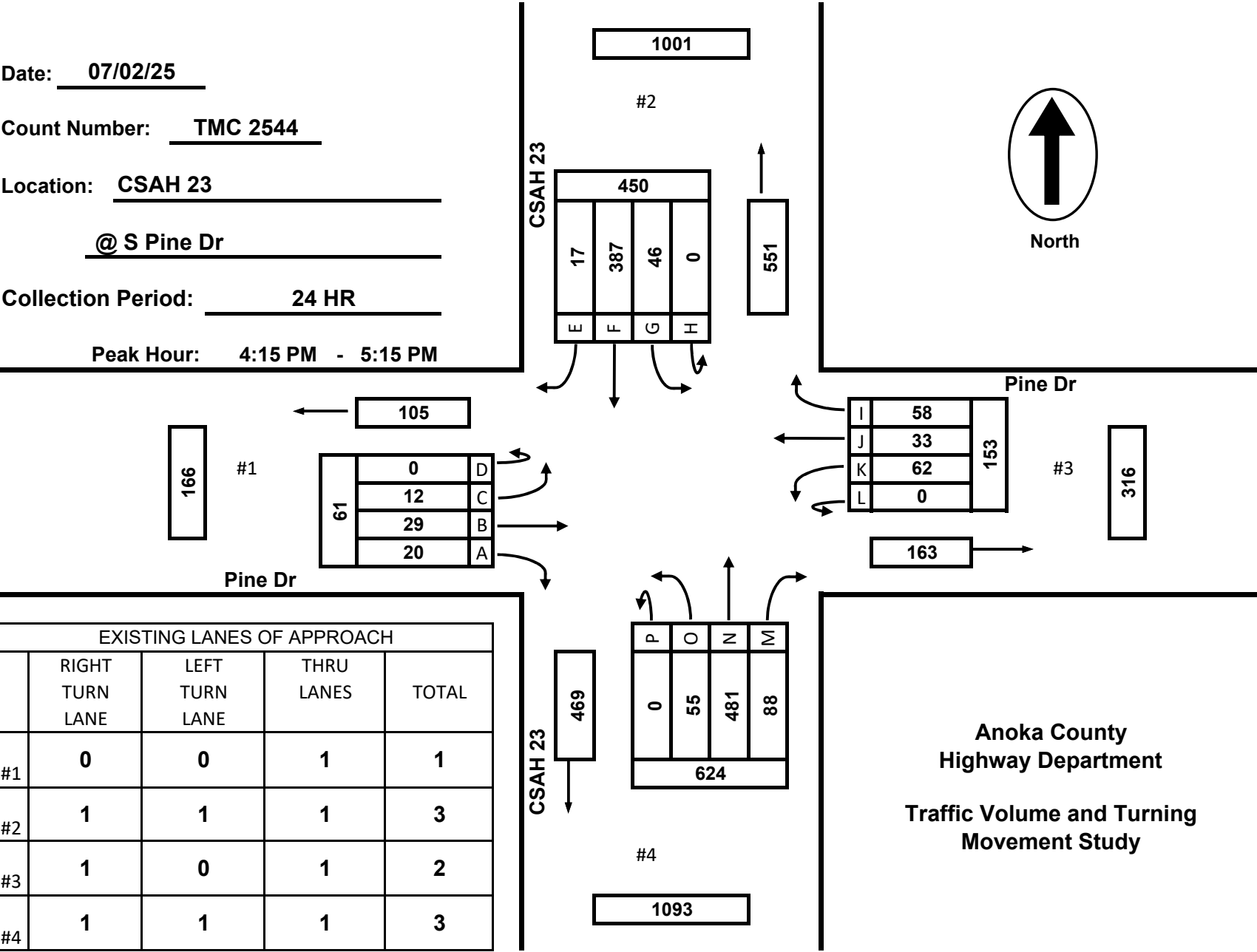
Date: 07/02/25

Count Number: TMC 2544

Location: CSAH 23
@ S Pine Dr

Collection Period: 24 HR

Peak Hour: 4:15 PM - 5:15 PM



TMC 2544 - CSAH 23 @ S Pine Dr
Circle Pines MN
Wednesday, July 2, 2025

Time	Southbound CSAH 23						Westbound Pine Dr						Northbound CSAH 23						Eastbound Pine Dr						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	9	0	0	9	0	0	0	0	0	0	0	1	5	0	0	6	0	1	0	0	0	1	16
12:15 AM	0	1	4	0	0	5	0	0	0	0	0	0	0	1	6	3	0	10	0	0	0	0	0	0	15
12:30 AM	0	0	4	0	0	4	0	1	0	0	0	1	0	0	2	1	0	3	0	0	0	1	0	1	9
12:45 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	8
Hourly Total	0	1	19	0	0	20	0	1	0	0	0	1	0	2	19	4	0	25	0	1	0	1	0	2	48
1:00 AM	0	0	5	0	0	5	0	0	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	0	13
1:15 AM	0	0	2	0	0	2	0	1	0	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	5
1:30 AM	0	0	3	0	0	3	0	1	0	0	0	1	0	0	3	0	0	3	0	0	0	0	0	0	7
1:45 AM	0	0	3	0	0	3	0	1	0	0	0	1	0	0	4	1	0	5	0	0	0	0	0	0	9
Hourly Total	0	0	13	0	0	13	0	3	0	0	0	3	0	1	16	1	0	18	0	0	0	0	0	0	34
2:00 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:15 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	4
2:30 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5
2:45 AM	0	0	4	0	0	4	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	6
Hourly Total	0	0	10	0	0	10	0	1	0	0	0	1	0	1	4	1	0	6	0	0	0	0	0	0	17
3:00 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	9
3:15 AM	0	1	4	0	0	5	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	1	0	1	9
3:30 AM	0	1	4	0	0	5	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	1	0	2	9
3:45 AM	0	0	5	0	0	5	0	1	1	0	0	2	0	0	3	1	0	4	0	0	0	0	0	0	11
Hourly Total	0	2	18	0	0	20	0	1	1	0	0	2	0	1	11	1	0	13	0	1	0	2	0	3	38
4:00 AM	0	0	8	0	0	8	0	2	1	1	0	4	0	0	0	0	0	0	0	0	1	1	0	2	14
4:15 AM	0	0	6	0	0	6	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	7
4:30 AM	0	0	12	0	0	12	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	3	0	3	19
4:45 AM	0	0	19	0	0	19	0	2	1	1	0	4	0	0	7	0	0	7	0	0	0	1	0	1	31
Hourly Total	0	0	45	0	0	45	0	5	2	2	0	9	0	0	11	0	0	11	0	0	1	5	0	6	71
5:00 AM	0	3	18	0	0	21	0	5	0	1	0	6	0	0	4	1	0	5	0	1	0	5	0	6	38
5:15 AM	0	2	26	0	0	28	0	4	2	1	0	7	0	0	5	2	0	7	0	1	0	7	0	8	50
5:30 AM	0	4	52	0	0	56	0	8	0	2	0	10	0	0	12	1	0	13	0	1	1	8	0	10	89
5:45 AM	0	5	51	0	0	56	0	7	2	2	0	11	0	1	10	0	1	11	0	0	1	5	0	6	84
Hourly Total	0	14	147	0	0	161	0	24	4	6	0	34	0	1	31	4	1	36	0	3	2	25	0	30	261
6:00 AM	0	3	50	0	0	53	0	8	1	1	0	10	0	0	20	4	0	24	0	3	3	3	0	9	96
6:15 AM	0	3	68	2	0	73	0	9	2	8	0	19	0	0	15	1	0	16	0	1	5	4	0	10	118
6:30 AM	0	2	80	0	0	82	0	9	4	6	0	19	0	0	23	6	0	29	0	3	3	8	0	14	144
6:45 AM	0	6	95	0	0	101	0	9	2	8	0	19	0	2	30	10	0	42	0	1	1	7	0	9	171
Hourly Total	0	14	293	2	0	309	0	35	9	23	0	67	0	2	88	21	0	111	0	8	12	22	0	42	529
7:00 AM	0	1	77	0	0	78	0	15	2	4	0	21	0	3	22	9	0	34	0	1	3	8	0	12	145
7:15 AM	0	9	74	0	0	83	0	14	2	4	0	20	0	4	31	9	0	44	0	2	1	15	0	18	165
7:30 AM	0	9	84	1	0	94	0	19	2	9	0	30	0	4	42	8	0	54	0	3	3	6	0	12	190
7:45 AM	0	16	90	3	1	109	0	21	5	13	0	39	0	3	48	10	0	61	0	6	4	3	0	13	222
Hourly Total	0	35	325	4	1	364	0	69	11	30	0	110	0	14	143	36	0	193	0	12	11	32	0	55	722

TMC 2544 - CSAH 23 @ S Pine Dr
Circle Pines MN
Wednesday, July 2, 2025

Time	Southbound CSAH 23						Westbound Pine Dr						Northbound CSAH 23						Eastbound Pine Dr						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	13	75	1	0	89	0	12	3	8	0	23	0	4	42	16	0	62	0	1	5	8	0	14	188
8:15 AM	0	10	65	1	2	76	0	12	4	12	0	28	0	1	53	7	0	61	0	2	8	4	0	14	179
8:30 AM	0	12	91	0	0	103	0	21	5	8	0	34	1	5	60	15	0	81	0	3	4	7	0	14	232
8:45 AM	0	11	83	1	0	95	0	12	6	15	0	33	0	3	50	10	0	63	0	2	6	7	0	15	206
Hourly Total	0	46	314	3	2	363	0	57	18	43	0	118	1	13	205	48	0	267	0	8	23	26	0	57	805
9:00 AM	0	9	75	1	0	85	0	14	6	10	0	30	0	4	59	18	0	81	0	3	5	3	0	11	207
9:15 AM	1	10	72	2	0	85	0	15	5	11	0	31	0	5	48	21	0	74	0	1	2	4	0	7	197
9:30 AM	0	8	56	2	0	66	0	16	9	7	0	32	0	1	54	10	0	65	0	2	5	7	0	14	177
9:45 AM	0	9	79	1	2	89	0	12	6	12	0	30	0	1	59	9	0	69	0	0	7	6	0	13	201
Hourly Total	1	36	282	6	2	325	0	57	26	40	0	123	0	11	220	58	0	289	0	6	19	20	0	45	782
10:00 AM	0	10	67	3	0	80	0	18	5	13	0	36	0	3	50	14	0	67	0	5	3	0	0	8	191
10:15 AM	1	10	66	2	0	79	0	22	2	14	0	38	0	2	61	15	0	78	0	1	6	3	0	10	205
10:30 AM	0	12	74	1	0	87	0	13	8	9	0	30	0	3	58	14	2	75	0	3	4	4	0	11	203
10:45 AM	0	16	82	1	2	99	0	18	4	7	0	29	0	5	57	11	0	73	0	1	3	5	0	9	210
Hourly Total	1	48	289	7	2	345	0	71	19	43	0	133	0	13	226	54	2	293	0	10	16	12	0	38	809
11:00 AM	0	14	89	2	0	105	0	21	6	7	0	34	0	1	66	11	0	78	0	3	3	4	0	10	227
11:15 AM	0	13	78	4	0	95	0	18	4	13	0	35	0	5	79	14	0	98	0	2	9	5	0	16	244
11:30 AM	0	9	61	0	0	70	0	25	3	11	0	39	0	3	72	21	1	96	0	2	9	3	0	14	219
11:45 AM	0	11	87	1	1	99	0	16	6	16	0	38	0	5	84	10	1	99	0	5	5	4	0	14	250
Hourly Total	0	47	315	7	1	369	0	80	19	47	0	146	0	14	301	56	2	371	0	12	26	16	0	54	940
12:00 PM	0	11	102	2	0	115	0	15	6	14	0	35	0	5	82	13	0	100	0	2	7	8	0	17	267
12:15 PM	0	13	86	3	0	102	0	21	5	10	0	36	0	6	72	15	0	93	0	3	5	7	0	15	246
12:30 PM	0	10	78	3	2	91	0	9	3	8	0	20	0	4	74	10	0	88	0	2	4	3	0	9	208
12:45 PM	0	17	80	1	0	98	0	18	3	10	0	31	0	3	71	18	0	92	0	4	4	5	0	13	234
Hourly Total	0	51	346	9	2	406	0	63	17	42	0	122	0	18	299	56	0	373	0	11	20	23	0	54	955
1:00 PM	0	10	82	3	0	95	0	9	2	13	0	24	0	2	96	22	1	120	0	3	1	5	0	9	248
1:15 PM	0	14	78	0	0	92	0	25	3	11	0	39	0	5	87	15	0	107	0	3	2	7	0	12	250
1:30 PM	1	9	85	2	0	97	0	17	9	9	0	35	0	3	82	24	0	109	0	3	3	4	0	10	251
1:45 PM	0	12	69	1	0	82	0	14	2	13	0	29	1	5	82	19	0	107	0	0	1	5	0	6	224
Hourly Total	1	45	314	6	0	366	0	65	16	46	0	127	1	15	347	80	1	443	0	9	7	21	0	37	973
2:00 PM	0	8	81	2	0	91	0	14	5	14	0	33	0	7	75	15	0	97	0	2	7	5	0	14	235
2:15 PM	0	9	82	1	1	92	0	14	8	19	0	41	0	11	101	19	5	131	0	1	5	5	0	11	275
2:30 PM	0	16	91	5	0	112	0	13	3	22	0	38	0	4	92	15	1	111	0	2	4	6	0	12	273
2:45 PM	0	10	78	2	0	90	0	14	4	12	0	30	0	6	90	18	1	114	0	2	3	3	0	8	242
Hourly Total	0	43	332	10	1	385	0	55	20	67	0	142	0	28	358	67	7	453	0	7	19	19	0	45	1025
3:00 PM	0	15	68	2	0	85	0	9	7	13	0	29	0	5	86	17	0	108	0	1	6	6	0	13	235
3:15 PM	0	10	84	2	0	96	0	17	5	12	0	34	1	8	105	20	0	134	0	1	7	5	0	13	277
3:30 PM	1	17	90	4	0	112	0	20	8	13	0	41	0	11	111	17	0	139	0	3	7	4	0	14	306
3:45 PM	0	12	87	3	0	102	0	19	16	18	0	53	0	18	110	18	2	146	0	3	6	5	0	14	315
Hourly Total	1	54	329	11	0	395	0	65	36	56	0	157	1	42	412	72	2	527	0	8	26	20	0	54	1133

TMC 2544 - CSAH 23 @ S Pine Dr
Circle Pines MN
Wednesday, July 2, 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	
8:30 AM	0	12	91	0	0	103	0	21	5	8	0	34	1	5	60	15	0	81	0	3	4	7	0	14	232
8:45 AM	0	11	83	1	0	95	0	12	6	15	0	33	0	3	50	10	0	63	0	2	6	7	0	15	206
9:00 AM	0	9	75	1	0	85	0	14	6	10	0	30	0	4	59	18	0	81	0	3	5	3	0	11	207
9:15 AM	1	10	72	2	0	85	0	15	5	11	0	31	0	5	48	21	0	74	0	1	2	4	0	7	197
Peak Hour Total	1	42	321	4	0	368	0	62	22	44	0	128	1	17	217	64	0	299	0	9	17	21	0	47	842
Peak Hour Heavy Vehicles	0	1	7	1	0	9	0	2	0	2	0	4	0	0	12	4	0	16	0	0	0	0	0	0	29
Peak Hour Heavy Vehicles %	0.00%	2.38%	2.18%	25.00%	0.00%	2.45%	0.00%	3.23%	0.00%	4.55%	0.00%	3.13%	0.00%	0.00%	5.53%	6.25%	0.00%	5.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.44%
PHF	0.250	0.875	0.882	0.500	0.000	0.893	0.000	0.738	0.917	0.733	0.000	0.941	0.250	0.850	0.904	0.762	0.000	0.923	0.000	0.750	0.708	0.750	0.000	0.783	0.907

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	
12:45 PM	0	17	80	1	0	98	0	18	3	10	0	31	0	3	71	18	0	92	0	4	4	5	0	13	234
1:00 PM	0	10	82	3	0	95	0	9	2	13	0	24	0	2	96	22	1	120	0	3	1	5	0	9	248
1:15 PM	0	14	78	0	0	92	0	25	3	11	0	39	0	5	87	15	0	107	0	3	2	7	0	12	250
1:30 PM	1	9	85	2	0	97	0	17	9	9	0	35	0	3	82	24	0	109	0	3	3	4	0	10	251
Peak Hour Total	1	50	325	6	0	382	0	69	17	43	0	129	0	13	336	79	1	428	0	13	10	21	0	44	983
Peak Hour Heavy Vehicles	0	2	7	0	0	9	0	1	0	0	0	1	0	0	8	1	0	9	0	0	0	0	0	0	19
Peak Hour Heavy Vehicles %	0.00%	4.00%	2.15%	0.00%	0.00%	2.36%	0.00%	1.45%	0.00%	0.00%	0.00%	0.78%	0.00%	0.00%	2.38%	1.27%	0.00%	2.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.93%
PHF	0.250	0.735	0.956	0.500	0.000	0.974	0.000	0.690	0.472	0.827	0.000	0.827	0.000	0.650	0.875	0.823	0.250	0.892	0.000	0.813	0.625	0.750	0.000	0.846	0.979

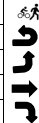
PM Peak Hour (14:00 - 24:00)

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	
4:15 PM	0	14	77	3	0	94	0	23	8	22	0	53	0	7	114	28	0	149	0	1	5	2	0	8	304
4:30 PM	0	9	109	4	0	122	0	12	9	15	0	36	0	12	105	23	0	140	0	5	8	6	0	19	317
4:45 PM	0	13	114	3	0	130	0	12	7	11	0	30	0	18	131	24	0	173	0	1	4	5	0	10	343
5:00 PM	0	10	87	7	0	104	0	15	9	10	0	34	0	18	131	13	1	162	0	5	12	7	0	24	324
Peak Hour Total	0	46	387	17	0	450	0	62	33	58	0	153	0	55	481	88	1	624	0	12	29	20	0	61	1288
Peak Hour Heavy Vehicles	0	0	4	0	0	4	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	8
Peak Hour Heavy Vehicles %	0.00%	0.00%	1.03%	0.00%	0.00%	0.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.83%	0.00%	0.00%	0.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.62%
PHF	0.000	0.821	0.849	0.607	0.000	0.865	0.000	0.674	0.917	0.659	0.000	0.722	0.000	0.764	0.918	0.786	0.250	0.902	0.000	0.600	0.604	0.714	0.000	0.635	0.939

Total Vehicles On Leg			11142		
Vehicles Entering Intersection 5722			Vehicles Exiting Intersection 5420		
Southbound					
Cars	119	4911	597	4	17
Heavy	4	79	8	0	3
Total	123	4990	605	4	20



Total Vehicles on Leg 1584	Vehicles Entering Intersection 784	Eastbound	Cars	Heavy	Total
	Vehicles Exiting Intersection 800		0	0	0
			0	0	0
			148	0	148
			289	0	289
			347	0	347



Daily Volumes



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 1840	Total Vehicles on Leg 3652
648	7	655			
309	1	310			
867	8	875			
0	0	0			
0	0	0			

Cars	9	3	367	4528	809
Heavy	8	0	0	35	9
Total	17	3	367	4613	918
Northbound					
Vehicles Entering Intersection 5901			Vehicles Exiting Intersection 6215		
Total Vehicles On Leg			12116		

TMC 2544 - CSAH 23 @ S Pine Dr
Circle Pines MN
Wednesday, July 2, 2025

Time	Southbound Heavy CSAH 23						Westbound Heavy Pine Dr						Northbound Heavy CSAH 23						Eastbound Heavy Pine Dr						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	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0
2:45 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
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	1
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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0
5:00 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
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
5:45 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Hourly 'Heavy Vehicles'	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4
6:00 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4
6:15 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	1
6:30 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	1
6:45 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	3	0	0	3	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	2
7:15 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3
7:30 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	6
7:45 AM	0	0	5	1	0	6	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	8
Hourly 'Heavy Vehicles'	0	0	9	1	0	10	0	0	0	1	0	1	0	0	7	1	0	8	0	0	0	0	0	0	19

TMC 2544 - CSAH 23 @ S Pine Dr
Circle Pines MN
Wednesday, July 2, 2025

Time	Southbound Heavy CSAH 23						Westbound Heavy Pine Dr						Northbound Heavy CSAH 23						Eastbound Heavy Pine Dr						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	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	6
8:30 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	3	1	0	4	0	0	0	0	0	0	6
Hourly 'Heavy Vehicles'	0	0	3	0	0	3	0	1	0	1	0	2	0	0	14	3	0	17	0	0	0	0	0	0	22
9:00 AM	0	0	5	0	0	5	0	0	0	1	0	1	0	0	2	1	0	3	0	0	0	0	0	0	9
9:15 AM	0	1	0	1	0	2	0	1	0	0	0	1	0	0	4	0	0	4	0	0	0	0	0	0	7
9:30 AM	0	0	2	0	0	2	0	1	0	1	0	2	0	0	2	0	0	2	0	0	0	0	0	0	6
9:45 AM	0	0	1	0	0	1	0	0	0	2	0	2	0	0	1	0	0	1	0	0	0	0	0	0	4
Hourly 'Heavy Vehicles'	0	1	8	1	0	10	0	2	0	4	0	6	0	0	9	1	0	10	0	0	0	0	0	0	26
10:00 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
10:15 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	3
10:30 AM	0	1	2	1	0	4	0	0	1	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	7
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	1	0	3	0	0	0	0	0	0	4
Hourly 'Heavy Vehicles'	0	1	5	1	0	7	0	1	1	0	0	2	0	0	6	2	0	8	0	0	0	0	0	0	17
11:00 AM	0	0	3	1	0	4	0	1	0	0	0	1	0	0	4	0	0	4	0	0	0	0	0	0	9
11:15 AM	0	0	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6
11:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	1	2	0	0	0	0	0	0	3
11:45 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	1	2	0	0	0	0	0	0	3
Hourly 'Heavy Vehicles'	0	1	8	1	0	10	0	1	0	0	0	1	0	0	10	0	2	10	0	0	0	0	0	0	21
12:00 PM	0	0	8	0	0	8	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	10
12:15 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3
12:30 PM	0	1	2	0	0	3	0	1	0	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	6
12:45 PM	0	1	1	0	0	2	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	4
Hourly 'Heavy Vehicles'	0	3	11	0	0	14	0	2	0	0	0	2	0	0	7	0	0	7	0	0	0	0	0	0	23
1:00 PM	0	1	1	0	0	2	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	6
1:15 PM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4
1:30 PM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	5
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Hourly 'Heavy Vehicles'	0	1	6	0	0	7	0	0	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	16
2:00 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3
2:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	1	2	0	0	0	0	0	0	3
2:30 PM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
2:45 PM	0	1	3	0	0	4	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	5
Hourly 'Heavy Vehicles'	0	1	8	0	0	9	0	0	0	0	0	0	0	0	5	0	3	5	0	0	0	0	0	0	14
3:00 PM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
3:15 PM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
3:45 PM	0	0	2	0	0	2	0	0	0	1	0	1	0	0	1	0	2	1	0	0	0	0	0	0	4
Hourly 'Heavy Vehicles'	0	0	6	0	0	6	0	0	0	1	0	1	0	0	6	0	2	6	0	0	0	0	0	0	13

TMC 2544 - CSAH 23 @ S Pine Dr
Circle Pines MN
Wednesday, July 2, 2025

Time	Southbound Heavy CSAH 23						Westbound Heavy Pine Dr						Northbound Heavy CSAH 23						Eastbound Heavy Pine Dr						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	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3
4:30 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3
4:45 PM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Hourly 'Heavy Vehicles'	0	0	6	0	0	6	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	10
5:00 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
5:15 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
5:30 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Hourly 'Heavy Vehicles'	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
6:00 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
6:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
6:30 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
6:45 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly 'Heavy Vehicles'	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
7:00 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
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
7:30 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 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	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	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	0	0	0	0	0
8:15 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
8:30 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
8:45 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	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
9:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
9:15 PM	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
9:30 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
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	3	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
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	8	79	4	3	91	0	8	1	7	0	16	0	0	85	9	8	94	0	0	0	0	0	0	201

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2544

Study Date : 08/13/2025

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 23

Number of Lanes : 2+

Total Approach Volume: 5,901

Southbound: CSAH 23

Number of Lanes : 2+

Total Approach Volume: 5,722

Minor Street Approaches

Eastbound: Pine Dr

Number of Lanes : 1

Total Approach Volume: 784

Westbound: Pine Dr

Number of Lanes : 1

Total Approach Volume: 1,185

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 1 hours, 8 are needed

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

Required volumes reached for 10 hours, 8 are needed

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

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

Required 1B volumes reached for 13 hours, 8 are needed

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

Number of hours (7) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (4) 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 2544

Study Date : 08/13/2025

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 1 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**

Major Road						Minor Road		
CSAH 23						Pine Dr		
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met?
15:30 - 16:30	576	+	417	=	993	51	113	Yes
16:30 - 17:30	624	+	465	=	1089	63	85	No
16:45 - 17:45	591	+	447	=	1038	61	81	No
15:15 - 16:15	561	+	419	=	980	56	104	No
17:00 - 18:00	517	+	409	=	926	59	86	No
15:00 - 16:00	527	+	395	=	922	54	101	No
14:45 - 15:45	495	+	383	=	878	48	84	No
17:15 - 18:15	462	+	393	=	855	45	81	No
14:30 - 15:30	467	+	383	=	850	46	72	No
14:15 - 15:15	464	+	379	=	843	44	72	No
14:00 - 15:00	453	+	385	=	838	45	75	No
13:45 - 14:45	446	+	377	=	823	43	73	No
12:45 - 13:45	428	+	382	=	810	44	86	No
13:00 - 14:00	443	+	366	=	809	37	81	No
13:30 - 14:30	444	+	362	=	806	41	83	No
17:30 - 18:30	438	+	362	=	800	49	74	No
11:45 - 12:45	380	+	407	=	787	55	81	No
12:30 - 13:30	407	+	376	=	783	43	72	No
13:15 - 14:15	420	+	362	=	782	42	89	No
12:15 - 13:15	393	+	386	=	779	46	70	No
12:00 - 13:00	373	+	406	=	779	54	80	No
11:30 - 12:30	388	+	386	=	774	60	97	No
11:15 - 12:15	393	+	379	=	772	61	93	No
17:45 - 18:45	423	+	329	=	752	44	71	No
11:00 - 12:00	371		369		740	54	99	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2544

Study Date : 08/13/2025

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

10 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**

Major Road CSAH 23						Minor Road Pine Dr		
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met?
16:00 - 17:00	604	+	455	=	1059	52	90	Yes
17:00 - 18:00	517	+	409	=	926	59	86	Yes
15:00 - 16:00	527	+	395	=	922	54	101	Yes
14:00 - 15:00	453	+	385	=	838	45	75	Yes
13:00 - 14:00	443	+	366	=	809	37	81	Yes
12:00 - 13:00	373	+	406	=	779	54	80	Yes
11:00 - 12:00	371	+	369	=	740	54	99	Yes
18:00 - 19:00	424	+	286	=	710	41	53	Yes
07:45 - 08:45	265	+	377	=	642	55	83	Yes
10:00 - 11:00	293	+	345	=	638	38	90	Yes
09:45 - 10:45	289	+	335	=	624	42	86	No
09:00 - 10:00	289	+	325	=	614	45	83	No
08:45 - 09:45	283	+	331	=	614	47	83	No
07:30 - 08:30	238	+	368	=	606	53	78	No
07:15 - 08:15	221	+	375	=	596	57	78	No
09:15 - 10:15	275	+	320	=	595	42	86	No
09:30 - 10:30	279	+	314	=	593	45	90	No
07:00 - 08:00	193	+	364	=	557	55	80	No
19:00 - 20:00	311	+	225	=	536	43	35	No
06:45 - 07:45	174	+	356	=	530	51	65	No
19:15 - 20:15	299	+	210	=	509	47	35	No
19:30 - 20:30	284	+	220	=	504	39	42	No
06:30 - 07:30	149	+	344	=	493	53	57	No
19:45 - 20:45	272	+	207	=	479	31	39	No
20:00 - 21:00	256		201		457	28	32	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2544

Study Date : 08/13/2025

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

8 hours meet 1A minimums.
13 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 23						Minor Road Pine Dr				
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?		
15:45 - 16:45	577	+	427	=	1004	56	106	Yes		
17:00 - 18:00	517	+	409	=	926	59	86	Yes		
14:45 - 15:45	495	+	383	=	878	48	84	Yes		
12:45 - 13:45	428	+	382	=	810	44	86	Yes		
11:30 - 12:30	388	+	386	=	774	60	97	Yes		
10:30 - 11:30	324	+	386	=	710	46	92	Yes		
08:30 - 09:30	299	+	368	=	667	47	84	Yes		
09:30 - 10:30	279	+	314	=	593	45	90	Yes		
16:45 - 17:45	591	+	447	=	1038	61	81	No		
14:30 - 15:30	467	+	383	=	850	46	72	No		
14:15 - 15:15	464	+	379	=	843	44	72	No		
14:00 - 15:00	453	+	385	=	838	45	75	No		

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?		
16:45 - 17:45	591	+	447	=	1038	61	81	Yes		
15:45 - 16:45	577	+	427	=	1004	56	106	Yes		
14:45 - 15:45	495	+	383	=	878	48	84	Yes		
13:45 - 14:45	446	+	377	=	823	43	73	Yes		
12:45 - 13:45	428	+	382	=	810	44	86	Yes		
11:45 - 12:45	380	+	407	=	787	55	81	Yes		
17:45 - 18:45	423	+	329	=	752	44	71	Yes		
10:45 - 11:45	345	+	369	=	714	49	99	Yes		
07:45 - 08:45	265	+	377	=	642	55	83	Yes		
09:45 - 10:45	289	+	335	=	624	42	86	Yes		
08:45 - 09:45	283	+	331	=	614	47	83	Yes		
19:00 - 20:00	311	+	225	=	536	43	35	Yes		

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2544

Study Date : 08/13/2025

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.

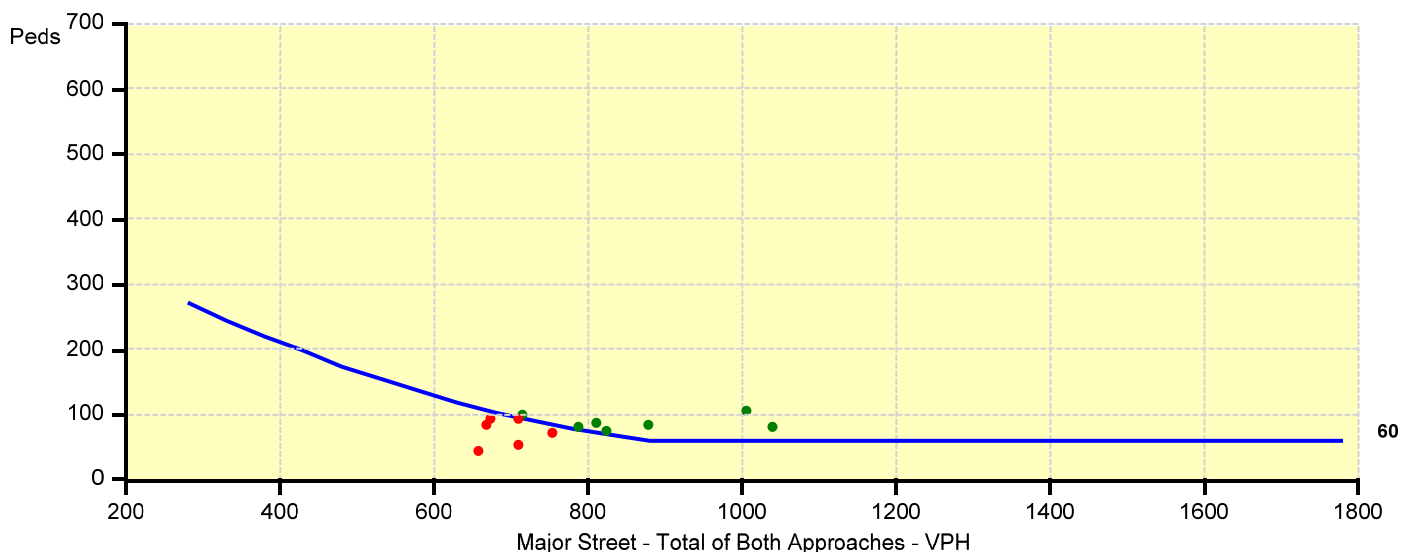
Summary

7 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**

Major Road CSAH 23						Minor Road Pine Dr		
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met?
16:45 - 17:45	591	+	447	=	1038	61	81	Yes
15:45 - 16:45	577	+	427	=	1004	56	106	Yes
14:45 - 15:45	495	+	383	=	878	48	84	Yes
13:45 - 14:45	446	+	377	=	823	43	73	Yes
12:45 - 13:45	428	+	382	=	810	44	86	Yes
11:45 - 12:45	380	+	407	=	787	55	81	Yes
10:45 - 11:45	345	+	369	=	714	49	99	Yes
17:45 - 18:45	423	+	329	=	752	44	71	No
18:00 - 19:00	424	+	286	=	710	41	53	No
10:30 - 11:30	324	+	386	=	710	46	92	No
10:15 - 11:15	304	+	370	=	674	40	94	No
08:30 - 09:30	299	+	368	=	667	47	84	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2544

Study Date : 08/13/2025

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.

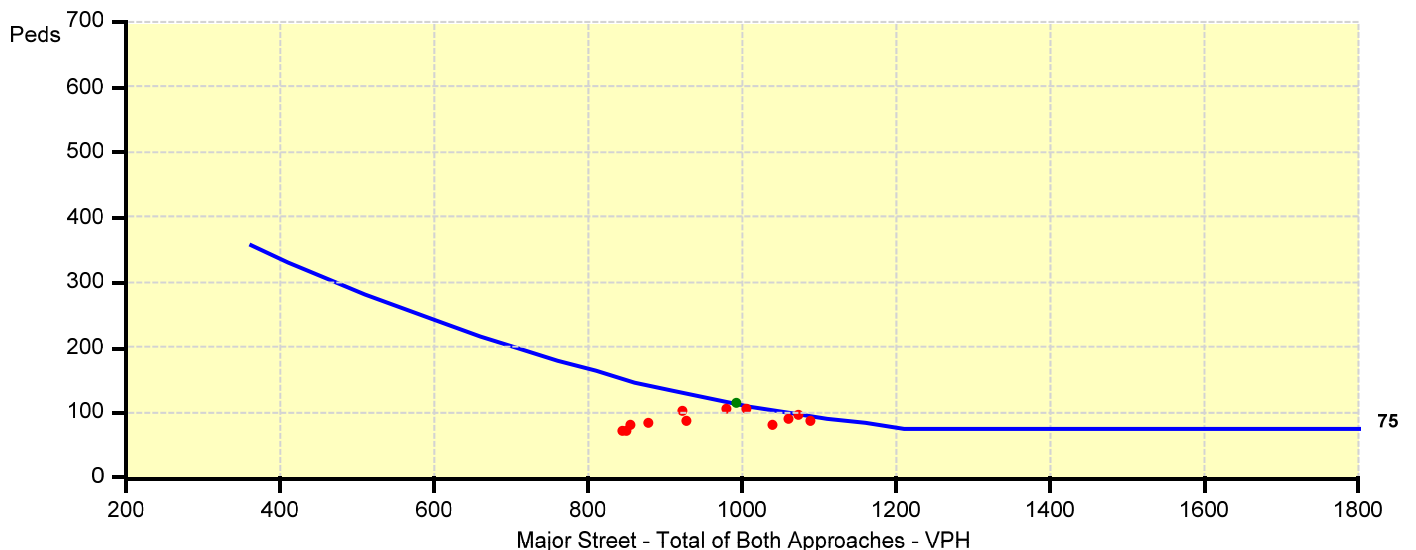
Summary

1 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**

Major Road CSAH 23						Minor Road Pine Dr		
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met?
15:30 - 16:30	576	+	417	=	993	51	113	Yes
16:30 - 17:30	624	+	465	=	1089	63	85	No
16:15 - 17:15	624	+	450	=	1074	61	95	No
16:00 - 17:00	604	+	455	=	1059	52	90	No
16:45 - 17:45	591	+	447	=	1038	61	81	No
15:45 - 16:45	577	+	427	=	1004	56	106	No
15:15 - 16:15	561	+	419	=	980	56	104	No
17:00 - 18:00	517	+	409	=	926	59	86	No
15:00 - 16:00	527	+	395	=	922	54	101	No
14:45 - 15:45	495	+	383	=	878	48	84	No
17:15 - 18:15	462	+	393	=	855	45	81	No
14:30 - 15:30	467	+	383	=	850	46	72	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2544

Study Date : 08/13/2025

Multiway Stop Warrants - Summary

Major Street Approaches

Northbound: CSAH 23

Number of Lanes : 2+

Total Approach Volume: 5,901

Southbound: CSAH 23

Number of Lanes : 2+

Total Approach Volume: 5,722

Minor Street Approaches

Eastbound: Pine Dr

Number of Lanes : 1

Total Approach Volume: 784

Westbound: Pine Dr

Number of Lanes : 1

Total Approach Volume: 1,185

Warrant Summary (Rural Values Apply)

Criteria A - Interim Measure..... **Not Evaluated**
If traffic signals are justified, stop signs can be installed as an interim measure.

Criteria B - Crash Experience..... **Not Satisfied**
Number of crashes (-1) is less than minimum required (5).

Criteria C - Minimum Volumes and Delays..... **Satisfied**
Average of 8 highest hours meets or exceeds volume criteria.

Criteria D - 80% of Volumes, Delays, and Crashes..... **Not Satisfied**
Number of crashes (-1) is less than minimum required (4).
Average of 8 highest hours is less than volume criteria.

Criteria C Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
16:30 - 17:30	1089	836.6	148	142.0	210	140	Yes
15:30 - 16:30	993		167				
14:30 - 15:30	850		119				
12:45 - 13:45	810		131				
11:30 - 12:30	774		165				
17:30 - 18:30	800		127				
10:30 - 11:30	710		144				
08:30 - 09:30	667		135				
07:30 - 08:30	606		141				
09:30 - 10:30	593		143				
18:30 - 19:30	580		73				
06:30 - 07:30	493		112				

Criteria D Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
16:30 - 17:30	1089	836.6	148	142.0	240	160	No
15:30 - 16:30	993		167				
14:30 - 15:30	850		119				
12:45 - 13:45	810		131				
11:30 - 12:30	774		165				
17:30 - 18:30	800		127				
10:30 - 11:30	710		144				
08:30 - 09:30	667		135				
07:30 - 08:30	606		141				
09:30 - 10:30	593		143				
18:30 - 19:30	580		73				
06:30 - 07:30	493		112				