

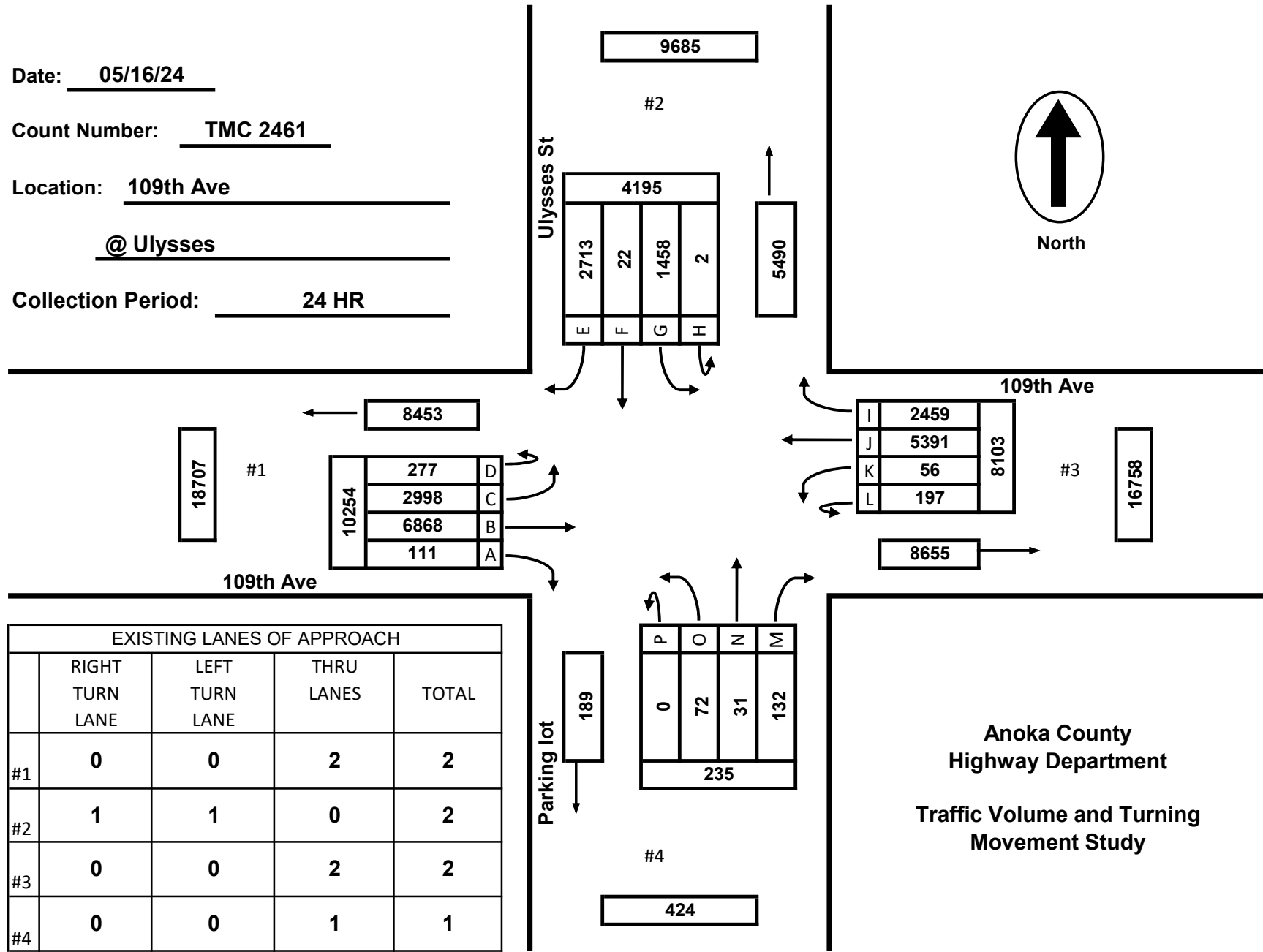
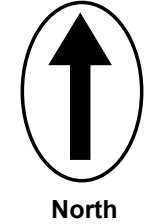
Date: 05/16/24

Count Number: TMC 2461

Location: 109th Ave

@ Ulysses

Collection Period: 24 HR



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

Anoka County
Highway Department
Traffic Volume and Turning
Movement Study

Date: 05/16/24

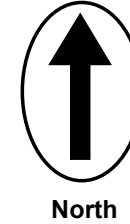
Count Number: TMC 2461

Location: 109th Ave

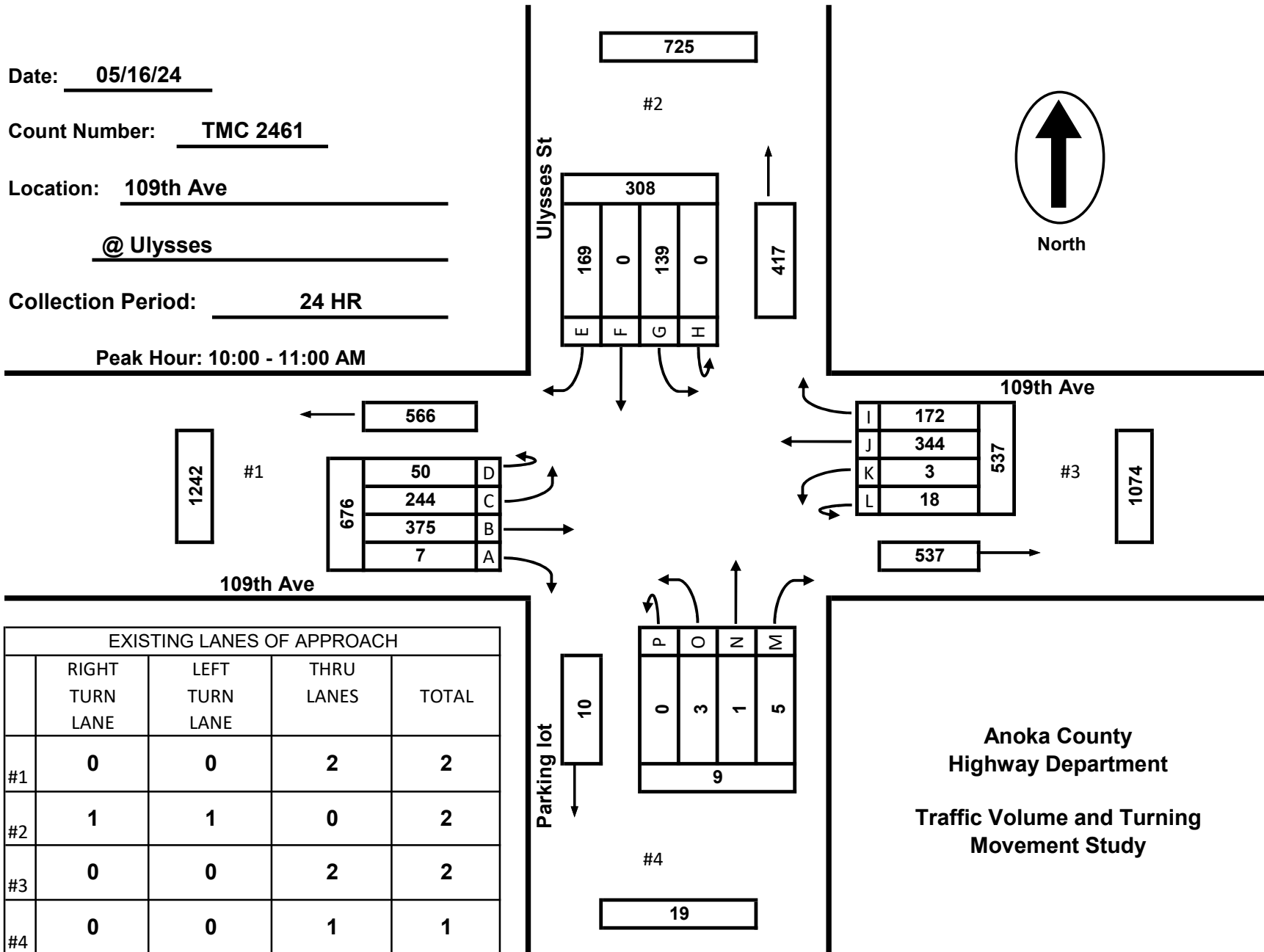
@ Ulysses

Collection Period: 24 HR

Peak Hour: 10:00 - 11:00 AM



North



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

Anoka County
Highway Department
Traffic Volume and Turning
Movement Study

Date: 05/16/24

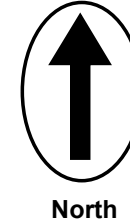
Count Number: TMC 2461

Location: 109th Ave

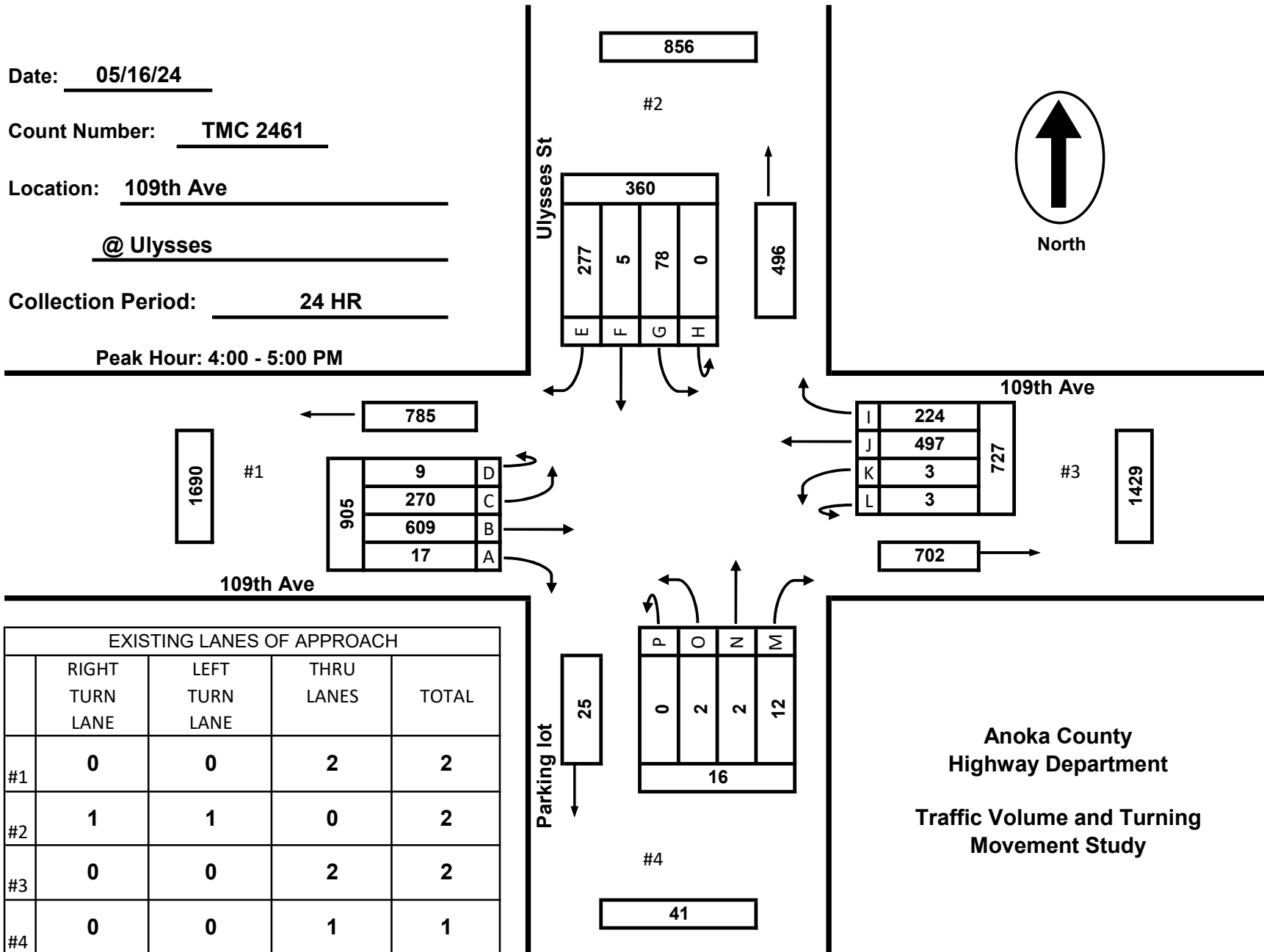
@ Ulysses

Collection Period: 24 HR

Peak Hour: 4:00 - 5:00 PM



North



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

Anoka County
Highway Department
Traffic Volume and Turning
Movement Study

TMC 2461 109th Ave @ Ulysses

0 0

Thursday, May 16, 2024

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	0	3	0	3	0	0	9	3	0	12	0	1	0	0	0	1	0	0	3	0	0	3	19
12:15 AM	0	0	0	0	0	0	0	0	7	3	0	10	0	0	0	0	0	0	0	1	4	0	0	5	15
12:30 AM	0	0	0	1	0	1	0	0	10	0	0	10	0	1	0	1	0	2	0	2	4	0	0	6	19
12:45 AM	0	1	0	1	0	2	0	0	6	3	0	9	0	1	0	1	0	2	0	1	4	0	0	5	18
Hourly Total	0	1	0	5	0	6	0	0	32	9	0	41	0	3	0	2	0	5	0	4	15	0	0	19	71
1:00 AM	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	0	1	6	0	0	7	13
1:15 AM	0	0	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	0	0	0	8	0	0	8	15
1:30 AM	0	0	0	1	0	1	0	0	8	3	0	11	0	0	0	0	0	0	0	0	4	0	0	4	16
1:45 AM	0	0	0	0	0	0	0	0	8	2	0	10	0	0	0	0	0	0	0	0	3	0	0	3	13
Hourly Total	0	0	0	1	0	1	0	0	27	7	0	34	0	0	0	0	0	0	0	1	21	0	0	22	57
2:00 AM	0	1	0	1	0	2	0	0	13	2	0	15	0	0	0	0	0	0	0	1	4	0	0	5	22
2:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	5	0	0	6	7
2:30 AM	0	1	1	0	0	2	0	0	4	0	0	4	0	0	0	0	0	0	0	1	6	0	0	7	13
2:45 AM	0	0	1	0	0	1	0	0	8	2	0	10	0	0	0	0	0	0	0	0	6	0	0	6	17
Hourly Total	0	2	2	1	0	5	0	0	26	4	0	30	0	0	0	0	0	0	0	3	21	0	0	24	59
3:00 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3	0	0	3	6
3:15 AM	0	0	0	1	0	1	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3	0	0	3	7
3:30 AM	0	1	0	0	0	1	0	0	2	2	0	4	0	0	0	0	0	0	0	1	9	0	0	10	15
3:45 AM	0	1	1	3	0	5	0	0	3	3	0	6	0	0	1	0	0	1	0	0	6	0	0	6	18
Hourly Total	0	2	1	4	0	7	0	0	9	7	0	16	0	0	1	0	0	1	0	1	21	0	0	22	46
4:00 AM	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	6	0	0	6	8
4:15 AM	0	1	0	1	0	2	0	0	8	2	0	10	0	0	0	0	0	0	0	1	9	1	0	11	23
4:30 AM	0	2	0	1	0	3	0	0	6	0	0	6	0	0	0	0	0	0	0	4	21	0	0	25	34
4:45 AM	0	1	0	1	0	2	0	0	5	8	0	13	0	0	0	0	0	0	0	6	20	0	0	26	41
Hourly Total	0	5	0	3	0	8	0	0	19	11	0	30	0	0	0	0	0	0	0	11	56	1	0	68	106
5:00 AM	0	7	0	5	0	12	0	0	5	3	0	8	0	0	0	0	0	0	0	6	21	0	0	27	47
5:15 AM	0	8	0	4	0	12	2	0	8	3	0	13	0	0	0	0	0	0	0	3	30	2	0	35	60
5:30 AM	0	11	0	5	0	16	3	0	15	8	0	26	0	0	0	0	0	0	0	6	44	0	0	50	92
5:45 AM	0	12	0	7	0	19	2	0	15	8	0	25	0	0	0	0	0	0	0	21	52	0	0	73	117
Hourly Total	0	38	0	21	0	59	7	0	43	22	0	72	0	0	0	0	0	0	0	36	147	2	0	185	316
6:00 AM	0	10	0	11	0	21	2	0	13	5	0	20	0	0	0	0	0	0	0	5	56	0	0	61	102
6:15 AM	0	14	0	5	0	19	1	1	21	12	0	35	0	0	0	2	1	2	0	13	76	1	0	90	146
6:30 AM	0	15	0	10	0	25	6	1	28	20	0	55	0	0	0	0	0	0	1	12	88	1	0	102	182
6:45 AM	0	14	0	18	1	32	6	0	30	19	0	55	0	0	0	0	1	0	0	37	83	1	0	121	208
Hourly Total	0	53	0	44	1	97	15	2	92	56	0	165	0	0	0	2	2	2	1	67	303	3	0	374	638
7:00 AM	0	17	0	20	0	37	5	0	46	21	0	72	0	0	0	0	0	0	0	24	79	0	0	103	212
7:15 AM	0	20	0	21	0	41	6	0	45	18	0	69	0	0	0	2	0	2	0	32	99	0	0	131	243
7:30 AM	0	26	0	29	0	55	13	1	62	28	0	104	0	1	0	1	0	2	0	26	108	0	0	134	295
7:45 AM	0	19	0	23	0	42	10	1	89	40	0	140	0	0	0	5	0	5	0	49	118	0	0	167	354
Hourly Total	0	82	0	93	0	175	34	2	242	107	0	385	0	1	0	8	0	9	0	131	404	0	0	535	1104

TMC 2461 109th Ave @ Ulysses

0 0

Thursday, May 16, 2024

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	16	0	24	0	40	5	0	65	26	0	96	0	2	1	0	0	3	1	37	85	1	0	124	263
8:15 AM	0	20	1	19	0	40	4	1	70	34	0	109	0	0	1	1	0	2	0	41	82	0	0	123	274
8:30 AM	0	24	0	20	0	44	8	0	60	35	0	103	0	0	0	0	0	0	0	20	90	0	1	110	257
8:45 AM	0	27	0	21	0	48	8	1	69	40	0	118	0	0	0	1	0	1	1	36	105	0	0	142	309
Hourly Total	0	87	1	84	0	172	25	2	264	135	0	426	0	2	2	2	0	6	2	134	362	1	1	499	1103
9:00 AM	0	23	0	28	0	51	8	0	50	43	0	101	0	0	0	1	0	1	0	33	81	0	0	114	267
9:15 AM	0	31	0	39	0	70	6	0	77	60	0	143	0	0	0	0	1	0	1	49	89	0	1	139	352
9:30 AM	0	24	0	24	0	48	5	1	81	55	0	142	0	0	0	2	1	2	8	42	116	0	0	166	358
9:45 AM	0	23	1	33	0	57	6	1	63	37	0	107	0	0	0	2	0	2	14	49	106	0	0	169	335
Hourly Total	0	101	1	124	0	226	25	2	271	195	0	493	0	0	0	5	2	5	23	173	392	0	1	588	1312
10:00 AM	0	31	0	43	0	74	5	1	79	40	0	125	0	1	0	1	0	2	16	61	81	2	0	160	361
10:15 AM	0	35	0	40	0	75	5	2	98	45	0	150	0	2	0	3	1	5	5	64	120	0	0	189	419
10:30 AM	0	36	0	41	0	77	2	0	80	40	0	122	0	0	0	0	0	0	20	61	82	0	0	163	362
10:45 AM	0	37	0	45	0	82	6	0	87	47	0	140	0	0	1	1	1	2	9	58	92	5	0	164	388
Hourly Total	0	139	0	169	0	308	18	3	344	172	0	537	0	3	1	5	2	9	50	244	375	7	0	676	1530
11:00 AM	0	22	0	36	0	58	0	1	74	47	0	122	0	0	1	1	1	2	8	53	92	1	0	154	336
11:15 AM	0	30	0	54	0	84	7	0	85	46	0	138	0	1	0	2	0	3	11	54	111	2	0	178	403
11:30 AM	0	26	0	47	0	73	2	0	68	45	0	115	0	1	0	1	0	2	18	44	90	4	0	156	346
11:45 AM	0	31	0	40	0	71	3	2	68	48	0	121	0	0	3	2	1	5	9	64	95	2	0	170	367
Hourly Total	0	109	0	177	0	286	12	3	295	186	0	496	0	2	4	6	2	12	46	215	388	9	0	658	1452
12:00 PM	0	37	1	47	0	85	1	0	89	57	0	147	0	0	1	2	0	3	12	52	92	1	0	157	392
12:15 PM	0	24	0	42	1	66	5	1	85	41	0	132	0	0	0	1	0	1	12	51	80	1	0	144	343
12:30 PM	0	17	0	49	0	66	1	2	85	58	0	146	0	1	0	2	0	3	13	58	103	1	0	175	390
12:45 PM	0	30	0	61	0	91	5	1	61	51	0	118	0	1	0	2	1	3	5	56	108	1	0	170	382
Hourly Total	0	108	1	199	1	308	12	4	320	207	0	543	0	2	1	7	1	10	42	217	383	4	0	646	1507
1:00 PM	0	27	1	39	0	67	4	2	76	48	0	130	0	1	1	4	1	6	10	59	100	6	0	175	378
1:15 PM	0	25	0	40	0	65	1	1	96	65	0	163	0	0	0	1	0	1	11	51	117	1	0	180	409
1:30 PM	0	28	0	50	0	78	3	0	92	46	0	141	0	2	0	1	2	3	9	53	102	1	2	165	387
1:45 PM	0	25	0	37	0	62	3	2	84	36	0	125	0	0	1	1	0	2	11	49	88	1	0	149	338
Hourly Total	0	105	1	166	0	272	11	5	348	195	0	559	0	3	2	7	3	12	41	212	407	9	2	669	1512
2:00 PM	0	36	0	44	0	80	9	1	87	45	0	142	0	0	0	2	0	2	7	45	95	2	0	149	373
2:15 PM	0	25	0	40	0	65	3	1	108	54	0	166	0	1	0	2	0	3	10	49	117	3	0	179	413
2:30 PM	0	27	0	45	0	72	2	0	106	35	0	143	0	0	0	3	1	3	3	49	143	2	0	197	415
2:45 PM	0	21	0	55	0	76	3	0	119	49	0	171	0	2	1	0	0	3	5	57	131	1	0	194	444
Hourly Total	0	109	0	184	0	293	17	2	420	183	0	622	0	3	1	7	1	11	25	200	486	8	0	719	1645
3:00 PM	0	30	0	46	0	76	2	2	97	49	0	150	0	0	3	1	1	4	7	49	124	1	0	181	411
3:15 PM	0	22	0	43	0	65	2	0	130	59	0	191	0	0	0	4	1	4	8	74	147	2	0	231	491
3:30 PM	0	28	0	47	0	75	0	2	129	42	0	173	0	0	1	3	1	4	12	68	150	1	0	231	483
3:45 PM	0	25	0	53	0	78	1	4	102	41	0	148	0	0	0	1	1	1	5	81	163	0	0	249	476
Hourly Total	0	105	0	189	0	294	5	8	458	191	0	662	0	0	4	9	4	13	32	272	584	4	0	892	1861

TMC 2461 109th Ave @ Ulysses

0 0

Thursday, May 16, 2024

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	0	23	1	69	0	93	0	1	128	66	0	195	0	0	2	3	0	5	4	78	140	1	0	223	516
4:15 PM	0	19	1	65	0	85	0	0	102	61	0	163	0	0	0	3	0	3	1	65	151	4	0	221	472
4:30 PM	0	16	1	73	0	90	3	2	129	46	0	180	0	1	0	2	1	3	2	69	149	3	0	223	496
4:45 PM	0	20	2	70	0	92	0	0	138	51	0	189	0	1	0	4	0	5	2	58	169	9	0	238	524
Hourly Total	0	78	5	277	0	360	3	3	497	224	0	727	0	2	2	12	1	16	9	270	609	17	0	905	2008
5:00 PM	0	22	2	77	0	101	1	2	102	31	0	136	0	1	0	4	0	5	1	75	157	2	0	235	477
5:15 PM	0	18	1	64	0	83	1	1	138	44	0	184	0	1	0	3	3	4	1	70	147	7	0	225	496
5:30 PM	0	16	0	46	0	62	0	1	125	52	0	178	0	0	1	2	4	3	0	54	161	2	0	217	460
5:45 PM	1	22	0	51	0	74	0	0	124	36	0	160	0	0	0	0	0	0	0	47	119	2	1	168	402
Hourly Total	1	78	3	238	0	320	2	4	489	163	0	658	0	2	1	9	7	12	2	246	584	13	1	845	1835
6:00 PM	0	17	2	43	0	62	1	1	115	43	0	160	0	1	0	4	2	5	0	32	113	1	0	146	373
6:15 PM	0	19	0	43	0	62	1	2	82	37	0	122	0	3	3	4	2	10	0	40	100	4	0	144	338
6:30 PM	0	17	1	39	0	57	0	2	118	54	0	174	0	3	0	4	2	7	1	41	91	1	2	134	372
6:45 PM	0	29	1	36	0	66	1	2	108	44	1	155	0	0	1	1	1	2	1	45	84	5	0	135	358
Hourly Total	0	82	4	161	0	247	3	7	423	178	1	611	0	7	4	13	7	24	2	158	388	11	2	559	1441
7:00 PM	0	15	1	47	0	63	1	0	108	30	0	139	0	4	0	2	1	6	0	37	90	3	0	130	338
7:15 PM	0	20	0	40	0	60	1	0	87	40	0	128	0	1	0	3	1	4	1	34	69	3	0	107	299
7:30 PM	0	25	0	33	0	58	1	1	85	29	0	116	0	5	0	4	0	9	0	29	68	2	2	99	282
7:45 PM	0	19	0	38	0	57	2	1	60	22	0	85	0	5	0	3	0	8	0	23	87	0	0	110	260
Hourly Total	0	79	1	158	0	238	5	2	340	121	0	468	0	15	0	12	2	27	1	123	314	8	2	446	1179
8:00 PM	0	15	0	27	0	42	1	0	95	25	0	121	0	1	0	4	1	5	0	29	104	1	4	134	302
8:15 PM	0	9	2	36	0	47	0	3	68	12	0	83	0	2	1	2	3	5	0	33	83	2	1	118	253
8:30 PM	1	12	0	27	0	40	0	1	69	16	0	86	0	2	1	3	0	6	0	22	59	3	0	84	216
8:45 PM	0	9	0	23	0	32	2	3	56	18	0	79	0	3	1	3	0	7	0	34	62	3	0	99	217
Hourly Total	1	45	2	113	0	161	3	7	288	71	0	369	0	8	3	12	4	23	0	118	308	9	5	435	988
9:00 PM	0	7	0	28	0	35	0	0	19	5	0	24	0	1	0	1	0	2	0	34	59	1	0	94	155
9:15 PM	0	12	0	35	0	47	0	0	16	2	0	18	0	2	2	0	0	4	1	20	42	0	0	63	132
9:30 PM	0	2	0	43	0	45	0	0	9	2	0	11	0	2	0	1	0	3	0	24	30	2	0	56	115
9:45 PM	0	6	0	33	0	39	0	0	22	0	0	22	0	1	0	0	0	1	0	20	20	0	0	40	102
Hourly Total	0	27	0	139	0	166	0	0	66	9	0	75	0	6	2	2	0	10	1	98	151	3	0	253	504
10:00 PM	0	8	0	36	0	44	0	0	14	1	0	15	0	0	0	3	0	3	0	9	34	0	0	43	105
10:15 PM	0	2	0	32	0	34	0	0	17	0	0	17	0	1	0	0	0	1	0	18	31	0	0	49	101
10:30 PM	0	4	0	22	0	26	0	0	9	2	0	11	0	2	1	3	0	6	0	8	19	1	0	28	71
10:45 PM	0	3	0	25	0	28	0	0	11	0	0	11	0	4	0	1	0	5	0	9	21	1	0	31	75
Hourly Total	0	17	0	115	0	132	0	0	51	3	0	54	0	7	1	7	0	15	0	44	105	2	0	151	352
11:00 PM	0	0	0	18	0	18	0	0	15	1	0	16	0	3	0	4	0	7	0	9	20	0	0	29	70
11:15 PM	0	2	0	13	0	15	0	0	5	0	0	5	0	2	1	1	0	4	0	3	7	0	0	10	34
11:30 PM	0	4	0	10	0	14	0	0	3	2	0	5	0	1	0	0	0	1	0	7	8	0	0	15	35
11:45 PM	0	0	0	7	0	7	0	0	4	0	0	4	0	0	1	0	0	1	0	1	9	0	0	10	22
Hourly Total	0	6	0	48	0	54	0	0	27	3	0	30	0	6	2	5	0	13	0	20	44	0	0	64	161
DAILY TOTAL	2	1458	22	2713	2	4195	197	56	5391	2459	1	8103	0	72	31	132	38	235	277	2998	6868	111	14	10254	22787
Cars	2	1443	19	2692	2	4156	197	52	5319	2429	1	7997	0	70	31	123	28	224	277	2982	6784	109	8	10152	22529
Heavy Vehicles	0	15	3	21	0	39	0	4	72	30	0	106	0	2	0	9	10	11	0	16	84	2	6	102	258
Heavy Vehicle %	0.00%	1.03%	13.64%	0.77%	0.00%	0.93%	0.00%	7.14%	1.34%	1.22%	0.00%	1.31%	0.00%	2.78%	0.00%	6.82%	26.32%	4.68%	0.00%	0.53%	1.22%	1.80%	42.86%	0.99%	1.13%

TMC 2461 109th Ave @ Ulysses

0 0

Thursday, May 16, 2024

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	
10:00 AM	0	31	0	43	0	74	5	1	79	40	0	125	0	1	0	1	0	2	16	61	81	2	0	160	361
10:15 AM	0	35	0	40	0	75	5	2	98	45	0	150	0	2	0	3	1	5	5	64	120	0	0	189	419
10:30 AM	0	36	0	41	0	77	2	0	80	40	0	122	0	0	0	0	0	0	20	61	82	0	0	163	362
10:45 AM	0	37	0	45	0	82	6	0	87	47	0	140	0	0	1	1	1	2	9	58	92	5	0	164	388
Peak Hour Total	0	139	0	169	0	308	18	3	344	172	0	537	0	3	1	5	2	9	50	244	375	7	0	676	1530
PHF	0.000	0.939	0.000	0.939	0.000	0.939	0.750	0.375	0.878	0.915	0.000	0.895	0.000	0.375	0.250	0.417	0.500	0.450	0.625	0.953	0.781	0.350	0.000	0.894	0.913

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	
4:00 PM	0	23	1	69	0	93	0	1	128	66	0	195	0	0	2	3	0	5	4	78	140	1	0	223	516
4:15 PM	0	19	1	65	0	85	0	0	102	61	0	163	0	0	0	3	0	3	1	65	151	4	0	221	472
4:30 PM	0	16	1	73	0	90	3	2	129	46	0	180	0	1	0	2	1	3	2	69	149	3	0	223	496
4:45 PM	0	20	2	70	0	92	0	0	138	51	0	189	0	1	0	4	0	5	2	58	169	9	0	238	524
Peak Hour Total	0	78	5	277	0	360	3	3	497	224	0	727	0	2	2	12	1	16	9	270	609	17	0	905	2008
PHF	0.000	0.848	0.625	0.949	0.000	0.968	0.250	0.375	0.900	0.848	0.000	0.932	0.000	0.500	0.250	0.750	0.250	0.800	0.563	0.865	0.901	0.472	0.000	0.951	0.958

Total Vehicles On Leg				9685			
Vehicles Entering Intersection				4195			
Vehicles Exiting Intersection				5490			
Southbound							
Cars	2692	19	1443	2	2		
Heavy	21	3	15	0	0		
Total	2713	22	1458	2	2		



Total Vehicles on Leg 18707	Eastbound	Vehicles Entering Intersection	10254	
		Vehicles Exiting Intersection	8453	
		Cars	8	
		Heavy	6	
		Total	14	
		277	0	277
		2982	16	2998
		6784	84	6868
		109	2	111



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection	Total Vehicles on Leg 16758
2429	30	2459		8103	
5319	72	5391		Vehicles Exiting Intersection	
52	4	56		8655	
197	0	197			
1	0	1			



Cars	28	0	70	31	123
Heavy	10	0	2	0	9
Total	38	0	72	31	132
Northbound					
Vehicles Entering Intersection			235		
Vehicles Exiting Intersection			189		
Total Vehicles On Leg			424		



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2461

Study Date : 05/29/2024

Signal Warrants - Summary

Major Street Approaches

Eastbound: 109th Ave

Number of Lanes : 1

Total Approach Volume: 10,254

Westbound: 109th Ave

Number of Lanes : 1

Total Approach Volume: 8,103

Minor Street Approaches

Northbound: Parking lot

Number of Lanes : 1

Total Approach Volume: 235

Southbound: Ulysses St

Number of Lanes : 1

Total Approach Volume: 4,195

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 15 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 16 hours, 8 are needed

Required 1B volumes reached for 16 hours, 8 are needed

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

Number of hours (15) volumes exceed minimum \geq minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (56) volumes exceed minimum \geq required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes.....Satisfied

Volumes exceed minimums for at least one hour period.

Warrant 4 - Pedestrian Volumes.....Not Evaluated

Warrant 5 - School Crossing.....Not Evaluated

Warrant 6 - Coordinated Signal System.....Not Evaluated

Warrant 7 - Crash Experience.....Not Evaluated

Warrant 8 - Roadway Network.....Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing.....Not Evaluated

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2461

Study Date : 05/29/2024

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

15 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **350**

Veh/Hr Minor = **105**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
	109th Ave					Parking lot		
15:15 - 16:15	934	+	707	=	1641	14	311	Yes
16:15 - 17:15	917	+	668	=	1585	16	368	Yes
17:15 - 18:15	756	+	682	=	1438	12	281	Yes
14:15 - 15:15	751	+	630	=	1381	13	289	Yes
13:15 - 14:15	643	+	571	=	1214	8	285	Yes
10:15 - 11:15	670	+	534	=	1204	9	292	Yes
12:15 - 13:15	664	+	526	=	1190	13	290	Yes
11:15 - 12:15	661	+	521	=	1182	13	313	Yes
09:15 - 10:15	634	+	517	=	1151	6	249	Yes
18:15 - 19:15	543	+	590	=	1133	25	248	Yes
07:15 - 08:15	556	+	409	=	965	12	178	Yes
08:15 - 09:15	489	+	431	=	920	4	183	Yes
19:15 - 20:15	450	+	450	=	900	26	217	Yes
20:15 - 21:15	395	+	272	=	667	20	154	Yes
06:15 - 07:15	416	+	217	=	633	2	113	Yes
06:00 - 07:00	374	+	165	=	539	2	97	No
05:45 - 06:45	326	+	135	=	461	2	84	No
05:30 - 06:30	274	+	106	=	380	2	75	No
05:15 - 06:15	219	+	84	=	303	0	68	No
21:15 - 22:15	202	+	66	=	268	11	175	No
05:00 - 06:00	185	+	72	=	257	0	59	No
21:30 - 22:30	188	+	65	=	253	8	162	No
21:45 - 22:45	160	+	65	=	225	11	143	No
22:00 - 23:00	151	+	54	=	205	15	132	No
04:45 - 05:45	138		60		198	0	42	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2461

Study Date : 05/29/2024

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 = **1**
 Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **525**
 Veh/Hr Minor = **52**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
	109th Ave					Parking lot		
16:00 - 17:00	905	+	727	=	1632	16	360	Yes
15:00 - 16:00	892	+	662	=	1554	13	294	Yes
17:00 - 18:00	845	+	658	=	1503	12	320	Yes
14:00 - 15:00	719	+	622	=	1341	11	293	Yes
13:00 - 14:00	669	+	559	=	1228	12	272	Yes
10:00 - 11:00	676	+	537	=	1213	9	308	Yes
12:00 - 13:00	646	+	543	=	1189	10	308	Yes
18:00 - 19:00	559	+	611	=	1170	24	247	Yes
11:00 - 12:00	658	+	496	=	1154	12	286	Yes
09:00 - 10:00	588	+	493	=	1081	5	226	Yes
08:00 - 09:00	499	+	426	=	925	6	172	Yes
07:00 - 08:00	535	+	385	=	920	9	175	Yes
19:00 - 20:00	446	+	468	=	914	27	238	Yes
20:00 - 21:00	435	+	369	=	804	23	161	Yes
06:00 - 07:00	374	+	165	=	539	2	97	Yes
05:45 - 06:45	326	+	135	=	461	2	84	No
05:30 - 06:30	274	+	106	=	380	2	75	No
21:00 - 22:00	253	+	75	=	328	10	166	No
05:15 - 06:15	219	+	84	=	303	0	68	No
21:15 - 22:15	202	+	66	=	268	11	175	No
05:00 - 06:00	185	+	72	=	257	0	59	No
21:30 - 22:30	188	+	65	=	253	8	162	No
21:45 - 22:45	160	+	65	=	225	11	143	No
22:00 - 23:00	151	+	54	=	205	15	132	No
04:45 - 05:45	138		60		198	0	42	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2461

Study Date : 05/29/2024

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

16 hours meet 1A minimums.
16 hours meet 1B minimums.
Warrant IS met.

Site Data Required

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

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **280 420**

Veh/Hr Minor = **84 42**

Major Road
109th Ave

Minor Road
Parking lot

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:45 - 17:45	915	+	687	=	1602	17	338	Yes
15:45 - 16:45	916	+	686	=	1602	12	346	Yes
14:45 - 15:45	837	+	685	=	1522	15	292	Yes
13:45 - 14:45	674	+	576	=	1250	10	279	Yes
12:45 - 13:45	690	+	552	=	1242	13	301	Yes
17:45 - 18:45	592	+	616	=	1208	22	255	Yes
11:45 - 12:45	646	+	546	=	1192	12	288	Yes
09:45 - 10:45	681	+	504	=	1185	9	283	Yes
10:45 - 11:45	652	+	515	=	1167	9	297	Yes
08:45 - 09:45	561	+	504	=	1065	4	217	Yes
18:45 - 19:45	471	+	538	=	1009	21	247	Yes
07:45 - 08:45	524		448		972	10	166	Yes

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:45 - 17:45	915	+	687	=	1602	17	338	Yes
15:45 - 16:45	916	+	686	=	1602	12	346	Yes
14:45 - 15:45	837	+	685	=	1522	15	292	Yes
13:45 - 14:45	674	+	576	=	1250	10	279	Yes
12:45 - 13:45	690	+	552	=	1242	13	301	Yes
17:45 - 18:45	592	+	616	=	1208	22	255	Yes
11:45 - 12:45	646	+	546	=	1192	12	288	Yes
09:45 - 10:45	681	+	504	=	1185	9	283	Yes
10:45 - 11:45	652	+	515	=	1167	9	297	Yes
08:45 - 09:45	561	+	504	=	1065	4	217	Yes
18:45 - 19:45	471	+	538	=	1009	21	247	Yes
07:45 - 08:45	524		448		972	10	166	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2461

Study Date : 05/29/2024

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.

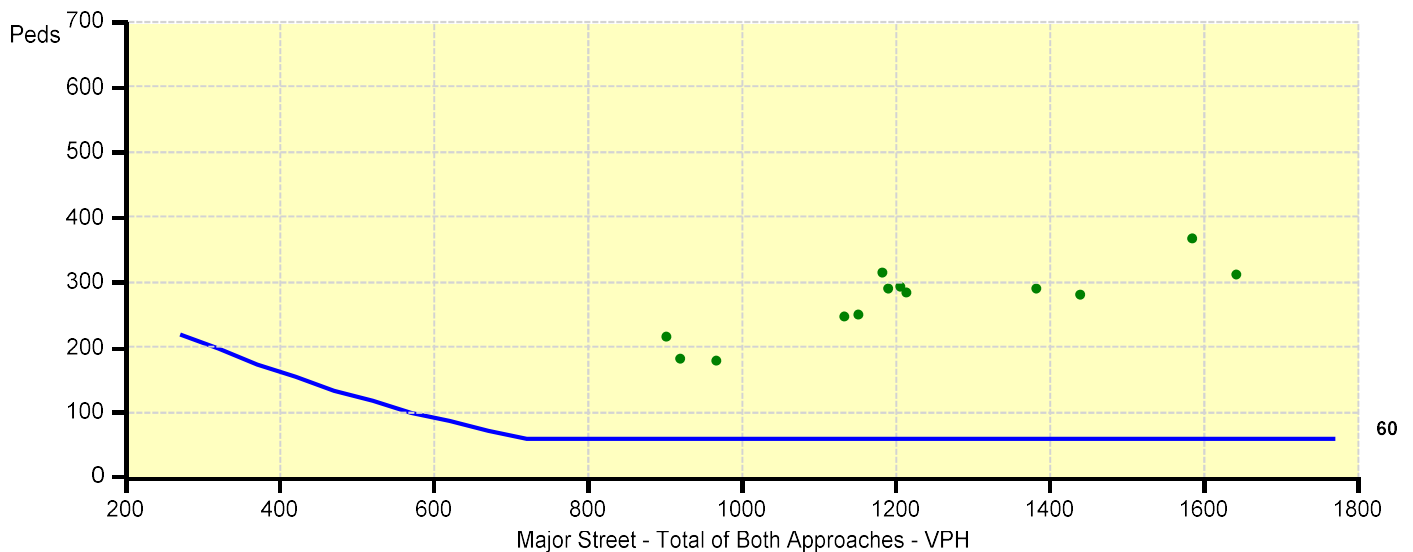
Summary

15 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Time	Major Road 109th Ave				Total	Minor Road Parking lot		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:15 - 16:15	934	+	707	=	1641	14	311	Yes
16:15 - 17:15	917	+	668	=	1585	16	368	Yes
17:15 - 18:15	756	+	682	=	1438	12	281	Yes
14:15 - 15:15	751	+	630	=	1381	13	289	Yes
13:15 - 14:15	643	+	571	=	1214	8	285	Yes
10:15 - 11:15	670	+	534	=	1204	9	292	Yes
12:15 - 13:15	664	+	526	=	1190	13	290	Yes
11:15 - 12:15	661	+	521	=	1182	13	313	Yes
09:15 - 10:15	634	+	517	=	1151	6	249	Yes
18:15 - 19:15	543	+	590	=	1133	25	248	Yes
07:15 - 08:15	556	+	409	=	965	12	178	Yes
08:15 - 09:15	489		431		920	4	183	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2461

Study Date : 05/29/2024

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

54 one hour periods meet minimums.
Warrant IS met.

Site Data Required

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

Time	Major Road 109th Ave				Total	Minor Road Parking lot		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
15:15 - 16:15	934	+	707	=	1641	14	311	Yes
16:00 - 17:00	905	+	727	=	1632	16	360	Yes
16:30 - 17:30	921	+	689	=	1610	17	366	Yes
15:30 - 16:30	924	+	679	=	1603	13	331	Yes
15:45 - 16:45	916	+	686	=	1602	12	346	Yes
16:45 - 17:45	915	+	687	=	1602	17	338	Yes
16:15 - 17:15	917	+	668	=	1585	16	368	Yes
15:00 - 16:00	892	+	662	=	1554	13	294	Yes
14:45 - 15:45	837	+	685	=	1522	15	292	Yes
17:00 - 18:00	845	+	658	=	1503	12	320	Yes
14:30 - 15:30	803	+	655	=	1458	14	289	Yes
17:15 - 18:15	756	+	682	=	1438	12	281	Yes

