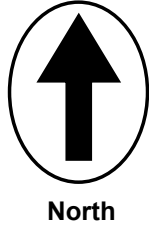
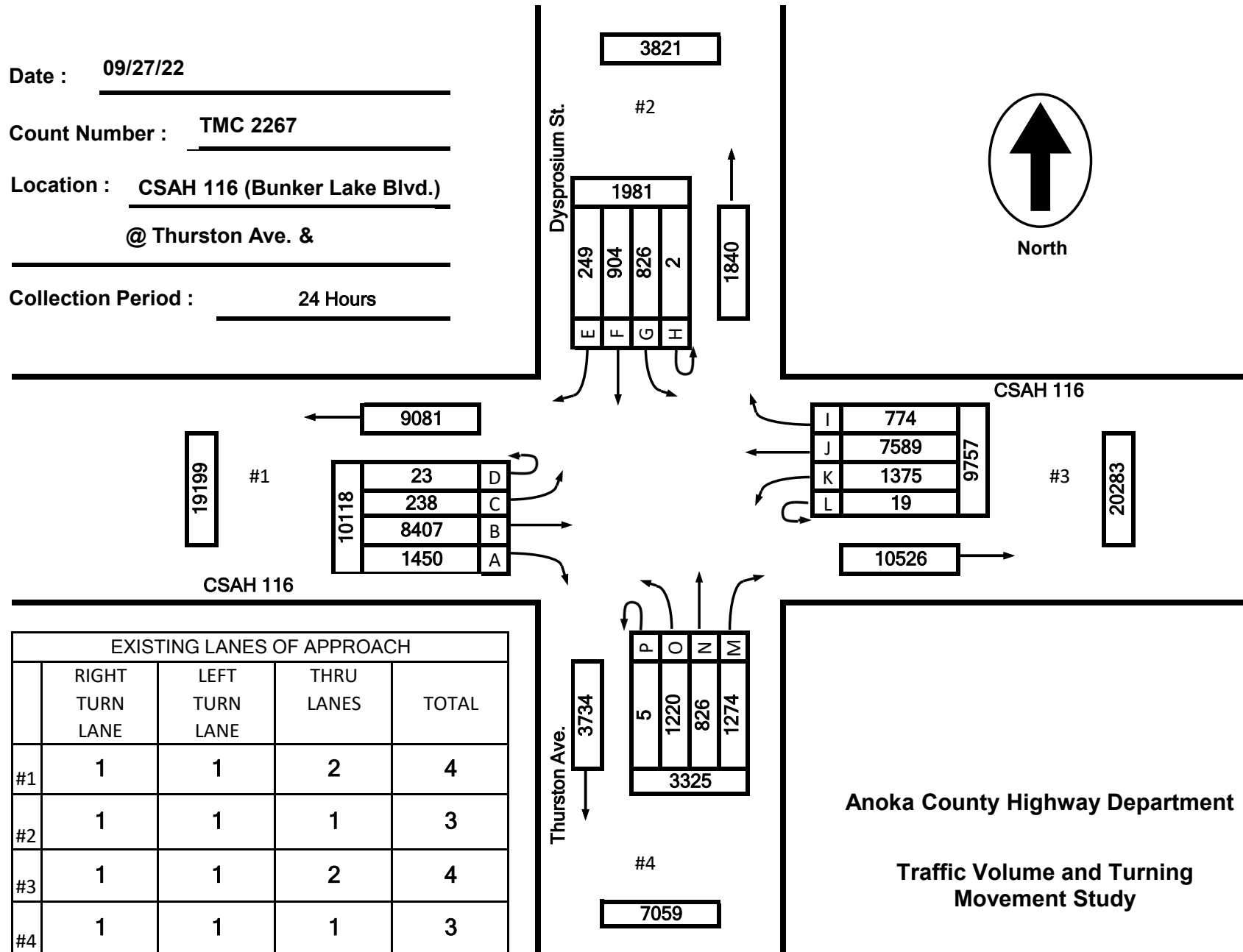


Date : 09/27/22

Count Number : TMC 2267

Location : CSAH 116 (Bunker Lake Blvd.)
@ Thurston Ave. &

Collection Period : 24 Hours



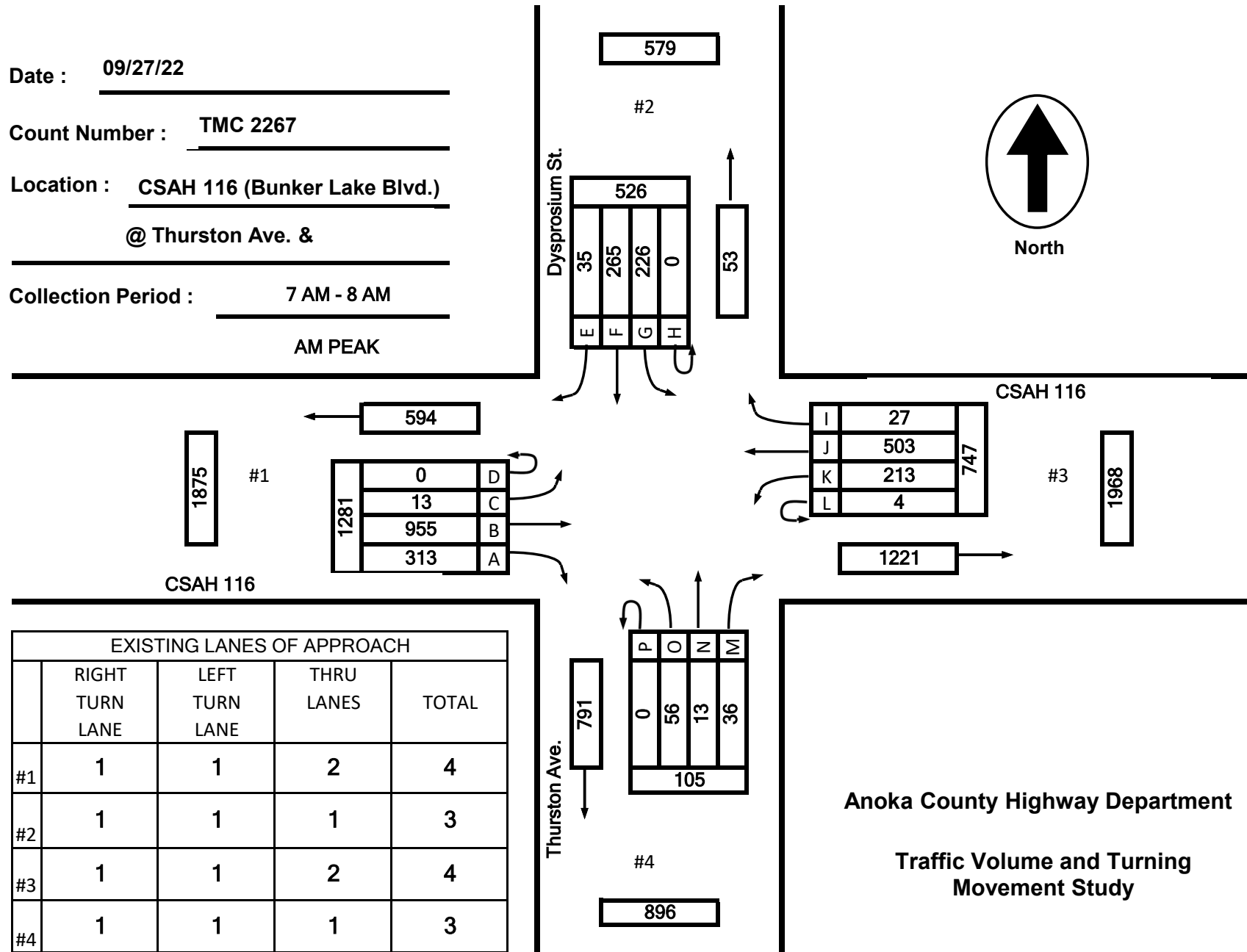
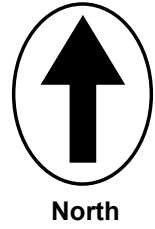
Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 09/27/22

Count Number : TMC 2267

Location : CSAH 116 (Bunker Lake Blvd.)
@ Thurston Ave. &

Collection Period : 7 AM - 8 AM
AM PEAK



Anoka County Highway Department

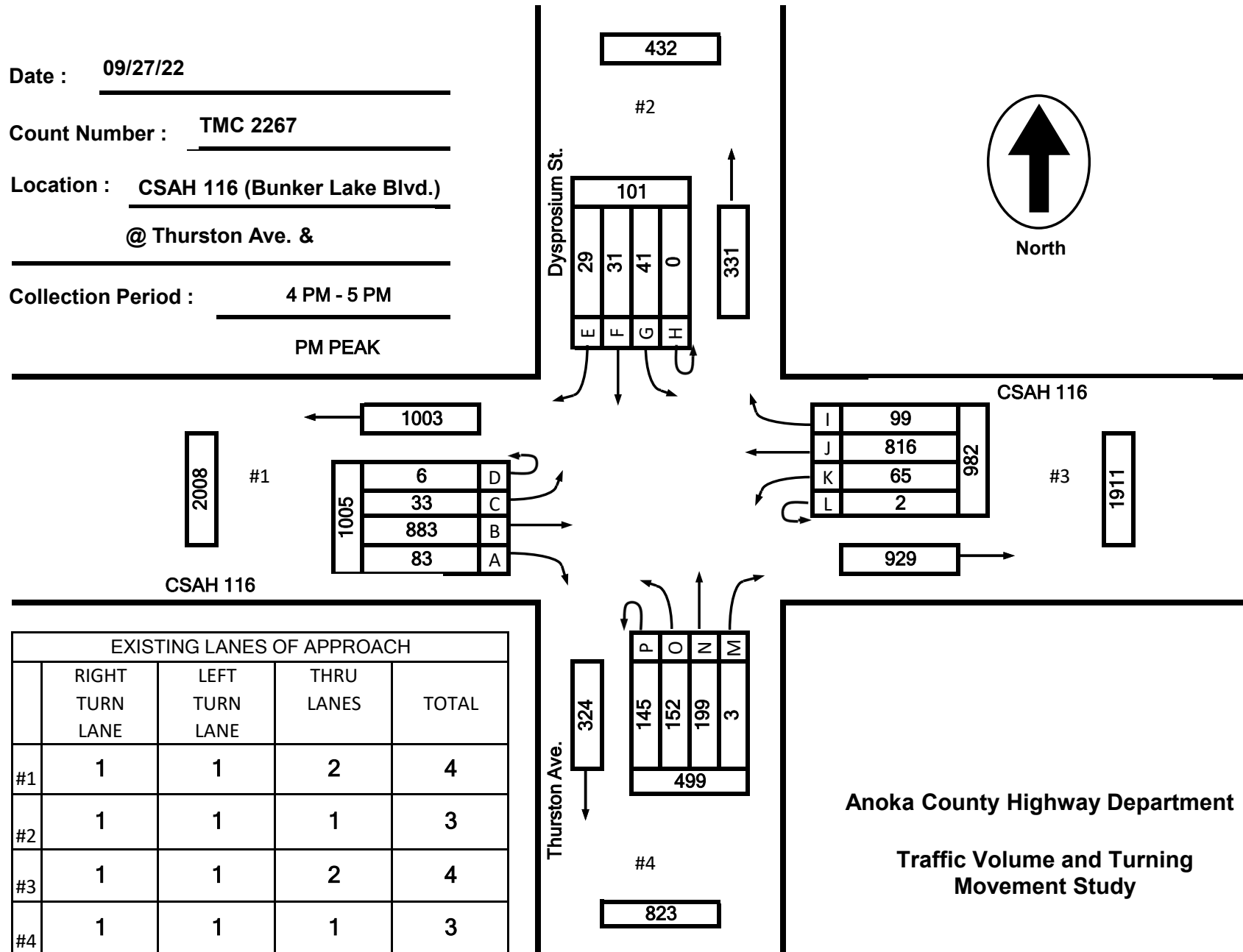
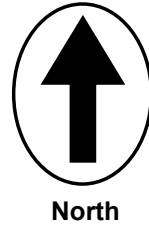
Traffic Volume and Turning Movement Study

Date : 09/27/22

Count Number : TMC 2267

Location : CSAH 116 (Bunker Lake Blvd.)
@ Thurston Ave. &

Collection Period : 4 PM - 5 PM
 PM PEAK



EXISTING LANES OF APPROACH

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

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

**CSAH 116 @ THURSTON AVE
ANOKA MN
Tuesday, September 27, 2022**

Time	Southbound DYSPROSIUM ST						Westbound CSAH 116						Northbound THURSTON AVE						Eastbound CSAH 116						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	2	0	2	0	1	4	1	0	6	0	1	3	7	0	11	0	0	16	2	0	18	37
12:15 AM	0	0	0	1	0	1	0	0	5	1	0	6	0	1	2	0	0	3	0	0	3	0	0	3	13
12:30 AM	0	1	0	0	0	1	0	0	3	1	0	4	0	1	0	2	0	3	0	1	6	0	0	7	15
12:45 AM	0	0	1	0	0	1	0	1	3	0	0	4	0	1	0	1	0	2	0	0	1	0	0	1	8
Hourly Total	0	1	1	3	0	5	0	2	15	3	0	20	0	4	5	10	0	19	0	1	26	2	0	29	73
1:00 AM	0	2	0	0	0	2	0	1	5	0	0	6	0	1	1	4	0	6	0	0	7	0	0	7	21
1:15 AM	0	0	0	0	0	0	0	0	4	1	0	5	0	0	1	3	0	4	0	0	4	2	0	6	15
1:30 AM	0	0	0	0	0	0	0	0	3	1	0	4	0	2	0	4	0	6	0	0	9	0	0	9	19
1:45 AM	0	0	0	0	0	0	0	1	5	0	0	6	0	2	0	1	0	3	0	0	6	0	0	6	15
Hourly Total	0	2	0	0	0	2	0	2	17	2	0	21	0	5	2	12	0	19	0	0	26	2	0	28	70
2:00 AM	0	0	0	0	0	0	0	3	4	0	0	7	0	1	1	2	0	4	0	0	27	0	0	27	38
2:15 AM	0	0	1	0	0	1	0	1	3	1	0	5	0	1	2	2	0	5	0	2	2	1	0	5	16
2:30 AM	0	0	0	0	0	0	1	0	3	1	0	5	0	1	0	0	0	1	0	0	3	0	0	3	9
2:45 AM	0	1	0	1	0	2	0	0	5	2	0	7	0	1	0	2	0	3	0	0	0	0	0	0	12
Hourly Total	0	1	1	1	0	3	1	4	15	4	0	24	0	4	3	6	0	13	0	2	32	1	0	35	75
3:00 AM	0	1	0	0	0	1	0	2	1	0	0	3	0	2	1	3	0	6	0	0	3	1	0	4	14
3:15 AM	0	1	0	0	0	1	0	1	5	0	0	6	0	1	0	0	0	1	0	1	6	1	0	8	16
3:30 AM	0	1	1	0	0	2	0	2	4	0	0	6	0	0	0	3	0	3	0	0	7	0	0	7	18
3:45 AM	0	1	3	0	0	4	0	1	5	0	0	6	0	1	0	1	0	2	0	0	5	2	0	7	19
Hourly Total	0	4	4	0	0	8	0	6	15	0	0	21	0	4	1	7	0	12	0	1	21	4	0	26	67
4:00 AM	0	4	0	0	0	4	0	4	9	0	0	13	0	1	0	2	0	3	0	0	4	2	0	6	26
4:15 AM	0	1	3	0	0	4	0	7	11	0	0	18	0	0	0	0	0	0	0	0	8	3	0	11	33
4:30 AM	0	3	5	1	0	9	0	18	26	0	0	44	0	0	1	0	0	1	0	0	13	4	1	17	71
4:45 AM	0	2	4	3	0	9	0	5	36	0	0	41	0	1	0	0	0	1	0	1	19	16	0	36	87
Hourly Total	0	10	12	4	0	26	0	34	82	0	0	116	0	2	1	2	0	5	0	1	44	25	1	70	217
5:00 AM	0	6	5	0	0	11	0	9	23	1	0	33	0	1	1	1	0	3	0	1	26	9	0	36	83
5:15 AM	0	7	10	0	0	17	0	24	25	0	0	49	0	0	1	5	0	6	0	0	30	14	0	44	116
5:30 AM	0	7	14	1	0	22	0	19	42	0	0	61	0	2	1	3	0	6	0	1	47	19	0	67	156
5:45 AM	0	3	33	4	0	40	0	36	75	0	0	111	0	6	0	1	0	7	0	0	44	28	0	72	230
Hourly Total	0	23	62	5	0	90	0	88	165	1	0	254	0	9	3	10	0	22	0	2	147	70	0	219	585
6:00 AM	0	4	17	1	0	22	0	29	45	0	0	74	0	8	0	3	0	11	0	0	84	16	0	100	207
6:15 AM	0	11	22	2	0	35	0	19	65	1	0	85	0	5	7	4	0	16	0	1	86	44	0	131	267
6:30 AM	0	18	39	6	0	63	0	23	70	1	0	94	0	5	2	7	0	14	0	0	206	39	0	245	416
6:45 AM	0	32	51	9	0	92	1	35	114	3	0	153	0	10	1	3	0	14	0	2	220	69	1	291	550
Hourly Total	0	65	129	18	0	212	1	106	294	5	0	406	0	28	10	17	0	55	0	3	596	168	1	767	1440
7:00 AM	0	67	60	9	0	136	1	31	79	3	0	114	0	12	3	7	0	22	0	2	230	49	0	281	553
7:15 AM	0	71	63	4	0	138	1	42	105	4	0	152	0	6	1	8	0	15	0	2	241	85	0	328	633
7:30 AM	0	63	68	12	0	143	2	67	154	12	0	235	0	18	2	8	0	28	0	5	267	89	0	361	767
7:45 AM	0	25	74	10	0	109	0	73	165	8	0	246	0	20	7	13	0	40	0	4	217	90	0	311	706
Hourly Total	0	226	265	35	0	526	4	213	503	27	0	747	0	56	13	36	0	105	0	13	955	313	0	1281	2659

**CSAH 116 @ THURSTON AVE
ANOKA MN
Tuesday, September 27, 2022**

Time	Southbound DYSPROSIUM ST						Westbound CSAH 116						Northbound THURSTON AVE						Eastbound CSAH 116						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	17	23	3	0	43	0	53	120	9	0	182	0	10	8	14	0	32	0	2	196	46	0	244	501
8:15 AM	0	13	19	6	0	38	1	31	99	6	0	137	0	3	3	11	0	17	0	3	163	38	0	204	396
8:30 AM	0	15	13	3	0	31	0	33	99	9	0	141	0	9	3	4	1	16	0	0	102	32	0	134	322
8:45 AM	0	15	18	2	0	35	1	30	89	12	0	132	0	14	5	7	0	26	0	2	112	25	0	139	332
Hourly Total	0	60	73	14	0	147	2	147	407	36	0	592	0	36	19	36	1	91	0	7	573	141	0	721	1551
9:00 AM	0	12	14	2	0	28	0	9	78	5	0	92	0	7	7	11	0	25	0	2	105	19	0	126	271
9:15 AM	0	10	15	1	0	26	0	20	63	6	0	89	0	8	11	12	0	31	1	0	113	18	0	132	278
9:30 AM	0	11	9	1	0	21	0	19	84	9	0	112	0	9	7	43	0	59	0	1	114	18	0	133	325
9:45 AM	0	8	7	3	0	18	0	14	66	7	0	87	0	7	11	26	0	44	0	1	97	19	0	117	266
Hourly Total	0	41	45	7	0	93	0	62	291	27	0	380	0	31	36	92	0	159	1	4	429	74	0	508	1140
10:00 AM	0	9	2	1	0	12	0	21	66	4	0	91	0	14	4	12	0	30	0	3	101	14	0	118	251
10:15 AM	0	5	6	3	0	14	0	13	82	6	0	101	0	6	7	9	0	22	1	2	104	9	0	116	253
10:30 AM	0	9	6	0	0	15	0	12	69	5	0	86	0	13	6	11	0	30	0	1	97	6	0	104	235
10:45 AM	0	8	11	6	1	25	0	16	75	15	0	106	0	15	5	14	0	34	0	0	110	6	0	116	281
Hourly Total	0	31	25	10	1	66	0	62	292	30	0	384	0	48	22	46	0	116	1	6	412	35	0	454	1020
11:00 AM	0	5	1	2	0	8	0	10	89	11	0	110	0	14	9	24	0	47	0	3	92	9	0	104	269
11:15 AM	0	4	10	3	0	17	0	17	100	10	0	127	0	9	5	30	0	44	0	4	106	13	0	123	311
11:30 AM	0	7	8	2	1	17	1	31	90	10	0	132	0	18	14	24	0	56	0	7	119	16	0	142	347
11:45 AM	0	12	13	5	0	30	0	61	91	10	0	162	0	19	17	28	0	64	0	5	105	27	0	137	393
Hourly Total	0	28	32	12	1	72	1	119	370	41	0	531	0	60	45	106	0	211	0	19	422	65	0	506	1320
12:00 PM	0	10	13	5	0	28	0	25	87	11	0	123	0	30	15	47	0	92	3	1	127	22	0	153	396
12:15 PM	0	8	11	3	0	22	2	30	121	11	0	164	0	17	6	28	0	51	0	4	105	20	0	129	366
12:30 PM	1	12	6	4	0	23	0	23	97	5	0	125	1	14	14	27	0	56	0	4	105	22	0	131	335
12:45 PM	0	14	4	3	0	21	1	30	102	20	0	153	0	13	11	8	0	32	0	4	84	18	0	106	312
Hourly Total	1	44	34	15	0	94	3	108	407	47	0	565	1	74	46	110	0	231	3	13	421	82	0	519	1409
1:00 PM	0	5	9	1	0	15	0	28	99	10	0	137	0	17	11	20	0	48	0	4	99	22	0	125	325
1:15 PM	0	11	5	4	1	20	0	19	104	9	0	132	0	14	8	24	0	46	1	3	98	10	0	112	310
1:30 PM	0	10	7	0	0	17	0	21	104	14	0	139	0	23	9	19	0	51	1	2	113	22	1	138	345
1:45 PM	0	6	6	5	1	17	1	21	119	12	0	153	0	18	11	48	0	77	0	5	106	14	1	125	372
Hourly Total	0	32	27	10	2	69	1	89	426	45	0	561	0	72	39	111	0	222	2	14	416	68	2	500	1352
2:00 PM	0	11	11	6	0	28	0	22	119	8	0	149	0	29	21	61	0	111	0	3	137	23	0	163	451
2:15 PM	1	9	9	7	0	26	0	24	147	17	0	188	0	14	13	31	0	58	0	4	122	23	0	149	421
2:30 PM	0	14	9	4	0	27	0	25	193	23	0	241	0	24	10	31	0	65	1	2	157	27	0	187	520
2:45 PM	0	13	9	6	0	28	1	20	158	21	0	200	0	20	19	25	0	64	0	1	139	15	0	155	447
Hourly Total	1	47	38	23	0	109	1	91	617	69	0	778	0	87	63	148	0	298	1	10	555	88	0	654	1839
3:00 PM	0	10	10	3	0	23	0	13	161	12	0	186	0	36	40	58	0	134	0	7	171	26	0	204	547
3:15 PM	0	14	7	5	0	26	0	15	160	15	0	190	0	50	25	30	0	105	1	7	167	13	0	188	509
3:30 PM	0	7	9	4	0	20	1	14	220	20	0	255	1	50	31	42	0	124	1	5	278	31	0	315	714
3:45 PM	0	13	3	3	0	19	0	12	168	17	0	197	0	39	23	25	0	87	1	6	171	11	0	189	492
Hourly Total	0	44	29	15	0	88	1	54	709	64	0	828	1	175	119	155	0	450	3	25	787	81	0	896	2262

**CSAH 116 @ THURSTON AVE
ANOKA MN
Tuesday, September 27, 2022**

Time	Southbound DYSPROSIUM ST						Westbound CSAH 116						Northbound THURSTON AVE						Eastbound CSAH 116						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	7	9	9	0	25	0	18	203	30	0	251	0	57	45	41	0	143	4	12	216	23	0	255	674
4:15 PM	0	10	6	5	0	21	0	22	209	17	0	248	1	42	29	33	0	105	2	4	181	19	0	206	580
4:30 PM	0	8	5	6	0	19	2	9	167	26	0	204	2	58	44	49	0	153	0	9	269	20	0	298	674
4:45 PM	0	16	11	9	0	36	0	16	237	26	0	279	0	42	34	22	0	98	0	8	217	21	0	246	659
Hourly Total	0	41	31	29	0	101	2	65	816	99	0	982	3	199	152	145	0	499	6	33	883	83	0	1005	2587
5:00 PM	0	12	8	4	0	24	1	17	189	20	1	227	0	49	42	41	0	132	1	7	241	21	0	270	653
5:15 PM	0	8	8	3	0	19	0	11	238	32	0	281	0	42	28	19	0	89	0	10	186	15	0	211	600
5:30 PM	0	15	8	3	0	26	0	7	199	24	0	230	0	36	20	20	0	76	0	8	159	15	0	182	514
5:45 PM	0	11	7	6	0	24	0	11	165	14	0	190	0	26	15	13	1	54	0	4	127	12	0	143	411
Hourly Total	0	46	31	16	0	93	1	46	791	90	1	928	0	153	105	93	1	351	1	29	713	63	0	806	2178
6:00 PM	0	14	9	3	0	26	0	10	154	17	0	181	0	21	14	14	0	49	2	4	103	8	3	117	373
6:15 PM	0	6	2	1	0	9	0	9	122	14	0	145	0	15	7	8	0	30	0	12	117	9	1	138	322
6:30 PM	0	7	10	3	0	20	0	12	123	23	0	158	0	10	14	10	0	34	0	5	79	7	1	91	303
6:45 PM	0	7	9	3	0	19	0	4	107	12	0	123	0	17	10	3	0	30	0	4	77	10	0	91	263
Hourly Total	0	34	30	10	0	74	0	35	506	66	0	607	0	63	45	35	0	143	2	25	376	34	5	437	1261
7:00 PM	0	7	0	1	0	8	0	1	89	16	0	106	0	15	6	14	0	35	0	0	72	7	0	79	228
7:15 PM	0	3	3	1	0	7	0	2	82	18	0	102	0	19	9	4	0	32	1	2	68	8	1	79	220
7:30 PM	0	7	3	1	0	11	0	5	71	16	0	92	0	9	8	8	0	25	0	3	47	7	0	57	185
7:45 PM	0	2	6	5	0	13	0	5	90	5	0	100	0	8	4	8	0	20	1	2	57	3	0	63	196
Hourly Total	0	19	12	8	0	39	0	13	332	55	0	400	0	51	27	34	0	112	2	7	244	25	1	278	829
8:00 PM	0	2	1	3	0	6	0	4	69	9	0	82	0	7	5	4	0	16	0	4	55	5	0	64	168
8:15 PM	0	4	2	0	0	6	0	3	59	1	0	63	0	5	9	7	0	21	0	5	52	4	0	61	151
8:30 PM	0	4	2	1	0	7	0	1	61	3	0	65	0	3	7	3	0	13	0	1	24	2	0	27	112
8:45 PM	0	4	4	2	0	10	0	1	42	5	0	48	0	4	5	8	0	17	0	1	24	2	0	27	102
Hourly Total	0	14	9	6	0	29	0	9	231	18	0	258	0	19	26	22	0	67	0	11	155	13	0	179	533
9:00 PM	0	3	1	2	0	6	0	4	54	6	0	64	0	10	9	8	0	27	0	1	21	4	0	26	123
9:15 PM	0	3	3	1	0	7	0	1	38	7	0	46	0	4	11	1	0	16	0	1	22	2	0	25	94
9:30 PM	0	0	1	0	0	1	0	3	31	5	0	39	0	5	4	3	0	12	0	3	25	1	0	29	81
9:45 PM	0	1	3	1	0	5	0	2	25	3	0	30	0	3	2	8	0	13	0	0	20	1	0	21	69
Hourly Total	0	7	8	4	0	19	0	10	148	21	0	179	0	22	26	20	0	68	0	5	88	8	0	101	367
10:00 PM	0	1	0	0	0	1	0	1	28	8	0	37	0	0	2	5	0	7	0	1	12	1	0	14	59
10:15 PM	0	3	1	2	0	6	0	1	29	5	0	35	0	3	2	4	0	9	0	1	6	1	0	8	58
10:30 PM	0	1	2	0	0	3	0	2	21	4	0	27	0	1	2	0	0	3	1	1	18	2	0	22	55
10:45 PM	0	0	0	0	0	0	1	1	19	1	0	22	0	1	3	2	0	6	0	1	12	1	0	14	42
Hourly Total	0	5	3	2	0	10	1	5	97	18	0	121	0	5	9	11	0	25	1	4	48	5	0	58	214
11:00 PM	0	0	0	0	0	0	0	1	15	1	0	17	0	8	1	1	0	10	0	3	16	0	1	19	46
11:15 PM	0	1	1	0	0	2	0	1	8	2	0	11	0	1	3	1	0	5	0	0	11	0	0	11	29
11:30 PM	0	0	0	1	0	1	0	3	8	2	0	13	0	1	2	5	0	8	0	0	8	0	0	8	30
11:45 PM	0	0	2	1	0	3	0	0	12	1	0	13	0	3	3	3	0	9	0	0	3	0	0	3	28
Hourly Total	0	1	3	2	0	6	0	5	43	6	0	54	0	13	9	10	0	32	0	3	38	0	1	41	133
DAILY TOTAL Cars	2	826	904	249	4	1981	19	1375	7589	774	1	9757	5	1220	826	1274	2	3325	23	238	8407	1450	11	10118	25181
Heavy Vehicles	0	13	24	11	2	48	0	92	307	23	1	422	3	80	22	90	1	195	0	4	377	78	5	459	1124
Heavy Vehicle %	0.00%	1.57%	2.65%	4.42%	50.00%	2.42%	0.00%	6.69%	4.05%	2.97%	100.00%	4.33%	60.00%	6.56%	2.66%	7.06%	50.00%	5.86%	0.00%	1.68%	4.48%	5.38%	45.45%	4.54%	4.46%

**CSAH 116 @ THURSTON AVE
ANOKA MN
Tuesday, September 27, 2022
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	
7:00 AM	0	67	60	9	0	136	1	31	79	3	0	114	0	12	3	7	0	22	0	2	230	49	0	281	553
7:15 AM	0	71	63	4	0	138	1	42	105	4	0	152	0	6	1	8	0	15	0	2	241	85	0	328	633
7:30 AM	0	63	68	12	0	143	2	67	154	12	0	235	0	18	2	8	0	28	0	5	267	89	0	361	767
7:45 AM	0	25	74	10	0	109	0	73	165	8	0	246	0	20	7	13	0	40	0	4	217	90	0	311	706
Peak Hour Total	0	226	265	35	0	526	4	213	503	27	0	747	0	56	13	36	0	105	0	13	955	313	0	1281	2659
PHF	0.000	0.796	0.895	0.729	0.000	0.920	0.500	0.729	0.762	0.563	0.000	0.759	0.000	0.700	0.464	0.692	0.000	0.656	0.000	0.650	0.894	0.869	0.000	0.887	0.867

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	7	9	9	0	25	0	18	203	30	0	251	0	57	45	41	0	143	4	12	216	23	0	255	674
4:15 PM	0	10	6	5	0	21	0	22	209	17	0	248	1	42	29	33	0	105	2	4	181	19	0	206	580
4:30 PM	0	8	5	6	0	19	2	9	167	26	0	204	2	58	44	49	0	153	0	9	269	20	0	298	674
4:45 PM	0	16	11	9	0	36	0	16	237	26	0	279	0	42	34	22	0	98	0	8	217	21	0	246	659
Peak Hour Total	0	41	31	29	0	101	2	65	816	99	0	982	3	199	152	145	0	499	6	33	883	83	0	1005	2587
PHF	0.000	0.641	0.705	0.806	0.000	0.701	0.250	0.739	0.861	0.825	0.000	0.880	0.375	0.858	0.844	0.740	0.000	0.815	0.375	0.688	0.821	0.902	0.000	0.843	0.960

Total Vehicles On Leg				3821	
Vehicles Entering Intersection			1981	Vehicles Exiting Intersection	
				1840	
Southbound					
Cars	238	880	813	2	2
Heavy	11	24	13	0	2
Total	249	904	826	2	4



Total Vehicles on Leg 19199	Vehicles Entering Intersection 10118	Eastbound	Cars	Heavy	Total
			6	5	11
	23		0	23	
	234		4	238	
	Vehicles Exiting Intersection 9081		8030	377	8407
		1372	78	1450	



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 9757	Total Vehicles on Leg 20283
751	23	774			
7282	307	7589			
1283	92	1375			
Vehicles Exiting Intersection 10526	19	0		19	
	0	1	1		



Cars	1	2	1140	804	1184
Heavy	1	3	80	22	90
Total	2	5	1220	826	1274
Northbound					
Vehicles Entering Intersection			3325	Vehicles Exiting Intersection	
				3734	
Total Vehicles On Leg			7059		



Heavy Vehicles

Date	Time	Southbound					Westbound					Northbound					Eastbound				
		U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	Bicycles in Crosswalk
09/27/2022	0:00	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	1	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
	0:45	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	1	0	0	0
	1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	1:30	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
	2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30	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	1	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
	3:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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
	4:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30	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	2	0	0	0
	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
	5:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	5:30	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0
	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	6:00	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	11	0	0
	6:15	0	1	0	0	0	0	0	0	1	0	0	3	0	0	0	0	2	1	0	0
	6:30	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	14	0	0	0
	6:45	0	2	0	0	0	0	1	1	1	0	0	2	0	0	0	0	15	5	0	0
	7:00	0	3	0	1	0	0	0	2	1	0	0	1	0	3	0	0	5	1	0	0
	7:15	0	1	0	0	0	0	2	6	1	0	0	1	0	0	0	0	9	0	0	0
	7:30	0	0	0	1	0	0	4	9	2	0	0	2	0	0	0	0	8	2	0	0
	7:45	0	0	5	0	0	0	1	3	0	0	0	1	1	5	0	0	17	6	0	0
	8:00	0	0	0	0	0	0	1	7	0	0	0	2	1	4	0	0	13	2	0	0
	8:15	0	0	0	0	0	0	1	4	0	0	0	1	0	4	0	0	16	3	0	0
	8:30	0	0	0	0	0	0	3	5	0	0	0	4	0	0	0	0	3	0	0	0
	8:45	0	0	1	0	0	0	1	8	3	0	0	1	0	2	0	0	6	1	0	0
	9:00	0	2	0	0	0	0	0	6	0	0	0	0	0	2	0	0	8	1	0	0
	9:15	0	0	5	0	0	0	3	5	0	0	0	1	0	5	0	0	9	0	0	0
	9:30	0	0	0	0	0	0	5	4	0	0	0	3	0	2	0	0	4	3	0	0
	9:45	0	0	0	0	0	0	0	3	0	0	0	1	1	4	0	0	6	3	0	0
	10:00	0	0	0	0	0	0	4	4	0	0	0	1	0	1	0	0	7	3	0	0
	10:15	0	0	0	0	0	0	3	5	0	0	0	1	0	2	0	0	4	1	0	0
	10:30	0	0	0	0	0	0	2	6	0	0	0	2	0	1	0	0	8	2	0	0
	10:45	0	0	0	0	0	0	5	7	0	0	0	2	0	5	0	0	12	0	0	0
	11:00	0	0	0	0	0	0	1	10	0	0	0	3	0	2	0	0	3	1	0	0
	11:15	0	0	0	1	0	0	1	6	0	0	0	2	0	0	0	0	14	1	0	0
	11:30	0	0	0	0	1	0	0	7	1	0	0	1	0	2	0	0	8	2	0	0
	11:45	0	0	0	4	0	0	4	10	0	0	0	3	1	1	0	0	10	2	0	0

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2267

Study Date : 10/13/2022

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 116

Number of Lanes : 2+

Total Approach Volume: 10,118

Westbound: CSAH 116

Number of Lanes : 2+

Total Approach Volume: 9,757

Minor Street Approaches

Northbound: Thurston Ave.

Number of Lanes : 1

Total Approach Volume: 3,325

Southbound: Dysprosium St.

Number of Lanes : 1

Total Approach Volume: 1,981

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 14 hours, 8 are needed

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

Required volumes reached for 14 hours, 8 are needed

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

Required 1A volumes reached for 15 hours, 8 are needed

Required 1B volumes reached for 15 hours, 8 are needed

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

Number of hours (14) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour..... Satisfied

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

Number of one hour periods (55) 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 2267

Study Date : 10/13/2022

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

14 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **420**
 Veh/Hr Minor = **105**

Time	Major Road CSAH 116				Total	Minor Road Thurston Ave.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:30 - 17:30	1025	+	991	=	2016	472	98	Yes
07:30 - 08:30	1120	+	800	=	1920	117	333	Yes
15:30 - 16:30	965	+	951	=	1916	459	85	Yes
06:30 - 07:30	1145	+	513	=	1658	65	429	Yes
14:30 - 15:30	734	+	817	=	1551	368	104	Yes
17:30 - 18:30	580	+	746	=	1326	209	85	Yes
13:30 - 14:30	575	+	629	=	1204	297	88	Yes
11:30 - 12:30	561	+	581	=	1142	263	97	Yes
12:30 - 13:30	474	+	547	=	1021	182	79	Yes
08:30 - 09:30	531	+	454	=	985	98	120	Yes
10:30 - 11:30	447	+	429	=	876	155	65	Yes
09:30 - 10:30	484	+	391	=	875	155	65	Yes
18:30 - 19:30	340	+	489	=	829	131	54	Yes
05:30 - 06:30	370	+	331	=	701	40	119	Yes
19:30 - 20:30	245	+	337	=	582	82	36	No
05:15 - 06:15	283	+	295	=	578	30	101	No
19:45 - 20:45	215	+	310	=	525	70	32	No
05:00 - 06:00	219	+	254	=	473	22	90	No
20:00 - 21:00	179	+	258	=	437	67	29	No
20:15 - 21:15	141	+	240	=	381	78	29	No
04:45 - 05:45	183	+	184	=	367	16	59	No
20:30 - 21:30	105	+	223	=	328	73	30	No
20:45 - 21:45	107	+	197	=	304	72	24	No
04:30 - 05:30	133	+	167	=	300	11	46	No
21:00 - 22:00	101		179		280	68	19	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2267

Study Date : 10/13/2022

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

14 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
 Veh/Hr Major = **630**
 Veh/Hr Minor = **53**

Time	Major Road CSAH 116				Total	Minor Road Thurston Ave.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:30 - 17:30	1025	+	991	=	2016	472	98	Yes
07:30 - 08:30	1120	+	800	=	1920	117	333	Yes
15:30 - 16:30	965	+	951	=	1916	459	85	Yes
06:30 - 07:30	1145	+	513	=	1658	65	429	Yes
14:30 - 15:30	734	+	817	=	1551	368	104	Yes
17:30 - 18:30	580	+	746	=	1326	209	85	Yes
13:30 - 14:30	575	+	629	=	1204	297	88	Yes
11:30 - 12:30	561	+	581	=	1142	263	97	Yes
12:30 - 13:30	474	+	547	=	1021	182	79	Yes
08:30 - 09:30	531	+	454	=	985	98	120	Yes
10:30 - 11:30	447	+	429	=	876	155	65	Yes
09:30 - 10:30	484	+	391	=	875	155	65	Yes
18:30 - 19:30	340	+	489	=	829	131	54	Yes
05:30 - 06:30	370	+	331	=	701	40	119	Yes
19:30 - 20:30	245	+	337	=	582	82	36	No
05:15 - 06:15	283	+	295	=	578	30	101	No
19:45 - 20:45	215	+	310	=	525	70	32	No
05:00 - 06:00	219	+	254	=	473	22	90	No
20:00 - 21:00	179	+	258	=	437	67	29	No
20:15 - 21:15	141	+	240	=	381	78	29	No
04:45 - 05:45	183	+	184	=	367	16	59	No
20:30 - 21:30	105	+	223	=	328	73	30	No
20:45 - 21:45	107	+	197	=	304	72	24	No
04:30 - 05:30	133	+	167	=	300	11	46	No
21:00 - 22:00	101		179		280	68	19	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2267

Study Date : 10/13/2022

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

15 hours meet 1A minimums.
15 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 116

Minor Road Thurston Ave.

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
07:00 - 08:00	1281	+	747	=	2028	105	526	Yes
16:00 - 17:00	1005	+	982	=	1987	499	101	Yes
17:00 - 18:00	806	+	928	=	1734	351	93	Yes
15:00 - 16:00	896	+	828	=	1724	450	88	Yes
14:00 - 15:00	654	+	778	=	1432	298	109	Yes
08:00 - 09:00	721	+	592	=	1313	91	147	Yes
06:00 - 07:00	767	+	406	=	1173	55	212	Yes
12:00 - 13:00	519	+	565	=	1084	231	94	Yes
13:00 - 14:00	500	+	561	=	1061	222	69	Yes
18:00 - 19:00	437	+	607	=	1044	143	74	Yes
11:00 - 12:00	506	+	531	=	1037	211	72	Yes
09:00 - 10:00	508	+	380	=	888	159	93	Yes

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
07:15 - 08:15	1244	+	815	=	2059	115	433	Yes
16:15 - 17:15	1020	+	958	=	1978	488	100	Yes
15:15 - 16:15	947	+	893	=	1840	459	90	Yes
17:15 - 18:15	653	+	882	=	1535	268	95	Yes
14:15 - 15:15	695	+	815	=	1510	321	104	Yes
06:15 - 07:15	948	+	446	=	1394	66	326	Yes
13:15 - 14:15	538	+	573	=	1111	285	82	Yes
08:15 - 09:15	603	+	502	=	1105	84	132	Yes
11:15 - 12:15	555	+	544	=	1099	256	92	Yes
12:15 - 13:15	491	+	579	=	1070	187	81	Yes
18:15 - 19:15	399	+	532	=	931	129	56	Yes
09:15 - 10:15	500	+	379	=	879	164	77	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2267

Study Date : 10/13/2022

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.

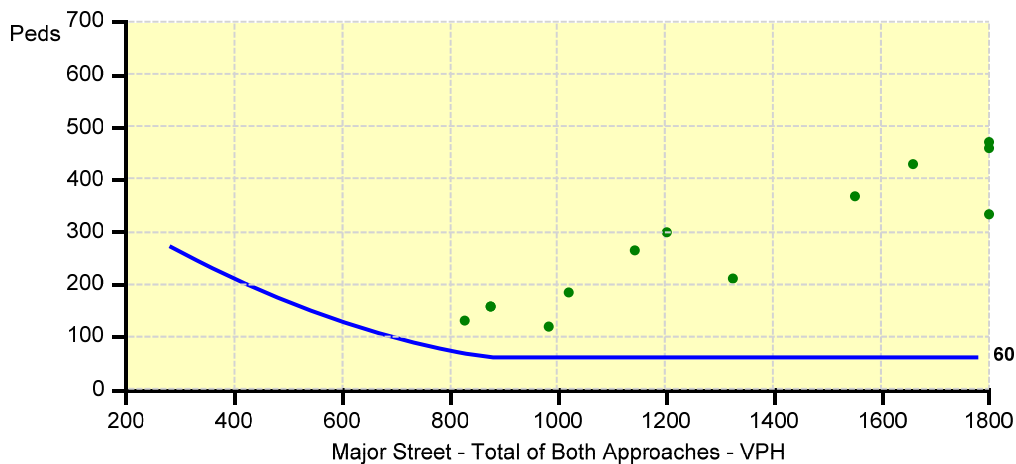
Summary

14 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **1**

Time	Major Road CSAH 116				Total	Minor Road Thurston Ave.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:30 - 17:30	1025	+	991	=	2016	472	98	Yes
07:30 - 08:30	1120	+	800	=	1920	117	333	Yes
15:30 - 16:30	965	+	951	=	1916	459	85	Yes
06:30 - 07:30	1145	+	513	=	1658	65	429	Yes
14:30 - 15:30	734	+	817	=	1551	368	104	Yes
17:30 - 18:30	580	+	746	=	1326	209	85	Yes
13:30 - 14:30	575	+	629	=	1204	297	88	Yes
11:30 - 12:30	561	+	581	=	1142	263	97	Yes
12:30 - 13:30	474	+	547	=	1021	182	79	Yes
08:30 - 09:30	531	+	454	=	985	98	120	Yes
10:30 - 11:30	447	+	429	=	876	155	65	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2267

Study Date : 10/13/2022

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

48 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
 Number of Major Lanes = **2 or more**
 Number of Minor Lanes = **1**

Time	Major Road CSAH 116				Total	Minor Road Thurston Ave.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
07:15 - 08:15	1244	+	815	=	2059	115	433	Yes
07:00 - 08:00	1281	+	747	=	2028	105	526	Yes
16:30 - 17:30	1025	+	991	=	2016	472	98	Yes
16:00 - 17:00	1005	+	982	=	1987	499	101	Yes
16:15 - 17:15	1020	+	958	=	1978	488	100	Yes
16:45 - 17:45	909	+	1017	=	1926	395	105	Yes
07:30 - 08:30	1120	+	800	=	1920	117	333	Yes
15:30 - 16:30	965	+	951	=	1916	459	85	Yes
06:45 - 07:45	1261	+	654	=	1915	79	509	Yes
15:45 - 16:45	948	+	900	=	1848	488	84	Yes
15:15 - 16:15	947	+	893	=	1840	459	90	Yes
							93	Yes

