

Date : 06/21/23

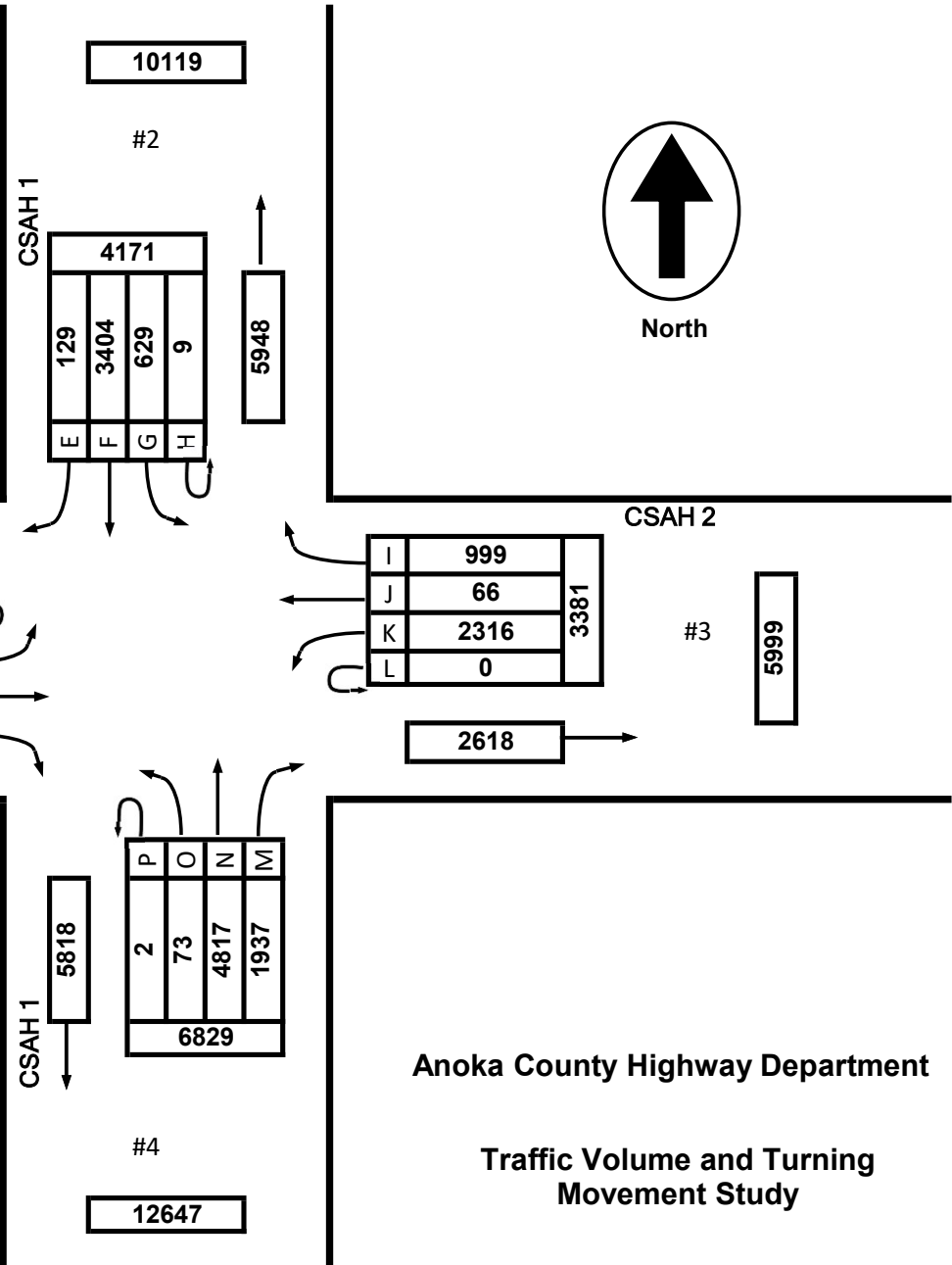
Count Number : TMC 2372

Location : CSAH 1 (East River Rd)
@ CSAH 2 (RxR BridgeMPLS
Water Works)

Collection Period : 24 HR



North



MPLS Water Works

CSAH 2

CSAH 1

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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

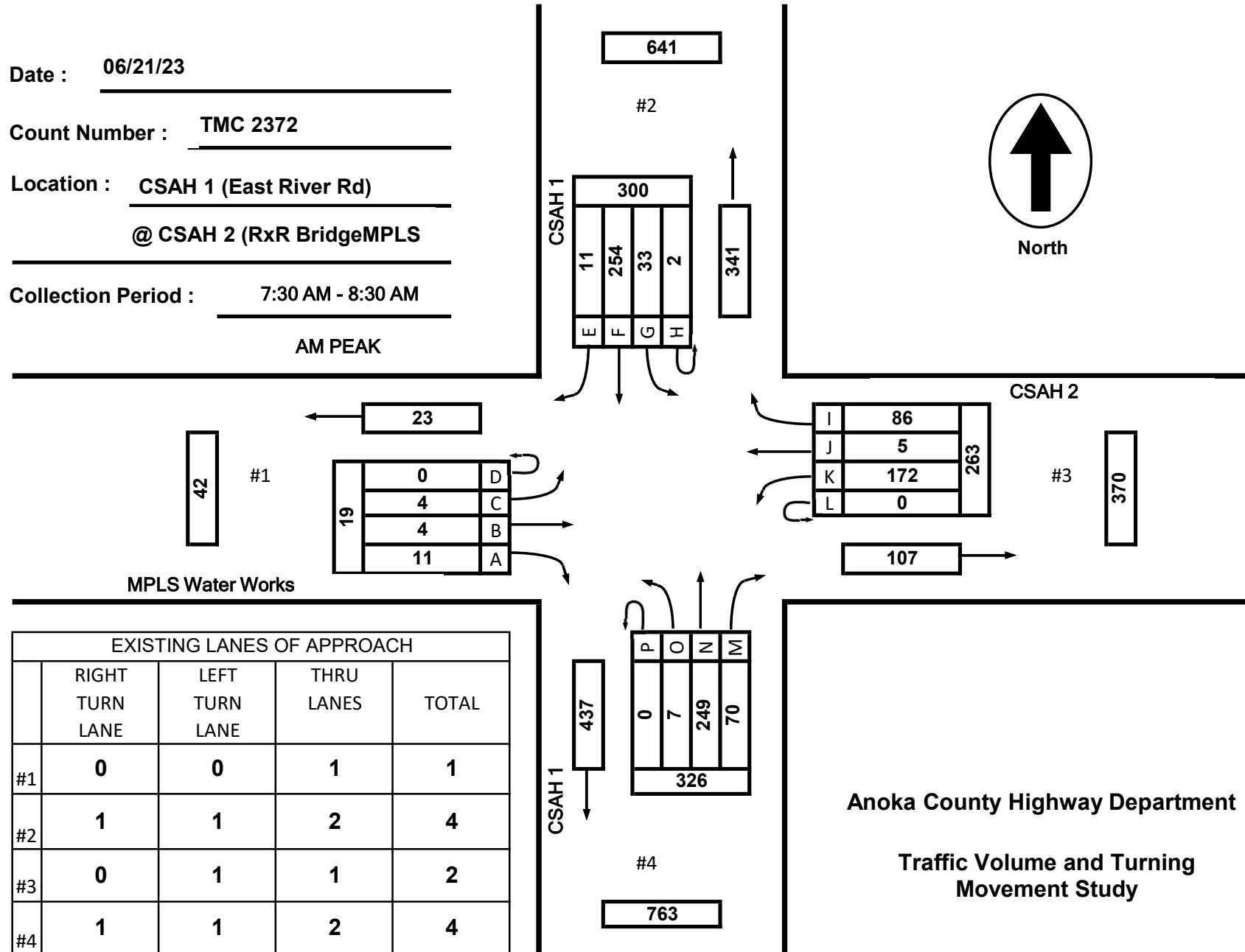
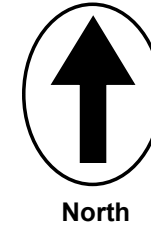
Date : 06/21/23

Count Number : TMC 2372

Location : CSAH 1 (East River Rd)
@ CSAH 2 (RxR BridgeMPLS)

Collection Period : 7:30 AM - 8:30 AM

AM PEAK



MPLS Water Works

CSAH 2

CSAH 1

EXISTING LANES OF APPROACH

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

Anoka County Highway Department

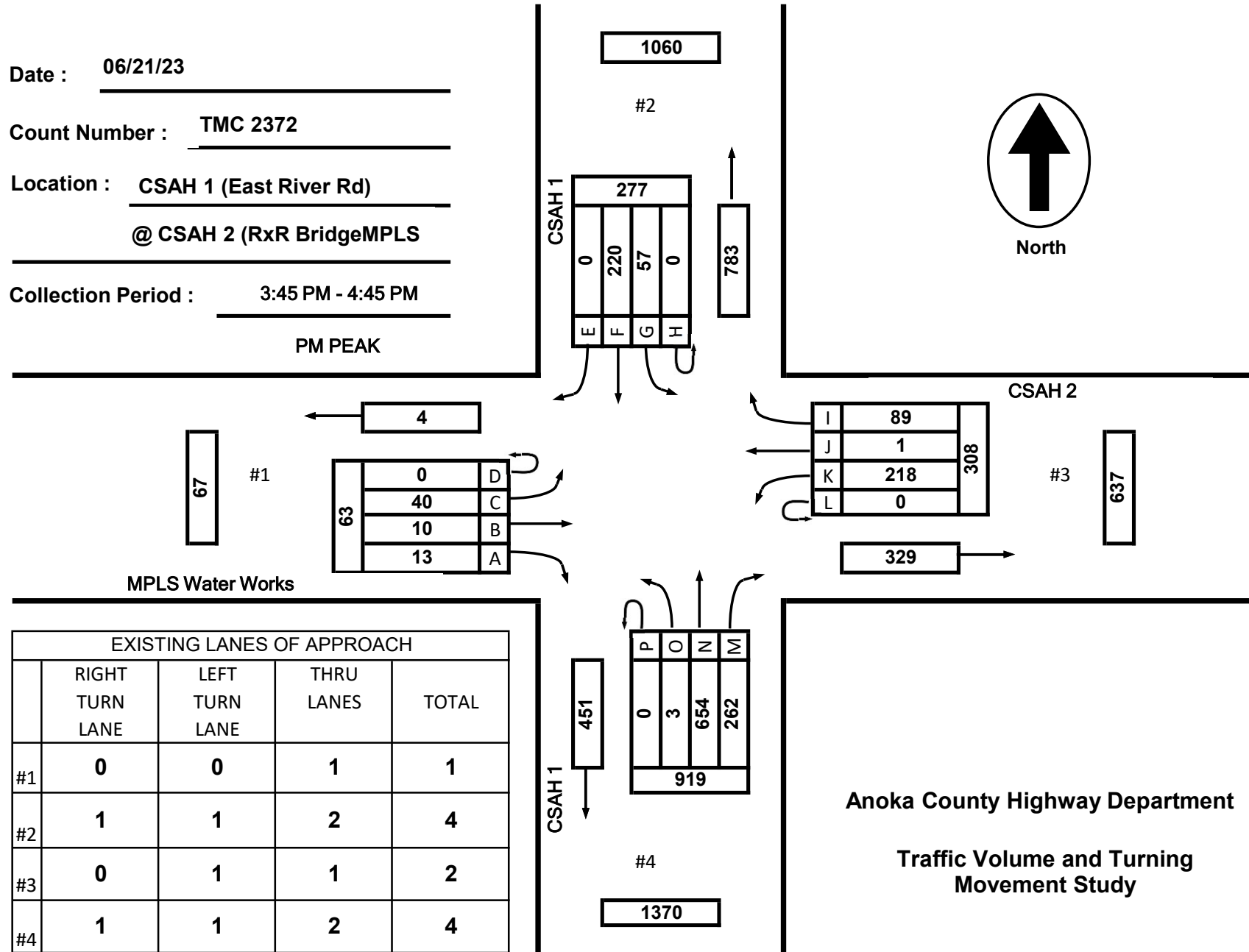
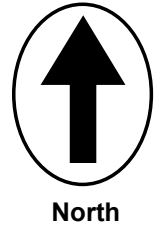
Traffic Volume and Turning Movement Study

Date : 06/21/23

Count Number : TMC 2372

Location : CSAH 1 (East River Rd)
@ CSAH 2 (RxR BridgeMPLS)

Collection Period : 3:45 PM - 4:45 PM
PM PEAK



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

Anoka County Highway Department
Traffic Volume and Turning Movement Study

TMC 2372 - CSAH 1 (East River Rd) @ CSAH 2 (RxR Bridge) MPLS Water Works

0 0

Wednesday, June 21, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:00 AM	0	0	5	0	0	5	0	5	0	0	0	5	0	0	12	5	0	17	0	0	0	0	0	0	27
12:15 AM	0	1	3	0	0	4	0	5	0	0	0	5	0	0	4	4	0	8	0	0	0	0	0	0	17
12:30 AM	0	2	0	0	0	2	0	4	1	0	0	5	0	0	5	4	0	9	0	0	0	0	0	0	16
12:45 AM	0	1	6	0	0	7	0	2	0	1	0	3	0	0	2	1	0	3	0	0	0	0	0	0	13
Hourly Total	0	4	14	0	0	18	0	16	1	1	0	18	0	0	23	14	0	37	0	0	0	0	0	0	73
1:00 AM	0	0	2	0	0	2	0	2	0	1	0	3	0	0	13	6	0	19	0	0	0	0	0	0	24
1:15 AM	0	0	1	0	0	1	0	3	0	1	0	4	0	0	6	4	0	10	0	0	0	0	0	0	15
1:30 AM	0	1	3	0	0	4	0	2	0	0	0	2	0	0	3	2	0	5	0	0	1	0	0	1	12
1:45 AM	0	1	3	0	0	4	0	1	0	2	0	3	0	0	4	1	0	5	0	0	0	0	0	0	12
Hourly Total	0	2	9	0	0	11	0	8	0	4	0	12	0	0	26	13	0	39	0	0	1	0	0	1	63
2:00 AM	0	0	5	0	0	5	0	4	0	1	0	5	0	0	2	2	0	4	0	0	0	0	0	0	14
2:15 AM	0	0	3	0	0	3	0	1	0	2	0	3	0	0	4	1	0	5	0	0	0	0	0	0	11
2:30 AM	0	0	6	0	0	6	0	1	0	1	0	2	0	0	4	2	0	6	0	0	0	0	0	0	14
2:45 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	9
Hourly Total	0	0	17	0	0	17	0	6	0	4	0	10	0	0	15	6	0	21	0	0	0	0	0	0	48
3:00 AM	0	1	6	0	0	7	0	2	0	0	0	2	0	0	5	0	0	5	0	0	0	0	0	0	14
3:15 AM	0	0	4	0	0	4	0	1	0	2	0	3	0	0	4	3	0	7	0	0	0	0	0	0	14
3:30 AM	0	1	4	0	0	5	0	1	0	0	0	1	0	1	5	0	0	6	0	1	1	0	0	2	14
3:45 AM	0	3	9	0	0	12	0	2	0	0	0	2	0	0	9	3	0	12	0	0	0	0	0	0	26
Hourly Total	0	5	23	0	0	28	0	6	0	2	0	8	0	1	23	6	0	30	0	1	1	0	0	2	68
4:00 AM	0	0	5	0	0	5	0	1	0	0	0	1	0	0	2	4	0	6	0	0	0	0	0	0	12
4:15 AM	0	0	16	0	0	16	0	4	0	1	0	5	0	0	7	3	0	10	0	0	0	0	0	0	31
4:30 AM	0	5	21	1	0	27	0	5	0	3	0	8	0	0	13	2	0	15	0	0	0	0	0	0	50
4:45 AM	0	1	26	0	0	27	0	5	0	2	0	7	0	1	15	5	0	21	0	0	0	0	0	0	55
Hourly Total	0	6	68	1	0	75	0	15	0	6	0	21	0	1	37	14	0	52	0	0	0	0	0	0	148
5:00 AM	0	1	27	0	0	28	0	4	0	5	0	9	0	0	16	4	0	20	0	0	0	0	0	0	57
5:15 AM	0	3	47	1	0	51	0	7	0	3	0	10	0	0	10	3	1	13	0	0	0	0	0	0	74
5:30 AM	0	3	49	6	0	58	0	11	0	8	0	19	0	0	49	4	1	53	0	0	0	0	0	0	130
5:45 AM	0	5	94	4	0	103	0	14	0	14	0	28	0	1	28	9	0	38	0	4	0	0	0	4	173
Hourly Total	0	12	217	11	0	240	0	36	0	30	0	66	0	1	103	20	2	124	0	4	0	0	0	4	434
6:00 AM	0	10	54	6	0	70	0	7	1	9	0	17	0	0	33	7	2	40	0	2	0	1	1	3	130
6:15 AM	0	8	68	6	0	82	0	17	4	15	0	36	0	0	19	11	1	30	0	1	0	0	2	1	149
6:30 AM	0	11	63	10	0	84	0	29	1	10	0	40	0	0	41	14	0	55	0	0	0	1	1	1	180
6:45 AM	0	6	102	19	0	127	0	28	5	14	2	47	0	3	54	17	0	74	0	1	0	1	0	2	250
Hourly Total	0	35	287	41	0	363	0	81	11	48	2	140	0	3	147	49	3	199	0	4	0	3	4	7	709
7:00 AM	0	7	55	19	0	81	0	25	8	21	0	54	0	2	54	14	0	70	0	2	0	0	0	2	207
7:15 AM	0	6	69	7	0	82	0	30	2	17	0	49	0	1	57	9	0	67	0	1	2	1	0	4	202
7:30 AM	0	7	68	5	0	80	0	38	0	32	0	70	0	0	64	15	0	79	0	1	1	2	0	4	233
7:45 AM	2	12	68	1	0	83	0	32	1	20	0	53	0	3	79	19	0	101	0	1	0	2	1	3	240
Hourly Total	2	32	260	32	0	326	0	125	11	90	0	226	0	6	254	57	0	317	0	5	3	5	1	13	882

TMC 2372 - CSAH 1 (East River Rd) @ CSAH 2 (RxR Bridge) MPLS Water Works

0 0

Wednesday, June 21, 2023

Time	Southbound 0						Westbound 0						Northbound 0						Eastbound 0						VEHICLE TOTAL					
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total						
8:00 AM	0	6	59	5	0	70	0	62	2	19	0	83	0	1	43	19	0	63	0	1	2	1	0	4	0	1	6	1	8	220
8:15 AM	0	8	59	0	0	67	0	40	2	15	0	57	0	3	63	17	1	83	0	1	1	6	1	8	0	2	2	4	0	176
8:30 AM	0	9	55	0	0	64	0	29	2	18	0	49	0	0	48	7	0	55	0	1	2	2	1	5	0	2	2	2	1	171
8:45 AM	0	8	52	1	0	61	0	33	0	11	0	44	0	2	44	15	0	61	0	1	2	2	2	7	0	1	2	2	1	782
Hourly Total	0	31	225	6	0	262	0	164	6	63	0	233	0	6	198	58	1	262	0	5	7	13	2	25	0	5	7	13	2	782
9:00 AM	0	4	41	2	0	47	0	27	0	17	0	44	0	1	37	13	0	51	0	1	1	0	1	2	0	1	1	0	1	144
9:15 AM	0	5	45	4	0	54	0	25	4	12	0	41	0	2	40	16	0	58	0	1	1	3	4	5	0	1	1	3	4	158
9:30 AM	0	8	38	2	0	48	0	19	1	7	0	27	0	1	42	13	0	56	0	0	1	1	0	2	0	0	1	1	0	133
9:45 AM	0	4	37	0	0	41	0	18	0	9	0	27	0	1	43	15	0	59	0	3	1	3	1	7	0	3	1	3	1	134
Hourly Total	0	21	161	8	0	190	0	89	5	45	0	139	0	5	162	57	0	224	0	5	4	7	6	16	0	5	4	7	6	569
10:00 AM	1	4	43	1	0	49	0	9	1	9	0	19	0	0	42	19	0	61	0	2	1	3	0	6	0	2	1	3	0	135
10:15 AM	0	3	40	1	0	44	0	18	0	4	0	22	0	3	53	30	2	86	0	1	0	1	0	2	0	1	0	1	0	154
10:30 AM	0	6	31	0	0	37	0	24	2	14	0	40	0	1	46	11	0	58	0	0	0	5	2	5	0	0	0	5	2	140
10:45 AM	0	4	33	1	0	38	0	28	0	8	0	36	0	1	33	21	0	55	0	0	0	1	0	1	0	0	0	1	0	130
Hourly Total	1	17	147	3	0	168	0	79	3	35	0	117	0	5	174	81	2	260	0	3	1	10	2	14	0	3	1	10	2	559
11:00 AM	0	5	42	1	0	48	0	17	0	9	0	26	0	2	49	21	0	72	0	0	0	2	3	2	0	0	0	2	3	148
11:15 AM	0	8	41	0	0	49	0	27	2	11	0	40	0	3	44	22	1	69	0	2	1	1	6	4	0	2	1	1	6	162
11:30 AM	0	12	32	1	0	45	0	22	0	8	0	30	0	0	43	24	0	67	0	2	1	3	0	6	0	2	1	3	0	148
11:45 AM	0	15	39	2	0	56	0	24	1	23	0	48	0	4	55	24	0	83	0	2	1	1	4	4	0	2	1	1	4	191
Hourly Total	0	40	154	4	0	198	0	90	3	51	0	144	0	9	191	91	1	291	0	6	3	7	13	16	0	6	3	7	13	649
12:00 PM	0	14	34	0	0	48	0	22	2	12	0	36	0	1	47	23	0	71	0	6	4	1	2	11	0	6	4	1	2	166
12:15 PM	0	14	43	0	0	57	0	33	1	11	0	45	0	0	54	26	0	80	0	1	2	1	0	4	0	1	2	1	0	186
12:30 PM	0	9	38	1	0	48	0	27	2	19	0	48	0	0	50	27	0	77	0	1	0	2	4	3	0	1	0	2	4	176
12:45 PM	0	8	44	5	0	57	0	25	4	14	0	43	0	2	51	28	0	81	0	0	1	2	2	3	0	0	1	2	2	184
Hourly Total	0	45	159	6	0	210	0	107	9	56	0	172	0	3	202	104	0	309	0	8	7	6	8	21	0	8	7	6	8	712
1:00 PM	0	7	36	3	0	46	0	39	1	6	0	46	0	1	65	15	0	81	0	3	0	1	0	4	0	3	0	1	0	177
1:15 PM	0	6	45	0	0	51	0	24	0	15	0	39	0	0	70	30	0	100	0	3	1	0	0	4	0	3	1	0	0	194
1:30 PM	0	6	55	2	0	63	0	30	0	12	0	42	0	1	85	33	1	119	0	3	1	1	3	5	0	3	1	1	3	229
1:45 PM	0	2	44	1	1	47	0	51	2	20	0	73	0	1	73	26	0	100	0	0	1	1	1	2	0	0	1	1	1	222
Hourly Total	0	21	180	6	1	207	0	144	3	53	0	200	0	3	293	104	1	400	0	9	3	3	4	15	0	9	3	3	4	822
2:00 PM	0	9	50	2	0	61	0	29	2	20	0	51	0	2	67	31	1	100	0	3	0	3	1	6	0	3	0	3	1	218
2:15 PM	0	13	43	2	0	58	0	41	1	17	0	59	0	3	97	39	0	139	0	5	2	5	1	12	0	5	2	5	1	268
2:30 PM	0	18	53	0	0	71	0	55	1	20	0	76	0	3	115	27	0	145	0	3	3	3	0	9	0	3	3	3	0	301
2:45 PM	0	17	73	1	0	91	0	40	2	20	0	62	0	4	83	31	0	118	0	3	0	2	0	5	0	3	0	2	0	276
Hourly Total	0	57	219	5	0	281	0	165	6	77	0	248	0	12	362	128	1	502	0	14	5	13	2	32	0	14	5	13	2	1063
3:00 PM	0	14	60	0	0	74	0	46	1	28	0	75	0	2	123	27	0	152	0	5	1	3	1	9	0	5	1	3	1	310
3:15 PM	0	14	31	1	0	46	0	38	1	17	2	56	0	2	129	46	0	177	0	3	0	2	4	5	0	3	0	2	4	284
3:30 PM	0	15	65	0	0	80	0	58	1	21	2	80	0	3	122	48	2	173	0	2	1	3	2	6	0	2	1	3	2	339
3:45 PM	0	9	58	0	1	67	0	42	0	12	0	54	0	0	141	58	0	199	0	35	10	11	3	56	0	35	10	11	3	376
Hourly Total	0	52	214	1	1	267	0	184	3	78	4	265	0	7	515	179	2	701	0	45	12	19	10	76	0	45	12	19	10	1309

TMC 2372 - CSAH 1 (East River Rd) @ CSAH 2 (RxR Bridge) MPLS Water Works

0 0

Wednesday, June 21, 2023

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	12	50	0	0	62	0	61	1	32	0	94	0	2	152	67	0	221	0	5	0	2	1	7	384
4:15 PM	0	24	53	0	0	77	0	58	0	20	0	78	0	0	163	63	1	226	0	0	0	0	0	0	381
4:30 PM	0	12	59	0	1	71	0	57	0	25	0	82	0	1	198	74	0	273	0	0	0	0	1	0	426
4:45 PM	1	13	46	0	0	60	0	69	0	18	0	87	0	0	156	63	0	219	0	1	1	0	4	2	368
Hourly Total	1	61	208	0	1	270	0	245	1	95	0	341	0	3	669	267	1	939	0	6	1	2	6	9	1559
5:00 PM	0	16	48	0	1	64	0	46	0	27	0	73	0	2	165	59	0	226	0	1	0	0	3	1	364
5:15 PM	0	9	66	0	0	75	0	53	0	25	0	78	0	0	134	63	1	197	0	1	0	0	4	1	351
5:30 PM	0	17	57	0	0	74	0	78	0	20	0	98	0	0	130	62	0	192	0	0	0	1	0	1	365
5:45 PM	0	9	51	0	0	60	0	52	0	29	0	81	0	0	89	52	2	141	0	0	1	0	2	1	283
Hourly Total	0	51	222	0	1	273	0	229	0	101	0	330	0	2	518	236	3	756	0	2	1	1	9	4	1363
6:00 PM	0	13	62	0	0	75	0	50	0	37	0	87	1	1	74	56	0	132	0	1	0	0	2	1	295
6:15 PM	0	12	39	0	0	51	0	56	0	19	0	75	0	0	79	27	1	106	0	0	0	0	2	0	232
6:30 PM	0	5	44	0	0	49	0	42	1	9	0	52	0	1	57	38	1	96	0	1	0	0	2	1	198
6:45 PM	1	11	51	0	0	63	0	29	0	8	0	37	0	0	59	20	0	79	0	0	0	1	3	1	180
Hourly Total	1	41	196	0	0	238	0	177	1	73	0	251	1	2	269	141	2	413	0	2	0	1	9	3	905
7:00 PM	0	6	34	0	0	40	0	30	0	10	0	40	0	1	49	27	0	77	0	0	0	0	1	0	157
7:15 PM	0	3	37	0	0	40	0	22	0	3	0	25	0	0	40	19	2	59	0	0	0	0	6	0	124
7:30 PM	0	1	13	1	0	15	0	31	0	7	0	38	0	0	41	22	0	63	0	0	0	1	6	1	117
7:45 PM	0	6	22	0	0	28	0	24	0	2	0	26	0	0	29	19	0	48	0	0	0	0	0	0	102
Hourly Total	0	16	106	1	0	123	0	107	0	22	0	129	0	1	159	87	2	247	0	0	0	1	13	1	500
8:00 PM	0	3	29	0	0	32	0	26	0	6	0	32	1	2	38	15	0	56	0	0	0	1	1	1	121
8:15 PM	0	7	27	0	0	34	0	24	0	8	0	32	0	0	44	21	0	65	0	0	0	0	3	0	131
8:30 PM	0	6	25	0	0	31	0	24	0	8	0	32	0	1	25	16	0	42	0	1	0	1	3	2	107
8:45 PM	0	2	34	0	0	36	0	21	0	4	0	25	0	0	49	14	1	63	0	0	0	0	3	0	124
Hourly Total	0	18	115	0	0	133	0	95	0	26	0	121	1	3	156	66	1	226	0	1	0	2	10	3	483
9:00 PM	0	8	21	0	0	29	0	27	0	3	0	30	0	0	34	16	1	50	0	0	0	0	1	0	109
9:15 PM	0	10	29	0	0	39	0	13	0	5	0	18	0	0	22	24	0	46	0	0	0	0	1	0	103
9:30 PM	0	7	23	0	0	30	0	25	0	3	0	28	0	0	45	15	0	60	0	0	0	0	0	0	118
9:45 PM	1	7	25	1	0	34	0	20	1	3	0	24	0	0	56	18	0	74	0	0	0	1	0	1	133
Hourly Total	1	32	98	1	0	132	0	85	1	14	0	100	0	0	157	73	1	230	0	0	0	1	2	1	463
10:00 PM	0	5	21	1	0	27	0	10	0	3	0	13	0	0	28	23	0	51	0	1	0	0	0	1	92
10:15 PM	1	2	9	2	0	14	0	11	0	2	0	13	0	0	27	15	0	42	0	1	0	0	0	1	70
10:30 PM	0	11	24	0	0	35	0	10	0	5	0	15	0	0	10	10	0	20	0	1	2	0	0	3	73
10:45 PM	0	5	11	0	0	16	0	11	1	1	0	13	0	0	21	13	0	34	0	0	1	0	0	1	64
Hourly Total	1	23	65	3	0	92	0	42	1	11	0	54	0	0	86	61	0	147	0	3	3	0	0	6	299
11:00 PM	2	4	13	0	0	19	0	9	0	10	0	19	0	0	28	10	0	38	0	0	0	1	0	1	77
11:15 PM	0	0	12	0	0	12	0	4	1	2	0	7	0	0	22	4	0	26	0	0	0	1	0	1	46
11:30 PM	0	3	10	0	0	13	0	5	0	2	0	7	0	0	11	6	0	17	0	0	0	0	0	0	37
11:45 PM	0	0	5	0	0	5	0	3	0	0	0	3	0	0	17	5	0	22	0	0	0	0	0	0	30
Hourly Total	2	7	40	0	0	49	0	21	1	14	0	36	0	0	78	25	0	103	0	0	0	2	0	2	190
DAILY TOTAL	9	629	3404	129	4	4171	0	2316	66	999	6	3381	2	73	4817	1937	23	6829	0	123	52	96	101	271	14652
Cars	9	568	3106	111	1	3794	0	2258	63	914	0	3235	2	66	4454	1896	9	6418	0	99	50	93	29	242	13689
Heavy Vehicles	0	61	298	18	3	377	0	58	3	85	6	146	0	7	363	41	14	411	0	24	2	3	72	29	963
Heavy Vehicle %	0.00%	9.70%	8.75%	13.95%	75.00%	9.04%	0.00%	2.50%	4.55%	8.51%	100.00%	4.32%	0.00%	9.59%	7.54%	2.12%	60.87%	6.02%	0.00%	19.51%	3.85%	3.13%	71.29%	10.70%	6.57%

TMC 2372 - CSAH 1 (East River Rd) @ CSAH 2 (RxR Bridge) MPLS Water Works

0 0

Wednesday, June 21, 2023

AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
7:30 AM	0	7	68	5	0	80	0	38	0	32	0	70	0	0	64	15	0	79	0	1	1	2	0	4	233
7:45 AM	2	12	68	1	0	83	0	32	1	20	0	53	0	3	79	19	0	101	0	1	0	2	1	3	240
8:00 AM	0	6	59	5	0	70	0	62	2	19	0	83	0	1	43	19	0	63	0	1	2	1	0	4	220
8:15 AM	0	8	59	0	0	67	0	40	2	15	0	57	0	3	63	17	1	83	0	1	1	6	1	8	215
Peak Hour Total	2	33	254	11	0	300	0	172	5	86	0	263	0	7	249	70	1	326	0	4	4	11	2	19	908
PHF	0.250	0.688	0.934	0.550	0.000	0.904	0.000	0.694	0.625	0.672	0.000	0.792	0.000	0.583	0.788	0.921	0.250	0.807	0.000	1.000	0.500	0.458	0.500	0.594	0.946

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	
3:45 PM	0	9	58	0	1	67	0	42	0	12	0	54	0	0	141	58	0	199	0	35	10	11	3	56	376
4:00 PM	0	12	50	0	0	62	0	61	1	32	0	94	0	2	152	67	0	221	0	5	0	2	1	7	384
4:15 PM	0	24	53	0	0	77	0	58	0	20	0	78	0	0	163	63	1	226	0	0	0	0	0	0	381
4:30 PM	0	12	59	0	1	71	0	57	0	25	0	82	0	1	198	74	0	273	0	0	0	0	1	0	426
Peak Hour Total	0	57	220	0	2	277	0	218	1	89	0	308	0	3	654	262	1	919	0	40	10	13	5	63	1567
PHF	0.000	0.594	0.932	0.000	0.500	0.899	0.000	0.893	0.250	0.695	0.000	0.819	0.000	0.375	0.826	0.885	0.250	0.842	0.000	0.286	0.250	0.295	0.417	0.281	0.920

Total Vehicles On Leg				10119		
Vehicles Entering Intersection			4171	Vehicles Exiting Intersection		5948
Southbound						
Cars	111	3106	568	9	1	
Heavy	18	298	61	0	3	
Total	129	3404	629	9	4	

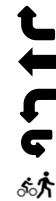


Total Vehicles on Leg 539	Vehicles Entering Intersection 271	Eastbound	Cars	Heavy	Total
			29	72	101
			0	0	0
	Vehicles Exiting Intersection 268		99	24	123
			50	2	52
			93	3	96



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 3381	Total Vehicles on Leg 5999
914	85	999			
63	3	66			
2258	58	2316			
0	0	0			
0	6	6		Vehicles Exiting Intersection 2618	



Cars	9	2	66	4454	1896	
Heavy	14	0	7	363	41	
Total	23	2	73	4817	1937	
Northbound						
Vehicles Entering Intersection			6829	Vehicles Exiting Intersection		5818
Total Vehicles On Leg			12647			



Heavy Vehicles

Date	Time	Southbound						Westbound						Northbound						Eastbound					
		U Turns	Left Turns	Straight Through	Right Turns	EB Bicycles in Crosswalk	WB Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	NB Bicycles in Crosswalk	SB Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	EB Bicycles in Crosswalk	WB Bicycles in Crosswalk	U Turns	Left Turns	Straight Through	Right Turns	NB Bicycles in Crosswalk	SB Bicycles in Crosswalk
06/21/2023	0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:00	0	0	0	0	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	2:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	3:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	3:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	4:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	4:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
	4:30	0	1	2	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	4:45	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:00	0	0	1	0	0	0	0	1	0	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0
	5:15	0	0	5	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	5:30	0	1	2	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	5:45	0	0	2	1	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	2	0	0	0	0
	6:00	0	2	3	0	0	0	0	1	0	1	0	0	0	0	4	1	0	0	0	1	0	0	0	0
	6:15	0	1	3	0	0	0	0	0	0	4	0	0	0	0	1	2	0	0	0	0	0	0	0	0
	6:30	0	0	4	0	0	0	0	0	0	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	6:45	0	0	6	0	0	0	0	0	0	2	0	2	0	0	11	1	0	0	0	1	0	0	0	0
	7:00	0	3	4	1	0	0	0	0	0	1	0	0	0	0	6	1	0	0	0	1	0	0	0	0
	7:15	0	1	5	0	0	0	0	1	0	4	0	0	0	0	11	0	0	0	0	0	0	0	0	0
	7:30	0	1	4	0	0	0	0	0	0	3	0	0	0	0	6	0	0	0	0	0	0	0	0	0
	7:45	0	2	4	0	0	0	0	2	0	2	0	0	0	0	1	3	0	0	0	1	0	0	0	0
	8:00	0	1	7	2	0	0	0	0	1	4	0	0	0	0	5	2	0	0	0	0	0	0	0	0
	8:15	0	1	7	0	0	0	0	2	0	0	0	0	0	0	10	0	0	0	0	1	0	0	0	1
	8:30	0	2	9	0	0	0	0	0	0	2	0	0	0	0	7	1	0	0	0	2	0	0	0	0
	8:45	0	1	6	0	0	0	0	0	0	3	0	0	0	0	1	9	1	0	0	1	0	0	0	1
	9:00	0	1	5	2	0	0	0	2	0	3	0	0	0	0	0	9	0	0	0	0	1	0	0	0
	9:15	0	3	10	0	0	0	0	0	0	2	0	0	0	0	1	9	0	0	0	1	0	0	0	4
	9:30	0	3	6	0	0	0	0	0	0	2	0	0	0	0	0	7	0	0	0	0	0	0	0	0
	9:45	0	0	6	0	0	0	0	2	0	2	0	0	0	0	8	3	0	0	0	1	0	0	1	0
	10:00	0	1	7	0	0	0	0	2	0	3	0	0	0	0	0	11	1	0	0	1	0	0	0	0
	10:15	0	0	10	1	0	0	0	2	0	1	0	0	0	0	1	9	1	0	0	0	0	0	0	0
	10:30	0	2	10	0	0	0	0	1	0	4	0	0	0	0	0	8	1	0	0	0	0	0	1	1
	10:45	0	1	8	0	0	0	0	1	0	1	0	0	0	0	0	8	1	0	0	0	0	0	0	0
	11:00	0	0	7	0	0	0	0	1	0	2	0	0	0	0	0	11	2	0	0	0	0	0	2	0
	11:15	0	1	8	0	0	0	0	0	0	2	0	0	0	0	0	7	0	0	0	0	0	0	0	5
	11:30	0	1	7	0	0	0	0	2	0	3	0	0	0	0	0	2	1	0	0	0	1	0	0	0
	11:45	0	4	6	0	0	0	0	3	0	2	0	0	0	0	0	10	3	0	0	0	0	0	0	1

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2372

Study Date : 06/26/2023

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 1

Number of Lanes : 2+

Total Approach Volume: 6,829

Southbound: CSAH 1

Number of Lanes :2+

Total Approach Volume: 4,171

Minor Street Approaches

Eastbound: MPLS Water Works

Number of Lanes :1

Total Approach Volume: 271

Westbound: CSAH 2

Number of Lanes :1

Total Approach Volume: 3,381

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.....Not Satisfied

Required volumes reached for 6 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 10 hours, 8 are needed

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

Number of hours (10) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (27) 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 2372

Study Date : 06/26/2023

Warrant 1A - Minimum Volumes

Description

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

Summary

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				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
15:45 - 16:45	919	+	277	=	1196	63	308	Yes
16:45 - 17:45	834	+	273	=	1107	5	336	Yes
14:45 - 15:45	620	+	291	=	911	25	273	Yes
13:45 - 14:45	484	+	237	=	721	29	259	Yes
17:45 - 18:45	475	+	235	=	710	3	295	Yes
06:45 - 07:45	290	+	370	=	660	12	220	Yes
12:45 - 13:45	381	+	217	=	598	16	170	Yes
07:45 - 08:45	302	+	284	=	586	23	242	Yes
11:45 - 12:45	311	+	209	=	520	22	177	Yes
05:45 - 06:45	163	+	339	=	502	9	121	Yes
10:45 - 11:45	263	+	180	=	443	13	132	Yes
18:45 - 19:45	278	+	158	=	436	2	140	Yes
08:45 - 09:45	226	+	210	=	436	14	156	Yes
09:45 - 10:45	264	+	171	=	435	20	108	Yes
05:30 - 06:30	161	+	313	=	474	8	100	No
05:15 - 06:15	144	+	282	=	426	7	74	No
05:00 - 06:00	124	+	240	=	364	4	66	No
21:00 - 22:00	230	+	132	=	362	1	100	No
21:15 - 22:15	231	+	130	=	361	2	83	No
20:00 - 21:00	226	+	133	=	359	3	121	No
20:45 - 21:45	219	+	134	=	353	0	101	No
20:15 - 21:15	220	+	130	=	350	2	119	No
19:45 - 20:45	211	+	125	=	336	3	122	No
20:30 - 21:30	201	+	135	=	336	2	105	No
21:30 - 22:30	227		105		332	3	78	No

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2372

Study Date : 06/26/2023

Warrant 1B - Interruption of Continuous Traffic

Description

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

Summary

Only 6 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 = **630**
 Veh/Hr Minor = **53**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	944	+	272	=	1216	3	320	Yes
15:15 - 16:15	770	+	255	=	1025	74	284	Yes
17:15 - 18:15	662	+	284	=	946	4	344	Yes
14:15 - 15:15	554	+	294	=	848	35	272	Yes
13:15 - 14:15	419	+	222	=	641	17	205	Yes
06:30 - 07:30	266	+	374	=	640	9	190	Yes
07:30 - 08:30	326	+	300	=	626	19	263	No
13:00 - 14:00	400	+	207	=	607	15	200	No
06:15 - 07:15	229	+	374	=	603	6	177	No
12:45 - 13:45	381	+	217	=	598	16	170	No
07:45 - 08:45	302	+	284	=	586	23	242	No
06:00 - 07:00	199	+	363	=	562	7	140	No
18:15 - 19:15	358	+	203	=	561	2	204	No
12:30 - 13:30	339	+	202	=	541	14	176	No
12:15 - 13:15	319	+	208	=	527	14	182	No
08:00 - 09:00	262	+	262	=	524	25	233	No
11:45 - 12:45	311	+	209	=	520	22	177	No
12:00 - 13:00	309	+	210	=	519	21	172	No
11:30 - 12:30	301	+	206	=	507	25	159	No
18:30 - 19:30	311	+	192	=	503	2	154	No
05:45 - 06:45	163	+	339	=	502	9	121	No
11:00 - 12:00	291	+	198	=	489	16	144	No
08:15 - 09:15	250	+	239	=	489	23	194	No
11:15 - 12:15	290	+	198	=	488	25	154	No
05:30 - 06:30	161		313		474	8	100	No

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2372

Study Date : 06/26/2023

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

16 hours meet 1A minimums.
10 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 1

Minor Road MPLS Water Works

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:30 - 17:30	915	+	270	=	1185	4	320	Yes
15:30 - 16:30	819	+	286	=	1105	69	306	Yes
14:30 - 15:30	592	+	282	=	874	28	269	Yes
17:30 - 18:30	571	+	260	=	831	3	341	Yes
13:30 - 14:30	458	+	229	=	687	25	225	Yes
06:30 - 07:30	266	+	374	=	640	9	190	Yes
07:30 - 08:30	326	+	300	=	626	19	263	Yes
12:30 - 13:30	339	+	202	=	541	14	176	Yes
11:30 - 12:30	301	+	206	=	507	25	159	Yes
18:30 - 19:30	311	+	192	=	503	2	154	Yes
05:30 - 06:30	161	+	313	=	474	8	100	Yes
08:30 - 09:30	225	+	226	=	451	20	178	Yes

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:30 - 17:30	915	+	270	=	1185	4	320	Yes
15:30 - 16:30	819	+	286	=	1105	69	306	Yes
14:30 - 15:30	592	+	282	=	874	28	269	Yes
17:30 - 18:30	571	+	260	=	831	3	341	Yes
13:30 - 14:30	458	+	229	=	687	25	225	Yes
07:00 - 08:00	317	+	326	=	643	13	226	Yes
06:00 - 07:00	199	+	363	=	562	7	140	Yes
12:30 - 13:30	339	+	202	=	541	14	176	Yes
08:00 - 09:00	262	+	262	=	524	25	233	Yes
11:30 - 12:30	301	+	206	=	507	25	159	Yes
18:30 - 19:30	311	+	192	=	503	2	154	No
05:45 - 06:45	163	+	339	=	502	9	121	No

ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2372

Study Date : 06/26/2023

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

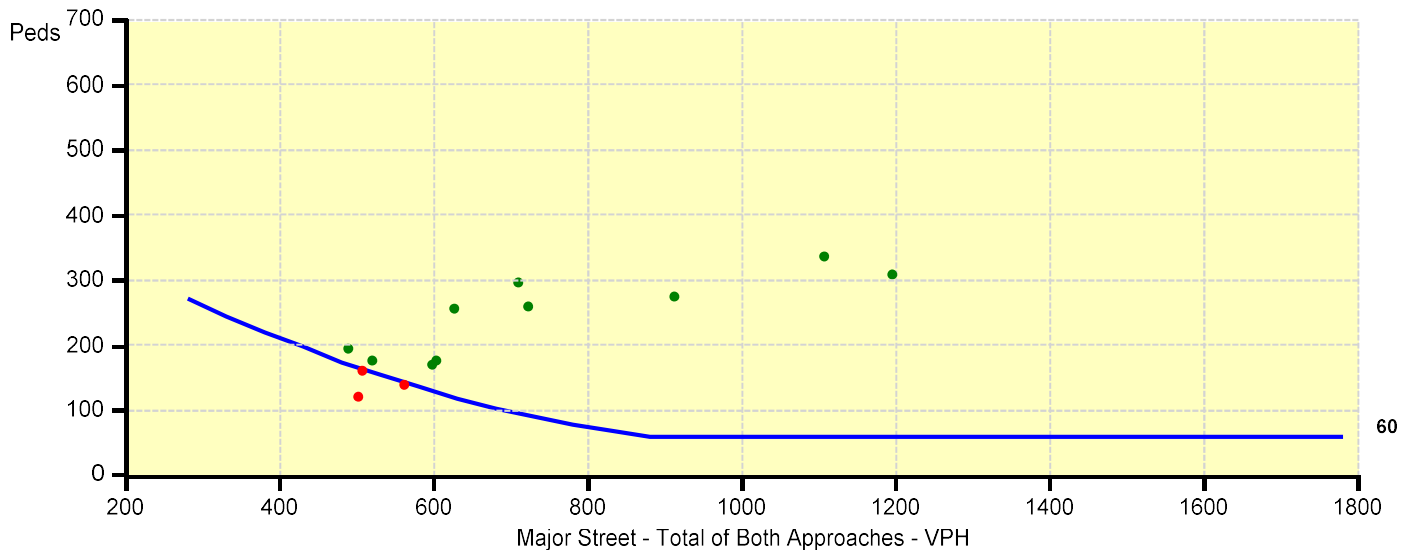
Summary

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**

Time	Major Road CSAH 1				Total	Minor Road MPLS Water Works		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
15:45 - 16:45	919	+	277	=	1196	63	308	Yes
16:45 - 17:45	834	+	273	=	1107	5	336	Yes
14:45 - 15:45	620	+	291	=	911	25	273	Yes
13:45 - 14:45	484	+	237	=	721	29	259	Yes
17:45 - 18:45	475	+	235	=	710	3	295	Yes
07:15 - 08:15	310	+	315	=	625	15	255	Yes
06:15 - 07:15	229	+	374	=	603	6	177	Yes
12:45 - 13:45	381	+	217	=	598	16	170	Yes
11:45 - 12:45	311	+	209	=	520	22	177	Yes
08:15 - 09:15	250	+	239	=	489	23	194	Yes
06:00 - 07:00	199	+	363	=	562	7	140	No
11:30 - 12:30	301	+	206	=	507	25	159	No



ANOKA COUNTY HIGHWAY

PC - WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2372

Study Date : 06/26/2023

Warrant 3B - Peak Hour Volumes

Description

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

Summary

23 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 1				Total	Minor Road MPLS Water Works		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	944	+	272	=	1216	3	320	Yes
16:00 - 17:00	939	+	270	=	1209	9	341	Yes
15:45 - 16:45	919	+	277	=	1196	63	308	Yes
16:30 - 17:30	915	+	270	=	1185	4	320	Yes
16:45 - 17:45	834	+	273	=	1107	5	336	Yes
15:30 - 16:30	819	+	286	=	1105	69	306	Yes
17:00 - 18:00	756	+	273	=	1029	4	330	Yes
15:15 - 16:15	770	+	255	=	1025	74	284	Yes
15:00 - 16:00	701	+	267	=	968	76	265	Yes
17:15 - 18:15	662	+	284	=	946	4	344	Yes
14:45 - 15:45	620	+	291	=	911	25	273	Yes
14:30 - 15:30	592	+	282	=	874	28	269	Yes

