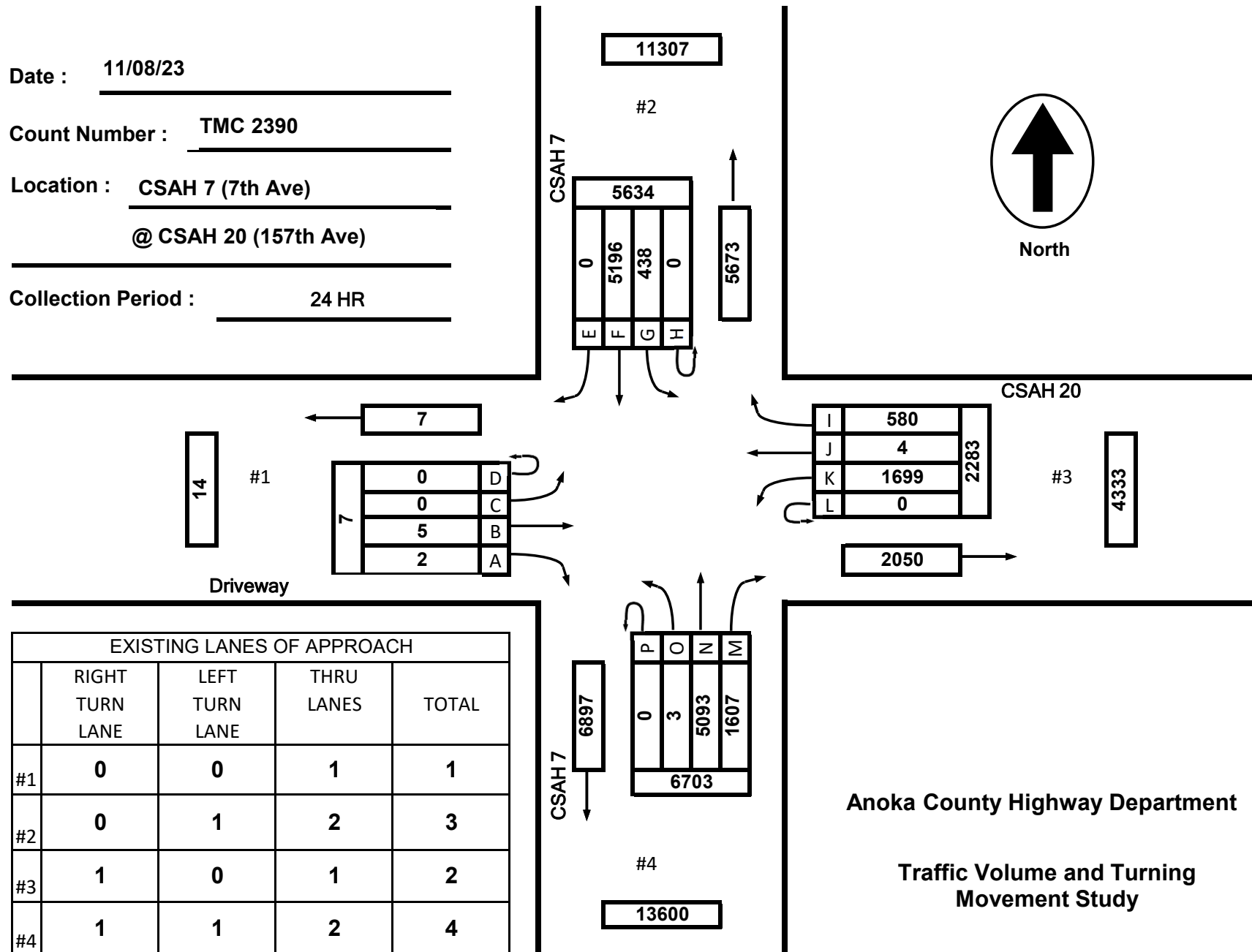


Date : 11/08/23

Count Number : TMC 2390

Location : CSAH 7 (7th Ave)
@ CSAH 20 (157th Ave)

Collection Period : 24 HR



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

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

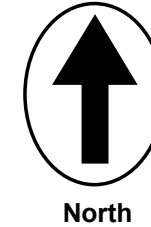
Date : 11/08/23

Count Number : TMC 2390

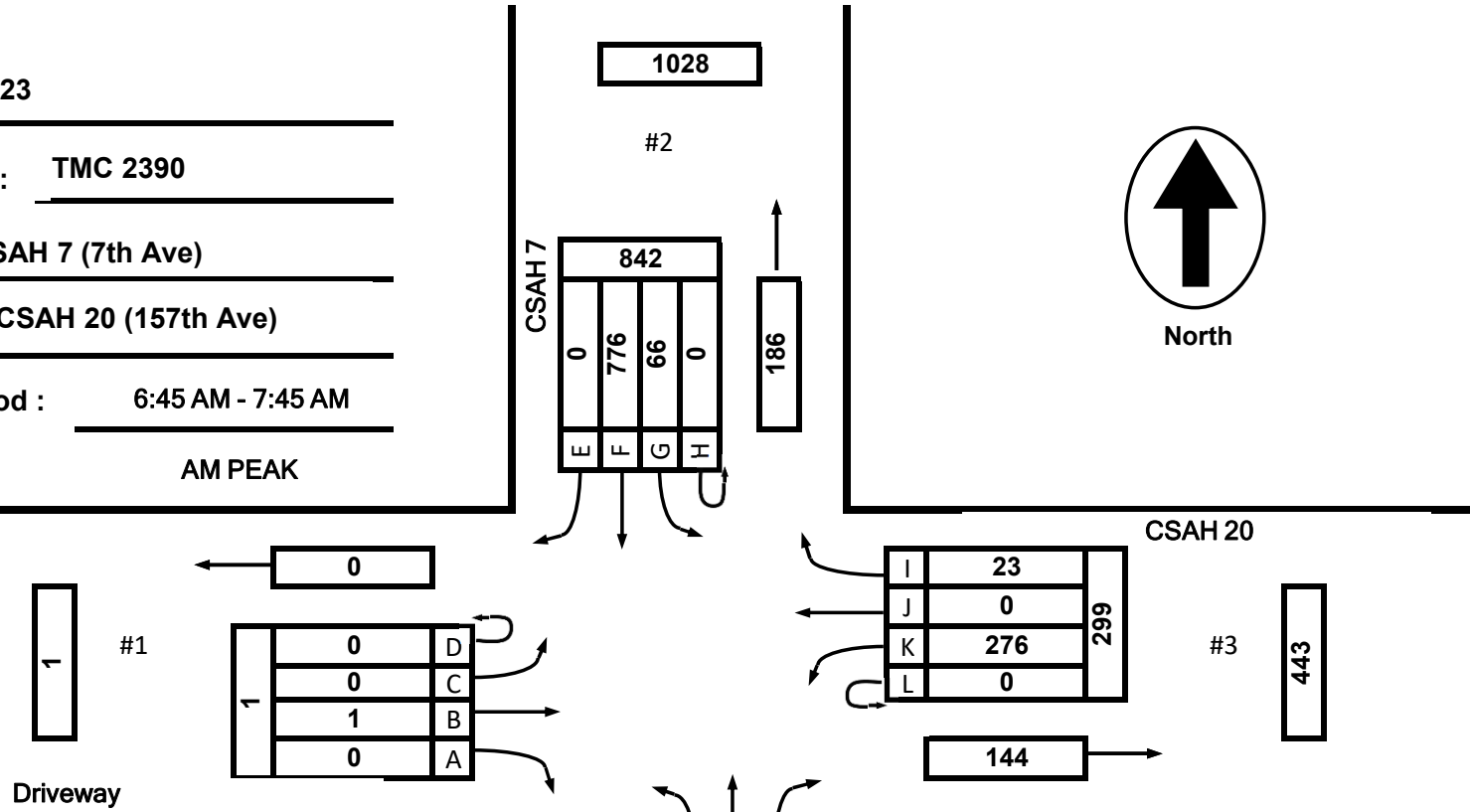
Location : CSAH 7 (7th Ave)
@ CSAH 20 (157th Ave)

Collection Period : 6:45 AM - 7:45 AM

AM PEAK



North



Driveway

CSAH 20

CSAH 7

CSAH 7

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

Anoka County Highway Department

Traffic Volume and Turning Movement Study

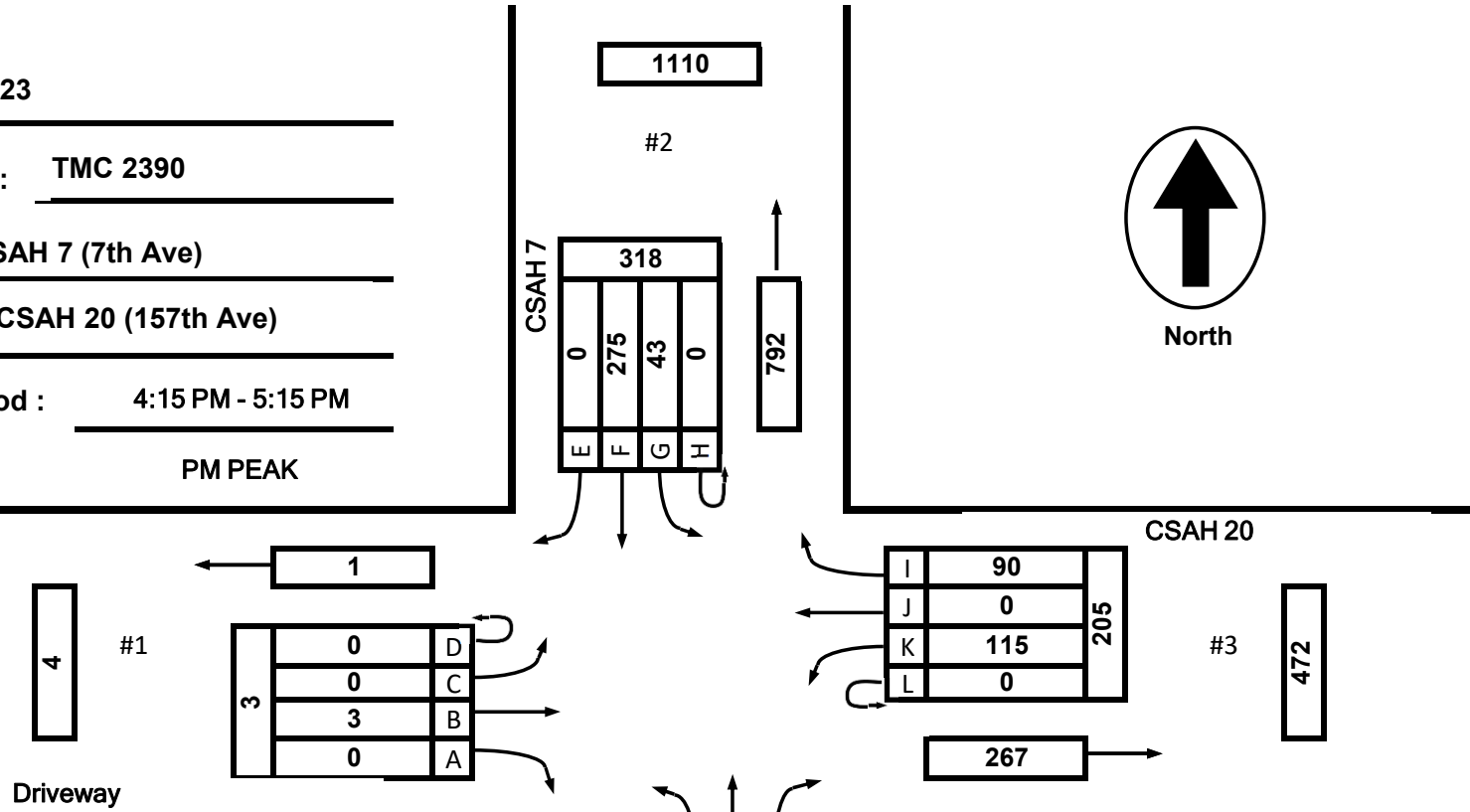
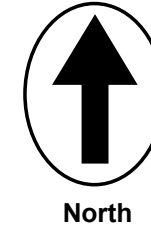
Date : 11/08/23

Count Number : TMC 2390

Location : CSAH 7 (7th Ave)
@ CSAH 20 (157th Ave)

Collection Period : 4:15 PM - 5:15 PM

PM PEAK



Driveway

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

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

**TMC 2390 - CSAH 7 @ CSAH 20
Andover MN
Wednesday, November 8, 2023**

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	CSAH 7						CSAH 20						CSAH 7						Driveway						
	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	2	0	0	2	0	0	0	0	0	0	0	0	5	4	0	9	0	0	0	0	0	0	11
12:15 AM	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5	4	0	9	0	0	0	0	0	0	14
12:30 AM	0	0	1	0	0	1	0	1	0	1	0	2	0	0	5	0	0	5	0	0	0	0	0	0	8
12:45 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	11	0	0	11	0	2	0	1	0	3	0	0	19	9	0	28	0	0	0	0	0	0	42
1:00 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	7
1:15 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
1:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	4	0	6	0	0	0	0	0	0	7
1:45 AM	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	3
Hourly Total	0	0	6	0	0	6	0	1	0	0	0	1	0	0	9	5	0	14	0	0	0	0	0	0	21
2:00 AM	0	0	4	0	0	4	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	7
2:15 AM	0	0	3	0	0	3	0	1	0	0	0	1	0	0	2	2	0	4	0	0	0	0	0	0	8
2:30 AM	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	8
2:45 AM	0	0	3	0	0	3	0	2	0	0	0	2	0	0	4	0	0	4	0	0	0	0	0	0	9
Hourly Total	0	0	14	0	0	14	0	3	0	0	0	3	0	0	11	4	0	15	0	0	0	0	0	0	32
3:00 AM	0	0	7	0	0	7	0	1	0	0	0	1	0	0	3	0	0	3	0	0	0	0	0	0	11
3:15 AM	0	0	15	0	0	15	0	4	0	0	0	4	0	0	5	2	0	7	0	0	0	0	0	0	26
3:30 AM	0	1	12	0	0	13	0	3	0	0	0	3	0	0	1	2	0	3	0	0	0	0	0	0	19
3:45 AM	0	0	23	0	0	23	0	4	0	0	0	4	0	0	5	3	0	8	0	0	0	0	0	0	35
Hourly Total	0	1	57	0	0	58	0	12	0	0	0	12	0	0	14	7	0	21	0	0	0	0	0	0	91
4:00 AM	0	0	20	0	0	20	0	3	0	0	0	3	0	0	0	1	0	1	0	0	0	0	0	0	24
4:15 AM	0	1	43	0	0	44	0	9	0	0	0	9	0	0	5	1	0	6	0	0	0	0	0	0	59
4:30 AM	0	0	54	0	0	54	0	22	0	0	0	22	0	0	4	1	0	5	0	0	0	0	0	0	81
4:45 AM	0	1	54	0	0	55	0	18	0	0	0	18	0	0	3	0	0	3	0	0	0	0	0	0	76
Hourly Total	0	2	171	0	0	173	0	52	0	0	0	52	0	0	12	3	0	15	0	0	0	0	0	0	240
5:00 AM	0	1	79	0	0	80	0	8	0	1	0	9	0	0	6	2	0	8	0	0	0	0	0	0	97
5:15 AM	0	1	88	0	0	89	0	23	0	1	0	24	0	0	6	4	0	10	0	0	0	0	0	0	123
5:30 AM	0	3	129	0	0	132	0	28	0	0	0	28	0	0	4	7	0	11	0	0	0	0	0	0	171
5:45 AM	0	6	140	0	0	146	0	40	0	2	0	42	0	0	10	8	0	18	0	0	0	0	0	0	206
Hourly Total	0	11	436	0	0	447	0	99	0	4	0	103	0	0	26	21	0	47	0	0	0	0	0	0	597
6:00 AM	0	10	161	0	0	171	0	34	0	3	0	37	0	0	21	9	0	30	0	0	0	0	0	0	238
6:15 AM	0	9	156	0	0	165	0	27	0	1	0	28	0	0	31	13	0	44	0	0	0	0	0	0	237
6:30 AM	0	11	176	0	0	187	0	62	0	0	0	62	0	0	21	14	0	35	0	0	0	0	0	0	284
6:45 AM	0	17	190	0	0	207	0	63	0	3	0	66	0	0	40	17	0	57	0	0	0	0	0	0	330
Hourly Total	0	47	683	0	0	730	0	186	0	7	0	193	0	0	113	53	0	166	0	0	0	0	0	0	1089
7:00 AM	0	14	183	0	0	197	0	65	0	6	0	71	0	0	33	20	0	53	0	0	1	0	0	1	322
7:15 AM	0	20	219	0	0	239	0	70	0	10	0	80	0	0	39	18	0	57	0	0	0	0	0	0	376
7:30 AM	0	15	184	0	0	199	0	78	0	4	0	82	0	0	51	22	0	73	0	0	0	0	0	0	354
7:45 AM	0	15	133	0	0	148	0	72	0	9	0	81	0	0	42	21	0	63	0	0	0	0	0	0	292
Hourly Total	0	64	719	0	0	783	0	285	0	29	0	314	0	0	165	81	0	246	0	0	1	0	0	1	1344

**TMC 2390 - CSAH 7 @ CSAH 20
Andover MN
Wednesday, November 8, 2023**

Time	Southbound CSAH 7						Westbound CSAH 20						Northbound CSAH 7						Eastbound Driveway						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	10	106	0	0	116	0	38	0	7	0	45	0	0	36	18	0	54	0	0	0	0	0	0	215
8:15 AM	0	9	100	0	0	109	0	35	0	5	0	40	0	0	35	9	0	44	0	0	0	0	0	0	193
8:30 AM	0	7	123	0	0	130	0	30	0	5	0	35	0	0	37	13	0	50	0	0	0	0	0	0	215
8:45 AM	0	7	81	0	0	88	0	27	0	4	0	31	0	0	46	11	0	57	0	0	0	0	0	0	176
Hourly Total	0	33	410	0	0	443	0	130	0	21	0	151	0	0	154	51	0	205	0	0	0	0	0	0	799
9:00 AM	0	10	70	0	0	80	0	27	0	9	0	36	0	0	32	20	0	52	0	0	0	0	0	0	168
9:15 AM	0	7	82	0	0	89	0	22	1	9	0	32	0	0	37	14	0	51	0	0	1	0	0	1	173
9:30 AM	0	5	65	0	0	70	0	18	0	3	0	21	0	0	43	13	0	56	0	0	0	0	0	0	147
9:45 AM	0	4	82	0	0	86	0	24	0	12	0	36	0	0	43	14	0	57	0	0	0	0	0	0	179
Hourly Total	0	26	299	0	0	325	0	91	1	33	0	125	0	0	155	61	0	216	0	0	1	0	0	1	667
10:00 AM	0	4	78	0	0	82	0	12	0	1	0	13	0	0	37	14	0	51	0	0	0	0	0	0	146
10:15 AM	0	7	88	0	0	95	0	16	0	7	0	23	0	0	42	12	0	54	0	0	0	0	0	0	172
10:30 AM	0	9	70	0	0	79	0	24	0	6	0	30	0	0	43	12	0	55	0	0	0	0	0	0	164
10:45 AM	0	8	62	0	0	70	0	13	0	8	0	21	0	0	43	16	0	59	0	0	0	0	0	0	150
Hourly Total	0	28	298	0	0	326	0	65	0	22	0	87	0	0	165	54	0	219	0	0	0	0	0	0	632
11:00 AM	0	5	60	0	0	65	0	16	0	9	0	25	0	0	44	9	0	53	0	0	0	0	0	0	143
11:15 AM	0	2	40	0	0	42	0	14	0	3	0	17	0	0	53	14	0	67	0	0	0	0	0	0	126
11:30 AM	0	3	56	0	0	59	0	19	0	6	0	25	0	0	57	16	0	73	0	0	0	0	0	0	157
11:45 AM	0	2	50	0	0	52	0	12	0	8	0	20	0	0	68	28	0	96	0	0	0	0	0	0	168
Hourly Total	0	12	206	0	0	218	0	61	0	26	0	87	0	0	222	67	0	289	0	0	0	0	0	0	594
12:00 PM	0	8	60	0	0	68	0	16	0	5	0	21	0	0	57	20	0	77	0	0	0	0	0	0	166
12:15 PM	0	4	43	0	0	47	0	21	0	7	0	28	0	0	54	16	0	70	0	0	0	0	0	0	145
12:30 PM	0	6	55	0	0	61	0	19	0	7	0	26	0	0	57	24	0	81	0	0	0	0	0	0	168
12:45 PM	0	6	49	0	0	55	0	18	0	6	0	24	0	0	74	10	0	84	0	0	0	0	0	0	163
Hourly Total	0	24	207	0	0	231	0	74	0	25	0	99	0	0	242	70	0	312	0	0	0	0	0	0	642
1:00 PM	0	4	41	0	0	45	0	17	0	10	0	27	0	0	69	17	0	86	0	0	0	0	0	0	158
1:15 PM	0	8	73	0	0	81	0	16	0	8	0	24	0	0	77	16	0	93	0	0	0	0	0	0	198
1:30 PM	0	7	56	0	0	63	0	22	0	9	0	31	0	0	91	26	0	117	0	0	0	0	0	0	211
1:45 PM	0	2	46	0	0	48	0	11	0	10	0	21	0	0	82	30	0	112	0	0	0	0	0	0	181
Hourly Total	0	21	216	0	0	237	0	66	0	37	0	103	0	0	319	89	0	408	0	0	0	0	0	0	748
2:00 PM	0	4	57	0	0	61	0	22	0	5	0	27	0	0	100	29	0	129	0	0	0	0	0	0	217
2:15 PM	0	1	48	0	0	49	0	24	0	17	0	41	0	0	91	42	0	133	0	0	0	0	0	0	223
2:30 PM	0	10	77	0	0	87	0	22	0	15	0	37	0	0	117	26	0	143	0	0	0	0	0	0	267
2:45 PM	0	6	47	0	0	53	0	33	1	13	0	47	0	0	121	35	0	156	0	0	0	0	0	0	256
Hourly Total	0	21	229	0	0	250	0	101	1	50	0	152	0	0	429	132	0	561	0	0	0	0	0	0	963
3:00 PM	0	7	56	0	0	63	0	19	0	21	0	40	0	0	160	42	0	202	0	0	0	0	0	0	305
3:15 PM	0	8	73	0	0	81	0	26	0	12	0	38	0	0	142	41	0	183	0	0	0	0	0	0	302
3:30 PM	0	7	43	0	0	50	0	26	0	11	0	37	0	0	190	49	0	239	0	0	0	0	0	0	326
3:45 PM	0	11	51	0	0	62	0	16	0	16	0	32	0	0	148	40	0	188	0	0	0	0	0	0	282
Hourly Total	0	33	223	0	0	256	0	87	0	60	0	147	0	0	640	172	0	812	0	0	0	0	0	0	1215

**TMC 2390 - CSAH 7 @ CSAH 20
Andover MN
Wednesday, November 8, 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							
6:45 AM	0	17	190	0	0	207	0	63	0	3	0	66	0	0	40	17	0	57	0	0	0	0	0	0	0	0	0	0	0	0	330
7:00 AM	0	14	183	0	0	197	0	65	0	6	0	71	0	0	33	20	0	53	0	0	1	0	0	0	0	0	0	0	0	0	322
7:15 AM	0	20	219	0	0	239	0	70	0	10	0	80	0	0	39	18	0	57	0	0	0	0	0	0	0	0	0	0	0	0	376
7:30 AM	0	15	184	0	0	199	0	78	0	4	0	82	0	0	51	22	0	73	0	0	0	0	0	0	0	0	0	0	0	0	354
Peak Hour Total	0	66	776	0	0	842	0	276	0	23	0	299	0	0	163	77	0	240	0	0	1	0	0	0	0	0	0	0	0	0	1382
PHF	0.000	0.825	0.886	0.000	0.000	0.881	0.000	0.885	0.000	0.575	0.000	0.912	0.000	0.000	0.799	0.875	0.000	0.822	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.250	0.919

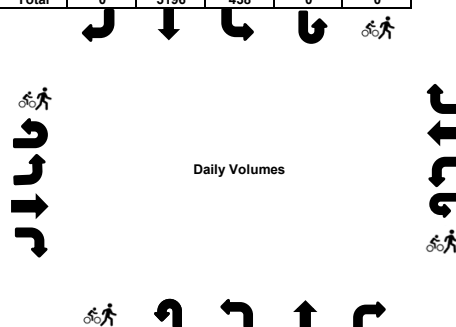
PM Peak Hour																															
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL						
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach 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							
4:15 PM	0	8	66	0	0	74	0	30	0	23	0	53	0	0	186	51	0	237	0	0	0	0	0	0	0	0	0	0	0	0	364
4:30 PM	0	14	69	0	0	83	0	25	0	29	0	54	0	0	163	71	0	234	0	0	1	0	0	0	0	0	0	0	0	0	372
4:45 PM	0	17	62	0	0	79	0	33	0	20	0	53	0	1	188	57	0	246	0	0	1	0	0	0	0	0	0	0	0	0	379
5:00 PM	0	4	78	0	0	82	0	27	0	18	0	45	0	0	165	42	0	207	0	0	1	0	0	0	0	0	0	0	0	0	335
Peak Hour Total	0	43	275	0	0	318	0	115	0	90	0	205	0	1	702	221	0	924	0	0	3	0	0	0	0	0	0	0	0	0	1450
PHF	0.000	0.632	0.881	0.000	0.000	0.958	0.000	0.871	0.000	0.776	0.000	0.949	0.000	0.250	0.934	0.778	0.000	0.939	0.000	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.750	0.956

Total Vehicles On Leg		11307	
Vehicles Entering Intersection	5634	Vehicles Exiting Intersection	5673
Southbound			
Cars	0	5044	424
Heavy	0	152	14
Total	0	5196	438

Total Vehicles on Leg 14	Vehicles Entering Intersection 7	Eastbound	Cars	Heavy	Total	
			0	0	0	
	Vehicles Exiting Intersection 7		Cars	Heavy	Total	
	0		0	0		
	0		0	0		
5	0	5				
2	0	2				

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2283	Total Vehicles on Leg 4333
561	19	580			
4	0	4			
1642	57	1699			
0	0	0			
0	0	0	Vehicles Exiting Intersection 2050		

Cars	0	0	3	4961	1553
Heavy	0	0	0	132	54
Total	0	0	3	5093	1607
Northbound					
Vehicles Entering Intersection 6703			Vehicles Exiting Intersection 6897		
Total Vehicles On Leg			13600		



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
11/8/2023	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	0	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	0	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	0	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	0	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	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	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	0	0	0	0
	2:15	0	0	1	0	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	0	0	0	0
	2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15	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	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	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	4:30	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	4:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	5:45	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0
	6:00	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	6:15	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0
	6:30	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0
	6:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0
	7:00	0	1	5	0	0	0	0	0	0	0	1	0	0	0	0	4	1	0	0	0	0	0	0	0
	7:15	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
	7:30	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	4	2	0	0	0	0	0	0	0
	7:45	0	0	2	0	0	0	0	0	2	0	1	0	0	0	0	5	1	0	0	0	0	0	0	0
	8:00	0	0	4	0	0	0	0	0	2	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0
	8:15	0	1	5	0	0	0	0	0	0	0	1	0	0	0	0	2	1	0	0	0	0	0	0	0
	8:30	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	5	3	0	0	0	0	0	0	0
	8:45	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0
	9:00	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0
	9:15	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
	9:30	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	0
	9:45	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
	10:00	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:15	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	10:30	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
	10:45	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0
	11:00	0	0	5	0	0	0	0	0	1	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0
	11:15	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0
	11:30	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
	11:45	0	0	3	0	0	0	0	0	2	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	
12:15	0	1	6	0	0	0	0	0	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	
12:30	0	1	2	0	0	0	0	0	3	0	2	0	0	0	0	1	3	0	0	0	0	0	0	0	

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2390

Study Date : 11/16/2023

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 7

Number of Lanes : 2+

Total Approach Volume: 6,703

Southbound: CSAH 7

Number of Lanes : 2+

Total Approach Volume: 5,634

Minor Street Approaches

Eastbound: Driveway

Number of Lanes : 1

Total Approach Volume: 7

Westbound: CSAH 20

Number of Lanes : 1

Total Approach Volume: 2,283

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 10 hours, 8 are needed

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

Required volumes reached for 9 hours, 8 are needed

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

Required 1A volumes reached for 14 hours, 8 are needed

Required 1B volumes reached for 14 hours, 8 are needed

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

Number of hours (9) volumes exceed minimum \geq minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (29) 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 2390

Study Date : 11/16/2023

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

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 = **420**
 Veh/Hr Minor = **105**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:30 - 17:30	876	+	318	=	1194	3	199	Yes
15:30 - 16:30	852	+	257	=	1109	0	165	Yes
14:30 - 15:30	684	+	284	=	968	0	162	Yes
07:15 - 08:15	247	+	702	=	949	0	288	Yes
06:15 - 07:15	189	+	756	=	945	1	227	Yes
17:30 - 18:30	601	+	281	=	882	0	145	Yes
13:30 - 14:30	491	+	221	=	712	0	120	Yes
08:15 - 09:15	203	+	407	=	610	0	142	Yes
05:15 - 06:15	69	+	538	=	607	0	131	Yes
12:15 - 13:15	321	+	208	=	529	0	105	Yes
13:15 - 14:15	451	+	253	=	704	0	103	No
09:45 - 10:45	217	+	342	=	559	0	102	No
18:30 - 19:30	380	+	174	=	554	0	61	No
11:45 - 12:45	324	+	228	=	552	0	95	No
09:30 - 10:30	218	+	333	=	551	0	93	No
10:00 - 11:00	219	+	326	=	545	0	87	No
12:00 - 13:00	312	+	231	=	543	0	99	No
11:30 - 12:30	316	+	226	=	542	0	94	No
09:15 - 10:15	215	+	327	=	542	1	102	No
11:15 - 12:15	313	+	221	=	534	0	83	No
10:15 - 11:15	221	+	309	=	530	0	99	No
18:45 - 19:45	376	+	149	=	525	1	53	No
11:00 - 12:00	289	+	218	=	507	0	87	No
05:00 - 06:00	47	+	447	=	494	0	103	No
10:30 - 11:30	234		256		490	0	93	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2390

Study Date : 11/16/2023

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

9 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				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:00 - 17:00	905	+	307	=	1212	2	203	Yes
15:00 - 16:00	812	+	256	=	1068	0	147	Yes
06:30 - 07:30	202	+	830	=	1032	1	279	Yes
17:00 - 18:00	698	+	322	=	1020	1	187	Yes
14:00 - 15:00	561	+	250	=	811	0	152	Yes
07:30 - 08:30	234	+	572	=	806	0	248	Yes
18:00 - 19:00	496	+	224	=	720	0	86	Yes
05:30 - 06:30	103	+	614	=	717	0	135	Yes
13:00 - 14:00	408	+	237	=	645	0	103	Yes
12:45 - 13:45	380	+	244	=	624	0	106	No
05:15 - 06:15	69	+	538	=	607	0	131	No
08:30 - 09:30	210	+	387	=	597	1	134	No
12:30 - 13:30	344	+	242	=	586	0	101	No
09:45 - 10:45	217	+	342	=	559	0	102	No
11:45 - 12:45	324	+	228	=	552	0	95	No
09:30 - 10:30	218	+	333	=	551	0	93	No
10:00 - 11:00	219	+	326	=	545	0	87	No
12:00 - 13:00	312	+	231	=	543	0	99	No
08:45 - 09:45	216	+	327	=	543	1	120	No
11:30 - 12:30	316	+	226	=	542	0	94	No
09:15 - 10:15	215	+	327	=	542	1	102	No
09:00 - 10:00	216	+	325	=	541	1	125	No
11:15 - 12:15	313	+	221	=	534	0	83	No
10:15 - 11:15	221	+	309	=	530	0	99	No
12:15 - 13:15	321		208		529	0	105	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2390

Study Date : 11/16/2023

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

14 hours meet 1A minimums.
14 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 7

Minor Road Driveway

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:00 - 17:00	905	+	307	=	1212	2	203	Yes
15:00 - 16:00	812	+	256	=	1068	0	147	Yes
07:00 - 08:00	246	+	783	=	1029	1	314	Yes
17:00 - 18:00	698	+	322	=	1020	1	187	Yes
06:00 - 07:00	166	+	730	=	896	0	193	Yes
14:00 - 15:00	561	+	250	=	811	0	152	Yes
18:00 - 19:00	496	+	224	=	720	0	86	Yes
08:00 - 09:00	205	+	443	=	648	0	151	Yes
13:00 - 14:00	408	+	237	=	645	0	103	Yes
10:00 - 11:00	219	+	326	=	545	0	87	Yes
12:00 - 13:00	312	+	231	=	543	0	99	Yes
09:00 - 10:00	216		325		541	1	125	Yes

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:15 - 17:15	924	+	318	=	1242	3	205	Yes
15:15 - 16:15	798	+	264	=	1062	0	150	Yes
07:15 - 08:15	247	+	702	=	949	0	288	Yes
06:15 - 07:15	189	+	756	=	945	1	227	Yes
17:15 - 18:15	627	+	298	=	925	0	170	Yes
14:15 - 15:15	634	+	252	=	886	0	165	Yes
13:15 - 14:15	451	+	253	=	704	0	103	Yes
18:15 - 19:15	444	+	199	=	643	0	71	Yes
08:15 - 09:15	203	+	407	=	610	0	142	Yes
05:15 - 06:15	69	+	538	=	607	0	131	Yes
09:15 - 10:15	215	+	327	=	542	1	102	Yes
11:15 - 12:15	313		221		534	0	83	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2390

Study Date : 11/16/2023

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.

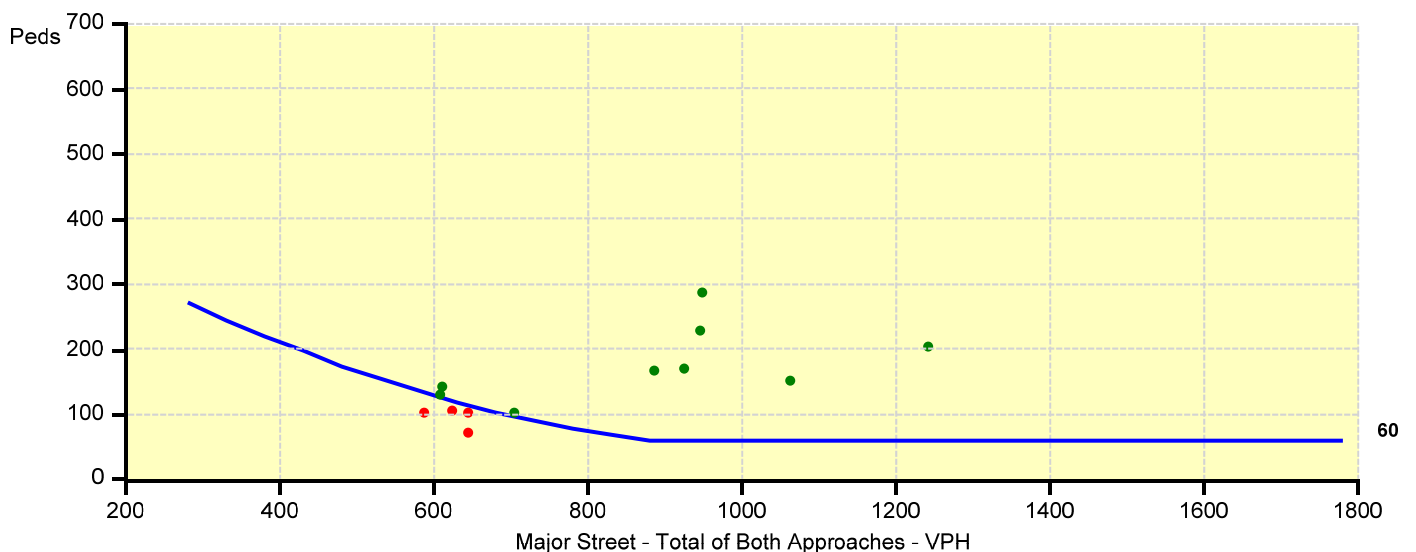
Summary

9 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 7				Total	Minor Road Driveway		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	924	+	318	=	1242	3	205	Yes
15:15 - 16:15	798	+	264	=	1062	0	150	Yes
07:15 - 08:15	247	+	702	=	949	0	288	Yes
06:15 - 07:15	189	+	756	=	945	1	227	Yes
17:15 - 18:15	627	+	298	=	925	0	170	Yes
14:15 - 15:15	634	+	252	=	886	0	165	Yes
13:15 - 14:15	451	+	253	=	704	0	103	Yes
08:15 - 09:15	203	+	407	=	610	0	142	Yes
05:15 - 06:15	69	+	538	=	607	0	131	Yes
13:00 - 14:00	408	+	237	=	645	0	103	No
18:15 - 19:15	444	+	199	=	643	0	71	No
12:45 - 13:45	380	+	244	=	624	0	106	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2390

Study Date : 11/16/2023

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 7				Total	Minor Road Driveway		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	924	+	318	=	1242	3	205	Yes
16:00 - 17:00	905	+	307	=	1212	2	203	Yes
16:30 - 17:30	876	+	318	=	1194	3	199	Yes
15:45 - 16:45	847	+	290	=	1137	1	182	Yes
16:45 - 17:45	802	+	329	=	1131	2	200	Yes
15:30 - 16:30	852	+	257	=	1109	0	165	Yes
06:45 - 07:45	240	+	842	=	1082	1	299	Yes
15:00 - 16:00	812	+	256	=	1068	0	147	Yes
15:15 - 16:15	798	+	264	=	1062	0	150	Yes
06:30 - 07:30	202	+	830	=	1032	1	279	Yes
07:00 - 08:00	246	+	783	=	1029	1	314	Yes
14:45 - 15:45	780		247		1027	0	162	Yes

