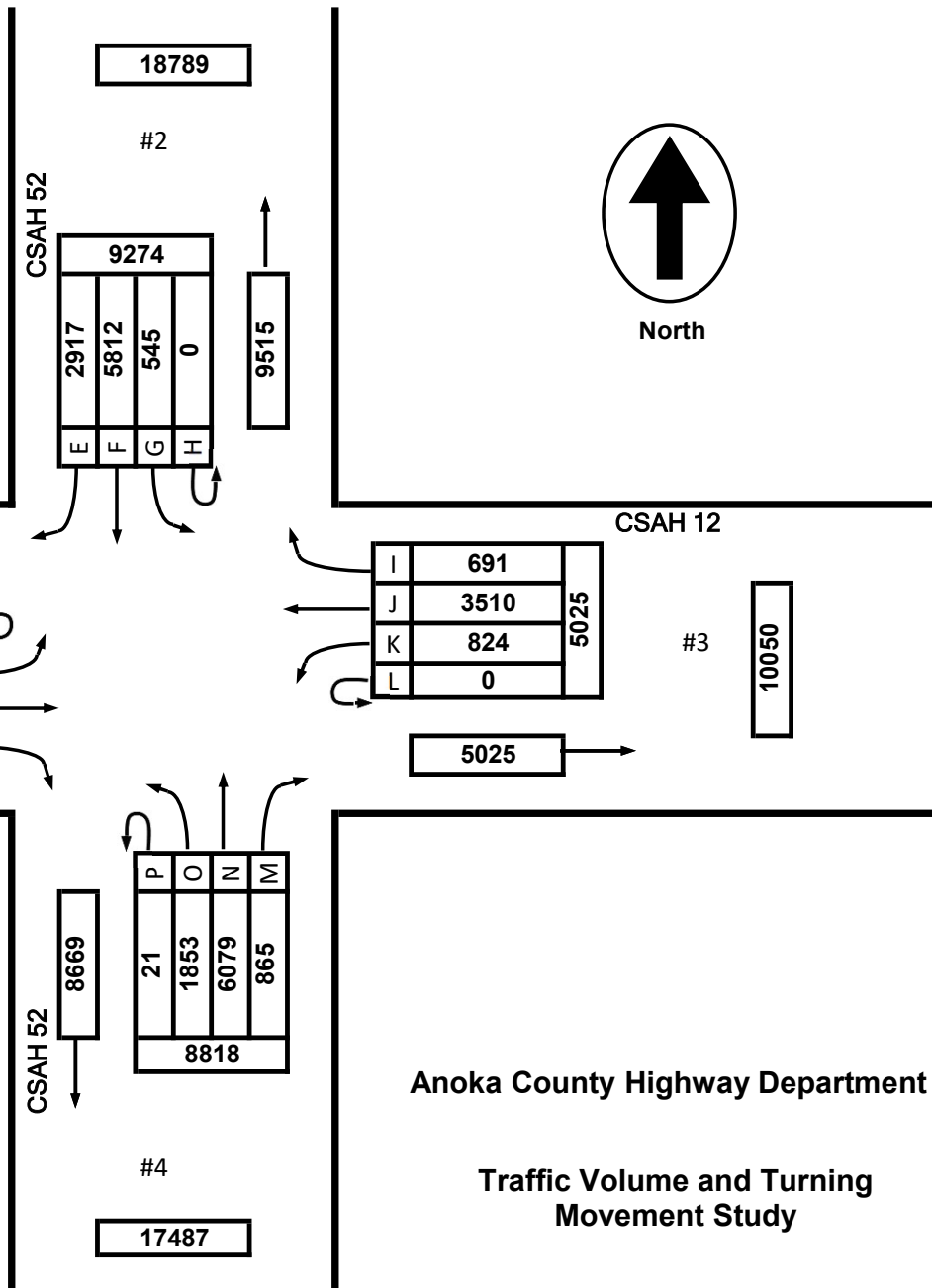


Date : 11/10/21

Count Number : TMC 2156

Location : CSAH 52 (Radisson Rd.)
@ CSAH 12 (109th Ave.)

Collection Period : 24 Hours



8373	1	D
	2745	C
	3615	B
	2012	A

9274
2917
5812
545
0
E
F
G
H

691	5025
3510	
824	
0	
I	
J	
K	
L	

8669
21
1853
6079
865
P
O
N
M
8818

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

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

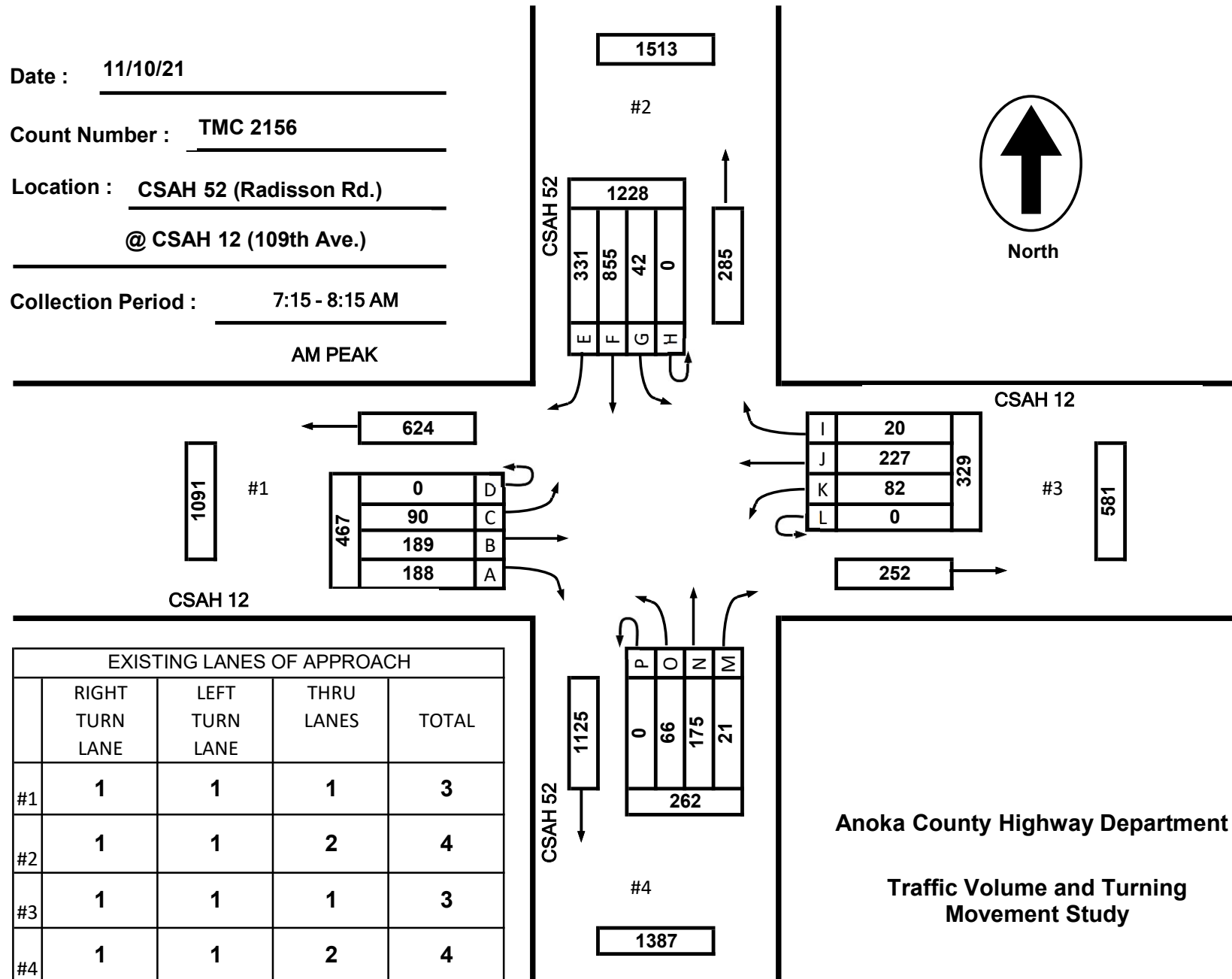
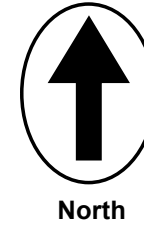
Date : 11/10/21

Count Number : TMC 2156

Location : CSAH 52 (Radisson Rd.)
@ CSAH 12 (109th Ave.)

Collection Period : 7:15 - 8:15 AM

AM PEAK



CSAH 12

CSAH 52

CSAH 12

CSAH 52

Anoka County Highway Department

Traffic Volume and Turning
Movement Study

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

1228			
E	F	G	H
331	855	42	0

467		D
0	C	
90	B	
189	A	
188		

I	20	329
J	227	
K	82	
L	0	

P	O	N	M
0	66	175	21
262			

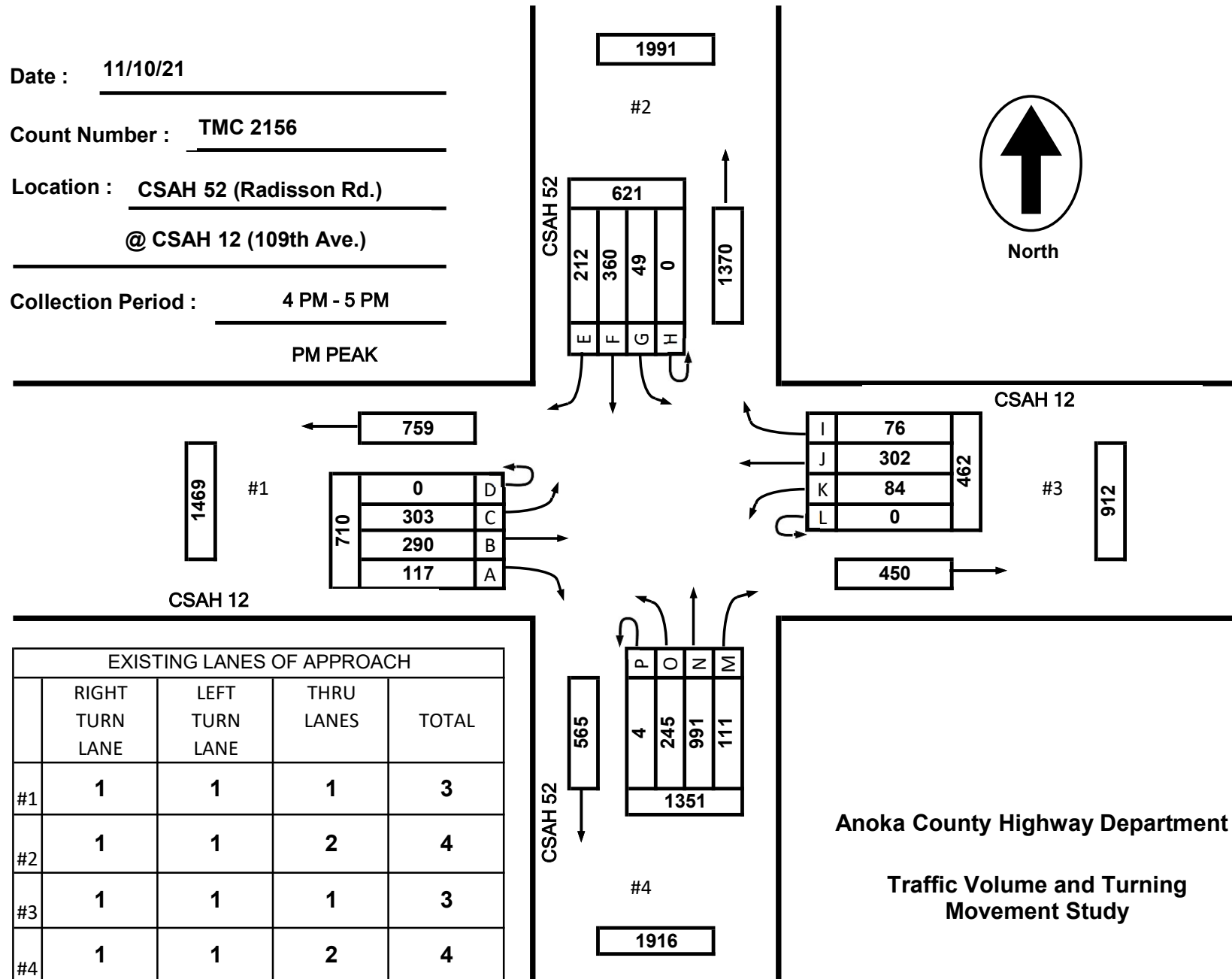
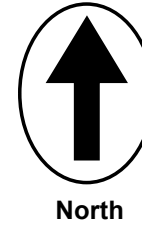
Date : 11/10/21

Count Number : TMC 2156

Location : CSAH 52 (Radisson Rd.)
@ CSAH 12 (109th 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	1	3
#2	1	1	2	4
#3	1	1	1	3
#4	1	1	2	4

Anoka County Highway Department
 Traffic Volume and Turning Movement Study

TMC 2156
Blaine MN
Wednesday, November 10, 2021

Time	Southbound CSAH 52						Westbound CSAH 12					Northbound CSAH 52					Eastbound CSAH 12						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	3	2	0	5	0	1	1	0	0	2	0	3	11	2	0	16	0	3	4	4	0	11	34
12:15 AM	0	0	1	0	0	1	0	0	1	1	0	2	0	3	8	0	0	11	0	2	1	0	0	3	17
12:30 AM	0	0	2	0	0	2	0	0	2	0	0	2	0	2	9	0	0	11	0	1	0	0	0	1	16
12:45 AM	0	0	0	1	0	1	0	0	2	0	0	2	0	4	7	0	0	11	0	2	4	1	0	7	21
Hourly Total	0	0	6	3	0	9	0	1	6	1	0	8	0	12	35	2	0	49	0	8	9	5	0	22	88
1:00 AM	0	0	0	2	0	2	0	0	2	0	0	2	0	2	0	0	0	2	0	0	2	0	0	2	8
1:15 AM	0	0	2	1	0	3	0	1	1	0	0	2	0	0	1	0	0	1	0	0	2	1	0	3	9
1:30 AM	0	0	4	0	0	4	0	0	6	0	0	6	0	0	3	0	0	3	0	1	0	2	0	3	16
1:45 AM	0	0	2	0	0	2	0	0	3	0	0	3	0	0	3	0	0	3	0	1	3	2	0	6	14
Hourly Total	0	0	8	3	0	11	0	1	12	0	0	13	0	2	7	0	0	9	0	2	7	5	0	14	47
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	2	0	1	0	3	5
2:15 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	1	4	0	0	5	0	0	1	4	0	5	11
2:30 AM	0	0	4	1	0	5	0	0	1	0	0	1	0	3	1	0	0	4	0	0	0	2	0	2	12
2:45 AM	0	0	2	0	0	2	0	1	1	1	0	3	0	0	3	0	0	3	0	3	2	0	0	5	13
Hourly Total	0	0	6	2	0	8	0	1	2	1	0	4	0	5	9	0	0	14	0	5	3	7	0	15	41
3:00 AM	0	1	3	2	0	6	0	0	0	0	0	0	0	3	2	0	0	5	0	2	1	2	0	5	16
3:15 AM	0	0	4	0	0	4	0	0	0	2	0	2	0	1	0	0	0	1	0	2	1	1	0	4	11
3:30 AM	0	0	8	2	0	10	0	0	1	0	0	1	0	1	3	0	0	4	0	0	1	6	0	7	22
3:45 AM	0	1	6	0	0	7	0	1	4	1	0	6	0	0	1	0	0	1	0	0	1	8	0	9	23
Hourly Total	0	2	21	4	0	27	0	1	5	3	0	9	0	5	6	0	0	11	0	4	4	17	0	25	72
4:00 AM	0	0	6	5	0	11	0	0	1	0	0	1	0	0	2	0	0	2	0	3	1	5	0	9	23
4:15 AM	0	0	19	4	0	23	0	1	1	2	0	4	0	2	4	0	0	6	0	1	9	9	0	19	52
4:30 AM	0	1	25	20	0	46	0	3	8	0	0	11	0	3	3	1	0	7	0	1	12	8	0	21	85
4:45 AM	0	2	39	15	0	56	0	0	9	2	0	11	0	2	5	2	0	9	0	0	13	7	0	20	96
Hourly Total	0	3	89	44	0	136	0	4	19	4	0	27	0	7	14	3	0	24	0	5	35	29	0	69	256
5:00 AM	0	0	30	7	0	37	0	3	5	0	0	8	0	4	3	3	0	10	0	1	6	17	0	24	79
5:15 AM	0	1	62	18	0	81	0	7	10	0	0	17	0	1	4	1	0	6	0	2	11	23	0	36	140
5:30 AM	0	6	71	22	0	99	0	7	16	1	0	24	0	8	6	2	0	16	0	7	20	24	0	51	190
5:45 AM	0	3	91	30	0	124	0	11	10	2	0	23	0	7	13	2	0	22	0	12	26	14	0	52	221
Hourly Total	0	10	254	77	0	341	0	28	41	3	0	72	0	20	26	8	0	54	0	22	63	78	0	163	630
6:00 AM	0	1	103	14	0	118	0	8	21	1	0	30	0	3	9	6	0	18	0	2	16	26	0	44	210
6:15 AM	0	5	145	33	0	183	0	10	24	6	0	40	0	4	19	2	0	25	0	8	31	22	0	61	309
6:30 AM	0	5	156	41	0	202	0	17	37	7	0	61	0	2	24	4	0	30	0	11	39	34	0	84	377
6:45 AM	0	10	159	54	0	223	0	18	50	3	0	71	0	4	26	9	0	39	0	22	51	42	0	115	448
Hourly Total	0	21	563	142	0	726	0	53	132	17	0	202	0	13	78	21	0	112	0	43	137	124	0	304	1344
7:00 AM	0	11	189	67	0	267	0	16	39	5	0	60	0	12	25	4	0	41	0	3	28	40	0	71	439
7:15 AM	0	6	202	73	0	281	0	19	46	3	0	68	0	15	39	4	0	58	0	11	39	51	0	101	508
7:30 AM	0	19	251	102	0	372	0	23	69	4	0	96	0	14	34	4	0	52	0	17	54	32	0	103	623
7:45 AM	0	7	226	91	0	324	0	23	58	6	0	87	0	19	47	10	0	76	0	36	50	47	0	133	620
Hourly Total	0	43	868	333	0	1244	0	81	212	18	0	311	0	60	145	22	0	227	0	67	171	170	0	408	2190

TMC 2156
Blaine MN
Wednesday, November 10, 2021

Time	Southbound CSAH 52						Westbound CSAH 12						Northbound CSAH 52						Eastbound CSAH 12						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	176	65	0	251	0	17	54	7	0	78	0	18	55	3	0	76	0	26	46	58	0	130	535
8:15 AM	0	5	130	53	0	188	0	14	46	6	0	66	0	25	49	10	0	84	0	29	31	38	0	98	436
8:30 AM	0	6	145	52	0	203	0	9	40	7	0	56	1	21	44	7	0	73	0	24	37	29	0	90	422
8:45 AM	0	13	96	63	0	172	0	9	38	7	0	54	0	15	46	8	0	69	0	30	50	49	0	129	424
Hourly Total	0	34	547	233	0	814	0	49	178	27	0	254	1	79	194	28	0	302	0	109	164	174	0	447	1817
9:00 AM	0	12	87	46	0	145	0	20	48	12	0	80	0	28	39	10	0	77	0	34	42	36	0	112	414
9:15 AM	0	6	98	50	0	154	0	7	54	4	0	65	1	24	48	8	0	81	0	34	34	24	0	92	392
9:30 AM	0	11	80	48	0	139	0	12	44	7	0	63	0	15	37	9	0	61	0	33	56	41	0	130	393
9:45 AM	0	9	81	68	0	158	0	18	53	9	0	80	0	19	59	6	0	84	0	23	44	32	0	99	421
Hourly Total	0	38	346	212	0	596	0	57	199	32	0	288	1	86	183	33	0	303	0	124	176	133	0	433	1620
10:00 AM	0	12	59	33	0	104	0	16	48	13	0	77	1	30	36	8	0	75	0	24	50	19	0	93	349
10:15 AM	0	9	65	55	0	129	0	11	50	8	0	69	1	12	26	8	0	47	0	23	53	28	0	104	349
10:30 AM	0	10	65	41	0	116	0	10	72	9	0	91	0	20	30	9	0	59	0	25	53	31	0	109	375
10:45 AM	0	4	75	48	0	127	0	12	55	6	0	73	1	27	48	13	0	89	0	26	55	30	0	111	400
Hourly Total	0	35	264	177	0	476	0	49	225	36	0	310	3	89	140	38	0	270	0	98	211	108	0	417	1473
11:00 AM	0	11	63	39	0	113	0	10	79	10	0	99	2	31	45	3	0	81	0	27	58	30	0	115	408
11:15 AM	0	13	77	53	0	143	0	10	62	9	0	81	0	35	40	15	0	90	0	35	64	22	0	121	435
11:30 AM	0	10	68	42	0	120	0	11	37	9	0	57	0	31	44	11	0	86	0	38	66	26	0	130	393
11:45 AM	0	12	75	55	0	142	0	8	71	9	0	88	1	30	66	7	0	104	1	42	59	30	0	132	466
Hourly Total	0	46	283	189	0	518	0	39	249	37	0	325	3	127	195	36	0	361	1	142	247	108	0	498	1702
12:00 PM	0	5	65	45	0	115	0	11	88	10	0	109	0	29	67	12	0	108	0	48	65	31	0	144	476
12:15 PM	0	10	47	44	0	101	0	6	57	15	0	78	0	26	65	14	0	105	0	60	53	30	0	143	427
12:30 PM	0	8	61	46	0	115	0	9	76	11	0	96	0	27	67	11	0	105	0	48	69	31	0	148	464
12:45 PM	0	11	72	39	0	122	0	12	79	6	0	97	1	24	57	15	1	97	0	52	61	41	0	154	470
Hourly Total	0	34	245	174	0	453	0	38	300	42	0	380	1	106	256	52	1	415	0	208	248	133	0	589	1837
1:00 PM	0	9	76	41	0	126	0	7	44	16	0	67	0	23	74	12	1	109	0	38	59	28	1	125	427
1:15 PM	0	10	54	35	0	99	0	9	73	8	0	90	0	36	77	15	0	128	0	43	64	23	0	130	447
1:30 PM	0	6	40	45	0	91	0	16	74	10	0	100	1	28	57	14	0	100	0	43	60	25	0	128	419
1:45 PM	0	8	64	43	0	115	0	12	51	21	0	84	0	32	84	17	0	133	0	43	67	36	0	146	478
Hourly Total	0	33	234	164	0	431	0	44	242	55	0	341	1	119	292	58	1	470	0	167	250	112	1	529	1771
2:00 PM	0	11	61	43	0	115	0	7	49	22	0	78	0	40	78	16	0	134	0	41	66	45	0	152	479
2:15 PM	0	9	62	35	0	106	0	10	54	14	0	78	0	40	88	10	0	138	0	26	62	24	0	112	434
2:30 PM	0	7	62	46	0	115	0	4	56	14	0	74	0	41	89	13	0	143	0	53	67	39	0	159	491
2:45 PM	0	11	72	41	0	124	0	9	59	14	0	82	0	31	116	20	0	167	0	59	73	39	0	171	544
Hourly Total	0	38	257	165	0	460	0	30	218	64	0	312	0	152	371	59	0	582	0	179	268	147	0	594	1948
3:00 PM	0	19	63	43	0	125	0	11	76	19	0	106	1	45	149	19	0	214	0	63	68	31	0	162	607
3:15 PM	0	9	72	44	0	125	0	9	63	22	0	94	2	41	174	22	0	239	0	87	70	43	0	200	658
3:30 PM	0	16	69	56	0	141	0	13	68	17	0	98	0	51	195	20	0	266	0	74	70	32	0	176	681
3:45 PM	0	11	89	44	0	144	0	25	78	19	0	122	2	46	182	25	0	255	0	66	70	26	0	162	683
Hourly Total	0	55	293	187	0	535	0	58	285	77	0	420	5	183	700	86	0	974	0	290	278	132	0	700	2629

TMC 2156
Blaine MN
Wednesday, November 10, 2021

Time	Southbound CSAH 52						Westbound CSAH 12						Northbound CSAH 52						Eastbound CSAH 12						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	9	83	54	0	146	0	17	64	16	0	97	0	69	252	29	0	350	0	73	87	30	0	190	783	
4:15 PM	0	15	69	48	0	132	0	17	77	15	0	109	0	53	240	24	0	317	0	86	65	31	0	182	740	
4:30 PM	0	19	88	65	0	172	0	19	64	22	0	105	2	76	266	33	0	377	0	82	67	25	0	174	828	
4:45 PM	0	6	120	45	0	171	0	31	97	23	0	151	2	47	233	25	0	307	0	62	71	31	0	164	793	
Hourly Total	0	49	360	212	0	621	0	84	302	76	0	462	4	245	991	111	0	1351	0	303	290	117	0	710	3144	
5:00 PM	0	19	110	57	0	186	0	16	62	8	0	86	0	53	245	15	0	313	0	42	98	24	0	164	749	
5:15 PM	0	12	83	67	0	162	0	24	43	7	0	74	0	40	202	19	0	261	0	68	58	22	0	148	645	
5:30 PM	0	9	104	43	0	156	0	17	50	9	0	76	0	32	185	17	0	234	0	67	56	26	0	149	615	
5:45 PM	0	5	108	42	0	155	0	13	53	12	0	78	0	38	166	20	0	224	0	54	58	27	0	139	596	
Hourly Total	0	45	405	209	0	659	0	70	208	36	0	314	0	163	798	71	0	1032	0	231	270	99	0	600	2605	
6:00 PM	0	6	114	38	0	158	0	10	70	19	0	99	0	47	159	15	0	221	0	58	61	35	0	154	632	
6:15 PM	0	7	80	32	0	119	0	14	72	8	0	94	0	40	135	14	0	189	0	62	70	17	0	149	551	
6:30 PM	0	5	69	31	0	105	0	18	86	7	0	111	0	23	168	15	0	206	0	59	74	20	0	153	575	
6:45 PM	0	6	65	29	0	100	0	14	52	8	0	74	0	14	118	19	0	151	0	62	68	14	0	144	469	
Hourly Total	0	24	328	130	0	482	0	56	280	42	0	378	0	124	580	63	0	767	0	241	273	86	0	600	2227	
7:00 PM	0	4	59	38	0	101	0	10	42	11	0	63	0	26	121	21	0	168	0	33	62	25	0	120	452	
7:15 PM	0	1	47	28	0	76	0	11	37	12	0	60	0	30	74	14	0	118	0	38	65	20	0	123	377	
7:30 PM	0	2	40	24	0	66	0	6	19	10	0	35	0	31	22	103	12	0	137	0	31	60	24	0	115	353
7:45 PM	0	4	42	21	0	67	0	9	23	16	0	48	0	36	96	13	0	145	0	45	57	21	0	123	383	
Hourly Total	0	11	188	111	0	310	0	36	121	49	0	206	0	114	394	60	0	568	0	147	244	90	0	481	1565	
8:00 PM	0	5	35	19	0	59	0	3	24	12	0	39	0	10	76	23	0	109	0	35	48	18	0	101	308	
8:15 PM	0	2	29	22	0	53	0	6	33	10	0	49	0	14	63	5	0	82	0	47	32	17	0	96	280	
8:30 PM	0	4	32	21	0	57	0	10	37	3	0	50	0	21	90	9	0	120	0	42	27	22	0	91	318	
8:45 PM	0	3	31	25	0	59	0	4	17	4	0	25	0	10	67	6	0	83	0	37	25	14	0	76	243	
Hourly Total	0	14	127	87	0	228	0	23	111	29	0	163	0	55	296	43	0	394	0	161	132	71	0	364	1149	
9:00 PM	0	2	22	10	0	34	0	3	15	4	0	22	0	12	47	17	0	76	0	39	19	15	0	73	205	
9:15 PM	0	2	16	8	0	26	0	6	34	9	0	49	0	19	55	4	0	78	0	26	13	9	0	48	201	
9:30 PM	0	1	18	12	0	31	0	5	36	8	0	49	0	21	81	11	0	113	0	32	12	8	0	52	245	
9:45 PM	0	0	24	4	0	28	0	3	7	5	0	15	0	4	39	7	0	50	0	15	13	8	0	36	129	
Hourly Total	0	5	80	34	0	119	0	17	92	26	0	135	0	56	222	39	0	317	0	112	57	40	0	209	780	
10:00 PM	0	0	7	9	0	16	0	0	9	2	0	11	0	5	38	12	0	55	0	20	14	6	0	40	122	
10:15 PM	0	1	13	2	0	16	0	2	9	2	0	13	0	5	21	8	0	34	0	18	13	2	0	33	96	
10:30 PM	0	1	1	1	0	3	0	0	8	4	0	12	1	1	12	0	0	14	0	8	15	8	0	31	60	
10:45 PM	0	0	1	3	0	4	0	1	9	4	0	14	0	5	20	1	0	26	0	4	9	2	0	15	59	
Hourly Total	0	2	22	15	0	39	0	3	35	12	0	50	1	16	91	21	0	129	0	50	51	18	0	119	337	
11:00 PM	0	1	6	2	0	9	0	0	12	2	0	14	0	3	18	4	0	25	0	7	16	3	0	26	74	
11:15 PM	0	0	7	4	0	11	0	1	5	1	0	7	0	6	14	3	0	23	0	9	4	2	0	15	56	
11:30 PM	0	1	2	3	0	6	0	0	10	1	0	11	1	2	14	2	0	19	0	6	5	2	0	13	49	
11:45 PM	0	1	3	1	0	5	0	0	9	0	0	9	0	4	10	2	0	16	0	5	2	2	0	9	39	
Hourly Total	0	3	18	10	0	31	0	1	36	4	0	41	1	15	56	11	0	83	0	27	27	9	0	63	218	
DAILY TOTAL	0	545	5812	2917	0	9274	0	824	3510	691	0	5025	21	1853	6079	865	2	8818	1	2745	3615	2012	1	8373	31490	
Cars	0	538	5683	2871	0	9092	0	810	3456	678	0	4944	21	1796	5923	843	2	8583	1	2709	3560	1938	1	8208	30827	
Heavy Vehicles	0	7	129	46	0	182	0	14	54	13	0	81	0	57	156	22	0	235	0	36	55	74	0	165	663	
Heavy Vehicle %	0.00%	1.28%	2.22%	1.58%	0.00%	1.96%	0.00%	1.70%	1.54%	1.88%	0.00%	1.61%	0.00%	3.08%	2.57%	2.54%	0.00%	2.67%	0.00%	1.31%	1.52%	3.68%	0.00%	1.97%	2.11%	

**TMC 2156
Blaine MN
Wednesday, November 10, 2021**

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							
7:15 AM	0	6	202	73	0	281	0	19	46	3	0	68	0	15	39	4	0	58	0	11	39	51	0	101	0	17	54	32	0	103	508
7:30 AM	0	19	251	102	0	372	0	23	69	4	0	96	0	14	34	4	0	52	0	17	54	32	0	103	0	36	50	47	0	133	623
7:45 AM	0	7	226	91	0	324	0	23	58	6	0	87	0	19	47	10	0	76	0	26	46	58	0	130	0	36	50	47	0	133	620
8:00 AM	0	10	176	65	0	251	0	17	54	7	0	78	0	18	55	3	0	76	0	26	46	58	0	130	0	36	50	47	0	133	535
Peak Hour Total	0	42	855	331	0	1228	0	82	227	20	0	329	0	66	175	21	0	262	0	90	189	188	0	467	0	90	189	188	0	467	2286
PHF	0.000	0.553	0.852	0.811	0.000	0.825	0.000	0.891	0.822	0.714	0.000	0.857	0.000	0.868	0.795	0.525	0.000	0.862	0.000	0.625	0.875	0.810	0.000	0.878	0.000	0.625	0.875	0.810	0.000	0.878	0.917

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	9	83	54	0	146	0	17	64	16	0	97	0	69	252	29	0	350	0	73	87	30	0	190	0	86	65	31	0	182	783
4:15 PM	0	15	69	48	0	132	0	17	77	15	0	109	0	53	240	24	0	317	0	86	65	31	0	182	0	86	65	31	0	182	740
4:30 PM	0	19	88	65	0	172	0	19	64	22	0	105	2	76	266	33	0	377	0	82	67	25	0	174	0	82	67	25	0	174	828
4:45 PM	0	6	120	45	0	171	0	31	97	23	0	151	2	47	233	25	0	307	0	62	71	31	0	164	0	62	71	31	0	164	793
Peak Hour Total	0	49	360	212	0	621	0	84	302	76	0	462	4	245	991	111	0	1351	0	303	290	117	0	710	0	303	290	117	0	710	3144
PHF	0.000	0.645	0.750	0.815	0.000	0.903	0.000	0.677	0.778	0.826	0.000	0.765	0.500	0.806	0.931	0.841	0.000	0.896	0.000	0.881	0.833	0.944	0.000	0.934	0.000	0.881	0.833	0.944	0.000	0.934	0.949

Total Vehicles On Leg		18789	
Vehicles Entering Intersection		9274	
Vehicles Exiting Intersection		9515	
Southbound			
Cars	2871	5683	538
Heavy	46	129	7
Total	2917	5812	545



Total Vehicles on Leg 16654	Vehicles Entering Intersection 8373	Eastbound	Cars	Heavy	Total
			1	0	1
	1		0	1	
	2709		36	2745	
	Vehicles Exiting Intersection 8281		3560	55	3615
1938	74	2012			



Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 5025	Total Vehicles on Leg 10050
678	13	691			
3456	54	3510			
810	14	824			
0	0	0			
0	0	0	Vehicles Exiting Intersection 5025		



Cars	2	21	1796	5923	843
Heavy	0	0	57	156	22
Total	2	21	1853	6079	865
Northbound					
Vehicles Entering Intersection 8818			Vehicles Exiting Intersection 8669		
Total Vehicles On Leg			17487		



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
11/10/2021	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	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	1	0	0	0	0	0	0	0
	0:45	0	0	0	0	0	0	0	0	0	0	0	0	1	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
	1:15	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
	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	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
	3:15	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
	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	1	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0
	4:30	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0
	5:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0
	5:15	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	5:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
	5:45	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
	6:00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	1	0
	6:15	0	0	2	0	0	0	1	0	0	0	0	1	5	0	0	0	0	0	1	0
	6:30	0	0	1	0	0	0	0	1	3	0	0	1	6	0	0	0	0	2	1	0
	6:45	0	0	4	0	0	0	0	1	0	0	0	0	2	1	0	0	0	3	1	0
	7:00	0	0	2	2	0	0	0	0	0	0	0	2	2	1	0	0	0	0	5	0
	7:15	0	0	4	3	0	0	1	3	0	0	0	1	5	0	0	0	0	0	1	0
	7:30	0	0	3	5	0	0	0	1	0	0	0	0	5	0	0	0	2	2	2	0
	7:45	0	0	2	0	0	0	0	0	0	0	0	2	1	1	0	0	1	0	1	0
	8:00	0	0	5	2	0	0	0	2	0	0	0	0	6	0	0	0	0	5	1	0
	8:15	0	0	3	2	0	0	1	1	0	0	0	1	1	1	0	0	0	1	0	0
	8:30	0	0	2	0	0	0	0	0	1	0	0	0	4	1	0	0	1	3	1	0
	8:45	0	1	5	1	0	0	0	1	2	0	0	3	4	1	0	0	0	3	3	0
	9:00	0	0	1	3	0	0	0	1	0	0	0	3	2	1	0	0	1	3	0	0
	9:15	0	0	8	3	0	0	0	0	0	0	0	2	3	0	0	0	2	2	0	0
	9:30	0	0	1	1	0	0	0	1	0	0	0	0	3	1	0	0	0	1	2	0
	9:45	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
	10:00	0	0	0	0	0	0	0	0	0	0	0	1	5	1	0	0	0	0	1	0
	10:15	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	1	0
	10:30	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	0	3	3	0
	10:45	0	0	2	0	0	0	0	2	0	0	0	3	5	2	0	0	1	2	1	0
	11:00	0	0	0	0	0	0	1	4	0	0	0	1	1	0	0	0	0	1	0	0
	11:15	0	0	1	0	0	0	0	1	1	0	0	2	1	1	0	0	1	1	2	0
	11:30	0	0	2	1	0	0	2	1	0	0	0	0	2	0	0	0	0	0	0	0
	11:45	0	0	3	5	0	0	0	0	0	0	0	1	4	2	0	0	1	2	0	0

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2156

Study Date : 12/14/2021

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 52

Number of Lanes : 2+

Total Approach Volume: 8,818

Southbound: CSAH 52

Number of Lanes :2+

Total Approach Volume: 9,274

Minor Street Approaches

Eastbound: CSAH 12

Number of Lanes :1

Total Approach Volume: 8,373

Westbound: CSAH 12

Number of Lanes :1

Total Approach Volume: 5,025

Warrant Summary (Rural Values Apply)

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

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

Required volumes reached for 16 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 17 hours, 8 are needed

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

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

Number of hours (16) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

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

Number of one hour periods (62) 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 2156

Study Date : 12/14/2021

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

16 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	
	CSAH 52					CSAH 12		
16:15 - 17:15	1314	+	661	=	1975	684	451	Yes
15:15 - 16:15	1110	+	556	=	1666	728	411	Yes
17:15 - 18:15	940	+	631	=	1571	590	327	Yes
07:15 - 08:15	262	+	1228	=	1490	467	329	Yes
18:15 - 19:15	714	+	425	=	1139	566	342	Yes
14:15 - 15:15	662	+	470	=	1132	604	340	Yes
08:15 - 09:15	303	+	708	=	1011	429	256	Yes
06:15 - 07:15	135	+	875	=	1010	331	232	Yes
13:15 - 14:15	495	+	420	=	915	556	352	Yes
11:15 - 12:15	388	+	520	=	908	527	335	Yes
12:15 - 13:15	416	+	464	=	880	570	338	Yes
09:15 - 10:15	301	+	555	=	856	414	285	Yes
19:15 - 20:15	509	+	268	=	777	462	182	Yes
10:15 - 11:15	276	+	485	=	761	439	332	Yes
20:15 - 21:15	361	+	203	=	564	336	146	Yes
05:15 - 06:15	62	+	422	=	484	183	94	Yes
21:15 - 22:15	296	+	101	=	397	176	124	No
05:00 - 06:00	54	+	341	=	395	163	72	No
21:30 - 22:30	252	+	91	=	343	161	88	No
04:45 - 05:45	41	+	273	=	314	131	60	No
04:30 - 05:30	32	+	220	=	252	101	47	No
21:45 - 22:45	153	+	63	=	216	140	51	No
04:15 - 05:15	32	+	162	=	194	84	34	No
22:00 - 23:00	129	+	39	=	168	119	50	No
04:00 - 05:00	24		136		160	69	27	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2156

Study Date : 12/14/2021

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 = **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	
15:45 - 16:45	1299	+	594	=	1893	708	433	Yes
16:45 - 17:45	1115	+	675	=	1790	625	387	Yes
14:45 - 15:45	886	+	515	=	1401	709	380	Yes
17:45 - 18:45	840	+	537	=	1377	595	382	Yes
06:45 - 07:45	190	+	1143	=	1333	390	295	Yes
07:45 - 08:45	309	+	966	=	1275	451	287	Yes
13:45 - 14:45	548	+	451	=	999	569	314	Yes
18:45 - 19:45	574	+	343	=	917	502	232	Yes
08:45 - 09:45	288	+	610	=	898	463	262	Yes
11:45 - 12:45	422	+	473	=	895	567	371	Yes
12:45 - 13:45	434	+	438	=	872	537	354	Yes
10:45 - 11:45	346	+	503	=	849	477	310	Yes
09:45 - 10:45	265	+	507	=	772	405	317	Yes
05:45 - 06:45	95	+	627	=	722	241	154	Yes
19:45 - 20:45	456	+	236	=	692	411	186	Yes
05:30 - 06:30	81	+	524	=	605	208	117	No
20:45 - 21:45	350	+	150	=	500	249	145	No
05:15 - 06:15	62	+	422	=	484	183	94	No
21:00 - 22:00	317	+	119	=	436	209	135	No
21:15 - 22:15	296	+	101	=	397	176	124	No
05:00 - 06:00	54	+	341	=	395	163	72	No
21:30 - 22:30	252	+	91	=	343	161	88	No
04:45 - 05:45	41	+	273	=	314	131	60	No
04:30 - 05:30	32	+	220	=	252	101	47	No
21:45 - 22:45	153		63		216	140	51	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2156

Study Date : 12/14/2021

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

17 hours meet 1A minimums.
16 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 52

Minor Road CSAH 12

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:00 - 17:00	1351	+	621	=	1972	710	462	Yes
17:00 - 18:00	1032	+	659	=	1691	600	314	Yes
15:00 - 16:00	974	+	535	=	1509	700	420	Yes
07:00 - 08:00	227	+	1244	=	1471	408	311	Yes
18:00 - 19:00	767	+	482	=	1249	600	378	Yes
08:00 - 09:00	302	+	814	=	1116	447	254	Yes
14:00 - 15:00	582	+	460	=	1042	594	312	Yes
13:00 - 14:00	470	+	431	=	901	529	341	Yes
09:00 - 10:00	303	+	596	=	899	433	288	Yes
11:00 - 12:00	361	+	518	=	879	498	325	Yes
19:00 - 20:00	568	+	310	=	878	481	206	Yes
12:00 - 13:00	415	+	453	=	868	589	380	Yes

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:30 - 17:30	1258	+	691	=	1949	650	416	Yes
15:30 - 16:30	1188	+	563	=	1751	710	426	Yes
17:30 - 18:30	868	+	588	=	1456	591	347	Yes
07:30 - 08:30	288	+	1135	=	1423	464	327	Yes
14:30 - 15:30	763	+	489	=	1252	692	356	Yes
06:30 - 07:30	168	+	973	=	1141	371	260	Yes
18:30 - 19:30	643	+	382	=	1025	540	308	Yes
08:30 - 09:30	300	+	674	=	974	423	255	Yes
13:30 - 14:30	505	+	427	=	932	538	340	Yes
12:30 - 13:30	439	+	462	=	901	557	350	Yes
11:30 - 12:30	403	+	478	=	881	549	332	Yes
10:30 - 11:30	319	+	499	=	818	456	344	Yes

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2156

Study Date : 12/14/2021

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.

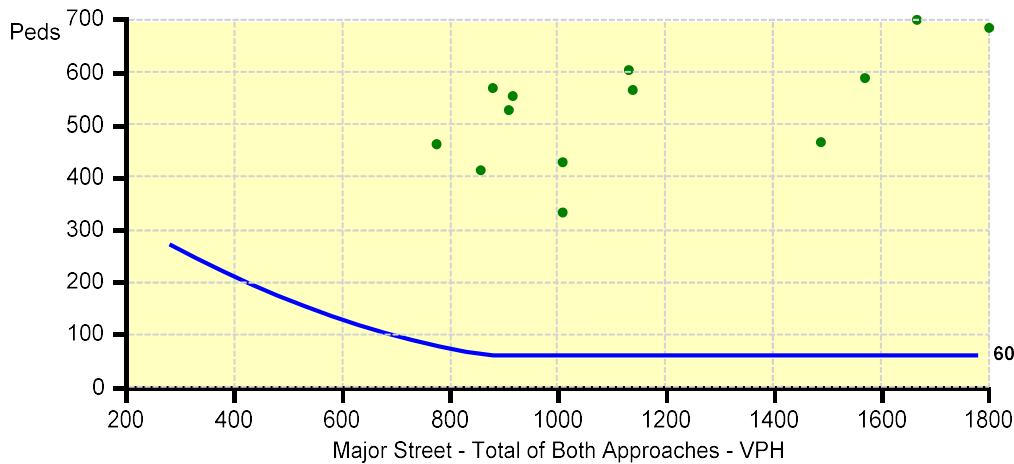
Summary

16 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 52				Total	Minor Road CSAH 12		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	1314	+	661	=	1975	684	451	Yes
15:15 - 16:15	1110	+	556	=	1666	728	411	Yes
17:15 - 18:15	940	+	631	=	1571	590	327	Yes
07:15 - 08:15	262	+	1228	=	1490	467	329	Yes
18:15 - 19:15	714	+	425	=	1139	566	342	Yes
14:15 - 15:15	662	+	470	=	1132	604	340	Yes
08:15 - 09:15	303	+	708	=	1011	429	256	Yes
06:15 - 07:15	135	+	875	=	1010	331	232	Yes
13:15 - 14:15	495	+	420	=	915	556	352	Yes
11:15 - 12:15	388	+	520	=	908	527	335	Yes
12:15 - 13:15	416	+	464	=	880	570	338	Yes
							285	Yes



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2156

Study Date : 12/14/2021

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

60 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 52				Total	Minor Road CSAH 12		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
16:15 - 17:15	1314	+	661	=	1975	684	451	Yes
16:00 - 17:00	1351	+	621	=	1972	710	462	Yes
16:30 - 17:30	1258	+	691	=	1949	650	416	Yes
15:45 - 16:45	1299	+	594	=	1893	708	433	Yes
16:45 - 17:45	1115	+	675	=	1790	625	387	Yes
15:30 - 16:30	1188	+	563	=	1751	710	426	Yes
17:00 - 18:00	1032	+	659	=	1691	600	314	Yes
15:15 - 16:15	1110	+	556	=	1666	728	411	Yes
17:15 - 18:15	940	+	631	=	1571	590	327	Yes
15:00 - 16:00	974	+	535	=	1509	700	420	Yes
07:15 - 08:15	262	+	1228	=	1490	467	329	Yes
							311	Yes

