

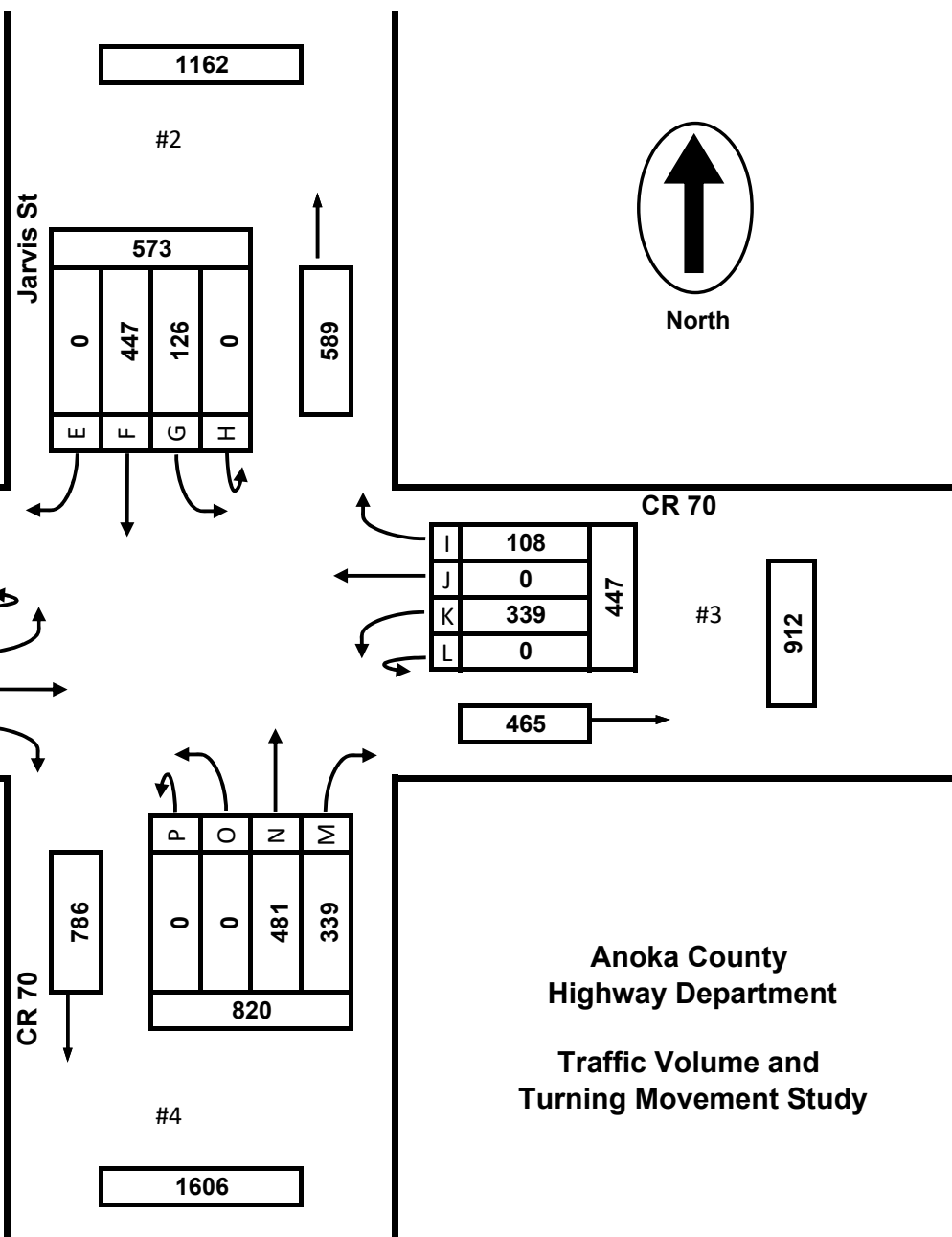
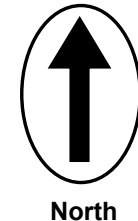
Date: 01/30/24

Count Number: TMC 2443

Location: CR 70

@ CR 70

Collection Period: 24 HR



#1

None

#2

#3

#4

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

Anoka County
Highway Department

Traffic Volume and
Turning Movement Study

Date: 01/30/24

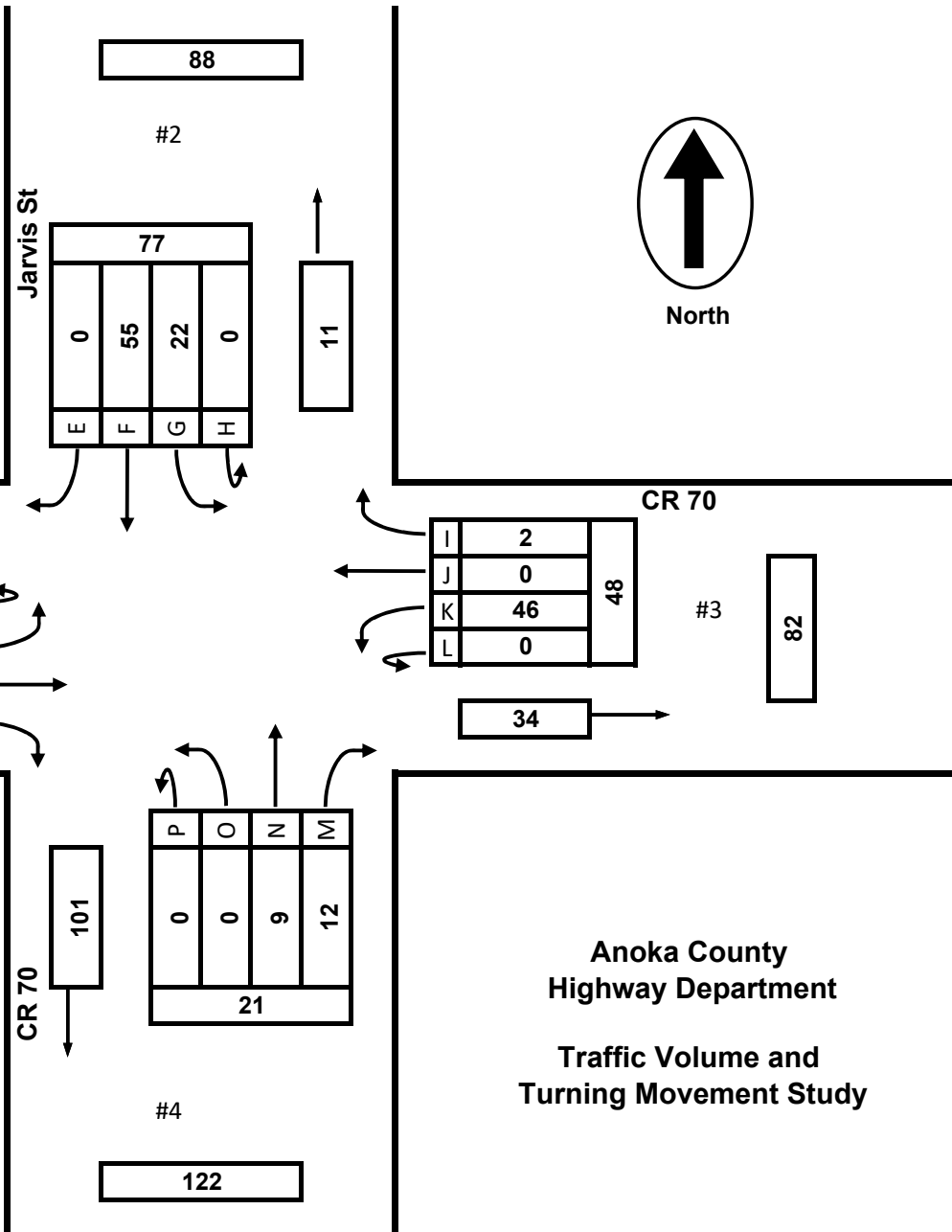
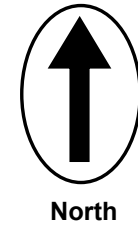
Count Number: TMC 2443

Location: CR 70

@ CR 70

Collection Period: 24 HR

Peak Hour: 7:00 - 8:00 AM



#1

#2

#3

#4

None

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

Anoka County
Highway Department

Traffic Volume and
Turning Movement Study

Date: 01/30/24

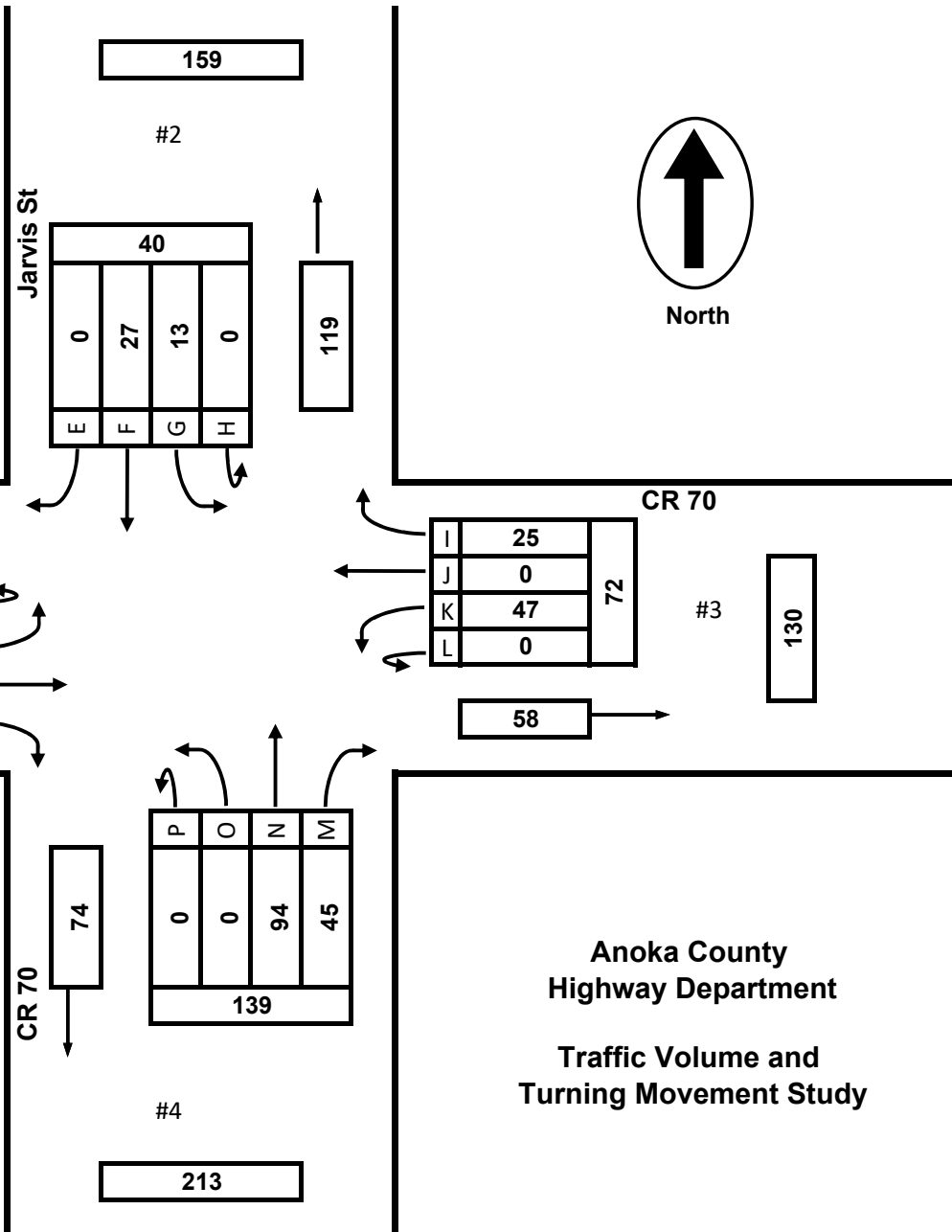
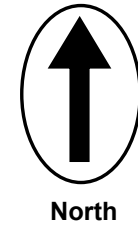
Count Number: TMC 2443

Location: CR 70

@ CR 70

Collection Period: 24 HR

Peak Hour: 3:45 - 4:45 PM



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

Anoka County
Highway Department
Traffic Volume and
Turning Movement Study

TMC 2443 - CR 70 @ CR 70
Nowthen MN
Tuesday, January 30, 2024

Time	Southbound Jarvis St						Westbound CR 70						Northbound CR 70						Eastbound None						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	2	10	0	0	12	0	7	0	1	0	8	0	0	7	4	0	11	0	0	0	0	0	0	31
8:15 AM	0	4	9	0	0	13	0	4	0	3	0	7	0	0	2	5	0	7	0	0	0	0	0	0	27
8:30 AM	0	5	13	0	0	18	0	7	0	2	0	9	0	0	3	5	0	8	0	0	0	0	0	0	35
8:45 AM	0	1	9	0	0	10	0	9	0	1	0	10	0	0	5	4	0	9	0	0	0	0	0	0	29
Hourly Total	0	12	41	0	0	53	0	27	0	7	0	34	0	0	17	18	0	35	0	0	0	0	0	0	122
9:00 AM	0	1	11	0	0	12	0	9	0	0	0	9	0	0	3	4	0	7	0	0	0	0	0	0	28
9:15 AM	0	0	8	0	0	8	0	2	0	0	0	2	0	0	4	6	0	10	0	0	0	0	0	0	20
9:30 AM	0	1	5	0	0	6	0	3	0	0	0	3	0	0	5	4	0	9	0	0	0	0	0	0	18
9:45 AM	0	1	7	0	0	8	0	4	0	0	0	4	0	0	3	4	0	7	0	0	0	0	0	0	19
Hourly Total	0	3	31	0	0	34	0	18	0	0	0	18	0	0	15	18	0	33	0	0	0	0	0	0	85
10:00 AM	0	0	9	0	0	9	0	7	0	0	0	7	0	0	8	1	0	9	0	0	0	0	0	0	25
10:15 AM	0	1	4	0	0	5	0	1	0	0	0	1	0	0	0	2	0	2	0	0	0	0	0	0	8
10:30 AM	0	0	5	0	0	5	0	4	0	1	0	5	0	0	5	4	0	9	0	0	0	0	0	0	19
10:45 AM	0	1	5	0	0	6	0	6	0	0	0	6	0	0	5	3	0	8	0	0	0	0	0	0	20
Hourly Total	0	2	23	0	0	25	0	18	0	1	0	19	0	0	18	10	0	28	0	0	0	0	0	0	72
11:00 AM	0	1	9	0	0	10	0	2	0	0	0	2	0	0	3	3	0	6	0	0	0	0	0	0	18
11:15 AM	0	1	7	0	0	8	0	4	0	1	0	5	0	0	4	2	0	6	0	0	0	0	0	0	19
11:30 AM	0	1	6	0	0	7	0	2	0	3	0	5	0	0	4	6	0	10	0	0	0	0	0	0	22
11:45 AM	0	0	6	0	0	6	0	3	0	0	0	3	0	0	6	6	0	12	0	0	0	0	0	0	21
Hourly Total	0	3	28	0	0	31	0	11	0	4	0	15	0	0	17	17	0	34	0	0	0	0	0	0	80
12:00 PM	0	0	5	0	0	5	0	2	0	0	0	2	0	0	5	5	0	10	0	0	0	0	0	0	17
12:15 PM	0	1	5	0	0	6	0	2	0	0	0	2	0	0	2	1	0	3	0	0	0	0	0	0	11
12:30 PM	0	0	2	0	0	2	0	3	0	2	0	5	0	0	5	2	0	7	0	0	0	0	0	0	14
12:45 PM	0	0	4	0	0	4	0	8	0	1	0	9	0	0	7	4	0	11	0	0	0	0	0	0	24
Hourly Total	0	1	16	0	0	17	0	15	0	3	0	18	0	0	19	12	0	31	0	0	0	0	0	0	66
1:00 PM	0	1	1	0	0	2	0	4	0	1	0	5	0	0	7	3	0	10	0	0	0	0	0	0	17
1:15 PM	0	1	3	0	0	4	0	2	0	0	0	2	0	0	8	3	0	11	0	0	0	0	0	0	17
1:30 PM	0	1	3	0	0	4	0	4	0	0	0	4	0	0	8	2	0	10	0	0	0	0	0	0	18
1:45 PM	0	1	4	0	0	5	0	5	0	1	0	6	0	0	7	5	0	12	0	0	0	0	0	0	23
Hourly Total	0	4	11	0	0	15	0	15	0	2	0	17	0	0	30	13	0	43	0	0	0	0	0	0	75
2:00 PM	0	2	6	0	0	8	0	5	0	1	0	6	0	0	7	5	0	12	0	0	0	0	0	0	26
2:15 PM	0	0	4	0	0	4	0	4	0	3	0	7	0	0	15	8	0	23	0	0	0	0	0	0	34
2:30 PM	0	4	6	0	0	10	0	4	0	0	0	4	0	0	14	7	0	21	0	0	0	0	0	0	35
2:45 PM	0	1	4	0	0	5	0	5	0	1	0	6	0	0	11	5	0	16	0	0	0	0	0	0	27
Hourly Total	0	7	20	0	0	27	0	18	0	5	0	23	0	0	47	25	0	72	0	0	0	0	0	0	122
3:00 PM	0	0	9	0	0	9	0	8	0	2	0	10	0	0	11	9	0	20	0	0	0	0	0	0	39
3:15 PM	0	1	7	0	0	8	0	12	0	7	0	19	0	0	16	11	0	27	0	0	0	0	0	0	54
3:30 PM	0	1	10	0	0	11	0	8	0	4	0	12	0	0	12	9	0	21	0	0	0	0	0	0	44
3:45 PM	0	4	7	0	0	11	0	5	0	4	0	9	0	0	26	9	0	35	0	0	0	0	0	0	55
Hourly Total	0	6	33	0	0	39	0	33	0	17	0	50	0	0	65	38	0	103	0	0	0	0	0	0	192

TMC 2443 - CR 70 @ CR 70
Nowthen MN
Tuesday, January 30, 2024
AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL						
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total							
7:00 AM	0	6	14	0	0	20	0	14	0	0	0	14	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	37
7:15 AM	0	2	13	0	0	15	0	16	0	2	0	18	0	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	36
7:30 AM	0	8	16	0	0	24	0	8	0	0	0	8	0	0	4	4	0	8	0	0	0	0	0	0	0	0	0	0	0	0	40
7:45 AM	0	6	12	0	0	18	0	8	0	0	0	8	0	0	3	4	0	7	0	0	0	0	0	0	0	0	0	0	0	0	33
Peak Hour Total	0	22	55	0	0	77	0	46	0	2	0	48	0	0	9	12	0	21	0	0	0	0	0	0	0	0	0	0	0	0	146
PHF	0.000	0.688	0.859	0.000	0.000	0.802	0.000	0.719	0.000	0.250	0.000	0.667	0.000	0.000	0.563	0.750	0.000	0.656	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.913	

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL						
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total							
3:45 PM	0	4	7	0	0	11	0	5	0	4	0	9	0	0	26	9	0	35	0	0	0	0	0	0	0	0	0	0	0	0	55
4:00 PM	0	3	4	0	0	7	0	11	0	11	0	22	0	0	21	13	0	34	0	0	0	0	0	0	0	0	0	0	0	0	63
4:15 PM	0	1	5	0	0	6	0	14	0	5	0	19	0	0	23	10	0	33	0	0	0	0	0	0	0	0	0	0	0	0	58
4:30 PM	0	5	11	0	0	16	0	17	0	5	0	22	0	0	24	13	0	37	0	0	0	0	0	0	0	0	0	0	0	0	75
Peak Hour Total	0	13	27	0	0	40	0	47	0	25	0	72	0	0	94	45	0	139	0	0	0	0	0	0	0	0	0	0	0	0	251
PHF	0.000	0.650	0.614	0.000	0.000	0.625	0.000	0.691	0.000	0.568	0.000	0.818	0.000	0.000	0.904	0.865	0.000	0.939	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.837	

Total Vehicles On Leg		1162	
Vehicles Entering Intersection	573	Vehicles Exiting Intersection	589
Southbound			
Cars	0	436	123
Heavy	0	11	3
Total	0	447	126



Total Vehicles on Leg	Vehicles Entering Intersection	Eastbound	Cars	0	0
			Heavy	0	0
			Total	0	0
			Vehicles Exiting Intersection	0	0
			0	0	0



Daily Volumes

Cars	104	4	108	Westbound	Vehicles Entering Intersection	447	Total Vehicles on Leg 912
Heavy	0	0	0		Vehicles Exiting Intersection	465	
Total	325	14	339				
	0	0	0				
	0	0	0				



Cars	0	0	0	471	329
Heavy	0	0	0	10	10
Total	0	0	0	481	339
Northbound					
Vehicles Entering Intersection			820		
Vehicles Exiting Intersection			786		
Total Vehicles On Leg			1606		



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2443

Study Date : 02/05/2024

Signal Warrants - Summary

Major Street Approaches

Northbound: CR 70

Number of Lanes : 1

Total Approach Volume: 820

Southbound: Jarvis St

Number of Lanes : 1

Total Approach Volume: 573

Minor Street Approaches

Westbound: CR 70

Number of Lanes : 1

Total Approach Volume: 447

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes.....Not Satisfied

Warrant 1A - Minimum Vehicular Volume.....Not Satisfied

Required volumes reached for 0 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic.....Not Satisfied

Required volumes reached for 0 hours, 8 are needed

Warrant 1C - Combination of Warrants.....Not Satisfied

Required 1A volumes reached for 0 hours, 8 are needed

Required 1B volumes reached for 0 hours, 8 are needed

Warrant 2 - Four Hour Volumes.....Not Satisfied

Number of hours (0) volumes exceed minimum < minimum required (4).

Warrant 3 - Peak Hour.....Not Satisfied

Warrant 3A - Peak Hour Delay.....Not Satisfied

Approach volumes on minor street don't exceed minimums for any one hour period. Delay data not evaluated.

Warrant 3B - Peak Hour Volumes.....Not Satisfied

Volumes do not exceed minimums for any 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 2443

Study Date : 02/05/2024

Warrant 1A - Minimum Volumes

Description

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

Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

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

Volume Requirements

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

Veh/Hr Minor = **105**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CR 70					None		
15:45 - 16:45	139	+	40	=	179	0	72	No
16:00 - 17:00	130	+	41	=	171	0	73	No
16:15 - 17:15	127	+	43	=	170	0	66	No
16:30 - 17:30	120	+	46	=	166	0	54	No
15:30 - 16:30	123	+	35	=	158	0	62	No
15:15 - 16:15	117	+	37	=	154	0	62	No
16:45 - 17:45	112	+	34	=	146	0	37	No
15:00 - 16:00	103	+	39	=	142	0	50	No
17:00 - 18:00	97	+	29	=	126	0	29	No
14:45 - 15:45	84	+	33	=	117	0	47	No
14:30 - 15:30	84	+	32	=	116	0	39	No
14:15 - 15:15	80	+	28	=	108	0	27	No
17:15 - 18:15	72	+	29	=	101	0	18	No
07:30 - 08:30	33	+	67	=	100	0	31	No
14:00 - 15:00	72	+	27	=	99	0	23	No
07:15 - 08:15	29	+	69	=	98	0	42	No
07:00 - 08:00	21	+	77	=	98	0	48	No
13:45 - 14:45	68	+	27	=	95	0	23	No
06:45 - 07:45	17	+	78	=	95	0	49	No
07:45 - 08:45	33	+	61	=	94	0	32	No
08:00 - 09:00	35	+	53	=	88	0	34	No
06:30 - 07:30	12	+	76	=	88	0	49	No
08:15 - 09:15	31	+	53	=	84	0	35	No
08:30 - 09:30	34	+	48	=	82	0	30	No
05:45 - 06:45	22		59		81	0	26	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2443

Study Date : 02/05/2024

Warrant 1B - Interruption of Continuous Traffic

Description

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

Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

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

Volume Requirements

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

Veh/Hr Minor = **52**

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CR 70					None		
15:45 - 16:45	139	+	40	=	179	0	72	No
16:00 - 17:00	130	+	41	=	171	0	73	No
16:15 - 17:15	127	+	43	=	170	0	66	No
16:30 - 17:30	120	+	46	=	166	0	54	No
15:30 - 16:30	123	+	35	=	158	0	62	No
15:15 - 16:15	117	+	37	=	154	0	62	No
16:45 - 17:45	112	+	34	=	146	0	37	No
15:00 - 16:00	103	+	39	=	142	0	50	No
17:00 - 18:00	97	+	29	=	126	0	29	No
14:45 - 15:45	84	+	33	=	117	0	47	No
14:30 - 15:30	84	+	32	=	116	0	39	No
14:15 - 15:15	80	+	28	=	108	0	27	No
17:15 - 18:15	72	+	29	=	101	0	18	No
07:30 - 08:30	33	+	67	=	100	0	31	No
14:00 - 15:00	72	+	27	=	99	0	23	No
07:15 - 08:15	29	+	69	=	98	0	42	No
07:00 - 08:00	21	+	77	=	98	0	48	No
13:45 - 14:45	68	+	27	=	95	0	23	No
06:45 - 07:45	17	+	78	=	95	0	49	No
07:45 - 08:45	33	+	61	=	94	0	32	No
08:00 - 09:00	35	+	53	=	88	0	34	No
06:30 - 07:30	12	+	76	=	88	0	49	No
08:15 - 09:15	31	+	53	=	84	0	35	No
08:30 - 09:30	34	+	48	=	82	0	30	No
05:45 - 06:45	22		59		81	0	26	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2443

Study Date : 02/05/2024

Warrant 1C Combination of Warrants

Description

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

Summary

Only 0 hours meet 1A minimums.
Only 0 hours meet 1B minimums.
Warrant is NOT met.

Site Data Required

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

Volume Requirements

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

Veh/Hr Minor = **84 42**

Major Road
CR 70

Minor Road
None

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
15:45 - 16:45	139	+	40	=	179	0	72	No
16:00 - 17:00	130	+	41	=	171	0	73	No
16:15 - 17:15	127	+	43	=	170	0	66	No
16:30 - 17:30	120	+	46	=	166	0	54	No
15:30 - 16:30	123	+	35	=	158	0	62	No
15:15 - 16:15	117	+	37	=	154	0	62	No
16:45 - 17:45	112	+	34	=	146	0	37	No
15:00 - 16:00	103	+	39	=	142	0	50	No
17:00 - 18:00	97	+	29	=	126	0	29	No
14:45 - 15:45	84	+	33	=	117	0	47	No
14:30 - 15:30	84	+	32	=	116	0	39	No
14:15 - 15:15	80		28		108	0	27	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
15:45 - 16:45	139	+	40	=	179	0	72	No
16:00 - 17:00	130	+	41	=	171	0	73	No
16:15 - 17:15	127	+	43	=	170	0	66	No
16:30 - 17:30	120	+	46	=	166	0	54	No
15:30 - 16:30	123	+	35	=	158	0	62	No
15:15 - 16:15	117	+	37	=	154	0	62	No
16:45 - 17:45	112	+	34	=	146	0	37	No
15:00 - 16:00	103	+	39	=	142	0	50	No
17:00 - 18:00	97	+	29	=	126	0	29	No
14:45 - 15:45	84	+	33	=	117	0	47	No
14:30 - 15:30	84	+	32	=	116	0	39	No
14:15 - 15:15	80		28		108	0	27	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2443

Study Date : 02/05/2024

Warrant 2 - Four Hour Volumes

Description

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

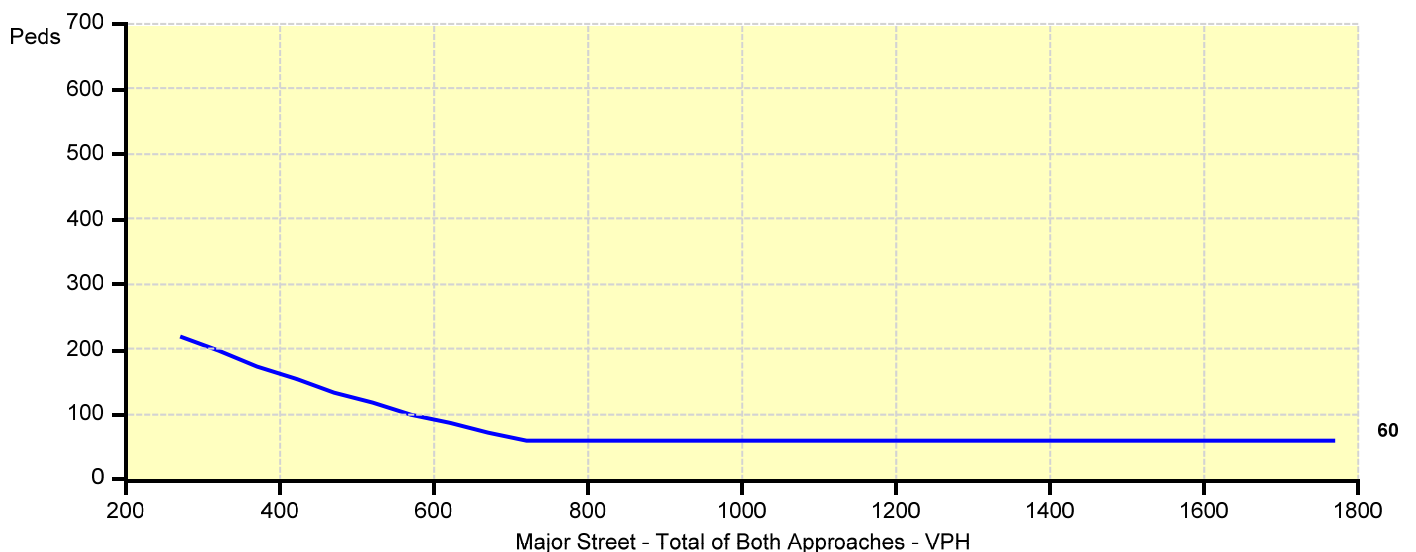
Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

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

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CR 70					None		
15:45 - 16:45	139	+	40	=	179	0	72	No
16:00 - 17:00	130	+	41	=	171	0	73	No
16:15 - 17:15	127	+	43	=	170	0	66	No
16:30 - 17:30	120	+	46	=	166	0	54	No
15:30 - 16:30	123	+	35	=	158	0	62	No
15:15 - 16:15	117	+	37	=	154	0	62	No
16:45 - 17:45	112	+	34	=	146	0	37	No
15:00 - 16:00	103	+	39	=	142	0	50	No
17:00 - 18:00	97	+	29	=	126	0	29	No
14:45 - 15:45	84	+	33	=	117	0	47	No
14:30 - 15:30	84	+	32	=	116	0	39	No
14:15 - 15:15	80		28		108	0	27	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2443

Study Date : 02/05/2024

Warrant 3B - Peak Hour Volumes

Description

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

Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

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

Time	Major Road				Total	Minor Road		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
	CR 70					None		
15:45 - 16:45	139	+	40	=	179	0	72	No
16:00 - 17:00	130	+	41	=	171	0	73	No
16:15 - 17:15	127	+	43	=	170	0	66	No
16:30 - 17:30	120	+	46	=	166	0	54	No
15:30 - 16:30	123	+	35	=	158	0	62	No
15:15 - 16:15	117	+	37	=	154	0	62	No
16:45 - 17:45	112	+	34	=	146	0	37	No
15:00 - 16:00	103	+	39	=	142	0	50	No
17:00 - 18:00	97	+	29	=	126	0	29	No
14:45 - 15:45	84	+	33	=	117	0	47	No
14:30 - 15:30	84	+	32	=	116	0	39	No
14:15 - 15:15	80		28		108	0	27	No

