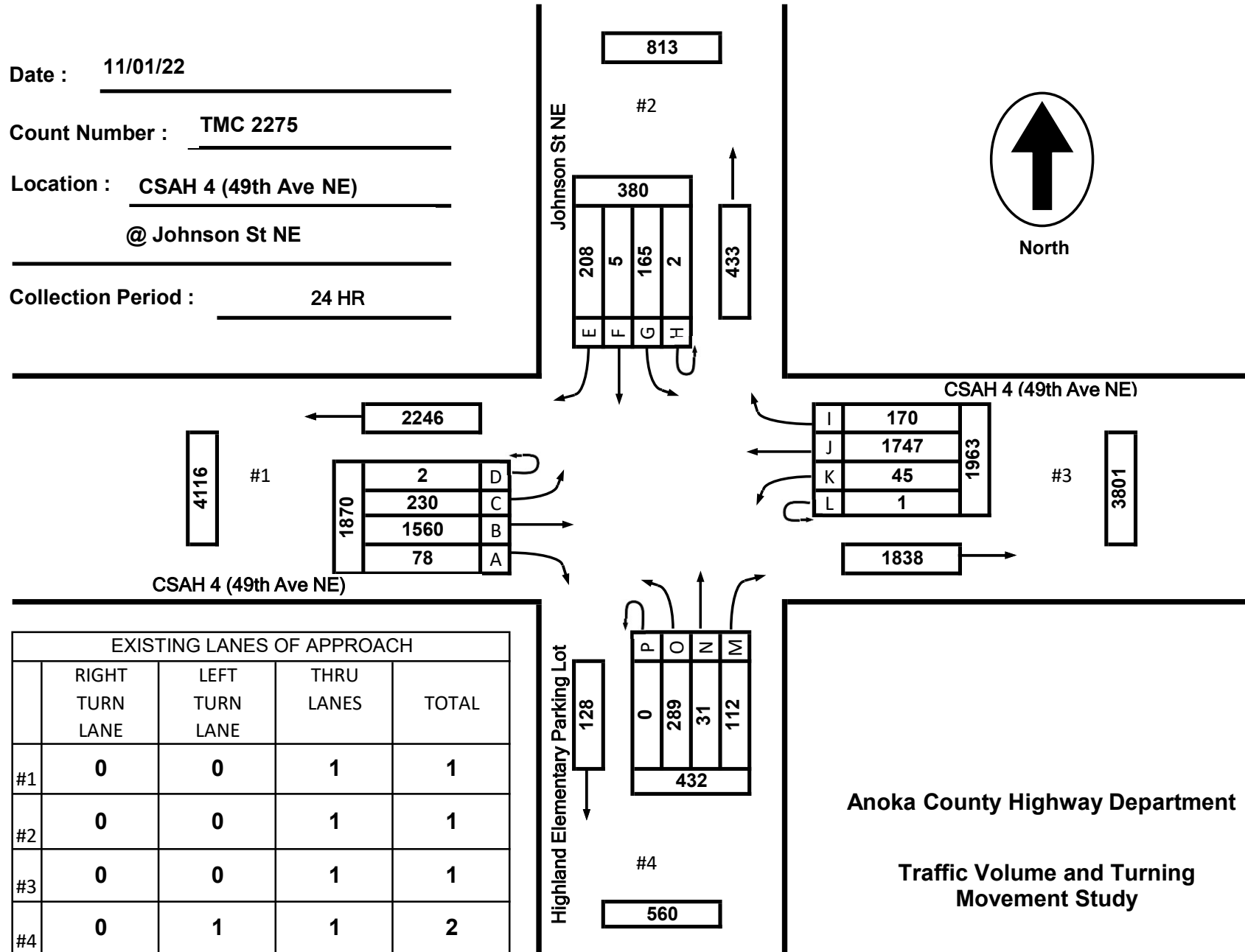


Date : 11/01/22

Count Number : TMC 2275

Location : CSAH 4 (49th Ave NE)
@ Johnson St NE

Collection Period : 24 HR



Anoka County Highway Department

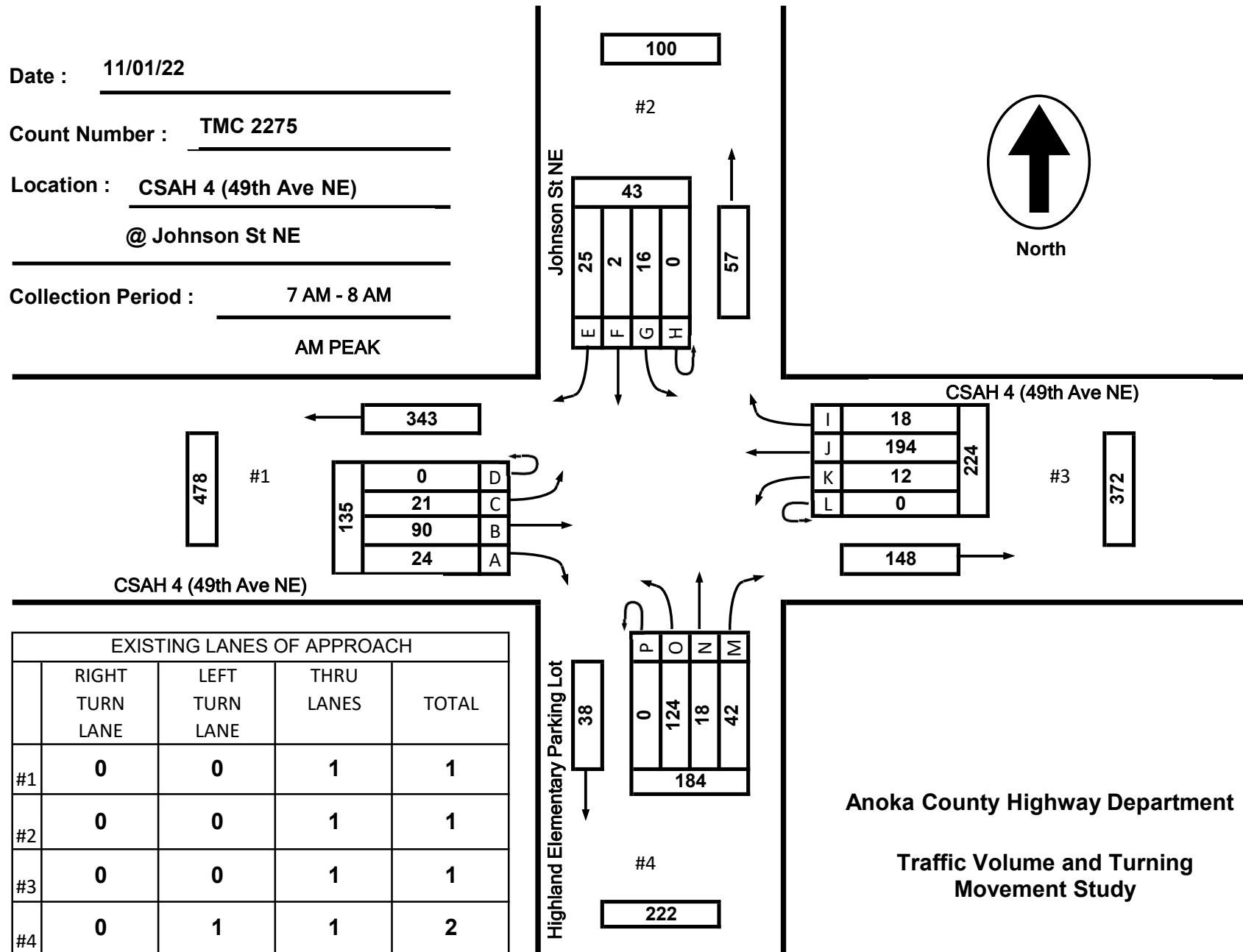
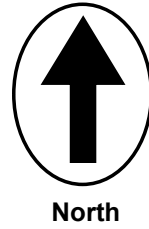
Traffic Volume and Turning Movement Study

Date : 11/01/22

Count Number : TMC 2275

Location : CSAH 4 (49th Ave NE)
@ Johnson St NE

Collection Period : 7 AM - 8 AM
AM PEAK



CSAH 4 (49th Ave NE)

CSAH 4 (49th Ave NE)

Highland Elementary Parking Lot

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

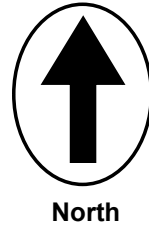
EXISTING LANES OF APPROACH				
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	TOTAL
#1	0	0	1	1
#2	0	0	1	1
#3	0	0	1	1
#4	0	1	1	2

Date : 11/01/22

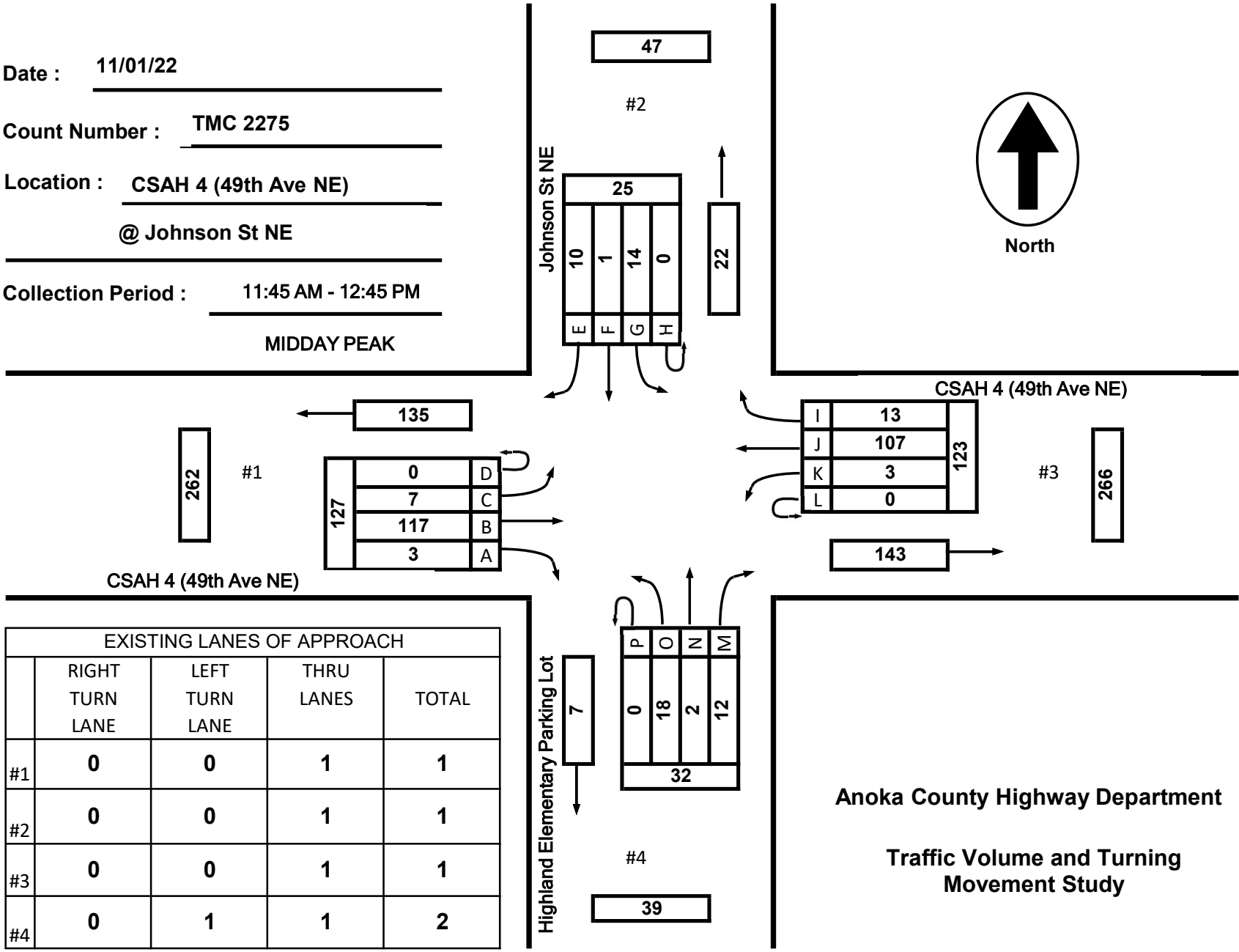
Count Number : TMC 2275

Location : CSAH 4 (49th Ave NE)
@ Johnson St NE

Collection Period : 11:45 AM - 12:45 PM
MIDDAY PEAK



North



CSAH 4 (49th Ave NE)

CSAH 4 (49th Ave NE)

Johnson St NE

Highland Elementary Parking Lot

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

Anoka County Highway Department

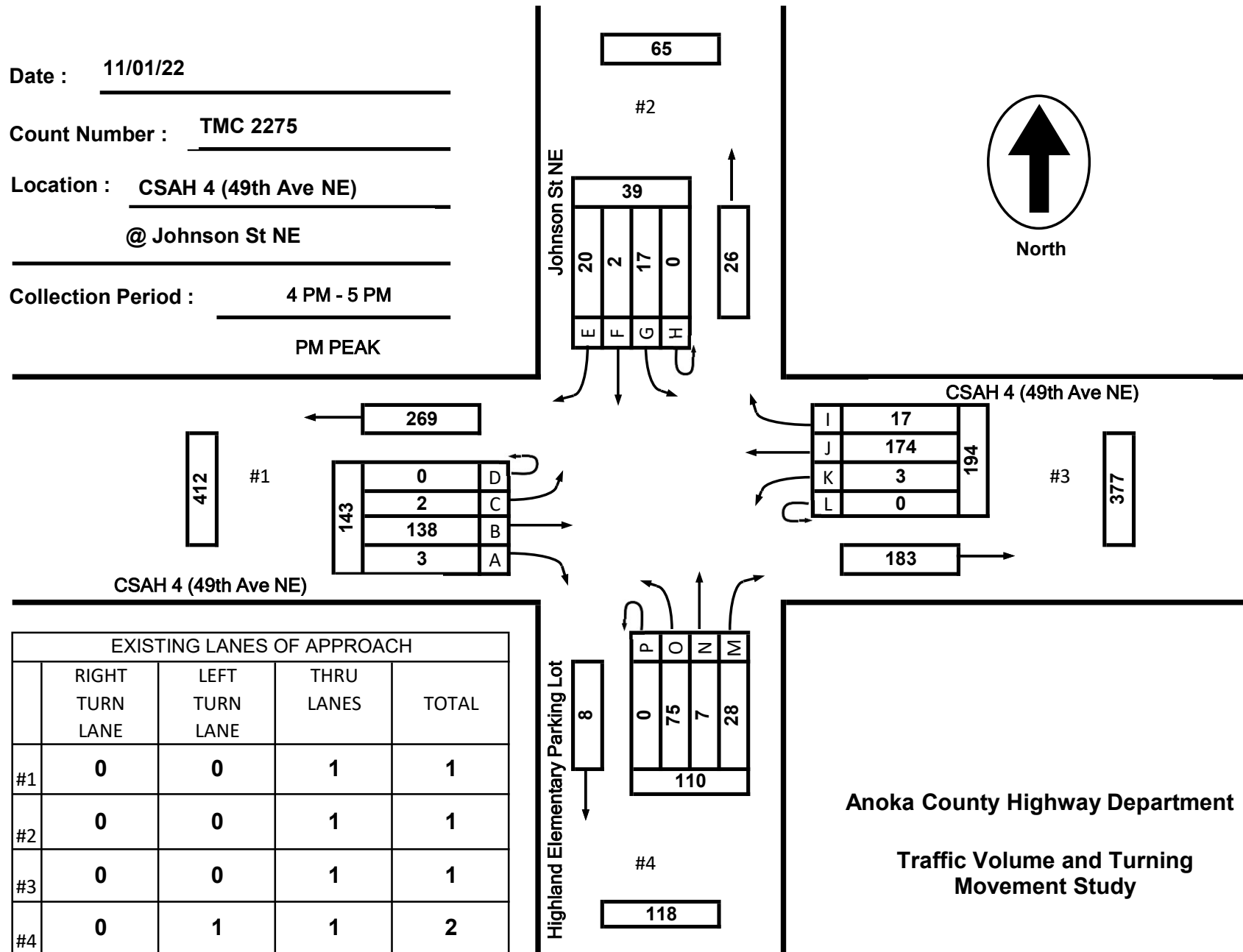
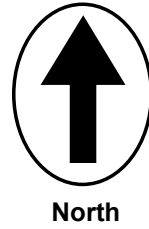
Traffic Volume and Turning Movement Study

Date : 11/01/22

Count Number : TMC 2275

Location : CSAH 4 (49th Ave NE)
@ Johnson St NE

Collection Period : 4 PM - 5 PM
PM PEAK



CSAH 4 (49th Ave NE)

CSAH 4 (49th Ave NE)

Highland Elementary Parking Lot

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

Anoka County Highway Department
 Traffic Volume and Turning Movement Study



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2275-t
 Site Code :
 Start Date : 11/01/2022
 Page No : 1

Weather: Cold & Sunny
 CountCAM 2
 Study Conducted by: Kevin

Groups Printed- Cars + - Trucks

Start Time	Johnson St NE Southbound						CSAH 4 (49th Ave NE) Westbound						Highland Elementary Parking Lot Northbound						CSAH 4 (49th Ave NE) Eastbound						Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total			
00:00	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	1	0	0	1	0	0	2	1	4	5	
00:15	0	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	3	1	0	4	0	7	7	
00:30	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	3	3	
00:45	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	3	0	4	4	
Total	0	0	1	0	0	1	1	6	0	0	7	0	0	0	1	0	0	8	2	0	0	10	1	18	19		
01:00	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	3	3	
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1		
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	2		
01:45	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	1	0	0	1	0	4	4		
Total	0	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	4	1	0	5	0	10	10		
02:00	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	1	0	3	3		
02:15	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		
02:30	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
02:45	1	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Total	1	0	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	0	1	0	0	1	0	6	6		
03:00	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		
03:15	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
03:30	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	1	0	0	1	0	5			
03:45	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1			
Total	0	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	0	0	1	0	0	1	0	9	9		
04:00	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		
04:15	1	0	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	2	0	0	2	0	5			
04:30	0	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	1	0	4			
04:45	2	0	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	0	3	1	0	4	0	9			
Total	3	0	1	0	0	4	0	7	0	0	7	0	0	0	0	0	0	0	6	1	0	7	0	18	18		
05:00	1	0	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	0	1	0	0	1	0	5			
05:15	2	0	0	0	0	2	0	5	0	0	5	0	0	0	0	0	0	0	1	0	0	1	0	8			
05:30	1	0	2	0	0	3	0	8	0	0	8	0	0	0	0	0	0	0	4	0	0	4	0	15			
05:45	1	0	0	0	0	1	0	7	0	0	7	0	0	0	0	0	0	1	2	0	0	3	0	11			
Total	5	0	2	0	0	7	0	23	0	0	23	0	0	0	0	0	0	1	8	0	0	9	0	39	39		



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2275-t
 Site Code :
 Start Date : 11/01/2022
 Page No : 2

Weather: Cold & Sunny
 CountCAM 2
 Study Conducted by: Kevin

Groups Printed- Cars + - Trucks

Start Time	Johnson St NE Southbound						CSAH 4 (49th Ave NE) Westbound						Highland Elementary Parking Lot Northbound						CSAH 4 (49th Ave NE) Eastbound						Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total			
06:00	1	0	0	0	1	1	0	4	0	0	0	4	0	0	0	0	0	0	1	1	1	0	0	3	1	8	9
06:15	2	0	0	0	0	2	0	10	1	0	0	11	2	0	2	0	0	4	3	2	0	0	0	5	0	22	22
06:30	2	0	2	0	0	4	0	10	2	0	0	12	0	0	0	0	0	0	4	17	0	0	0	21	0	37	37
06:45	2	0	0	0	0	2	1	20	5	0	0	26	0	0	0	0	0	0	10	7	0	0	0	17	0	45	45
Total	7	0	2	0	1	9	1	44	8	0	0	53	2	0	2	0	0	4	18	27	1	0	0	46	1	112	113
07:00	5	0	0	0	0	5	0	19	5	0	0	24	1	0	2	0	0	3	9	14	2	0	1	25	1	57	58
07:15	1	0	2	0	0	3	2	34	3	0	1	39	2	2	20	0	1	24	17	21	3	0	1	41	3	107	110
07:30	9	0	5	0	1	14	2	62	0	0	5	64	8	6	39	0	11	53	4	25	6	0	1	35	18	166	184
07:45	12	2	3	0	1	17	4	54	9	0	6	67	23	8	43	0	7	74	2	22	4	0	1	28	15	186	201
Total	27	2	10	0	2	39	8	169	17	0	12	194	34	16	104	0	19	154	32	82	15	0	4	129	37	516	553
08:00	3	0	6	0	0	9	10	44	0	0	0	54	9	2	22	0	3	33	1	22	8	0	0	31	3	127	130
08:15	7	0	5	0	0	12	3	33	0	0	1	36	3	0	9	0	2	12	1	20	10	0	0	31	3	91	94
08:30	0	0	4	0	0	4	1	22	0	0	0	23	1	0	4	0	0	5	1	7	1	0	0	9	0	41	41
08:45	1	0	1	0	0	2	1	15	2	0	0	18	1	0	2	0	0	3	0	19	1	0	0	20	0	43	43
Total	11	0	16	0	0	27	15	114	2	0	1	131	14	2	37	0	5	53	3	68	20	0	0	91	6	302	308
09:00	2	0	4	0	0	6	0	16	0	0	0	16	0	0	0	0	0	0	0	12	2	0	0	14	0	36	36
09:15	4	0	3	0	0	7	1	21	0	0	0	22	1	0	2	0	0	3	1	17	0	0	0	18	0	50	50
09:30	1	0	3	0	1	4	1	20	0	0	1	21	1	0	2	0	0	3	0	17	2	0	1	19	3	47	50
09:45	2	0	0	0	1	2	1	19	0	0	2	20	1	0	0	0	2	1	0	13	2	0	0	15	5	38	43
Total	9	0	10	0	2	19	3	76	0	0	3	79	3	0	4	0	2	7	1	59	6	0	1	66	8	171	179
10:00	1	0	5	2	0	8	1	18	0	0	0	19	0	0	1	0	0	1	2	11	1	0	0	14	0	42	42
10:15	5	0	1	0	0	6	0	22	0	0	0	22	0	0	2	0	0	2	0	13	1	0	0	14	0	44	44
10:30	1	0	2	0	0	3	1	18	1	0	0	20	1	0	1	0	0	2	0	15	2	0	0	17	0	42	42
10:45	3	0	1	0	2	4	6	18	1	0	0	25	0	0	0	0	0	0	1	21	3	0	0	25	2	54	56
Total	10	0	9	2	2	21	8	76	2	0	0	86	1	0	4	0	0	5	3	60	7	0	0	70	2	182	184
11:00	2	0	2	0	1	4	0	21	0	0	0	21	1	0	2	0	0	3	0	21	7	0	0	28	1	56	57
11:15	3	0	2	0	0	5	2	21	0	0	0	23	0	0	1	0	0	1	1	14	3	0	0	18	0	47	47
11:30	0	1	3	0	0	4	2	29	0	0	0	31	3	0	1	0	0	4	0	30	2	0	1	32	1	71	72
11:45	5	0	3	0	0	8	2	31	0	0	0	33	4	0	10	0	0	14	2	37	3	0	0	42	0	97	97
Total	10	1	10	0	1	21	6	102	0	0	0	108	8	0	14	0	0	22	3	102	15	0	1	120	2	271	273
12:00	2	0	5	0	0	7	2	24	1	0	0	27	2	1	6	0	0	9	0	23	1	0	0	24	0	67	67
12:15	3	0	3	0	0	6	7	23	2	0	0	32	1	1	1	0	0	3	1	27	1	0	1	29	1	70	71
12:30	4	0	2	0	0	6	0	31	0	0	0	31	1	0	2	0	2	3	1	20	3	0	0	24	2	64	66



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2275-t
 Site Code :
 Start Date : 11/01/2022
 Page No : 3

Weather: Cold & Sunny
 CountCAM 2
 Study Conducted by: Kevin

Groups Printed- Cars + - Trucks

Start Time	Johnson St NE Southbound						CSAH 4 (49th Ave NE) Westbound						Highland Elementary Parking Lot Northbound						CSAH 4 (49th Ave NE) Eastbound						Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total			
12:45	3	0	4	0	3	7	2	22	1	0	0	25	0	0	2	0	0	2	0	34	4	0	0	38	3	72	75
Total	12	0	14	0	3	26	11	100	4	0	0	115	4	2	11	0	2	17	2	104	9	0	1	115	6	273	279
13:00	0	0	3	0	0	3	2	19	0	0	0	21	0	0	1	0	0	1	1	22	1	0	0	24	0	49	49
13:15	1	0	2	0	0	3	2	21	0	0	0	23	0	0	0	0	1	0	0	18	2	0	0	20	1	46	47
13:30	2	0	0	0	0	2	1	21	1	0	0	23	0	0	4	0	0	4	0	30	1	0	1	31	1	60	61
13:45	3	0	1	0	1	4	4	30	2	0	1	36	0	0	3	0	0	3	0	12	5	0	0	17	2	60	62
Total	6	0	6	0	1	12	9	91	3	0	1	103	0	0	8	0	1	8	1	82	9	0	1	92	4	215	219
14:00	2	0	0	0	1	2	5	31	4	1	13	41	0	0	2	0	13	2	5	37	8	1	1	51	28	96	124
14:15	5	0	5	0	10	10	6	31	2	0	23	39	12	2	38	0	36	52	2	42	7	0	3	51	72	152	224
14:30	5	2	5	0	0	12	3	57	0	0	2	60	4	2	25	0	3	31	0	28	7	0	5	35	10	138	148
14:45	3	0	1	0	1	4	3	48	0	0	10	51	2	0	4	0	10	6	0	30	2	0	0	32	21	93	114
Total	15	2	11	0	12	28	17	167	6	1	48	191	18	4	69	0	62	91	7	137	24	1	9	169	131	479	610
15:00	7	0	6	0	15	13	5	38	1	0	12	44	10	3	8	0	15	21	1	38	4	0	0	43	42	121	163
15:15	7	0	6	0	3	13	6	30	0	0	2	36	3	1	5	0	4	9	1	44	8	0	2	53	11	111	122
15:30	12	0	5	0	1	17	3	37	1	0	4	41	1	1	7	0	5	9	0	40	5	0	1	45	11	112	123
15:45	3	0	3	0	0	6	3	37	0	0	0	40	1	1	1	0	4	3	0	34	6	0	3	40	7	89	96
Total	29	0	20	0	19	49	17	142	2	0	18	161	15	6	21	0	28	42	2	156	23	0	6	181	71	433	504
16:00	5	0	6	0	1	11	8	49	0	0	0	57	1	1	1	0	0	3	1	38	7	0	0	46	1	117	118
16:15	1	0	2	0	10	3	3	22	0	0	7	25	2	0	1	0	10	3	0	33	4	0	1	37	28	68	96
16:30	3	0	1	0	1	4	8	41	0	0	1	49	2	0	0	0	1	2	1	42	5	0	0	48	3	103	106
16:45	4	0	4	0	0	8	6	29	0	0	0	35	0	0	3	0	1	3	0	40	9	0	2	49	3	95	98
Total	13	0	13	0	12	26	25	141	0	0	8	166	5	1	5	0	12	11	2	153	25	0	3	180	35	383	418
17:00	2	0	5	0	3	7	4	43	1	0	3	48	2	0	0	0	1	2	1	49	1	1	0	52	7	109	116
17:15	9	0	3	0	2	12	1	49	0	0	4	50	2	0	4	0	2	6	0	53	3	0	0	56	8	124	132
17:30	3	0	4	0	4	7	3	40	0	0	0	43	0	0	1	0	4	1	0	35	10	0	0	45	8	96	104
17:45	8	0	3	0	8	11	9	36	0	0	1	45	2	0	3	0	1	5	0	32	9	0	1	41	11	102	113
Total	22	0	15	0	17	37	17	168	1	0	8	186	6	0	8	0	8	14	1	169	23	1	1	194	34	431	465
18:00	1	0	2	0	2	3	1	42	0	0	0	43	1	0	0	0	0	1	0	34	5	0	4	39	6	86	92
18:15	4	0	1	0	1	5	1	38	0	0	2	39	0	0	0	0	2	0	0	37	9	0	1	46	6	90	96
18:30	3	0	3	0	0	6	2	28	0	0	2	30	0	0	0	0	3	0	0	27	3	0	0	30	5	66	71
18:45	3	0	3	0	1	6	4	12	0	0	1	16	0	0	0	0	0	0	0	20	4	0	0	24	2	46	48
Total	11	0	9	0	4	20	8	120	0	0	5	128	1	0	0	0	5	1	0	118	21	0	5	139	19	288	307



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2275-t
 Site Code :
 Start Date : 11/01/2022
 Page No : 4

Weather: Cold & Sunny
 CountCAM 2
 Study Conducted by: Kevin

Groups Printed- Cars + - Trucks

Start Time	Johnson St NE Southbound						CSAH 4 (49th Ave NE) Westbound						Highland Elementary Parking Lot Northbound						CSAH 4 (49th Ave NE) Eastbound						Exclu. Total	Inclu. Total	Int. Total	
	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total				
19:00	2	0	2	0	0	4	3	26	0	0	0	29	0	0	0	0	0	0	0	14	2	0	0	16	0	49	49	
19:15	1	0	0	0	0	1	2	12	0	0	0	14	0	0	0	0	0	0	0	16	3	0	0	19	0	34	34	
19:30	2	0	0	0	2	2	3	13	0	0	0	16	0	0	0	0	0	0	0	21	1	0	0	22	2	40	42	
19:45	2	0	0	0	0	2	2	17	0	0	0	19	0	0	0	0	0	0	0	21	4	0	0	25	0	46	46	
Total	7	0	2	0	2	9	10	68	0	0	0	78	0	0	0	0	0	0	0	72	10	0	0	82	2	169	171	
20:00	1	0	3	0	0	4	2	9	0	0	0	11	0	0	0	0	0	0	0	18	5	0	0	23	0	38	38	
20:15	1	0	0	0	0	1	0	11	0	0	0	11	0	0	0	0	0	0	0	12	1	0	0	13	0	25	25	
20:30	2	0	2	0	0	4	1	14	0	0	0	15	0	0	0	0	0	0	0	12	1	0	0	13	0	32	32	
20:45	0	0	3	0	0	3	2	10	0	0	0	12	0	0	0	0	0	0	1	15	1	0	0	17	0	32	32	
Total	4	0	8	0	0	12	5	44	0	0	0	49	0	0	0	0	0	0	1	57	8	0	0	66	0	127	127	
21:00	0	0	0	0	0	0	1	4	0	0	0	5	0	0	0	0	0	0	1	10	1	0	0	12	0	17	17	
21:15	1	0	0	0	0	1	2	7	0	0	0	9	0	0	2	0	0	2	0	9	0	0	0	9	0	21	21	
21:30	0	0	0	0	0	0	2	7	0	0	0	9	0	0	0	0	0	0	0	8	2	0	0	10	0	19	19	
21:45	2	0	2	0	0	4	0	8	0	0	0	8	1	0	0	0	1	1	0	11	2	0	0	13	1	26	27	
Total	3	0	2	0	0	5	5	26	0	0	0	31	1	0	2	0	1	3	1	38	5	0	0	44	1	83	84	
22:00	0	0	1	0	0	1	1	8	0	0	0	9	0	0	0	0	0	0	0	12	0	0	0	12	0	22	22	
22:15	1	0	0	0	0	1	1	14	0	0	0	15	0	0	0	0	0	0	0	2	2	0	0	4	0	20	20	
22:30	1	0	0	0	0	1	0	3	0	0	0	3	0	0	0	0	0	0	0	15	1	0	0	16	0	20	20	
22:45	0	0	2	0	0	2	0	4	0	0	0	4	0	0	0	0	0	0	0	4	1	0	0	5	0	11	11	
Total	2	0	3	0	0	5	2	29	0	0	0	31	0	0	0	0	0	0	0	33	4	0	0	37	0	73	73	
23:00	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	7	1	0	0	8	0	12	12	
23:15	0	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	0	0	0	4	0	0	0	4	0	12	12	
23:30	1	0	0	0	0	1	1	2	0	0	0	3	0	0	0	0	0	0	0	4	0	0	0	4	0	8	8	
23:45	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	1	5	6
Total	1	0	0	0	0	1	1	19	0	0	0	20	0	0	0	0	1	0	0	15	1	0	0	16	1	37	38	
Grand Total	208	5	165	2	78	380	170	1747	45	1	104	1963	112	31	289	0	147	432	78	1560	230	2	32	1870	361	4645	5006	
Apprch %	54.7	1.3	43.4	0.5			8.7	89	2.3	0.1		42.3	25.9	7.2	66.9	0		0	4.2	83.4	12.3	0.1						
Total %	4.5	0.1	3.6	0		8.2	3.7	37.6	1	0		42.3	2.4	0.7	6.2	0		9.3	1.7	33.6	5	0		40.3	7.2	92.8		
Cars +	202	2	160	0		442	167	1715	36	1		2023	103	25	267	0		542	59	1527	227	2		1847	0	0	4854	
% Cars +	97.1	40	97	0	100	96.5	98.2	98.2	80	100	100	97.9	92	80.6	92.4	0	100	93.6	75.6	97.9	98.7	100	100	97.1	0	0	97	
Trucks	6	3	5	2		16	3	32	9	0		44	9	6	22	0		37	19	33	3	0		55	0	0	152	
% Trucks	2.9	60	3	100	0	3.5	1.8	1.8	20	0	0	2.1	8	19.4	7.6	0	0	6.4	24.4	2.1	1.3	0	0	2.9	0	0	3	



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2275-t
 Site Code :
 Start Date : 11/01/2022
 Page No : 5

Weather: Cold & Sunny
 CountCAM 2
 Study Conducted by: Kevin

Start Time	Johnson St NE Southbound					CSAH 4 (49th Ave NE) Westbound					Highland Elementary Parking Lot Northbound					CSAH 4 (49th Ave NE) Eastbound					Int. Total
	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	
Peak Hour Analysis From 00:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	1	0	2	0	3	2	34	3	0	39	2	2	20	0	24	17	21	3	0	41	107
07:30	9	0	5	0	14	2	62	0	0	64	8	6	39	0	53	4	25	6	0	35	166
07:45	12	2	3	0	17	4	54	9	0	67	23	8	43	0	74	2	22	4	0	28	186
08:00	3	0	6	0	9	10	44	0	0	54	9	2	22	0	33	1	22	8	0	31	127
Total Volume	25	2	16	0	43	18	194	12	0	224	42	18	124	0	184	24	90	21	0	135	586
% App. Total	58.1	4.7	37.2	0		8	86.6	5.4	0		22.8	9.8	67.4	0		17.8	66.7	15.6	0		
PHF	.521	.250	.667	.000	.632	.450	.782	.333	.000	.836	.457	.563	.721	.000	.622	.353	.900	.656	.000	.823	.788

Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30																					
11:30	0	1	3	0	4	2	29	0	0	31	3	0	1	0	4	0	30	2	0	32	71
11:45	5	0	3	0	8	2	31	0	0	33	4	0	10	0	14	2	37	3	0	42	97
12:00	2	0	5	0	7	2	24	1	0	27	2	1	6	0	9	0	23	1	0	24	67
12:15	3	0	3	0	6	7	23	2	0	32	1	1	1	0	3	1	27	1	0	29	70
Total Volume	10	1	14	0	25	13	107	3	0	123	10	2	18	0	30	3	117	7	0	127	305
% App. Total	40	4	56	0		10.6	87	2.4	0		33.3	6.7	60	0		2.4	92.1	5.5	0		
PHF	.500	.250	.700	.000	.781	.464	.863	.375	.000	.932	.625	.500	.450	.000	.536	.375	.791	.583	.000	.756	.786

Peak Hour Analysis From 14:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:15																					
14:15	5	0	5	0	10	6	31	2	0	39	12	2	38	0	52	2	42	7	0	51	152
14:30	5	2	5	0	12	3	57	0	0	60	4	2	25	0	31	0	28	7	0	35	138
14:45	3	0	1	0	4	3	48	0	0	51	2	0	4	0	6	0	30	2	0	32	93
15:00	7	0	6	0	13	5	38	1	0	44	10	3	8	0	21	1	38	4	0	43	121
Total Volume	20	2	17	0	39	17	174	3	0	194	28	7	75	0	110	3	138	20	0	161	504
% App. Total	51.3	5.1	43.6	0		8.8	89.7	1.5	0		25.5	6.4	68.2	0		1.9	85.7	12.4	0		
PHF	.714	.250	.708	.000	.750	.708	.763	.375	.000	.808	.583	.583	.493	.000	.529	.375	.821	.714	.000	.789	.829



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2275-t
 Site Code :
 Start Date : 11/01/2022
 Page No : 1

Weather: Cold & Sunny
 CountCAM 2
 Study Conducted by: Kevin

Groups Printed- Trucks

Start Time	Johnson St NE Southbound					CSAH 4 (49th Ave NE) Westbound					Highland Elementary Parking Lot Northbound					CSAH 4 (49th Ave NE) Eastbound					Int. Total	
	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total		
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	2	3
06:45	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	0	3	5
07:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
07:15	0	0	0	0	0	0	0	1	0	1	0	0	6	0	6	9	1	0	0	0	10	17
07:30	0	0	0	0	0	0	2	0	0	2	1	4	0	0	5	1	0	0	0	0	1	8
07:45	0	1	0	0	1	0	2	0	0	2	1	1	0	0	2	2	3	0	0	0	5	10
Total	0	1	0	0	1	0	7	1	0	8	2	5	6	0	13	12	4	0	0	0	16	38
08:00	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	1	3	0	0	0	4	7
08:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	4
08:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
08:45	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2
Total	1	0	0	0	1	0	3	0	0	3	0	1	1	0	2	1	7	0	0	0	8	14



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC 2275-t
 Site Code :
 Start Date : 11/01/2022
 Page No : 3

Weather: Cold & Sunny
 CountCAM 2
 Study Conducted by: Kevin

Groups Printed- Trucks

Start Time	Johnson St NE Southbound					CSAH 4 (49th Ave NE) Westbound					Highland Elementary Parking Lot Northbound					CSAH 4 (49th Ave NE) Eastbound					Int. Total
	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:30	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	6	3	5	2	16	3	32	9	0	44	9	6	22	0	37	19	33	3	0	55	152
Apprch %	37.5	18.8	31.2	12.5		6.8	72.7	20.5	0		24.3	16.2	59.5	0		34.5	60	5.5	0		
Total %	3.9	2	3.3	1.3	10.5	2	21.1	5.9	0	28.9	5.9	3.9	14.5	0	24.3	12.5	21.7	2	0	36.2	

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/01/2022

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 4 (49th Ave NE)

Number of Lanes : 1

Total Approach Volume: 1,870

Westbound: CSAH 4 (49th Ave NE)

Number of Lanes : 1

Total Approach Volume: 1,963

Minor Street Approaches

Northbound: Highland Elementary Parking Lot

Number of Lanes : 1

Total Approach Volume: 432

Southbound: Johnson St NE

Number of Lanes : 1

Total Approach Volume: 380

Warrant Summary (Urban 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:

Study Date : 11/01/2022

Warrant 1A - Minimum Volumes

Description

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

Summary

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

Site Data Required

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

Volume Requirements

Veh/Hr Major = **500**

Veh/Hr Minor = **150**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
	CSAH 4 (49th Ave NE)					Highland Elementary Parking Lot		
16:30 - 17:30	205	+	182	=	387	13	31	No
17:00 - 18:00	194	+	186	=	380	14	37	No
16:45 - 17:45	202	+	176	=	378	12	34	No
17:15 - 18:15	181	+	181	=	362	13	33	No
14:00 - 15:00	169	+	191	=	360	91	28	No
07:15 - 08:15	135	+	224	=	359	184	43	No
15:15 - 16:15	184	+	174	=	358	24	47	No
14:15 - 15:15	161	+	194	=	355	110	39	No
14:30 - 15:30	163	+	191	=	354	67	42	No
16:00 - 17:00	180	+	166	=	346	11	26	No
07:30 - 08:30	125	+	221	=	346	172	52	No
14:45 - 15:45	173	+	172	=	345	45	47	No
16:15 - 17:15	186	+	157	=	343	10	22	No
15:00 - 16:00	181	+	161	=	342	42	49	No
15:45 - 16:45	171	+	171	=	342	11	24	No
17:30 - 18:30	171	+	170	=	341	7	26	No
15:30 - 16:30	168	+	163	=	331	18	37	No
13:45 - 14:45	154	+	176	=	330	88	28	No
07:00 - 08:00	129	+	194	=	323	154	39	No
17:45 - 18:45	156	+	157	=	313	6	25	No
13:30 - 14:30	150	+	139	=	289	61	18	No
07:45 - 08:45	99	+	180	=	279	124	42	No
06:45 - 07:45	118	+	153	=	271	80	24	No
18:00 - 19:00	139	+	128	=	267	1	20	No
11:30 - 12:30	127		123		250	30	25	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/01/2022

Warrant 1B - Interruption of Continuous Traffic

Description

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

Summary

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

Site Data Required

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

Volume Requirements

Veh/Hr Major = **750**

Veh/Hr Minor = **75**

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
	CSAH 4 (49th Ave NE)					Highland Elementary Parking Lot		
16:30 - 17:30	205	+	182	=	387	13	31	No
17:00 - 18:00	194	+	186	=	380	14	37	No
16:45 - 17:45	202	+	176	=	378	12	34	No
17:15 - 18:15	181	+	181	=	362	13	33	No
14:00 - 15:00	169	+	191	=	360	91	28	No
07:15 - 08:15	135	+	224	=	359	184	43	No
15:15 - 16:15	184	+	174	=	358	24	47	No
14:15 - 15:15	161	+	194	=	355	110	39	No
14:30 - 15:30	163	+	191	=	354	67	42	No
16:00 - 17:00	180	+	166	=	346	11	26	No
07:30 - 08:30	125	+	221	=	346	172	52	No
14:45 - 15:45	173	+	172	=	345	45	47	No
16:15 - 17:15	186	+	157	=	343	10	22	No
15:00 - 16:00	181	+	161	=	342	42	49	No
15:45 - 16:45	171	+	171	=	342	11	24	No
17:30 - 18:30	171	+	170	=	341	7	26	No
15:30 - 16:30	168	+	163	=	331	18	37	No
13:45 - 14:45	154	+	176	=	330	88	28	No
07:00 - 08:00	129	+	194	=	323	154	39	No
17:45 - 18:45	156	+	157	=	313	6	25	No
13:30 - 14:30	150	+	139	=	289	61	18	No
07:45 - 08:45	99	+	180	=	279	124	42	No
06:45 - 07:45	118	+	153	=	271	80	24	No
18:00 - 19:00	139	+	128	=	267	1	20	No
11:30 - 12:30	127		123		250	30	25	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/01/2022

Warrant 1C Combination of Warrants

Description

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

Summary

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

Site Data Required

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

Volume Requirements

Warrant 1A 1B
Veh/Hr Major = **400 600**

Veh/Hr Minor = **120 60**

Major Road CSAH 4 (49th Ave NE)

Minor Road Highland Elementary Parking Lot

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:30 - 17:30	205	+	182	=	387	13	31	No
17:00 - 18:00	194	+	186	=	380	14	37	No
16:45 - 17:45	202	+	176	=	378	12	34	No
17:15 - 18:15	181	+	181	=	362	13	33	No
14:00 - 15:00	169	+	191	=	360	91	28	No
07:15 - 08:15	135	+	224	=	359	184	43	No
15:15 - 16:15	184	+	174	=	358	24	47	No
14:15 - 15:15	161	+	194	=	355	110	39	No
14:30 - 15:30	163	+	191	=	354	67	42	No
07:30 - 08:30	125	+	221	=	346	172	52	No
16:00 - 17:00	180	+	166	=	346	11	26	No
14:45 - 15:45	173	+	172	=	345	45	47	No

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:30 - 17:30	205	+	182	=	387	13	31	No
17:00 - 18:00	194	+	186	=	380	14	37	No
16:45 - 17:45	202	+	176	=	378	12	34	No
17:15 - 18:15	181	+	181	=	362	13	33	No
14:00 - 15:00	169	+	191	=	360	91	28	No
07:15 - 08:15	135	+	224	=	359	184	43	No
15:15 - 16:15	184	+	174	=	358	24	47	No
14:15 - 15:15	161	+	194	=	355	110	39	No
14:30 - 15:30	163	+	191	=	354	67	42	No
07:30 - 08:30	125	+	221	=	346	172	52	No
16:00 - 17:00	180	+	166	=	346	11	26	No
14:45 - 15:45	173	+	172	=	345	45	47	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/01/2022

Warrant 2 - Four Hour Volumes

Description

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

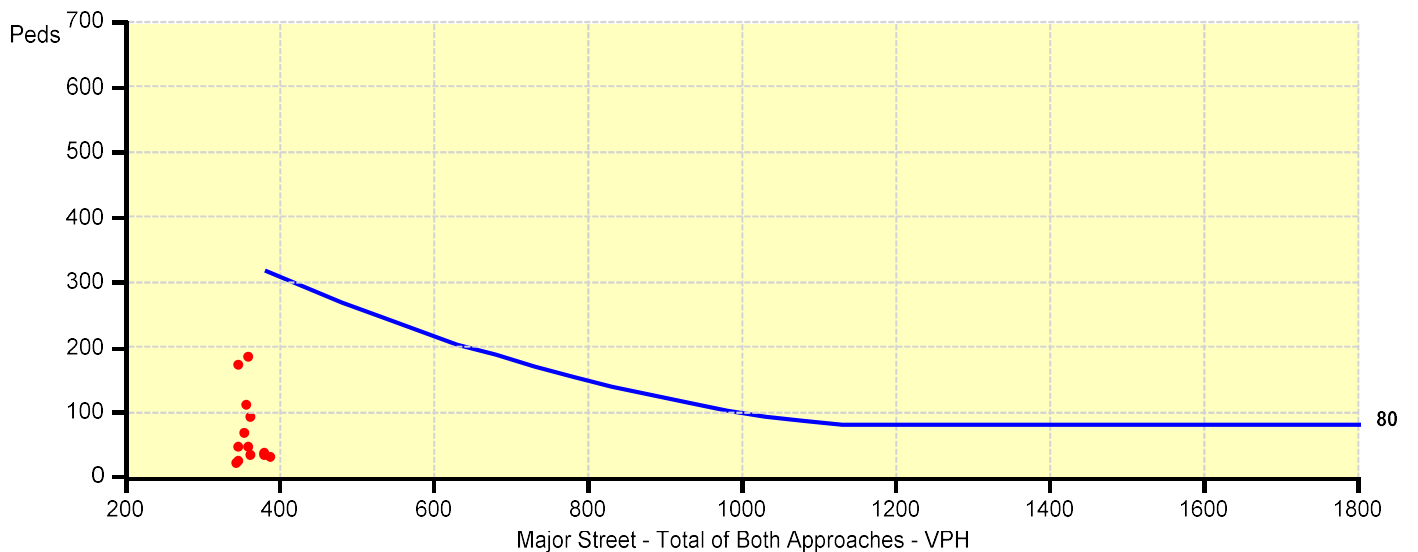
Summary

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

Site Data Required

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

Time	Major Road				Total	Minor Road		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
	CSAH 4 (49th Ave NE)					Highland Elementary Parking Lot		
16:30 - 17:30	205	+	182	=	387	13	31	No
17:00 - 18:00	194	+	186	=	380	14	37	No
16:45 - 17:45	202	+	176	=	378	12	34	No
17:15 - 18:15	181	+	181	=	362	13	33	No
14:00 - 15:00	169	+	191	=	360	91	28	No
07:15 - 08:15	135	+	224	=	359	184	43	No
15:15 - 16:15	184	+	174	=	358	24	47	No
14:15 - 15:15	161	+	194	=	355	110	39	No
14:30 - 15:30	163	+	191	=	354	67	42	No
16:00 - 17:00	180	+	166	=	346	11	26	No
07:30 - 08:30	125	+	221	=	346	172	52	No
14:45 - 15:45	173		172		345	45	47	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name:

Study Date : 11/01/2022

Warrant 3B - Peak Hour Volumes

Description

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

Summary

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

Site Data Required

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

Time	Major Road CSAH 4 (49th Ave NE)				Total	Minor Road Highland Elementary Parking Lot		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:30 - 17:30	205	+	182	=	387	13	31	No
17:00 - 18:00	194	+	186	=	380	14	37	No
16:45 - 17:45	202	+	176	=	378	12	34	No
17:15 - 18:15	181	+	181	=	362	13	33	No
14:00 - 15:00	169	+	191	=	360	91	28	No
07:15 - 08:15	135	+	224	=	359	184	43	No
15:15 - 16:15	184	+	174	=	358	24	47	No
14:15 - 15:15	161	+	194	=	355	110	39	No
14:30 - 15:30	163	+	191	=	354	67	42	No
16:00 - 17:00	180	+	166	=	346	11	26	No
07:30 - 08:30	125	+	221	=	346	172	52	No
14:45 - 15:45	173	+	172	=	345	45	47	No

