

Date: 02/06/24

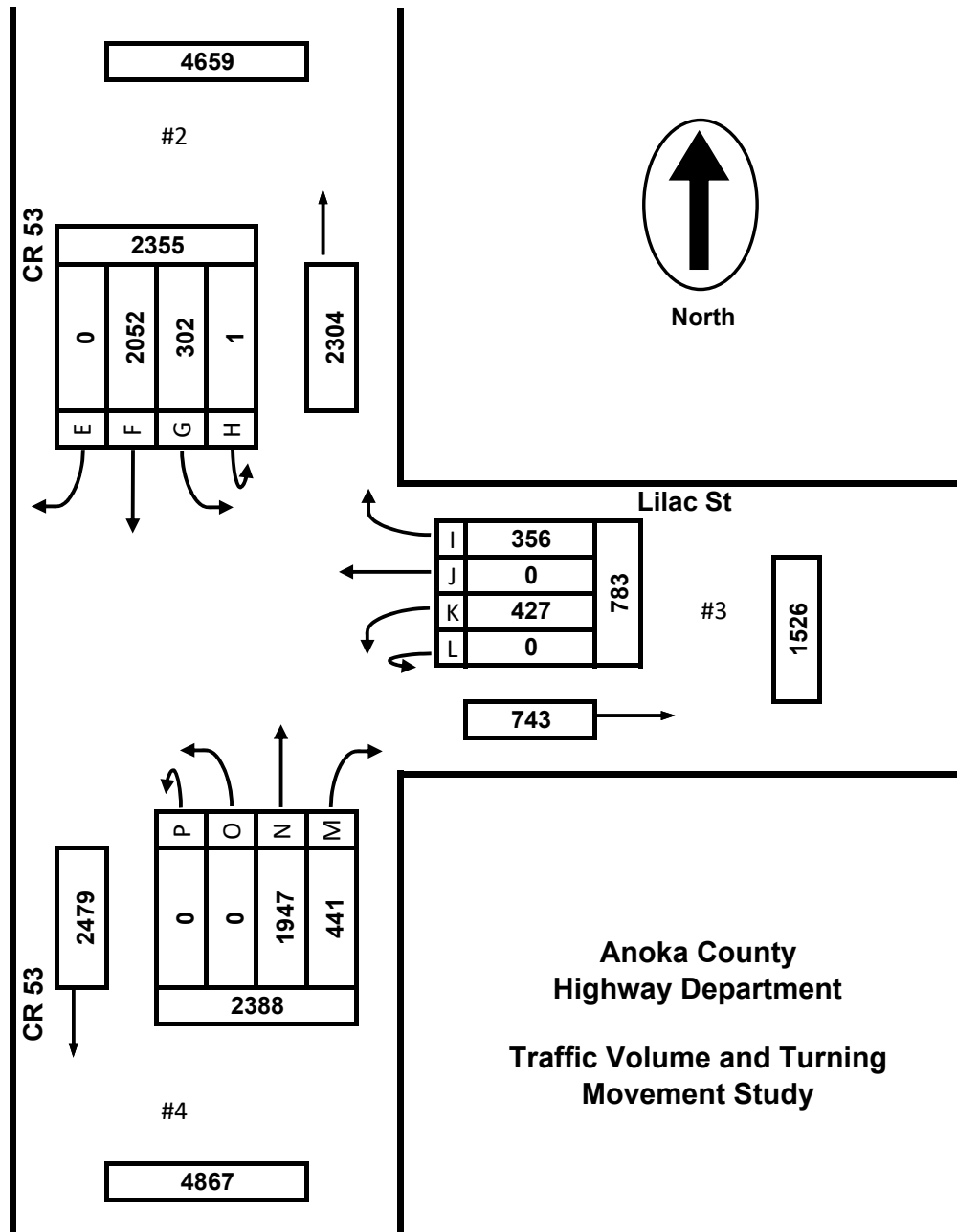
Count Number: TMC 2447

Location: CR 53

@ Lilac St

Collection Period: 24 HR

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



Anoka County
Highway Department
Traffic Volume and Turning
Movement Study

Date: 02/06/24

Count Number: TMC 2447

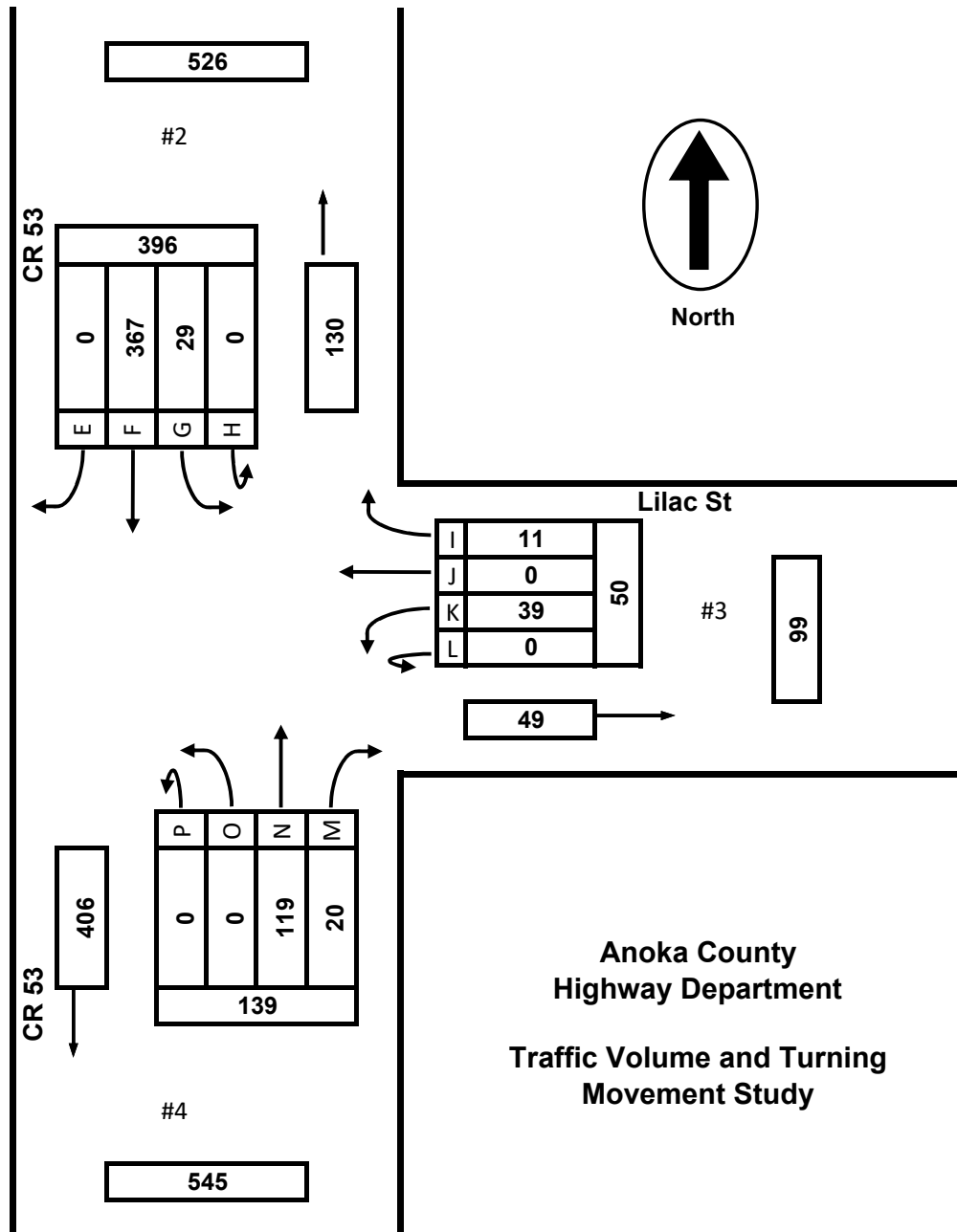
Location: CR 53

@ Lilac St

Collection Period: 24 HR

Peak Hour: 7:15 - 8:15 AM

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



Anoka County
Highway Department
Traffic Volume and Turning
Movement Study

Date: 02/06/24

Count Number: TMC 2447

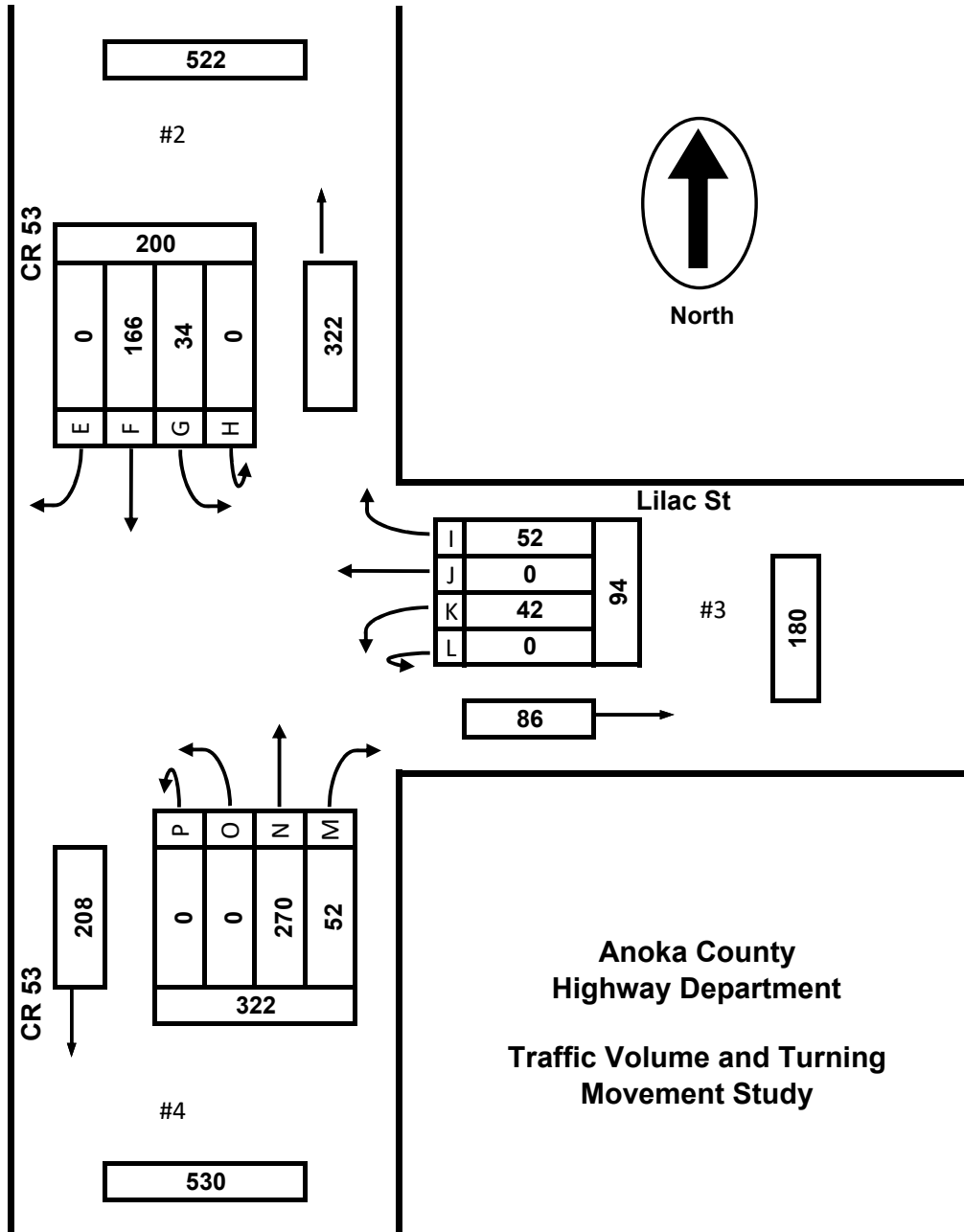
Location: CR 53

@ Lilac St

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	0	1	0	1
#4	1	0	1	2



Anoka County
Highway Department
Traffic Volume and Turning
Movement Study

**TMC 2447 - CR 53 @ Lilac St
Lino Lakes MN
Tuesday, February 6, 2024**

Time	Southbound CR 53						Westbound Lilac St						Northbound CR 53						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	
12:00 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	4
12:15 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	5
12:30 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 AM	0	0	1	0	0	1	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	3
Hourly Total	0	0	6	0	0	6	0	0	0	1	0	1	0	0	4	3	0	7	0	0	0	0	0	0	14
1:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	2
1:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	2
1:30 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2
Hourly Total	0	0	1	0	0	1	0	1	0	2	0	3	0	0	2	1	0	3	0	0	0	0	0	0	7
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
2:15 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2:30 AM	0	0	2	0	0	2	0	1	0	1	0	2	0	0	1	0	0	1	0	0	0	0	0	0	5
2:45 AM	0	1	1	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
Hourly Total	0	1	6	0	0	7	0	1	0	1	0	2	0	0	3	0	0	3	0	0	0	0	0	0	12
3:00 AM	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
3:15 AM	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
3:30 AM	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:45 AM	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
Hourly Total	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:00 AM	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:15 AM	0	1	3	0	0	4	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	6
4:30 AM	0	0	3	0	0	3	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	6
4:45 AM	0	4	3	0	0	7	0	3	0	0	0	3	0	0	1	0	0	1	0	0	0	0	0	0	11
Hourly Total	0	5	12	0	0	17	0	6	0	0	0	6	0	0	2	1	0	3	0	0	0	0	0	0	26
5:00 AM	0	1	5	0	0	6	0	2	0	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	9
5:15 AM	0	5	8	0	0	13	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	19
5:30 AM	0	1	11	0	0	12	0	3	0	0	0	3	0	0	2	1	0	3	0	0	0	0	0	0	18
5:45 AM	0	6	24	0	0	30	0	3	0	0	0	3	0	0	1	2	0	3	0	0	0	0	0	0	36
Hourly Total	0	13	48	0	0	61	0	8	0	0	0	8	0	0	9	4	0	13	0	0	0	0	0	0	82
6:00 AM	0	6	15	0	0	21	0	5	0	1	0	6	0	0	8	1	0	9	0	0	0	0	0	0	36
6:15 AM	0	6	17	0	0	23	0	4	0	3	0	7	0	0	4	1	0	5	0	0	0	0	0	0	35
6:30 AM	0	5	30	0	0	35	0	8	0	2	0	10	0	0	11	3	0	14	0	0	0	0	0	0	59
6:45 AM	0	8	39	0	0	47	0	11	0	4	0	15	0	0	13	1	0	14	0	0	0	0	0	0	76
Hourly Total	0	25	101	0	0	126	0	28	0	10	0	38	0	0	36	6	0	42	0	0	0	0	0	0	206
7:00 AM	0	4	52	0	0	56	0	4	0	3	0	7	0	0	19	5	0	24	0	0	0	0	0	0	87
7:15 AM	0	6	74	0	0	80	0	9	0	2	0	11	0	0	20	3	2	23	0	0	0	0	0	0	114
7:30 AM	0	6	138	0	0	144	0	9	0	2	0	11	0	0	18	2	0	20	0	0	0	0	0	0	175
7:45 AM	0	11	124	0	0	135	0	11	0	4	0	15	0	0	37	5	0	42	0	0	0	0	0	0	192
Hourly Total	0	27	388	0	0	415	0	33	0	11	0	44	0	0	94	15	2	109	0	0	0	0	0	0	568

**TMC 2447 - CR 53 @ Lilac St
Lino Lakes MN
Tuesday, February 6, 2024**

Time	Southbound CR 53						Westbound Lilac St						Northbound CR 53						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	6	31	0	0	37	0	10	0	3	0	13	0	0	44	10	0	54	0	0	0	0	0	0	104
8:15 AM	0	5	33	0	0	38	0	6	0	5	0	11	0	0	20	1	0	21	0	0	0	0	0	0	70
8:30 AM	0	1	29	0	0	30	0	10	0	6	0	16	0	0	15	2	0	17	0	0	0	0	0	0	63
8:45 AM	0	3	81	0	0	84	0	6	0	2	0	8	0	0	12	4	0	16	0	0	0	0	0	0	108
Hourly Total	0	15	174	0	0	189	0	32	0	16	0	48	0	0	91	17	0	108	0	0	0	0	0	0	345
9:00 AM	0	5	47	0	0	52	0	6	0	2	0	8	0	0	41	4	0	45	0	0	0	0	0	0	105
9:15 AM	0	4	22	0	0	26	0	9	0	2	0	11	0	0	28	3	0	31	0	0	0	0	0	0	68
9:30 AM	0	2	30	0	0	32	0	6	0	4	0	10	0	0	23	7	0	30	0	0	0	0	0	0	72
9:45 AM	0	3	24	0	0	27	0	5	0	3	0	8	0	0	9	4	0	13	0	0	0	0	0	0	48
Hourly Total	0	14	123	0	0	137	0	26	0	11	0	37	0	0	101	18	0	119	0	0	0	0	0	0	293
10:00 AM	0	4	15	0	0	19	0	6	0	4	0	10	0	0	16	7	0	23	0	0	0	0	0	0	52
10:15 AM	0	1	15	0	0	16	0	7	0	1	0	8	0	0	13	5	0	18	0	0	0	0	0	0	42
10:30 AM	0	3	7	0	0	10	0	7	0	4	0	11	0	0	16	3	2	19	0	0	0	0	0	0	40
10:45 AM	0	2	16	0	0	18	0	6	0	5	0	11	0	0	21	6	0	27	0	0	0	0	0	0	56
Hourly Total	0	10	53	0	0	63	0	26	0	14	0	40	0	0	66	21	2	87	0	0	0	0	0	0	190
11:00 AM	0	3	18	0	0	21	0	5	0	5	0	10	0	0	16	8	0	24	0	0	0	0	0	0	55
11:15 AM	0	4	15	0	0	19	0	7	0	5	0	12	0	0	15	7	0	22	0	0	0	0	0	0	53
11:30 AM	0	4	24	0	0	28	0	8	0	7	0	15	0	0	26	6	0	32	0	0	0	0	0	0	75
11:45 AM	0	2	19	0	0	21	0	4	0	2	0	6	0	0	26	4	0	30	0	0	0	0	0	0	57
Hourly Total	0	13	76	0	0	89	0	24	0	19	0	43	0	0	83	25	0	108	0	0	0	0	0	0	240
12:00 PM	0	4	18	0	0	22	0	7	0	3	0	10	0	0	18	5	0	23	0	0	0	0	0	0	55
12:15 PM	0	5	17	0	0	22	0	6	0	2	0	8	0	0	21	8	0	29	0	0	0	0	0	0	59
12:30 PM	1	3	14	0	0	18	0	1	0	4	0	5	0	0	21	6	0	27	0	0	0	0	0	0	50
12:45 PM	0	5	22	0	0	27	0	2	0	6	0	8	0	0	18	7	0	25	0	0	0	0	0	0	60
Hourly Total	1	17	71	0	0	89	0	16	0	15	0	31	0	0	78	26	0	104	0	0	0	0	0	0	224
1:00 PM	0	3	20	0	0	23	0	0	0	8	0	8	0	0	19	6	0	25	0	0	0	0	0	0	56
1:15 PM	0	1	21	0	0	22	0	5	0	5	0	10	0	0	18	1	0	19	0	0	0	0	0	0	51
1:30 PM	0	5	21	0	0	26	0	10	0	2	0	12	0	0	27	6	0	33	0	0	0	0	0	0	71
1:45 PM	0	6	22	0	0	28	0	5	0	2	0	7	0	0	26	3	0	29	0	0	0	0	0	0	64
Hourly Total	0	15	84	0	0	99	0	20	0	17	0	37	0	0	90	16	0	106	0	0	0	0	0	0	242
2:00 PM	0	3	28	0	0	31	0	9	0	8	0	17	0	0	30	5	0	35	0	0	0	0	0	0	83
2:15 PM	0	5	20	0	0	25	0	6	0	5	0	11	0	0	22	10	0	32	0	0	0	0	0	0	68
2:30 PM	0	5	31	0	0	36	0	3	0	6	0	9	0	0	27	9	0	36	0	0	0	0	0	0	81
2:45 PM	0	1	30	0	0	31	0	8	0	6	0	14	0	0	47	7	0	54	0	0	0	0	0	0	99
Hourly Total	0	14	109	0	0	123	0	26	0	25	0	51	0	0	126	31	0	157	0	0	0	0	0	0	331
3:00 PM	0	3	33	0	0	36	0	5	0	15	0	20	0	0	72	12	0	84	0	0	0	0	0	0	140
3:15 PM	0	7	47	0	0	54	0	5	0	10	0	15	0	0	31	14	0	45	0	0	0	0	0	0	114
3:30 PM	0	1	56	0	0	57	0	14	0	10	0	24	0	0	40	5	0	45	0	0	0	0	0	0	126
3:45 PM	0	10	29	0	0	39	0	12	0	13	0	25	0	0	76	19	0	95	0	0	0	0	0	0	159
Hourly Total	0	21	165	0	0	186	0	36	0	48	0	84	0	0	219	50	0	269	0	0	0	0	0	0	539

TMC 2447 - CR 53 @ Lilac St
Lino Lakes MN

Tuesday, February 6, 2024

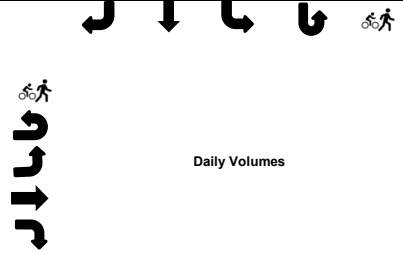
AM Peak Hour

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							
7:15 AM	0	6	74	0	0	80	0	9	0	2	0	11	0	0	20	3	2	23	0	0	0	0	0	0	0	0	0	0	0	0	114
7:30 AM	0	6	138	0	0	144	0	9	0	2	0	11	0	0	18	2	0	20	0	0	0	0	0	0	0	0	0	0	0	0	175
7:45 AM	0	11	124	0	0	135	0	11	0	4	0	15	0	0	37	5	0	42	0	0	0	0	0	0	0	0	0	0	0	0	192
8:00 AM	0	6	31	0	0	37	0	10	0	3	0	13	0	0	44	10	0	54	0	0	0	0	0	0	0	0	0	0	0	0	104
Peak Hour Total	0	29	367	0	0	396	0	39	0	11	0	50	0	0	119	20	2	139	0	0	0	0	0	0	0	0	0	0	0	0	585
PHF	0.000	0.659	0.665	0.000	0.000	0.688	0.000	0.886	0.000	0.688	0.000	0.833	0.000	0.000	0.676	0.500	0.250	0.644	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.762

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	10	29	0	0	39	0	12	0	13	0	25	0	0	76	19	0	95	0	0	0	0	0	0	0	0	0	0	0	0	159
4:00 PM	0	8	51	0	0	59	0	6	0	13	0	19	0	0	62	10	0	72	0	0	0	0	0	0	0	0	0	0	0	0	150
4:15 PM	0	6	45	0	0	51	0	13	0	16	0	29	0	0	62	11	0	73	0	0	0	0	0	0	0	0	0	0	0	0	153
4:30 PM	0	10	41	0	0	51	0	11	0	10	0	21	0	0	70	12	0	82	0	0	0	0	0	0	0	0	0	0	0	0	154
Peak Hour Total	0	34	166	0	0	200	0	42	0	52	0	94	0	0	270	52	0	322	0	0	0	0	0	0	0	0	0	0	0	0	616
PHF	0.000	0.850	0.814	0.000	0.000	0.847	0.000	0.808	0.000	0.813	0.000	0.810	0.000	0.000	0.888	0.684	0.000	0.847	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.969

Total Vehicles On Leg		4659	
Vehicles Entering Intersection	2355	Vehicles Exiting Intersection	2304
Southbound			
Cars	0	2012	295
Heavy	0	40	7
Total	0	2052	302



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

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 783	Total Vehicles on Leg 1526
350	6	356			
0	0	0			
418	9	427			
0	0	0			
0	0	0	Vehicles Exiting Intersection 743		

Cars	4	0	0	1913	435
Heavy	0	0	0	34	6
Total	4	0	0	1947	441
Northbound					
Vehicles Entering Intersection	2388		Vehicles Exiting Intersection	2479	
Total Vehicles On Leg	4867				

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2447

Study Date : 02/14/2024

Signal Warrants - Summary

Major Street Approaches

Northbound: CR 53

Number of Lanes : 1

Total Approach Volume: 2,388

Southbound: CR 53

Number of Lanes : 1

Total Approach Volume: 2,355

Minor Street Approaches

Westbound: Lilac St

Number of Lanes : 1

Total Approach Volume: 783

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 2 hours, 8 are needed

Required 1B volumes reached for 4 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 2447

Study Date : 02/14/2024

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 53					None		
07:15 - 08:15	139	+	396	=	535	0	50	No
07:00 - 08:00	109	+	415	=	524	0	44	No
15:45 - 16:45	322	+	200	=	522	0	94	No
16:15 - 17:15	304	+	208	=	512	0	91	No
16:00 - 17:00	290	+	217	=	507	0	89	No
16:30 - 17:30	304	+	202	=	506	0	84	No
16:45 - 17:45	303	+	190	=	493	0	82	No
15:30 - 16:30	285	+	206	=	491	0	97	No
07:30 - 08:30	137	+	354	=	491	0	50	No
17:00 - 18:00	295	+	185	=	480	0	77	No
15:15 - 16:15	257	+	209	=	466	0	83	No
15:00 - 16:00	269	+	186	=	455	0	84	No
17:15 - 18:15	264	+	174	=	438	0	77	No
06:45 - 07:45	81	+	327	=	408	0	44	No
14:45 - 15:45	228	+	178	=	406	0	73	No
17:30 - 18:30	230	+	156	=	386	0	67	No
14:30 - 15:30	219	+	157	=	376	0	58	No
07:45 - 08:45	134	+	240	=	374	0	55	No
14:15 - 15:15	206	+	128	=	334	0	54	No
17:45 - 18:45	177	+	144	=	321	0	57	No
08:45 - 09:45	122	+	194	=	316	0	37	No
08:15 - 09:15	99	+	204	=	303	0	43	No
08:30 - 09:30	109	+	192	=	301	0	43	No
08:00 - 09:00	108	+	189	=	297	0	48	No
06:30 - 07:30	75		218		293	0	43	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2447

Study Date : 02/14/2024

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 EB	Minor Road		Met?
	Major NB	+	Major SB	=			Minor WB		
								CR 53	
								None	
07:15 - 08:15	139	+	396	=	535	0	50		No
07:00 - 08:00	109	+	415	=	524	0	44		No
15:45 - 16:45	322	+	200	=	522	0	94		No
16:15 - 17:15	304	+	208	=	512	0	91		No
16:00 - 17:00	290	+	217	=	507	0	89		No
16:30 - 17:30	304	+	202	=	506	0	84		No
16:45 - 17:45	303	+	190	=	493	0	82		No
15:30 - 16:30	285	+	206	=	491	0	97		No
07:30 - 08:30	137	+	354	=	491	0	50		No
17:00 - 18:00	295	+	185	=	480	0	77		No
15:15 - 16:15	257	+	209	=	466	0	83		No
15:00 - 16:00	269	+	186	=	455	0	84		No
17:15 - 18:15	264	+	174	=	438	0	77		No
06:45 - 07:45	81	+	327	=	408	0	44		No
14:45 - 15:45	228	+	178	=	406	0	73		No
17:30 - 18:30	230	+	156	=	386	0	67		No
14:30 - 15:30	219	+	157	=	376	0	58		No
07:45 - 08:45	134	+	240	=	374	0	55		No
14:15 - 15:15	206	+	128	=	334	0	54		No
17:45 - 18:45	177	+	144	=	321	0	57		No
08:45 - 09:45	122	+	194	=	316	0	37		No
08:15 - 09:15	99	+	204	=	303	0	43		No
08:30 - 09:30	109	+	192	=	301	0	43		No
08:00 - 09:00	108	+	189	=	297	0	48		No
06:30 - 07:30	75		218		293	0	43		No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2447

Study Date : 02/14/2024

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 2 hours meet 1A minimums.
Only 4 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 53

Minor Road

None

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
16:00 - 17:00	290	+	217	=	507	0	89	Yes
15:00 - 16:00	269	+	186	=	455	0	84	Yes
07:15 - 08:15	139	+	396	=	535	0	50	No
07:00 - 08:00	109	+	415	=	524	0	44	No
07:30 - 08:30	137	+	354	=	491	0	50	No
17:00 - 18:00	295	+	185	=	480	0	77	No
17:15 - 18:15	264	+	174	=	438	0	77	No
06:45 - 07:45	81	+	327	=	408	0	44	No
14:45 - 15:45	228	+	178	=	406	0	73	No
17:30 - 18:30	230	+	156	=	386	0	67	No
14:30 - 15:30	219	+	157	=	376	0	58	No
07:45 - 08:45	134	+	240	=	374	0	55	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
07:00 - 08:00	109	+	415	=	524	0	44	Yes
16:00 - 17:00	290	+	217	=	507	0	89	Yes
17:00 - 18:00	295	+	185	=	480	0	77	Yes
15:00 - 16:00	269	+	186	=	455	0	84	Yes
06:45 - 07:45	81	+	327	=	408	0	44	No
14:45 - 15:45	228	+	178	=	406	0	73	No
14:30 - 15:30	219	+	157	=	376	0	58	No
14:15 - 15:15	206	+	128	=	334	0	54	No
08:45 - 09:45	122	+	194	=	316	0	37	No
08:15 - 09:15	99	+	204	=	303	0	43	No
08:30 - 09:30	109	+	192	=	301	0	43	No
08:00 - 09:00	108	+	189	=	297	0	48	No

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2447

Study Date : 02/14/2024

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.

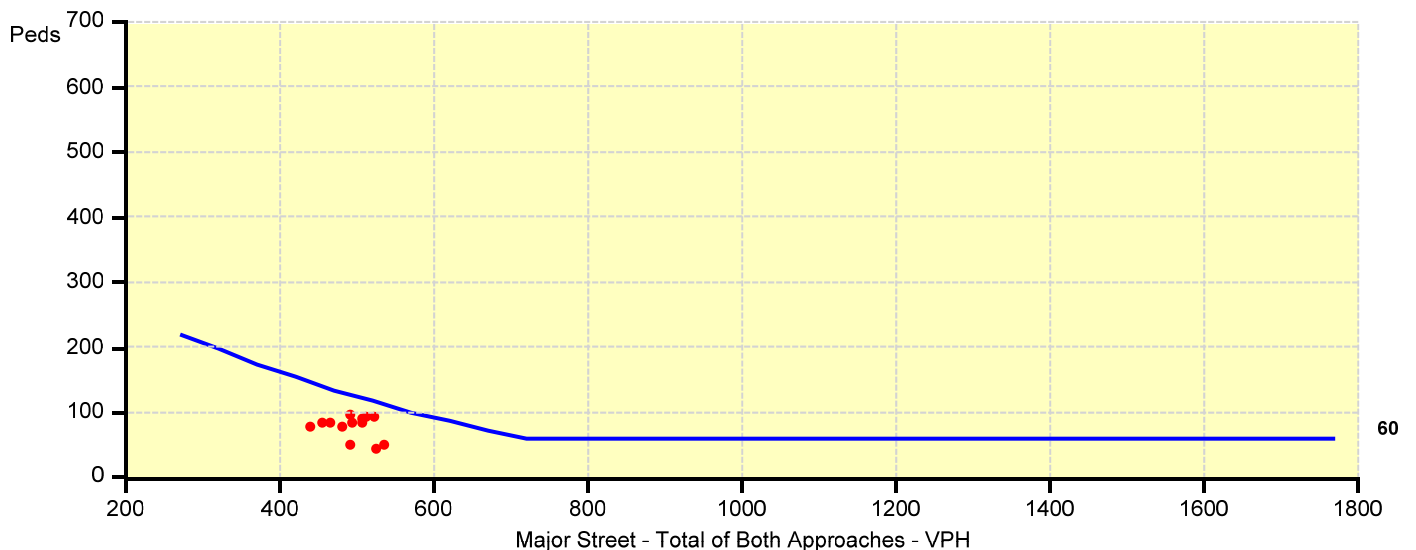
Summary

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 53					None		
07:15 - 08:15	139	+	396	=	535	0	50	No
07:00 - 08:00	109	+	415	=	524	0	44	No
15:45 - 16:45	322	+	200	=	522	0	94	No
16:15 - 17:15	304	+	208	=	512	0	91	No
16:00 - 17:00	290	+	217	=	507	0	89	No
16:30 - 17:30	304	+	202	=	506	0	84	No
16:45 - 17:45	303	+	190	=	493	0	82	No
15:30 - 16:30	285	+	206	=	491	0	97	No
07:30 - 08:30	137	+	354	=	491	0	50	No
17:00 - 18:00	295	+	185	=	480	0	77	No
15:15 - 16:15	257	+	209	=	466	0	83	No
15:00 - 16:00	269	+	186	=	455	0	84	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2447

Study Date : 02/14/2024

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.

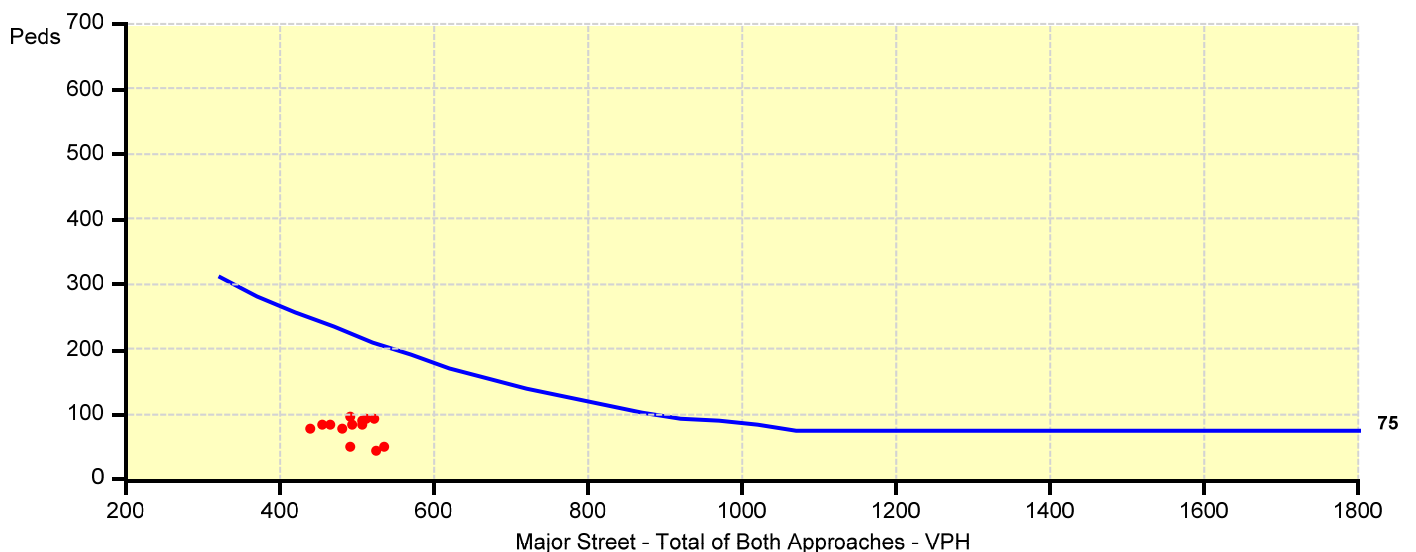
Summary

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 53					None		
07:15 - 08:15	139	+	396	=	535	0	50	No
07:00 - 08:00	109	+	415	=	524	0	44	No
15:45 - 16:45	322	+	200	=	522	0	94	No
16:15 - 17:15	304	+	208	=	512	0	91	No
16:00 - 17:00	290	+	217	=	507	0	89	No
16:30 - 17:30	304	+	202	=	506	0	84	No
16:45 - 17:45	303	+	190	=	493	0	82	No
15:30 - 16:30	285	+	206	=	491	0	97	No
07:30 - 08:30	137	+	354	=	491	0	50	No
17:00 - 18:00	295	+	185	=	480	0	77	No
15:15 - 16:15	257	+	209	=	466	0	83	No
15:00 - 16:00	269	+	186	=	455	0	84	No



ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 2447

Study Date : 02/14/2024

Multiway Stop Warrants - Summary

Major Street Approaches

Northbound: CR 53
 Number of Lanes : 1
 Total Approach Volume: 2,388

Southbound: CR 53
 Number of Lanes : 1
 Total Approach Volume: 2,355

Minor Street Approaches

Eastbound: None
 Number of Lanes : 2+
 Total Approach Volume: 0

Westbound: Lilac St
 Number of Lanes : 1
 Total Approach Volume: 783

Warrant Summary (Rural Values Apply)

Criteria A - Interim Measure	Not Evaluated
If traffic signals are justified, stop signs can be installed as an interim measure.	
Criteria B - Crash Experience	Not Satisfied
Number of crashes (-1) is less than minimum required (5).	
Criteria C - Minimum Volumes and Delays	Not Satisfied
Average of 8 highest hours is less than volume criteria.	
Criteria D - 80% of Volumes, Delays, and Crashes	Not Satisfied
Number of crashes (-1) is less than minimum required (4). Average of 8 highest hours is less than volume criteria.	

Criteria C Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
15:45 - 16:45	522	391.3	94	59.4	210	140	No
07:15 - 08:15	535		50				
16:45 - 17:45	493		82				
14:45 - 15:45	406		73				
17:45 - 18:45	321		57				
08:45 - 09:45	316		37				
18:45 - 19:45	285		38				
13:45 - 14:45	252		44				
06:15 - 07:15	218		39				
11:30 - 12:30	207		39				
12:45 - 13:45	200		38				
10:30 - 11:30	160		44				

Criteria D Volume Summary

Time	Major Total	Major Avg	Minor Total	Minor Avg	Major Crit	Minor Crit	Meets?
15:45 - 16:45	522	391.3	94	59.4	240	160	No
07:15 - 08:15	535		50				
16:45 - 17:45	493		82				
14:45 - 15:45	406		73				
17:45 - 18:45	321		57				
08:45 - 09:45	316		37				
18:45 - 19:45	285		38				
13:45 - 14:45	252		44				
06:15 - 07:15	218		39				
11:30 - 12:30	207		39				
12:45 - 13:45	200		38				
10:30 - 11:30	160		44				