

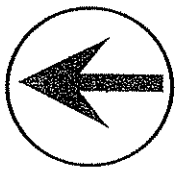
Date : 06/21/10

Count Number : TMC1020

Location : CSAH 17 (Lexington Ave.)

@ CSAH 18 (Crosstown Blvd.)

Collection Period : 6:00AM - 10:00PM



North

5812

#2

CSAH 17

2682	D	E	F
1435		1247	0

3130

5723				
	2977			

#1

CSAH 18

2746	C	B	A
1537		0	1209

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

CSAH 17

2456

#4

1542	M	L	K
1593			0
3135			

5591

Anoka County Highway Department

Traffic Volume and Turning

Movement Study

Date : 06/22/10

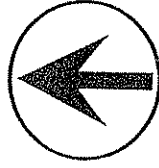
Count Number : TMC1020

Location : CSAH 17 (Lexington Ave.)

@ CSAH 18 (Crosstown Blvd.)

Collection Period : AM PEAK

Hour : 6:30 -7:30 AM



North

CSAH 17
#2
385

218		
56	D	
162	E	
0	F	

167

#1
448

85		
363		
127	C	
0	B	
236	A	

CSAH 18

CSAH 17

29	M	
40	L	
0	K	
69		

398

#4

467

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

Anoka County Highway Department

Traffic Volume and Turning

Movement Study

Date : 06/22/10

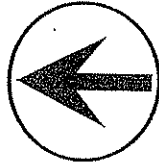
Count Number : TMC1020

Location : CSAH 17 (Lexington Ave.)

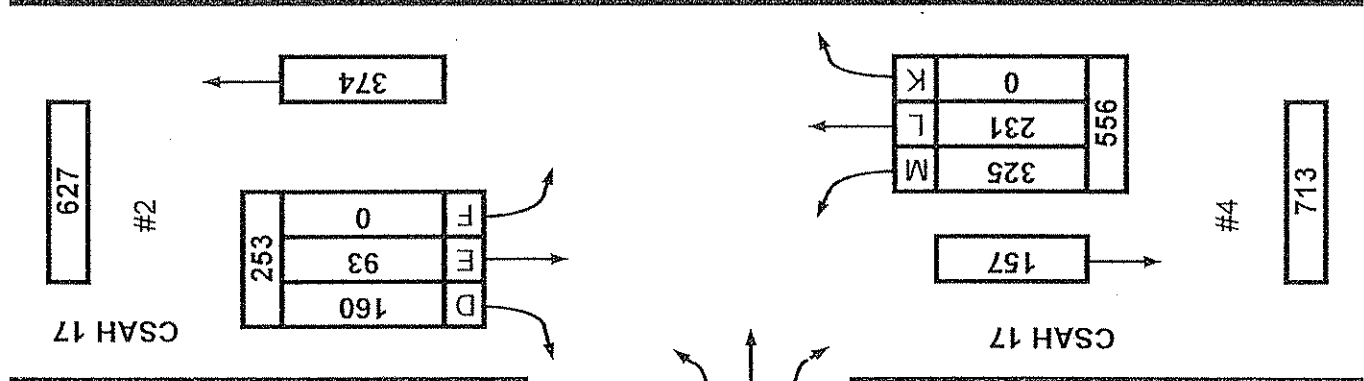
@ CSAH 18 (Crosstown Blvd.)

Collection Period : PM PEAK

Hour : 4:30 -5:30 PM



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

Weather: PCLDY/Warm
 Counter: DB-400
 Counted by: Andy/Brett

File Name : TMC1020
 Site Code : 10200202
 Start Date : 06/21/2010
 Page No : 2

Groups Printed- Unshifted - Bank 1

Start Time	CSAH 17 (Lexington Ave.) Southbound					Westbound					CSAH 17 (Lexington Ave.) Northbound					CSAH 18 (Crosstown Blvd.) Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total			
18:00	0	16	22	1	38	0	0	0	0	0	46	53	0	4	99	30	0	3	0	33	5	170	175
18:15	0	18	31	1	49	0	0	0	0	0	36	30	0	0	66	26	0	13	0	39	1	154	155
18:30	0	14	40	1	54	0	0	0	0	0	26	34	0	2	60	23	0	12	2	35	5	149	154
18:45	0	12	24	0	36	0	0	0	0	0	30	28	0	3	58	29	0	15	0	44	3	138	141
Total	0	60	117	3	177	0	0	0	0	0	138	145	0	9	283	108	0	43	2	151	14	611	625
19:00	0	19	31	1	50	0	0	0	0	0	32	31	0	1	63	20	0	6	1	26	3	139	142
19:15	0	9	12	0	21	0	0	0	0	0	22	26	0	0	48	12	0	11	0	23	0	92	92
19:30	0	11	18	1	29	0	0	0	0	0	21	24	0	0	45	13	0	10	0	23	1	97	98
19:45	0	4	13	0	17	0	0	0	0	0	22	20	0	1	42	18	0	7	0	25	1	84	85
Total	0	43	74	2	117	0	0	0	0	0	97	101	0	2	198	63	0	34	1	97	5	412	417
20:00	0	12	20	0	32	0	0	0	0	0	21	18	0	1	39	14	0	9	2	23	3	94	97
20:15	0	14	15	1	29	0	0	0	0	0	15	12	0	0	27	15	0	7	0	22	1	78	79
20:30	0	15	20	0	35	0	0	0	0	0	15	18	0	0	33	20	0	8	1	28	1	96	97
20:45	0	12	28	0	40	0	0	0	0	0	19	18	0	2	37	18	0	8	0	26	2	103	105
Total	0	53	83	1	136	0	0	0	0	0	70	66	0	3	136	67	0	32	3	99	7	371	378
21:00	0	19	15	1	34	0	0	0	0	0	11	21	0	0	32	23	0	7	0	30	1	96	97
21:15	0	14	12	0	26	0	0	0	0	0	19	18	0	0	37	10	0	8	1	18	1	81	82
21:30	0	14	16	1	30	0	0	0	0	0	10	17	0	0	27	7	0	10	1	17	2	74	76
Grand Total	0	1247	1435	115	2682	0	0	0	0	0	1542	1593	0	113	3135	1537	0	1209	136	2746	364	8563	8927
Apprch %	0	46.5	53.5			0	0	0			49.2	50.8	0			56	0	44					
Total %	0	14.6	16.8		31.3	0	0	0		0	18	18.6	0		36.6	17.9	0	14.1		32.1	4.1	95.9	
Unshifted	0	1247	1435		2797	0	0	0		0	1542	1593	0		3248	1537	0	1209		2882	0	0	8927
% Unshifted	0	100	100	100	100	0	0	0	0	0	100	100	0	100	100	100	0	100	100	100	0	0	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	CSAH 17 (Lexington Ave.) Southbound				Westbound				CSAH 17 (Lexington Ave.) Northbound				CSAH 18 (Crosstown Blvd.) Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 11:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30																	
06:30	0	50	10	60	0	0	0	0	4	15	0	19	32	0	62	94	173
06:45	0	36	14	50	0	0	0	0	6	6	0	12	31	0	57	88	150
07:00	0	30	14	44	0	0	0	0	16	12	0	28	30	0	49	79	151
07:15	0	46	18	64	0	0	0	0	3	7	0	10	34	0	68	102	176
Total Volume	0	162	56	218	0	0	0	0	29	40	0	69	127	0	236	363	650
% App. Total	0	74.3	25.7		0	0	0		42	58	0		35	0	65		
PHF	.000	.810	.778	.852	.000	.000	.000	.000	.453	.667	.000	.616	.934	.000	.868	.890	.923

Start Time	CSAH 17 (Lexington Ave.) Southbound				Westbound				CSAH 17 (Lexington Ave.) Northbound				CSAH 18 (Crosstown Blvd.) Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:00 to 21:30 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	21	35	56	0	0	0	0	81	55	0	136	45	0	18	63	255
16:45	0	23	46	69	0	0	0	0	65	60	0	125	32	0	15	47	241
17:00	0	26	31	57	0	0	0	0	93	49	0	142	43	0	11	54	253
17:15	0	23	48	71	0	0	0	0	86	67	0	153	23	0	20	43	267
Total Volume	0	93	160	253	0	0	0	0	325	231	0	556	143	0	64	207	1016
% App. Total	0	36.8	63.2		0	0	0		58.5	41.5	0		69.1	0	30.9		
PHF	.000	.894	.833	.891	.000	.000	.000	.000	.874	.862	.000	.908	.794	.000	.800	.821	.951

**ANOKA COUNTY HIGHWAY
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name : TMC1020
Study Date : 06/28/10
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 17 (Lexington Ave.)

Number of Lanes: 1
Approach Speed: 55
Total Approach Volume: 3,135

Southbound: CSAH 17 (Lexington Ave.)

Number of Lanes: 2
Approach Speed: 55
Total Approach Volume: 2,682

Minor Street Approaches

Eastbound: CSAH 18 (Crosstown Blvd.)

Number of Lanes: 2

Total Approach Volume: 2,746

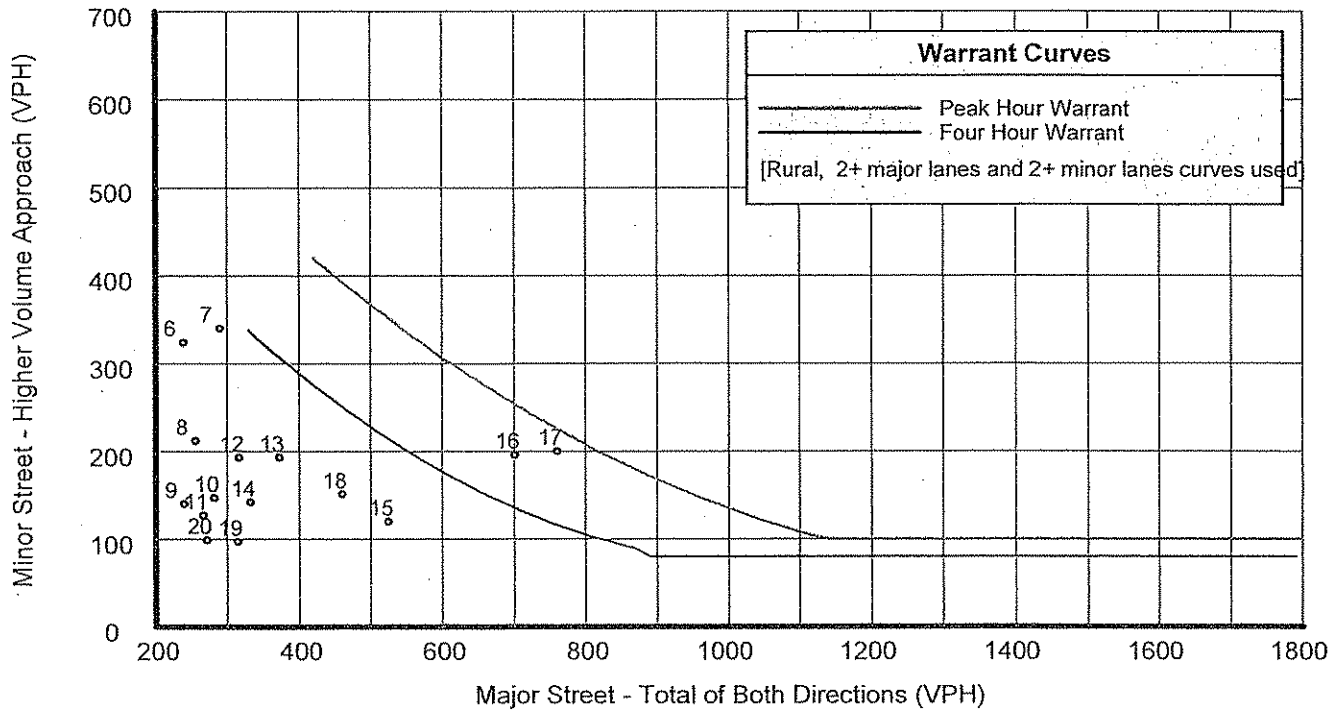
Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Not Satisfied
Warrant 1A - Minimum Vehicular Volume	Not Satisfied
Required volumes reached for 3 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Not Satisfied
Required volumes reached for 2 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Not Satisfied
Required volumes reached for 3 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Not Satisfied
Number of hours (2) volumes exceed minimum < minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Delay	Satisfied
Number of hours (10) volumes exceed minimum >= required (1). Delay data not evaluated.	
Warrant 3B - Peak Hour Volumes	Satisfied
Volumes exceed minimums for at least one hour.	
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

**ANOKA COUNTY HIGHWAY
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name : TMC1020
Study Date : 06/28/10
Page No. : 2

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor Vol	Dir	War-1A			War-1B			War-1A&B		
				Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
01:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
02:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
03:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
04:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
05:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
06:00	239	324	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
07:00	290	340	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
08:00	256	212	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
09:00	240	140	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
10:00	282	147	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
11:00	267	127	EB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-Yes	Minor
12:00	317	193	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
13:00	373	193	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
14:00	333	142	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
15:00	525	120	EB	420-Yes	140-No	Major	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
16:00	701	196	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	761	200	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	460	151	EB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-No	112-Yes	Minor
19:00	315	97	EB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-No	---
20:00	272	99	EB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-No	---
21:00	186	65	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
22:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
23:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---

**ANOKA COUNTY HIGHWAY
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name : TMC1020
Study Date : 06/28/10
Page No. : 1

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CSAH 17 (Lexington Ave.)
Total Approach Volume: 3,135
Approach Speed: 55

Southbound: CSAH 17 (Lexington Ave.)
Total Approach Volume: 2,682
Approach Speed: 55

Minor Street Approaches

Eastbound: CSAH 18 (Crosstown Blvd.)
Total Approach Volume: 2,746

Warrant Summary

Criteria A - Interim Measure Not Evaluated
If traffic signals are justified, stop signs can be installed as an interim measure.

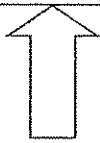
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Satisfied
Delay data not evaluated
Required volumes reached for 11 hours, 8 are needed

Criteria D - 80% of Volumes, Delays, and Crashes Not Evaluated
Delay data not evaluated
Number of crashes (-1) is less than the minimum required (4).
Required volumes reached for 0 hours, 8 are needed

Analysis of 8 Hour Volume Warrants:

Time	Major Total	Minor Total	Crit C			Crit D		
			Major	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
06:00 - 07:00	239	324	210-Yes	140-Yes	Both	240-No	160-Yes	Minor
07:00 - 08:00	290	340	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	256	212	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
09:00 - 10:00	240	140	210-Yes	140-Yes	Both	240-Yes	160-No	Major
10:00 - 11:00	282	147	210-Yes	140-Yes	Both	240-Yes	160-No	Major
11:30 - 12:30	301	164	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
12:30 - 13:30	311	180	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
13:30 - 14:30	363	181	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
15:30 - 16:30	587	149	210-Yes	140-Yes	Both	240-Yes	160-No	Major
16:30 - 17:30	809	207	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:30 - 18:30	590	175	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
11:00 - 12:00	267	127	210-Yes	140-No	Major	240-Yes	160-No	Major
11:15 - 12:15	271	138	210-Yes	140-No	Major	240-Yes	160-No	Major
14:30 - 15:30	434	122	210-Yes	140-No	Major	240-Yes	160-No	Major
14:45 - 15:45	478	133	210-Yes	140-No	Major	240-Yes	160-No	Major
15:00 - 16:00	525	120	210-Yes	140-No	Major	240-Yes	160-No	Major
15:15 - 16:15	554	124	210-Yes	140-No	Major	240-Yes	160-No	Major
18:30 - 19:30	390	128	210-Yes	140-No	Major	240-Yes	160-No	Major
18:45 - 19:45	350	116	210-Yes	140-No	Major	240-Yes	160-No	Major
19:00 - 20:00	315	97	210-Yes	140-No	Major	240-Yes	160-No	Major
19:15 - 20:15	273	94	210-Yes	140-No	Major	240-Yes	160-No	Major
19:30 - 20:30	260	93	210-Yes	140-No	Major	240-Yes	160-No	Major
19:45 - 20:45	254	98	210-Yes	140-No	Major	240-Yes	160-No	Major
20:00 - 21:00	272	99	210-Yes	140-No	Major	240-Yes	160-No	Major



COUNT LOCATION:

CSAH 17 (Lexington Ave.)

DATE:

06/22/2010

@ CSAH 18 (Crosstown Blvd.)

NORTH

APP. #1 = CSAH 18

APP. #2 = CSAH 17

APP. #4 = CSAH 17

APP. #2

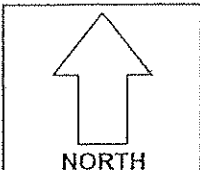
APP. #1

APP. #4

- HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT
- A. TRUCKS- A HEAVY VEHICLE INVOLVED PRIMARILY IN THE TRANSPORT OF GOODS OR IN THE DELIVERY OF A SERVICE.
 - B. RV- A HEAVY VEHICLE OPERATED BY A PRIVATE MOTORIST AND INVOLVED IN THE TRANSPORT OF RECREATIONAL EQUIPMENT OR FACILITIES.
 - C. BUSES- A HEAVY VEHICLE INVOLVED IN THE TRANSPORTATION OF GROUPS OF PEOPLE.

TIME	PEDESTRIANS				15 MIN TOT	HEAVY VEHICLES		
	APP. #1	APP. #2	APP. #3	APP. #4		TRUCKS	RV	BUS
6:00-6:15AM						3		
6:15-6:30						7		
6:30-6:45						8		2
6:45-7:00						4		
HOURLY TOTAL						HOURLY TOTAL		24
7:00-7:15						6		2
7:15-7:30						6		
7:30-7:45				1	1	10		
7:45-8:00						4		
HOURLY TOTAL					1	HOURLY TOTAL		28
8:00-8:15						6		
8:15-8:30						8		
8:30-8:45						10		
8:45-9:00						7		
HOURLY TOTAL						HOURLY TOTAL		31
9:00-9:15						5		
9:15-9:30						8		
9:30-9:45						9		
9:45-10:00						10		1
HOURLY TOTAL						HOURLY TOTAL		33
10:00-10:15						8		
10:15-10:30						6		
10:30-10:45						6		
10:45-11:00	1				1	7		
HOURLY TOTAL					1	HOURLY TOTAL		27
11:00-11:15						10	1	
11:15-11:30						10		
11:30-11:45						9		
11:45-12:00						5		
HOURLY TOTAL						HOURLY TOTAL		35
12:00-12:15						6		
12:15-12:30	1				1	6	1	2
12:30-12:45						5		
12:45-1:00						3		1
HOURLY TOTAL					1	HOURLY TOTAL		24
1:00-1:15						8		
1:15-1:30						10		
1:30-1:45						9		
1:45-2:00						5		
HOURLY TOTAL						HOURLY TOTAL		32
TOTAL					3	TOTAL		234

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NORTH

COUNT LOCATION:

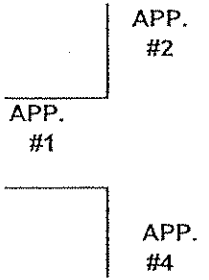
CSAH 17 (Lexington Ave.)

DATE:

06/21/2010

@ CSAH 18 (Crosstown Blvd.)

APP. #1 = CSAH 18
APP. #2 = CSAH 17
APP. #4 = CSAH 17



- HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT
- A. TRUCKS- A HEAVY VEHICLE INVOLVED PRIMARILY IN THE TRANSPORT OF GOODS OR IN THE DELIVERY OF A SERVICE.
 - B. RV- A HEAVY VEHICLE OPERATED BY A PRIVATE MOTORIST AND INVOLVED IN THE TRANSPORT OF RECREATIONAL EQUIPMENT OR FACILITIES.
 - C. BUSES- A HEAVY VEHICLE INVOLVED IN THE TRANSPORTATION OF GROUPS OF PEOPLE.

TIME	PEDESTRIANS					HEAVY VEHICLES		
	APP. #1	APP. #2	APP. #3	APP. #4	15 MIN TOT	TRUCKS	RV	BUS
2:00-2:15PM						7		
2:15-2:30								
2:30-2:45						5		
2:45-3:00						4		2
HOURLY TOTAL						HOURLY TOTAL		18
3:00-3:15						2		
3:15-3:30						7		
3:30-3:45						7		1
3:45-4:00						4		
HOURLY TOTAL						HOURLY TOTAL		21
4:00-4:15						7		
4:15-4:30						8		1
4:30-4:45						9		1
4:45-5:00						5		
HOURLY TOTAL						HOURLY TOTAL		31
5:00-5:15						8		
5:15-5:30						2		
5:30-5:45						6		
5:45-6:00						6		
HOURLY TOTAL						HOURLY TOTAL		22
6:00-6:15						3		
6:15-6:30						5		1
6:30-6:45						3		
6:45-7:00						5		
HOURLY TOTAL						HOURLY TOTAL		17
7:00-7:15						3		
7:15-7:30						3		
7:30-7:45								
7:45-8:00						1		
HOURLY TOTAL						HOURLY TOTAL		7
8:00-8:15						1		
8:15-8:30	1				1	3	1	
8:30-8:45		1			1			
8:45-9:00						1		
HOURLY TOTAL					2	HOURLY TOTAL		6
9:00-9:15						2		
9:15-9:30						1		
9:30-9:45						1		
9:45-10:00								1
HOURLY TOTAL						HOURLY TOTAL		5
					TOTAL		TOTAL	361
					5			

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