

Date : 03/23/10

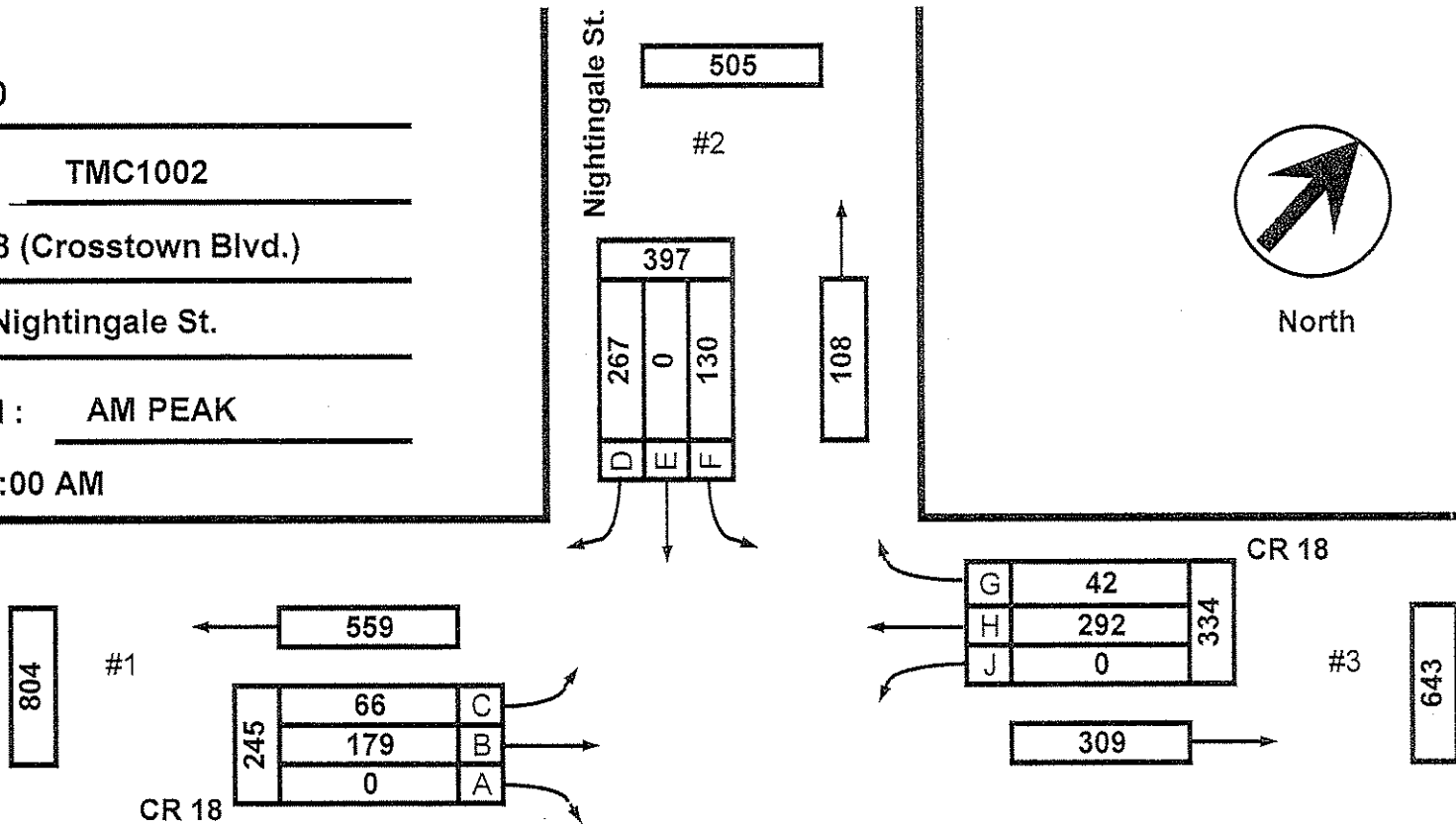
Count Number : TMC1002

Location : CR 18 (Crosstown Blvd.)

@ Nightingale St.

Collection Period : AM PEAK

Hour : 7:00 AM-8:00 AM



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 03/23/10

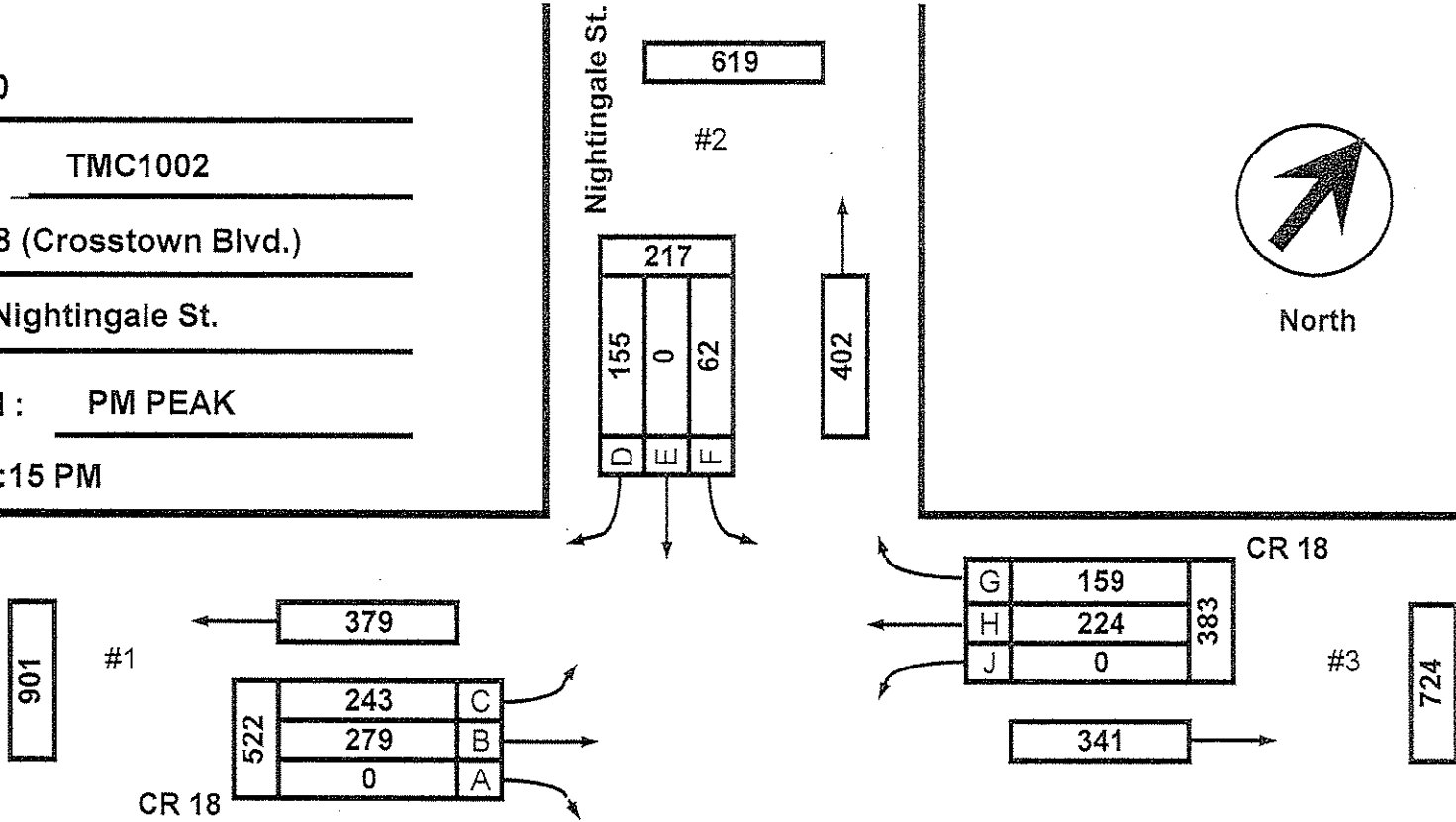
Count Number : TMC1002

Location : CR 18 (Crosstown Blvd.)

@ Nightingale St.

Collection Period : PM PEAK

Hour : 4:15 PM-5:15 PM



North

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

Weather: Clear and Mild
 Counter: TDC-12
 Counted by: Josie/Terri

File Name : TMC1002
 Site Code : 10020202
 Start Date : 3/23/2010
 Page No : 1

Groups Printed- Unshifted

Start Time	Nightingale St Southeastbound					CR 18 Southwestbound					CR 18 Northeastbound					None Northbound					Exclu. Total	Inclu. Total	Int. Total	
	Left	None	Right	Heavy	App. Total	None	Thru	Right	Heavy	App. Total	Left	Thru	None	Heavy	App. Total	None	None	None	Heavy	App. Total				
06:00	16	0	20	0	36	0	11	4	0	15	1	11	0	0	12	0	0	0	0	0	0	0	63	63
06:15	24	0	21	0	45	0	26	3	0	29	6	11	0	2	17	0	0	0	0	0	0	2	91	93
06:30	18	0	34	0	52	0	31	15	1	46	3	16	0	1	19	0	0	0	0	0	0	2	117	119
06:45	26	0	39	0	65	0	37	6	0	43	6	12	0	1	18	0	0	0	0	0	0	1	126	127
Total	84	0	114	0	198	0	105	28	1	133	16	50	0	4	66	0	0	0	0	0	0	5	397	402
07:00	31	0	77	0	108	0	57	7	2	64	12	30	0	2	42	0	0	0	0	0	0	4	214	218
07:15	32	0	106	2	138	0	117	11	16	128	24	37	0	5	61	0	0	0	0	0	0	23	327	350
07:30	35	0	56	0	91	0	70	13	4	83	23	67	0	6	90	0	0	0	0	0	0	10	264	274
07:45	32	0	28	1	60	0	48	11	0	59	7	45	0	3	52	0	0	0	0	0	0	4	171	175
Total	130	0	267	3	397	0	292	42	22	334	66	179	0	16	245	0	0	0	0	0	0	41	976	1017

*** BREAK ***

16:00	10	0	24	1	34	0	48	21	2	69	43	66	0	1	109	0	0	0	0	0	0	4	212	216
16:15	15	0	35	1	50	0	54	44	3	98	47	76	0	2	123	0	0	0	0	0	0	6	271	277
16:30	15	0	39	2	54	0	62	41	0	103	74	71	0	0	145	0	0	0	0	0	0	2	302	304
16:45	18	0	36	0	54	0	42	36	0	78	66	61	0	0	127	0	0	0	0	0	0	0	259	259
Total	58	0	134	4	192	0	206	142	5	348	230	274	0	3	504	0	0	0	0	0	0	12	1044	1056
17:00	14	0	45	0	59	0	66	38	1	104	56	71	0	3	127	0	0	0	0	0	0	4	290	294
17:15	21	0	32	0	53	0	50	33	2	83	46	76	0	1	122	0	0	0	0	0	0	3	258	261
17:30	9	0	31	0	40	0	56	32	0	88	47	61	0	0	108	0	0	0	0	0	0	0	236	236
17:45	22	0	31	0	53	0	56	30	1	86	55	58	0	0	113	0	0	0	0	0	0	1	252	253
Total	66	0	139	0	205	0	228	133	4	361	204	266	0	4	470	0	0	0	0	0	0	8	1036	1044
Grand Total	338	0	654	7	992	0	831	345	32	1176	516	769	0	27	1285	0	0	0	0	0	0	66	3453	3519
North %	34.1	0	65.9			0	70.7	29.3			40.2	59.8	0			0	0	0						
Total %	9.8	0	18.9		28.7	0	24.1	10		34.1	14.9	22.3	0		37.2	0	0	0			0	1.9	98.1	

Start Time	Nightingale St Southeastbound					CR 18 Southwestbound					CR 18 Northeastbound					None Northbound					Int. Total		
	Left	None	Right	App. Total	None	Thru	Right	App. Total	Left	Thru	None	App. Total	None	None	None	App. Total							
Peak Hour Analysis From 06:00 to 11:45 - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 07:00																							
07:00	31	0	77	108	0	57	7	64	12	30	0	42	0	0	0	0	0	0	0	0	0	214	214
07:15	32	0	106	138	0	117	11	128	24	37	0	61	0	0	0	0	0	0	0	0	0	327	327
07:30	35	0	56	91	0	70	13	83	23	67	0	90	0	0	0	0	0	0	0	0	0	264	264
07:45	32	0	28	60	0	48	11	59	7	45	0	52	0	0	0	0	0	0	0	0	0	171	171
Total Volume	130	0	267	397	0	292	42	334	66	179	0	245	0	0	0	0	0	0	0	0	0	976	976
% App. Total	32.7	0	67.3		0	87.4	12.6		26.9	73.1	0		0	0	0								
PHF	.929	.000	.630	.719	.000	.624	.808	.652	.688	.668	.000	.681	.000	.000	.000	.000	.000	.000	.000	.000	.000	.746	.746

Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 16:15																							
16:15	15	0	35	50	0	54	44	98	47	76	0	123	0	0	0	0	0	0	0	0	0	271	271
16:30	15	0	39	54	0	62	41	103	74	71	0	145	0	0	0	0	0	0	0	0	0	302	302
16:45	18	0	36	54	0	42	36	78	66	61	0	127	0	0	0	0	0	0	0	0	0	259	259
17:00	14	0	45	59	0	66	38	104	56	71	0	127	0	0	0	0	0	0	0	0	0	290	290
Total Volume	62	0	155	217	0	224	159	383	243	279	0	522	0	0	0	0	0	0	0	0	0	1122	1122
% App. Total	28.6	0	71.4		0	58.5	41.5		46.6	53.4	0		0	0	0								
PHF	.861	.000	.861	.919	.000	.848	.903	.921	.821	.918	.000	.900	.000	.000	.000	.000	.000	.000	.000	.000	.000	.929	.929

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

Signal Warrants - Summary

Major Street Approaches

Eastbound: CR 18
 Number of Lanes: 1
 Approach Speed: 45
 Total Approach Volume: 1,285

Westbound: CR 18
 Number of Lanes: 2
 Approach Speed: 45
 Total Approach Volume: 1,176

Minor Street Approaches

Northbound: None
 Number of Lanes: 2
 Total Approach Volume: 0

Southbound: Nightingale St
 Number of Lanes: 2
 Total Approach Volume: 992

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 (3) volumes exceed minimum < minimum required (4).

- Warrant 3 - Peak Hour Satisfied
 - Warrant 3A - Peak Hour Delay Satisfied
 Number of hours (7) 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

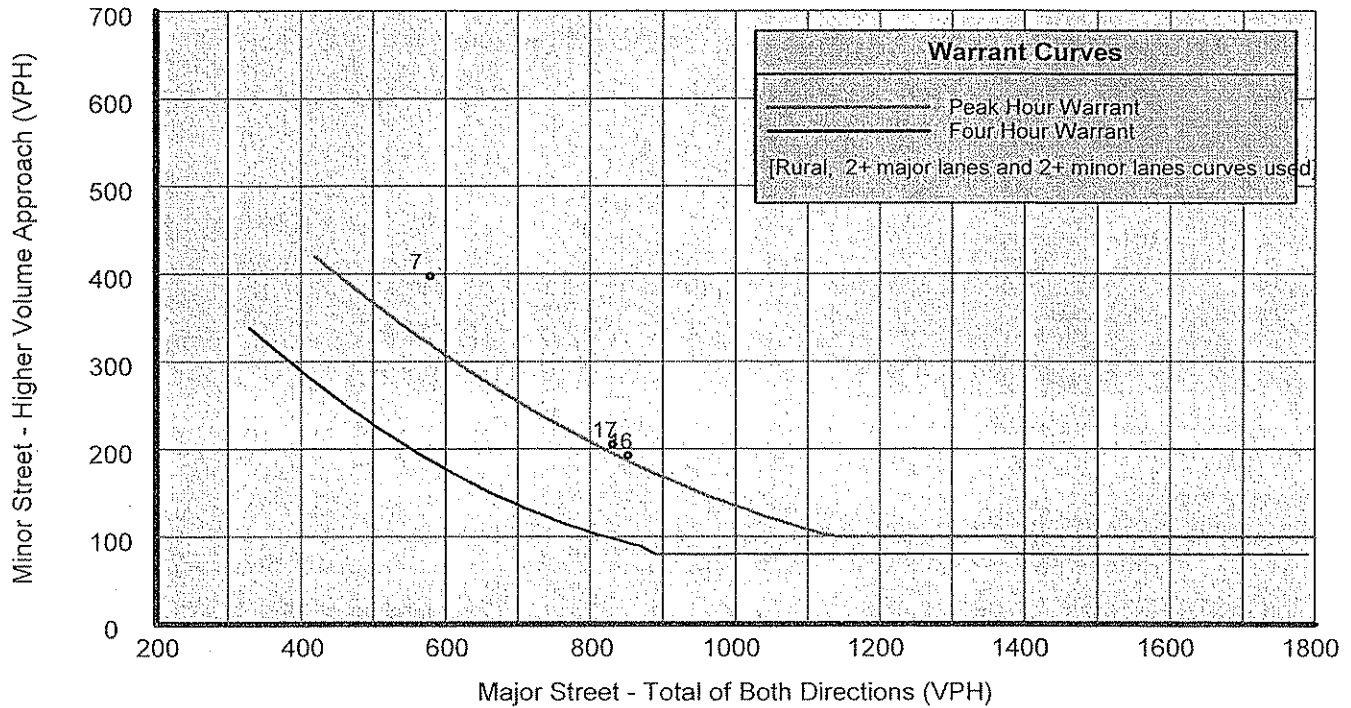
- Warrant 8 - Roadway Network Not Evaluated

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor		War-1A			War-1B			War-1A&B		
		Vol	Dir	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
01:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
02:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
03:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
04:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
05:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
06:00	199	198	SB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
07:00	579	397	SB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
08:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
09:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
10:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
11:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
12:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
13:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
14:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
15:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
16:00	852	192	SB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	831	205	SB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
19:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
20:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
21:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
22:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
23:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---

ANOKA COUNTY HIGHWAY

PC-WARRANTS

TRAFFIC SIGNAL WARRANT ANALYSIS

Multi-Way Stop Warrant Report

Major Street Approaches

Eastbound: CR 18
 Total Approach Volume: 1,285
 Approach Speed: 45

Westbound: CR 18
 Total Approach Volume: 1,176
 Approach Speed: 45

Minor Street Approaches

Northbound: None
 Total Approach Volume: 0

Southbound: Nightingale St
 Total Approach Volume: 992

Warrant Summary

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

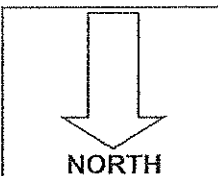
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Not Satisfied
 Delay data not evaluated
 Required volumes reached for 3 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 3 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?
00:00 - 01:00	0	0	210-No	140-No	No	240-No	160-No	No
01:00 - 02:00	0	0	210-No	140-No	No	240-No	160-No	No
02:00 - 03:00	0	0	210-No	140-No	No	240-No	160-No	No
03:00 - 04:00	0	0	210-No	140-No	No	240-No	160-No	No
04:00 - 05:00	0	0	210-No	140-No	No	240-No	160-No	No
05:00 - 06:00	0	0	210-No	140-No	No	240-No	160-No	No
06:00 - 07:00	199	198	210-No	140-Yes	Minor	240-No	160-Yes	Minor
07:00 - 08:00	579	397	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	0	0	210-No	140-No	No	240-No	160-No	No
09:00 - 10:00	0	0	210-No	140-No	No	240-No	160-No	No
10:00 - 11:00	0	0	210-No	140-No	No	240-No	160-No	No
11:00 - 12:00	0	0	210-No	140-No	No	240-No	160-No	No
12:00 - 13:00	0	0	210-No	140-No	No	240-No	160-No	No
13:00 - 14:00	0	0	210-No	140-No	No	240-No	160-No	No
14:00 - 15:00	0	0	210-No	140-No	No	240-No	160-No	No
15:00 - 16:00	0	0	210-No	140-No	No	240-No	160-No	No
16:00 - 17:00	852	192	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	831	205	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:00 - 19:00	0	0	210-No	140-No	No	240-No	160-No	No
19:00 - 20:00	0	0	210-No	140-No	No	240-No	160-No	No
20:00 - 21:00	0	0	210-No	140-No	No	240-No	160-No	No
21:00 - 22:00	0	0	210-No	140-No	No	240-No	160-No	No
22:00 - 23:00	0	0	210-No	140-No	No	240-No	160-No	No
23:00 - 00:00	0	0	210-No	140-No	No	240-No	160-No	No



COUNT LOCATION:

CR 18 (Crosstown Blvd.)

DATE:

3/23/2010

@ Nightingale St.

APP. #1 = CR 18

APP. #2 = None

APP. #3 = CR 18

APP. #4 = Nightingale St.

APP.
#1

APP.
#3

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					HEAVY VEHICLES		
	APP. #1	APP. #2	APP. #3	APP. #4	15 MIN TOT	TRUCKS	RV	BUS
6:00-6:15AM								
6:15-6:30								2
6:30-6:45								2
6:45-7:00								1
HOURLY TOTAL						HOURLY TOTAL		5
7:00-7:15AM								4
7:15-7:30				1	1	2		22
7:30-7:45				2	2	1		8
7:45-8:00						3		1
HOURLY TOTAL					3	HOURLY TOTAL		41
				TOTAL	3		TOTAL	46

TIME	PEDESTRIANS					HEAVY VEHICLES		
	APP. #1	APP. #2	APP. #3	APP. #4	15 MIN TOT	TRUCKS	RV	BUS
4:00-4:15PM						1		3
4:15-4:30						3		3
4:30-4:45				7	7	1		1
4:45-5:00				1	1			
HOURLY TOTAL					8	HOURLY TOTAL		12
5:00-5:15PM								4
5:15-5:30			1		1	1		2
5:30-5:45				1	1			
5:45-6:00				2	2	1		
HOURLY TOTAL					4	HOURLY TOTAL		8
				TOTAL	12		TOTAL	20