

Date : 08/02/12

Count Number : TMC1234

Location : CR 18 (Crosstown Blvd.)
@ Nightingale St.

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



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

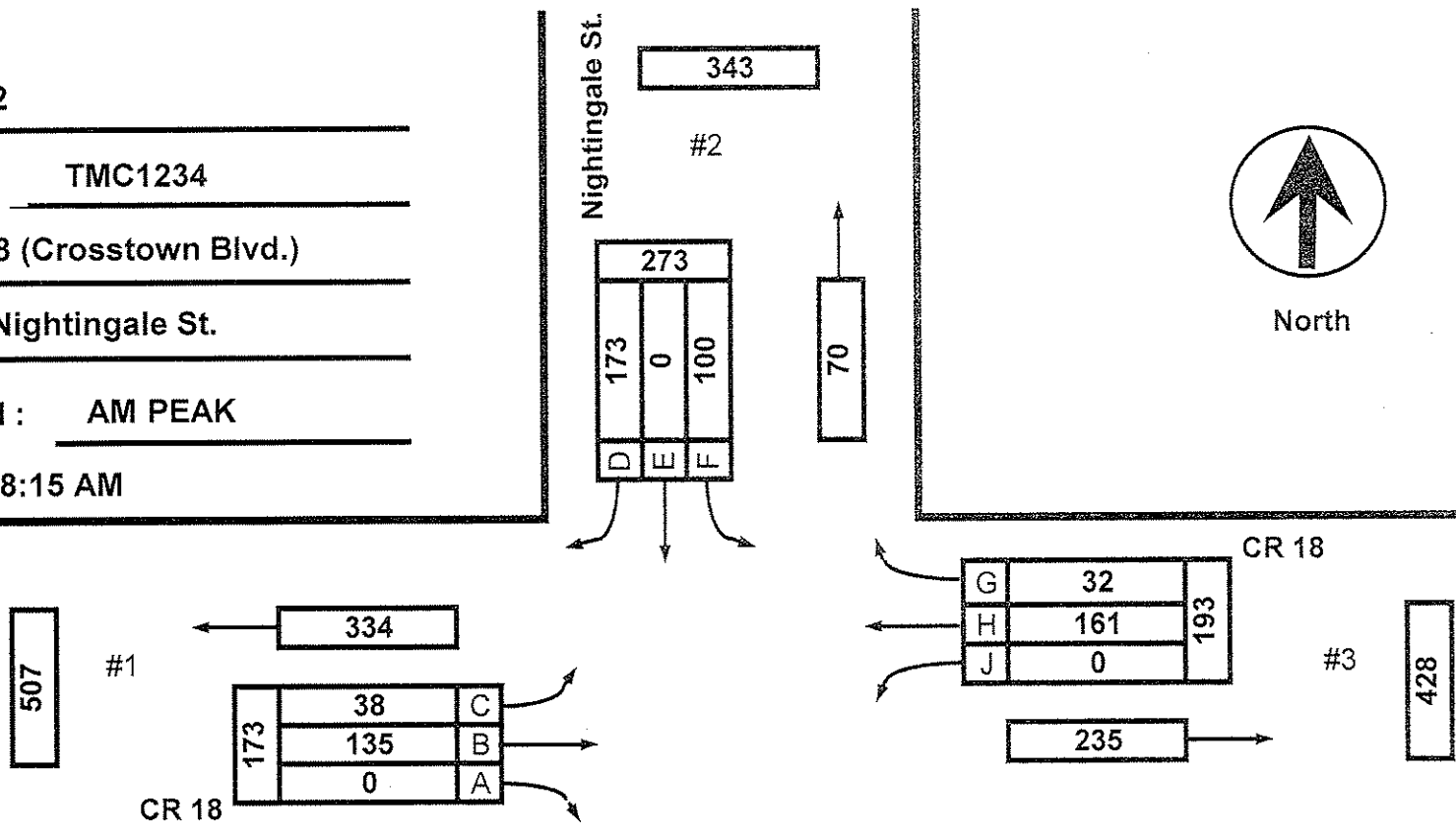
Date : 08/02/12

Count Number : TMC1234

Location : CR 18 (Crosstown Blvd.)
@ Nightingale St.

Collection Period : AM PEAK

Hour : 7:15 AM - 8:15 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 : 07/31/12

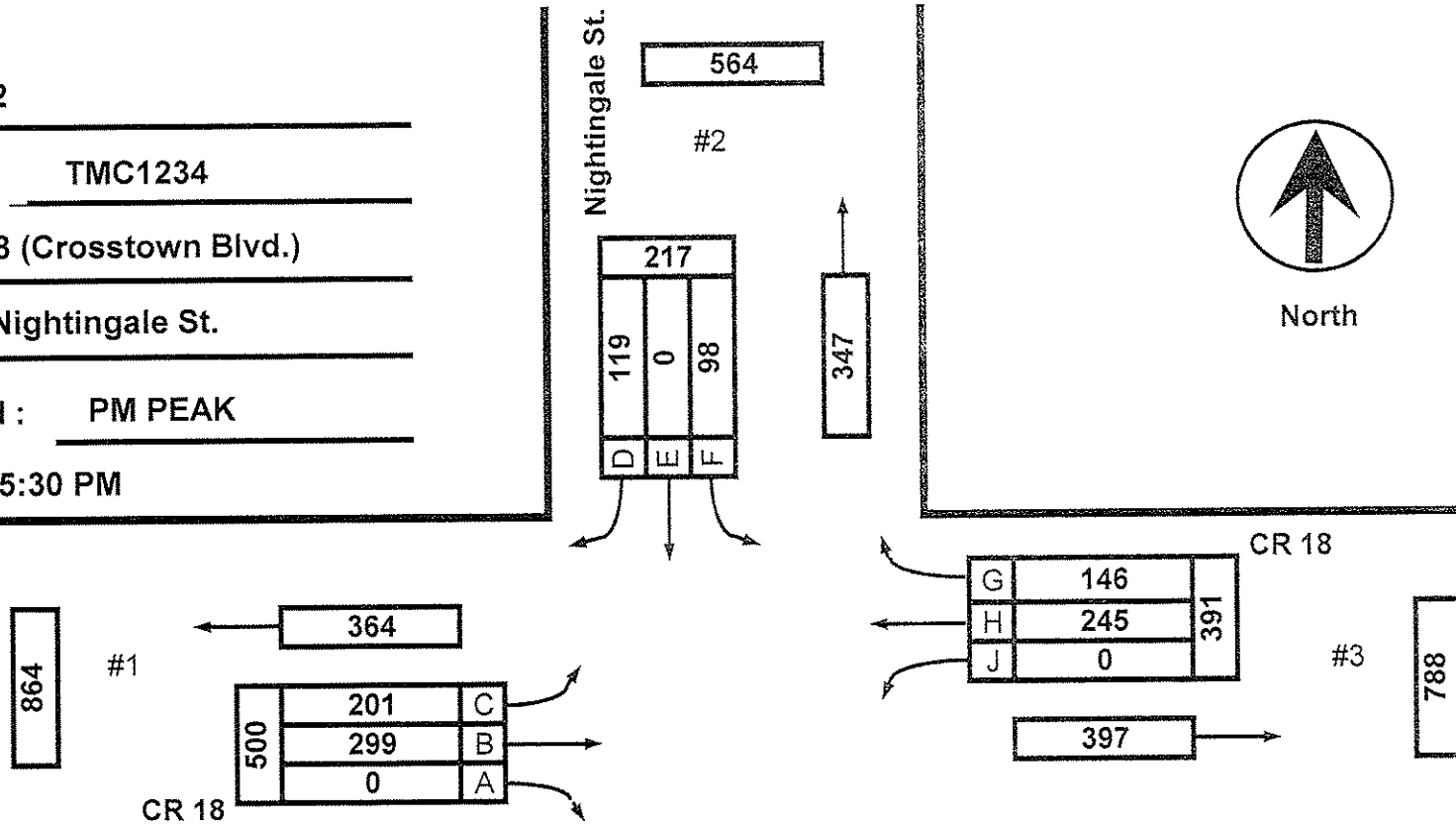
Count Number : TMC1234

Location : CR 18 (Crosstown Blvd.)

@ Nightingale St.

Collection Period : PM PEAK

Hour : 4:30 PM - 5:30 PM



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



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : tmc1234
 Site Code : 12340202
 Start Date : 07/31/2012
 Page No : 1

Weather: Warm and P. Cloudy
 Counter: DB-400
 study conducted by: Reno and Hannah

Groups Printed- Unshifted - Bank 1

Start Time	Nightingale St. Southbound					CSAH 18 Westbound					NONE Northbound					CSAH 18 Eastbound					Excl. Total	Incl. Total	Int. Total
	Left	Thru	Right	Heavys	App. Total	Left	Thru	Right	Heavys	App. Total	Left	Thru	Right	Heavys	App. Total	Left	Thru	Right	Heavys	App. Total			
06:00	25	0	25	1	50	0	17	4	2	21	0	0	0	0	0	2	10	0	0	12	3	83	86
06:15	17	0	24	2	41	0	43	9	2	52	0	0	0	0	0	8	13	0	2	21	6	114	120
06:30	21	0	33	0	54	0	32	4	3	36	0	0	0	0	0	2	12	0	0	14	3	104	107
06:45	26	0	34	2	60	0	34	6	2	40	0	0	0	0	0	7	15	0	0	22	4	122	126
Total	89	0	116	5	205	0	126	23	9	149	0	0	0	0	0	19	50	0	2	69	16	423	439
07:00	26	0	32	0	58	0	43	8	0	51	0	0	0	0	0	5	25	0	3	30	3	139	142
07:15	30	0	35	1	65	0	35	6	4	41	0	0	0	0	0	10	36	0	0	46	5	152	157
07:30	23	0	55	2	78	0	51	5	1	56	0	0	0	0	0	8	33	0	0	41	3	175	178
07:45	19	0	52	1	71	0	51	9	2	60	0	0	0	0	0	13	28	0	3	41	6	172	178
Total	98	0	174	4	272	0	180	28	7	206	0	0	0	0	0	36	122	0	6	158	17	638	655
08:00	28	0	31	4	59	0	24	12	2	36	0	0	0	0	0	7	38	0	2	45	8	140	148
08:15	19	0	34	2	53	0	53	9	2	62	0	0	0	0	0	7	26	0	0	33	4	148	152
08:30	20	0	28	0	48	0	41	12	1	53	0	0	0	0	0	19	36	0	4	55	5	156	161
08:45	21	0	32	4	53	0	32	11	2	43	0	0	0	0	0	12	44	0	4	56	10	152	162
Total	88	0	125	10	213	0	150	44	7	194	0	0	0	0	0	45	144	0	10	189	27	596	623
09:00	14	0	27	2	41	0	47	13	3	60	0	0	0	0	0	20	30	0	4	50	9	151	160
09:15	18	0	23	0	41	0	41	10	3	51	0	0	0	0	0	16	30	0	1	46	4	138	142
09:30	12	0	17	2	29	0	43	12	1	55	0	0	0	0	0	22	27	0	4	49	7	133	140
09:45	13	0	15	1	28	0	34	5	2	39	0	0	0	0	0	7	29	0	0	36	3	103	106
Total	57	0	82	5	139	0	165	40	9	205	0	0	0	0	0	65	116	0	9	181	23	525	548
10:00	7	0	10	1	17	0	28	11	4	39	0	0	0	0	0	17	26	0	3	43	8	99	107
10:15	6	0	26	1	32	0	26	10	0	36	0	0	0	0	0	13	32	0	1	45	2	113	115
10:30	20	0	22	1	42	0	41	13	1	54	0	0	0	0	0	16	17	0	0	33	2	129	131
10:45	11	0	25	0	36	0	38	13	1	51	0	0	0	0	0	14	25	0	0	39	1	126	127
Total	44	0	83	3	127	0	133	47	6	180	0	0	0	0	0	60	100	0	4	160	13	467	480
11:00	9	0	23	2	32	0	39	16	2	55	0	0	0	0	0	22	36	0	0	58	4	145	149
11:15	8	0	20	1	28	0	39	14	0	53	0	0	0	0	0	18	41	0	4	59	5	140	145
11:30	7	0	16	3	23	0	46	8	1	54	0	0	0	0	0	24	48	0	0	72	4	149	153
11:45	20	0	23	1	43	0	46	17	0	63	0	0	0	0	0	18	21	0	4	39	5	145	150
Total	44	0	82	7	126	0	170	55	3	225	0	0	0	0	0	82	146	0	8	228	18	579	597
12:00	9	0	24	1	33	0	42	16	0	58	0	0	0	0	0	21	35	0	0	56	1	147	148
12:15	11	0	26	0	37	0	43	10	0	53	0	0	0	0	0	18	26	0	1	44	1	134	135
12:30	7	0	17	1	24	0	31	10	1	41	0	0	0	0	0	17	36	0	0	53	2	118	120
12:45	10	0	21	2	31	0	28	7	0	35	0	0	0	0	0	24	36	0	0	60	2	126	128
Total	37	0	88	4	125	0	144	43	1	187	0	0	0	0	0	80	133	0	1	213	6	525	531
13:00	18	0	19	0	37	0	41	19	1	60	0	0	0	0	0	22	34	0	2	56	3	153	156
13:15	7	0	22	1	29	0	39	19	6	58	0	0	0	0	0	27	42	0	2	69	9	156	165
13:30	16	0	15	0	31	0	42	12	4	54	0	0	0	0	0	18	27	0	1	45	5	130	135
13:45	8	0	13	0	21	0	26	10	0	36	0	0	0	0	0	23	35	0	3	58	3	115	118
Total	49	0	69	1	118	0	148	60	11	208	0	0	0	0	0	90	138	0	8	228	20	554	574
14:00	15	0	16	1	31	0	32	11	2	43	0	0	0	0	0	19	31	0	2	50	5	124	129
14:15	15	0	21	2	36	0	49	18	1	67	0	0	0	0	0	25	44	0	2	69	5	172	177
14:30	4	0	22	0	26	0	37	14	3	51	0	0	0	0	0	29	43	0	2	72	5	149	154
14:45	11	0	23	0	34	0	31	11	1	42	0	0	0	0	0	29	40	0	0	69	1	145	146
Total	45	0	82	3	127	0	149	54	7	203	0	0	0	0	0	102	158	0	6	260	16	590	606
15:00	16	0	20	0	36	0	24	22	0	46	0	0	0	0	0	36	56	0	1	92	1	174	175
15:15	7	0	20	1	27	0	43	19	1	62	0	0	0	0	0	40	48	0	0	88	2	177	179
15:30	15	0	36	0	51	0	43	21	3	64	0	0	0	0	0	32	47	0	0	79	3	194	197
15:45	15	0	30	0	45	0	43	24	1	67	0	0	0	0	0	36	64	0	1	100	2	212	214
Total	53	0	106	1	159	0	153	86	5	239	0	0	0	0	0	144	215	0	2	359	8	757	765
16:00	9	0	18	0	27	0	55	24	3	79	0	0	0	0	0	41	62	0	3	103	6	209	215
16:15	14	0	25	0	39	0	37	23	0	60	0	0	0	0	0	40	71	0	2	111	2	210	212
16:30	22	0	28	0	50	0	59	59	0	118	0	0	0	0	0	43	61	0	4	104	4	272	276
16:45	18	0	19	0	37	0	56	32	0	88	0	0	0	0	0	57	74	0	2	131	2	256	258
Total	63	0	90	0	153	0	207	138	3	345	0	0	0	0	0	181	268	0	11	449	14	947	961
17:00	23	0	35	0	58	0	69	32	0	101	0	0	0	0	0	60	69	0	1	129	1	288	289
17:15	35	0	37	0	72	0	61	23	2	84	0	0	0	0	0	41	95	0	4	136	6	292	298
17:30	14	0	24	1	38	0	56	37	1	93	0	0	0	0	0	55	82	0	0	137	2	268	270
17:45	15	0	41	0	56	0	53	32	2	85	0	0	0	0	0	43	54	0	0	97	2	238	240
Total	87	0	137	1	224	0	239	124	5	363	0	0	0	0	0	199	300	0	5	499	11	1086	1097



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : tmc1234
 Site Code : 12340202
 Start Date : 07/31/2012
 Page No : 2

Weather: Warm and P. Cloudy
 Counter: DB-400
 study conducted by: Reno and Hannah

Groups Printed- Unshifted - Bank 1

Start Time	Nightingale St. Southbound					CSAH 18 Westbound					NONE Northbound					CSAH 18 Eastbound					Excl. Total	Incl. 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	19	0	29	1	48	0	39	31	2	70	0	0	0	0	0	43	71	0	1	114	4	232	236
18:15	21	0	39	0	60	0	47	26	0	73	0	0	0	0	0	38	63	0	0	101	0	234	234
18:30	21	0	29	1	50	0	46	31	1	77	0	0	0	0	0	24	66	0	1	90	3	217	220
18:45	14	0	26	0	40	0	35	36	0	71	0	0	0	0	0	43	48	0	0	91	0	202	202
Total	75	0	123	2	198	0	167	124	3	291	0	0	0	0	0	148	248	0	2	396	7	885	892
19:00	14	0	22	0	36	0	33	10	0	43	0	0	0	0	0	33	33	0	1	66	1	145	146
19:15	16	0	16	1	32	0	51	25	1	76	0	0	0	0	0	30	40	0	0	70	2	178	180
19:30	15	0	12	0	27	0	31	31	0	62	0	0	0	0	0	23	31	0	1	54	1	143	144
19:45	14	0	19	1	33	0	29	20	0	49	0	0	0	0	0	24	32	0	1	56	2	138	140
Total	59	0	69	2	128	0	144	86	1	230	0	0	0	0	0	110	136	0	3	246	6	604	610
20:00	7	0	11	0	18	0	28	18	0	46	0	0	0	0	0	62	64	0	1	126	1	190	191
20:15	11	0	10	1	21	0	34	21	0	55	0	0	0	0	0	25	33	0	0	58	1	134	135
20:30	18	0	23	0	41	0	27	17	0	44	0	0	0	0	0	29	40	0	0	69	0	154	154
20:45	11	0	15	1	26	0	27	28	0	55	0	0	0	0	0	33	37	0	0	70	1	151	152
Total	47	0	59	2	106	0	116	84	0	200	0	0	0	0	0	149	174	0	1	323	3	629	632
21:00	18	0	10	0	28	0	28	18	0	46	0	0	0	0	0	22	34	0	0	56	0	130	130
21:15	6	0	9	0	15	0	18	21	0	39	0	0	0	0	0	25	14	0	0	39	0	93	93
21:30	7	0	11	0	18	0	25	21	0	46	0	0	0	0	0	24	16	0	1	40	1	104	105
21:45	3	0	7	0	10	0	19	6	0	25	0	0	0	0	0	12	7	0	0	19	0	54	54
Total	34	0	37	0	71	0	90	66	0	156	0	0	0	0	0	83	71	0	1	154	1	381	382
Grand Total	969	0	1522	50	2491	0	2481	1102	77	3583	0	0	0	0	0	1593	2519	0	79	4112	206	10186	10392
Approch %	38.9	0	61.1			0	69.2	30.8			0	0	0			38.7	61.3	0					
Total %	9.5	0	14.9		24.5	0	24.4	10.8		35.2	0	0	0		0	15.6	24.7	0		40.4	2	98	
Unshifted	969	0	1522		2541	0	2481	1102		3660	0	0	0		0	1593	2519	0		4191	0	0	10392
% Unshifted	100	0	100	100	100	0	100	100	100	100	0	0	0	0	0	100	100	0	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
% Bank 1	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0

Start Time	Nightingale St. Southbound				CSAH 18 Westbound				NONE Northbound				CSAH 18 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 07:15																	
07:15	30	0	35	65	0	35	6	41	0	0	0	0	10	36	0	46	152
07:30	23	0	55	78	0	51	5	56	0	0	0	0	8	33	0	41	175
07:45	19	0	52	71	0	51	9	60	0	0	0	0	13	28	0	41	172
08:00	28	0	31	59	0	24	12	36	0	0	0	0	7	38	0	45	140
Total Volume	100	0	173	273	0	161	32	193	0	0	0	0	38	135	0	173	639
% App. Total	36.6	0	63.4		0	83.4	16.6		0	0	0		22	78	0		
PHF	.833	.000	.786	.875	.000	.789	.667	.804	.000	.000	.000	.000	.731	.888	.000	.940	.913

Start Time	Nightingale St. Southbound				CSAH 18 Westbound				NONE Northbound				CSAH 18 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 21:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	22	0	28	50	0	59	59	118	0	0	0	0	43	61	0	104	272
16:45	18	0	19	37	0	56	32	88	0	0	0	0	57	74	0	131	256
17:00	23	0	35	58	0	69	32	101	0	0	0	0	60	69	0	129	288
17:15	35	0	37	72	0	61	23	84	0	0	0	0	41	95	0	136	292
Total Volume	98	0	119	217	0	245	146	391	0	0	0	0	201	299	0	500	1108
% App. Total	45.2	0	54.8		0	62.7	37.3		0	0	0		40.2	59.8	0		
PHF	.700	.000	.804	.753	.000	.888	.619	.828	.000	.000	.000	.000	.838	.787	.000	.919	.949



ANOKA COUNTY HIGHWAY
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : **TMC1234B**
 Study Date : **08/13/12**
 Page No. : **1**

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 18
 Number of Lanes: 1
 85% Speed > 40 MPH.
 Total Approach Volume: **4,112**

Westbound: CSAH 18
 Number of Lanes: 2
 85% Speed > 40 MPH.
 Total Approach Volume: **3,583**

Minor Street Approaches

Northbound: NONE
 Number of Lanes: 2
 Total Approach Volume: **0**

Southbound: Nightingale St.
 Number of Lanes: 2
 Total Approach Volume: **2,491**

Warrant Summary (Rural values apply.)

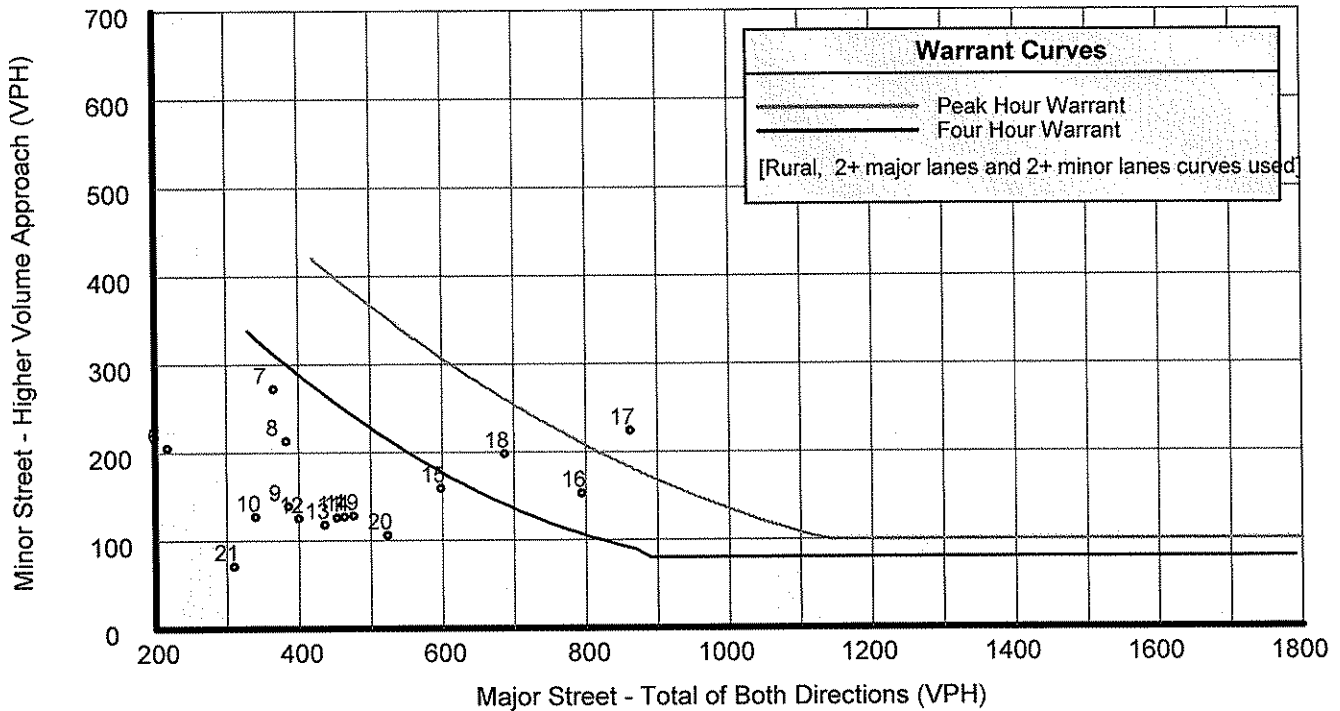
- Warrant 1 - Eight Hour Vehicular Volumes** **Not Satisfied**
 - Warrant 1A - Minimum Vehicular Volume** **Not Satisfied**
 Required volumes reached for 4 hours, 8 are needed
 - Warrant 1B - Interruption of Continuous Traffic** **Not Satisfied**
 Required volumes reached for 3 hours, 8 are needed
 - Warrant 1 A&B - Combination of Warrants** **Not Satisfied**
 Required volumes reached for 4 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 (11) 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**
- Warrant 9 - Intersection Near a Grade Crossing** **Not Evaluated**



ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC1234B
Study Date : 08/13/12
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	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	218	205	SB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
07:00	366	272	SB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
08:00	383	213	SB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
09:00	386	139	SB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-Yes	Minor
10:00	340	127	SB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-Yes	Minor
11:00	453	126	SB	420-Yes	140-No	Major	630-No	70-Yes	Minor	504-No	112-Yes	Minor
12:00	400	125	SB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-Yes	Minor
13:00	436	118	SB	420-Yes	140-No	Major	630-No	70-Yes	Minor	504-No	112-Yes	Minor
14:00	463	127	SB	420-Yes	140-No	Major	630-No	70-Yes	Minor	504-No	112-Yes	Minor
15:00	598	159	SB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
16:00	794	153	SB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	862	224	SB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	687	198	SB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
19:00	476	128	SB	420-Yes	140-No	Major	630-No	70-Yes	Minor	504-No	112-Yes	Minor
20:00	523	106	SB	420-Yes	140-No	Major	630-No	70-Yes	Minor	504-Yes	112-No	Major
21:00	310	71	SB	420-No	140-No	---	630-No	70-Yes	Minor	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**

Study Name : tmc1234
Study Date : 08/13/12
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 18
Number of Lanes: 1
85% Speed > 40 MPH.
Total Approach Volume: **4,112**

Westbound: CSAH 18
Number of Lanes: 1
85% Speed > 40 MPH.
Total Approach Volume: **2,481**

Minor Street Approaches

Northbound: NONE
Number of Lanes: 2

Total Approach Volume: 0

Southbound: Nightingale St.
Number of Lanes: 2

Total Approach Volume: **2,491**

Warrant Summary (Rural values apply.)

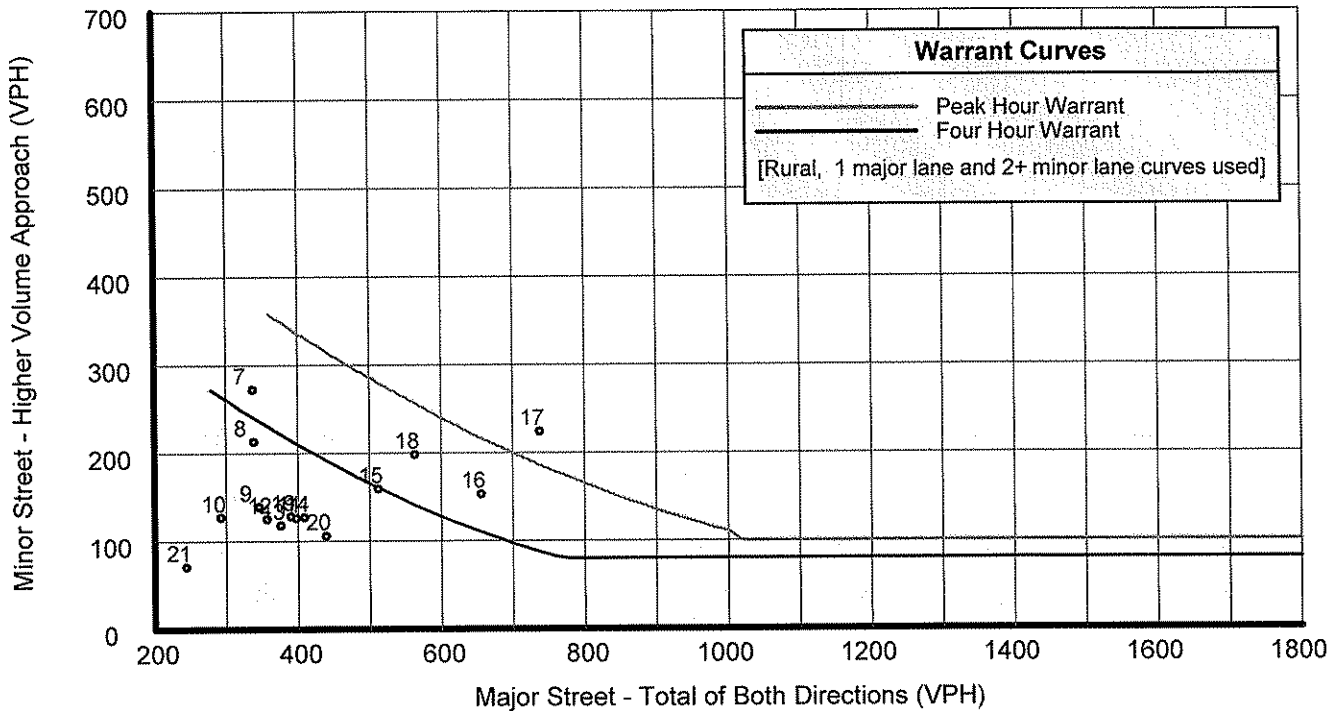
Warrant 1 - Eight Hour Vehicular Volumes	Not Satisfied
Warrant 1A - Minimum Vehicular Volume	Not Satisfied
Required volumes reached for 4 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Not Satisfied
Required volumes reached for 3 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Not Satisfied
Required volumes reached for 4 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (4) volumes exceed minimum >= minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Delay	Satisfied
Number of hours (8) 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
Warrant 9 - Intersection Near a Grade Crossing	Not Evaluated



ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : tmc1234
Study Date : 08/13/12
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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	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
01:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
02:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
03:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
04:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
05:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
06:00	195	205	SB	350-No	140-Yes	Minor	525-No	70-Yes	Minor	420-No	112-Yes	Minor
07:00	338	272	SB	350-No	140-Yes	Minor	525-No	70-Yes	Minor	420-No	112-Yes	Minor
08:00	339	213	SB	350-No	140-Yes	Minor	525-No	70-Yes	Minor	420-No	112-Yes	Minor
09:00	346	139	SB	350-No	140-No	---	525-No	70-Yes	Minor	420-No	112-Yes	Minor
10:00	293	127	SB	350-No	140-No	---	525-No	70-Yes	Minor	420-No	112-Yes	Minor
11:00	398	126	SB	350-Yes	140-No	Major	525-No	70-Yes	Minor	420-No	112-Yes	Minor
12:00	357	125	SB	350-Yes	140-No	Major	525-No	70-Yes	Minor	420-No	112-Yes	Minor
13:00	376	118	SB	350-Yes	140-No	Major	525-No	70-Yes	Minor	420-No	112-Yes	Minor
14:00	409	127	SB	350-Yes	140-No	Major	525-No	70-Yes	Minor	420-No	112-Yes	Minor
15:00	512	159	SB	350-Yes	140-Yes	Both	525-No	70-Yes	Minor	420-Yes	112-Yes	Both
16:00	656	153	SB	350-Yes	140-Yes	Both	525-Yes	70-Yes	Both	420-Yes	112-Yes	Both
17:00	738	224	SB	350-Yes	140-Yes	Both	525-Yes	70-Yes	Both	420-Yes	112-Yes	Both
18:00	563	198	SB	350-Yes	140-Yes	Both	525-Yes	70-Yes	Both	420-Yes	112-Yes	Both
19:00	390	128	SB	350-Yes	140-No	Major	525-No	70-Yes	Minor	420-No	112-Yes	Minor
20:00	439	106	SB	350-Yes	140-No	Major	525-No	70-Yes	Minor	420-Yes	112-No	Major
21:00	244	71	SB	350-No	140-No	---	525-No	70-Yes	Minor	420-No	112-No	---
22:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
23:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---



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

Study Name : TMC1234
Study Date : 08/13/12
Page No. : 1

Multi-Way Stop Warrant Report

Major Street Approaches

Eastbound: CSAH 18
Total Approach Volume: 4,112
85% Speed > 40 MPH.

Westbound: CSAH 18
Total Approach Volume: 3,583
85% Speed > 40 MPH.

Minor Street Approaches

Northbound: NONE
Total Approach Volume: 0

Southbound: Nightingale St.
Total Approach Volume: 2,491

Warrant Summary

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

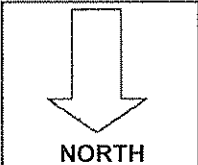
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Satisfied
Delay data not evaluated
Required volumes reached for 8 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	218	205	210-Yes	140-Yes	Both	240-No	160-Yes	Minor
07:00 - 08:00	366	272	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	383	213	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
10:15 - 11:15	371	142	210-Yes	140-Yes	Both	240-Yes	160-No	Major
14:45 - 15:45	542	148	210-Yes	140-Yes	Both	240-Yes	160-No	Major
15:45 - 16:45	742	161	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
16:45 - 17:45	899	205	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:45 - 18:45	707	214	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
09:00 - 10:00	386	139	210-Yes	140-No	Major	240-Yes	160-No	Major
09:15 - 10:15	358	115	210-Yes	140-No	Major	240-Yes	160-No	Major
09:30 - 10:30	342	106	210-Yes	140-No	Major	240-Yes	160-No	Major
09:45 - 10:45	325	119	210-Yes	140-No	Major	240-Yes	160-No	Major
10:00 - 11:00	340	127	210-Yes	140-No	Major	240-Yes	160-No	Major
11:15 - 12:15	454	127	210-Yes	140-No	Major	240-Yes	160-No	Major
11:30 - 12:30	439	136	210-Yes	140-No	Major	240-Yes	160-No	Major
11:45 - 12:45	407	137	210-Yes	140-No	Major	240-Yes	160-No	Major
12:00 - 13:00	400	125	210-Yes	140-No	Major	240-Yes	160-No	Major
12:15 - 13:15	402	129	210-Yes	140-No	Major	240-Yes	160-No	Major
12:30 - 13:30	432	121	210-Yes	140-No	Major	240-Yes	160-No	Major
12:45 - 13:45	437	128	210-Yes	140-No	Major	240-Yes	160-No	Major
13:00 - 14:00	436	118	210-Yes	140-No	Major	240-Yes	160-No	Major
13:15 - 14:15	413	112	210-Yes	140-No	Major	240-Yes	160-No	Major
13:30 - 14:30	422	119	210-Yes	140-No	Major	240-Yes	160-No	Major
13:45 - 14:45	446	114	210-Yes	140-No	Major	240-Yes	160-No	Major



COUNT LOCATION:

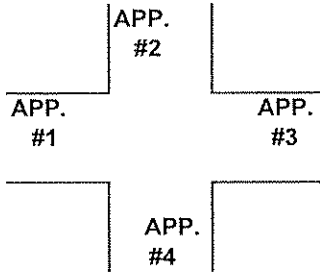
CR 18 (Crosstown Blvd.)

DATE:

08/02/2012

@ Nightingale St.

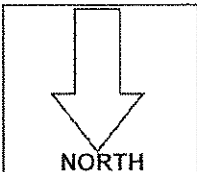
APP. #1 = CR 18
APP. #2 = None
APP. #3 = CR 18
APP. #4 = Nightingale St.



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				1	1	2		1
6:15-6:30				4	4	5		1
6:30-6:45				2	2	2		1
6:45-7:00				2	2	4		
HOURLY TOTAL					9	HOURLY TOTAL		16
7:00-7:15						3		
7:15-7:30				3	3	5		
7:30-7:45				1	1	3		
7:45-8:00				4	4	6		
HOURLY TOTAL					8	HOURLY TOTAL		17
8:00-8:15				1	1	8		
8:15-8:30				2	2	4		
8:30-8:45				4	4	4		1
8:45-9:00				4	4	9		1
HOURLY TOTAL					11	HOURLY TOTAL		27
9:00-9:15				3	3	9		
9:15-9:30						3		1
9:30-9:45				3	3	7		
9:45-10:00						3		
HOURLY TOTAL					6	HOURLY TOTAL		23
10:00-10:15				2	2	7		1
10:15-10:30				1	1	2		
10:30-10:45				3	3	2		
10:45-11:00				6	6	1		
HOURLY TOTAL					12	HOURLY TOTAL		13
11:00-11:15				1	1	4		
11:15-11:30				5	5	5		
11:30-11:45						4		
11:45-12:00				3	3	5		
HOURLY TOTAL					9	HOURLY TOTAL		18
12:00-12:15				2	2	1		
12:15-12:30				1	1	1		
12:30-12:45				4	4	2		
12:45-1:00				6	6	2		
HOURLY TOTAL					13	HOURLY TOTAL		6
1:00-1:15				3	3	3		
1:15-1:30				4	4	8		1
1:30-1:45				6	6	4		1
1:45-2:00				6	6	3		
HOURLY TOTAL					19	HOURLY TOTAL		20
				TOTAL	87		TOTAL	140

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COUNT LOCATION:

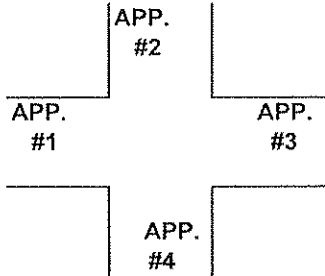
CR 18 (Crosstown Blvd.)

DATE:

07/31/2012

@ Nightingale St.

APP. #1 = CR 18
APP. #2 = None
APP. #3 = CR 18
APP. #4 = Nightingale St.



- 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.
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TIME	PEDESTRIANS					HEAVY VEHICLES			
	APP. #1	APP. #2	APP. #3	APP. #4	15 MIN TOT	TRUCKS	RV	BUS	
2:00-2:15PM				1	1	4	1		1
2:15-2:30				3	3	5			2
2:30-2:45				3	3	5			3
2:45-3:00				5	5	1			4
HOURLY TOTAL					12	HOURLY TOTAL			16
3:00-3:15				1	1	1			5
3:15-3:30						2			6
3:30-3:45				6	6	3			7
3:45-4:00				1	1	2			8
HOURLY TOTAL					8	HOURLY TOTAL			8
4:00-4:15				3	3	5		1	9
4:15-4:30				3	3	2			10
4:30-4:45						2	1		11
4:45-5:00						2			12
HOURLY TOTAL					6	HOURLY TOTAL			13
5:00-5:15				4	4	1			13
5:15-5:30				1	1	5			14
5:30-5:45				4	4	2			15
5:45-6:00				4	4	2			16
HOURLY TOTAL					13	HOURLY TOTAL			10
6:00-6:15				1	1	4		1	17
6:15-6:30				4	4				18
6:30-6:45				1	1	2			19
6:45-7:00				10	10				20
HOURLY TOTAL					16	HOURLY TOTAL			7
7:00-7:15				4	4	1			21
7:15-7:30				5	5	1	1		22
7:30-7:45				7	7	1			23
7:45-8:00				5	5	2			24
HOURLY TOTAL					21	HOURLY TOTAL			6
8:00-8:15				2	2	1			25
8:15-8:30				10	10				26
8:30-8:45				16	16	1			27
8:45-9:00				10	10	1			28
HOURLY TOTAL					38	HOURLY TOTAL			3
9:00-9:15				2	2				29
9:15-9:30									30
9:30-9:45				4	4	1			31
9:45-10:00									32
HOURLY TOTAL					6	HOURLY TOTAL			1
TOTAL					207	TOTAL			204