

COON RAPIDS HIGH SCHOOL

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.

BOOKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN BY \_\_\_\_\_ DATE \_\_\_\_\_

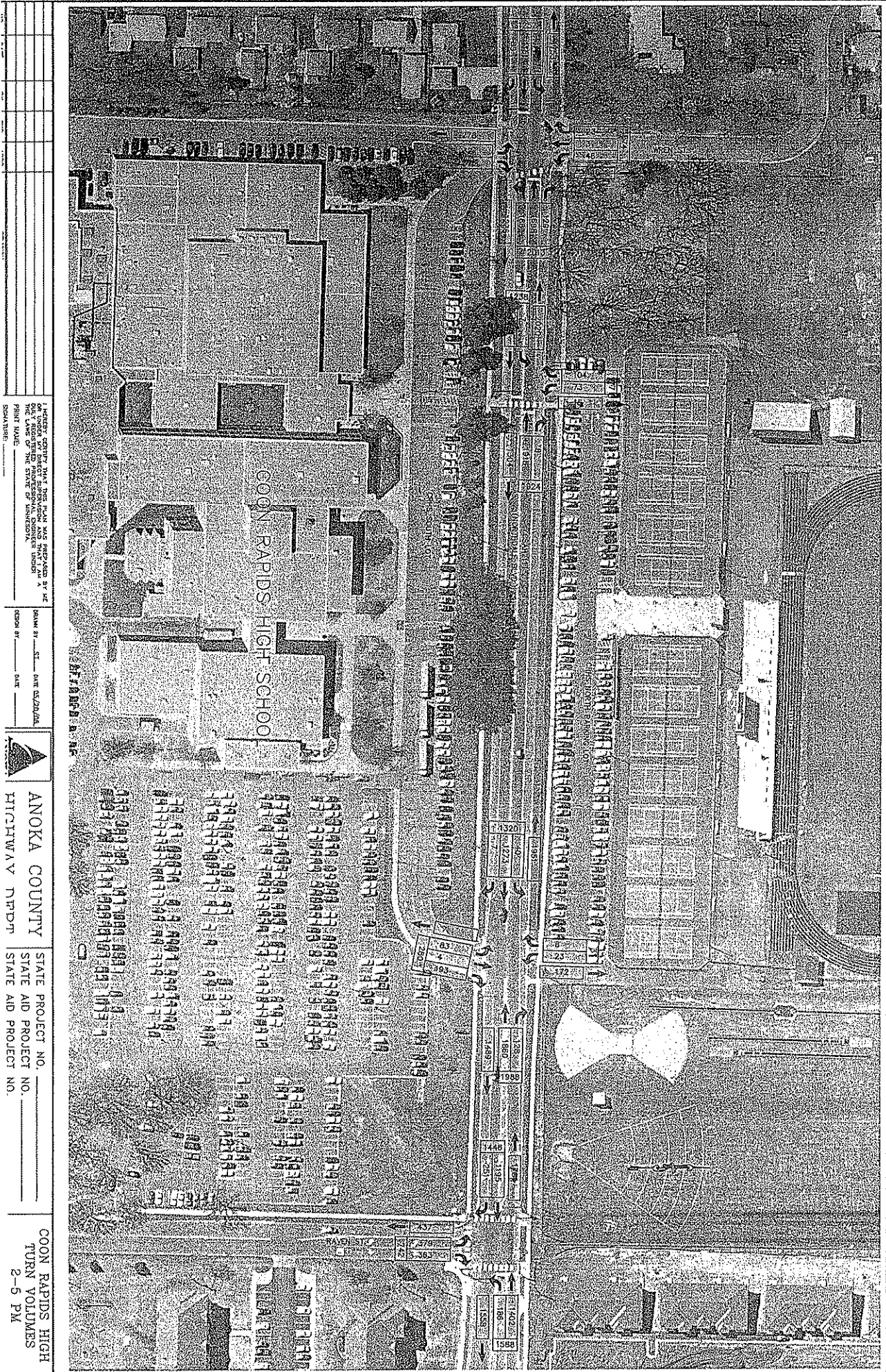


ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_

COON RAPIDS HIGH  
 TURN VOLUMES  
 7-8 AM

574	575	576	577	578	579	580
581	582	583	584	585	586	587
588	589	590	591	592	593	594
595	596	597	598	599	600	601



I HEREBY CERTIFY THAT THE PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED SURVEYOR OF THE STATE OF MINNESOTA.

DATE: 04/22/2014  
 DRAWN BY: [blank]  
 CHECKED BY: [blank]  
 SCALE: [blank]



**ANOKA COUNTY**  
 HIGHWAY TRUST

STATE PROJECT NO. [blank]  
 STATE AID PROJECT NO. [blank]  
 STATE AID PROJECT NO. [blank]

COON RAPIDS HIGH  
 TURN VOLUMES  
 2-5 PM





# Anoka County Highway Department

## Traffic Engineering Section Traffic Volume and Turning Movement Study

Weather: Warm and Sunny  
Counter: TDC-12  
Counted by: Randy/Sean

File Name : TMC0804  
Site Code : 08049902  
Start Date : 05/15/200  
Page No : 1

Groups Printed- Unshifted

Start Time	North parking lot (west ent.) Southbound					CSAH 11 Westbound					None Northbound					CSAH 11 Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	peds	App. Total	Left	Thru	Right	Heavy	App. Total			
07:00	1	0	1	0	2	0	81	3	3	84	0	0	0	0	0	6	121	0	0	127	3	213	216
07:15	2	0	1	0	3	0	116	0	31	116	0	0	0	0	0	7	112	0	3	119	34	238	272
07:30	2	0	1	0	3	0	118	2	10	120	0	0	0	0	0	9	154	0	6	163	16	286	302
07:45	5	0	0	1	6	0	96	0	2	96	0	0	0	0	0	0	148	0	7	148	10	249	259
Total	10	0	3	1	13	0	411	5	46	416	0	0	0	0	0	22	535	0	16	557	63	986	1049
*** BREAK ***																							
14:00	2	0	3	1	5	0	120	0	10	120	0	0	0	0	0	0	81	0	2	81	13	206	219
14:15	7	0	5	0	12	0	110	0	18	110	0	0	0	0	0	0	105	0	6	105	24	227	251
14:30	28	0	41	0	69	0	159	0	12	159	0	0	0	0	0	0	97	0	4	97	16	325	341
14:45	3	0	3	0	6	0	154	0	5	154	0	0	0	0	0	0	124	0	5	124	10	284	294
Total	40	0	52	1	92	0	543	0	45	543	0	0	0	0	0	0	407	0	17	407	63	1042	1105
15:00	7	0	3	0	10	0	147	0	14	147	0	0	0	0	0	0	98	0	3	98	17	255	272
15:15	3	0	4	2	7	0	145	0	3	145	0	0	0	0	0	0	108	0	1	108	6	260	266
15:30	6	0	7	0	13	0	165	0	4	165	0	0	0	0	0	0	94	0	4	94	8	272	280
15:45	5	0	6	1	11	0	143	0	6	143	0	0	0	0	0	0	90	0	2	90	9	244	253
Total	21	0	20	3	41	0	600	0	27	600	0	0	0	0	0	0	390	0	10	390	40	1031	1071
16:00	3	0	5	0	8	0	180	3	2	183	0	0	0	0	0	4	113	0	3	117	5	308	313
16:15	3	0	9	0	12	0	187	1	1	188	0	0	0	0	0	2	104	0	4	106	5	306	311
16:30	3	0	12	1	15	0	176	2	6	178	0	0	0	0	0	0	106	0	2	106	9	299	308
16:45	3	0	6	1	9	0	230	2	1	232	0	0	0	0	0	1	111	0	1	112	3	353	356
Total	12	0	32	2	44	0	773	8	10	781	0	0	0	0	0	7	434	0	10	441	22	1266	1288
Grand Total	83	0	107	7	190	0	2327	13	128	2340	0	0	0	0	0	29	1766	0	53	1795	188	4325	4513
Apprch %	43.7	0	56.3			0	99.4	0.6			0	0	0			1.6	98.4	0					
Total %	1.9	0	2.5		4.4	0	53.8	0.3		54.1	0	0	0		0	0.7	40.8	0		41.5	4.2	95.8	



# Anoka County Highway Department

Traffic Engineering Section

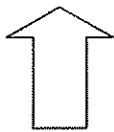
Traffic Volume and Turning Movement Study

Weather: Warm and Sunny  
 Counter: TDC-12  
 Counted by: Randy/Sean

File Name : TMC0804  
 Site Code : 08049902  
 Start Date : 05/15/200  
 Page No : 1

Groups Printed- Bank 1

Start Time	North parking lot (west ent.) Southbound					CSAH 11 Westbound					None Northbound					CSAH 11 Eastbound					Excl. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	peds	App. Total	Left	Thru	Right	Heavy	App. Total			
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	47	0	0	0	0	0	0	47	0	47
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	73	0	0	0	0	0	0	73	0	73
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	57	0	0	0	0	0	0	57	0	57
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	20	0	20
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	197	0	0	0	0	0	0	197	0	197
*** BREAK ***																							
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0	45	0	45
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	99	0	0	0	0	0	0	99	0	99
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	166	0	0	0	0	0	0	166	0	166
14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	86	0	0	0	0	0	0	86	0	86
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	396	0	0	0	0	0	0	396	0	396
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	52	0	0	0	0	0	0	52	0	52
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	0	30	0	30
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	17	0	17
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	15	0	15
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	114	0	0	0	0	0	0	114	0	114
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	20	0	20
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	21	0	21
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	26	0	26
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12	0	12
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	79	0	0	0	0	0	0	79	0	79
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	786	0	0	0	0	0	0	786	0	786
Apprch %	0	0	0			0	0	0			0	0	0			0	0	0			100	0	
Total %																							



**NORTH**

APP. #1 = CSAH 11
APP. #2 = Park Lot Ent.
APP. #3= CSAH 11
APP. #4= None

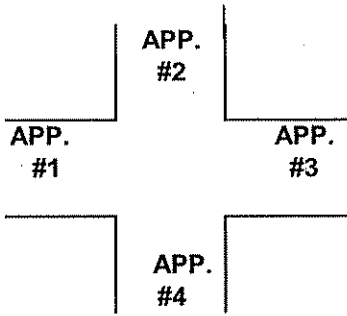
**COUNT LOCATION:**

CSAH 11 (Northdale Blvd.) @

**DATE:**

05/15/2008

Coon Rapids High north lot - west entrance



- 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
7:00-7:15AM			47		47	1		2
7:15-7:30			73		73			33
7:30-7:45			57		57	3		14
7:45-8:00			20		20	5		5
<b>HOURLY TOTAL</b>					<b>197</b>	<b>HOURLY TOTAL</b>		<b>63</b>
				<b>TOTAL</b>	<b>197</b>		<b>TOTAL</b>	<b>63</b>

2:00-2:15PM			45		45	1		12
2:15-2:30			96		96	2		22
2:30-2:45			166		166	1		15
2:45-3:00			86		86	1		9
<b>HOURLY TOTAL</b>					<b>393</b>	<b>HOURLY TOTAL</b>		<b>63</b>
3:00-3:15			52		52	3		15
3:15-3:30			30		30	2		4
3:30-3:45			17		17	3		6
3:45-4:00			15		15	1		8
<b>HOURLY TOTAL</b>					<b>114</b>	<b>HOURLY TOTAL</b>		<b>42</b>
4:00-4:15			20		20	1		5
4:15-4:30			21		21	2		3
4:30-4:45			26		26	3		6
4:45-5:00			12		12	1		2
<b>HOURLY TOTAL</b>					<b>79</b>	<b>HOURLY TOTAL</b>		<b>23</b>
				<b>TOTAL</b>	<b>507</b>		<b>TOTAL</b>	<b>191</b>



# Anoka County Highway Department

Traffic Engineering Section

Multi-direction Gap Study

Coon Rapids High School

CSAH 11 (Northdale Blvd.) @ Wren St./ North parking lot exit

File Name : 11051508\_0  
 Site Code : 11051508  
 Start Date : 05/15/2008  
 Page No : 1

Weather: Sunny and Warm  
 Counter: TDC-12  
 study conducted by: Sean

Directions Printed: EB & WB Combined Gap

Start Time	peds	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22-23	24-25	26-27	28-29	>29	Int. Total	Average
09:45	0	32	16	9	8	9	3	4	4	3	0	0	1	1	2	2	94	4-5
Total	0	32	16	9	8	9	3	4	4	3	0	0	1	1	2	2	94	4-5
10:00	0	24	19	14	7	7	4	1	3	1	1	3	1	0	0	0	85	4-5
10:15	0	24	16	10	14	6	5	1	1	1	0	1	1	1	0	0	81	6-7
10:30	0	21	10	7	7	4	7	5	0	2	2	0	0	1	0	2	68	6-7
Grand Total	0	101	61	40	36	26	19	11	8	7	3	4	3	3	2	4	328	6-7
Total %		30.8	18.6	12.2	11.0	7.9	5.8	3.4	2.4	2.1	0.9	1.2	0.9	0.9	0.6	1.2		

Mistake was made during study - Gap buttons were not simultaneously held down after one direction exceeded 29 seconds. Consequently, some combined gaps may have been longer than recorded.

## Gap Time

4 ft/sec = Walking Speed

48 ft. = CSAH 11 width

$$\text{required crossing time} = \frac{48 \text{ ft}}{4 \text{ ft/sec}} = 12 \text{ sec.}$$



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 Multi-direction Gap Study  
 Coon Rapids High School

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 Site Code : 11051508  
 Start Date : 05/15/2008  
 Page No : 1

Weather: Sunny and Warm  
 Counter: TDC-12  
 study conducted by: Sean

## Directions Printed: Westbound - Eastbound

Start Time	peds	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22-23	24-25	26-27	28-29	>29	Int. Total	Average
09:45	25	24	14	8	8	8	5	2	6	9	5	1	3	1	2	16	112	10-11
Total	25	24	14	8	8	8	5	2	6	9	5	1	3	1	2	16	112	10-11
10:00	26	19	18	15	6	10	6	5	2	4	4	4	3	4	2	11	113	8-9
10:15	51	19	11	11	8	6	6	2	1	3	4	4	3	3	3	15	99	10-11
10:30	0	14	6	5	11	8	8	5	2	4	4	3	0	2	3	14	89	12-13
Grand Total	102	76	49	39	33	32	25	14	11	20	17	12	9	10	10	56	413	10-11
Total %		18.4	11.9	9.4	8.0	7.7	6.1	3.4	2.7	4.8	4.1	2.9	2.2	2.4	2.4	13.6		



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Traffic Engineering Section  
Multi-direction Gap Study  
Coon Rapids High School

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Site Code : 11051508  
Start Date : 05/15/2008  
Page No : 1

Weather: Sunny and Warm  
Counter: TDC-12  
study conducted by: Sean

## Directions Printed: Westbound

Start Time	peds	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22-23	24-25	26-27	28-29	>29	Int. Total	Average
09:45	25	11	9	6	7	5	2	1	2	0	3	1	3	0	0	8	58	8-9
Total	25	11	9	6	7	5	2	1	2	0	3	1	3	0	0	8	58	8-9
10:00	26	11	7	5	4	1	1	1	1	3	1	3	2	2	0	7	49	8-9
10:15	51	9	4	4	4	2	5	2	0	1	1	0	2	0	1	10	45	10-11
10:30	0	7	3	3	4	2	4	3	0	2	2	2	0	1	3	6	42	12-13
Grand Total	102	38	23	18	19	10	12	7	3	6	7	6	7	3	4	31	194	8-9
Total %		19.6	11.9	9.3	9.8	5.2	6.2	3.6	1.5	3.1	3.6	3.1	3.6	1.5	2.1	16.0		





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Traffic Engineering Section

Multi-direction Gap Study

Coon Rapids High School

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 Start Date : 05/15/2008  
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Weather: Sunny and Warm  
 Counter: TDC-12  
 study conducted by: Sean

## Directions Printed: Eastbound

Start Time	peds	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22-23	24-25	26-27	28-29	>29	Int. Total	Average
09:45	0	13	5	2	1	3	3	1	4	9	2	0	0	1	2	8	54	14-15
Total	0	13	5	2	1	3	3	1	4	9	2	0	0	1	2	8	54	14-15
10:00	0	8	11	10	2	9	5	4	1	1	3	1	1	2	2	4	64	10-11
10:15	0	10	7	7	4	4	1	0	1	2	3	4	1	3	2	5	54	8-9
10:30	0	7	3	2	7	6	4	2	2	2	2	1	0	1	0	8	47	10-11
Grand Total	0	38	26	21	14	22	13	7	8	14	10	6	2	7	6	25	219	10-11
Total%		17.4	11.9	9.6	6.4	10.0	5.9	3.2	3.7	6.4	4.6	2.7	0.9	3.2	2.7	11.4		