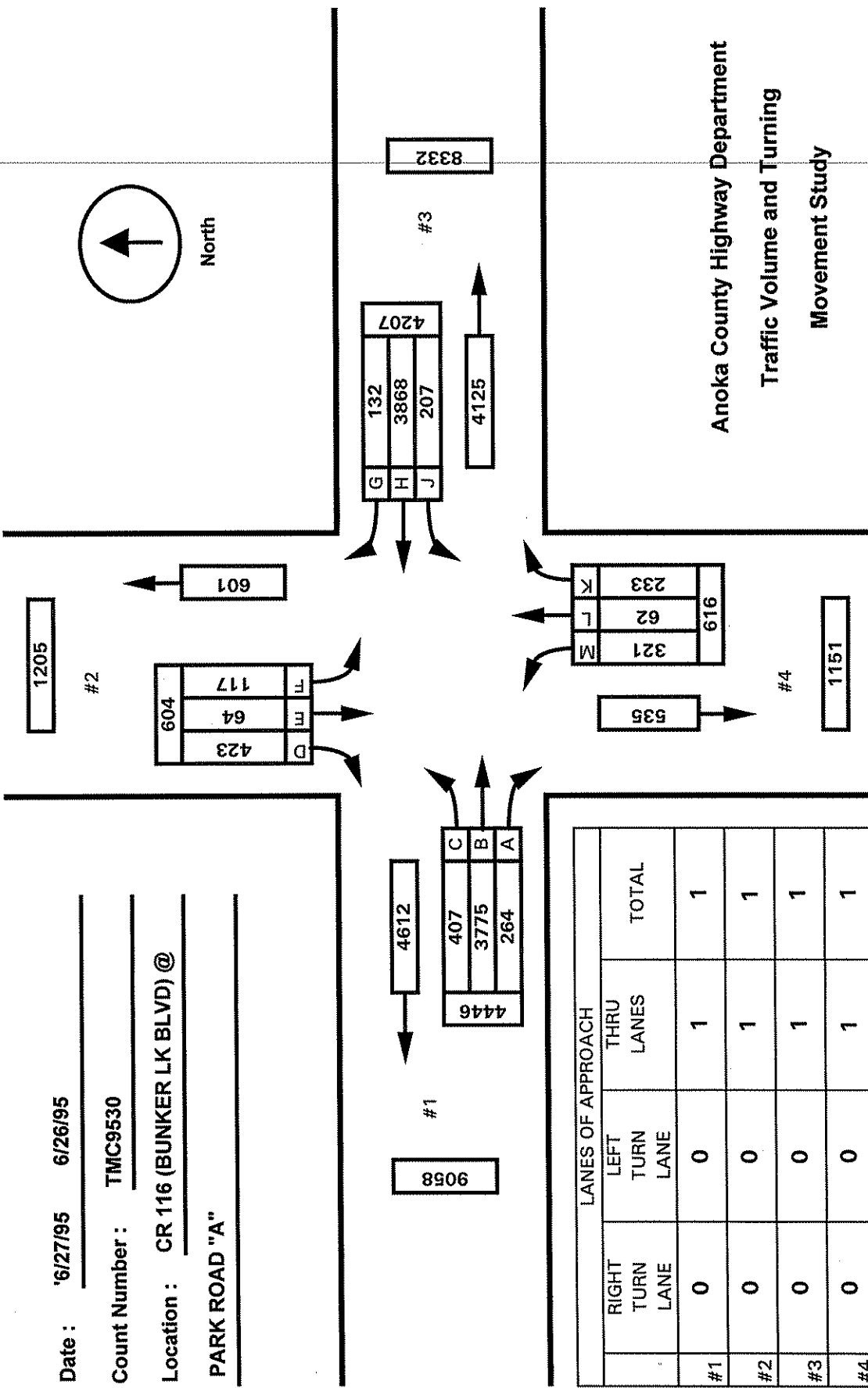
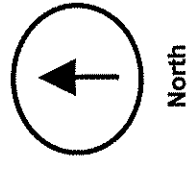


Date : '6/27/95 6/26/95
 Count Number : TMC9530
 Location : CR 116 (BUNKER LK BLVD) @
 PARK ROAD "A"



Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

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

ANOKA COUNTY HIGHWAY DEPARTMENT
 TRAFFIC ENGINEERING SECTION
 TRAFFIC VOLUME AND
 TURNING MOVEMENT STUDY

Site Code: 5300201
 Start Date: 06/26/95
 File I.D.: TMC9530
 Page: 1

Counter: TD-8IGHT
 Counted by ANN/LAURIE
 AM: CLOUDY; PM: SUNNY

Vehicle group 1

Date	SYCAMORE ST										CR 116 (BUNKER LAKE BLVD)										CR 116 (BUNKER LAKE BLVD)												
	Southbound					Northbound					Westbound					Eastbound					Eastbound					Other							
	Other	Right	Thru	Left	Total	Other	Right	Thru	Left	Total	Other	Right	Thru	Left	Total	Other	Right	Thru	Left	Total	Other	Right	Thru	Left	Total	Other	Right	Thru	Left	Total			
06:00	0	3	0	3	6	3	0	27	3	0	0	0	1	43	0	0	0	0	0	0	1	0	0	0	0	0	1	85	3	3	0	3	6
06:15	0	6	0	2	8	2	4	37	0	0	0	0	0	64	1	1	0	0	0	0	1	0	0	0	0	0	1	116	3	3	0	3	6
06:30	0	7	5	2	14	1	0	42	2	0	0	0	0	68	0	1	0	0	0	0	1	0	0	0	0	1	132	4	4	1	4	7	
06:45	0	3	1	0	4	4	0	60	3	0	0	2	0	70	0	0	0	0	0	0	2	0	0	0	0	0	150	7	7	4	7	13	
Hr Total	0	19	6	7	32	10	4	166	8	0	1	2	1	245	3	1	2	1	1	3	6	6	245	18	18	6	18	483	13	13	6	13	32
07:00	0	11	3	2	16	3	2	53	4	0	0	0	1	92	0	1	0	0	0	1	1	1	92	2	2	1	2	172	6	6	3	6	16
07:15	0	10	1	0	11	5	2	47	6	1	2	0	2	103	10	7	103	0	0	10	7	103	4	4	6	4	184	16	16	7	16	42	
07:30	0	7	3	1	11	4	3	58	6	0	1	2	3	93	7	4	93	0	0	7	4	93	5	5	4	5	186	11	11	4	11	29	
07:45	1	3	3	5	12	9	3	63	6	1	1	1	1	86	1	1	86	0	0	1	1	86	12	12	3	12	187	18	18	6	18	46	
Hr Total	1	31	10	8	49	21	10	221	22	2	5	3	7	374	27	15	374	0	0	27	15	374	23	23	15	23	729	51	51	18	51	133	
08:00	1	6	0	2	9	11	3	50	2	0	0	0	3	76	7	3	76	0	0	7	3	76	10	10	3	10	156	19	19	6	19	48	
08:15	1	6	0	1	8	8	2	55	2	1	3	1	1	60	1	3	60	1	1	1	7	60	6	6	5	6	142	17	17	6	17	42	
08:30	0	6	0	2	8	4	0	53	2	0	2	0	5	49	6	4	49	0	0	6	4	49	4	4	4	4	127	10	10	4	10	26	
08:45	4	5	1	3	13	3	2	37	3	0	2	0	2	52	4	6	52	0	0	4	6	52	6	6	11	6	119	11	11	6	11	28	
Hr Total	6	23	1	8	38	26	7	195	9	1	8	1	11	237	24	18	237	0	0	24	18	237	26	26	18	26	544	57	57	26	57	133	
09:00	1	4	0	4	9	9	1	35	3	0	1	4	2	56	4	2	56	0	0	4	2	56	10	10	2	10	122	14	14	2	14	32	
09:15	5	13	3	1	22	4	0	34	1	1	4	0	2	47	11	5	47	0	0	11	5	47	10	10	5	10	120	21	21	6	21	48	
09:30	1	5	1	2	9	3	0	35	0	0	1	0	1	31	4	2	31	0	0	4	2	31	5	5	2	5	83	8	8	2	8	20	
09:45	1	5	0	1	7	8	0	39	5	0	4	2	10	47	11	6	47	0	0	11	6	47	9	9	6	9	128	20	20	6	20	48	
Hr Total	8	27	4	8	47	24	1	143	9	1	10	6	15	181	30	15	181	0	0	30	15	181	34	34	15	34	453	63	63	26	63	153	
10:00	0	4	1	2	7	6	0	40	1	1	1	0	6	61	8	10	61	0	0	8	10	61	10	10	6	10	136	15	15	6	15	36	
10:15	1	4	1	1	7	7	3	48	1	0	3	0	7	65	3	16	65	0	0	3	16	65	9	9	16	9	158	11	11	9	11	27	
10:30	4	9	0	2	15	3	3	35	0	0	2	0	4	54	11	5	54	0	0	11	5	54	8	8	4	8	122	18	18	4	18	42	
10:45	2	10	0	1	13	7	0	43	2	0	3	0	3	43	8	2	43	0	0	8	2	43	11	11	2	11	118	17	17	2	17	42	
Hr Total	7	27	2	6	36	23	6	166	4	1	9	0	20	223	30	33	223	0	0	30	33	223	38	38	33	38	534	61	61	38	61	147	
11:00	3	6	0	3	12	4	1	42	2	1	0	1	2	55	8	6	55	0	0	8	6	55	10	10	6	10	128	16	16	6	16	38	
11:15	2	11	1	5	19	3	3	68	5	0	1	1	11	60	7	2	60	0	0	7	2	60	9	9	2	9	177	12	12	2	12	30	
11:30	4	14	2	1	21	7	4	72	0	1	2	1	6	44	3	4	44	0	0	3	4	44	5	5	4	5	155	15	15	4	15	36	
11:45	3	8	2	4	17	7	3	54	6	1	1	3	6	51	8	7	51	0	0	8	7	51	8	8	7	8	153	19	19	7	19	45	
Hr Total	12	39	5	13	69	21	11	236	13	3	4	6	25	210	26	19	210	0	0	26	19	210	32	32	19	32	613	62	62	32	62	147	
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12:30	2	11	0	0	13	2	3	34	2	0	4	2	2	57	4	6	57	0	0	4	6	57	7	7	6	7	128	8	8	6	8	24	
12:45	1	4	0	4	9	6	7	43	4	0	4	0	3	51	6	6	51	0	0	6	6	51	7	7	6	7	133	13	13	6	13	30	
Hr Total	6	30	1	10	47	13	14	178	12	1	12	3	16	208	22	16	208	0	0	22	16	208	36	36	16	36	536	42	42	16	42	102	

ANOKA COUNTY HIGHWAY DEPARTMENT
 TRAFFIC ENGINEERING SECTION
 TRAFFIC VOLUME AND
 TURNING MOVEMENT STUDY

Site Code : 5300201
 Start Date : 06/26/95
 File I.D. : TMC9530
 Page : 2

Counter : TRAFFIC LIGHT
 Counted by ANN/LAURIE
 AM: CLOUDY; PM: SUNNY

Vehicle group 1

Date	SYCAMORE ST Southbound				CR 116 (BUNKER LAKE BLVD) Westbound				PARK ROAD "A" Northbound				CR 116 (BUNKER LAKE BLVD) Eastbound				Vehicle		
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Total	Other	Total
13:00	2	9	1	4	4	5	41	5	2	2	0	5	8	2	45	12	131	16	147
13:15	1	7	3	7	3	3	53	2	1	6	1	8	6	8	48	11	157	11	168
13:30	1	9	1	2	2	1	38	1	0	2	0	6	4	10	44	7	121	7	128
13:45	3	12	0	0	5	1	65	5	0	2	1	3	2	3	57	9	158	10	168
Hr Total	7	37	5	13	14	10	197	13	3	12	2	22	20	23	194	39	567	44	611
14:00	2	5	1	2	10	3	65	6	0	4	2	5	8	5	56	6	160	20	180
14:15	3	7	2	1	3	1	54	0	1	9	0	6	4	1	59	12	152	11	163
14:30	4	13	2	4	6	6	73	9	0	3	0	5	3	2	60	4	181	13	194
14:45	3	4	0	0	4	0	63	7	0	1	1	2	9	5	83	7	173	16	189
Hr Total	12	29	5	7	23	10	255	22	1	17	3	18	24	13	258	29	666	60	726
15:00	1	7	1	2	10	2	72	3	0	6	3	3	2	1	64	8	172	13	185
15:15	0	3	0	1	5	2	69	4	0	3	2	6	2	2	86	2	180	7	187
15:30	2	10	2	2	2	1	62	5	0	2	1	5	2	2	59	4	153	6	159
15:45	1	10	2	0	5	5	79	6	0	8	0	4	1	3	77	5	199	7	206
Hr Total	4	30	3	5	22	10	282	18	0	19	6	18	7	8	286	19	704	33	737
16:00	0	9	1	1	2	4	71	3	0	9	0	10	4	9	70	12	199	6	205
16:15	1	10	2	0	3	1	97	2	0	9	3	13	4	7	85	5	234	8	242
16:30	3	7	2	6	3	2	95	5	0	4	1	11	2	3	63	4	203	8	211
16:45	0	6	1	3	2	5	100	4	1	13	3	9	3	4	82	2	232	6	238
Hr Total	4	32	6	10	10	12	363	14	1	35	7	43	13	23	300	23	868	28	896
17:00	0	1	4	1	5	2	122	5	1	8	3	22	5	10	103	8	289	11	299
17:15	0	10	2	3	2	1	120	3	0	12	1	7	1	7	76	5	247	3	250
17:30	2	5	2	2	4	8	137	11	0	9	2	23	3	1	50	1	251	9	260
17:45	0	7	0	1	1	2	140	2	0	14	2	14	4	5	83	8	278	5	283
Hr Total	2	23	8	7	12	13	519	21	1	43	8	66	13	23	312	22	1065	28	1093
18:00	0	7	0	2	5	3	94	3	0	13	1	9	2	5	62	6	205	7	212
18:15	1	3	0	0	1	2	71	6	0	5	3	4	0	4	45	2	145	2	147
18:30	0	6	2	2	1	0	100	3	0	4	1	3	2	10	55	5	191	3	194
18:45	0	7	1	2	0	3	61	2	0	4	0	10	0	3	66	4	163	0	167
Hr Total	1	23	3	6	7	8	326	14	0	26	5	26	4	22	228	17	704	12	716
19:00	0	10	1	0	0	0	63	3	0	4	1	3	0	4	58	2	149	0	149
19:15	0	5	0	0	2	0	56	0	0	5	1	3	0	3	54	7	134	2	136
19:30	0	4	0	2	1	2	53	1	0	0	4	8	0	5	59	6	144	1	145
19:45	0	7	1	2	1	1	68	4	0	2	1	1	0	4	56	5	152	1	153
Hr Total	0	26	2	4	4	3	240	8	0	11	7	15	0	16	227	20	579	4	583

ANOKA COUNTY HIGHWAY DEPARTMENT

Site Code 5300201
 Start Date: 06/26/95
 File I.D. : TMC9530
 Page : 3

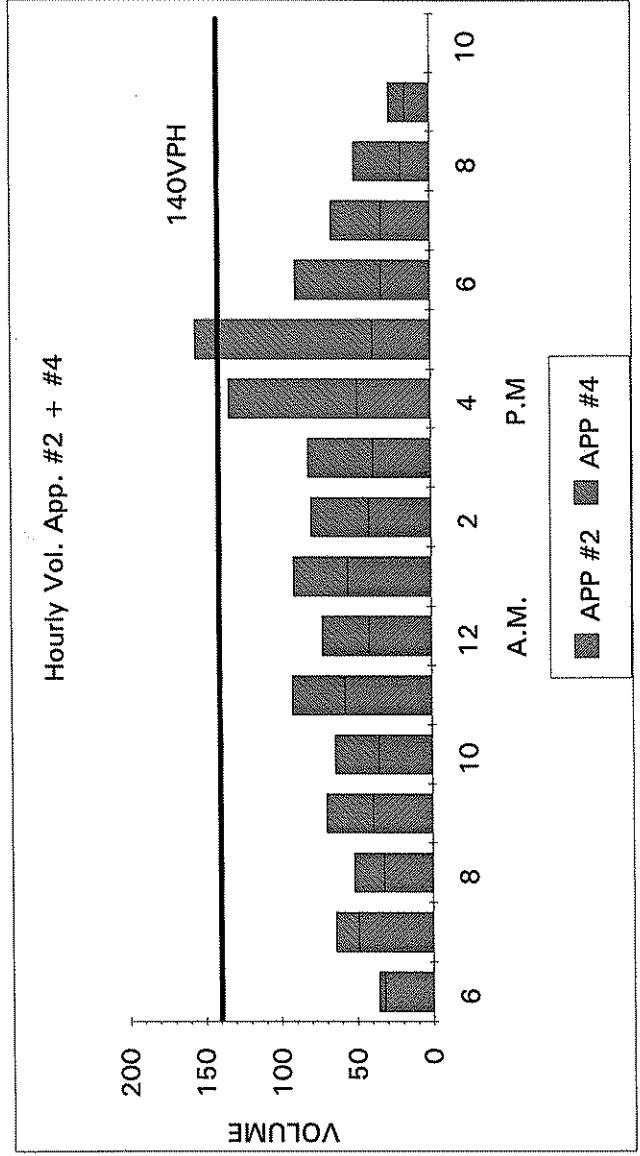
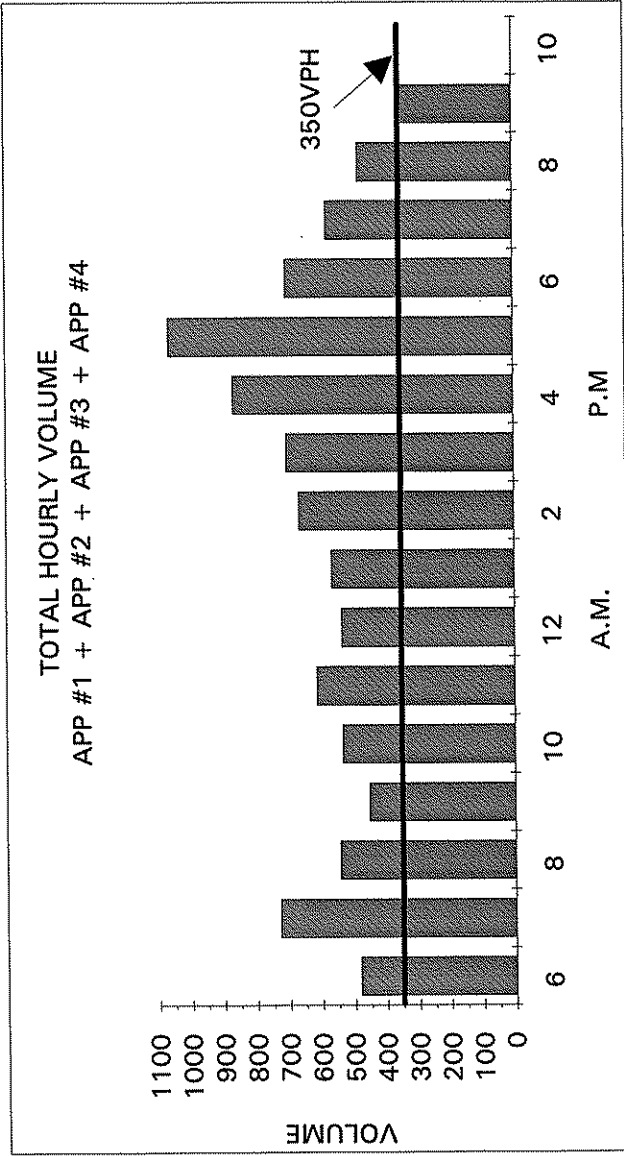
Counter : TDC-1818
 Counted by ANN/LAURIE
 AM: CLOUDY; PM: SUNNY

Vehicle group 1

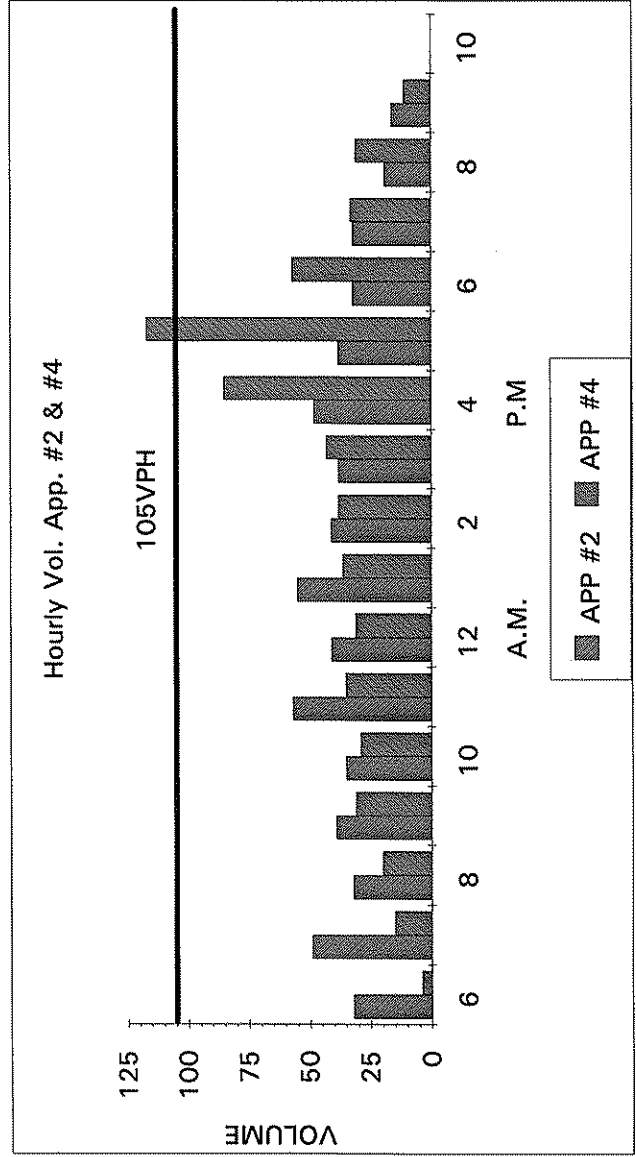
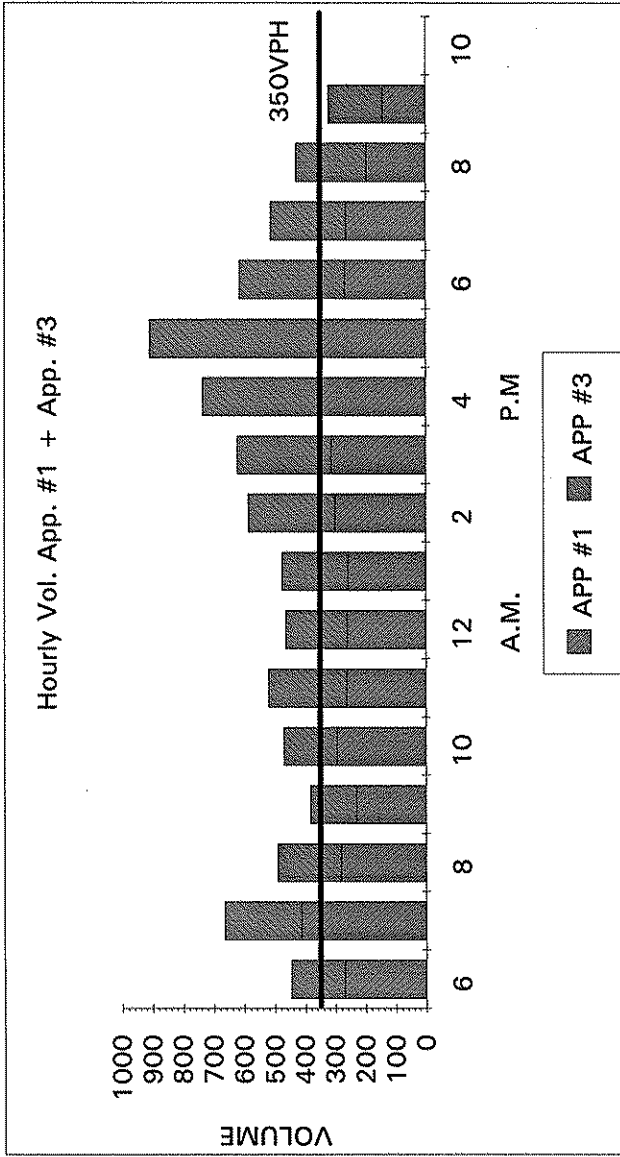
Date 06/26/95	SYCAMORE ST Southbound				CR 116 (BUNKER LAKE BLVD) Westbound				PARK ROAD "A" Northbound				CR 116 (BUNKER LAKE BLVD) Eastbound				Vehicle Total	Other Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left		
20:00	0	2	0	1	0	0	62	3	0	7	0	2	0	1	58	1	137	0
20:15	0	6	0	0	0	2	53	7	0	2	0	0	3	2	40	7	119	3
20:30	0	4	2	1	0	1	49	3	0	2	0	5	0	4	36	7	114	0
20:45	0	3	0	0	0	2	49	3	1	4	2	7	0	4	32	3	109	1
HR Total	0	15	2	2	0	5	213	16	1	15	2	14	3	11	166	18	479	4
21:00	0	7	1	0	2	0	40	0	0	5	0	3	0	1	41	6	104	2
21:15	0	0	0	1	1	3	41	4	0	1	1	1	0	2	35	3	92	1
21:30	0	4	0	2	0	2	44	0	0	0	0	0	0	0	34	1	87	0
21:45	0	1	0	0	0	3	43	0	0	0	0	0	0	0	16	3	66	0
HR Total	0	12	1	3	3	8	168	4	0	6	1	4	0	3	126	13	349	3

TOTAL 70 423 64 117 233 132 3868 207 16 233 62 321 246 264 3775 407 9873 565

TMC9530 STOP WARRANT STUDY



TMC9530 SIGNAL WARRANT 1 STUDY



TMC9530 SIGNAL WARRANT 2 STUDY

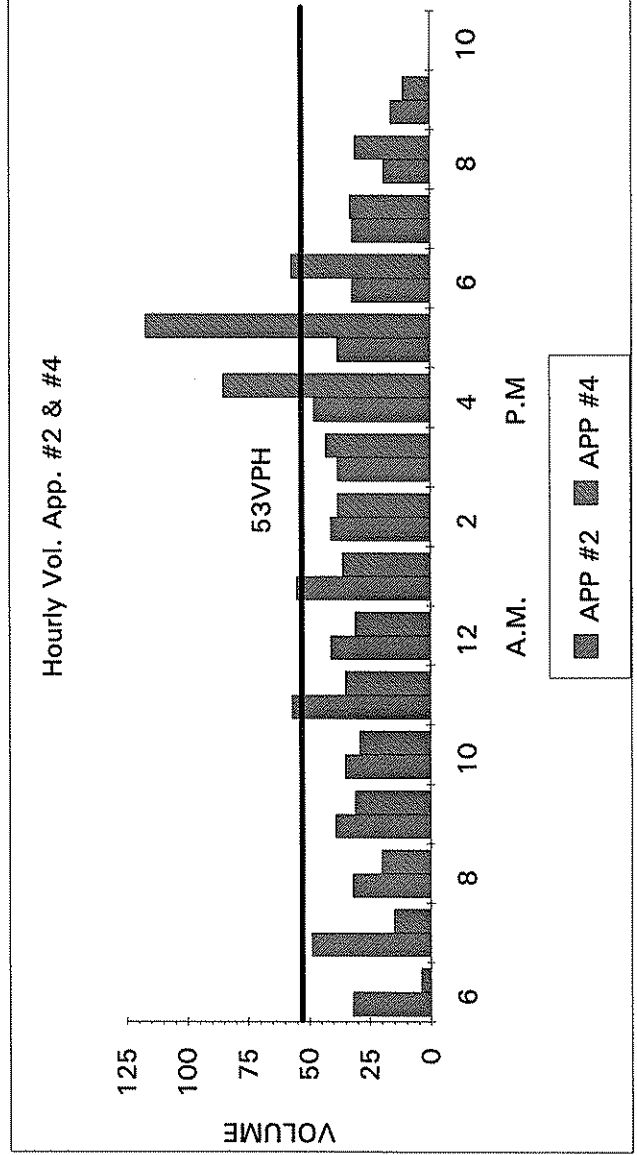
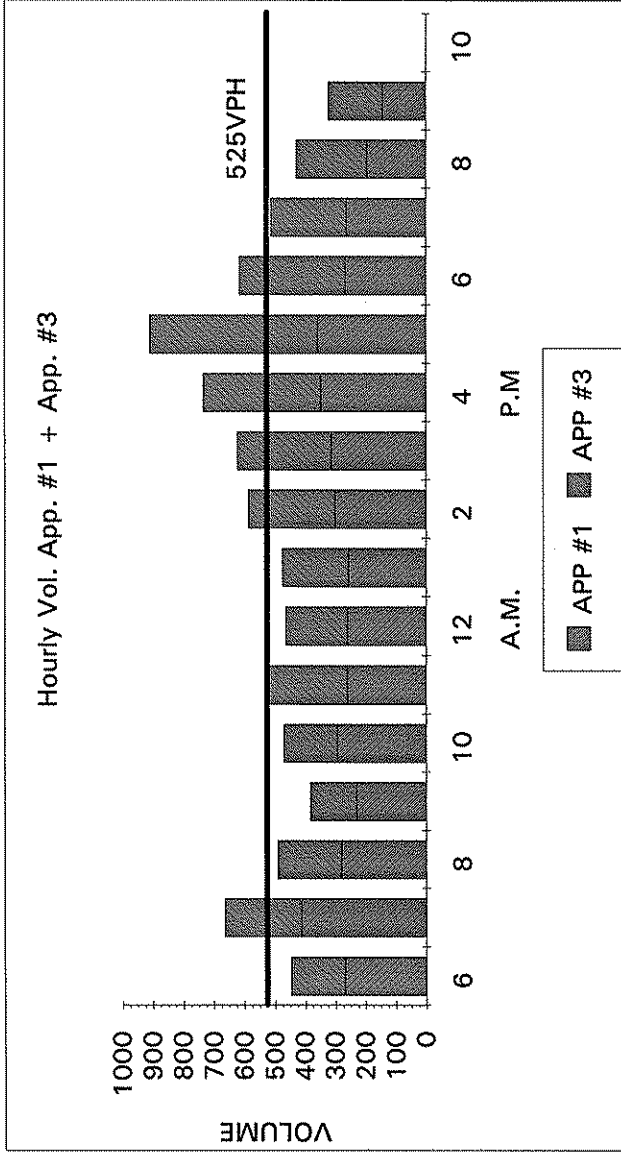
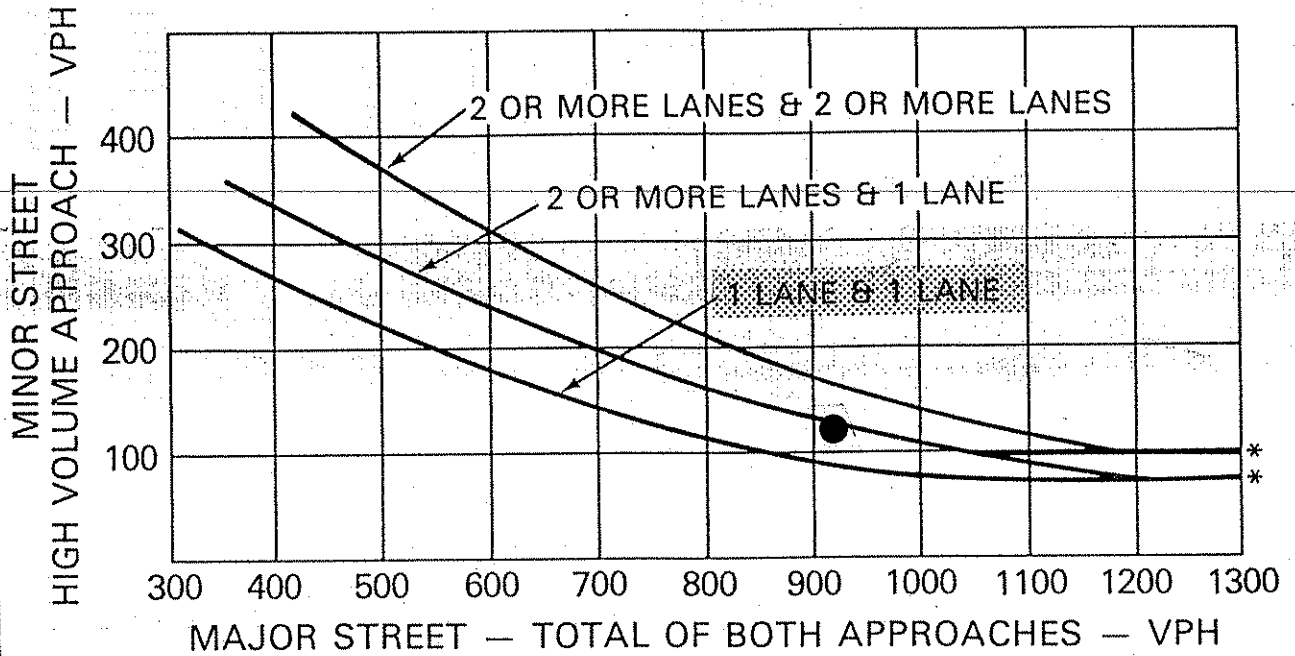


FIGURE 4-6. PEAK HOUR VOLUME WARRANT

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*NOTE: 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

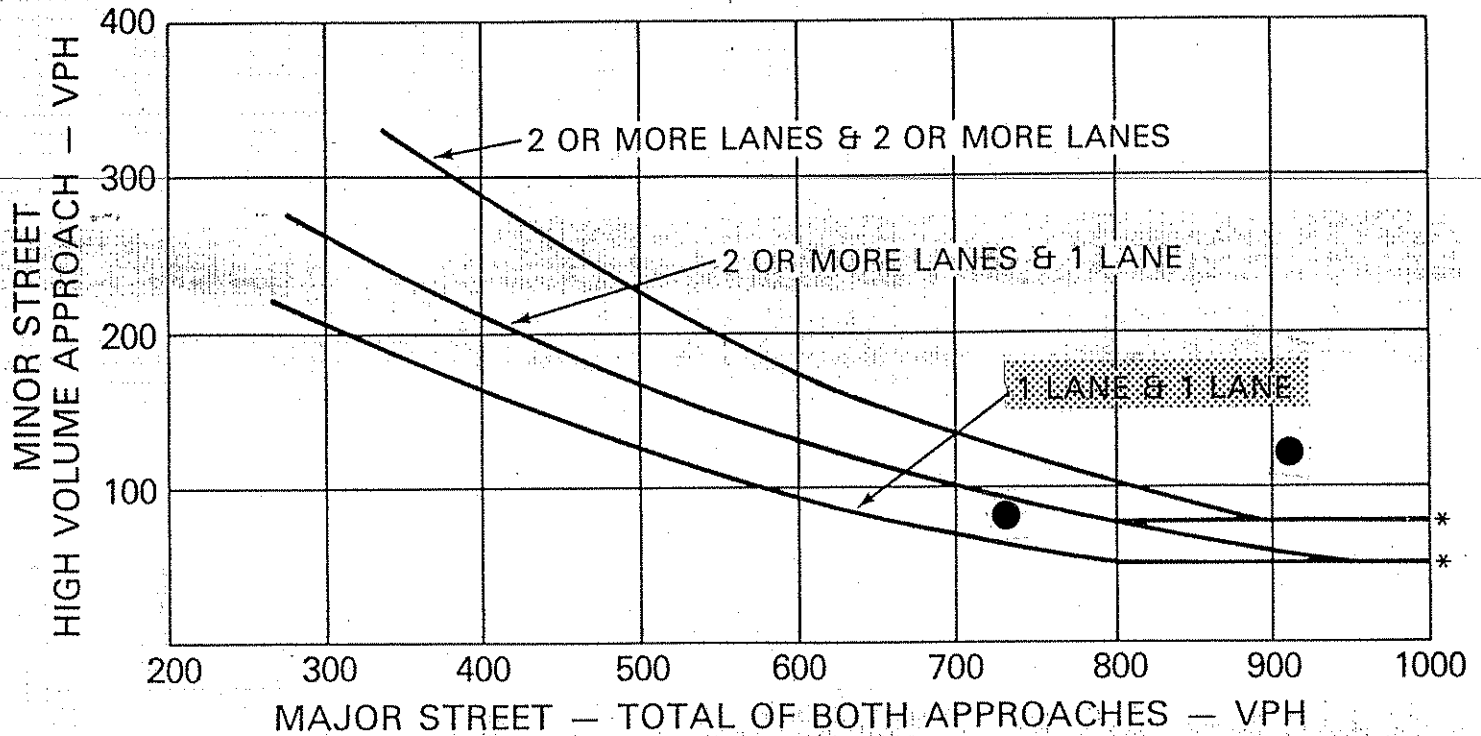
● = VOLUMES WHICH EXCEED THE THRESHOLD AND ARE REPRESENTED ON THE GRAPH.
 † =

★ = VOLUMES WHICH EXCEED THE THRESHOLD BUT CANNOT BE REPRESENTED ON THE GRAPH.

TIME	MAJOR STREETS (VPH)	MINOR STREET (VPH)
6-7 am	447	32
7-8 am	665	49
8-9 am	492	32
9-10 am	383	39
10-11 am	470	35
11-12 pm	521	57
12-1 pm	464	41
1-2 pm	476	55
2-3 pm	587	41
3-4 pm	623	43
4-5 pm	735	85
● 5-6 pm	910	117
6-7 pm	615	57
7-8 pm	514	33
8-9 pm	429	31
9-10 pm	322	16

FIGURE 4-8. FOUR HOUR VOLUME WARRANT

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*NOTE: 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 60 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

● = VOLUMES WHICH EXCEEDED THE THRESHOLD AND ARE REPRESENTED ON THE GRAPH.

★ = VOLUMES WHICH EXCEEDED THE THRESHOLD BUT CANNOT BE REPRESENTED ON THE GRAPH.

TIME	MAJOR STREETS (VPH)	MINOR STREET (VPH)
6-7 am	447	32
7-8 am	665	49
8-9 am	492	32
9-10 am	383	39
10-11 am	470	35
11-12 pm	521	57
12-1 pm	464	41
1-2 pm	476	55
2-3 pm	587	41
3-4 pm	623	43
● 4-5 pm	735	85
● 5-6 pm	910	117
6-7 pm	615	57
7-8 pm	514	33
8-9 pm	429	31
9-10 pm	322	16

TMC 9530 CR 116 (BUNKER LK BLVD) @ PARK RD "A"



NORTH

APP. #1= EB CR 116
(BUNKER LK BLVD)

APP. #2= SB SYCAMORE
ST

APP. #3= WB CR 116
(BUNKER LK BLVD)

APP. #4= NB PARK
ROAD "A"

COUNT LOCATION: CR 116 (BUNKER LK BLVD)@
PARK ROAD "A"

DATE: 6/27/95

APP.
#2

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						3		
6:15-6:30						3		
6:30-6:45						1		
6:45-7:00						6		
HOURLY TOTAL						HOURLY TOTAL		13
7:00-7:15						5		
7:15-7:30						13		2
7:30-7:45						9		3
7:45-8:00						13		2
HOURLY TOTAL						HOURLY TOTAL		47
8:00-8:15						18		
8:15-8:30						14		1
8:30-8:45						9		
8:45-9:00						11		
HOURLY TOTAL						HOURLY TOTAL		53
9:00-9:15						13		
9:15-9:30						20		
9:30-9:45						8		
9:45-10:00						19		1
HOURLY TOTAL						HOURLY TOTAL		61
10:00-10:15						13		
10:15-10:30						11		
10:30-10:45						17		
10:45-11:00						17		
HOURLY TOTAL						HOURLY TOTAL		58
11:00-11:15						17		1
11:15-11:30						10		2
11:30-11:45						12		1
11:45-12:00						19		
HOURLY TOTAL						HOURLY TOTAL		62
12:00-12:15						10		1
12:15-12:30						9		
12:30-12:45						7		1
12:45-1:00						10		1
HOURLY TOTAL						HOURLY TOTAL		39
1:00-1:15						16		
1:15-1:30						11		
1:30-1:45						7		
1:45-2:00						10		
HOURLY TOTAL						HOURLY TOTAL		44



NORTH

APP. #1=EB CR 116
(BUNKER LK BLVD)
APP. #2=SB SYCAMORE
APP. #3=WB CR 116
(BUNKER LK BLVD)
APP. #4=NB PARK RD "A"

COUNT LOCATION: CR 116 (BUNKER LAKE BLVD)
@ PARK ROAD "A"

DATE: 6/26/95

APP.
#2

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
2:00-2:15PM						18		1
2:15-2:30						12		1
2:30-2:45						12		
2:45-3:00	1				1	13		
HOURLY TOTAL					1	HOURLY TOTAL		57
3:00-3:15						13		
3:15-3:30						7	1	
3:30-3:45						4		1
3:45-4:00						7		
HOURLY TOTAL						HOURLY TOTAL		33
4:00-4:15						5		
4:15-4:30						9		
4:30-4:45						6		
4:45-5:00						6		
HOURLY TOTAL						HOURLY TOTAL		26
5:00-5:15						9		
5:15-5:30						2		
5:30-5:45						9		
5:45-6:00						4		
HOURLY TOTAL						HOURLY TOTAL		24
6:00-6:15						6		
6:15-6:30						3		
6:30-6:45						2	1	
6:45-7:00			1		1			
HOURLY TOTAL					1	HOURLY TOTAL		12
7:00-7:15								
7:15-7:30						2		
7:30-7:45								
7:45-8:00						1		
HOURLY TOTAL						HOURLY TOTAL		3
8:00-8:15								
8:15-8:30	1				1	3		
8:30-8:45								
8:45-9:00								
HOURLY TOTAL					1	HOURLY TOTAL		3
9:00-9:15						2		
9:15-9:30						1		
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		3