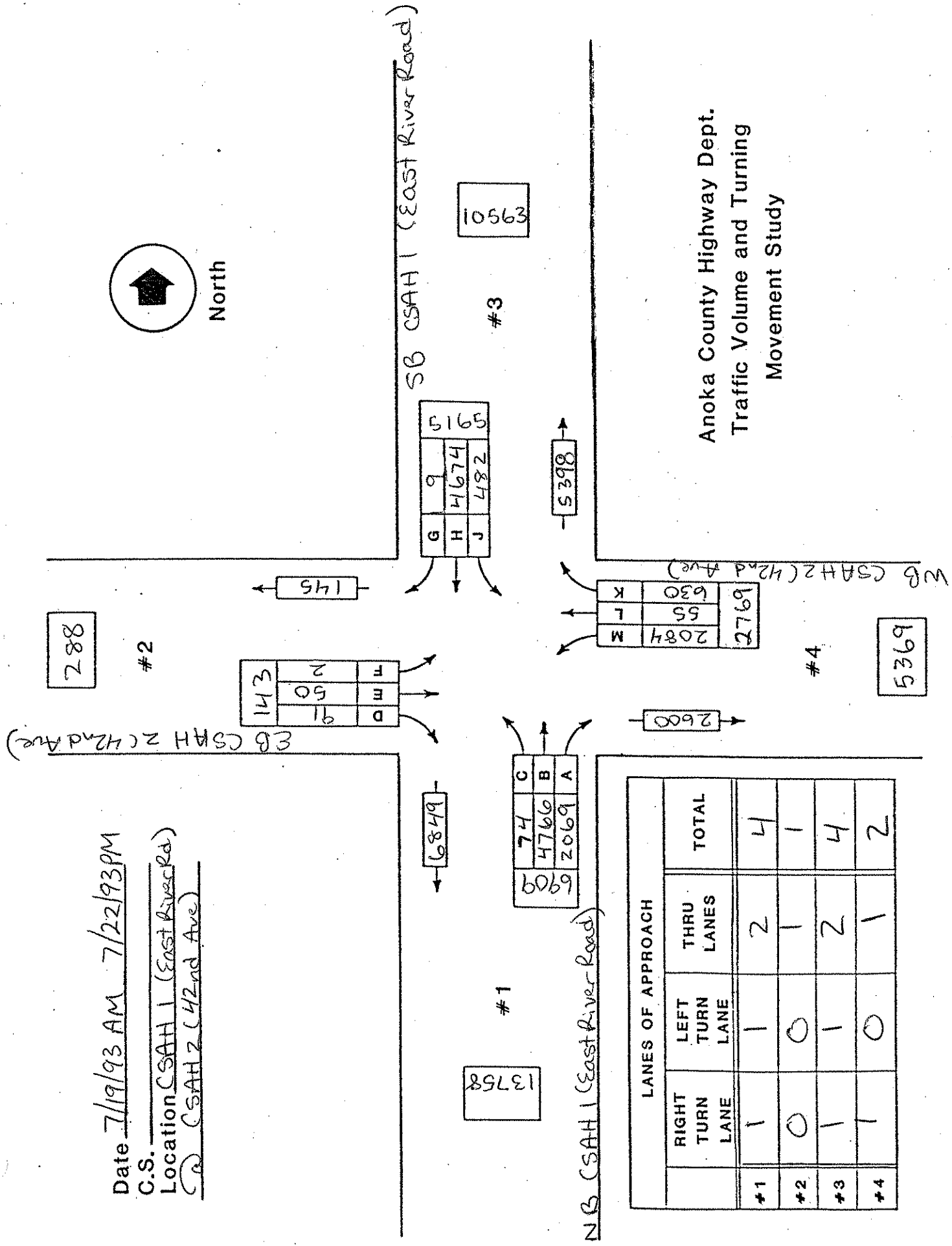


Date 7/19/93 AM 7/22/93 PM
 C.S. Location CSAH 1 (East River Rd)
CSAH 2 (42nd Ave)



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

Anoka County Highway Dept.
 Traffic Volume and Turning
 Movement Study

WEATHER: CLEAR/70 CLEAR/75
 Counter : TDC EIGHT
 Counted by Naomi/Eileen

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

Site Code : 93
 Start Date: 07
 File I.D. : TM
 Page : 1

Vehicle group 1

Date 07/19/93	SB CSAH 1 (EAST RIVER ROAD) Southbound				WB CSAH 2 (42nd AVE) Westbound				NB CSAH 1 (EAST RIVER ROAD) Northbound				EB 42nd AVE Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
06:00	6	0	92	6	2	4	2	23	5	10	49	0	0	0	0	0	186
06:15	4	0	176	6	1	8	0	48	3	13	31	1	0	0	0	0	283
06:30	7	0	241	11	1	14	1	63	6	21	48	1	0	1	0	0	401
06:45	4	0	208	15	0	16	1	48	3	27	54	3	0	1	0	0	373
Hr Total	21	0	717	38	4	42	4	182	17	71	182	5	0	2	0	0	1243
07:00	5	1	184	8	1	14	3	58	5	24	65	7	0	0	0	0	364
07:15	5	0	291	6	0	16	8	67	5	16	63	5	0	0	2	0	474
07:30	4	0	332	11	4	15	0	68	2	20	69	0	1	5	1	0	521
07:45	3	0	264	6	2	10	0	65	3	16	45	2	1	3	1	0	412
Hr Total	17	1	1071	31	7	55	11	258	15	76	242	14	2	8	4	0	1771
08:00	7	0	130	11	2	9	0	37	4	7	36	0	0	0	1	0	231
08:15	7	0	91	4	0	4	3	26	5	18	28	0	0	2	0	0	176
08:30	13	0	65	4	1	5	1	20	7	19	39	0	0	2	2	0	157
08:45	12	0	63	4	2	9	1	28	8	17	29	1	0	2	0	0	154
Hr Total	39	0	349	23	5	27	5	111	24	61	132	1	0	6	3	0	718
09:00	9	0	52	5	1	7	0	21	9	15	34	0	0	0	0	0	134
09:15	10	0	49	10	4	4	0	22	4	12	32	1	0	3	0	0	133
09:30	8	2	38	5	2	7	0	14	13	29	36	1	0	0	0	0	132
5	10	0	39	7	4	12	0	27	8	23	40	0	0	1	2	0	151
Hr Total	37	2	178	27	11	30	0	84	34	79	142	2	0	4	2	0	550
10:00	6	0	31	5	3	6	1	20	9	28	28	1	0	3	1	0	124
10:15	7	0	39	5	4	7	2	16	12	24	32	1	1	2	4	0	132
10:30	6	1	47	11	3	6	0	35	12	19	43	2	1	5	1	0	170
10:45	7	0	27	8	3	8	3	21	11	21	40	2	1	1	1	0	132
Hr Total	26	1	144	29	13	27	6	92	44	92	143	6	3	11	7	0	558
11:00	6	0	40	6	2	6	1	30	12	25	46	3	0	2	1	0	160
11:15	5	0	33	7	1	7	3	26	10	28	35	1	0	0	0	0	140
11:30	7	0	47	7	2	5	0	32	6	30	60	1	0	2	1	0	185
11:45	9	1	48	9	2	12	0	29	9	42	55	0	0	2	2	0	200
Hr Total	27	1	168	29	7	30	4	117	37	125	196	5	0	6	4	0	685
12:00	8	0	47	15	1	11	1	30	9	29	73	1	0	1	2	0	210
12:15	7	0	51	10	1	11	2	30	5	28	36	0	0	1	1	0	170
12:30	12	0	47	6	0	14	1	35	9	27	45	3	1	2	2	0	182
12:45	3	0	55	4	3	7	2	32	12	26	64	0	1	1	4	0	195
Hr Total	30	0	200	35	5	43	6	127	35	110	218	4	2	5	9	0	757

WEATHER: CLEAR/70 CLEAR/75
 Counter : TDC EIGHT
 Counted by Naomi/Eileen

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

Site Code : 93
 Start Date: 07
 File I.D. : TM
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Vehicle group 1

Date	SB CSAH 1 (EAST RIVER ROAD) Southbound				WB CSAH 2 (42nd AVE) Westbound				NB CSAH 1 (EAST RIVER ROAD) Northbound				EB 42nd AVE Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
07/19/93																	
13:00	6	0	44	8	2	8	2	40	12	28	56	1	0	2	1	0	190
13:15	7	0	62	6	1	9	2	29	3	24	45	3	0	1	1	0	182
13:30	4	1	87	6	1	13	3	26	15	33	57	2	0	2	1	0	231
13:45	6	0	52	3	4	14	0	36	8	27	53	2	0	1	0	0	188
Hr Total	23	1	245	23	8	44	7	131	38	112	211	8	0	6	3	0	791
14:00	6	0	52	10	1	17	1	43	6	42	107	2	2	3	3	0	280
14:15	9	0	73	12	0	14	0	28	9	31	65	4	0	0	0	0	227
14:30	5	0	94	11	0	14	2	31	5	39	83	1	0	4	0	0	279
14:45	4	0	67	10	1	10	1	29	9	38	76	6	0	2	3	0	242
Hr Total	24	0	286	43	2	55	4	131	29	150	331	13	2	9	6	0	1028
15:00	8	0	51	9	6	19	0	35	9	48	117	4	1	1	1	1	286
15:15	5	0	64	11	2	15	5	29	3	48	91	1	0	1	0	0	265
15:30	4	1	73	21	2	25	2	41	6	54	155	2	0	3	1	0	378
15:45	6	0	64	7	0	11	0	39	7	56	162	1	0	0	1	0	341
Hr Total	23	1	252	48	10	70	7	144	25	206	525	8	1	5	3	1	1270
16:00	5	0	64	11	2	12	0	33	4	44	166	0	0	26	7	0	363
16:15	7	0	59	14	1	12	0	48	13	55	162	1	0	3	0	0	354
16:30	3	0	72	13	1	21	0	39	10	74	245	0	0	0	0	0	464
16:45	5	0	79	8	0	14	0	52	3	78	316	0	0	0	0	0	547
Hr Total	20	0	274	46	4	59	0	172	30	251	889	1	0	29	7	0	1728
17:00	3	0	65	10	0	9	0	42	6	101	250	5	0	0	1	0	483
17:15	2	0	53	5	1	17	0	50	5	72	284	0	0	0	0	0	481
17:30	6	0	61	5	1	12	0	45	10	72	184	0	0	0	0	0	379
17:45	0	0	68	9	0	9	0	36	6	66	136	0	0	0	0	0	324
Hr Total	11	0	247	29	2	47	0	173	27	311	854	5	0	0	1	0	1667
18:00	1	0	39	9	0	9	0	32	4	57	125	0	0	0	0	0	271
18:15	1	0	31	7	0	10	1	31	1	33	65	1	0	0	0	0	179
18:30	1	0	53	7	0	4	0	32	4	34	49	0	0	0	0	0	179
18:45	1	0	46	4	1	5	0	27	0	31	37	0	0	0	0	0	150
Hr Total	4	0	169	27	1	28	1	122	9	155	276	1	0	0	0	0	779
19:00	2	0	49	3	0	2	0	31	1	22	41	0	0	0	0	0	148
19:15	1	0	35	4	0	7	0	26	3	26	42	1	0	0	0	0	141
19:30	1	0	27	5	0	9	0	22	2	37	26	0	0	0	0	0	126
19:45	2	0	28	6	0	8	0	16	2	24	46	0	0	0	0	0	128
Hr Total	6	0	139	18	0	26	0	95	8	109	155	1	0	0	0	0	543

WEATHER: CLEAR/70 CLEAR/75
 Counter : TDC EIGHT
 Counted by Naomi/Eileen

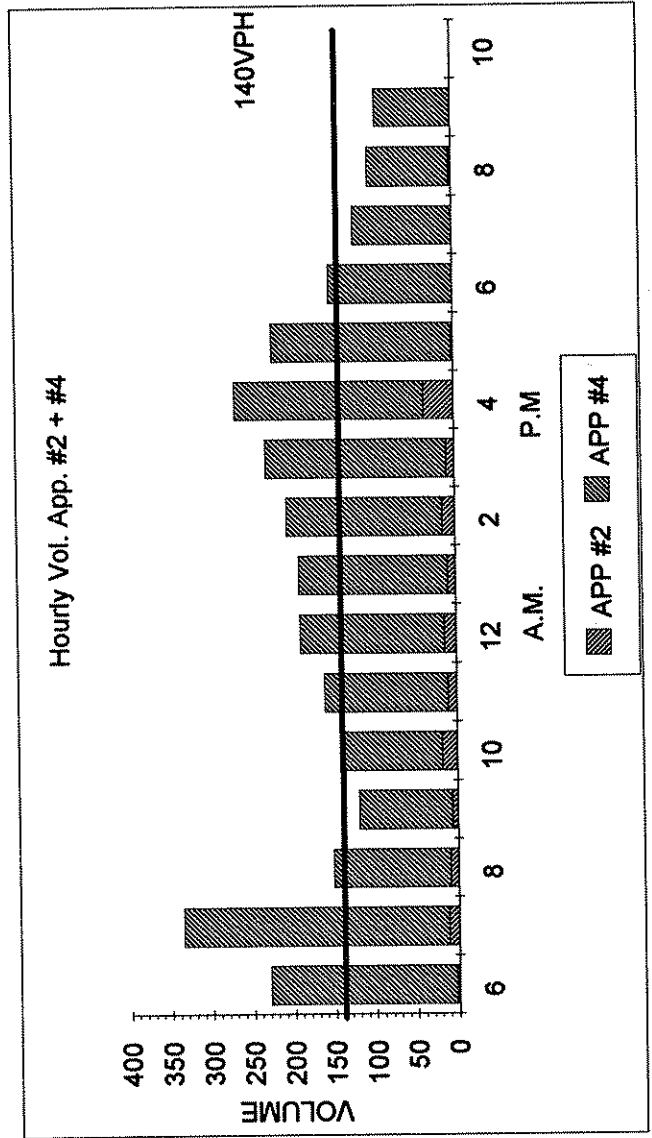
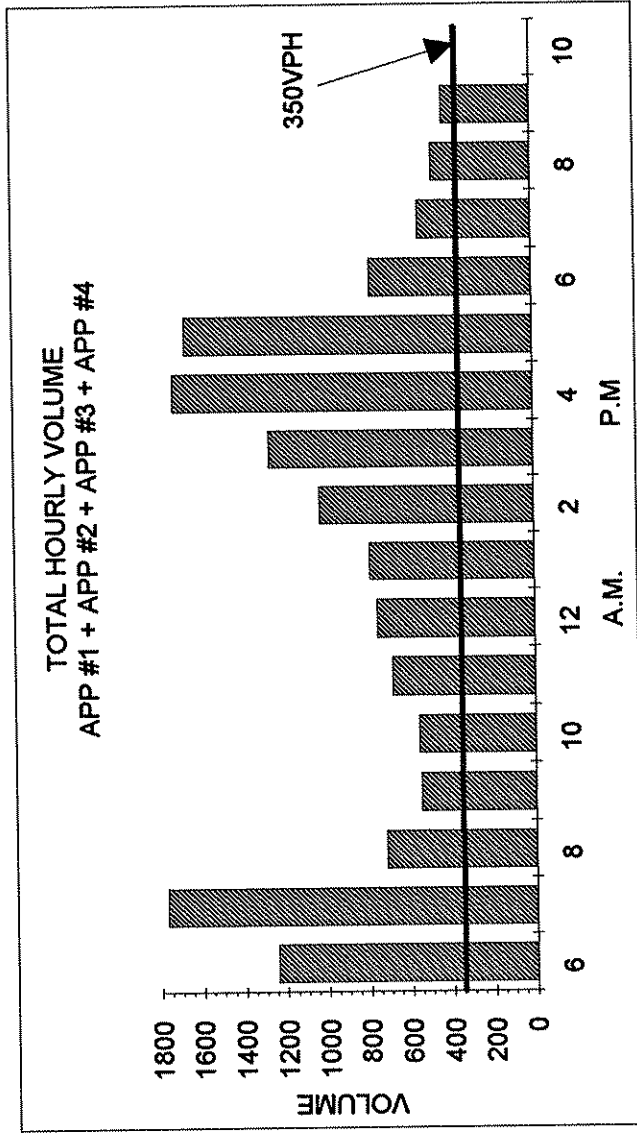
ANOKA COUNTY HIGHWAY DEPARTMENT
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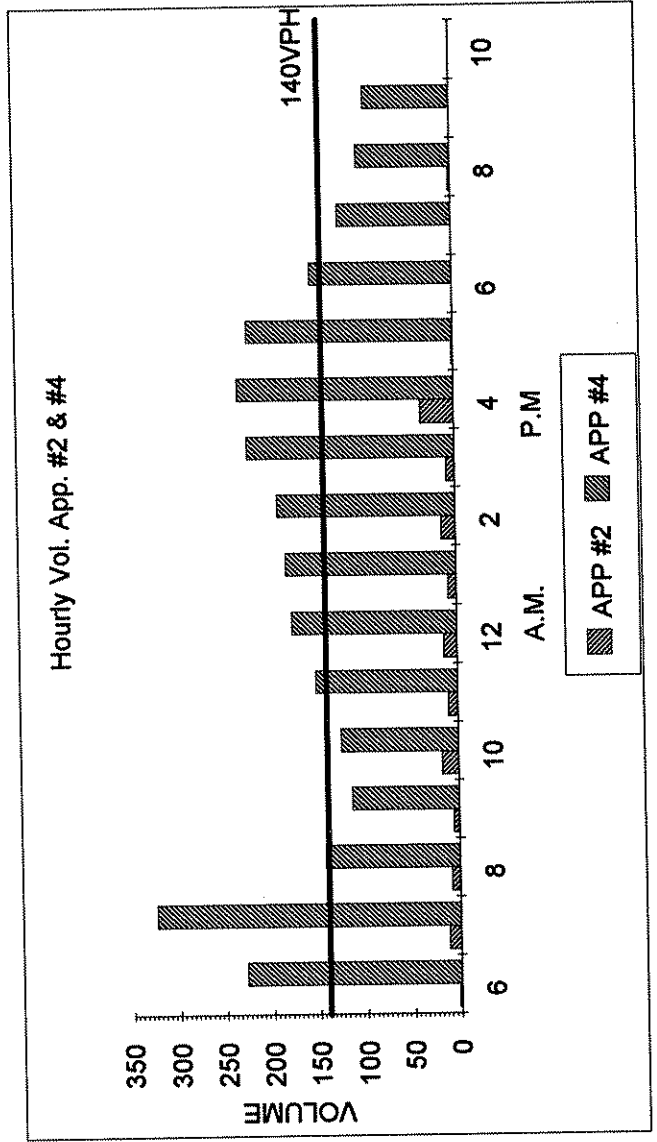
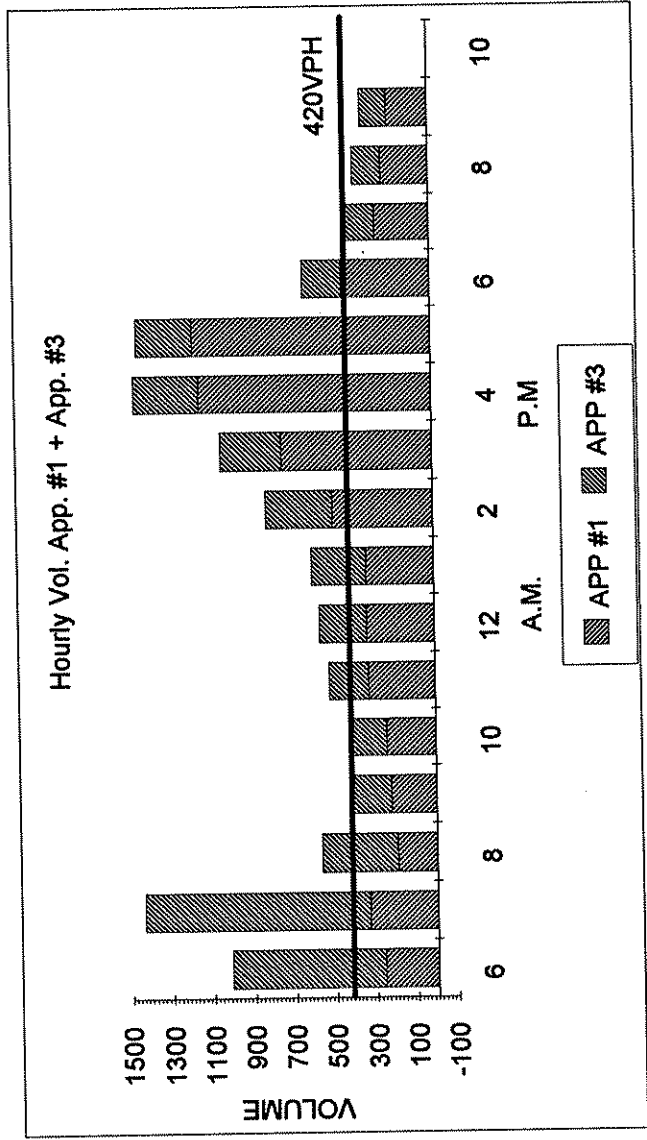
Vehicle group 1

Date 07/19/93	SB CSAH 1 (EAST RIVER ROAD) Southbound				WB CSAH 2 (42nd AVE) Westbound				NB CSAH 1 (EAST RIVER ROAD) Northbound				EB 42nd AVE Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
20:00	0	0	17	4	0	5	0	15	3	13	46	0	0	0	0	1	101
20:15	1	0	32	7	0	7	0	17	2	32	35	0	0	0	1	0	131
20:30	4	0	44	4	0	5	0	23	2	15	38	0	0	0	0	0	129
20:45	2	0	28	6	1	10	0	18	0	25	26	0	0	0	0	0	113
Hr Total	7	0	121	21	1	27	0	73	7	85	145	0	0	0	1	1	474
21:00	2	0	25	7	0	2	0	22	1	21	38	0	0	0	0	0	115
21:15	0	0	19	2	0	6	0	16	0	17	32	0	0	0	0	0	92
21:30	2	2	35	2	0	7	0	15	3	20	33	0	0	0	0	0	114
21:45	4	0	35	4	0	5	0	19	1	17	22	0	0	0	0	0	102
Hr Total	8	2	114	15	0	20	0	72	5	75	125	0	0	0	0	0	423
TOTAL	323	9	4674	482	80	630	55	2084	384	2068	4766	74	10	91	50	2	14985

TMC9321 STOP WARRANT STUDY



TMC9321 SIGNAL WARRANT STUDY



CSAH 1 (EAST RIVER ROAD) @ CSAH 2 (42 ND AVE)

TMC9321 SIGNAL WARRANT 2 STUDY

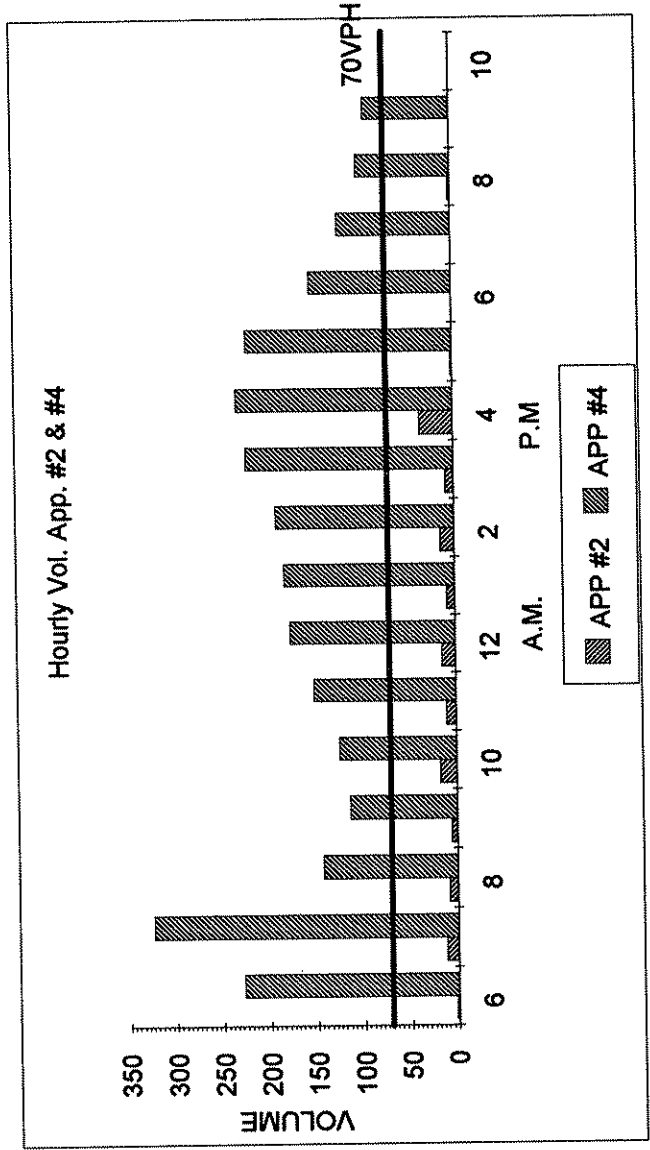
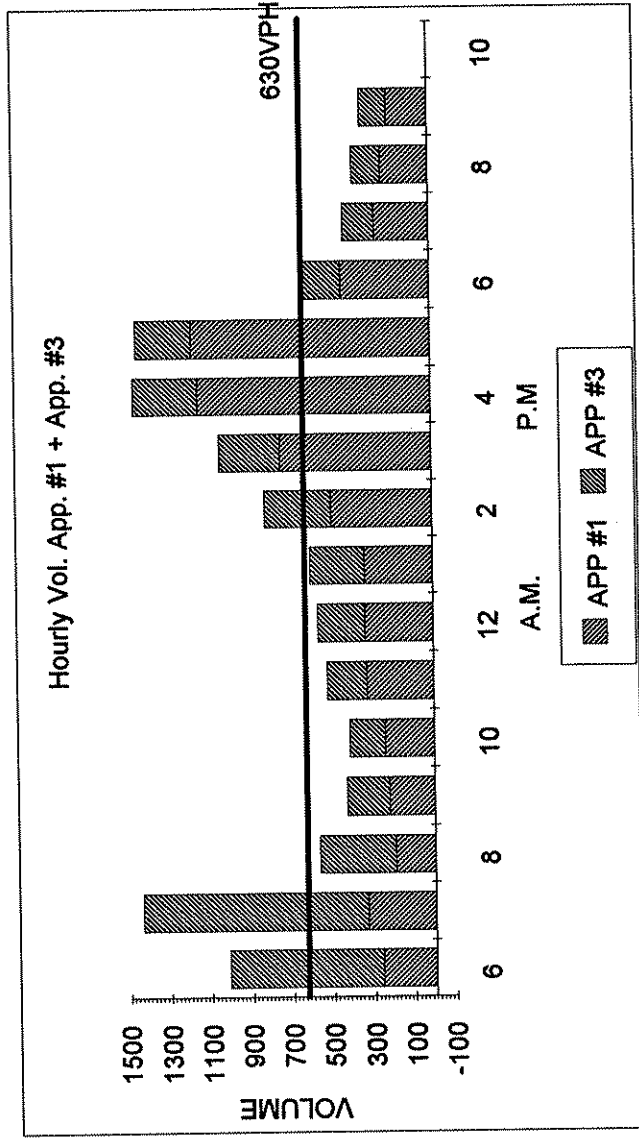
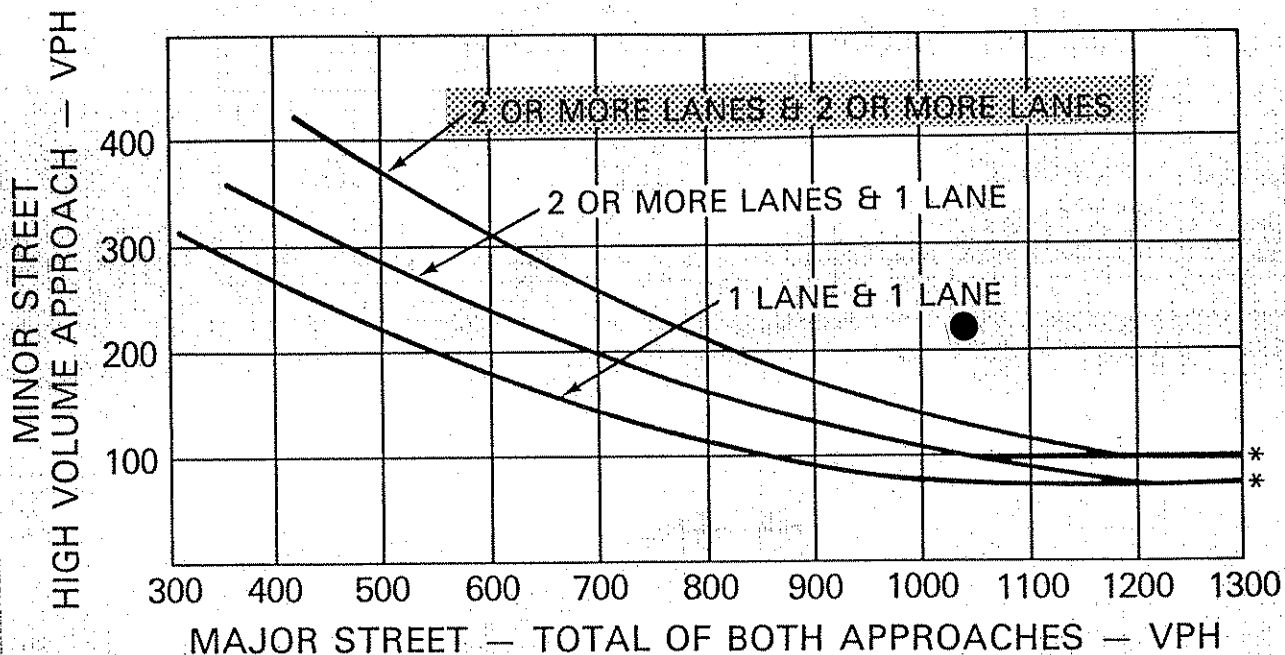


FIGURE 4-6. PEAK HOUR VOLUME WARRANT

(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.

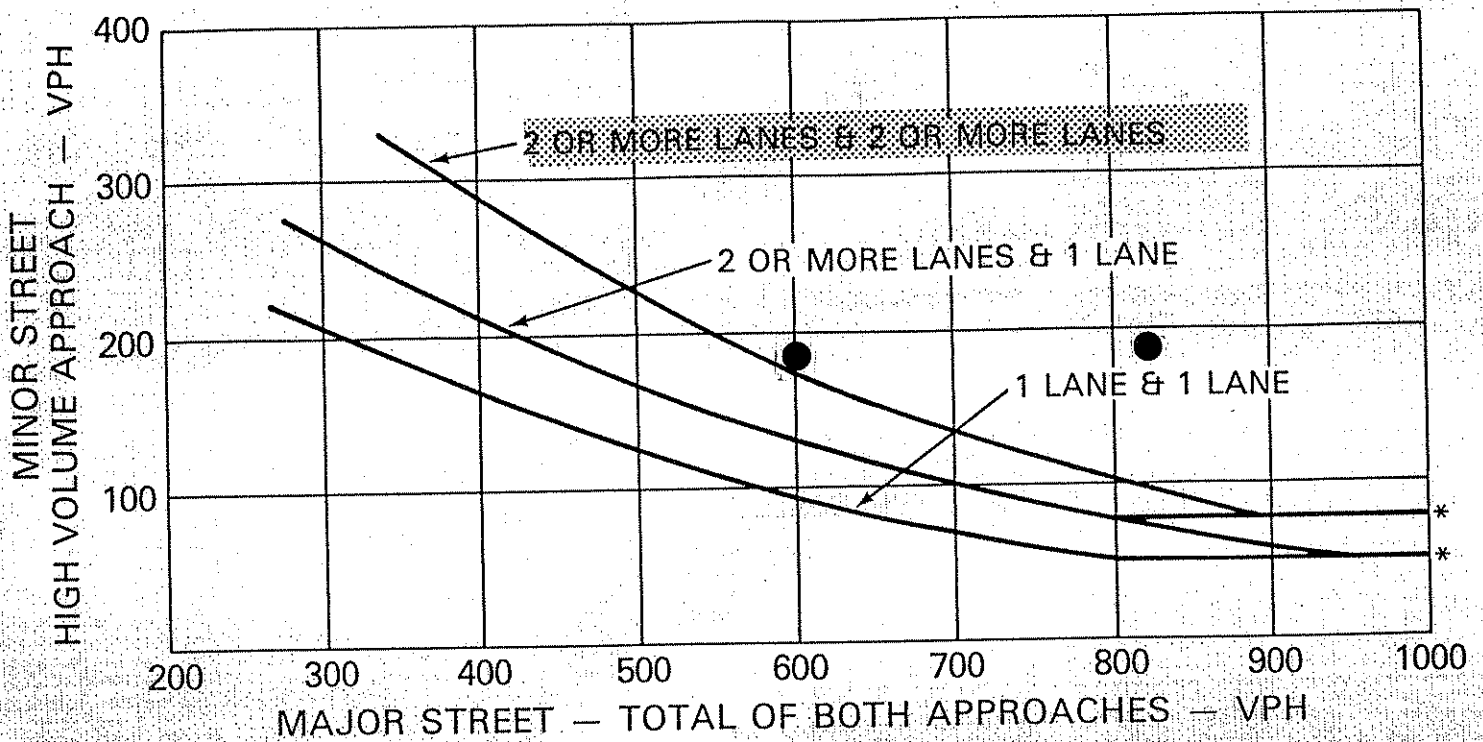
● = VOLUMES WHICH EXCEED THE THRESHOLD AND ARE REPRESENTED ON THE GRAPH.

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

TIME	MAJOR STREETS (VPH)	MINOR STREET (VPH)
★ 6-7 am	1013	228
★ 7-8 am	1435	324
8-9 am	566	143
9-10 am	430	114
10-11 am	415	125
11-12 pm	524	151
12-1 pm	567	176
1-2 pm	600	182
2-3 pm	823	190
● 3-4 pm	1040	221
4-5 pm	1461	231
★ 5-6 pm	1446	220
6-7 pm	628	151
7-8 pm	422	121
8-9 pm	372	100
9-10 pm	331	92

CSAH 1 (EAST RIVER ROAD) @ CSAH 2 (42ND AVE)

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 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	1013	228
★ 7-8 am	1435	324
8-9 am	566	143
9-10 am	430	114
10-11 am	415	125
11-12 pm	524	151
12-1 pm	567	176
● 1-2 pm	600	182
● 2-3 pm	823	190
★ 3-4 pm	1040	221
★ 4-5 pm	1461	231
★ 5-6 pm	1446	220
6-7 pm	628	151
7-8 pm	422	121
8-9 pm	372	100
9-10 pm	331	92

CSAH 1 (EAST RIVER ROAD) @ CSAH 2 (42ND AVE)



NORTH

COUNT LOCATION:

CSAH 1 (EAST RIVER ROAD) @
CSAH 2 (42ND AVE)

DATE: 7/19/93

APP. #1=EB CSAH 2
(42ND AVE)

APP. #2=SB CSAH 1
(EAST RIVER ROAD)

APP. #3=WB CSAH 2
(42ND AVE)

APP. #4=NB CSAH 1
(EAST RIVER ROAD)

APP.
#1

APP.
#2

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						9		2
6:15-6:30		1	2		3	6		2
6:30-6:45	1				1	14		
6:45-7:00			1		1	4		2
HOURLY TOTAL					5	HOURLY TOTAL		39
7:00-7:15						9		2
7:15-7:30						8		1
7:30-7:45						9		2
7:45-8:00						6		2
HOURLY TOTAL						HOURLY TOTAL		39
8:00-8:15						11		2
8:15-8:30						11		1
8:30-8:45	1				1	21		
8:45-9:00						20		
HOURLY TOTAL					1	HOURLY TOTAL		66
9:00-9:15	2				2	14		2
9:15-9:30						18		
9:30-9:45						23		1
9:45-10:00		1			1	20		
HOURLY TOTAL					3	HOURLY TOTAL		78
10:00-10:15						18		
10:15-10:30						23		1
10:30-10:45						20		1
10:45-11:00						21		
HOURLY TOTAL						HOURLY TOTAL		84
11:00-11:15						19		1
11:15-11:30	1				1	11		
11:30-11:45						15		
11:45-12:00						20		
HOURLY TOTAL					1	HOURLY TOTAL		66
12:00-12:15						18		1
12:15-12:30						13		
12:30-12:45						20		1
12:45-1:00						18		
HOURLY TOTAL						HOURLY TOTAL		71
1:00-1:15						19		
1:15-1:30						11		
1:30-1:45						17		
1:45-2:00						18		
HOURLY TOTAL						HOURLY TOTAL		65



NORTH

COUNT LOCATION:

CSAH 1 (EAST RIVER ROAD) @
CSAH 2 (42ND AVE)

DATE: 7/22/93

APP. #1=EB CSAH 2
(42ND AVE)

APP. #2=SB CSAH 1
(EAST RIVER ROAD)

APP. #3=WB CSAH 2
(42ND AVE)

APP. #4=NB CSAH 1
(EAST RIVER ROAD)

APP.
#1

APP.
#2

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						15		
2:15-2:30	1				1	16		1
2:30-2:45						10		1
2:45-3:00						15		
HOURLY TOTAL					1	HOURLY TOTAL		58
3:00-3:15						21		2
3:15-3:30						11		
3:30-3:45						10		1
3:45-4:00						12		1
HOURLY TOTAL						HOURLY TOTAL		58
4:00-4:15			1		1	8		2
4:15-4:30			1		1	18		1
4:30-4:45						12		2
4:45-5:00	1		1		2	7		1
HOURLY TOTAL					4	HOURLY TOTAL		51
5:00-5:15						7		3
5:15-5:30						7		
5:30-5:45						14		2
5:45-6:00						5		1
HOURLY TOTAL						HOURLY TOTAL		39
6:00-6:15						4	1	
6:15-6:30						2		
6:30-6:45						3	1	1
6:45-7:00						2		
HOURLY TOTAL						HOURLY TOTAL		14
7:00-7:15						2		1
7:15-7:30						4		
7:30-7:45						3		
7:45-8:00						4		
HOURLY TOTAL						HOURLY TOTAL		14
8:00-8:15						2		1
8:15-8:30						3		
8:30-8:45			1		1	6		
8:45-9:00						3		
HOURLY TOTAL					1	HOURLY TOTAL		15
9:00-9:15						3		
9:15-9:30								
9:30-9:45						4	1	
9:45-10:00						5		
HOURLY TOTAL						HOURLY TOTAL		13