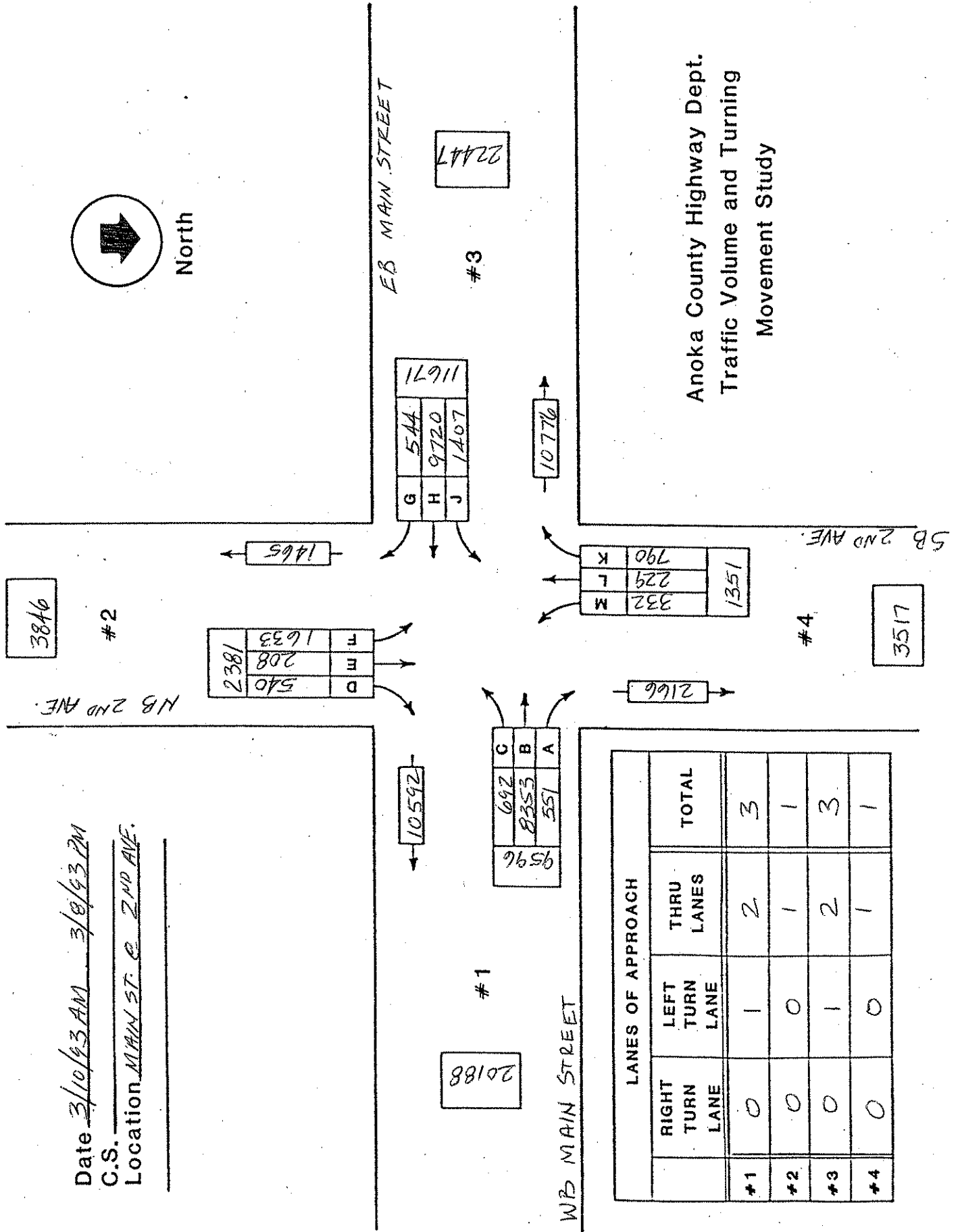
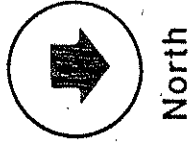


Date 3/10/93 AM 3/8/93 PM
 C.S. _____
 Location MAIN ST @ 2ND AVE.



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

Anoka County Highway Dept.
 Traffic Volume and Turning
 Movement Study

20188

22447

3846

3517

2381	D	540
	E	208
	F	1633

10592

9596	A	551
	B	8353
	C	692

2166

11671	G	544
	H	9720
	J	1407

10776

1351	M	332
	L	229
	K	790

SB 2ND AVE.

NB 2ND AVE.

EB MAIN STREET

WB MAIN STREET

#2

#3

#4

DATE 3/10/93AM

3/8/93PM

ANOKA COUNTY HIGHWAY DEPART.
TRAFFIC ENGINEERING SECTION

FILE NO. TMC9305

C.S

LOCATION MAIN STREET @ 2ND AVE

TRAFFIC VOLUME AND
TURNING MOVEMENT STUDY

H.V. or PEDS PEDS

LANES OF APPROACH

VOLUME & MOVEMENT

RIGHT TURN L. LANES	LEFT TURN L. LANES	THRU LANES	TOTAL	DESCRIPTION	# RT. TURN	THRU	LT. TURN	SUB TOTAL	OPPOSING	TOTAL
1	0	1	2	3	1	551	8353	692	9596	20188
2	0	0	1	1	2	540	208	1633	2381	3846
3	0	1	2	3	3	544	9720	1407	10776	22447
4	0	0	1	1	4	790	229	332	1351	3517

TIME INTERVALS	WESTBOUND APPROACH # 1			EASTBOUND APPROACH # 3			NORTHBOUND APPROACH # 2			SOUTHBOUND APPROACH # 4														
	PEDS TO	TO	TOTAL	PEDS TO	TO	TOTAL	PEDS TO	TO	TOTAL	PEDS TO	TO	TOTAL												
6:00 - 6:15	1	5	83	0	88	6:00 to	3	3	37	0	40	2	12	0	3	15	5	0	4	3	7			
6:15 - 6:30	3	4	80	1	85	6:00 to	5	3	72	1	76	6:00 to	0	18	0	2	20	0	2	3	5	6:00 to		
6:30 - 6:45	2	4	115	0	119	7:00	5	8	109	1	118	7:00	1	18	0	2	20	0	0	0	0	7:00		
6:45 - 7:00	4	4	116	0	120	412	5	18	146	5	169	403	4	20	3	7	30	85	2	0	0	4	16	
7:00 - 7:15	2	1	132	4	137		3	12	110	4	126		1	29	0	4	33		0	0	2	7	9	
7:15 - 7:30	7	5	137	5	147	7:00 to	4	24	143	12	179	7:00 to	2	29	4	4	37	7:00 to	2	3	1	6	10 7:00 to	
7:30 - 7:45	8	13	122	4	139	8:00	3	19	170	13	202	8:00	2	34	6	11	51	8:00	3	2	3	6	11 8:00	
7:45 - 8:00	13	13	122	3	138	561	20	46	229	27	302	809	16	42	4	26	72	193	0	1	3	11	15	45
8:00 - 8:15	9	9	103	4	116		7	39	135	17	191		7	22	10	10	42		2	3	2	11	16	
8:15 - 8:30	10	9	99	7	115	8:00 to	9	30	116	13	159	8:00 to	0	12	1	1	14	8:00 to	5	0	2	13	15 8:00 to	
8:30 - 8:45	1	7	91	6	104	9:00	11	24	152	12	188	9:00	0	13	1	8	22	9:00	2	6	3	9	18 9:00	
8:45 - 9:00	14	8	121	11	140	475	18	23	170	9	202	740	2	20	3	0	23	101	1	6	5	6	17	66
9:00 - 9:15	6	14	114	6	134		5	15	118	7	140		0	25	0	7	32		0	2	3	4	9	
9:15 - 9:30	3	12	87	7	106	9:00 to	4	25	101	7	133	9:00 to	1	22	2	6	30	9:00 to	0	1	3	7	11 9:00 to	
9:30 - 9:45	9	9	102	7	118	10:00	6	27	102	5	134	10:00	1	15	4	9	28	10:00	4	3	1	12	16 10:00	
9:45 - 10:00	8	3	115	4	122	480	6	3	113	4	120	527	1	6	1	11	18	108	2	3	3	8	14	50
10:00 - 10:15	10	15	109	12	136		7	21	116	9	146		5	15	2	13	30		0	5	2	8	15	
10:15 - 10:30	4	18	97	10	125	10:00 to	10	9	105	7	121	10:00 to	0	12	3	7	22	10:00 to	1	10	6	9	25 10:00 to	
10:30 - 10:45	5	7	100	13	120	11:00	7	14	109	7	130	11:00	1	20	1	15	36	11:00	7	11	6	7	24 11:00	
10:45 - 11:00	9	11	110	7	128	509	5	26	126	13	165	562	1	23	5	7	35	123	3	9	1	10	20	84
11:00 - 11:15	6	8	127	15	150		8	29	104	6	139		0	11	7	4	22		3	14	2	14	30	
11:15 - 11:30	8	9	96	10	115	11:00 to	9	28	137	10	175	11:00 to	2	19	5	8	32	11:00 to	1	7	4	14	25 11:00 to	
11:30 - 11:45	3	7	122	12	141	12:00	9	32	108	7	147	12:00	4	23	7	14	44	12:00	0	7	5	15	27 12:00	
11:45 - 12:00	7	16	114	20	150	556	9	20	123	6	149	610	0	23	0	5	28	126	0	12	9	8	29	111
12:00 - 12:15	3	21	135	13	169		6	23	123	11	157		1	31	4	7	42		0	10	2	23	35	
12:15 - 12:30	3	12	98	7	117	12:00 to	4	23	139	12	174	12:00 to	1	23	7	13	43	12:00 to	2	3	4	18	25 12:00 to	
12:30 - 12:45	4	20	139	20	179	1:00	4	26	133	6	165	1:00	0	24	7	8	39	1:00	3	6	6	20	32 1:00	
12:45 - 1:00	3	13	136	12	161	626	4	23	160	13	196	692	0	21	4	6	31	155	0	6	5	16	27	119
1:00 - 1:15	4	14	133	17	164		4	26	125	10	161		2	18	5	9	32		0	11	1	16	28	
1:15 - 1:30	4	15	129	8	152	1:00 to	2	22	151	11	184	1:00 to	0	19	1	15	34	1:00 to	1	9	3	15	27 1:00 to	
1:30 - 1:45	7	11	122	7	140	2:00	5	28	155	10	193	2:00	0	28	1	10	40	2:00	3	8	3	15	26 2:00	
1:45 - 2:00	7	18	136	16	170	626	8	22	133	11	166	704	1	20	6	13	39	145	2	12	6	21	39	120
2:00 - 2:15	7	16	203	13	232		3	27	162	13	202		0	28	2	11	41		1	12	7	16	35	

WESTBOUND
APPROACH # 1

EASTBOUND
APPROACH # 3

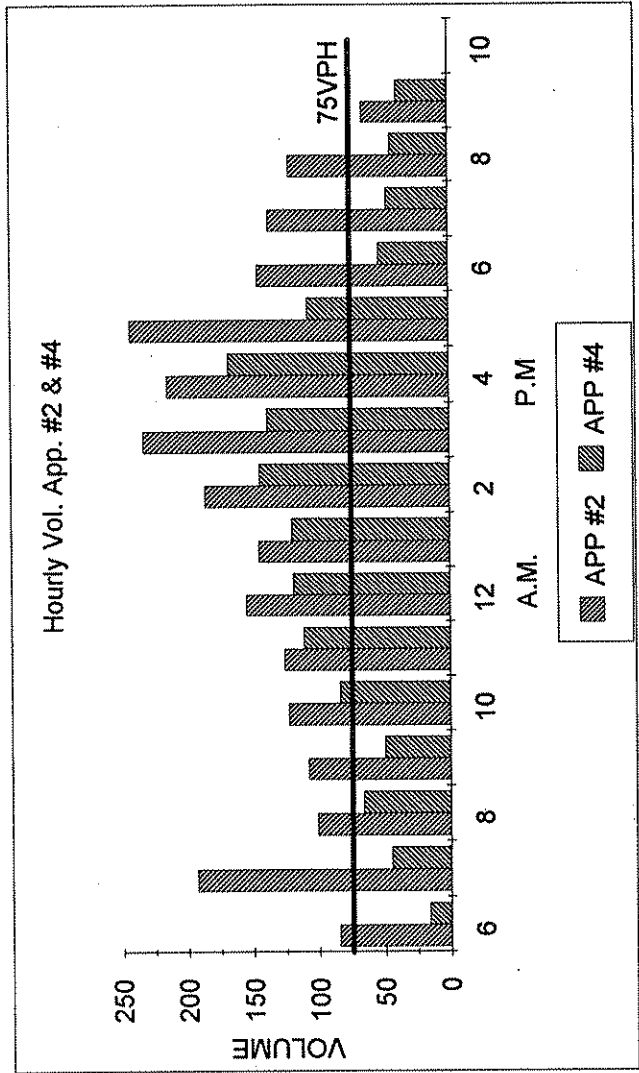
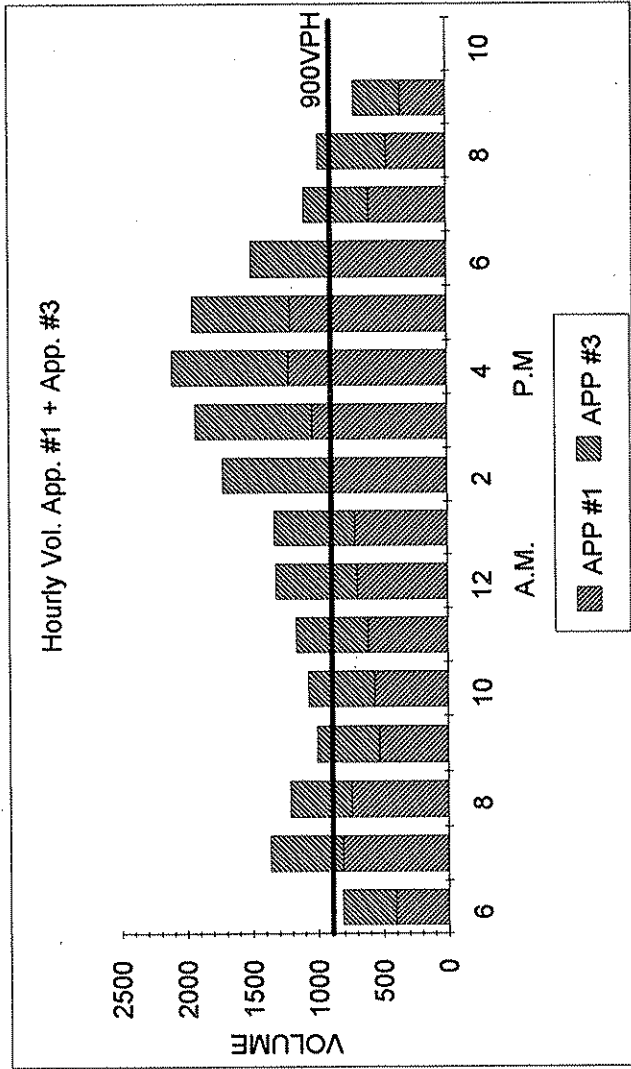
NORTHBOUND
APPROACH # 2

SOUTHBOUND
APPROACH # 4

TIME
INTERVALS

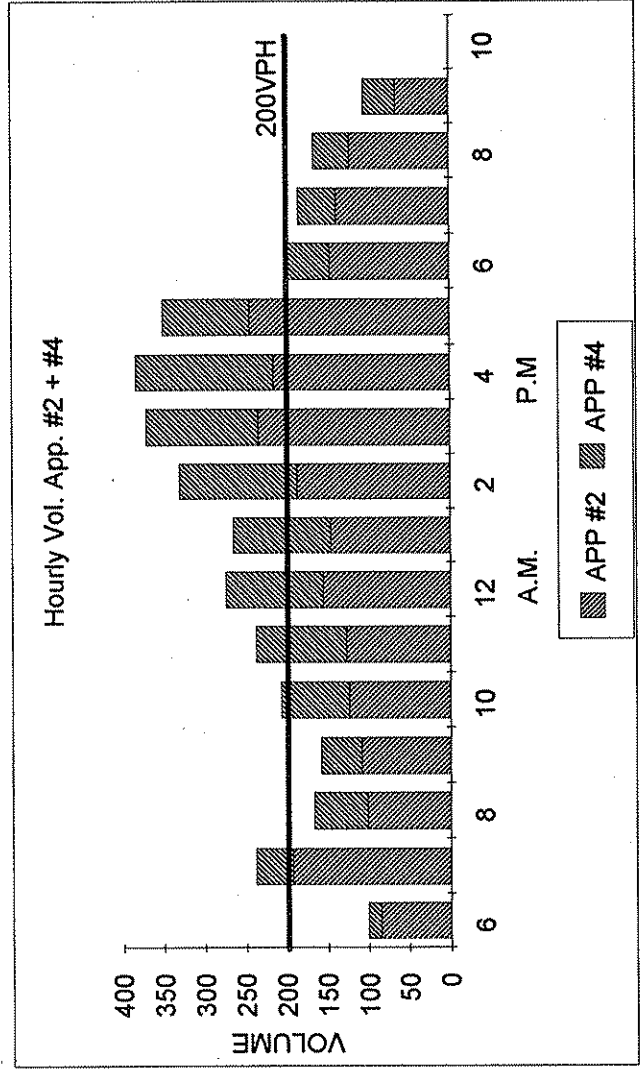
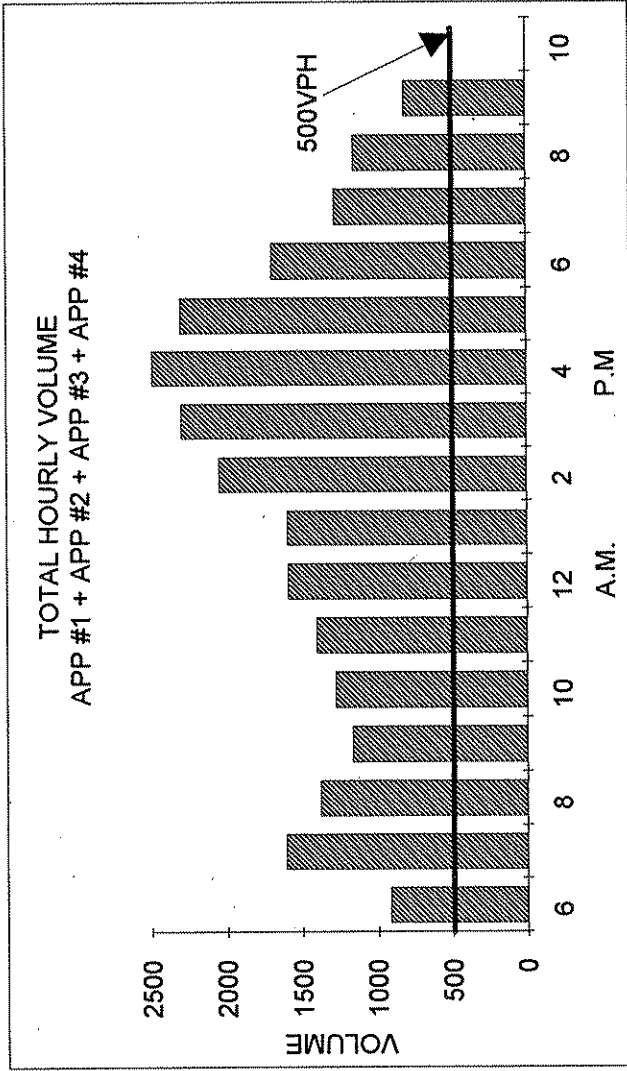
TIME INTERVALS	WESTBOUND APPROACH # 1			EASTBOUND APPROACH # 3			NORTHBOUND APPROACH # 2			SOUTHBOUND APPROACH # 4									
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT							
2:15 - 2:30	4	7	185	20	212	2:00 to	7	34	174	10	218	2:00 to	0	11	5	16	32	2:00 to	
2:30 - 2:45	7	19	153	15	187	3:00	14	31	172	6	209	3:00	0	12	6	28	46	3:00	
2:45 - 3:00	10	23	152	12	187	8:18	12	37	218	15	270	8:99	0	11	8	12	31	144	
3:00 - 3:15	5	13	241	18	272		5	26	162	4	192		0	7	6	30	43		
3:15 - 3:30	3	12	182	18	212	3:00 to	6	39	209	4	252	3:00 to	0	1	7	8	15	30	3:00 to
3:30 - 3:45	1	23	173	12	208	4:00	6	40	245	5	290	4:00	0	6	8	20	34	4:00	
3:45 - 4:00	8	17	172	14	203	8:95	7	30	257	10	297	10:31	0	12	7	12	31	138	
4:00 - 4:15	3	10	197	6	213		3	27	282	5	314		0	5	5	23	33		
4:15 - 4:30	1	14	161	16	191	4:00 to	3	30	251	10	291	4:00 to	0	7	8	21	36	4:00 to	
4:30 - 4:45	4	18	232	10	260	5:00	6	29	239	8	276	5:00	0	11	6	45	62	5:00	
4:45 - 5:00	2	19	201	11	231	8:95	1	32	287	10	329	12:10	0	1	9	6	22	37	168
5:00 - 5:15	1	10	184	8	202		4	25	258	13	296		6	6	4	19	91	34	
5:15 - 5:30	3	17	162	11	190	5:00 to	3	24	271	16	311	5:00 to	0	4	6	9	19	5:00 to	
5:30 - 5:45	2	11	164	9	184	6:00	1	30	255	7	292	6:00	0	5	2	21	28	6:00	
5:45 - 6:00	2	7	148	16	171	7:47	4	29	267	6	302	12:01	0	3	4	15	21	107	
6:00 - 6:15	3	9	161	8	178		0	25	199	9	233		0	2	4	15	21		
6:15 - 6:30	3	16	119	7	142	6:00 to	3	23	204	14	241	6:00 to	0	6	6	14	26	107	
6:30 - 6:45	2	14	128	10	152	7:00	1	38	173	4	215	7:00	0	2	0	6	8	7:00	
6:45 - 7:00	3	15	110	9	134	6:06	1	22	167	13	202	8:91	0	3	1	6	10	53	
7:00 - 7:15	1	15	104	7	126		1	23	145	8	176		0	1	5	5	11		
7:15 - 7:30	0	6	90	7	103	7:00 to	2	13	126	9	148	7:00 to	0	1	1	6	8	7:00 to	
7:30 - 7:45	0	12	130	4	146	8:00	1	14	122	12	148	8:00	0	1	4	3	9	16	8:00
7:45 - 8:00	2	7	112	5	124	4:99	1	8	103	11	122	5:94	0	4	3	5	12	47	
8:00 - 8:15	2	4	128	3	135		0	12	96	8	116		0	1	4	11	16		
8:15 - 8:30	1	9	147	1	157	8:00 to	1	10	93	3	106	8:00 to	0	1	1	9	11	8:00 to	
8:30 - 8:45	0	5	108	3	116	9:00	2	2	116	7	125	9:00	0	1	3	4	8	9:00	
8:45 - 9:00	1	4	115	1	120	5:28	0	13	89	7	109	4:56	0	2	1	6	9	44	
9:00 - 9:15	1	3	89	7	99		0	11	106	4	121		0	1	1	12	14		
9:15 - 9:30	0	2	99	0	101	9:00 to	1	4	69	1	74	9:00 to	0	6	0	7	13	9:00 to	
9:30 - 9:45	1	0	85	2	87	10:00	0	4	58	4	66	10:00	0	0	0	7	7	10:00	
9:45 - 10:00	0	0	76	0	76	3:63	1	4	75	2	81	3:42	0	2	1	2	5	39	

TMC9305 SIGNAL WARRANT 2 STUDY



MAIN STREET @ 2ND AVE

TMC9305 STOP WARRANT STUDY



TMC9305 SIGNAL WARRANT 1 STUDY

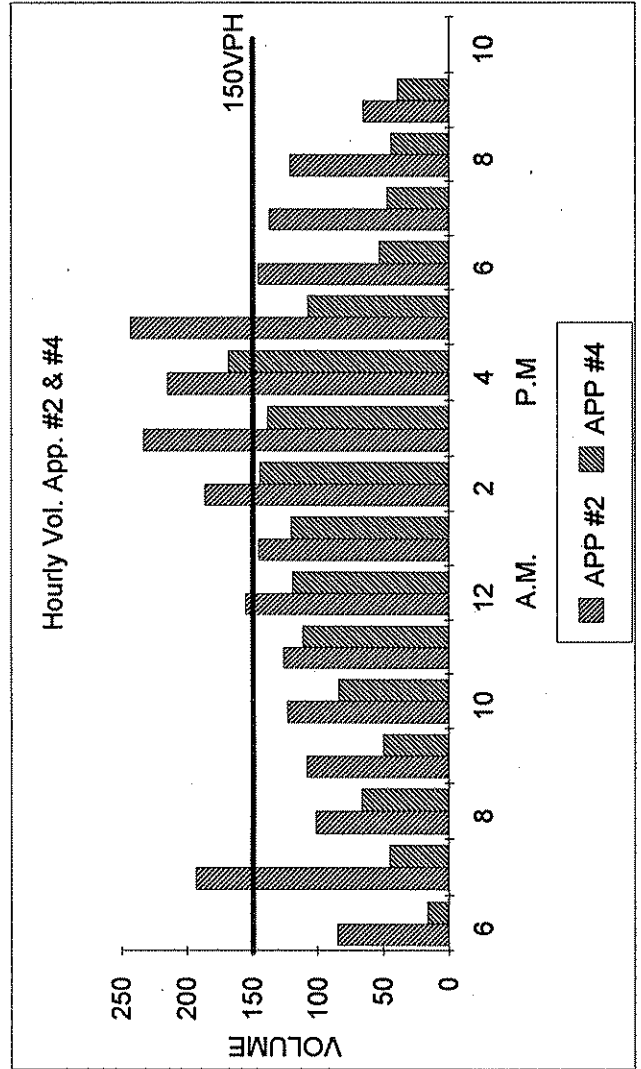
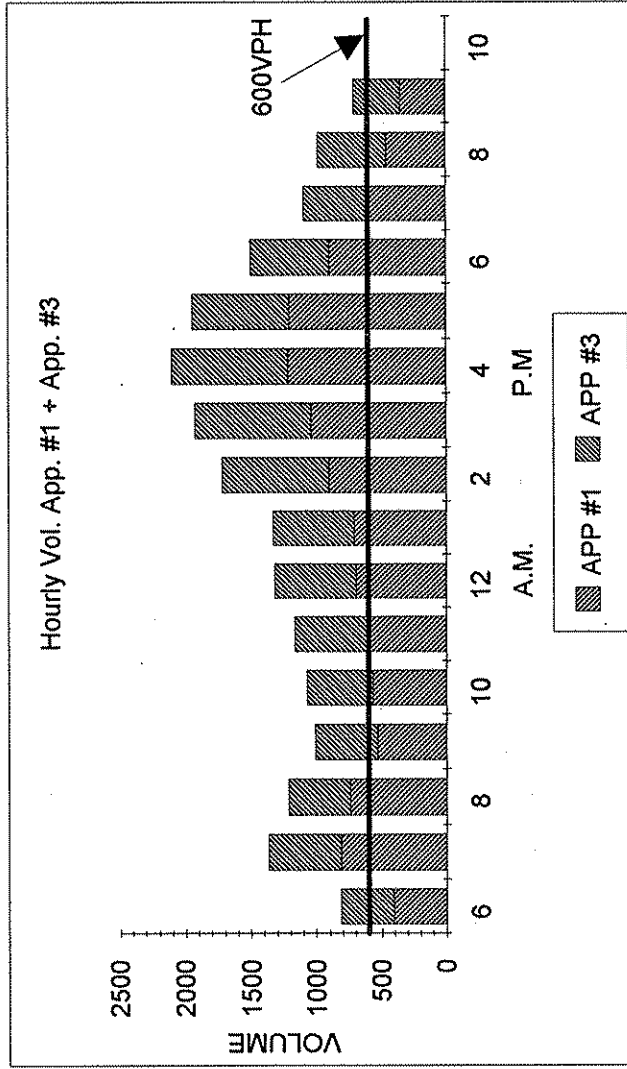
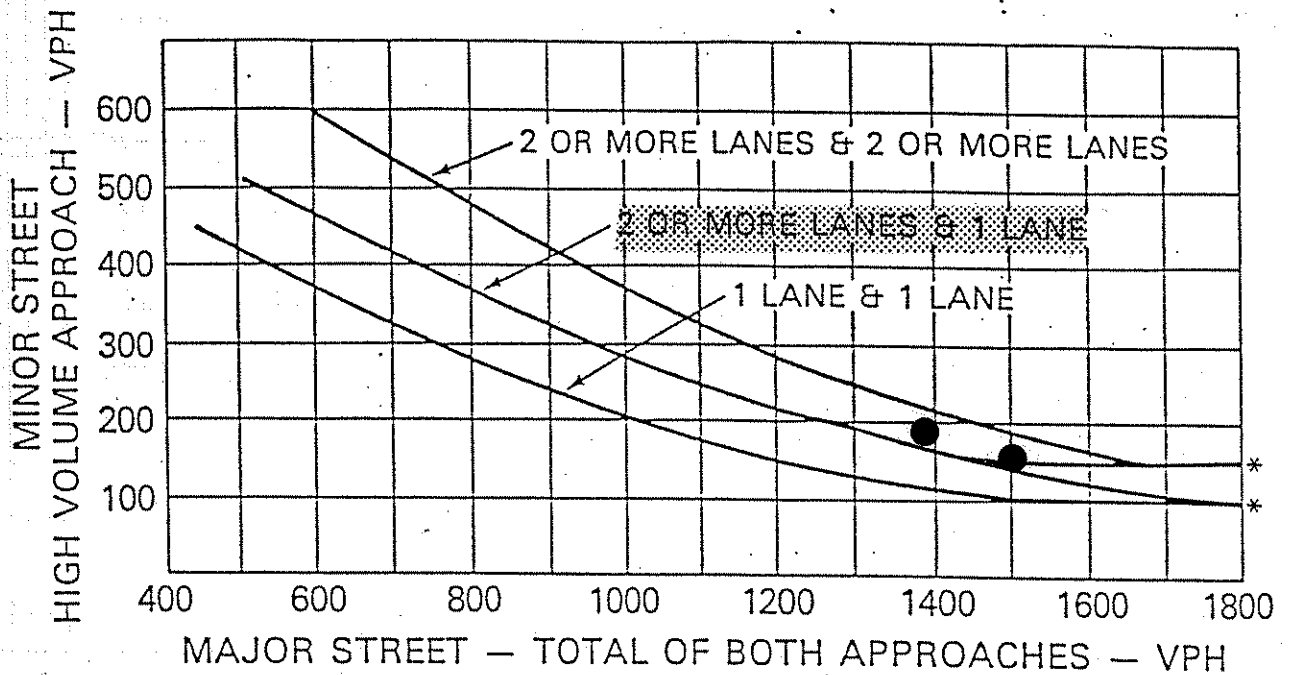


FIGURE 4-5. PEAK HOUR VOLUME WARRANT



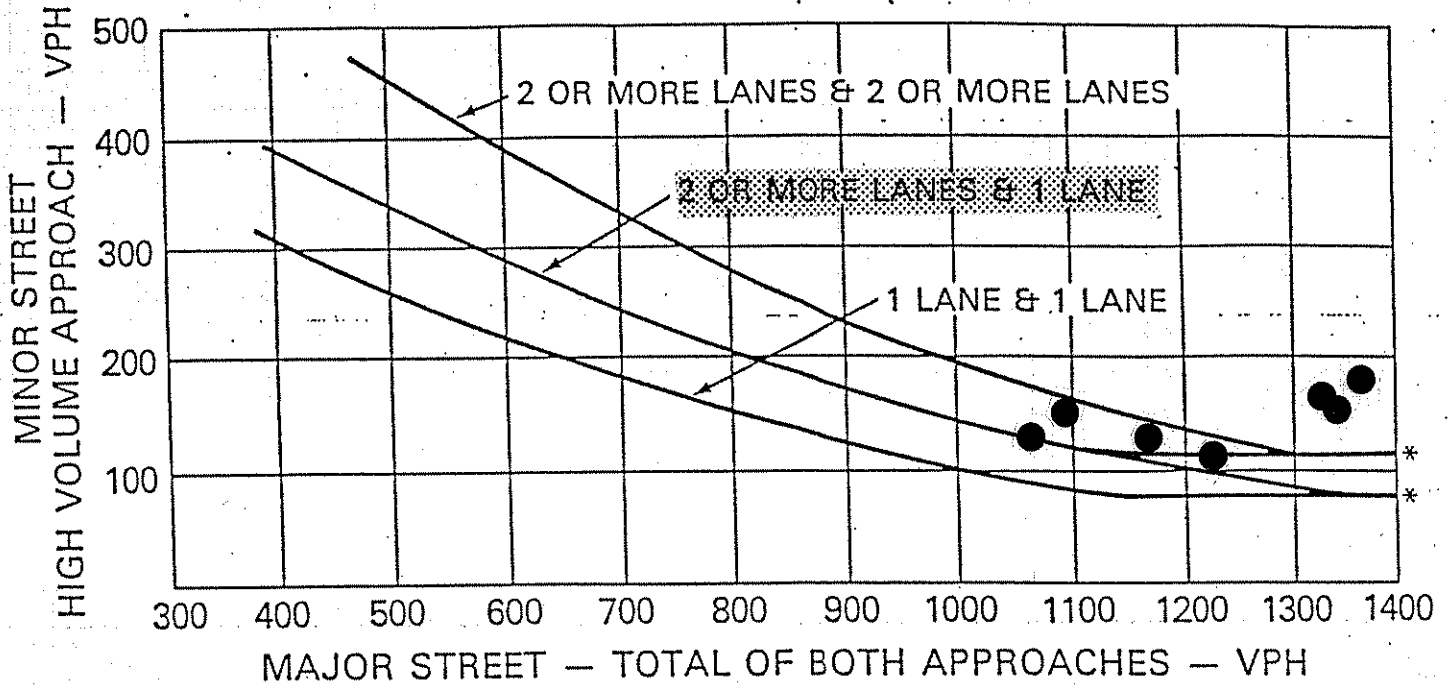
*NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

● = 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	815	85
● 7-8 am	1370	193
8-9 am	1215	101
9-10 am	1007	108
10-11 am	1071	123
11-12 pm	1166	126
12-1 pm	1318	155
1-2 pm	1330	145
★ 2-3 pm	1717	186
★ 3-4 pm	1926	233
★ 4-5 pm	2105	215
★ 5-6 pm	1948	243
● 6-7 pm	1497	145
7-8 pm	1093	137
8-9 pm	984	121
9-10 pm	705	65

FIGURE 4-7. FOUR HOUR VOLUME WARRANT



*NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 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	815	85
● 7-8 am	1370	193
● 8-9 am	1215	101
● 9-10 am	1007	108
● 10-11 am	1071	123
● 11-12 pm	1166	126
● 12-1 pm	1318	155
● 1-2 pm	1330	145
★ 2-3 pm	1717	186
★ 3-4 pm	1926	233
★ 4-5 pm	2105	215
★ 5-6 pm	1948	243
★ 6-7 pm	1497	145
● 7-8 pm	1093	137
● 8-9 pm	984	121
● 9-10 pm	705	65

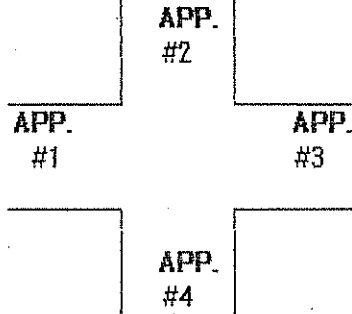
COUNT LOCATION: MAIN STREET @ 2nd AVE

DATE: 3/10/93



NORTH

APP. #1= WB MAIN ST.
APP. #2= NB 2nd AVE
APP. #3= EB MAIN ST.
APP. #4= SB 2nd AVE



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				15 MIN TOT	HEAVY VEHICLES		
	APP. #1	APP. #2	APP. #3	APP. #4		TRUCKS	RV	BUS
6:00-6:15AM						9		2
6:15-6:30			2		2	6		4
6:30-6:45						5		3
6:45-7:00			1		1	11		4
HOURLY TOTAL					3	HOURLY TOTAL		44
7:00-7:15			2		2	4		2
7:15-7:30			1	1	2	9		5
7:30-7:45	4	2	3	6	15	12		4
7:45-8:00	2		1		3	11		38
HOURLY TOTAL					22	HOURLY TOTAL		85
8:00-8:15		2	1		3	16		9
8:15-8:30	1	1	2	1	5	19		5
8:30-8:45	4	2	7	1	14	12		3
8:45-9:00			2		2	15		18
HOURLY TOTAL					24	HOURLY TOTAL		97
9:00-9:15	4	2	5	1	12	8		4
9:15-9:30		1	2	1	4	8		1
9:30-9:45	2	2		3	7	17		2
9:45-10:00		3	3	9	15	13	1	3
HOURLY TOTAL					38	HOURLY TOTAL		57
10:00-10:15	3	4	4	2	13	21		1
10:15-10:30	1	6	4	4	15	12		3
10:30-10:45	2	4	4	4	14	19		1
10:45-11:00	3	6	4	10	23	17		2
HOURLY TOTAL					65	HOURLY TOTAL		76
11:00-11:15	6	3	4	11	24	18		
11:15-11:30	3	2	2	7	14	13		4
11:30-11:45	9	5	5	10	29	12		4
11:45-12:00	4	12	9	4	29	9		5
HOURLY TOTAL					96	HOURLY TOTAL		65
12:00-12:15	5	10	12	15	42	9		1
12:15-12:30	12	8	10	11	41	6		3
12:30-12:45	4	10	13	12	39	8		3
12:45-1:00	7	16	11	13	47	5		2
HOURLY TOTAL					169	HOURLY TOTAL		37
1:00-1:15	4	11	9	7	31	9		2
1:15-1:30	8	5	2	7	22	6		1
1:30-1:45	3	5	4	4	16	12		3
1:45-2:00	4	10	11	7	32	14		4
HOURLY TOTAL					101	HOURLY TOTAL		51