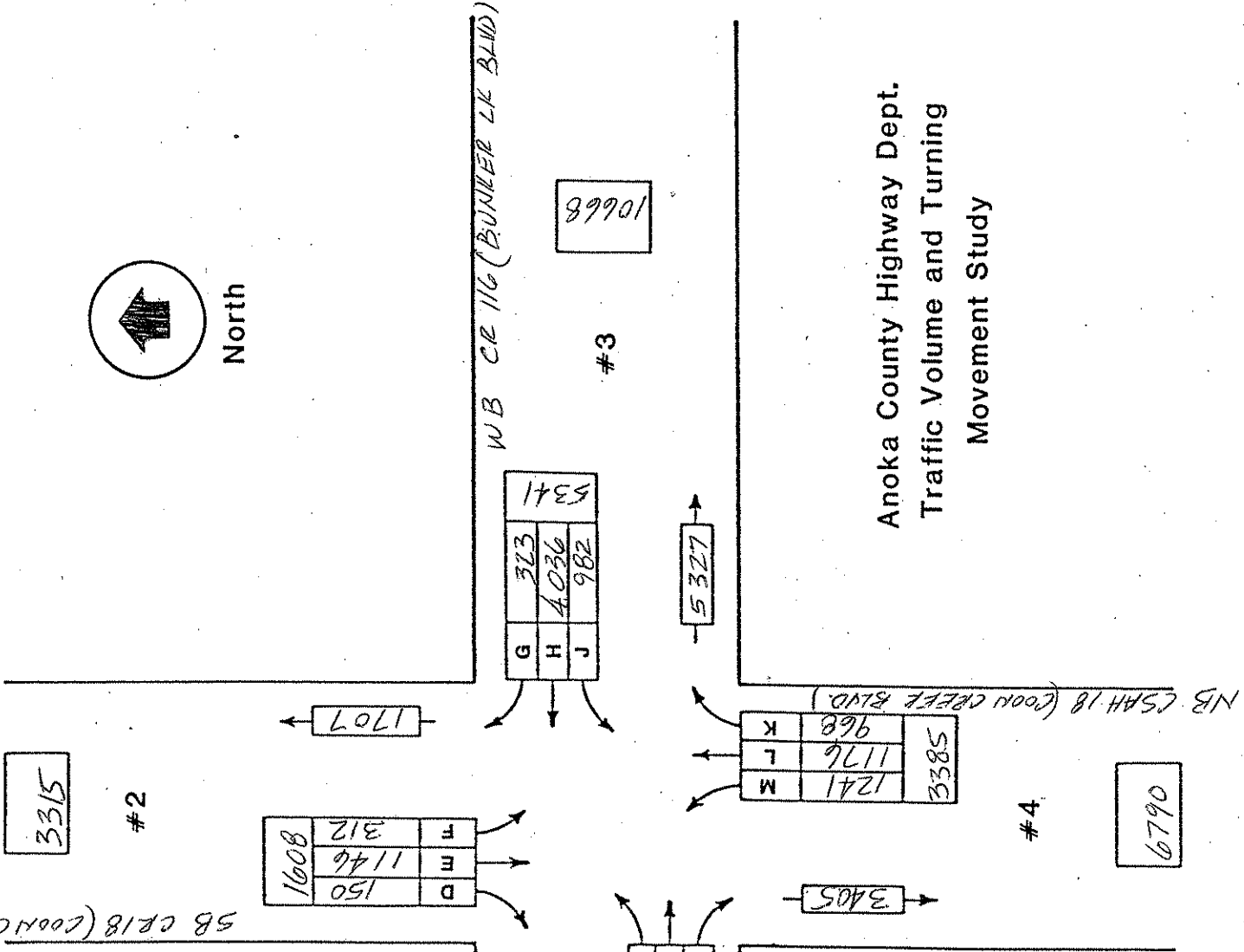


Date 6/22/93 PM 6/23/93 AM

C.S. Location CR 116 (BUNKER LK BLVD)
@ CSAH/CR 18 (COON CREEK BLVD)



North



Anoka County Highway Dept.
Traffic Volume and Turning
Movement Study

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

WEATHER: CLEAR/70 CLEAR/75
 Counter : TDC EIGHT
 Counted by: Josie/Pat

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

Site Code : 93
 Start Date: 06
 File I.D. : TM
 Page : 1

Vehicle group 1

Date	SB CR 18 (COON CREEK BLVD) Southbound				WB CR 116 (BUNKER LK BLVD) Westbound				NB CSAH 18 (COON CREEK BLVD) Northbound				EB CR 116 (BUNKER LK BLVD) Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	

06/23/93	-----																
06:00	0	3	21	4	0	0	23	13	0	2	2	1	3	16	30	0	115
06:15	0	2	58	4	2	0	26	16	0	5	1	2	2	17	20	0	151
06:30	0	3	54	10	5	1	24	32	1	15	5	4	1	24	49	0	221
06:45	0	4	44	6	1	1	34	27	0	10	6	4	3	38	69	2	245
Hr Total	0	12	177	24	8	2	107	88	1	32	14	11	9	95	168	2	732
07:00	0	3	35	8	4	2	41	29	1	12	6	6	1	21	55	1	219
07:15	1	1	52	5	7	1	59	20	0	18	13	6	3	26	73	2	276
07:30	1	1	31	10	5	1	49	25	1	10	9	12	3	29	71	2	250
07:45	0	0	34	4	7	1	56	24	0	12	7	21	6	16	65	1	241
Hr Total	2	5	152	27	23	5	205	98	2	52	35	45	13	92	264	6	986
08:00	2	3	28	1	0	2	37	12	2	18	7	9	4	10	58	2	187
08:15	1	3	22	2	6	3	54	16	4	8	12	3	10	15	60	2	200
08:30	0	1	21	7	5	3	55	19	2	12	5	7	2	14	41	0	185
08:45	0	3	22	3	6	7	62	24	1	10	11	10	9	12	57	6	227
Hr Total	3	10	93	13	17	15	208	71	9	48	35	29	25	51	216	10	799
09:00	0	1	14	8	2	3	70	11	1	9	5	7	8	7	56	3	194
09:15	0	1	17	2	7	5	44	18	7	18	5	10	9	11	50	2	183
09:30	2	2	22	4	5	2	42	12	0	6	8	7	5	17	46	3	171
09:45	2	2	11	3	7	2	70	11	1	9	8	10	8	15	62	7	210
Hr Total	4	6	64	17	21	12	226	52	9	42	26	34	30	50	214	15	758
10:00	0	4	9	5	3	1	59	16	2	6	14	17	8	24	54	3	212
10:15	0	2	13	4	3	3	44	8	1	11	7	12	2	8	54	2	168
10:30	1	2	7	5	6	3	58	18	2	10	5	12	9	13	56	2	191
10:45	1	3	18	4	5	2	57	11	2	13	8	14	5	16	69	2	217
Hr Total	2	11	47	18	17	9	218	53	7	40	34	55	24	61	233	9	788
11:00	1	1	13	2	3	0	63	19	1	15	11	16	10	17	58	5	220
11:15	2	1	20	6	4	6	60	13	0	16	11	9	3	22	71	3	238
11:30	0	2	13	3	7	5	52	10	2	19	13	9	11	17	73	2	218
11:45	1	4	12	7	5	5	66	10	7	16	13	17	5	11	63	2	226
Hr Total	4	8	58	18	19	16	241	52	10	66	48	51	29	67	265	12	902
12:00	2	3	9	1	10	9	69	16	2	16	11	16	10	17	66	5	238
12:15	0	1	18	6	4	6	77	11	2	12	10	14	5	14	55	4	228
12:30	0	1	11	3	7	4	63	20	3	15	16	15	7	24	57	3	232
12:45	1	1	12	6	4	7	55	11	2	13	10	19	9	28	65	0	227
Hr Total	3	6	50	16	25	26	264	58	9	56	47	64	31	83	243	12	925

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

Site Code : 93
 Start Date: 06
 File I.D. : TM
 Page : 2

WEATHER: CLEAR/70 CLEAR/75
 Counter : TDC EIGHT
 Counted by: Josie/Pat

Vehicle group 1

Date	SB CR 18 (COON CREEK BLVD) Southbound				WB CR 116 (BUNKER LK BLVD) Westbound				NB CSAH 18 (COON CREEK BLVD) Northbound				EB CR 116 (BUNKER LK BLVD) Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
	06/23/93																
13:00	0	2	12	4	3	5	67	11	3	8	14	19	5	21	69	0	232
13:15	1	2	14	3	2	5	56	14	3	16	14	17	6	17	62	7	227
13:30	0	0	0	0	0	0	0	0	3	15	13	20	1	19	53	2	122
13:45	0	0	0	0	0	0	0	0	0	17	10	22	3	13	67	2	131
Hr Total	1	4	26	7	5	10	123	25	9	56	51	78	15	70	251	11	712
14:00	0	2	13	6	1	4	57	8	0	6	16	16	5	18	65	2	213
14:15	1	3	16	3	1	4	54	9	1	16	13	9	3	18	62	0	207
14:30	0	3	13	2	3	5	76	16	1	8	13	13	8	17	65	8	239
14:45	0	1	11	3	7	4	65	17	1	10	25	23	8	14	54	2	229
Hr Total	1	9	53	14	12	17	252	50	3	40	67	61	24	67	246	12	888
15:00	1	3	15	4	5	4	69	15	3	26	18	19	3	16	60	6	255
15:15	1	1	10	9	3	7	66	17	3	28	24	27	1	15	65	5	274
15:30	1	5	20	3	3	4	88	16	0	10	31	19	4	17	57	6	276
15:45	0	0	14	4	4	4	88	18	2	20	38	31	2	20	65	2	304
Hr Total	3	9	59	20	15	19	311	66	8	84	111	96	10	68	247	19	1109
16:00	0	0	13	4	1	3	86	16	1	23	34	25	3	22	73	1	300
16:15	0	1	16	3	3	10	75	16	1	24	40	44	5	17	80	5	331
16:30	0	1	18	5	8	7	90	21	1	20	41	29	2	23	76	6	337
16:45	0	2	12	1	3	11	86	32	3	23	52	42	2	25	98	1	385
Hr Total	0	4	59	13	15	31	337	85	6	90	167	140	12	87	327	13	1353
17:00	0	2	12	8	3	12	97	16	1	35	56	41	2	23	83	3	388
17:15	1	4	20	9	3	4	118	15	1	33	54	33	3	22	82	2	396
17:30	0	2	22	6	1	18	105	13	0	28	46	43	1	28	73	8	392
17:45	3	2	23	14	6	8	98	17	1	30	53	45	4	31	78	3	402
Hr Total	4	10	77	37	13	42	418	61	3	126	209	162	10	104	316	16	1578
18:00	1	4	25	8	2	18	105	20	0	30	50	52	2	29	80	7	428
18:15	0	1	16	7	4	11	99	19	1	18	25	55	3	24	95	10	380
18:30	0	4	18	8	4	8	80	19	1	11	21	29	3	17	64	5	284
18:45	0	1	13	11	1	4	73	24	0	10	28	23	1	25	56	4	272
Hr Total	1	10	72	34	11	41	357	82	2	69	124	159	9	95	295	26	1364
19:00	0	8	19	7	5	5	74	12	0	12	23	21	1	25	71	4	281
19:15	1	5	18	5	0	6	71	14	2	8	21	26	1	24	72	5	275
19:30	1	7	21	3	0	7	68	3	0	10	14	15	0	25	85	4	262
19:45	1	6	11	5	5	7	85	21	0	13	17	22	1	32	73	2	294
Hr Total	3	26	69	20	10	25	298	50	2	43	75	84	3	106	301	15	1112

WEATHER: CLEAR/70 CLEAR/75
 Counter : TDC EIGHT
 Counted by: Josie/Pat

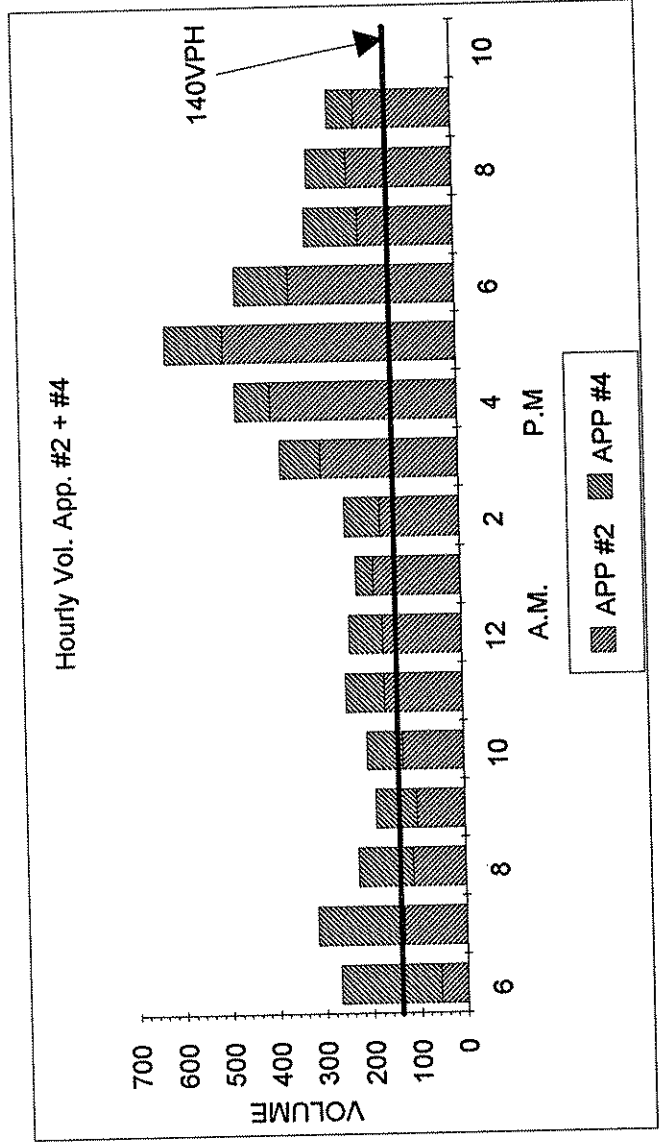
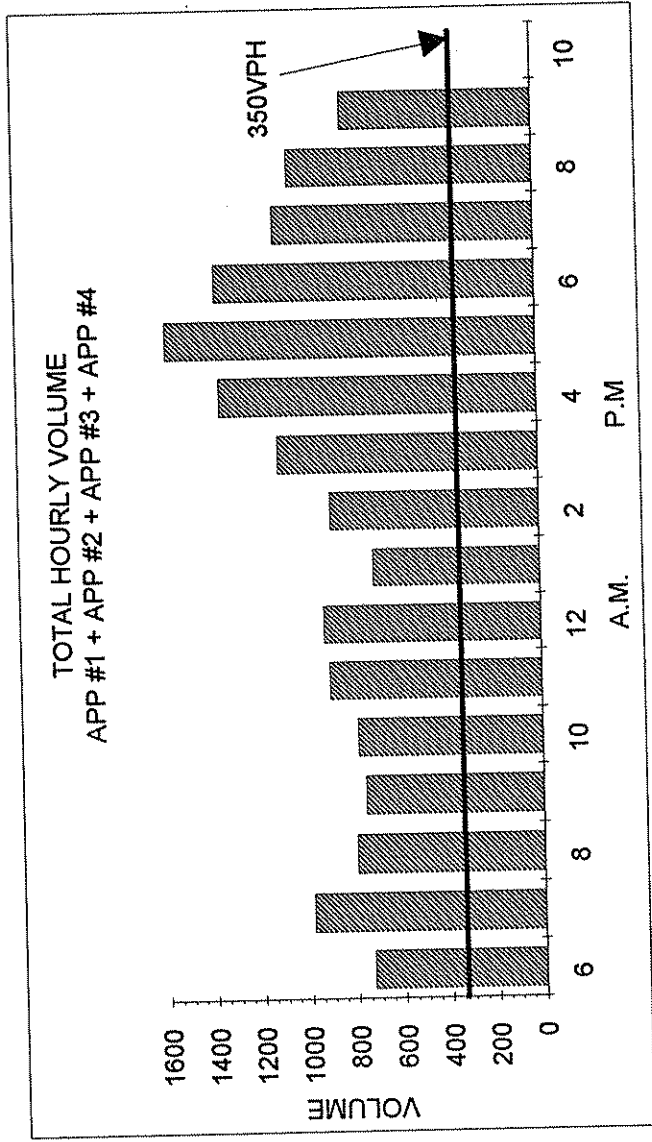
ANOKA COUNTY HIGHWAY DEPARTMENT
 TRAFFIC ENGINEERING SECTION
 TRAFFIC VOLUME AND
 TURNING MOVEMENT STUDY

Site Code : 93
 Start Date: 06
 File I.D. : TM
 Page : 3

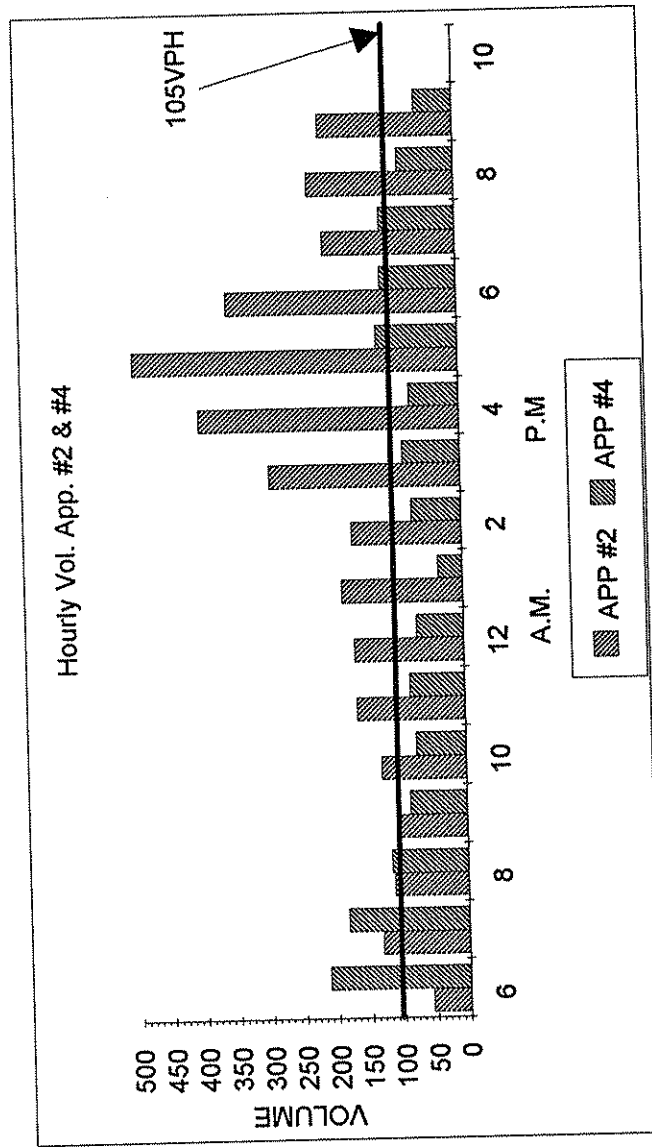
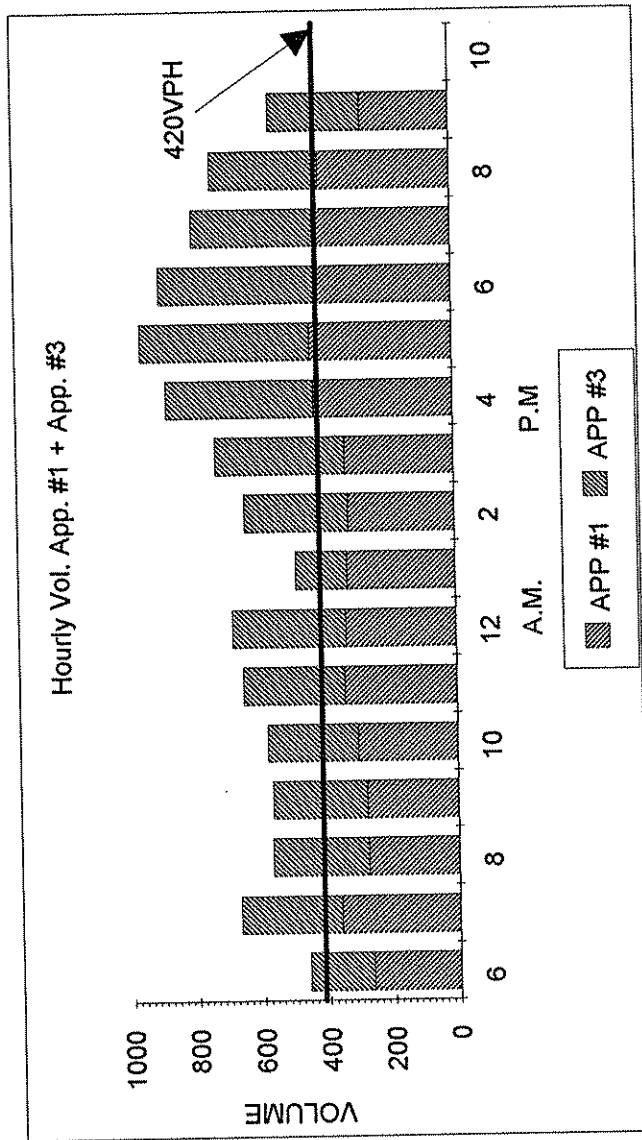
Vehicle group 1

Date	SB CR 18 (COON CREEK BLVD) Southbound				WB CR 116 (BUNKER LK BLVD) Westbound				NB CSAH 18 (COON CREEK BLVD) Northbound				EB CR 116 (BUNKER LK BLVD) Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
20:00	0	2	18	5	1	8	71	13	1	11	20	19	0	26	71	8	272
20:15	0	3	15	5	2	7	65	12	0	19	15	26	0	24	65	2	258
20:30	1	2	17	3	5	8	68	10	3	18	11	24	0	30	64	3	258
20:45	0	1	10	5	0	2	53	16	0	15	20	26	0	32	72	5	257
Hr Total	1	8	60	18	8	25	257	51	4	63	66	95	0	112	272	18	1045
21:00	0	3	7	3	0	4	64	19	1	16	22	19	1	21	62	3	243
21:15	0	2	7	1	1	11	50	7	0	24	17	16	1	20	46	5	206
21:30	0	5	7	6	0	10	58	8	0	11	13	18	0	13	44	2	195
21:45	0	2	9	6	0	3	42	6	0	10	15	24	0	15	37	2	171
Hr Total	0	12	30	16	1	28	214	40	1	61	67	77	2	69	189	12	815
TOTAL	32	150	1146	312	220	323	4036	982	85	968	1176	1241	246	1277	4047	208	15866

TMC9323 STOP WARRANT STUDY



TMC9323 SIGNAL WARRANT 1STUDY



TMC9323 SIGNAL WARRANT 2STUDY

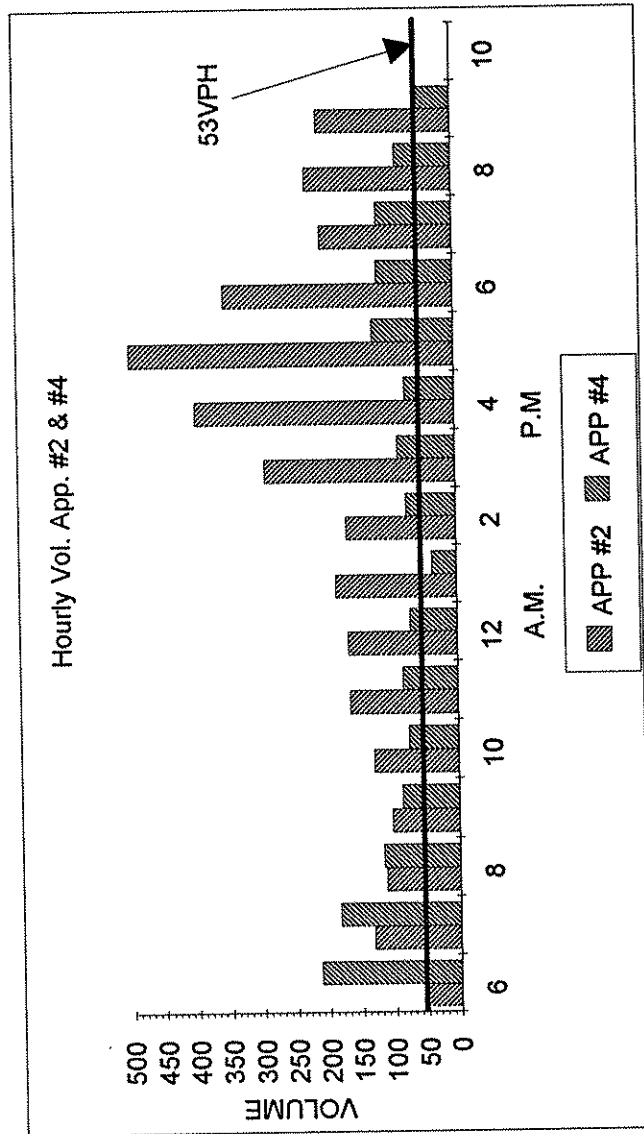
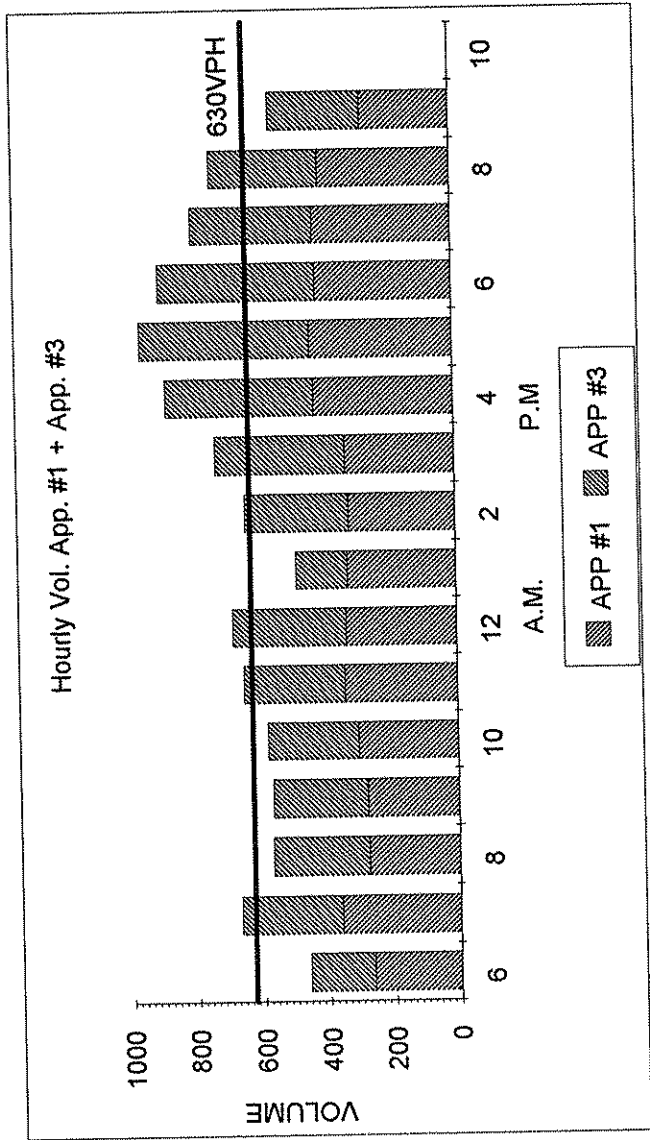
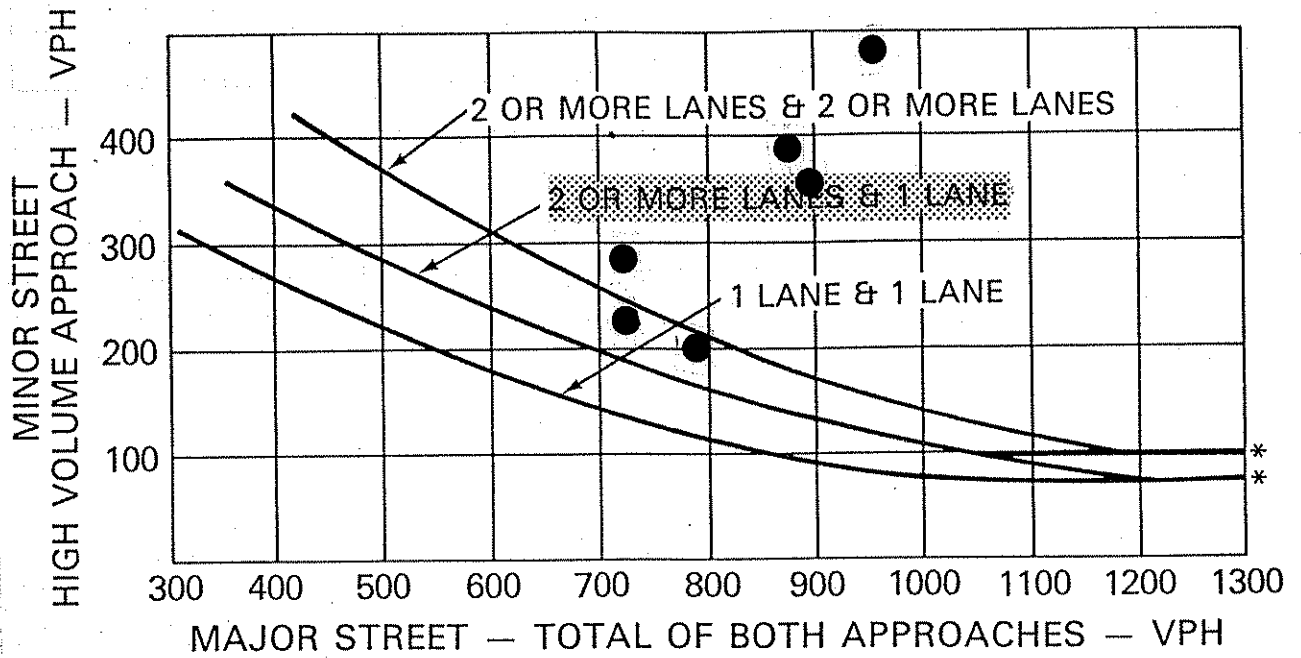


FIGURE 4-6. PEAK HOUR VOLUME WARRANT

(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.

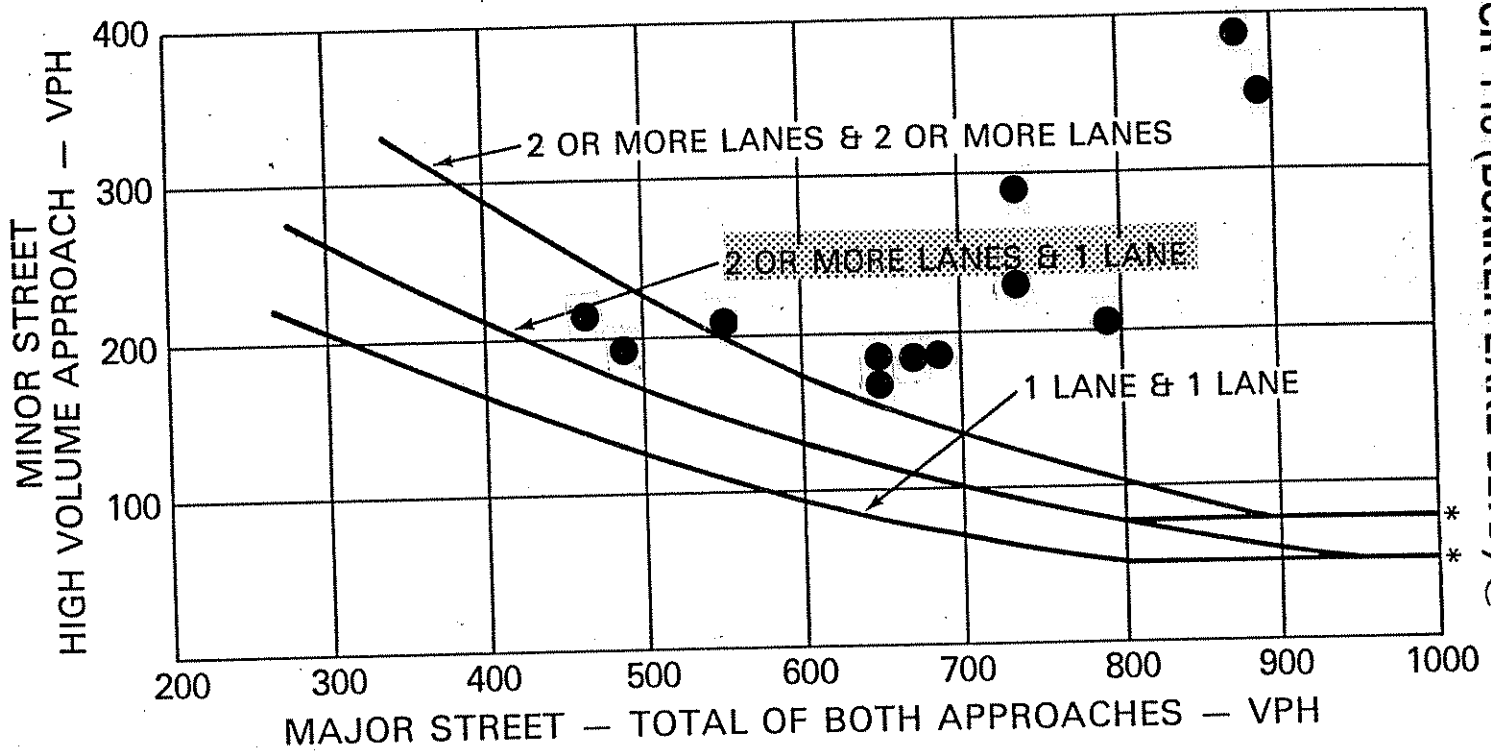
● = VOLUMES WHICH EXCEED THE THRESHOLD AND ARE REPRESENTED ON THE GRAPH.

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

TIME	MAJOR STREETS (VPH)	MINOR STREET (VPH)
6-7 am	462	213
7-8 am	670	184
8-9 am	571	116
9-10 am	569	102
10-11 am	583	129
11-12 pm	653	165
12-1 pm	686	167
1-2 pm	490	185
2-3 pm	644	168
3-4 pm	730	291
4-5 pm	880	397
5-6 pm	957	497
6-7 pm	896	352
7-8 pm	795	202
8-9 pm	735	224
9-10 pm	552	205

CR 116 (BUNKER LAKE BLVD) @ CSAH/CR 18 (COON CREEK/CROSSTOWN BLVD)

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	462	213
● 7-8 am	670	184
● 8-9 am	571	116
● 9-10 am	569	102
● 10-11 am	583	129
● 11-12 pm	653	165
● 12-1 pm	686	167
● 1-2 pm	490	185
● 2-3 pm	644	168
● 3-4 pm	730	291
● 4-5 pm	880	397
★ 5-6 pm	957	497
● 6-7 pm	896	352
● 7-8 pm	795	202
● 8-9 pm	735	224
● 9-10 pm	552	205

CR 116 (BUNKER LAKE BLVD) @ CSAH/CR18 (COON CREEK/CROSSTOWN BLVD)



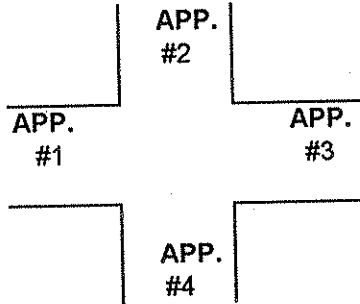
NORTH

APP. #1= EB CR.116
(BUNKER LAKE BLVD)
APP. #2= SB CR 18
(CROSSTOWN BLVD)
APP. #3= WB CR.116
(BUNKER LAKE BLVD)
APP. #4= NB CSAH 18
(COON CREEK BLVD)

COUNT LOCATION:

CR.116 (BUNKER LAKE BLVD) @
CSAH 18/CR18 (COON CREEK/CROSSTOWN)

D 6/23/93



- 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						2		1
6:15-6:30						3		1
6:30-6:45	1				1	7		
6:45-7:00						4	1	
HOURLY TOTAL					1	HOURLY TOTAL		19
7:00-7:15						5		2
7:15-7:30						8		3
7:30-7:45						7		3
7:45-8:00						12		
HOURLY TOTAL						HOURLY TOTAL		40
8:00-8:15						8		
8:15-8:30						18		
8:30-8:45		1			1	8		1
8:45-9:00	1				1	12		3
HOURLY TOTAL					2	HOURLY TOTAL		50
9:00-9:15			2		2	10	1	
9:15-9:30	1				1	14	2	6
9:30-9:45						11	1	
9:45-10:00						17	1	
HOURLY TOTAL					3	HOURLY TOTAL		63
10:00-10:15			4		4	13		
10:15-10:30						8		
10:30-10:45						16		
10:45-11:00						13		
HOURLY TOTAL					4	HOURLY TOTAL		50
11:00-11:15						12		2
11:15-11:30						7		2
11:30-11:45						16		4
11:45-12:00						19		
HOURLY TOTAL						HOURLY TOTAL		62
12:00-12:15						20		4
12:15-12:30						7		2
12:30-12:45						16		
12:45-1:00						14		3
HOURLY TOTAL						HOURLY TOTAL		66
1:00-1:15						12		
1:15-1:30	3				3	12		
1:30-1:45						15	1	1
1:45-2:00						9		
HOURLY TOTAL					3	HOURLY TOTAL		50



NORTH

COUNT LOCATION:

CR. 116 (BUNKER LAKE BLVD) @
CSAH 18/CR.18 (COON CREEK/CROSTOWN)

DA 6/22/93

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

APP. #2= SB CR.18
(CROSTOWN BLVD)

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

APP. #4=NB CSAH 18
(COON CREEK BLVD)

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						5		
2:15-2:30		2			2	7		
2:30-2:45	1	5			6	13		
2:45-3:00			1	1	2	15		
HOURLY TOTAL					10	HOURLY TOTAL		40
3:00-3:15						10		
3:15-3:30	1				1	9		1
3:30-3:45			2		2	7		
3:45-4:00	2				2	8		
HOURLY TOTAL					5	HOURLY TOTAL		35
4:00-4:15						3	1	
4:15-4:30			1		1	9		
4:30-4:45		1			1	4		
4:45-5:00		1			1	13		
HOURLY TOTAL					3	HOURLY TOTAL		30
5:00-5:15						8		
5:15-5:30						8		
5:30-5:45						3	1	
5:45-6:00						11		
HOURLY TOTAL						HOURLY TOTAL		31
6:00-6:15						7		
6:15-6:30						1		
6:30-6:45						5		1
6:45-7:00			4		4	8		
HOURLY TOTAL					4	HOURLY TOTAL		22
7:00-7:15						7		
7:15-7:30	2		2		4	1		
7:30-7:45	2		2	2	6	4		1
7:45-8:00						4		
HOURLY TOTAL					10	HOURLY TOTAL		17
8:00-8:15	2				2	3	1	
8:15-8:30	3	1	2		6	2		
8:30-8:45			2	1	3	8		
8:45-9:00								
HOURLY TOTAL					11	HOURLY TOTAL		14
9:00-9:15								
9:15-9:30						4		
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		4