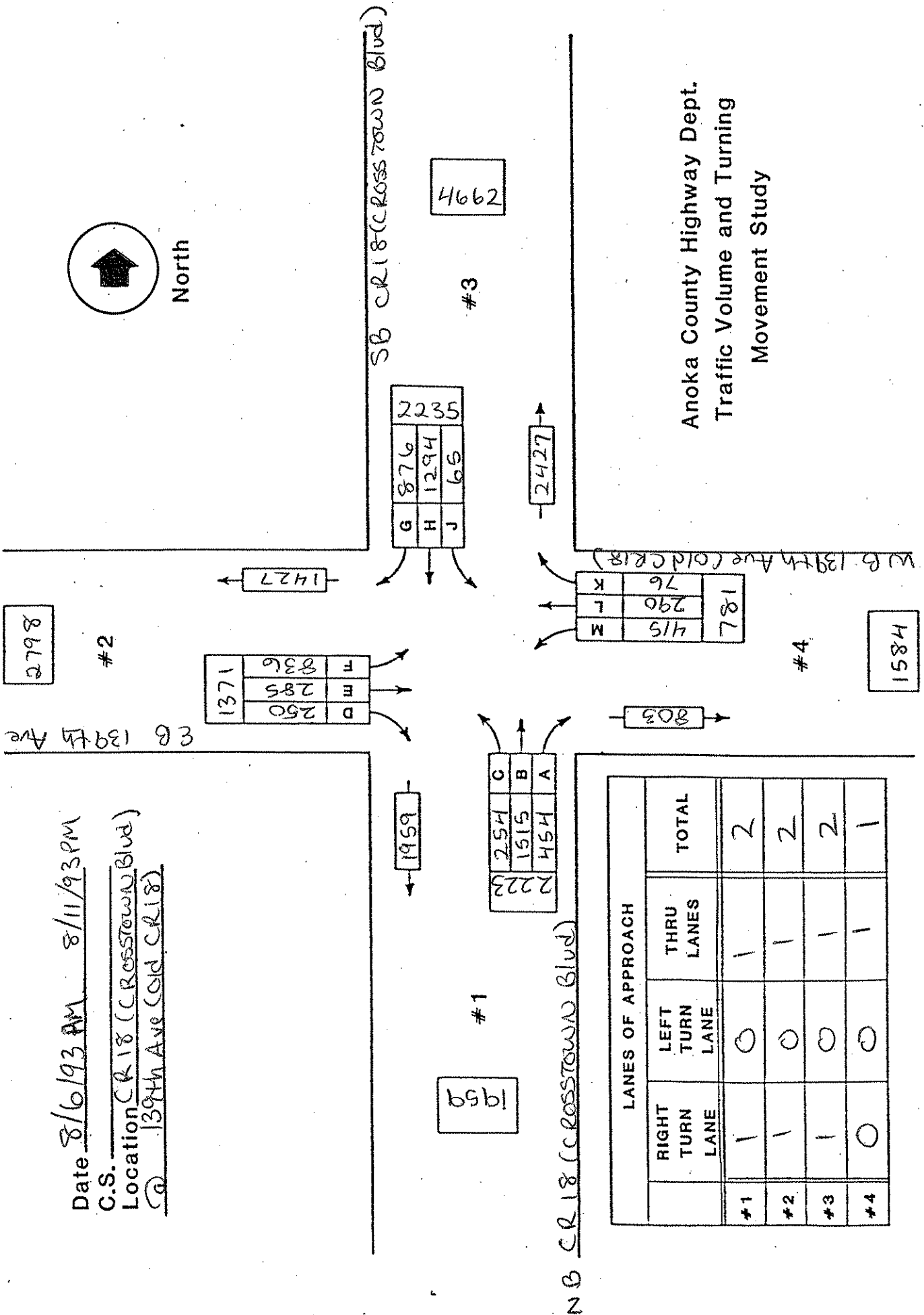


Date 8/6/93 AM 8/11/93 PM
 C.S. CR 18 (CROSS TOWN BLVD)
 Location CR 18 (CROSS TOWN BLVD)
 @ 139th Ave (old CR 18)



Anoka County Highway Dept.
 Traffic Volume and Turning
 Movement Study



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

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: 08
 File I.D. : TM
 Page : 1

Vehicle group 1

Date	SB CR 18 (CROSSTOWN BLVD) Southbound				WB 139TH Westbound				NB CR 18 (CROSSTOWN BLVD) Northbound				EB CROSSTOWN DRIVE Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
08/06/93																	
06:00	0	13	22	0	1	0	2	8	0	0	6	2	1	6	0	3	62
06:15	0	10	42	1	0	2	8	12	0	1	4	0	0	13	3	1	97
06:30	0	19	59	0	0	0	7	21	0	0	8	1	0	8	0	4	127
06:45	0	13	48	1	1	0	7	15	0	2	9	1	0	4	0	11	111
Hr Total	0	55	171	2	2	2	24	56	0	3	27	4	1	31	3	19	397
07:00	0	10	50	0	0	2	2	2	0	1	8	2	1	10	0	6	93
07:15	1	14	54	0	0	0	4	10	0	0	9	2	1	13	1	6	113
07:30	0	14	40	0	0	0	4	12	0	2	13	2	4	5	3	11	106
07:45	2	11	34	0	0	0	4	8	1	4	9	0	0	7	1	5	83
Hr Total	3	49	178	0	0	2	14	32	1	7	39	6	6	35	5	28	395
08:00	4	7	22	1	0	1	1	7	0	5	8	0	0	7	0	4	63
08:15	1	19	18	1	0	1	4	8	0	3	11	3	0	6	0	5	79
08:30	0	6	24	2	2	0	7	12	2	2	8	1	1	4	4	9	79
08:45	0	14	11	1	1	1	4	5	0	3	8	3	0	5	3	12	70
Hr Total	5	46	75	5	3	3	16	32	2	13	35	7	1	22	7	30	291
09:00	1	8	17	1	0	0	4	6	0	1	7	0	1	6	1	10	61
09:15	1	14	20	0	0	0	3	6	0	1	5	1	2	3	2	6	61
09:30	0	16	24	1	0	3	4	0	0	2	7	1	0	1	2	12	73
5	1	9	16	1	0	2	3	3	0	4	14	4	0	9	2	4	71
Hr Total	3	47	77	3	0	5	14	15	0	8	33	6	3	19	7	32	266
10:00	4	9	17	0	0	2	1	3	0	3	14	2	0	1	3	5	60
10:15	0	8	20	0	0	1	5	11	0	5	7	4	1	4	3	4	72
10:30	2	8	17	2	0	0	3	5	2	3	16	3	0	5	3	15	80
10:45	0	15	17	1	2	1	3	6	2	6	21	7	2	3	7	11	98
Hr Total	6	40	71	3	2	4	12	25	4	17	58	16	3	13	16	35	310
11:00	2	11	20	0	0	1	9	3	1	3	13	2	0	1	4	8	75
11:15	0	11	21	1	0	0	3	7	1	10	20	1	0	1	2	10	87
11:30	1	10	18	0	0	1	1	6	0	9	14	4	0	1	4	11	79
11:45	0	17	15	2	0	0	3	5	0	5	22	2	1	2	6	16	95
Hr Total	3	49	74	3	0	2	16	21	2	27	69	9	1	5	16	45	336
12:00	1	15	19	1	1	1	10	3	2	5	16	4	1	8	9	14	105
12:15	1	8	12	0	1	0	4	7	1	4	27	3	0	1	1	10	77
12:30	0	12	19	1	1	0	4	6	1	5	23	5	1	7	6	14	102
12:45	1	7	18	1	0	1	3	2	1	9	21	3	1	6	5	11	87
Hr Total	3	42	68	3	3	2	21	18	5	23	87	15	3	22	21	49	371

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: 08
 File I.D. : TM
 Page : 2

Vehicle group 1

Date	SB CR 18 (CROSSTOWN BLVD) Southbound				WB 139TH Westbound				NB CR 18 (CROSSTOWN BLVD) Northbound				EB CROSSTOWN DRIVE Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
08/06/93																	
13:00	1	9	17	0	0	1	2	5	0	7	12	3	0	0	5	15	76
13:15	1	12	9	0	0	3	3	6	0	6	17	8	1	1	3	13	81
13:30	1	8	15	3	0	2	6	6	0	7	17	5	0	4	5	10	88
13:45	2	11	17	0	0	0	3	8	0	4	21	4	0	3	6	14	91
Hr Total	5	40	58	3	0	6	14	25	0	24	67	20	1	8	19	52	336
14:00	0	9	15	0	0	1	4	6	0	3	21	3	1	3	3	12	80
14:15	0	16	16	2	0	0	8	8	2	1	17	1	0	6	3	14	92
14:30	3	17	20	2	0	1	4	6	0	1	14	1	0	1	5	9	81
14:45	1	6	10	1	0	1	2	7	1	1	24	1	1	2	4	6	65
Hr Total	4	48	61	5	0	3	18	27	3	6	76	6	2	12	15	41	318
15:00	2	12	8	1	0	0	5	3	0	2	36	2	0	1	2	14	86
15:15	0	8	17	0	0	1	5	3	1	14	26	4	0	1	2	15	96
15:30	2	12	12	2	0	0	8	5	0	15	43	9	0	4	8	5	123
15:45	3	17	17	1	0	1	6	5	0	12	43	9	0	5	9	10	135
Hr Total	7	49	54	4	0	2	24	16	1	43	148	24	0	11	21	44	440
16:00	1	9	23	1	0	0	5	1	0	19	42	9	0	4	4	18	135
16:15	1	13	16	1	0	2	2	9	0	17	41	13	0	2	9	23	148
16:30	0	14	24	1	0	2	4	9	1	12	45	7	1	4	8	16	146
5	0	15	19	0	0	0	6	8	1	9	65	11	2	3	5	23	164
Hr Total	2	51	82	3	0	4	17	27	2	57	193	40	3	13	26	80	593
17:00	0	22	20	0	0	3	4	5	1	12	63	6	0	2	7	28	172
17:15	1	20	28	0	0	0	3	6	0	16	60	11	0	7	6	19	176
17:30	0	27	17	0	0	3	8	6	0	15	60	7	0	3	7	20	173
17:45	0	17	23	0	0	1	3	11	0	13	58	9	0	4	6	22	167
Hr Total	1	86	88	0	0	7	18	28	1	56	241	33	0	16	26	89	688
18:00	0	24	31	4	0	1	2	9	0	14	51	7	0	0	1	23	167
18:15	0	19	22	3	0	3	5	6	0	19	36	3	2	4	4	18	142
18:30	0	21	26	0	0	6	6	10	0	12	32	3	1	5	13	18	152
18:45	2	25	16	8	0	5	5	9	0	8	32	1	0	4	8	18	139
Hr Total	2	89	95	15	0	15	18	34	0	53	151	14	3	13	26	77	600
19:00	0	25	13	0	0	3	6	10	0	10	25	3	0	2	5	15	117
19:15	0	17	20	0	0	2	5	5	0	9	29	6	0	4	12	18	127
19:30	0	15	15	2	0	0	8	9	0	7	31	3	0	4	7	19	120
19:45	0	22	12	0	0	2	6	3	0	7	20	5	0	6	8	20	111
Hr Total	0	79	60	2	0	7	25	27	0	33	105	17	0	16	32	72	475

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

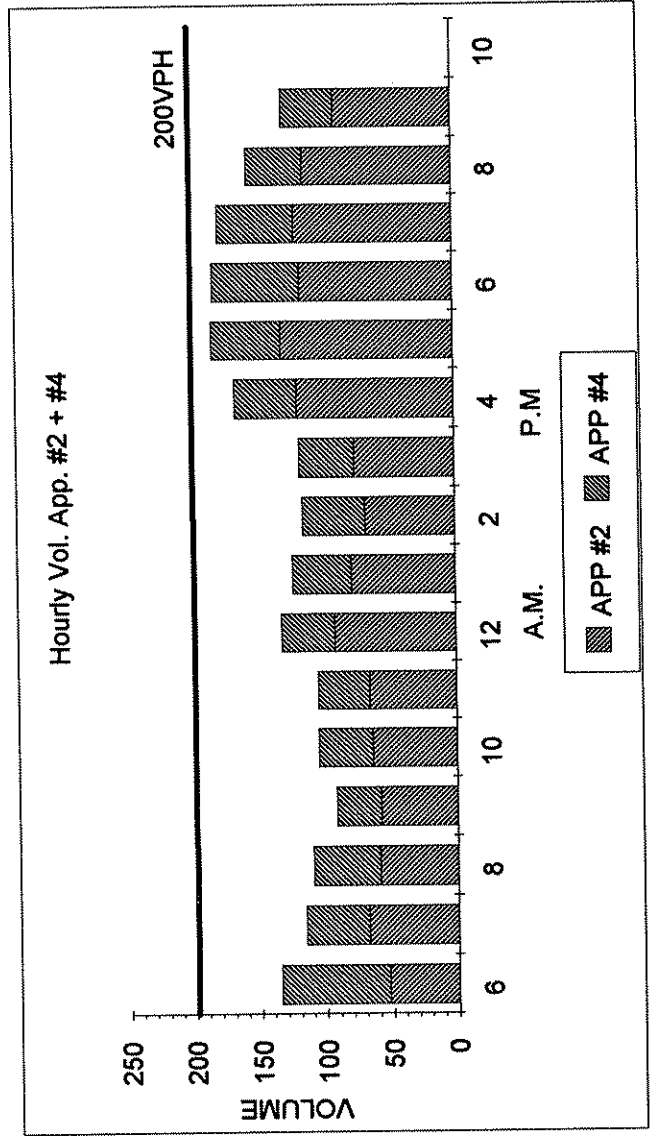
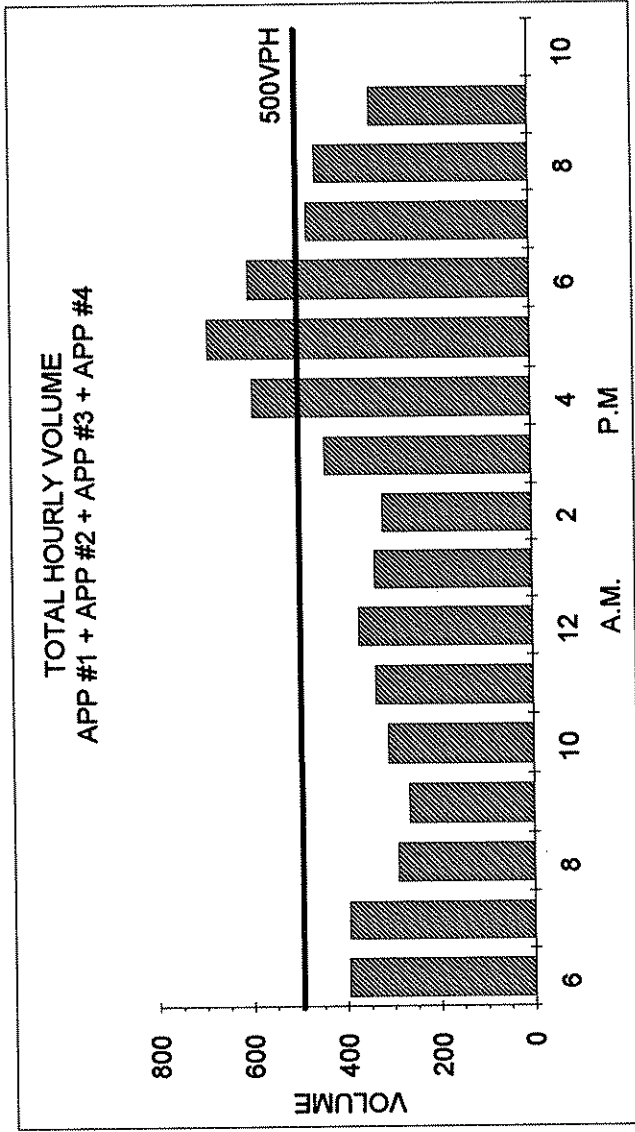
ANOKA COUNTY HIGHWAY DEPARTMENT
 TRAFFIC ENGINEERING SECTION
 TRAFFIC VOLUME AND
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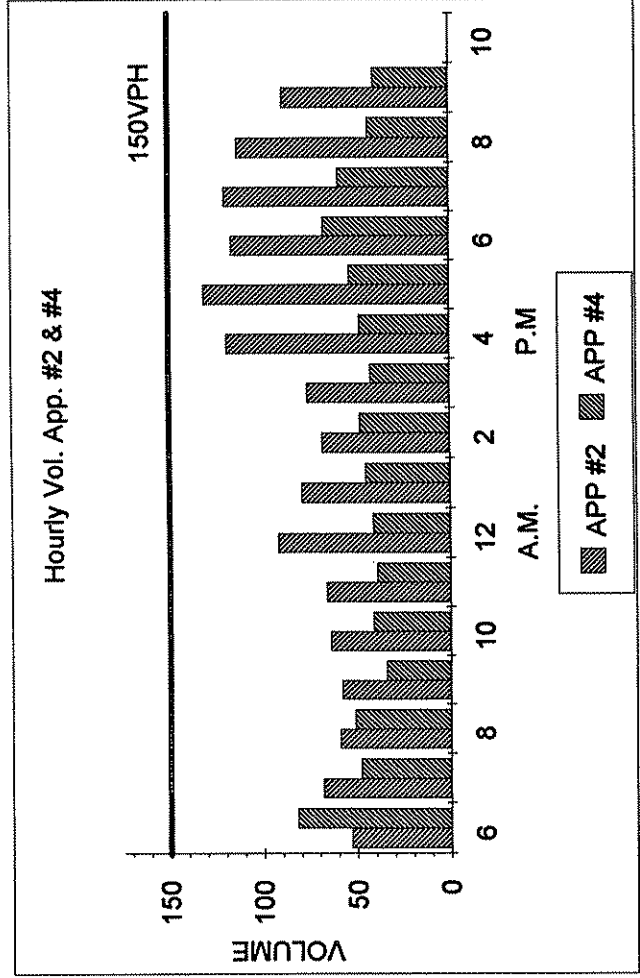
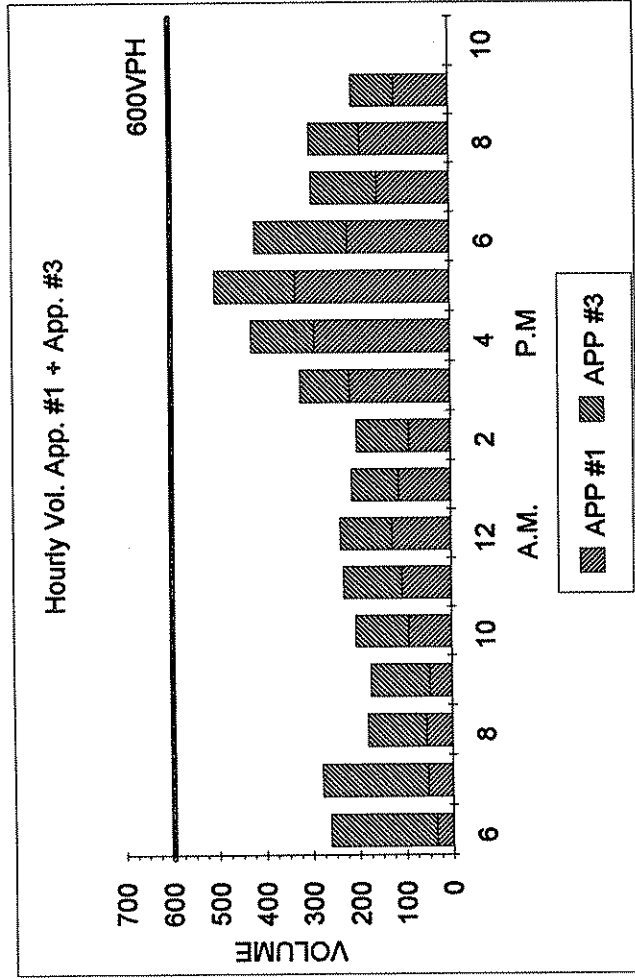
Vehicle group 1

Date	SB CR 18 (CROSSTOWN BLVD) Southbound				WB 139TH Westbound				NB CR 18 (CROSSTOWN BLVD) Northbound				EB CROSSTOWN DRIVE Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
08/06/93																	
20:00	0	21	10	1	0	4	10	3	0	13	40	6	0	2	11	25	146
20:15	0	13	11	0	0	2	4	2	0	18	26	4	2	2	6	11	99
20:30	0	13	16	0	0	0	4	5	0	10	29	7	0	1	7	28	120
20:45	2	15	9	1	0	1	3	5	0	13	19	5	0	1	4	15	91
Hr Total	2	62	46	2	0	7	21	15	0	54	114	22	2	6	28	79	456
21:00	0	7	10	0	0	0	6	7	0	13	23	6	0	2	6	14	94
21:15	0	14	7	0	0	2	6	3	0	8	21	4	0	2	5	19	91
21:30	0	9	13	5	0	0	2	5	0	5	16	3	0	1	6	20	85
21:45	0	14	6	7	0	3	4	2	0	3	12	2	0	3	0	11	67
Hr Total	0	44	36	12	0	5	18	17	0	29	72	15	0	8	17	64	337
TOTAL	46	876	1294	65	10	76	290	415	21	453	1515	254	29	250	285	836	6609

TMC9331 STOP WARRANT STUDY



TMC9331 SIGNAL WARRANT 1 STUDY



TMC9331 SIGNAL WARRANT 2 STUDY

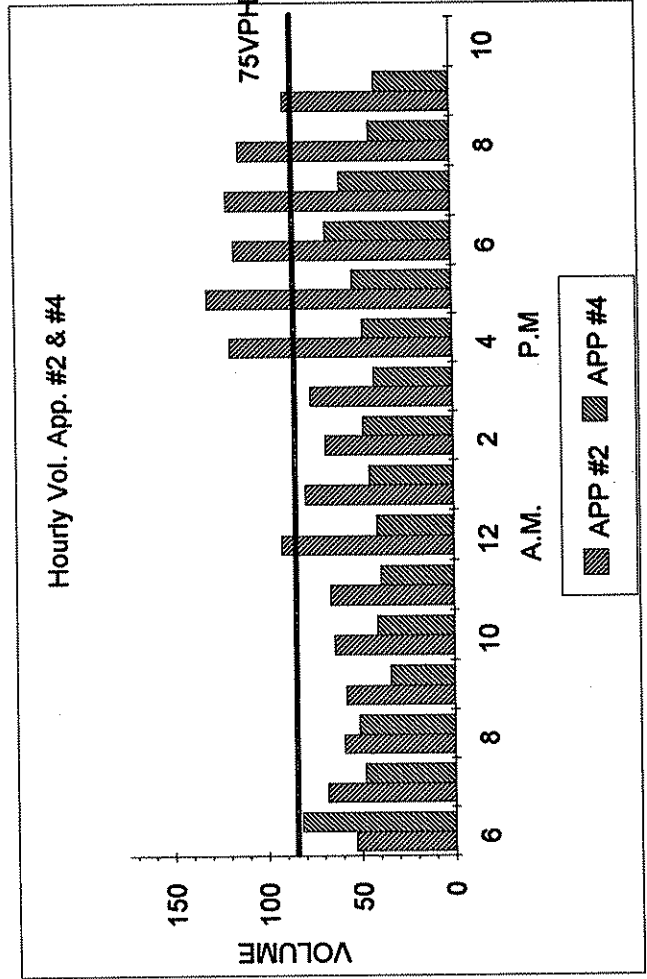
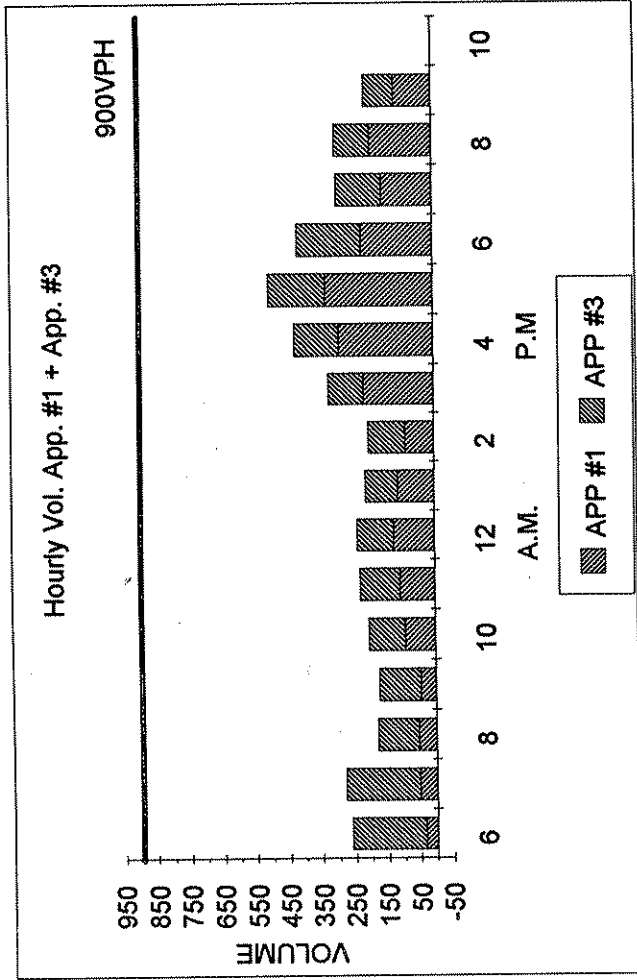
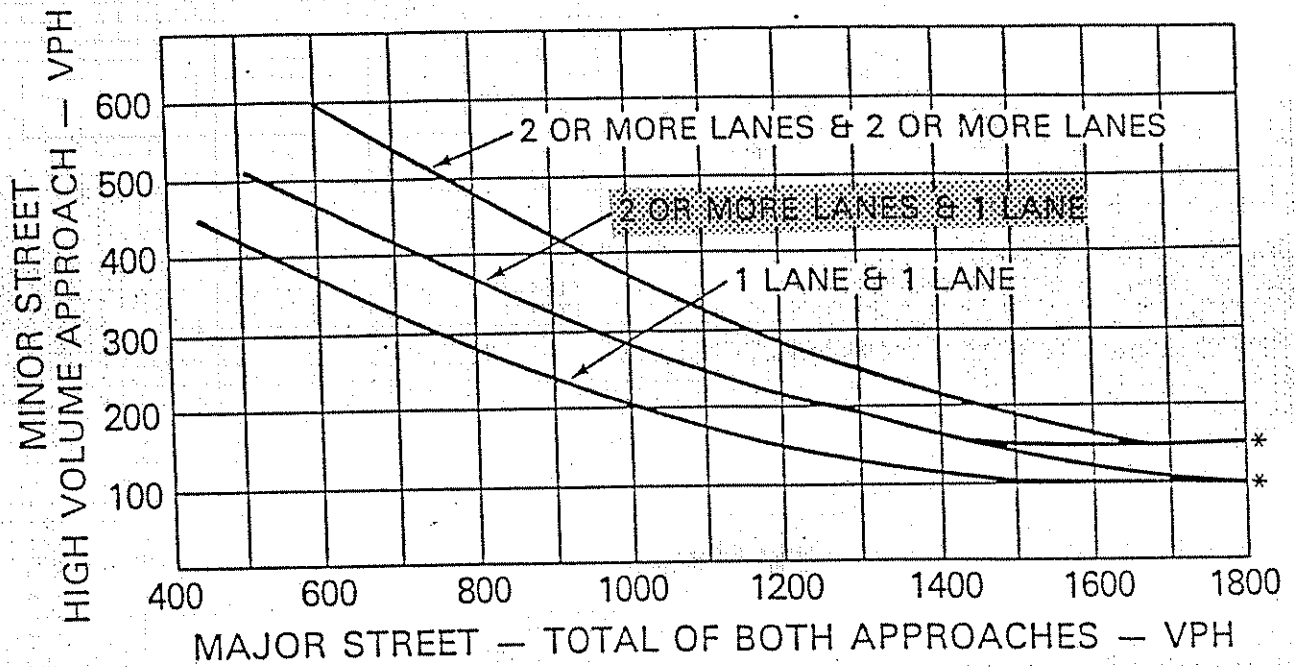


FIGURE 4-5. PEAK HOUR VOLUME WARRANT



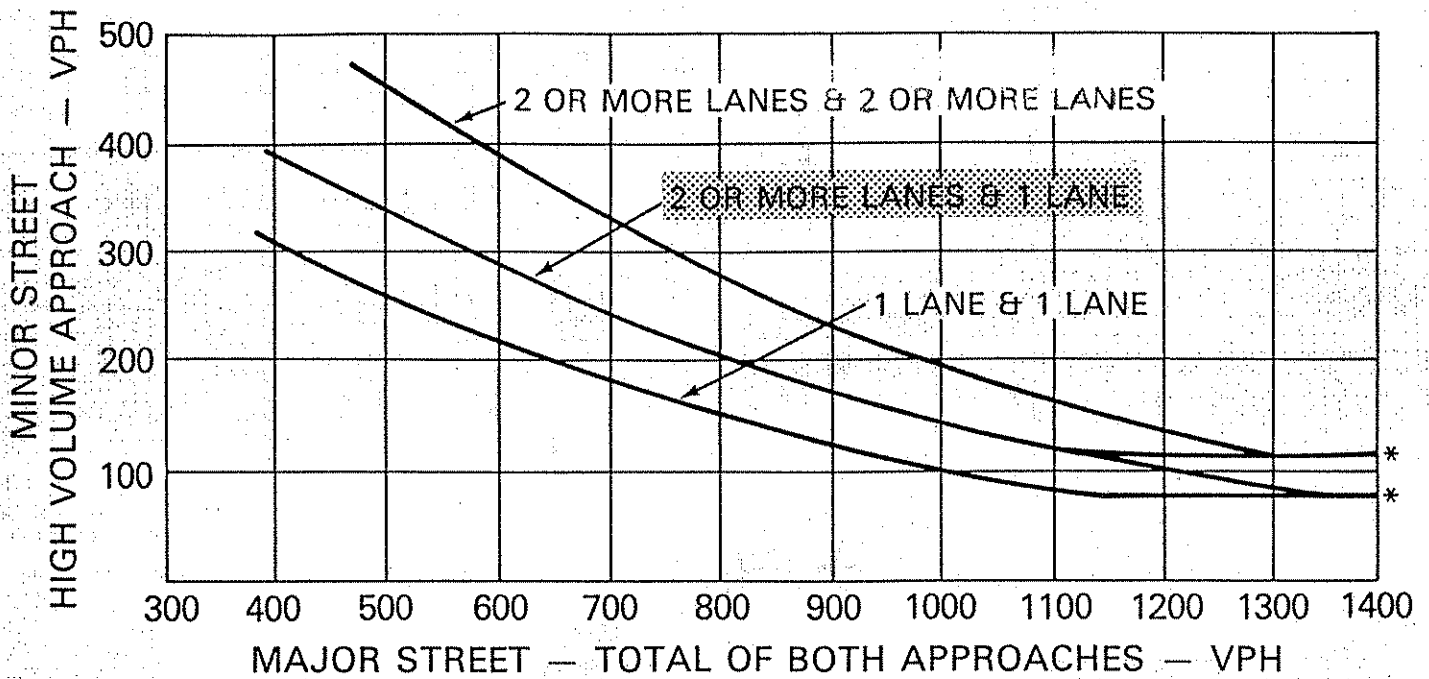
*NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

● = 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	262	82
7-8 am	279	68
8-9 am	181	59
9-10 am	174	58
10-11 am	205	64
11-12 pm	231	66
12-1 pm	238	92
1-2 pm	212	79
2-3 pm	202	68
3-4 pm	322	76
4-5 pm	426	119
5-6 pm	504	131
6-7 pm	417	116
7-8 pm	296	120
8-9 pm	300	113
9-10 pm	208	89

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.

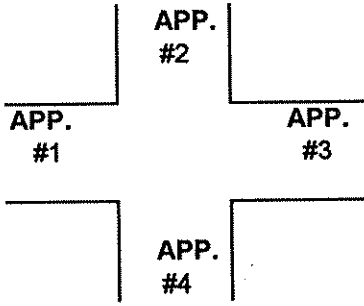
TIME	MAJOR STREETS (VPH)	MINOR STREET (VPH)
6-7 am	262	82
7-8 am	279	68
8-9 am	181	59
9-10 am	174	58
10-11 am	205	64
11-12 pm	231	66
12-1 pm	238	92
1-2 pm	212	79
2-3 pm	202	68
3-4 pm	322	76
4-5 pm	426	119
5-6 pm	504	131
6-7 pm	417	116
7-8 pm	296	120
8-9 pm	300	113
9-10 pm	208	89


NORTH

APP. #1=NB CR 18
(CROSSTOWN BLVD)
APP. #2=EB 139TH
(OLD CR 18)
APP. #3= SB CR 18
(CROSSTOWN BLVD)
APP. #4=WB 139TH

COUNT LOCATION: CR 18 (CROSSTOWN BLVD) @
139TH AVE/ OLD CR 18

DATE: 8/6/93



- 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		
6:15-6:30								
6:30-6:45								
6:45-7:00						1		
HOURLY TOTAL						HOURLY TOTAL		3
7:00-7:15	2				2	1		
7:15-7:30						2		
7:30-7:45						4		
7:45-8:00	2				2	1	1	
HOURLY TOTAL					4	HOURLY TOTAL		9
8:00-8:15						3		
8:15-8:30						2		
8:30-8:45						5		
8:45-9:00		1			1	1		
HOURLY TOTAL					1	HOURLY TOTAL		11
9:00-9:15						2		
9:15-9:30						3		
9:30-9:45								
9:45-10:00		1			1	1		
HOURLY TOTAL					1	HOURLY TOTAL		6
10:00-10:15						4		
10:15-10:30	5				5	1		
10:30-10:45		2		1	3	3		1
10:45-11:00		2			2	6		
HOURLY TOTAL					10	HOURLY TOTAL		15
11:00-11:15	1	2		1	4	3		
11:15-11:30						1		
11:30-11:45	1					1		
11:45-12:00						2		
HOURLY TOTAL					4	HOURLY TOTAL		7
12:00-12:15		1			1	3		1
12:15-12:30	2				2	3		
12:30-12:45						3		
12:45-1:00						3		
HOURLY TOTAL					3	HOURLY TOTAL		13
1:00-1:15		1			1	1		
1:15-1:30	4				4	2		
1:30-1:45							1	
1:45-2:00						2		
HOURLY TOTAL					5	HOURLY TOTAL		6



NORTH

COUNT LOCATION:

CR 18 (CROSTOWN BLVD) @
139TH AVE/ OLD CR 18

DATE:

8/11/93

APP. #1=NB CR 18
(CROSTOWN BLVD)
APP. #2=EB 139TH AVE
(OLD CR 18)
APP. #3=SB CR 18
(CROSTOWN BLVD)
APP. #4=WB 139TH AVE

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						1		
2:15-2:30						1		
2:30-2:45						3		
2:45-3:00						3		
HOURLY TOTAL						HOURLY TOTAL		8
3:00-3:15		1			1	2		
3:15-3:30						1		
3:30-3:45						2		
3:45-4:00						3		
HOURLY TOTAL					1	HOURLY TOTAL		8
4:00-4:15		1			1	1		
4:15-4:30	2				2	1		
4:30-4:45						2		
4:45-5:00	1	3			4	3		
HOURLY TOTAL					7	HOURLY TOTAL		7
5:00-5:15						1		
5:15-5:30	2	2	1	1	6	1		
5:30-5:45	3	2			5			
5:45-6:00								
HOURLY TOTAL					11	HOURLY TOTAL		2
6:00-6:15								
6:15-6:30						2		
6:30-6:45	2				2	1		
6:45-7:00		4	1		5	2		
HOURLY TOTAL					7	HOURLY TOTAL		5
7:00-7:15		2			2			
7:15-7:30		2			2			
7:30-7:45								
7:45-8:00								
HOURLY TOTAL					4	HOURLY TOTAL		
8:00-8:15								
8:15-8:30								
8:30-8:45								
8:45-9:00								
HOURLY TOTAL						HOURLY TOTAL		
9:00-9:15								
9:15-9:30								
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		