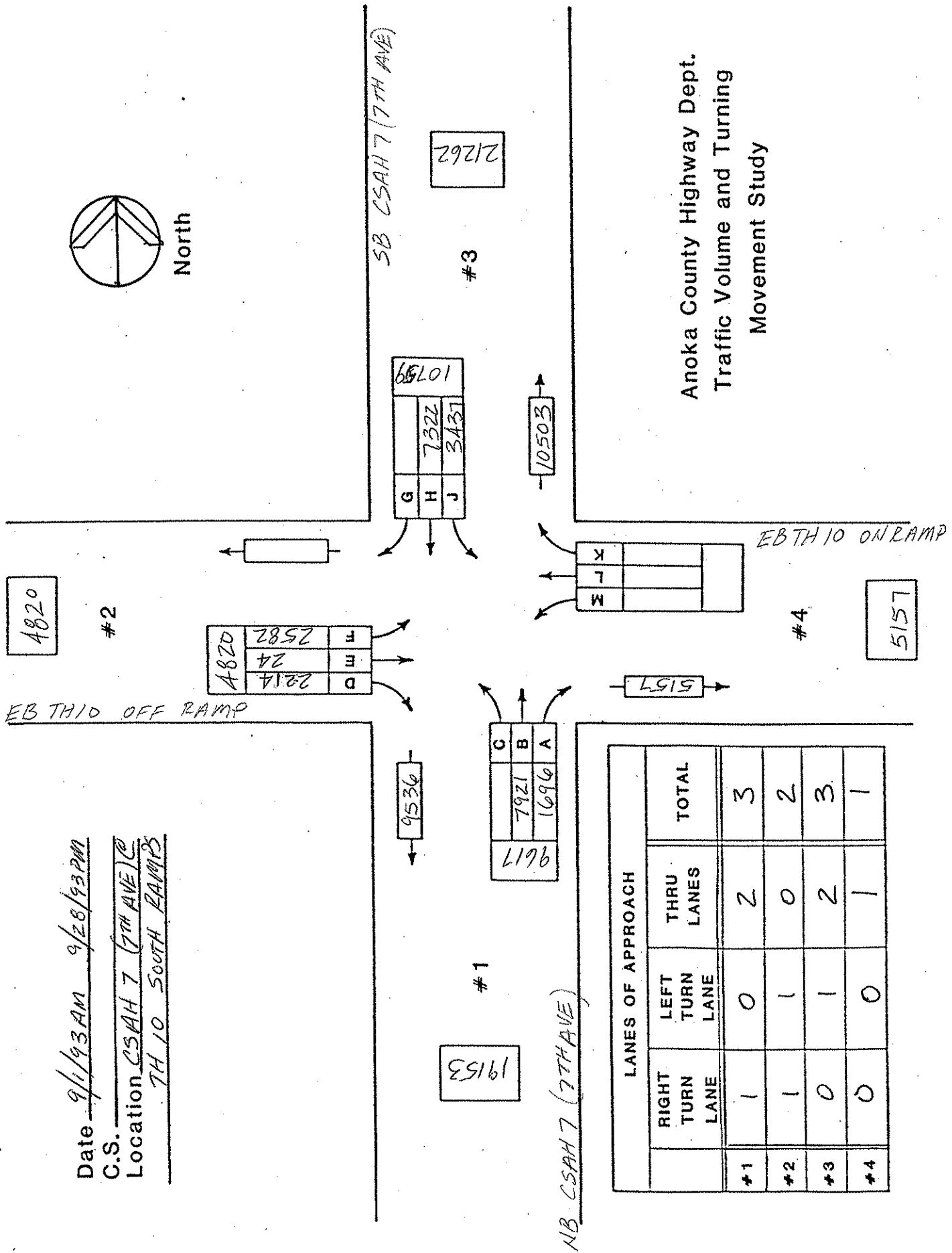


Date 9/1/93 AM 9/28/93 PM
 C.S. CSAH 7 (7TH AVE)
 Location TH 10 SOUTH RAMP



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	2	3
#2	1	1	0	2
#3	0	1	2	3
#4	0	0	1	1

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

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

Site Code : 93280101
Start Date: 09/01/93
File I.D. : TMC9328
Page : 1

Vehicle group 1

Date	Southbound			Westbound			Northbound			Eastbound			Vehicle Total	Other Total				
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left						
09/01/93																		
06:00	1	0	57	106	0	0	0	0	2	14	28	0	0	22	0	14	241	3
06:15	2	0	109	102	0	0	0	0	0	33	26	0	0	41	0	14	325	2
06:30	3	0	170	130	0	0	0	0	0	25	46	0	1	108	0	32	511	4
06:45	2	0	193	128	0	0	0	0	1	16	82	0	0	98	0	54	571	3
Hr Total	8	0	529	466	0	0	0	0	3	88	182	0	1	269	0	114	1648	12
07:00	6	0	105	109	0	0	0	0	0	46	131	0	2	32	0	25	448	8
07:15	1	0	131	119	0	0	0	0	2	20	92	0	2	53	0	26	441	5
07:30	10	0	156	122	0	0	0	0	5	38	67	0	6	49	2	46	480	21
07:45	11	0	213	111	0	0	0	0	3	23	99	0	5	61	0	83	590	19
Hr Total	28	0	605	461	0	0	0	0	10	127	389	0	15	195	2	180	1959	53
08:00	4	0	168	61	0	0	0	0	3	27	85	0	3	47	0	95	483	10
08:15	9	0	114	82	0	0	0	0	1	23	85	0	5	44	1	72	421	15
08:30	5	0	81	62	0	0	0	0	6	27	77	0	5	44	1	51	343	16
08:45	9	0	112	55	0	0	0	0	2	28	74	0	1	34	0	28	331	12
Hr Total	27	0	475	260	0	0	0	0	12	105	321	0	14	169	2	246	1578	53
09:00	3	0	95	47	0	0	0	0	1	37	65	0	2	33	0	11	288	6
09:15	3	0	72	52	0	0	0	0	1	30	78	0	3	32	0	22	286	7
09:30	2	0	105	44	0	0	0	0	6	15	77	0	1	31	1	19	292	9
09:45	4	0	102	30	0	0	0	0	1	17	73	0	2	31	0	21	274	7
Hr Total	12	0	374	173	0	0	0	0	9	99	293	0	8	127	1	73	1140	29
10:00	4	0	97	44	0	0	0	0	6	24	89	0	4	32	0	15	301	14
10:15	5	0	97	52	0	0	0	0	5	33	96	0	1	30	0	30	338	11
10:30	2	0	98	41	0	0	0	0	4	26	105	0	1	24	0	28	322	7
10:45	4	0	117	32	0	0	0	0	1	26	95	0	1	47	0	13	330	6
Hr Total	15	0	409	169	0	0	0	0	16	109	385	0	7	133	0	86	1291	38
11:00	3	0	121	38	0	0	0	0	3	27	100	0	4	29	0	32	347	10
11:15	4	0	112	44	0	0	0	0	2	33	103	0	4	28	0	21	341	10
11:30	4	0	112	24	0	0	0	0	4	29	95	0	2	32	0	23	315	10
11:45	6	0	124	34	0	0	0	0	11	25	138	0	0	23	0	26	370	13
Hr Total	17	0	469	140	0	0	0	0	20	114	436	0	10	112	0	102	1373	47
12:00	1	0	148	40	0	0	0	0	1	33	169	0	2	40	0	33	463	6
12:15	2	0	136	56	0	0	0	0	3	25	121	0	4	41	1	34	414	9
12:30	6	0	110	51	0	0	0	0	7	33	147	0	7	44	4	41	430	21
12:45	5	0	128	57	0	0	0	0	4	13	171	0	3	28	0	59	456	16
Hr Total	14	0	522	204	0	0	0	0	15	104	608	0	16	153	5	167	1763	45

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

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

Site Code : 93280101
 Start Date: 09/01/93
 File I.D. : TMC93283
 Page : 2

Vehicle group 1

Date	Southbound			Westbound			Northbound			Eastbound			Vehicle Total	Other Total				
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left			Other	Right	Thru	Left
09/01/93																		
13:00	10	0	126	42	0	0	0	0	7	31	126	0	1	41	0	53	419	18
13:15	5	0	87	45	0	0	0	0	5	28	131	0	6	48	0	43	382	16
13:30	5	0	104	28	0	0	0	0	1	25	107	0	6	27	0	29	320	12
13:45	4	0	149	39	0	0	0	0	6	28	125	0	3	38	1	42	422	13
Hr Total	24	0	466	154	0	0	0	0	19	112	489	0	16	154	1	167	1543	59
14:00	7	0	111	43	0	0	0	0	19	20	159	0	8	22	0	32	387	34
14:15	7	0	171	64	0	0	0	0	8	19	150	0	6	53	0	37	494	21
14:30	9	0	213	51	0	0	0	0	5	18	118	0	4	84	0	36	520	18
14:45	7	0	147	60	0	0	0	0	11	22	123	0	2	54	10	45	461	20
Hr Total	30	0	642	218	0	0	0	0	43	79	550	0	20	213	10	150	1862	93
15:00	8	0	133	59	0	0	0	0	19	50	278	0	6	25	0	43	588	33
15:15	11	0	137	52	0	0	0	0	9	31	179	0	5	20	0	35	454	25
15:30	3	0	117	52	0	0	0	0	8	49	183	0	7	31	0	69	501	18
15:45	7	0	136	52	0	0	0	0	7	40	204	0	3	43	0	40	515	17
Hr Total	29	0	523	215	0	0	0	0	43	170	844	0	21	119	0	187	2058	93
16:00	10	0	127	70	0	0	0	0	4	36	198	0	8	36	0	60	527	22
16:15	11	0	141	39	0	0	0	0	8	41	238	0	6	31	1	53	544	25
16:30	12	0	153	69	0	0	0	0	5	74	218	0	4	35	0	52	601	21
16:45	9	0	160	45	0	0	0	0	2	41	266	0	3	45	1	54	612	14
Hr Total	42	0	581	223	0	0	0	0	19	192	920	0	21	147	2	219	2284	82
17:00	4	0	148	51	0	0	0	0	0	48	220	0	3	31	0	64	562	7
17:15	3	0	119	37	0	0	0	0	10	39	261	0	2	28	0	64	548	15
17:30	2	0	119	44	0	0	0	0	1	22	166	0	3	17	0	68	436	6
17:45	6	0	142	47	0	0	0	0	2	33	206	0	4	34	0	56	518	12
Hr Total	15	0	528	179	0	0	0	0	13	142	853	0	12	110	0	252	2064	40
18:00	1	0	128	51	0	0	0	0	5	27	199	0	1	32	0	63	500	7
18:15	6	0	116	66	0	0	0	0	1	18	130	0	5	24	0	45	399	12
18:30	1	0	97	56	0	0	0	0	4	26	146	0	3	41	1	46	413	6
18:45	4	0	113	37	0	0	0	0	1	14	110	0	0	26	0	50	350	5
Hr Total	12	0	454	210	0	0	0	0	11	85	585	0	9	123	1	204	1662	32
19:00	0	0	93	55	0	0	0	0	0	19	147	0	3	21	0	40	375	3
19:15	0	0	72	45	0	0	0	0	0	16	85	0	0	30	0	45	293	6
19:30	1	0	63	35	0	0	0	0	6	28	126	0	1	14	0	32	298	8
19:45	3	0	90	30	0	0	0	0	2	16	86	0	1	27	0	40	289	6
Hr Total	4	0	318	165	0	0	0	0	8	79	444	0	5	92	0	157	1255	17

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

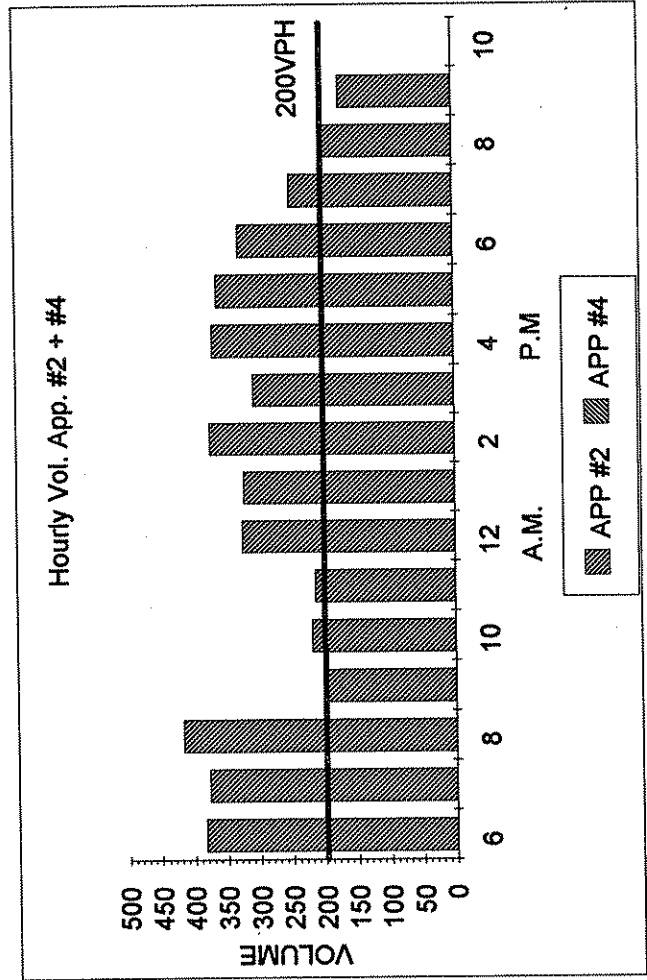
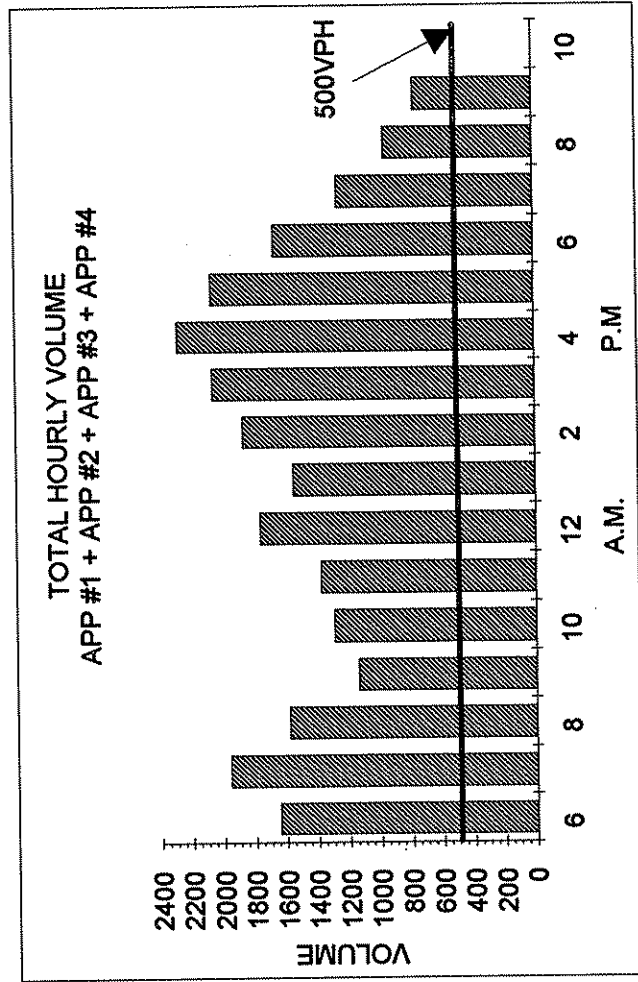
ANOKA COUNTY HIGHWAY DEPARTMENT
 TRAFFIC ENGINEERING SECTION
 TRAFFIC VOLUME AND
 TURNING MOVEMENT STUDY

Site Code : 93280101
 Start Date: 09/01/93
 File I.D. : TMC93281
 Page : 3

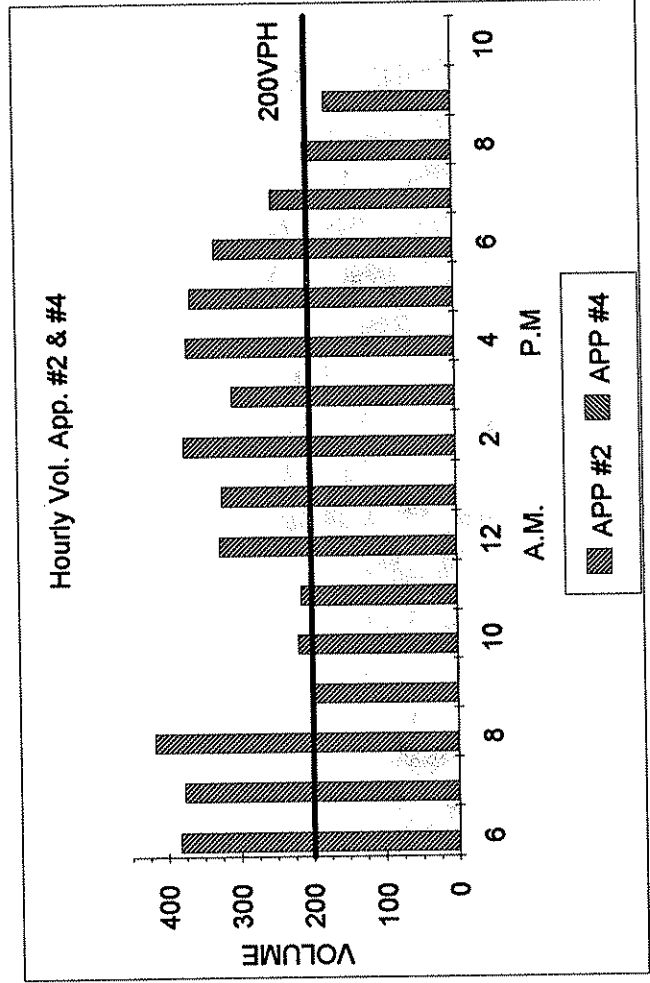
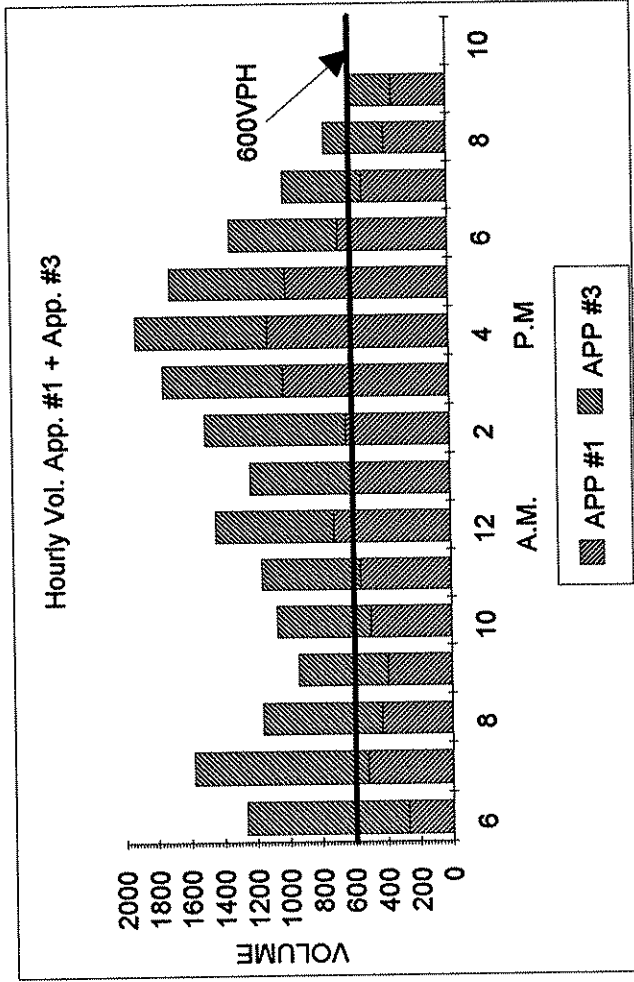
Vehicle group 1

Date	Southbound			Westbound			Northbound			Eastbound			Vehicle Total	Other Total				
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left			Other	Right	Thru	Left
09/01/93																		
20:00	0	0	68	34	0	0	0	0	3	20	96	0	1	12	0	52	282	4
20:15	2	0	61	36	0	0	0	0	1	12	84	0	3	10	0	30	233	6
20:30	1	0	73	24	0	0	0	0	0	10	70	0	0	18	0	24	219	1
20:45	0	0	53	18	0	0	0	0	0	13	79	0	1	12	0	45	220	1
Hr Total	3	0	255	112	0	0	0	0	4	55	329	0	5	52	0	151	954	12
21:00	0	0	57	32	0	0	0	0	0	11	95	0	2	15	0	26	236	2
21:15	1	0	45	21	0	0	0	0	2	7	67	0	0	10	0	35	185	3
21:30	0	0	36	17	0	0	0	0	0	6	58	0	0	13	0	32	162	0
21:45	1	0	34	18	0	0	0	0	1	12	73	0	0	8	0	34	179	2
Hr Total	2	0	172	88	0	0	0	0	3	36	293	0	2	46	0	127	762	7
TOTAL	282	0	7322	3437	0	0	0	0	248	1696	7921	0	182	2214	24	2582	25196	712

TMC9328 STOP WARRANT STUDY



TMC9328 SIGNAL WARRANT 1STUDY



TMC9328 SIGNAL WARRANT 2STUDY

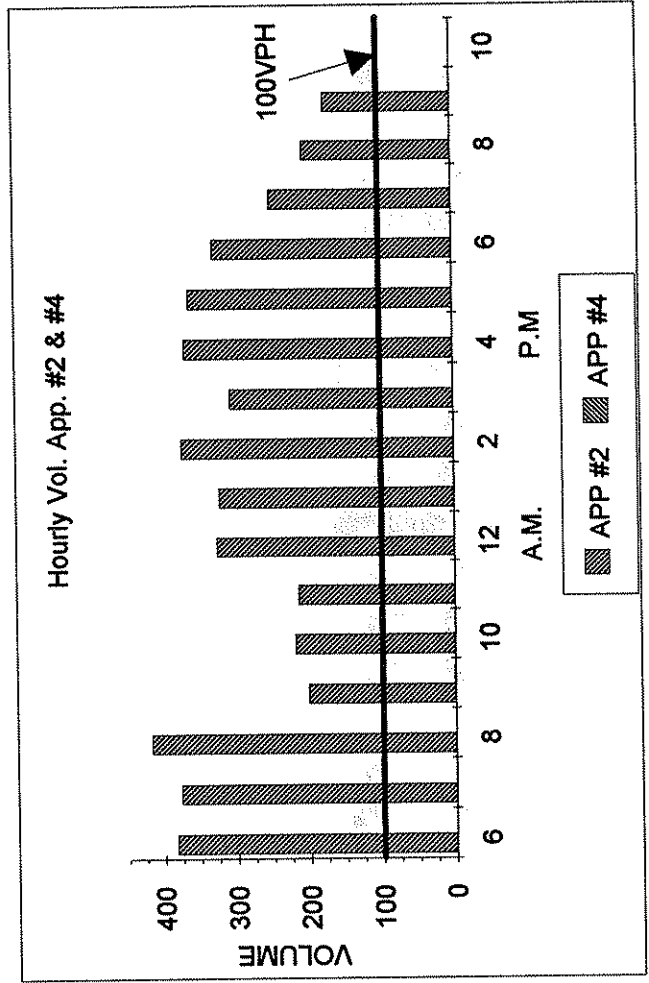
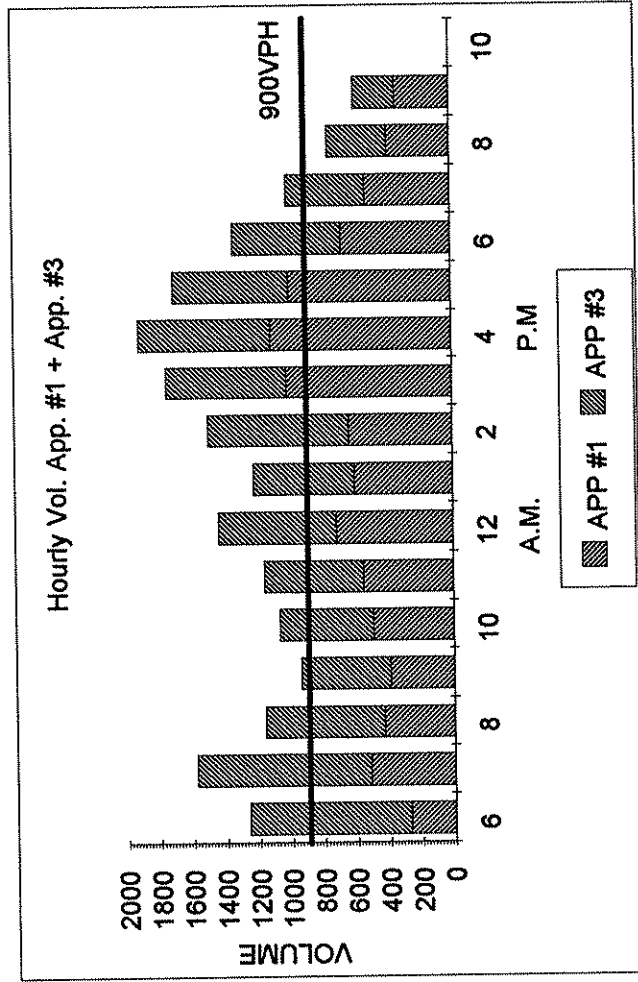
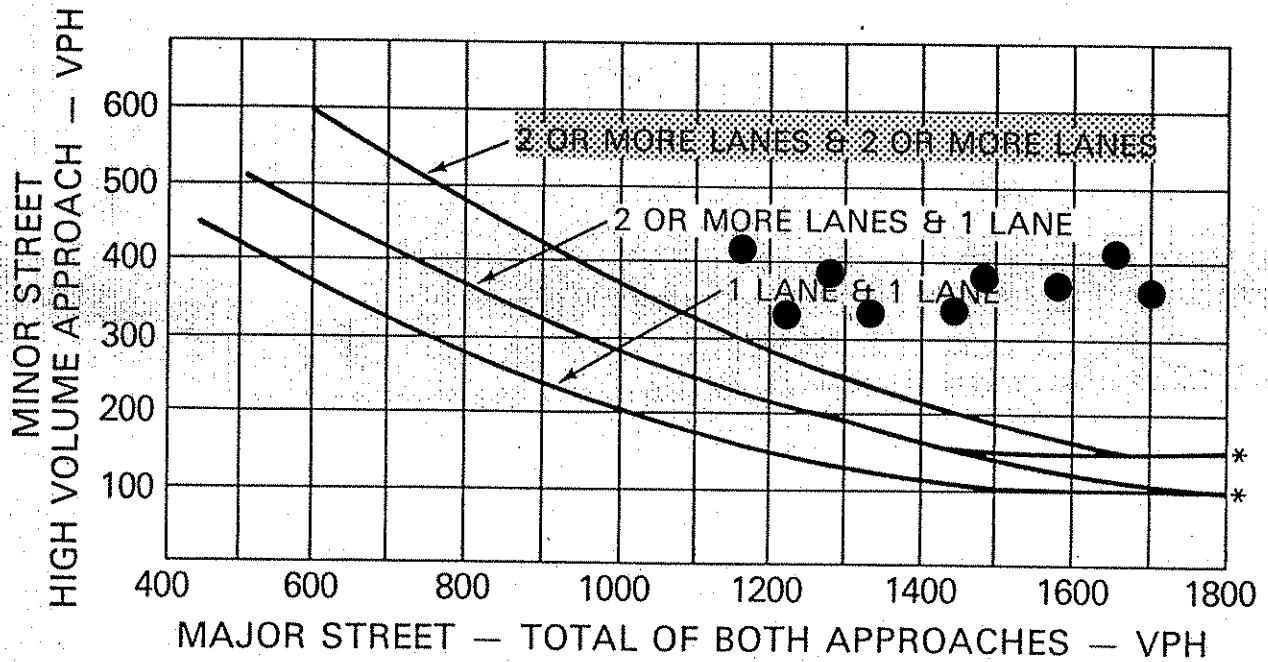


FIGURE 4-5. PEAK HOUR VOLUME WARRANT



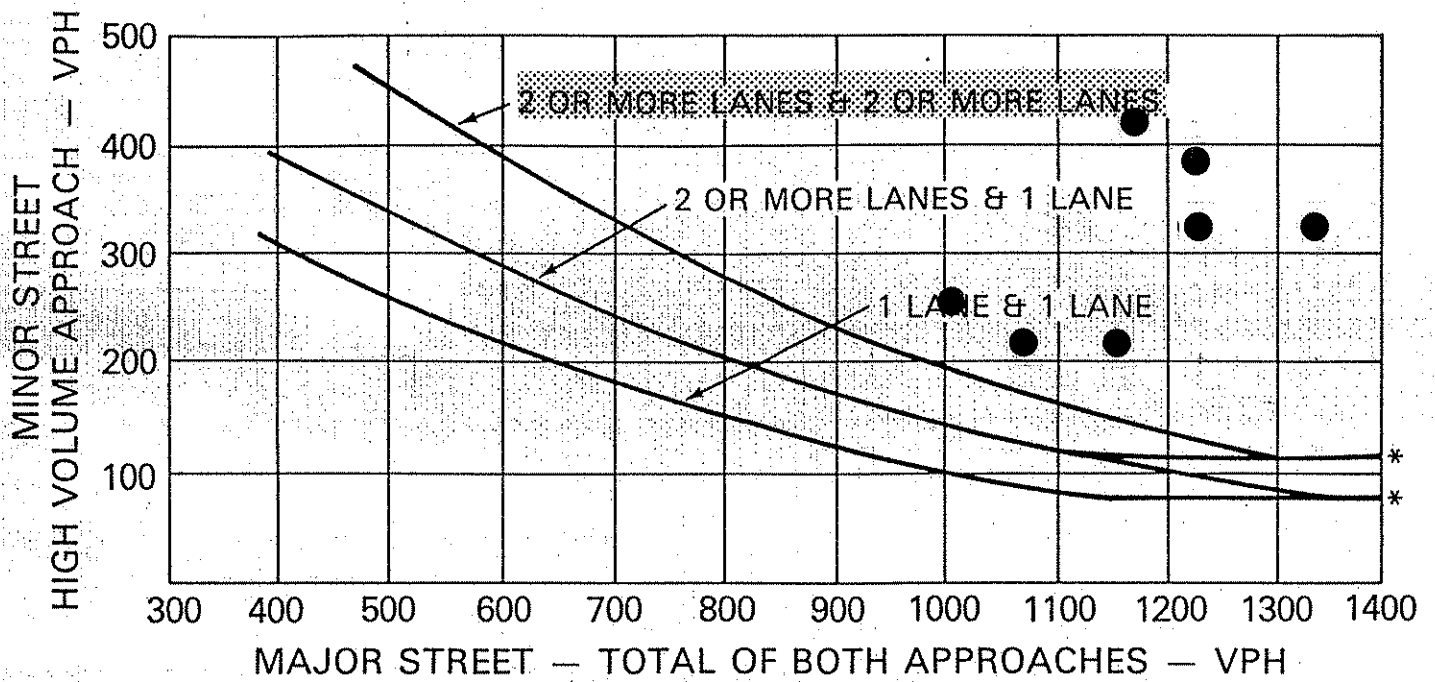
*NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

● = 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	1265	383
● 7-8 am	1582	377
● 8-9 am	1161	417
● 9-10 am	939	201
● 10-11 am	1072	219
● 11-12 pm	1159	214
● 12-1 pm	1438	325
● 1-2 pm	1221	322
● 2-3 pm	1489	373
● 3-4 pm	1752	306
★ 4-5 pm	1916	368
● 5-6 pm	1702	362
● 6-7 pm	1334	328
● 7-8 pm	1006	249
● 8-9 pm	751	203
● 9-10 pm	589	173

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	1265	383
★ 7-8 am	1582	377
● 8-9 am	1161	417
● 9-10 am	939	201
● 10-11 am	1072	219
● 11-12 pm	1159	214
★ 12-1 pm	1438	325
● 1-2 pm	1221	322
★ 2-3 pm	1489	373
★ 3-4 pm	1752	306
★ 4-5 pm	1916	368
★ 5-6 pm	1702	362
● 6-7 pm	1334	328
● 7-8 pm	1006	249
● 8-9 pm	751	203
● 9-10 pm	589	173



NORTH

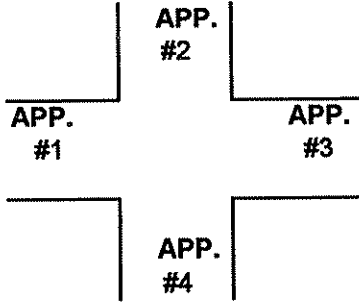
COUNT LOCATION:

CSAH 7 (7 TH AVE) @
TH 10 SOUTH RAMPS

DATE:

9/1/93

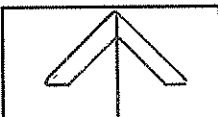
APP. #1=EB TH 10
OFF RAMP
APP. #2=SB CSAH 7
(7 TH AVE)
EB TH 10
ON RAMP
APP. #4=NB CSAH 7
(7 TH AVE)



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					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						2		
6:30-6:45						3		1
6:45-7:00						3		
HOURLY TOTAL						HOURLY TOTAL		12
7:00-7:15						5		3
7:15-7:30						5		
7:30-7:45						18		2
7:45-8:00						16	1	2
HOURLY TOTAL						HOURLY TOTAL		52
8:00-8:15						9		1
8:15-8:30						15		
8:30-8:45						14		1
8:45-9:00						10		2
HOURLY TOTAL						HOURLY TOTAL		52
9:00-9:15						5		1
9:15-9:30	1				1	6		1
9:30-9:45						6		3
9:45-10:00						5		1
HOURLY TOTAL					1	HOURLY TOTAL		28
10:00-10:15	1				1	14		
10:15-10:30						11	1	
10:30-10:45						7		
10:45-11:00	2				2	8		
HOURLY TOTAL					3	HOURLY TOTAL		41
11:00-11:15						7		2
11:15-11:30						11		
11:30-11:45						9		1
11:45-12:00	1				1	13	1	2
HOURLY TOTAL					1	HOURLY TOTAL		46
12:00-12:15	3				3	3		1
12:15-12:30						7		3
12:30-12:45						12		7
12:45-1:00						8		4
HOURLY TOTAL					3	HOURLY TOTAL		45
1:00-1:15						11	1	1
1:15-1:30						12	1	3
1:30-1:45						10		3
1:45-2:00						13		1
HOURLY TOTAL						HOURLY TOTAL		56



NORTH

COUNT LOCATION:

CSAH 7 (7 TH AVE) @
TH 10 SOUTH RAMPS

DATE:

9/28/93

APP. #1=EB TH 10
OFF RAMP
APP. #2=SB CSAH 7
(7 TH AVE)
APP. #3=EB TH 10
ON RAMP
APP. #4=NB CSAH 7
(7 TH 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		1	14		17
2:15-2:30			1		1	14		9
2:30-2:45			2		2	14		2
2:45-3:00			2		2	10		11
HOURLY TOTAL					6	HOURLY TOTAL		91
3:00-3:15			8		8	17		15
3:15-3:30	1		1		2	9		15
3:30-3:45			2		2	12		6
3:45-4:00						8	1	9
HOURLY TOTAL					12	HOURLY TOTAL		92
4:00-4:15	1		1		2	13	1	10
4:15-4:30			3		3	14		10
4:30-4:45			4		4	9	2	9
4:45-5:00			1		1	9		7
HOURLY TOTAL					10	HOURLY TOTAL		84
5:00-5:15			4		4	3	1	2
5:15-5:30						6		9
5:30-5:45			1		1	2		6
5:45-6:00			5		5	4		6
HOURLY TOTAL					10	HOURLY TOTAL		39
6:00-6:15						5		2
6:15-6:30			1		1	8		4
6:30-6:45						4		3
6:45-7:00	1		1		2	4		1
HOURLY TOTAL					3	HOURLY TOTAL		31
7:00-7:15			4		4	2		1
7:15-7:30	1				1			
7:30-7:45						8		
7:45-8:00	2		2		4	5		1
HOURLY TOTAL					9	HOURLY TOTAL		17
8:00-8:15	1		2		3	4		
8:15-8:30			2		2	5	1	
8:30-8:45						1		
8:45-9:00						1		
HOURLY TOTAL					5	HOURLY TOTAL		12
9:00-9:15						2		
9:15-9:30						3		
9:30-9:45	1		1		2			
9:45-10:00						2		
HOURLY TOTAL					2	HOURLY TOTAL		7