

Date 3/30/93 AM 3/29/93 PM
 C.S. _____
 Location CSAH 14 (MAIN ST.)
@ CSAH 7 (7TH AVE)

NB CSAH 7 (7TH AVE)

8145

#2

D	435	4021
E	3077	
F	509	

4124

G	708
H	5868
J	2178
8754	

EB CSAH 14 (MAIN ST.)

#3

16194



13241

#1

6004		
295	C	A
4713	B	
996		

WB CSAH 14 (MAIN ST.)

6251

934	M
3121	L
2218	K
6273	

7440

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

#4

12524

SB CSAH 7 (7TH AVE)

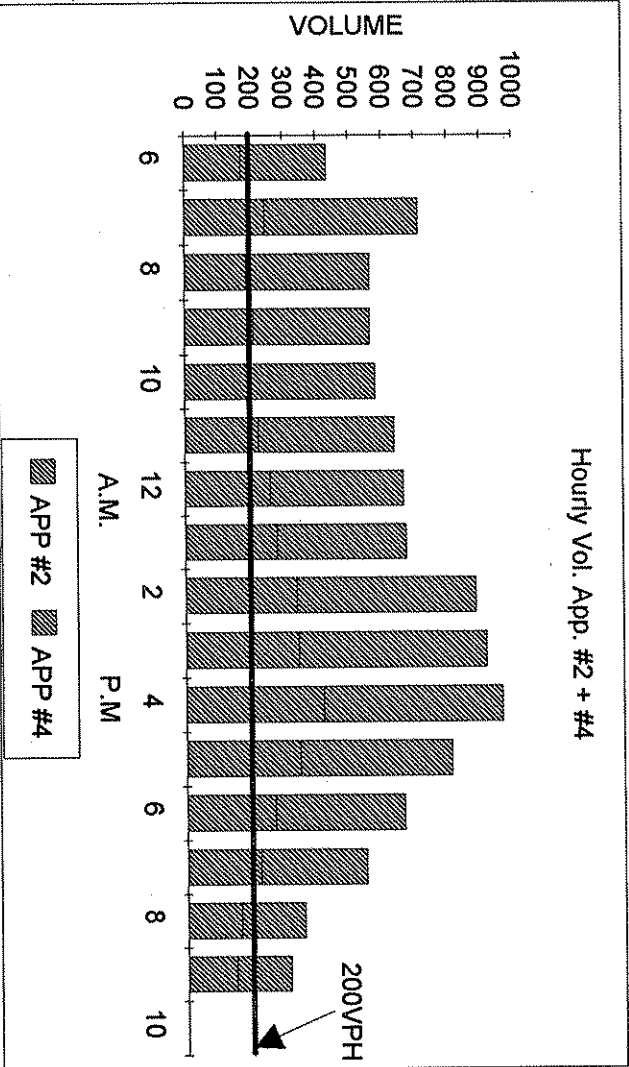
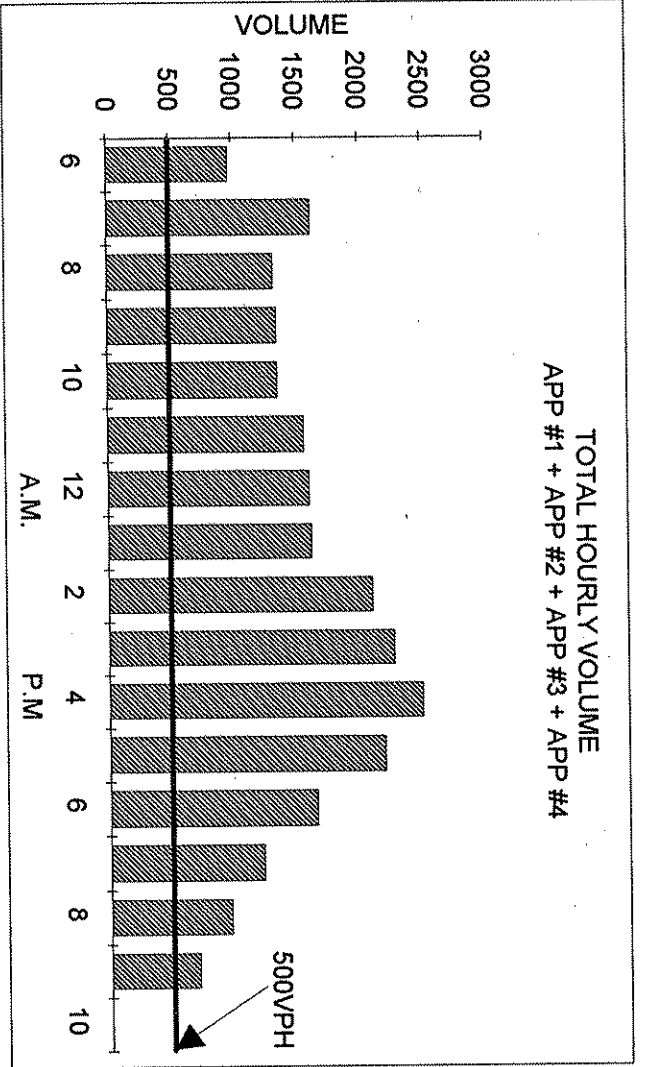
Anoka County Highway Dept.
 Traffic Volume and Turning
 Movement Study

H.V. OF PEDS H.V. TRAFFIC VOLUME AND TURNING MOVEMENT STUDY
 LANES OF APPROACH VOLUME & MOVEMENT

TIME INTERVALS	WESTBOUND APPROACH # 1			EASTBOUND APPROACH # 3			NORTHBOUND APPROACH # 2			SOUTHBOUND APPROACH # 4												
	RIGHT TURN L.	LEFT TURN L.	THRU LANES	TO LT	TO TH	TO RT	TO LT	TO TH	TO RT	TO LT	TO TH	TO RT										
6:00 - 6:15	0	5	40	5	50	16	2	11	14	0	25	3	4	8	3	15	0	2	15	16	33	
6:15 - 6:30	0	3	59	16	78	6:00 to	1	12	33	5	50	6	15	29	10	54	6:00 to	3	9	35	23	67
6:30 - 6:45	2	2	66	15	83	7:00 to	1	20	47	3	70	8	5	43	7	55	7:00 to	1	12	44	22	78
6:45 - 7:00	3	6	78	25	109	320	1	28	44	2	74	11	4	42	4	50	174	0	7	49	26	82
7:00 - 7:15	5	1	78	19	98	142	2	25	42	3	70	9	7	53	1	61	60	3	15	38	37	90
7:15 - 7:30	2	4	125	13	142	7:00 to	4	24	51	4	79	3	6	48	6	60	7:00 to	4	11	64	42	117
7:30 - 7:45	8	3	137	14	154	8:00 to	10	26	54	12	92	10	8	47	8	63	8:00 to	9	20	58	54	132
7:45 - 8:00	3	8	136	19	163	557	9	38	72	6	116	10	2	52	6	60	244	10	18	63	50	131
8:00 - 8:15	3	2	70	17	89	107	2	25	51	4	80	6	7	32	2	41	190	2	6	28	35	69
8:15 - 8:30	3	3	89	15	107	8:00 to	5	13	48	8	69	5	6	32	6	44	8:00 to	2	14	46	27	87
8:30 - 8:45	3	4	78	9	91	9:00 to	1	22	64	4	90	2	5	29	3	37	9:00 to	14	9	65	36	110
8:45 - 9:00	4	5	106	17	128	415	5	28	66	14	108	5	6	52	10	68	190	17	15	56	38	109
9:00 - 9:15	5	4	76	11	91	98	4	30	92	12	134	2	8	45	11	64	12	12	15	47	38	100
9:15 - 9:30	3	5	88	12	98	9:00 to	3	25	61	6	92	3	5	38	9	52	9:00 to	1	9	48	23	80
9:30 - 9:45	6	5	88	4	97	10:00 to	3	21	78	13	112	1	8	26	3	37	10:00 to	3	11	39	28	78
9:45 - 10:00	2	4	66	9	79	365	7	6	75	5	86	0	11	41	5	57	210	3	15	39	42	96
10:00 - 10:15	4	5	64	13	82	10:00 to	6	32	75	9	116	3	7	41	5	53	197	3	14	51	39	104
10:15 - 10:30	2	2	63	13	78	10:00 to	4	22	77	15	114	2	2	26	3	31	10:00 to	1	12	45	30	87
10:30 - 10:45	4	4	56	5	65	11:00 to	1	22	80	10	112	4	9	32	8	56	11:00 to	1	12	54	30	102
10:45 - 11:00	6	2	70	11	83	308	4	27	91	13	131	3	8	49	7	57	197	3	11	49	36	90
11:00 - 11:15	4	6	74	17	99	86	4	34	79	10	123	8	6	52	6	64	197	2	18	59	33	110
11:15 - 11:30	4	6	67	13	86	11:00 to	4	31	88	16	135	9	7	40	9	56	11:00 to	4	12	44	51	107
11:30 - 11:45	2	2	81	19	102	12:00 to	7	27	112	14	153	6	7	31	11	49	12:00 to	1	17	42	41	100
11:45 - 12:00	4	5	74	11	90	377	4	34	95	9	138	6	9	41	4	54	223	6	14	49	35	98
12:00 - 12:15	5	2	57	13	72	12:00 to	3	41	106	14	161	2	5	56	10	71	223	5	20	42	38	100
12:15 - 12:30	7	7	80	18	105	12:00 to	4	35	77	12	124	3	8	61	5	74	12:00 to	5	18	40	47	105
12:30 - 12:45	1	1	63	15	79	1:00 to	4	40	89	8	137	1	7	43	3	53	1:00 to	8	17	47	45	109
12:45 - 1:00	5	4	97	8	109	365	10	38	100	15	153	0	9	47	5	61	259	6	11	52	30	93
1:00 - 1:15	8	11	86	16	113	1:00 to	5	27	89	9	125	2	9	49	9	67	259	9	14	45	28	87
1:15 - 1:30	4	6	67	17	90	1:00 to	4	31	93	7	131	7	11	50	5	66	1:00 to	3	15	37	46	98
1:30 - 1:45	12	8	94	23	125	2:00 to	2	29	97	9	135	2	10	41	9	60	2:00 to	6	26	43	32	101
1:45 - 2:00	2	6	58	13	77	405	3	45	97	7	149	15	6	59	20	85	278	2	19	49	42	110
2:00 - 2:15	6	0	72	20	92	1:00 to	1	39	89	21	149	12	10	80	17	107	278	3	23	64	38	125

INTERVALS	WESTBOUND				EASTBOUND				NORTHBOUND				SOUTHBOUND											
	APPROACH # 1				APPROACH # 3				APPROACH # 2				APPROACH # 4											
	H.V.	TO	TO	TO	H.V.	TO	TO	TO	H.V.	TO	TO	TO	H.V.	TO	TO	TO	H.V.	TO	TO	TO				
	LT	TH	RT	TOTAL	LT	TH	RT	TOTAL	LT	TH	RT	TOTAL	LT	TH	RT	TOTAL	LT	TH	RT	TOTAL				
2:15 - 2:30	5	7	83	22	112 2:00 to	4	41	133	21	195 2:00 to	6	16	41	14	71 2:00 to	6	18	68	46	132 2:00 to				
2:30 - 2:45	11	8	127	26	161 3:00 to	4	63	121	13	197 3:00 to	3	11	61	5	77 3:00 to	3	22	82	48	152 3:00 to				
2:45 - 3:00	4	6	107	20	133	498	13	38	131	14	183	724	11	10	64	8	82	5	16	64	59	139	548	
3:00 - 3:15	6	6	150	37	193	5	43	148	13	204	7	7	82	7	96	4	44	77	55	176	4	44	77	55
3:15 - 3:30	2	8	98	21	127 3:00 to	0	41	117	14	172 3:00 to	4	7	64	5	76 3:00 to	1	25	47	47	119 3:00 to				
3:30 - 3:45	5	5	98	22	125 4:00 to	2	58	121	12	191 4:00 to	5	9	80	8	97 4:00 to	4	23	81	55	159 4:00 to				
3:45 - 4:00	7	7	93	17	117	562	3	56	151	21	228	795	1	5	59	10	74	2	22	64	34	120	574	
4:00 - 4:15	1	2	107	26	135	4	56	189	25	270	1	19	70	6	95	11	15	72	38	125				
4:15 - 4:30	2	6	75	10	91 4:00 to	3	68	151	17	236 4:00 to	1	10	89	16	115 4:00 to	17	39	63	43	145 4:00 to				
4:30 - 4:45	3	6	90	33	129 5:00 to	6	72	238	15	325 5:00 to	0	11	89	10	110 5:00 to	2	29	66	44	139 5:00 to				
4:45 - 5:00	2	3	81	25	109	464	2	54	170	18	242	1073	0	6	87	5	98	3	17	78	43	138	547	
5:00 - 5:15	3	6	93	33	132	1	76	191	14	281	4	10	88	9	107	0	22	71	38	131				
5:15 - 5:30	1	4	92	19	115 5:00 to	3	74	171	15	260 5:00 to	0	8	63	3	74 5:00 to	2	23	58	29	110 5:00 to				
5:30 - 5:45	1	7	50	17	74 6:00 to	0	67	132	16	215 6:00 to	2	8	71	12	91 6:00 to	5	18	57	33	108 6:00 to				
5:45 - 6:00	2	8	69	22	99	420	1	59	136	17	212	968	0	5	60	9	74	2	17	66	32	115	464	
6:00 - 6:15	0	6	51	12	69	0	53	127	13	193	1	13	73	8	94	3	14	73	23	110				
6:15 - 6:30	2	11	78	14	103 6:00 to	2	46	122	12	180 6:00 to	0	7	46	9	62 6:00 to	0	10	54	31	95 6:00 to				
6:30 - 6:45	0	4	71	11	86 7:00 to	3	31	92	12	135 7:00 to	0	13	44	7	64 7:00 to	0	8	59	31	98 7:00 to				
6:45 - 7:00	1	5	57	19	81	339	3	27	100	14	141	649	0	6	36	7	49	0	6	49	36	91	394	
7:00 - 7:15	1	5	56	13	74	0	30	79	16	125	1	11	45	7	63	2	8	64	35	107				
7:15 - 7:30	2	1	60	10	71 7:00 to	0	18	81	18	117 7:00 to	0	10	46	2	58 7:00 to	0	8	43	28	79 7:00 to				
7:30 - 7:45	2	5	47	9	61 8:00 to	1	24	65	7	96 8:00 to	0	15	36	5	56 8:00 to	0	9	28	35	72 8:00 to				
7:45 - 8:00	0	4	33	12	49	255	0	17	58	9	84	422	1	5	37	3	45	0	5	36	27	68	326	
8:00 - 8:15	1	4	49	17	70	0	27	62	11	100	0	10	50	7	67	0	13	28	21	62				
8:15 - 8:30	1	4	40	9	53 8:00 to	0	19	60	13	92 8:00 to	0	8	18	4	30 8:00 to	1	4	24	16	44 8:00 to				
8:30 - 8:45	2	3	33	14	50 9:00 to	0	24	54	5	83 9:00 to	0	6	29	5	40 9:00 to	0	3	11	21	35 9:00 to				
8:45 - 9:00	0	1	39	8	48	221	0	30	68	8	106	381	0	3	22	1	26	1	12	17	25	54	195	
9:00 - 9:15	0	2	17	10	29	0	14	65	5	84	0	9	34	4	47	1	7	19	18	44				
9:15 - 9:30	0	0	25	4	29 9:00 to	0	18	39	7	64 9:00 to	1	6	22	5	33 9:00 to	0	6	24	16	46 9:00 to				
9:30 - 9:45	1	5	24	11	40 10:00 to	0	18	33	3	54 10:00 to	0	5	27	1	33 10:00 to	0	3	15	17	35 10:00 to				
9:45 - 10:00	0	0	27	8	35	133	1	8	37	11	56	258	0	3	29	3	35	1	7	17	16	40	165	

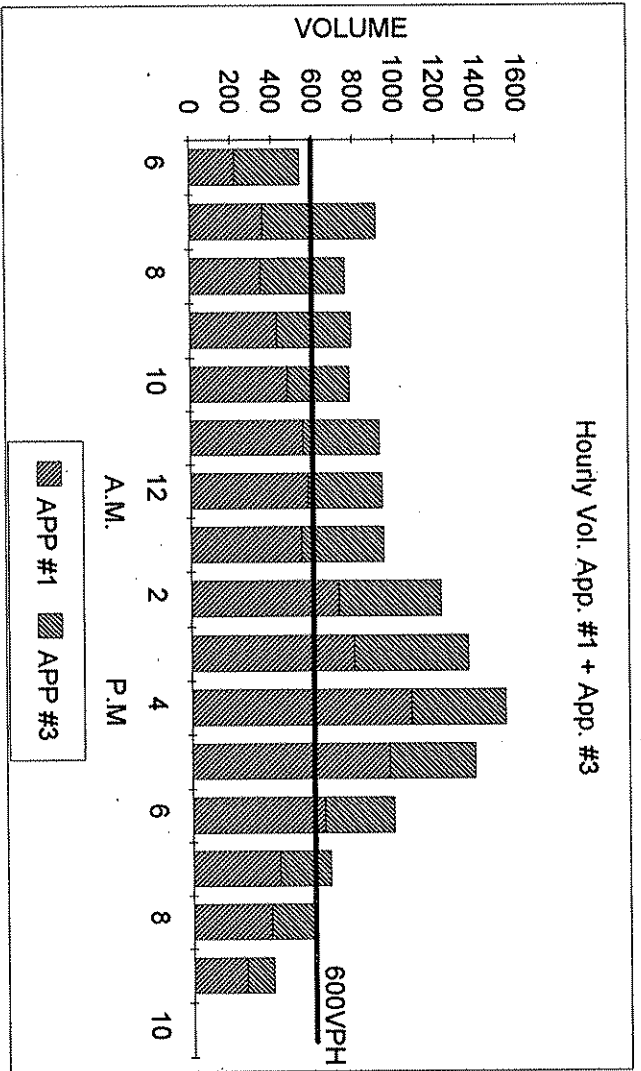
TMC9309 STOP WARRANT STUDY



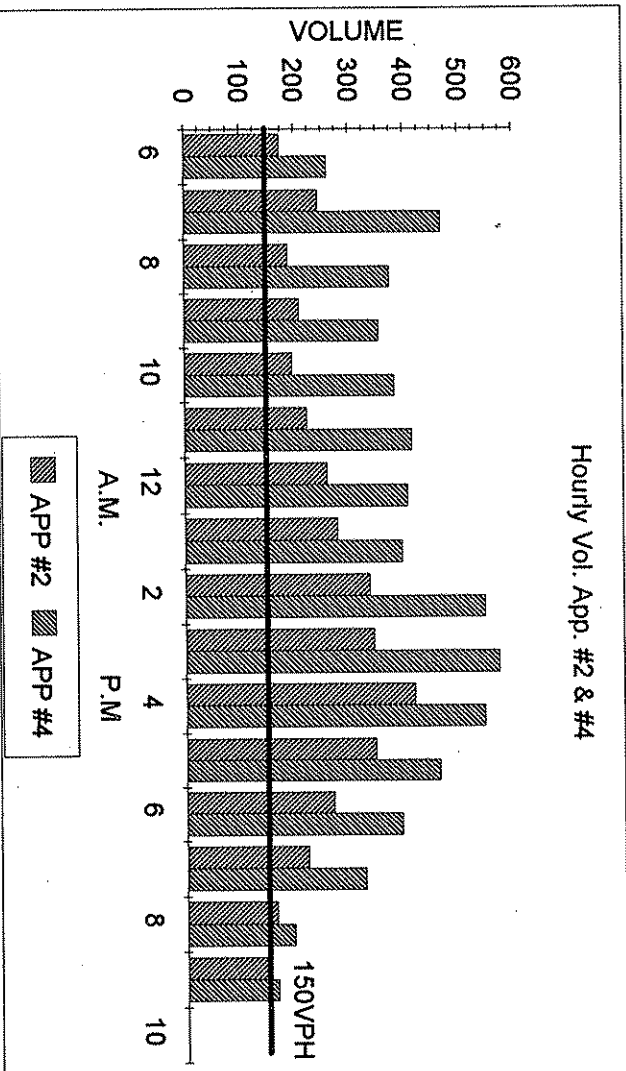
CSAH 14 (MAIN STREET) @ CSAH 7 (7TH AVE)

TMC9309 SIGNAL WARRANT 1 STUDY

Hourly Vol. App. #1 + App. #3

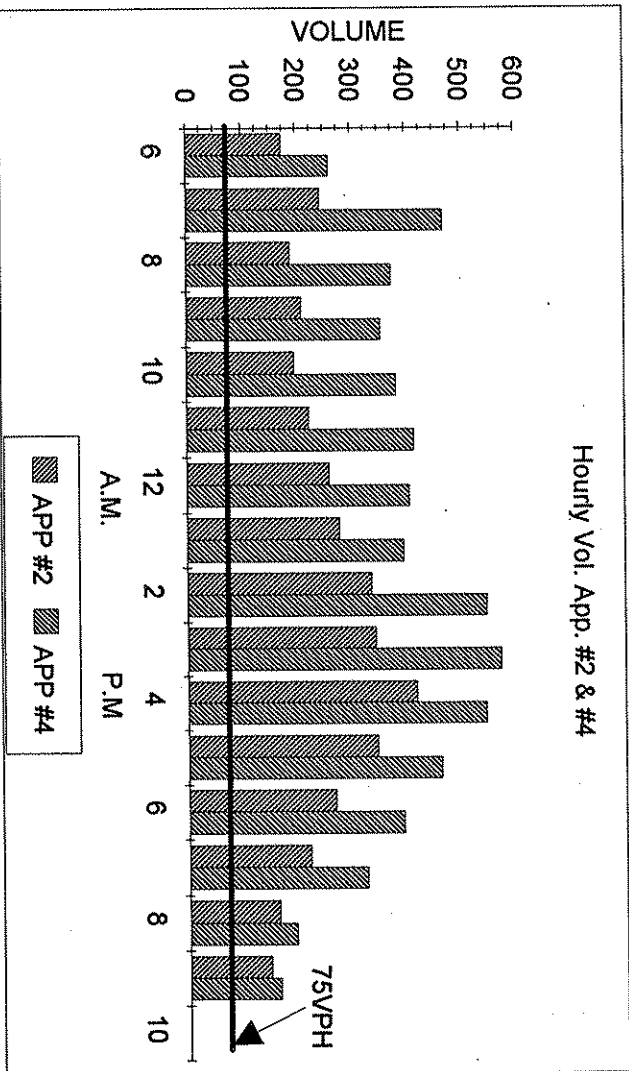
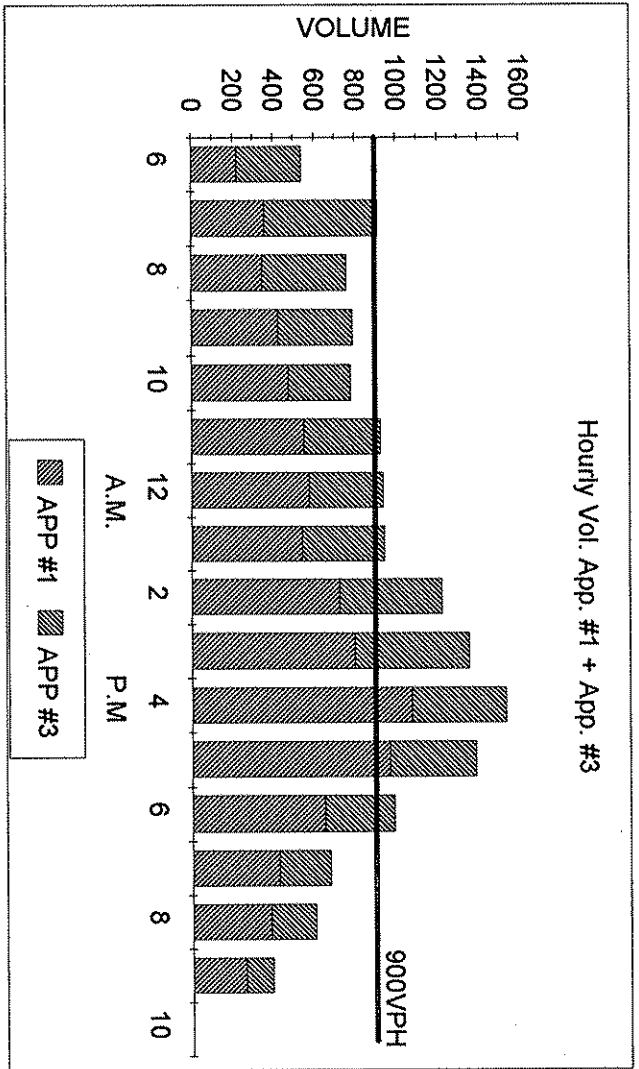


Hourly Vol. App. #2 & #4



CSAH 14 (MAIN STREET) @ CSAH 7 (7TH AVE)

TMC9309 SIGNAL WARRANT 2 STUDY



CSAH 14 (MAIN STREET) @ CSAH 7 (7TH AVE)

TMC9309 CSAH 14 (MAIN ST) @ CSAH 7 (7 TH AVE)

TIME	MAJOR STREETS (VPH)	MINOR STREET (VPH)
6-7 am	539	260
7-8 am	914	470
8-9 am	762	375
9-10 am	789	354
10-11 am	781	383
11-12 pm	926	415
12-1 pm	940	407
1-2 pm	945	396
2-3 pm	1222	548
3-4 pm	1357	574
4-5 pm	1537	547
5-6 pm	1388	464
6-7 pm	988	394
7-8 pm	677	326
8-9 pm	602	195
9-10 pm	391	165

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.

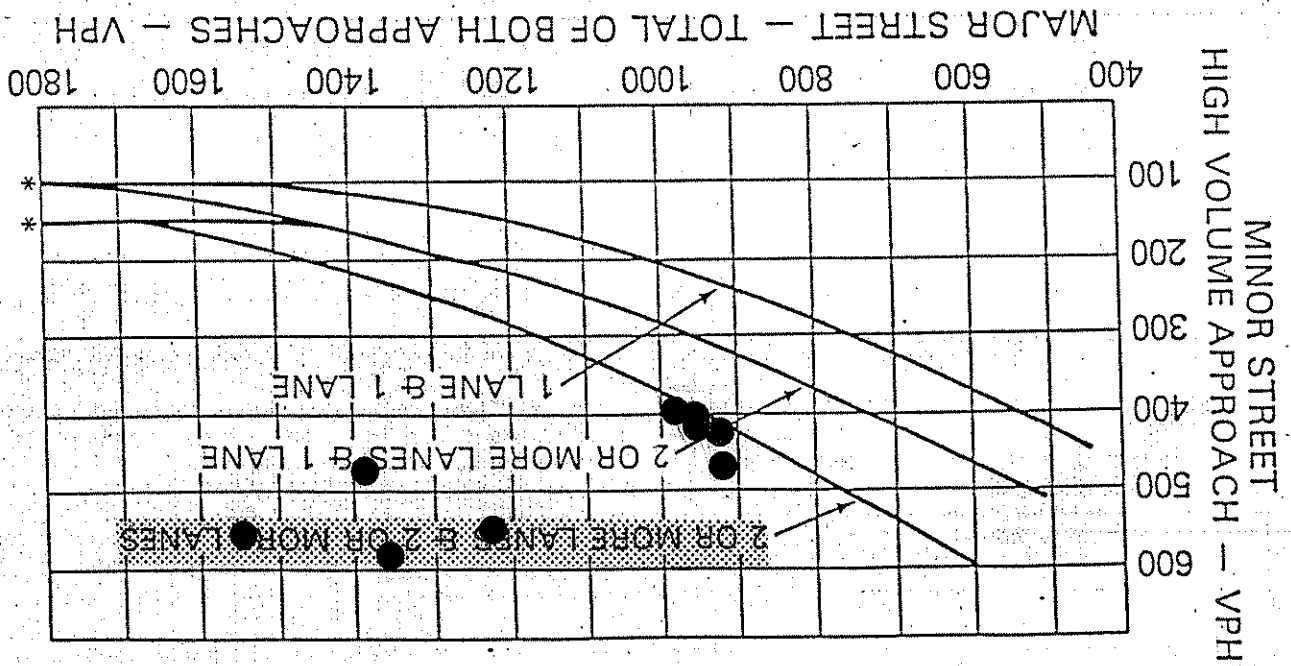


FIGURE 4-5. PEAK HOUR VOLUME WARRANT

TMC9309 CSAH 14 (MAIN ST) @ CSAH 7 (7 TH AVE)

TIME	MAJOR STREETS (VPH)	MINOR STREET (VPH)
6-7 am	539	260
7-8 am	914	470
8-9 am	762	375
9-10 am	789	354
10-11 am	781	383
11-12 pm	926	415
12-1 pm	940	407
1-2 pm	945	396
2-3 pm	1222	548
3-4 pm	1357	574
4-5 pm	1537	547
5-6 pm	1388	464
6-7 pm	988	394
7-8 pm	677	326
8-9 pm	602	195
9-10 pm	391	165

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.

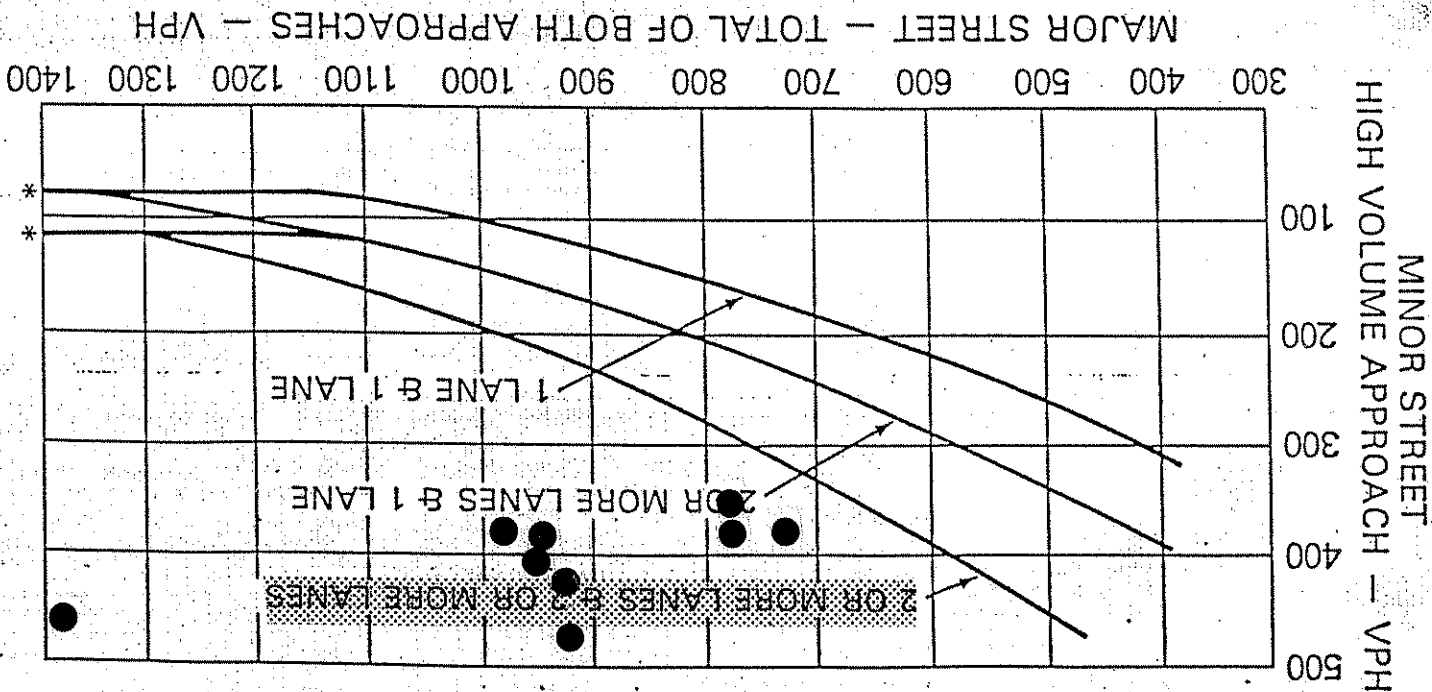


FIGURE 4-7. FOUR HOUR VOLUME WARRANT

