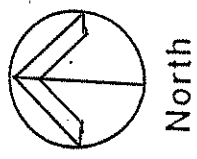


TMC 9334

Date 8/20/93 AM 8/23/93 PM

C.S. Location CSAH 8 (OSBORNE RD.)
@ MONROE ST.



2150

#2

SB MONROE ST.

1133	640	F
493		D

5976

#1

11697

5721	438	C
	5283	B

WB CSAH 8 (OSBORNE RD.)

#3

98611

6063	580	G
	5483	H

5923

1017

EB CSAH 8 (OSBORNE RD.)

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

Anoka County Highway Dept.
Traffic Volume and Turning
Movement Study

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

Site Code : 93340202
 Start Date: 08/23/93
 File I.D. : TMC9334
 Page : 1

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

Vehicle group 1

Date	SB MONROE ST. Southbound			WB CSAH 8 (OSBORNE RD) Westbound			NB CSAH 8 (OSBORNE RD) Northbound			EB CSAH 8 (OSBORNE RD) Eastbound			Vehicle Total	Other Total				
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left			Other	Right	Thru	Left
06:00	2	4	0	6	1	1	31	0	0	0	0	0	1	0	14	2	58	4
06:15	1	10	0	5	1	5	51	0	0	0	0	0	1	0	30	0	101	3
06:30	3	12	0	9	2	3	71	0	0	0	0	0	3	0	34	2	131	8
06:45	1	15	0	7	0	2	98	0	0	0	0	0	2	0	44	2	168	3
Hr Total	7	41	0	27	4	11	251	0	0	0	0	0	7	0	122	6	458	18
07:00	2	13	0	7	2	4	65	0	0	0	0	0	1	0	33	1	123	5
07:15	2	9	0	13	1	2	74	0	0	0	0	0	2	0	42	1	141	5
07:30	1	12	0	12	6	5	73	0	0	0	0	0	4	0	70	1	173	11
07:45	1	11	0	12	1	4	113	0	0	0	0	0	4	0	56	2	198	6
Hr Total	6	45	0	44	10	15	325	0	0	0	0	0	11	0	201	5	635	27
08:00	0	14	0	6	5	5	99	0	0	0	0	0	5	0	62	1	187	10
08:15	2	11	0	6	2	12	74	0	0	0	0	0	1	0	69	3	175	5
08:30	1	5	0	11	3	7	92	0	0	0	0	0	4	0	61	0	176	8
08:45	0	7	0	7	5	3	81	0	0	0	0	0	7	0	71	3	172	12
Hr Total	3	37	0	30	15	27	346	0	0	0	0	0	17	0	263	7	710	35
09:00	0	7	0	9	2	4	63	0	0	0	0	0	6	0	47	0	130	8
09:15	1	8	0	6	1	1	64	0	0	0	0	0	2	0	54	3	136	4
09:30	0	6	0	5	8	9	76	0	0	0	0	0	5	0	66	3	165	13
09:45	0	3	0	14	3	7	86	0	0	0	0	0	4	0	67	3	180	7
Hr Total	1	24	0	34	14	21	289	0	0	0	0	0	17	0	234	9	611	32
10:00	0	7	0	3	4	7	66	0	0	0	0	0	4	0	76	7	166	8
10:15	0	3	0	5	2	6	96	0	0	0	0	0	4	0	86	5	201	6
10:30	1	8	0	10	2	8	82	0	0	0	0	0	3	0	98	5	211	6
10:45	0	6	0	8	6	8	83	0	0	0	0	0	5	0	88	6	199	11
Hr Total	1	24	0	26	14	29	327	0	0	0	0	0	16	0	348	23	777	31
11:00	0	3	0	9	5	16	105	0	0	0	0	0	3	0	83	10	226	8
11:15	2	4	0	7	2	6	96	0	0	0	0	0	4	0	75	3	191	8
11:30	0	9	0	9	5	15	97	0	0	0	0	0	2	0	104	11	245	7
11:45	1	9	0	9	5	6	83	0	0	0	0	0	6	0	88	10	205	12
Hr Total	3	25	0	34	17	43	381	0	0	0	0	0	15	0	350	34	867	35
12:00	0	2	0	11	6	11	109	0	0	0	0	0	4	0	96	6	235	10
12:15	1	5	0	16	5	11	110	0	0	0	0	0	4	0	106	11	259	10
12:30	0	11	0	10	7	5	100	0	0	0	0	0	2	0	103	7	236	9
12:45	1	10	0	10	3	9	101	0	0	0	0	0	1	0	80	9	219	5
Hr Total	2	28	0	47	21	36	420	0	0	0	0	0	11	0	385	33	949	34

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 : 93340202
 Start Date: 08/23/93
 File I.D. : TMC93341
 Page : 2

Vehicle group 1

Date	SB MONROE ST. Southbound				WB CSAH 8 (OSBORNE RD) Westbound				NB CSAH 8 (OSBORNE RD) Northbound				EB CSAH 8 (OSBORNE RD) Eastbound				Vehicle Total	Other Total	
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left			
08/23/93																			
13:00	0	10	0	10	3	8	103	0	0	0	0	0	4	0	114	8	253	7	
13:15	1	6	0	13	3	15	101	0	0	0	0	0	5	0	92	5	232	9	
13:30	0	11	0	7	4	11	102	0	0	0	0	0	2	0	87	7	225	6	
13:45	1	10	0	11	4	7	102	0	0	0	0	0	3	0	102	9	241	8	
Hr Total	2	37	0	41	14	41	408	0	0	0	0	0	14	0	395	29	951	30	
14:00	0	13	0	8	3	6	87	0	0	0	0	0	2	0	87	5	206	5	
14:15	1	9	0	13	7	15	123	0	0	0	0	0	0	0	100	7	267	8	
14:30	1	8	0	13	1	8	85	0	0	0	0	0	4	0	84	7	205	6	
14:45	0	9	0	14	2	10	110	0	0	0	0	0	5	0	102	13	258	7	
Hr Total	2	39	0	48	13	39	405	0	0	0	0	0	11	0	373	32	936	26	
15:00	1	13	0	11	3	10	120	0	0	0	0	0	3	0	115	12	281	7	
15:15	1	12	0	11	2	10	104	0	0	0	0	0	2	0	120	20	277	5	
15:30	2	9	0	6	3	12	120	0	0	0	0	0	2	0	123	10	280	7	
15:45	0	6	0	11	2	15	113	0	0	0	0	0	6	0	108	11	264	8	
Hr Total	4	40	0	39	10	47	457	0	0	0	0	0	13	0	466	53	1102	27	
16:00	1	11	0	13	4	17	85	0	0	0	0	0	1	0	143	12	281	6	
16:15	1	7	0	12	1	12	124	0	0	0	0	0	4	0	115	14	284	6	
16:30	1	9	0	16	0	13	98	0	0	0	0	0	2	0	167	20	323	3	
16:45	1	12	0	27	0	12	121	0	0	0	0	0	4	0	154	12	338	5	
Hr Total	4	39	0	68	5	54	428	0	0	0	0	0	11	0	579	58	1226	20	
17:00	0	8	0	8	1	15	124	0	0	0	0	0	2	0	131	17	303	3	
17:15	1	4	0	12	3	16	120	0	0	0	0	0	5	0	123	15	290	9	
17:30	0	7	0	11	2	12	119	0	0	0	0	0	2	0	127	12	288	4	
17:45	0	6	0	10	0	11	109	0	0	0	0	0	1	0	115	12	263	1	
Hr Total	1	25	0	41	6	54	472	0	0	0	0	0	10	0	496	56	1144	17	
18:00	1	9	0	10	2	12	98	0	0	0	0	0	0	0	83	9	221	3	
18:15	0	6	0	8	2	14	62	0	0	0	0	0	4	0	78	8	176	6	
18:30	1	3	0	11	2	8	85	0	0	0	0	0	0	0	79	5	191	3	
18:45	0	9	0	16	0	10	79	0	0	0	0	0	3	0	78	8	200	3	
Hr Total	2	27	0	45	6	44	324	0	0	0	0	0	7	0	318	30	788	15	
19:00	1	6	0	14	1	14	64	0	0	0	0	0	0	0	88	5	191	2	
19:15	0	4	0	10	0	6	93	0	0	0	0	0	1	0	61	5	179	1	
19:30	0	5	0	15	1	8	65	0	0	0	0	0	1	0	75	8	176	2	
19:45	0	2	0	12	1	16	61	0	0	0	0	0	0	0	70	5	166	1	
Hr Total	1	17	0	51	3	44	283	0	0	0	0	0	2	0	294	23	712	6	

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

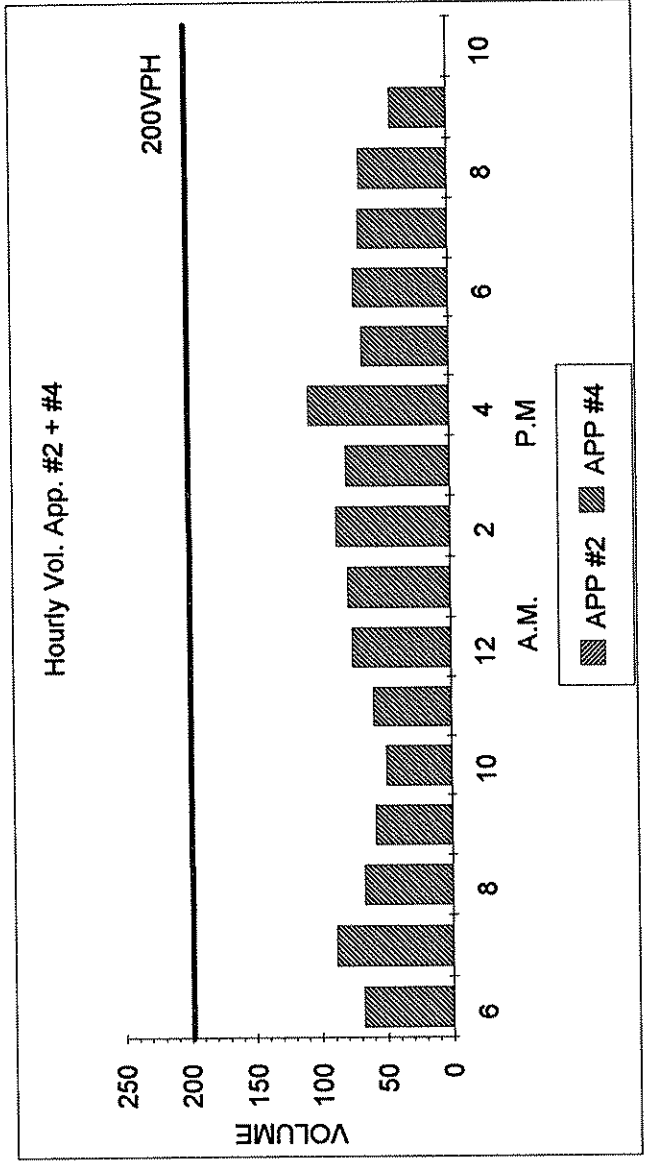
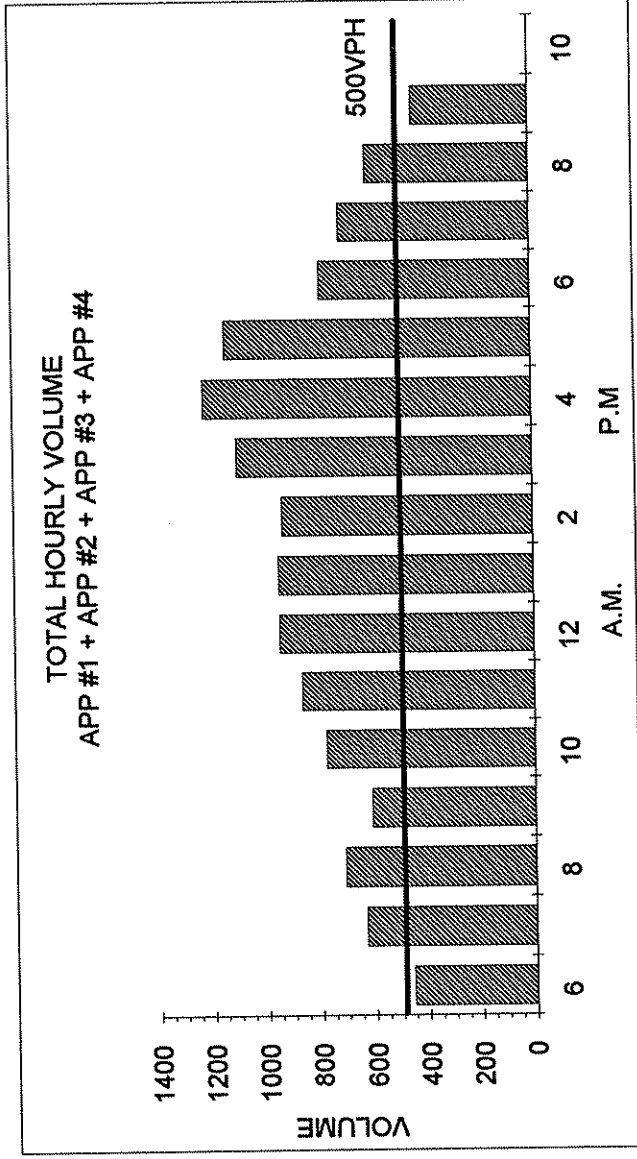
ANOKA COUNTY HIGHWAY DEPARTMENT
 TRAFFIC ENGINEERING SECTION
 TRAFFIC VOLUME AND
 TURNING MOVEMENT STUDY

Site Code : 93340202
 Start Date: 08/23/93
 File I.D. : TMC93341
 Page : 3

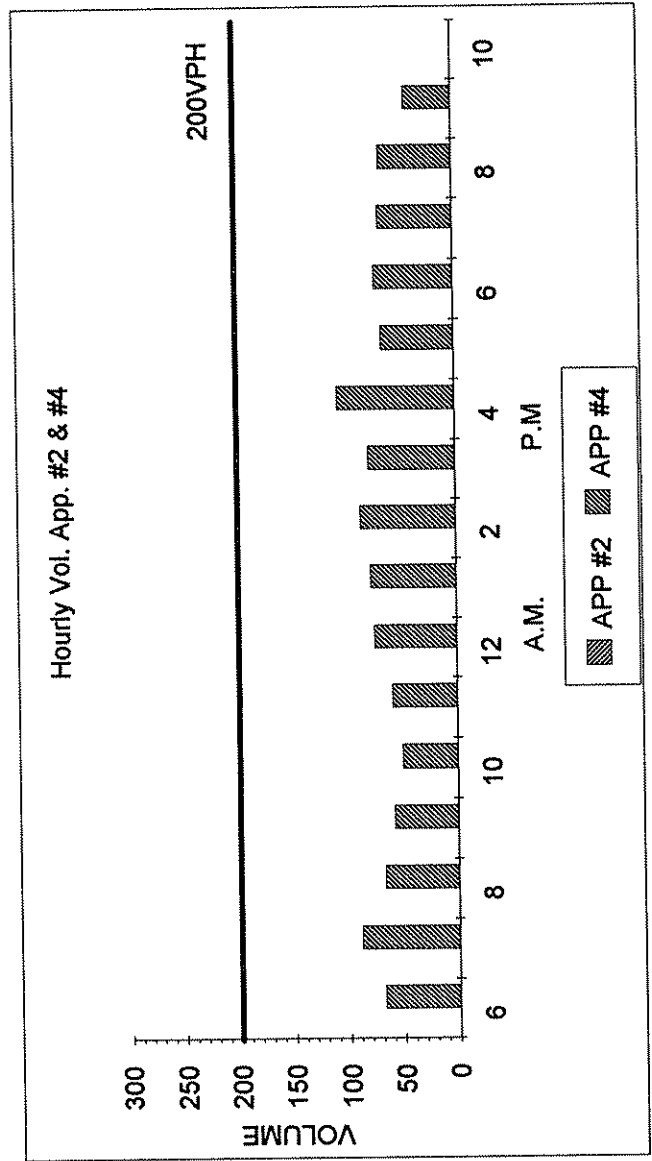
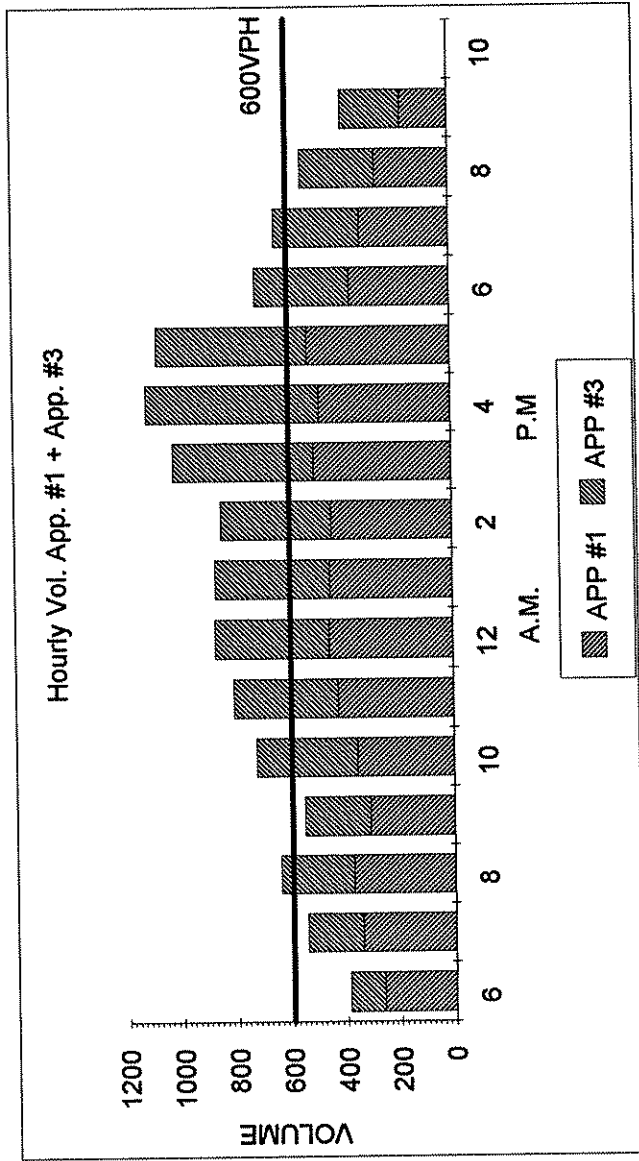
Vehicle group 1

Date	SB MONROE ST. Southbound			WB CSAH 8 (OSBORNE RD) Westbound			NB CSAH 8 (OSBORNE RD) Northbound			EB CSAH 8 (OSBORNE RD) Eastbound			Vehicle Total	Other Total				
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left						
20:00	0	8	0	12	0	16	77	0	0	0	0	0	0	77	6	196	0	
20:15	1	8	0	11	1	12	54	0	0	0	0	0	0	65	6	156	2	
20:30	0	6	0	10	0	9	45	0	0	0	0	0	1	66	7	143	1	
20:45	0	1	0	11	1	11	45	0	0	0	0	0	0	48	2	118	1	
Hr Total	1	23	0	44	2	48	221	0	0	0	0	0	1	256	21	613	4	
21:00	0	9	0	4	0	10	32	0	0	0	0	0	0	70	7	132	0	
21:15	1	5	0	5	0	9	45	0	0	0	0	0	0	50	6	120	1	
21:30	0	7	0	8	0	4	27	0	0	0	0	0	0	41	3	90	0	
21:45	0	1	0	4	0	3	42	0	0	0	0	0	0	42	3	95	0	
Hr Total	1	22	0	21	0	26	146	0	0	0	0	0	0	203	19	437	1	
TOTAL	41	493	0	640	154	579	5483	0	0	0	0	0	163	0	5283	438	12916	358

TMC9334 STOP WARRANT STUDY



TMC9334 SIGNAL WARRANT 1 STUDY



TMC9334 SIGNAL WARRANT 2 STUDY

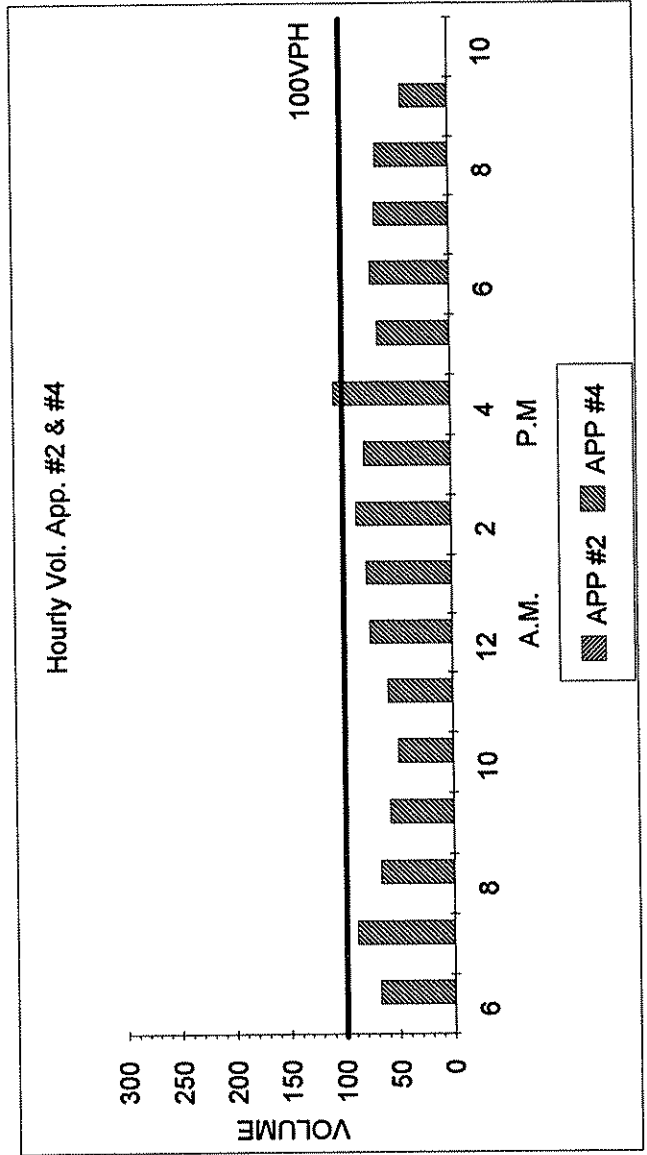
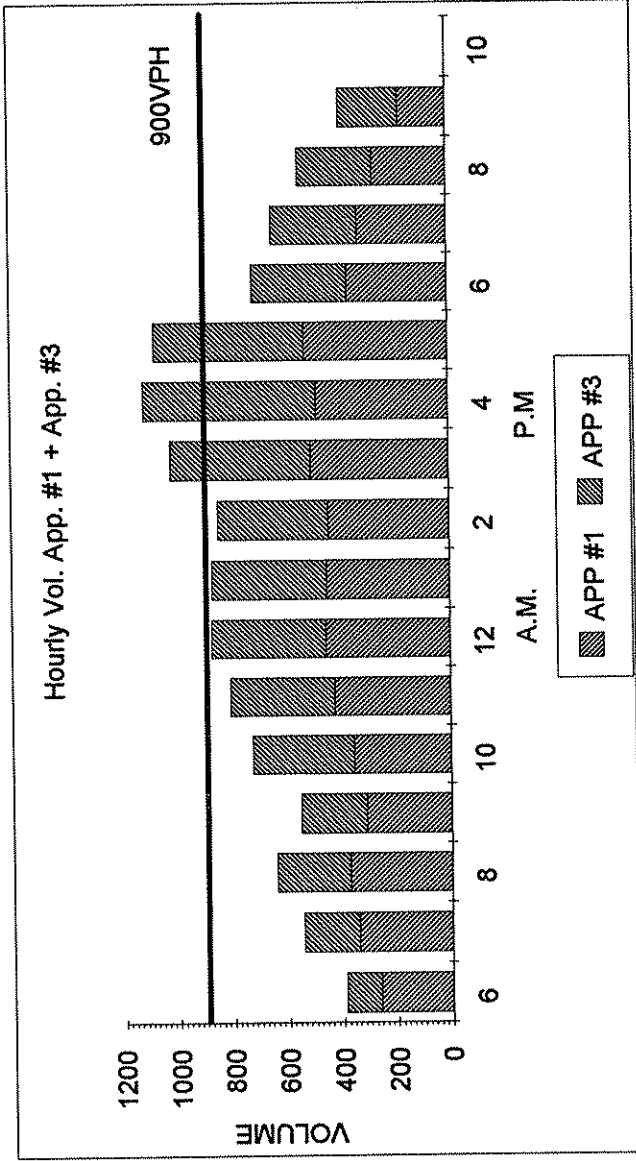
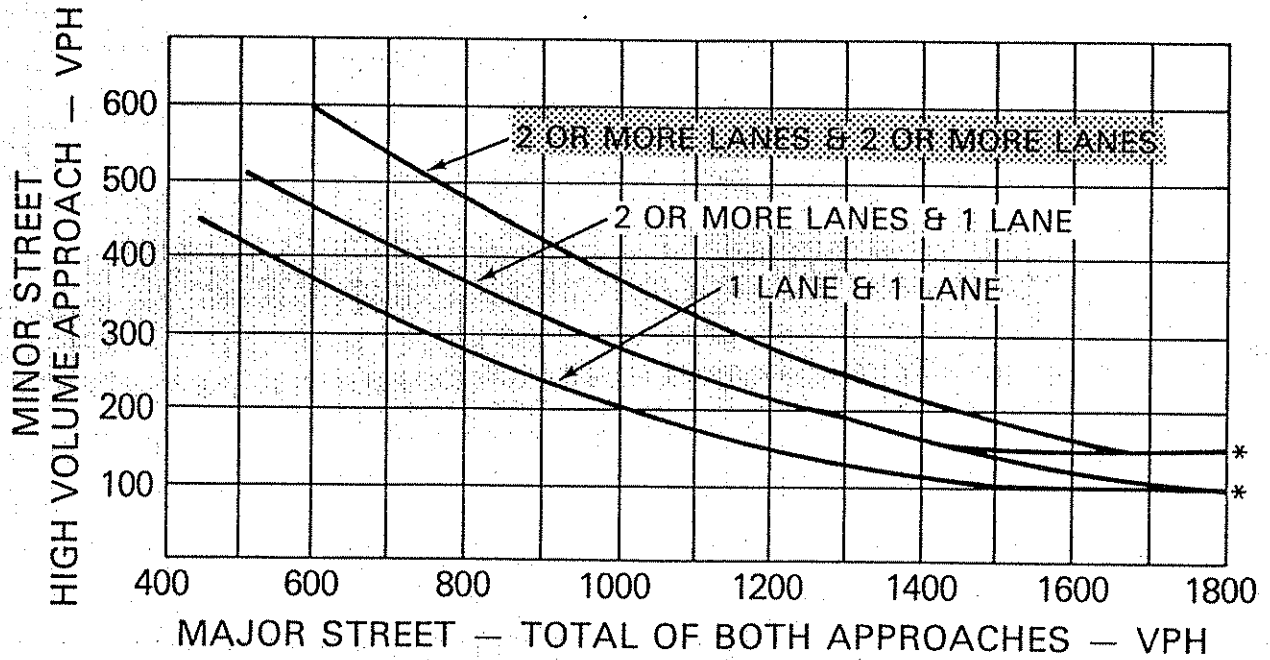


FIGURE 4-5. PEAK HOUR VOLUME WARRANT



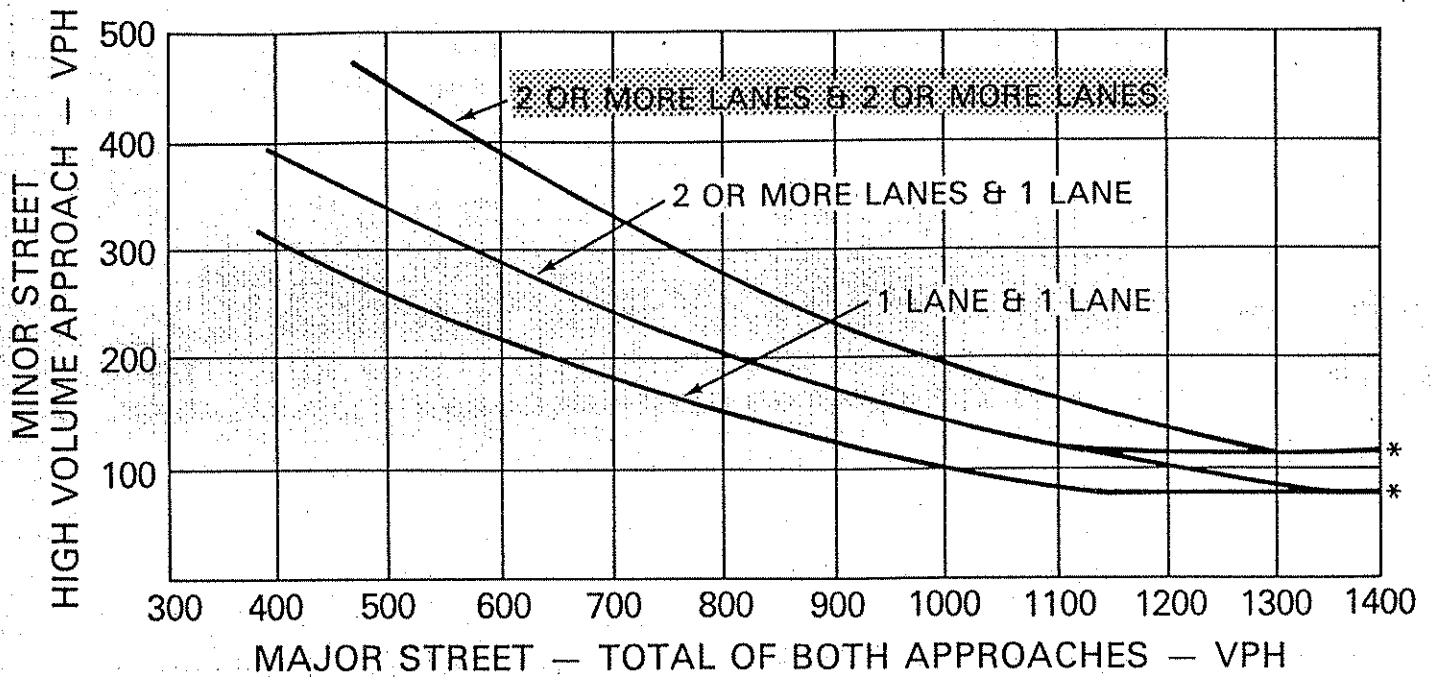
*NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

● = 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	390	68
7-8 am	546	89
8-9 am	643	67
9-10 am	553	58
10-11 am	727	50
11-12 pm	808	59
12-1 pm	874	75
1-2 pm	873	78
2-3 pm	849	87
3-4 pm	1023	79
4-5 pm	1119	107
5-6 pm	1078	66
6-7 pm	716	72
7-8 pm	644	68
8-9 pm	546	67
9-10 pm	394	43

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	390	68
7-8 am	546	89
8-9 am	643	67
9-10 am	553	58
10-11 am	727	50
11-12 pm	808	59
12-1 pm	874	75
1-2 pm	873	78
2-3 pm	849	87
3-4 pm	1023	79
4-5 pm	1119	107
5-6 pm	1078	66
6-7 pm	716	72
7-8 pm	644	68
8-9 pm	546	67
9-10 pm	394	43



NORTH

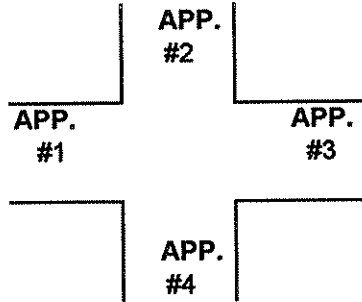
COUNT LOCATION:

CSAH 8 (OSBORNE RD) @
MONROE ST.

DATE:

8/20/93

APP. #1= EB CSAH 8 (OSBORNE RD)
APP. #2= SB MONROE ST.
APP. #3= EB CSAH 8 (OSBORNE RD)
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
6:00-6:15AM			1		1	1		3
6:15-6:30		2			2	1		1
6:30-6:45			2		2	3		4
6:45-7:00		2	2		4	2		1
HOURLY TOTAL					9	HOURLY TOTAL		16
7:00-7:15			3		3	1		3
7:15-7:30		2	1		3	1		3
7:30-7:45			3		3	9		1
7:45-8:00		2			2	3		2
HOURLY TOTAL					11	HOURLY TOTAL		23
8:00-8:15		1	1		2	7		1
8:15-8:30		1			1	1		2
8:30-8:45						5		1
8:45-9:00						11		1
HOURLY TOTAL					3	HOURLY TOTAL		29
9:00-9:15						7		1
9:15-9:30						3		1
9:30-9:45						13		
9:45-10:00						7		2
HOURLY TOTAL						HOURLY TOTAL		34
10:00-10:15						9		1
10:15-10:30			1		1	4		1
10:30-10:45		2	1		3	5		1
10:45-11:00		2	1		3	9		1
HOURLY TOTAL					7	HOURLY TOTAL		31
11:00-11:15		3	3		6	8		
11:15-11:30		3	2		5	6		2
11:30-11:45						8		
11:45-12:00			1		1	10		2
HOURLY TOTAL					12	HOURLY TOTAL		36
12:00-12:15						11		
12:15-12:30						7		3
12:30-12:45			1		1	8		
12:45-1:00						4		2
HOURLY TOTAL					1	HOURLY TOTAL		35
1:00-1:15		1			1	6	1	
1:15-1:30						8		1
1:30-1:45						3	1	1
1:45-2:00						7		1
HOURLY TOTAL					1	HOURLY TOTAL		29



NORTH

COUNT LOCATION:

CSAH 8 (OSBORNE RD) @
MONROE ST.

DATE:

8/23/93

APP. #1= EB CSAH 8
(OSBORNE RD)
APP. #2=
SB MONROE ST.
APP. #3= EB CSAH 8
(OSBORNE RD)
APP. #4=

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						3	1	
2:15-2:30						6		2
2:30-2:45		6	2		8	5		1
2:45-3:00			6		6	6		1
HOURLY TOTAL					14	HOURLY TOTAL		25
3:00-3:15		2			2	7		1
3:15-3:30			2		2	2	1	1
3:30-3:45			5		5	4		3
3:45-4:00			2		2	8		1
HOURLY TOTAL					11	HOURLY TOTAL		28
4:00-4:15			1		1	5		1
4:15-4:30			1		1	3		3
4:30-4:45		2	1		3	1		3
4:45-5:00			2		2	3		1
HOURLY TOTAL					7	HOURLY TOTAL		20
5:00-5:15		1			1	3		2
5:15-5:30			4		4	2	1	4
5:30-5:45						3		
5:45-6:00			1		1	1		
HOURLY TOTAL					6	HOURLY TOTAL		16
6:00-6:15			2		2	1		2
6:15-6:30		2	2		4	4		2
6:30-6:45						2		1
6:45-7:00		1	1		2	1		2
HOURLY TOTAL					8	HOURLY TOTAL		15
7:00-7:15		1			1	1		1
7:15-7:30		2			2	1		
7:30-7:45						1		1
7:45-8:00						1		
HOURLY TOTAL					3	HOURLY TOTAL		6
8:00-8:15		5			5			
8:15-8:30		2			2		1	1
8:30-8:45								1
8:45-9:00						1		
HOURLY TOTAL					7	HOURLY TOTAL		4
9:00-9:15								
9:15-9:30								1
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		1