

Date 8/9/93AM 8/10/93PM

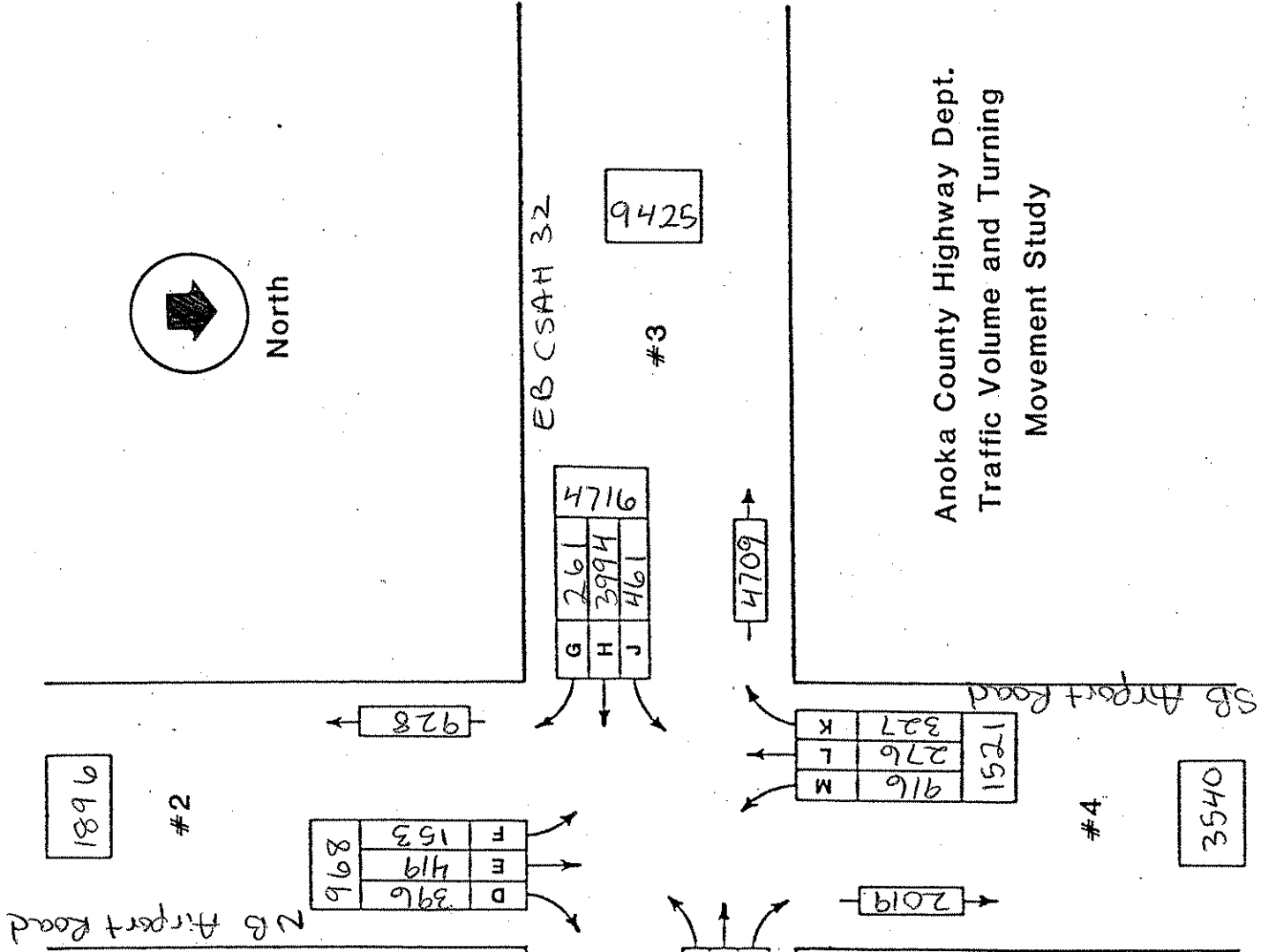
C.S. Location CSAH 32 (CRS/85th Ave)

SB Airport Road



North

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

1896

#2

NB Airport Road

D	396
E	419
F	153
968	

5306

#1

11057

A	1140
B	4229
C	382
5751	

EB CSAH 32

#3

9425

G	261
H	3994
J	461
4716	

4709

M	916
L	276
K	327
1521	

2019

#4

3540

SB Airport Road

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 AIRPORT ROAD Southbound				WB CSAH 32 (CR J) Westbound				NB AIRPORT ROAD Northbound				EB CSAH 32 (CR J) Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
08/09/93																	
07:00	3	0	0	9	3	11	26	3	1	1	6	1	2	1	22	3	83
07:15	0	0	0	4	6	21	54	5	0	3	10	2	3	0	24	6	129
07:30	0	0	1	5	14	36	73	6	1	7	13	1	3	1	20	17	180
07:45	2	1	0	10	6	35	98	10	1	4	12	1	3	0	34	11	216
Hr Total	5	1	1	28	29	103	251	24	3	15	41	5	11	2	100	37	608
08:00	4	3	4	12	5	27	121	24	0	0	12	1	3	2	32	19	257
08:15	0	6	2	11	5	35	158	18	3	5	12	1	3	0	43	11	302
08:30	2	7	1	13	4	37	175	23	0	4	13	0	2	6	38	11	328
08:45	1	6	5	18	5	36	168	17	1	6	15	4	7	4	52	14	345
Hr Total	7	22	12	54	19	135	622	82	4	15	52	6	15	12	165	55	1232
09:00	1	0	1	9	13	32	129	4	2	1	5	4	3	2	27	14	228
09:15	3	3	2	16	5	20	49	2	1	2	9	2	9	2	49	12	168
09:30	2	3	3	14	3	11	67	3	0	2	15	4	5	2	31	6	161
09:45	6	4	2	10	3	16	65	6	1	7	11	2	7	0	36	8	167
Hr Total	12	10	8	49	24	79	310	15	4	12	40	12	24	6	143	40	724
10:00	3	2	3	11	4	13	54	7	1	4	9	2	5	2	32	5	144
10:15	0	5	1	14	6	13	50	6	1	6	10	2	5	4	37	4	152
10:30	4	3	4	14	3	17	52	1	1	5	5	2	3	1	27	9	140
10:45	2	7	3	13	10	14	72	2	1	5	2	4	2	5	25	10	162
Hr Total	9	17	11	52	23	57	228	16	4	20	26	10	15	12	121	28	598
11:00	3	3	3	9	9	12	56	3	1	5	4	2	7	3	55	4	159
11:15	3	3	3	13	6	6	69	1	0	3	2	2	5	4	44	6	156
11:30	4	3	1	10	6	14	49	3	1	2	6	4	5	3	49	6	150
11:45	3	4	1	11	6	11	56	7	2	2	5	4	7	5	55	5	166
Hr Total	13	13	8	43	27	43	230	14	4	12	17	12	24	15	203	21	631
12:00	2	6	2	11	3	9	65	2	1	2	0	5	3	2	47	10	161
12:15	3	2	4	11	8	14	57	6	2	5	4	3	5	6	52	3	167
12:30	4	7	5	12	3	17	71	6	1	2	1	4	5	4	54	11	194
12:45	0	13	7	12	3	12	66	6	1	5	6	3	5	4	51	10	195
Hr Total	9	28	18	46	17	52	259	20	5	14	11	15	18	16	204	34	717
13:00	2	13	3	12	1	13	69	5	1	6	4	1	3	4	69	6	205
13:15	2	10	2	23	3	16	52	3	1	5	3	4	5	7	64	6	195
13:30	3	6	7	23	3	10	66	2	2	6	5	1	6	2	63	9	200
13:45	3	6	6	14	7	11	61	6	3	0	1	5	5	4	69	6	189
Hr Total	10	35	18	72	14	50	248	16	7	17	13	11	19	17	265	27	789

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

WEATHER: CLEAR/70 CLEAR/75

Counter : TDC EIGHT

Counted by Naomi/Eileen

Vehicle group 1

Date	SB AIRPORT ROAD Southbound				WB CSAH 32 (CR J) Westbound				NB AIRPORT ROAD Northbound				EB CSAH 32 (CR J) Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
08/09/93																	
14:00	5	6	8	14	7	20	60	4	2	8	7	1	3	4	62	11	205
14:15	2	5	4	11	5	22	62	1	1	5	3	3	5	2	60	10	188
14:30	3	6	8	24	7	19	68	5	1	4	3	4	2	0	65	6	212
14:45	3	8	4	18	8	15	62	3	4	2	8	3	6	8	60	7	198
Hr Total	13	25	24	67	27	76	252	13	8	19	21	11	16	14	247	34	803
15:00	4	5	4	10	5	13	52	3	1	3	2	2	9	5	62	3	164
15:15	2	4	2	12	6	14	59	5	1	6	3	3	7	6	61	6	181
15:30	1	6	2	12	3	18	48	3	1	3	4	2	6	5	70	3	176
15:45	0	5	5	8	7	20	71	3	2	4	6	2	4	10	68	6	208
Hr Total	7	20	13	42	21	65	230	14	5	16	15	9	26	26	261	18	729
16:00	3	5	4	15	5	23	63	6	2	6	6	4	8	4	92	3	231
16:15	0	6	3	17	4	15	63	0	0	10	4	4	11	3	106	10	241
16:30	3	4	4	19	6	20	74	4	0	9	5	1	3	3	106	7	256
16:45	1	3	3	24	7	13	60	4	0	12	6	0	9	8	109	1	243
Hr Total	7	18	14	75	22	71	260	14	2	37	21	9	31	18	413	21	971
17:00	0	4	5	25	7	26	61	8	0	11	4	1	4	5	120	6	276
17:15	1	12	14	16	6	18	57	12	1	9	8	2	3	3	84	11	246
17:30	4	11	7	31	4	21	65	5	0	11	7	4	4	4	134	8	308
17:45	3	11	9	17	6	25	67	5	0	13	13	2	4	10	110	15	297
Hr Total	8	38	35	89	23	90	250	30	1	44	32	9	15	22	448	40	1127
18:00	0	4	9	21	3	23	79	13	1	17	6	1	1	5	133	5	316
18:15	1	15	9	17	8	34	73	8	1	8	8	2	4	11	101	8	294
18:30	2	10	3	14	4	16	76	11	1	10	11	5	0	7	114	7	284
18:45	2	5	6	23	6	26	84	5	0	15	11	0	3	9	80	6	270
Hr Total	5	34	27	75	21	99	312	37	3	50	36	8	8	32	428	26	1164
19:00	2	5	4	18	2	16	66	6	0	8	7	2	3	2	81	9	224
19:15	2	5	6	12	6	14	76	4	0	9	4	3	2	2	72	7	214
19:30	0	4	3	18	2	16	74	9	0	13	7	2	0	2	53	6	207
19:45	2	4	4	18	2	18	78	5	0	4	7	4	1	4	55	5	206
Hr Total	6	18	17	66	12	64	294	24	0	34	25	11	6	10	261	27	851
20:00	1	5	6	11	0	27	59	6	0	14	7	4	1	7	58	8	212
20:15	0	5	8	11	2	22	66	4	0	4	8	1	1	4	65	6	204
20:30	1	8	5	20	2	9	51	3	2	7	4	2	0	7	63	5	184
20:45	1	3	4	12	2	12	51	7	0	9	9	3	2	6	54	4	174
Hr Total	3	21	23	54	6	70	227	20	2	34	28	10	4	24	240	23	774

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

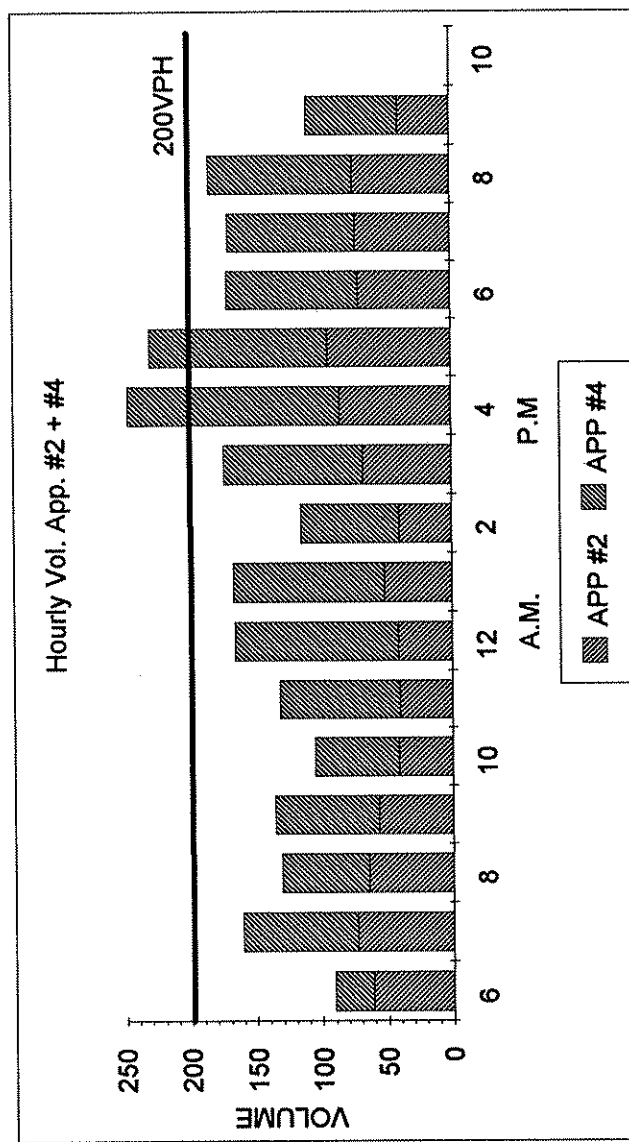
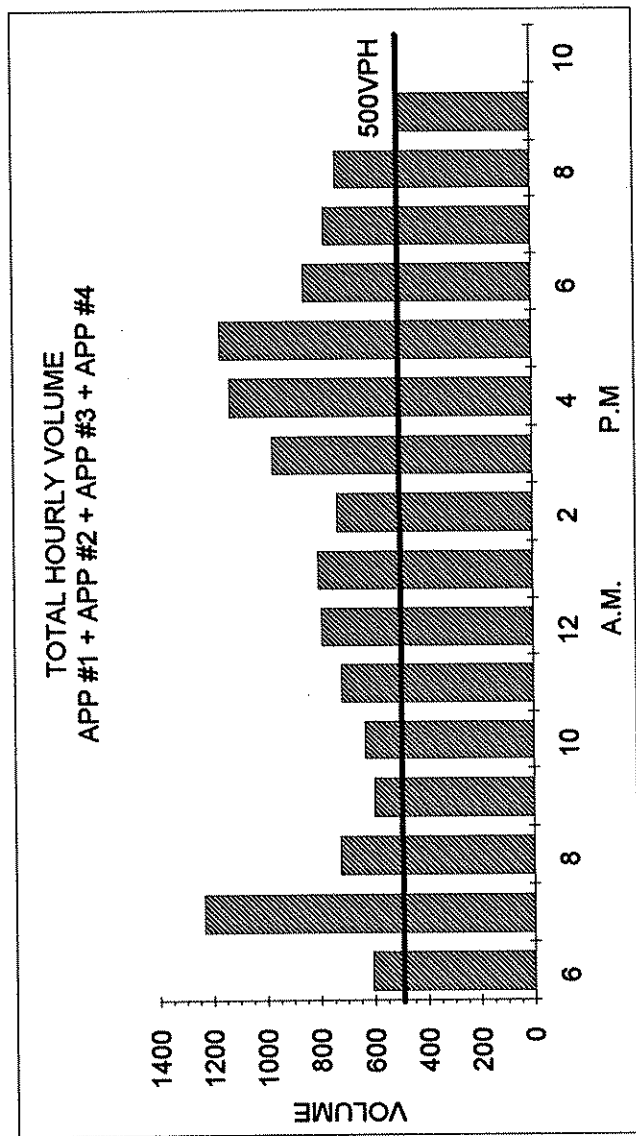
ANOKA COUNTY HIGHWAY DEPARTMENT
 TRAFFIC ENGINEERING SECTION
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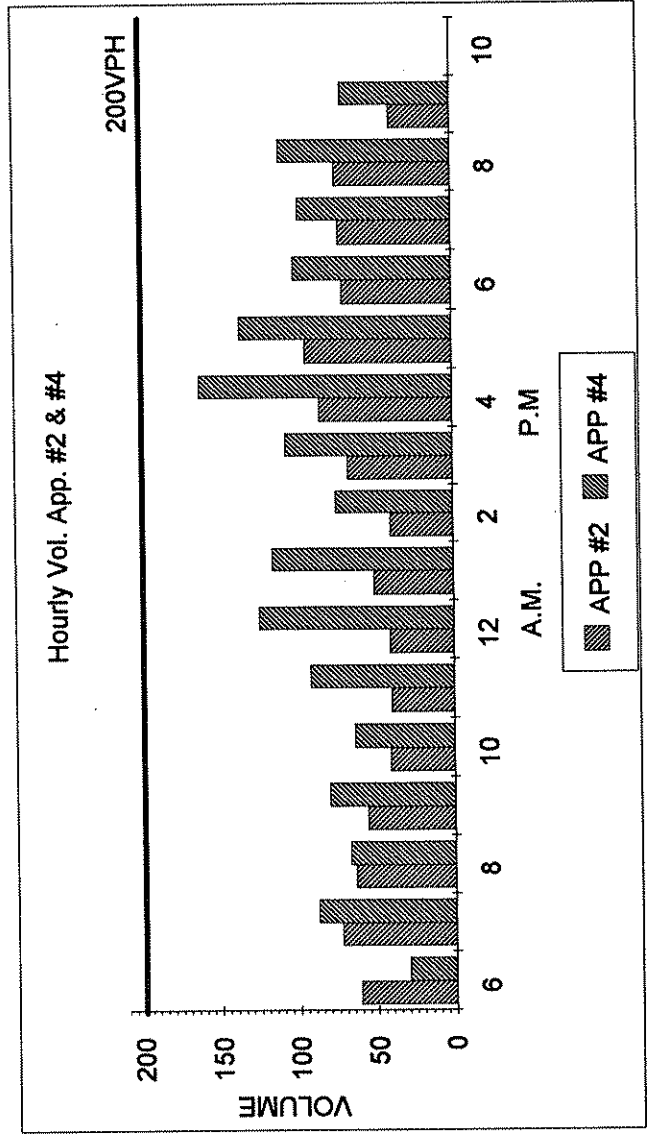
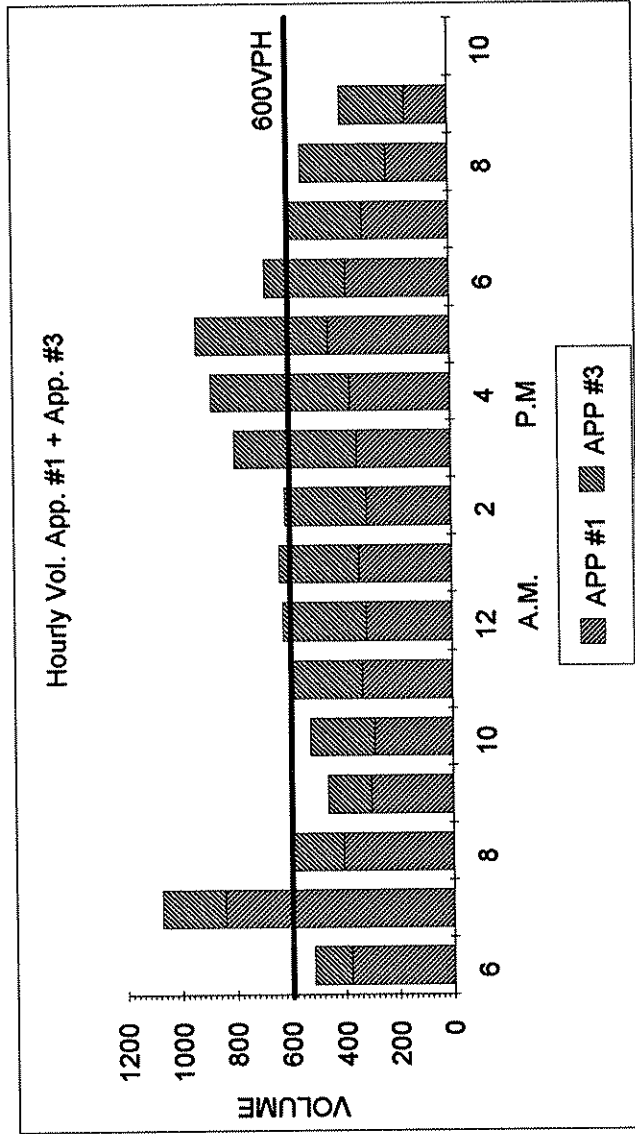
Vehicle group 1

Date	SB AIRPORT ROAD Southbound				WB CSAH 32 (CR J) Westbound				NB AIRPORT ROAD Northbound				EB CSAH 32 (CR J) Eastbound				Vehicle Total
	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	
08/09/93																	
21:00	0	9	6	13	1	10	41	4	1	7	4	4	1	6	66	4	174
21:15	0	4	8	8	0	14	38	10	0	10	9	2	1	5	66	9	183
21:30	0	3	7	25	2	11	33	11	0	7	8	2	0	7	66	2	182
21:45	0	4	5	18	0	12	42	2	0	10	8	3	0	3	82	2	191
Hr Total	0	20	26	64	3	47	154	27	1	34	29	11	2	21	280	17	730
22:00	0	2	4	7	0	12	33	3	0	8	5	1	0	5	69	2	151
22:15	0	1	7	9	0	14	33	5	0	4	6	2	0	3	62	5	151
22:30	0	2	7	12	0	7	20	4	0	4	1	0	0	3	50	4	114
22:45	0	2	5	12	0	5	16	4	0	7	0	1	0	3	34	2	91
Hr Total	0	7	23	40	0	38	102	16	0	23	12	4	0	14	215	13	507
TOTAL	114	327	278	916	288	1139	4229	382	53	396	419	153	234	261	3994	461	12955

TMC9333 STOP WARRANT STUDY



TMC9333 SIGNAL WARRANT 1 STUDY



TMC9333 SIGNAL WARRANT 2 STUDY

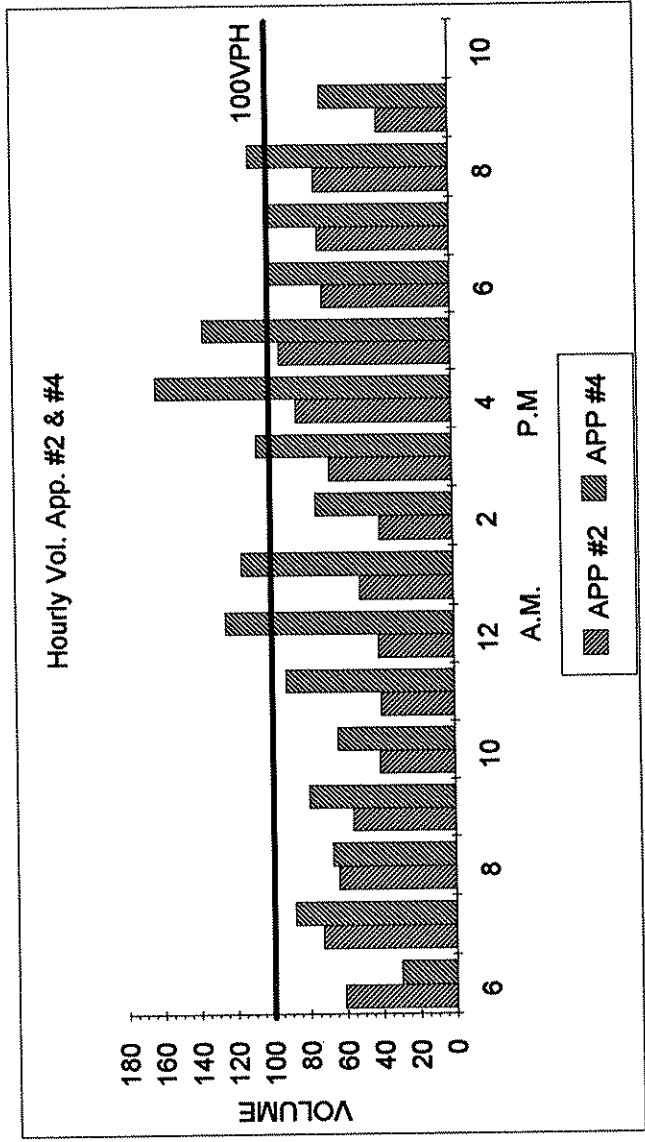
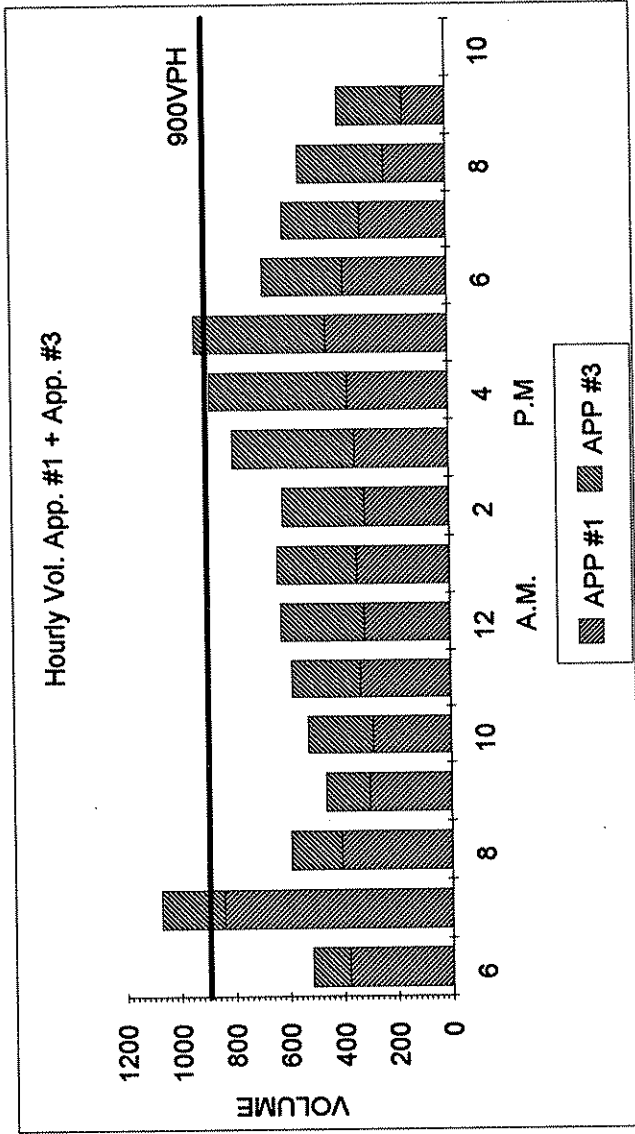
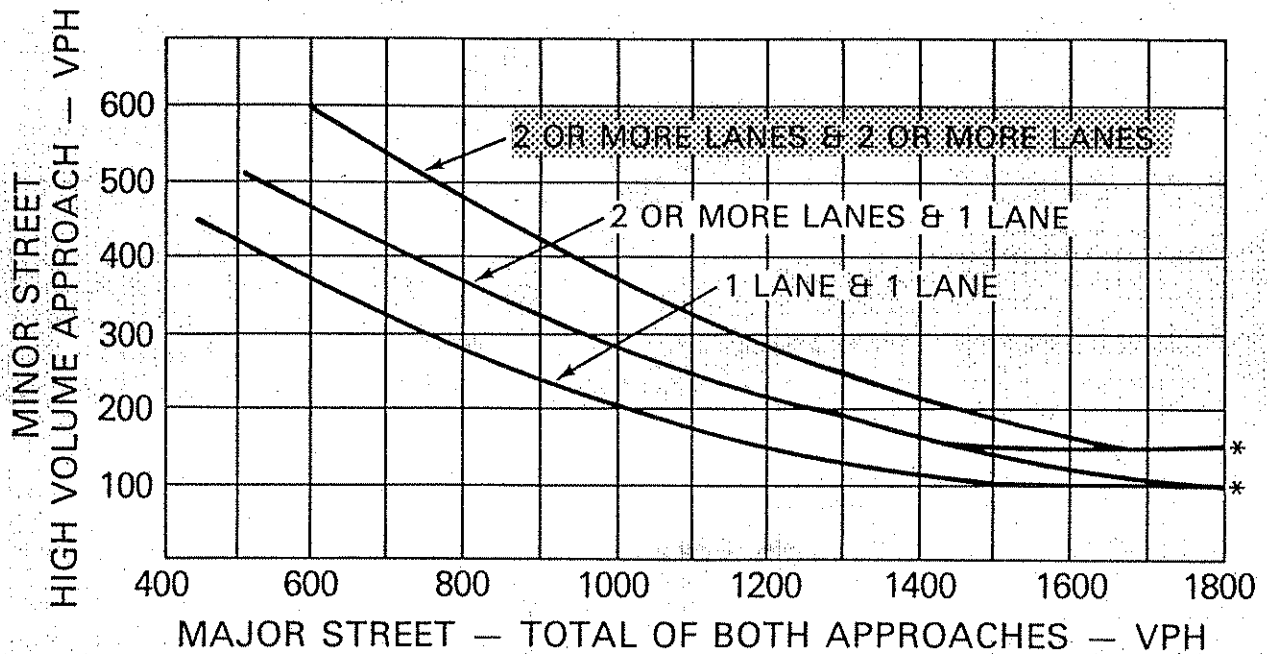


FIGURE 4-5. PEAK HOUR VOLUME WARRANT



*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.

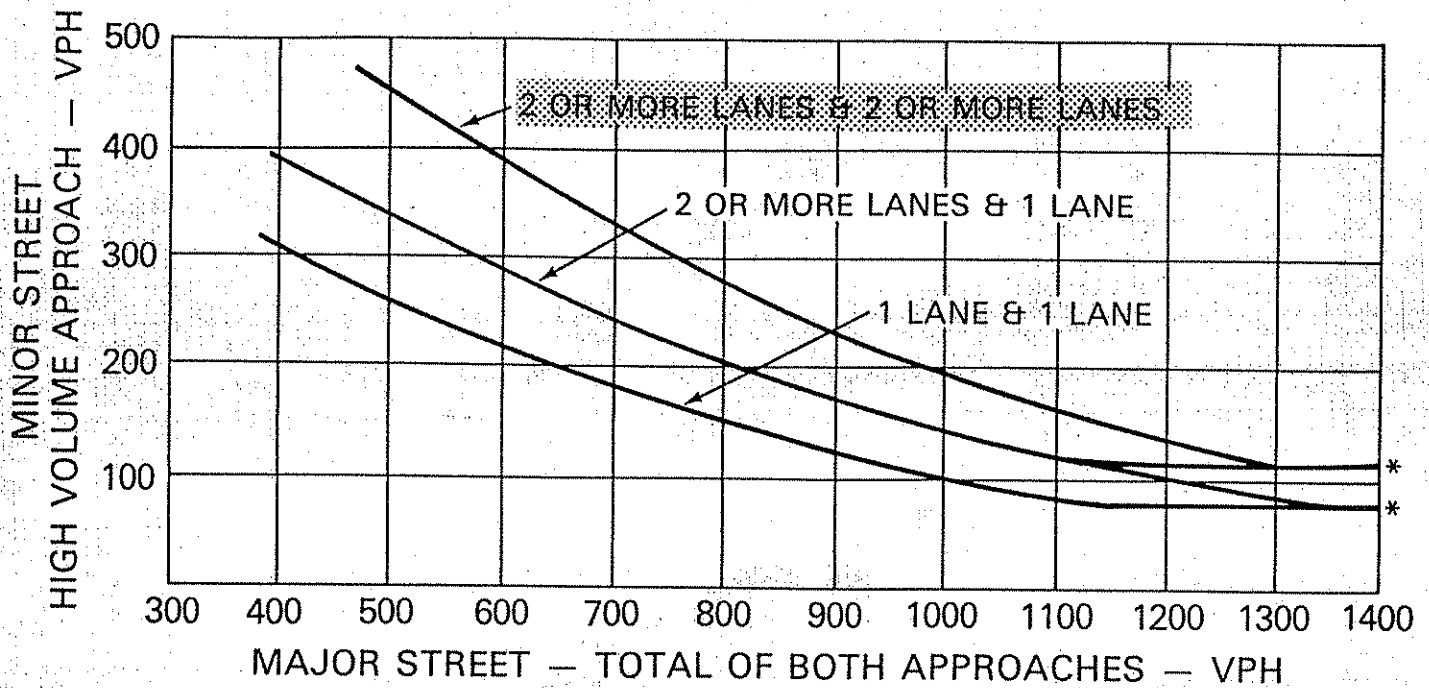
● = VOLUMES WHICH EXCEED THE THRESHOLD AND ARE REPRESENTED ON THE GRAPH.

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

CSAH 32 (CR J) @ AIRPORT ROAD

TIME	MAJOR STREETS (VPH)	MINOR STREET (VPH)
6-7 am	416	61
7-8 am	870	88
8-9 am	427	67
9-10 am	328	80
10-11 am	316	64
11-12 pm	360	92
12-1 pm	349	125
1-2 pm	364	116
2-3 pm	352	75
3-4 pm	393	107
4-5 pm	416	162
5-6 pm	477	136
6-7 pm	409	101
7-8 pm	335	98
8-9 pm	249	110
9-10 pm	171	70

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.

CSAH 32 (CR J) @ AIRPORT ROAD

TIME	MAJOR STREETS (VPH)	MINOR STREET (VPH)
6-7 am	416	61
7-8 am	870	88
8-9 am	427	67
9-10 am	328	80
10-11 am	316	64
11-12 pm	360	92
12-1 pm	349	125
1-2 pm	364	116
2-3 pm	352	75
3-4 pm	393	107
4-5 pm	416	162
5-6 pm	477	136
6-7 pm	409	101
7-8 pm	335	98
8-9 pm	249	110
9-10 pm	171	70

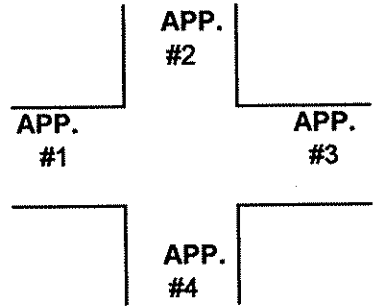


NORTH

COUNT LOCATION: CSAH 32 (CR J/85TH AVE) @
AIRPORT ROAD

DATE: 8/9/93

- APP. #1=SB AIRPORT RD
- APP. #2= WB CSAH 32 (CRJ/85TH AVE)
- APP. #3= NB AIRPORT RD
- APP. #4= EB CAH 32 (CR J/85TH 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						6		2
6:15-6:30						8		1
6:30-6:45						16		1
6:45-7:00						11		1
HOURLY TOTAL						HOURLY TOTAL		46
7:00-7:15						12		
7:15-7:30						11		
7:30-7:45						8		
7:45-8:00						14		
HOURLY TOTAL						HOURLY TOTAL		45
8:00-8:15						17		2
8:15-8:30		1			1	15		3
8:30-8:45						12		
8:45-9:00				1	1	17		
HOURLY TOTAL					2	HOURLY TOTAL		66
9:00-9:15						8	1	
9:15-9:30						20		
9:30-9:45						11		1
9:45-10:00						16		1
HOURLY TOTAL						HOURLY TOTAL		58
10:00-10:15			1		1	18		1
10:15-10:30						13		1
10:30-10:45						15		
10:45-11:00						17		1
HOURLY TOTAL					1	HOURLY TOTAL		66
11:00-11:15						8		1
11:15-11:30						18		
11:30-11:45				1		13		
11:45-12:00						8		1
HOURLY TOTAL						HOURLY TOTAL		49
12:00-12:15						6		1
12:15-12:30						9		2
12:30-12:45						14		1
12:45-1:00						17		
HOURLY TOTAL						HOURLY TOTAL		50
1:00-1:15						17		
1:15-1:30						13		
1:30-1:45						12		1
1:45-2:00						20		
HOURLY TOTAL						HOURLY TOTAL		63



NORTH

COUNT LOCATION: CSAH 32 (CRJ/85TH AVE) @
AIRPORT ROAD

DATE: 8/10/93

APP. #1=SB AIRPORT RD

APP. #2=WB CSAH 32
(CRJ/85TH AVE)

APP. #3=NB AIRPORT RD

APP. #4=EB CSAH 32
(CRJ/85TH AVE)

APP. #2

APP. #1 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						18		1
2:15-2:30						16		1
2:30-2:45						11		
2:45-3:00	1				1	11		1
HOURLY TOTAL					1	HOURLY TOTAL		59
3:00-3:15						14		1
3:15-3:30						12		3
3:30-3:45			1		1	13		1
3:45-4:00						15		
HOURLY TOTAL					1	HOURLY TOTAL		59
4:00-4:15		1			1	10		1
4:15-4:30	1				1	11		1
4:30-4:45						13		
4:45-5:00						11		1
HOURLY TOTAL					2	HOURLY TOTAL		48
5:00-5:15						5		
5:15-5:30						13		
5:30-5:45				1	1	5	1	1
5:45-6:00						10	1	
HOURLY TOTAL					1	HOURLY TOTAL		36
6:00-6:15						6		
6:15-6:30		2			2	8		2
6:30-6:45						3		
6:45-7:00						4		
HOURLY TOTAL					2	HOURLY TOTAL		23
7:00-7:15						3		
7:15-7:30		2			2	3		
7:30-7:45						4		
7:45-8:00				2	2	5		
HOURLY TOTAL					4	HOURLY TOTAL		15
8:00-8:15		1			1	1		
8:15-8:30						1	1	
8:30-8:45						2		
8:45-9:00								
HOURLY TOTAL					1	HOURLY TOTAL		5
9:00-9:15								
9:15-9:30								
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		