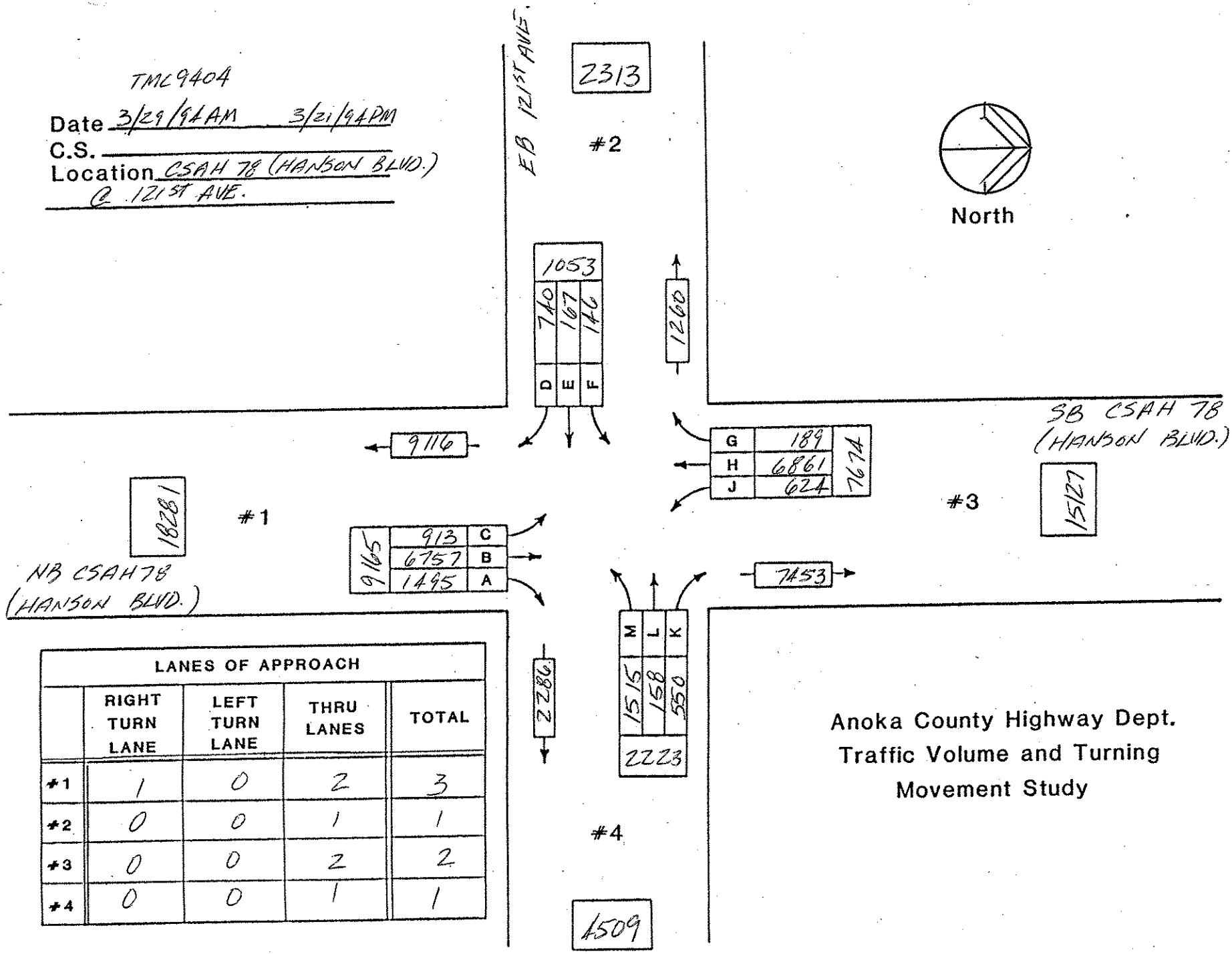
TMC9404

Date 3/29/94AM 3/21/94PM

C.S.

Location CSAH 78 (HANSON BLVD.) @ 121ST AVE.



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

Anoka County Highway Dept.
Traffic Volume and Turning
Movement Study

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

Counter :TDC EIGHT
[illegible]ed by

Site Code : 94040101
Start Date: 03/21/94
File I.D. : TMC94043
Page : 1

Vehicle group 1

	CSAH 78 (HANSON BLVD) Southbound				121ST AVE NW Westbound				CSAH 78 (HANSON BLVD) Northbound				121ST AVE NW Eastbound					
Date 03/21/94	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Vehicle Total	Other Total
06:00	0	0	138	5	0	3	0	19	0	6	14	2	0	12	2	1	202	0
06:15	2	1	161	14	0	4	1	27	0	3	11	4	0	15	6	0	247	2
06:30	2	1	219	14	0	5	0	45	3	6	33	4	0	24	3	1	355	5
06:45	4	5	244	12	0	4	0	32	0	1	40	5	0	17	2	0	362	4
Hr Total	8	7	762	45	0	16	1	123	3	16	98	15	0	68	13	2	1166	11
07:00	14	4	247	18	1	4	2	44	2	9	56	6	0	36	2	2	430	17
07:15	13	8	240	18	5	6	2	45	2	10	60	9	1	26	3	0	427	21
07:30	7	4	250	16	1	15	4	52	5	12	58	12	0	31	7	7	468	13
07:45	6	8	231	5	0	14	3	44	2	16	67	9	0	32	6	3	438	8
Hr Total	40	24	968	57	7	39	11	185	11	47	241	36	1	125	18	12	1763	59
08:00	15	9	237	8	3	8	4	41	10	11	69	8	2	31	3	0	429	30
08:15	11	2	159	5	2	10	2	36	10	16	74	6	0	24	1	1	336	23
08:30	7	8	130	9	2	13	2	38	10	13	57	2	2	21	3	5	301	21
08:45	9	4	119	10	4	12	4	31	12	13	68	2	1	13	3	3	282	26
[illegible]tal	42	23	645	32	11	43	12	146	42	53	268	18	5	89	10	9	1348	100
09:00	1	2	116	5	1	7	2	23	4	10	59	5	0	13	0	2	244	[illegible]
09:15	3	7	126	4	0	5	0	22	16	6	77	7	1	11	1	2	268	26
09:30	3	2	104	8	1	1	2	14	9	14	64	5	1	8	2	2	226	1[illegible]
09:45	6	3	111	8	4	8	0	19	11	9	55	10	0	5	1	3	232	2[illegible]
Hr Total	13	14	457	25	6	21	4	78	40	39	255	27	2	37	4	9	970	61
10:00	3	3	96	7	0	12	0	20	3	10	48	4	0	6	3	2	211	[illegible]
10:15	5	0	80	7	0	7	1	13	4	15	53	6	2	9	1	0	192	1
10:30	3	1	73	6	1	9	1	20	7	12	57	5	0	8	0	2	194	1
10:45	8	1	88	10	1	4	2	19	9	18	63	5	0	6	1	1	218	1
Hr Total	19	5	337	30	2	32	4	72	23	55	221	20	2	29	5	5	815	46
11:00	9	1	71	11	0	4	0	18	6	12	54	6	0	4	2	1	184	1
11:15	9	2	54	3	1	8	1	5	9	18	67	8	0	7	0	1	174	1
11:30	6	2	83	9	1	7	3	14	4	10	77	2	1	7	0	5	219	1
11:45	5	4	85	5	2	5	2	9	3	18	70	4	0	6	0	1	209	1
Hr Total	29	9	293	28	4	24	6	46	22	58	268	20	1	24	2	8	786	56
12:00	4	4	74	9	1	6	2	12	7	21	76	11	0	8	0	0	223	1
12:15	4	0	73	8	1	7	1	17	3	20	69	10	3	12	3	4	224	1
12:30	5	3	80	5	0	3	3	21	7	15	90	9	1	5	0	2	236	1
12:45	4	3	58	7	0	4	0	16	9	20	94	14	0	12	1	1	230	1
Hr Total	17	10	285	29	2	20	6	66	26	76	329	44	4	37	4	7	913	49

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

Counter :TDC EIGHT
Counted by

Site Code : 94040101
Start Date: 03/21/94
File I.D. : TMC9404}
Page : 2

Vehicle group 1

	CSAH 78 (HANSON BLVD) Southbound				121ST AVE NW Westbound				CSAH 78 (HANSON BLVD) Northbound				121ST AVE NW Eastbound					
Date 03/21/94	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Vehicle Total	Other Total
13:00	5	3	80	10	3	3	1	22	9	16	70	11	2	6	2	4	228	19
13:15	3	3	60	4	1	6	5	23	5	15	75	3	0	7	1	0	202	9
13:30	3	3	79	6	0	6	0	16	6	18	69	12	1	5	1	4	219	10
13:45	8	2	74	6	1	4	3	15	7	20	76	12	2	6	7	3	228	18
Hr Total	19	11	293	26	5	19	9	76	27	69	290	38	5	24	11	11	877	56
14:00	14	0	85	11	0	7	1	13	2	17	90	8	0	6	0	0	238	16
14:15	22	1	102	8	4	14	2	16	4	21	87	9	0	6	0	1	267	30
14:30	7	3	95	13	1	9	4	23	3	26	97	19	0	4	2	4	299	11
14:45	13	2	111	11	5	11	1	22	6	26	122	12	1	6	4	3	331	25
Hr Total	56	6	393	43	10	41	8	74	15	90	396	48	1	22	6	8	1135	82
15:00	10	3	98	9	0	10	1	29	16	23	132	22	0	12	2	4	345	26
15:15	6	4	90	9	0	10	2	18	4	27	143	19	0	2	4	4	332	10
15:30	2	2	77	20	5	10	6	27	3	33	168	13	0	17	1	2	376	10
15:45	3	3	94	12	3	17	3	25	4	33	190	28	2	9	4	3	421	12
Hr Total	21	12	359	50	8	47	12	99	27	116	633	82	2	40	11	13	1474	58
16:00	3	4	85	13	0	11	2	28	5	36	191	30	2	12	7	4	423	10
16:15	4	8	99	10	1	15	3	21	9	37	213	22	0	8	6	1	443	14
16:30	3	1	95	5	1	15	5	26	10	36	210	24	0	3	3	5	428	14
16:45	0	3	85	14	1	20	2	17	5	46	231	25	1	15	1	7	466	7
Hr Total	10	16	364	42	3	61	12	92	29	155	845	101	3	38	17	17	1760	45
17:00	4	4	114	9	0	7	2	24	4	54	208	26	0	17	4	4	473	[illegible]
17:15	3	6	109	18	1	17	4	26	2	53	214	36	0	7	3	7	500	[illegible]
17:30	0	4	95	11	1	15	9	44	4	44	226	42	1	15	2	6	513	[illegible]
17:45	1	7	111	11	0	9	7	22	0	53	247	49	0	17	8	8	549	[illegible]
Hr Total	8	21	429	49	2	48	22	116	10	204	895	153	1	56	17	25	2035	21
18:00	0	1	136	4	0	5	6	24	2	44	200	29	0	18	9	0	476	[illegible]
18:15	0	6	96	21	1	13	6	26	1	51	169	24	0	8	2	2	424	[illegible]
18:30	1	6	126	13	0	20	7	31	3	31	161	17	0	15	2	1	430	[illegible]
18:45	1	1	179	12	0	9	3	39	0	39	147	30	0	13	4	0	476	[illegible]
Hr Total	2	14	537	50	1	47	22	120	6	165	677	100	0	54	17	3	1806	9
19:00	2	3	133	14	0	12	4	45	0	41	154	26	0	16	8	2	458	[illegible]
19:15	1	1	98	10	0	8	8	32	1	41	150	25	0	10	4	3	390	[illegible]
19:30	0	5	80	15	0	6	2	22	1	36	102	19	0	12	8	0	307	[illegible]
19:45	1	0	68	10	0	10	1	25	3	26	98	17	0	10	1	2	268	[illegible]
Hr Total	4	9	379	49	0	36	15	124	5	144	504	87	0	48	21	7	1423	9

ANOKA COUNTY HIGHWAY DEPARTMENT
TRAFFIC ENGINEERING SECTION
TRAFFIC VOLUME AND
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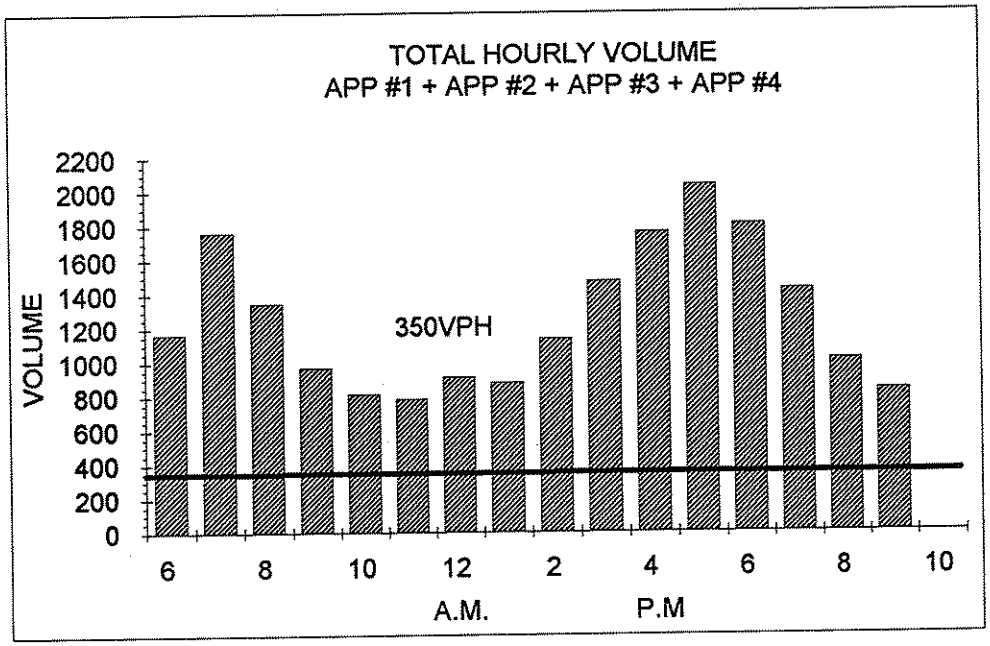
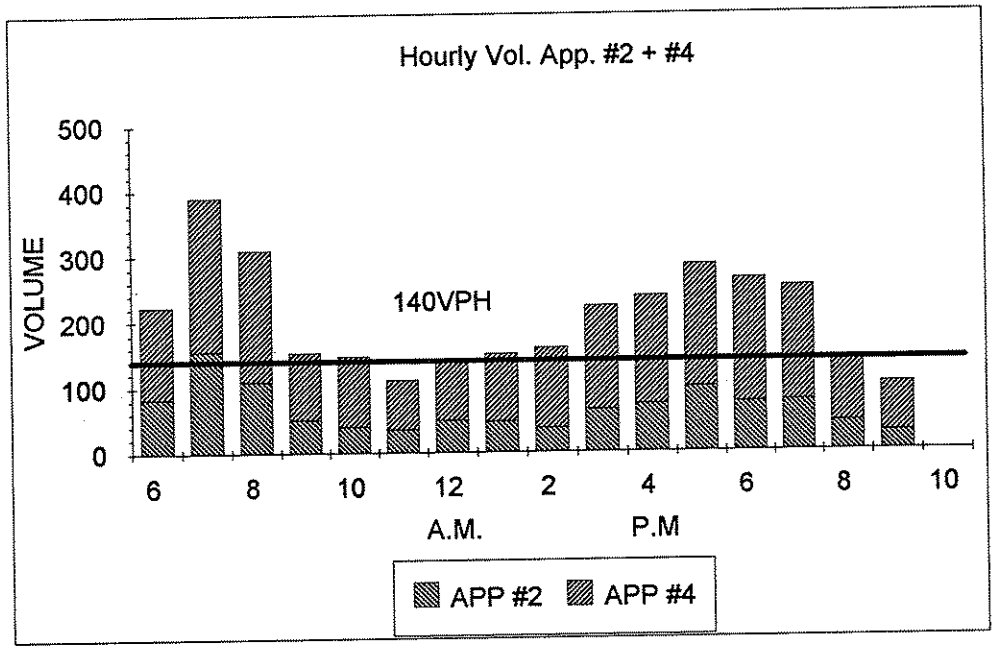
Site Code : 94040101
Start Date: 03/21/94
File I.D. : TMC9404}
Page : 3

Vehicle group 1

	CSAH 78 (HANSON BLVD) Southbound				121ST AVE NW Westbound				CSAH 78 (HANSON BLVD) Northbound				121ST AVE NW Eastbound					
Date 03/21/94	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Other	Right	Thru	Left	Vehicle Total	Other Total
20:00	0	0	64	9	0	7	2	17	1	22	111	15	0	13	2	2	264	1
20:15	0	2	47	7	0	7	2	17	3	36	146	19	0	6	0	1	290	3
20:30	2	1	44	9	0	4	0	10	0	38	110	21	0	7	0	0	244	2
20:45	0	1	49	12	0	12	3	12	0	16	82	14	0	8	2	2	213	0
Hr Total	2	4	204	37	0	30	7	56	4	112	449	69	0	34	4	5	1011	6
21:00	0	3	33	9	0	13	1	12	1	24	101	18	0	4	2	4	224	1
21:15	1	1	44	11	0	2	1	8	1	21	97	13	0	3	4	1	206	2
21:30	0	0	42	7	0	4	3	14	1	35	109	9	0	3	1	0	227	1
21:45	0	0	37	5	0	7	2	8	0	16	81	15	0	5	0	0	176	0
Hr Total	1	4	156	32	0	26	7	42	3	96	388	55	0	15	7	5	833	4
TOTAL	291	189	6861	624	61	550	158	1515	293	1495	6757	913	27	740	167	146	20115	672

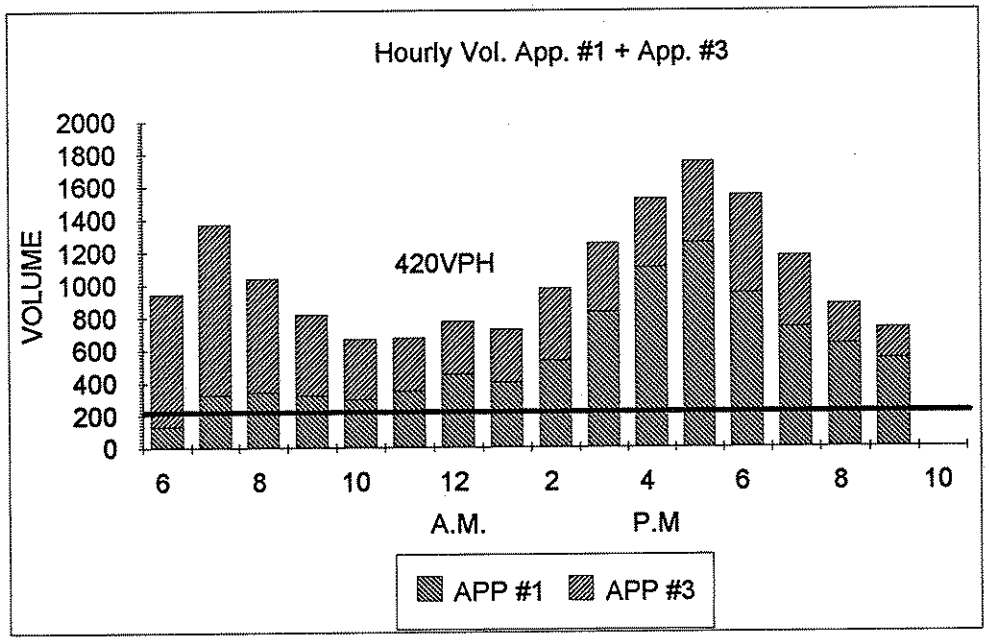
TMC9404 STOP WARRANT STUDY

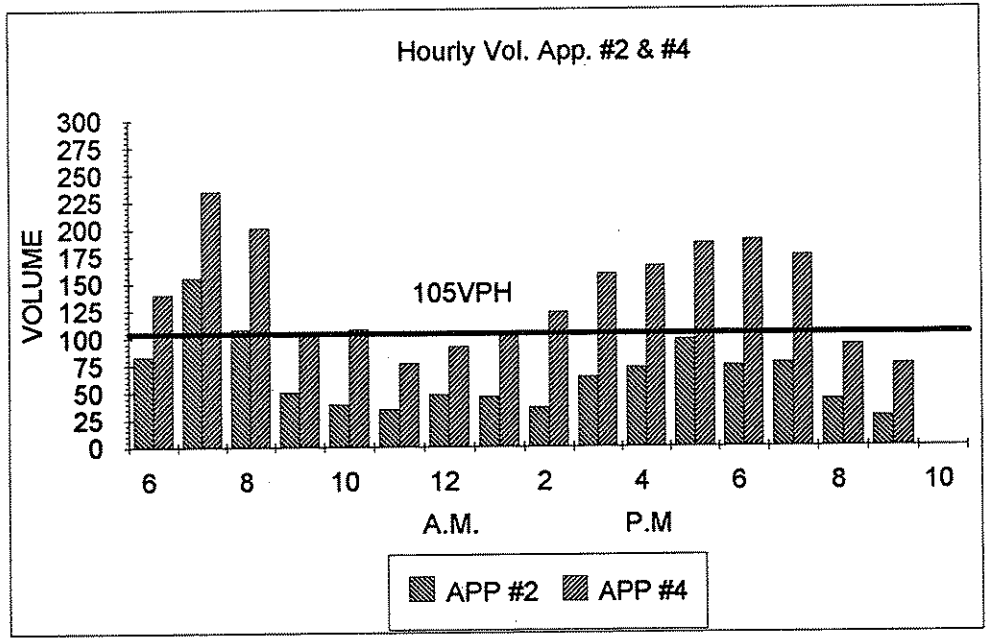




CSAH 78 (HANSON BLVD) @ 121ST AVE.

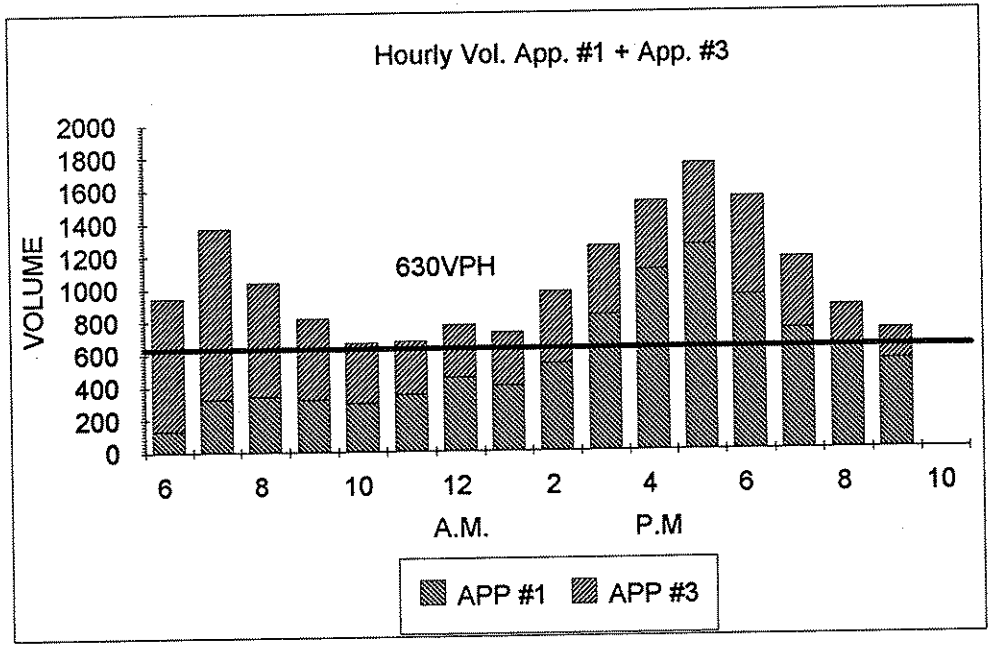
TMC9404 SIGNAL WARRANT 1 STUDY

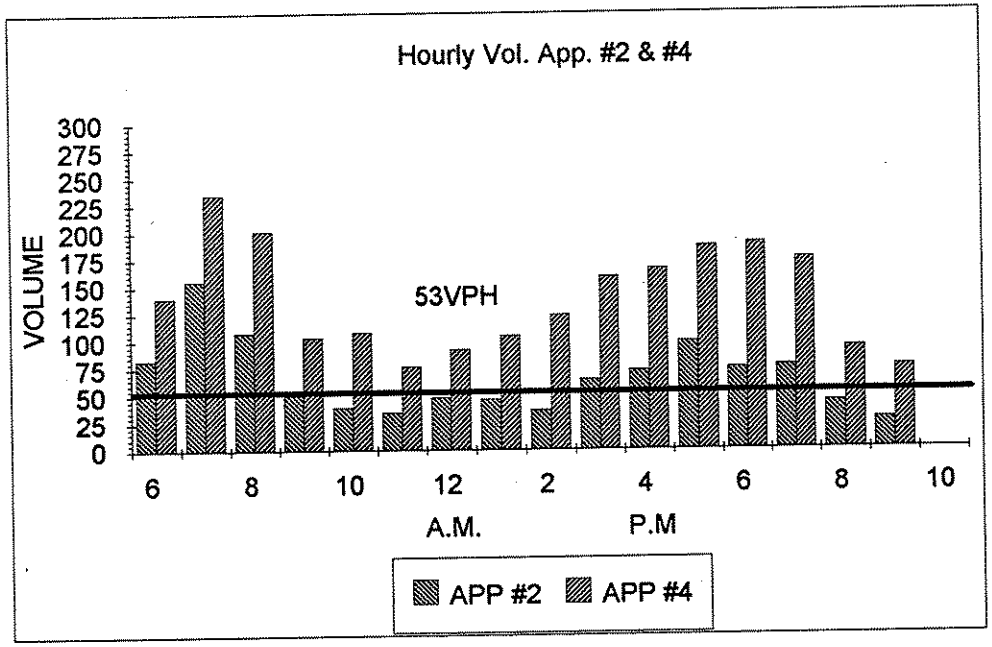




CSAH 78 (HANSON BLVD) @ 121ST AVE.

TMC9404 SIGNAL WARRANT 2 STUDY

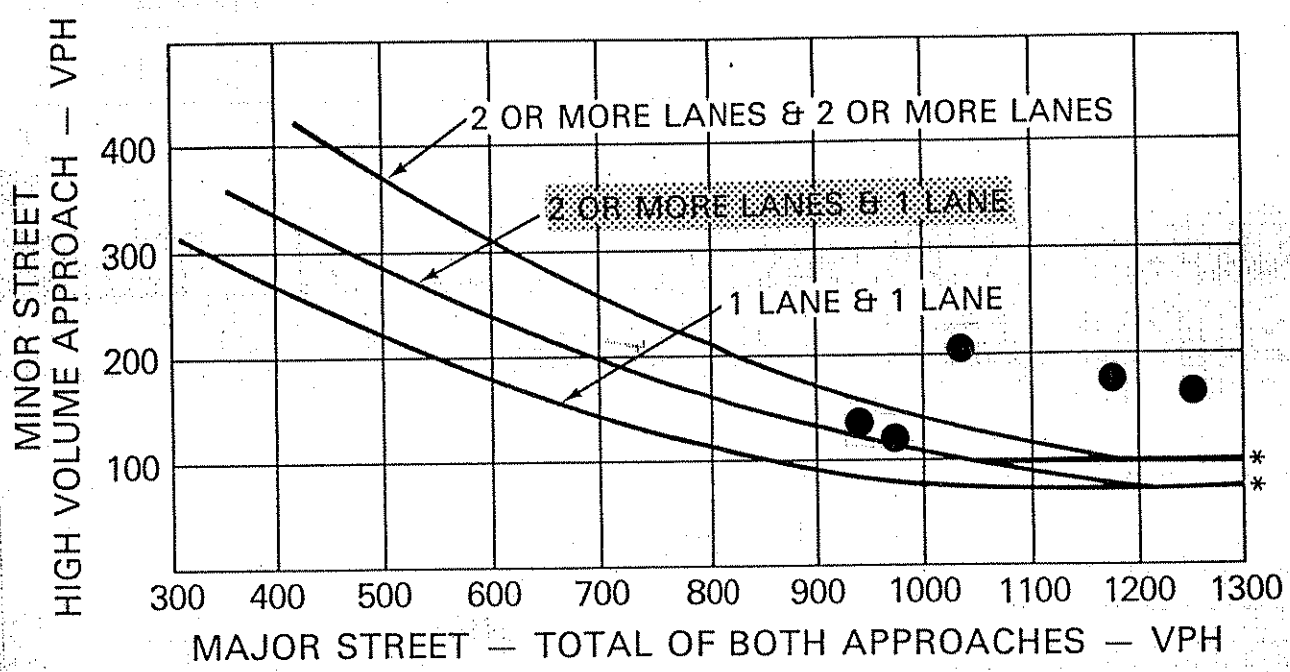




CSAH 78 (HANSON BLVD) @ 121ST AVE.

FIGURE 4-6. PEAK HOUR VOLUME WARRANT

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*NOTE: 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 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.

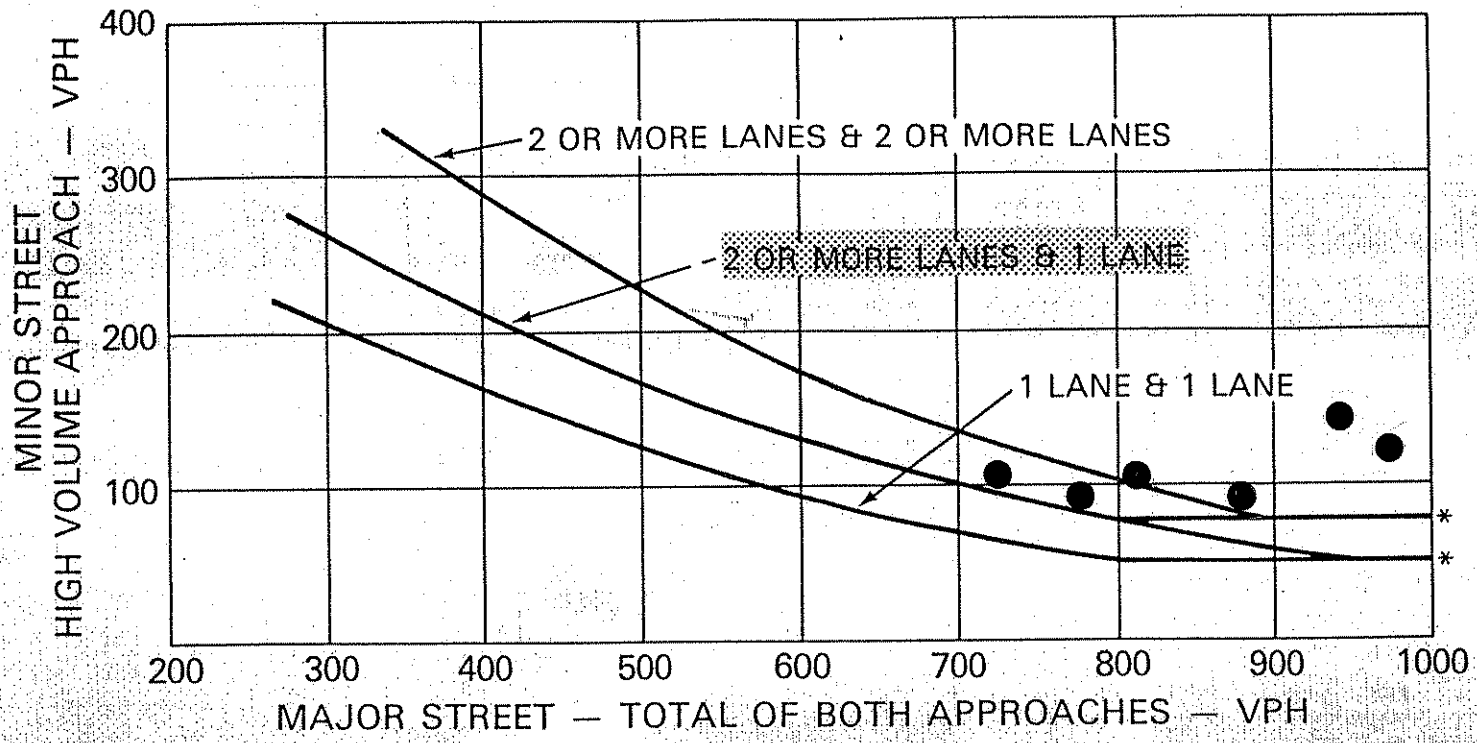
★ = VOLUMES WHICH EXCEED THE THRESHOLD BUT CANNOT BE REPRESENTED ON THE GRAPH.

	TIME	MAJOR STREETS (VPH)	MINOR STREET (VPH)
●	6-7 am	943	140
★	7-8 am	1373	235
●	8-9 am	1039	201
	9-10 am	817	103
	10-11 am	668	108
	11-12 pm	676	76
	12-1 pm	773	92
	1-2 pm	727	104
●	2-3 pm	976	123
●	3-4 pm	1252	158
★	4-5 pm	1523	165
★	5-6 pm	1751	186
★	6-7 pm	1543	189
●	7-8 pm	1172	175
	8-9 pm	875	93
	9-10 pm	731	75

CSAH 78 (HANSON BLVD) @ 121ST AVE.

FIGURE 4-8. FOUR HOUR VOLUME WARRANT

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*NOTE: 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 60 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	943	140
★	7-8 am	1373	235
★	8-9 am	1039	201
●	9-10 am	817	103
	10-11 am	668	108
	11-12 pm	676	76
●	12-1 pm	773	92
●	1-2 pm	727	104
●	2-3 pm	976	123
★	3-4 pm	1252	158
★	4-5 pm	1523	165
★	5-6 pm	1751	186
★	6-7 pm	1543	189
★	7-8 pm	1172	175
●	8-9 pm	875	93
	9-10 pm	731	75

CSAH 78 (HANSON BLVD) @ 121ST AVE.

COUNT LOCATION: CSAH 78 (HANSON BLVD) @ 121ST AVE

DATE: 3/29/94

NORTH

APP. #1= NB CSAH 78 (HANSON BLVD)
APP. #2=EB 121ST AVE
APP. #3=SB CSAH 78 (HANSON BLVD)
APP. #4=WB 121ST 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
6:00-6:15AM								
6:15-6:30						2		
6:30-6:45						3		2
6:45-7:00						1		3
HOURLY TOTAL						HOURLY TOTAL		11
7:00-7:15						2		10
7:15-7:30						9		12
7:30-7:45						5		8
7:45-8:00		1			1	4		4
HOURLY TOTAL					1	HOURLY TOTAL		54
8:00-8:15						12		18
8:15-8:30						14		12
8:30-8:45						9		12
8:45-9:00						10		15
HOURLY TOTAL						HOURLY TOTAL		102
9:00-9:15						4		2
9:15-9:30						6		14
9:30-9:45						7		8
9:45-10:00						19		1
HOURLY TOTAL						HOURLY TOTAL		61
10:00-10:15						6		
10:15-10:30						9		2
10:30-10:45						9		2
10:45-11:00						13		5
HOURLY TOTAL						HOURLY TOTAL		46
11:00-11:15						13		2
11:15-11:30						18		1
11:30-11:45						11		4
11:45-12:00						2		5
HOURLY TOTAL						HOURLY TOTAL		56
12:00-12:15	1				1	8		4
12:15-12:30	1				1	4		9
12:30-12:45						10		1
12:45-1:00						10		3
HOURLY TOTAL					2	HOURLY TOTAL		49
1:00-1:15						12		6
1:15-1:30						9		2
1:30-1:45						4		4
1:45-2:00						15		1
HOURLY TOTAL						HOURLY TOTAL		53

COUNT LOCATION: CSAH 78 (HANSON BLVD) @ 121 ST AVE.

DATE: 3/21/94

NORTH

APP. #1=NB CSAH 78 (HANSON BLVD)
APP. #2=EB 121ST AVE.
APP. #3=SB CSAH 78 (HANSON BLVD)
APP. #4=WB 121 ST 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						6		11
2:15-2:30						12		19
2:30-2:45				1	1	6		5
2:45-3:00				1	1	6		18
HOURLY TOTAL					2	HOURLY TOTAL		83
3:00-3:15	3				3	9		18
3:15-3:30	4			2	6	5		6
3:30-3:45	4			2	6	1		8
3:45-4:00	4				4	5		6
HOURLY TOTAL					19	HOURLY TOTAL		58
4:00-4:15	1			1	2	3		7
4:15-4:30	6				6	5		12
4:30-4:45	6				6	4		7
4:45-5:00	6			1	7	1		7
HOURLY TOTAL					21	HOURLY TOTAL		46
5:00-5:15	1		1		2	4		3
5:15-5:30	5				5	4		2
5:30-5:45	7		2	1	10	4		2
5:45-6:00	9				9			
HOURLY TOTAL					26	HOURLY TOTAL		19
6:00-6:15	3	1	3	1	8			2
6:15-6:30	6	1	1	2	10	1		1
6:30-6:45	1			3	4	3		1
6:45-7:00	4			2	6	1		
HOURLY TOTAL					28	HOURLY TOTAL		9
7:00-7:15	2	2		2	6	2		
7:15-7:30				2	2	2		
7:30-7:45	2			5	7	1		
7:45-8:00						4		
HOURLY TOTAL					15	HOURLY TOTAL		9
8:00-8:15						1		
8:15-8:30						2		
8:30-8:45	1				1	2		1
8:45-9:00	1	1			2			
HOURLY TOTAL					3	HOURLY TOTAL		6
9:00-9:15						1		
9:15-9:30						2		
9:30-9:45						1		
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		4