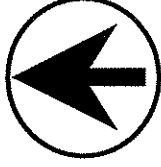


Date : 5/8/02

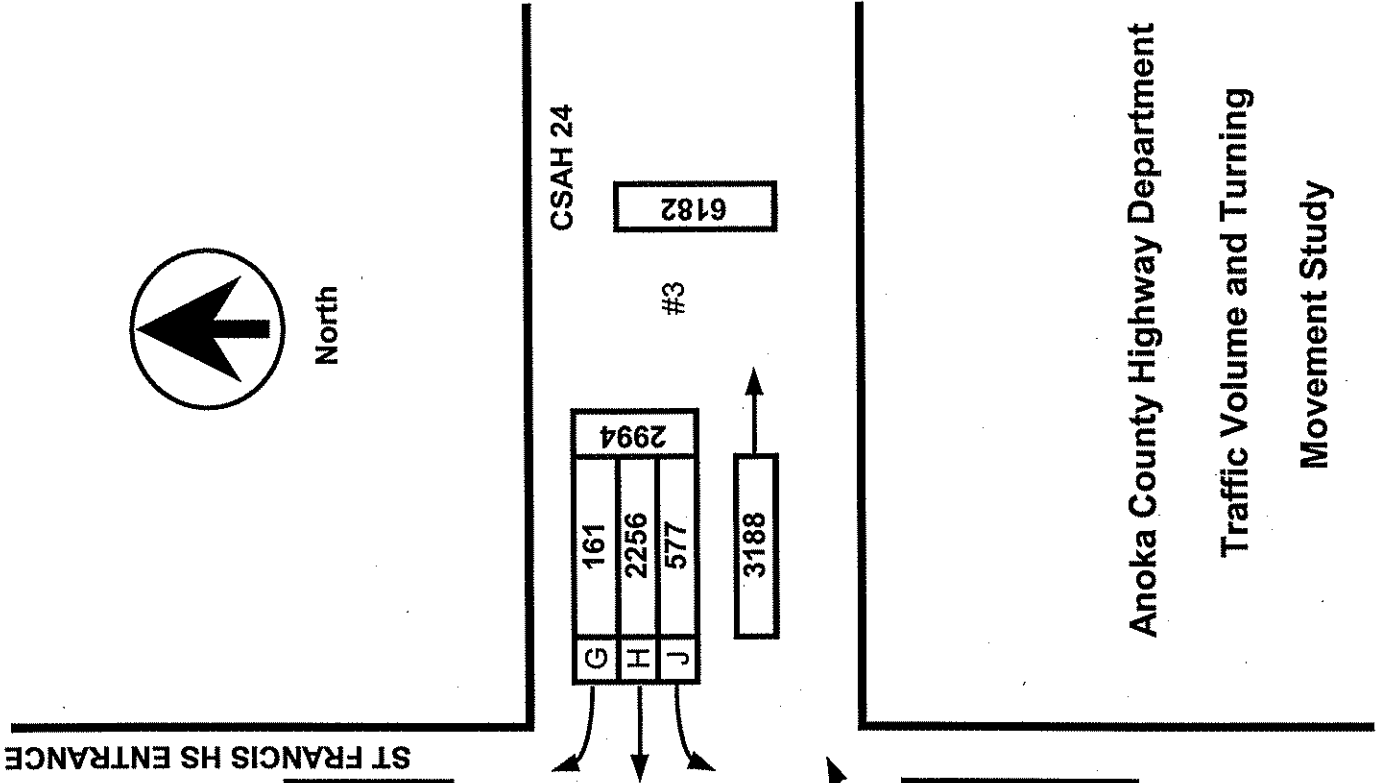
Count Number : TMC0202

Location : CSAH 24 (Bridge Street)

@ CSAH 9/ST. FRANCIS HS ENTRANCE



North



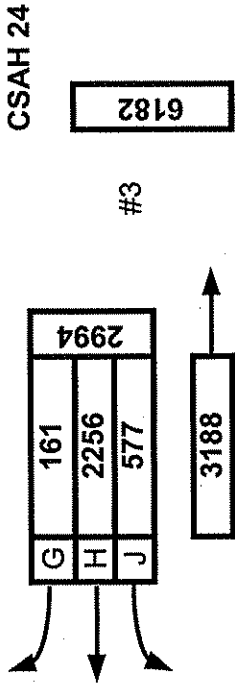
ST FRANCIS HS ENTRANCE

854

#2

598	D	311
	E	114
	F	173

256



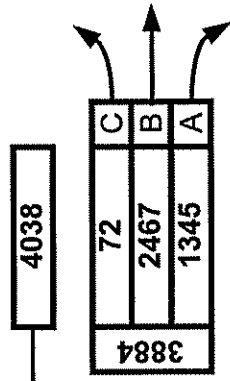
CSAH 9 (Round Lk Blvd)

2036

2042	M	1471
	L	23
	K	548

#4

4078



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Anoka County Highway Department
Traffic Engineering
Traffic Volume and Turning Movement Study

Weather: Rainy and Cool
Inter TDC-8
Counted by: Josie / Sean

File Name : TMC0202
Site Code : 02020102
Start Date : 05/08/2002
Page No : 1

Groups Printed- Unshifted

Start Time	St Francis HS Entrance Southbound					CSAH 24 Westbound					CSAH 9 Northbound					CSAH 24 Eastbound					Exclu. Total	Inclu. Total	Int. Total					
	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total								
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
06:00	0	1	1	0	2	18	24	0	0	42	5	0	5	1	10	1	29	31	4	61	5	115	120					
06:15	2	2	0	0	4	25	28	1	2	54	11	0	5	0	16	2	27	33	14	62	16	136	152					
06:30	0	1	2	0	3	28	32	3	5	63	19	0	6	1	25	3	34	30	5	67	11	158	169					
06:45	3	0	9	0	12	24	63	9	6	96	26	0	6	0	32	10	26	36	3	72	9	212	221					
Total	5	4	12	0	21	95	147	13	13	255	61	0	22	2	83	16	116	130	26	262	41	621	662					
07:00	6	0	34	17	40	13	70	67	19	150	34	0	4	1	38	11	46	22	5	79	42	307	349					
07:15	14	3	31	21	48	14	53	49	3	116	25	0	3	1	28	3	55	34	10	92	35	284	319					
07:30	3	3	6	2	12	12	35	8	4	55	14	0	6	2	20	0	49	14	8	63	16	150	166					
07:45	0	0	3	0	3	13	33	5	1	51	14	0	6	1	20	0	28	35	6	63	8	137	145					
Total	23	6	74	40	103	52	191	129	27	372	87	0	19	5	106	14	178	105	29	297	101	878	979					
08:00	0	1	4	0	5	11	23	0	1	34	12	2	9	0	23	0	30	29	16	59	17	121	138					
08:15	0	0	2	1	2	5	30	0	3	35	17	0	4	2	21	0	34	23	7	57	13	115	128					
08:30	0	4	3	1	7	17	34	1	2	52	15	0	11	6	26	3	27	16	4	46	13	131	144					
08:45	2	1	4	2	7	7	37	0	4	44	19	1	4	2	24	2	30	23	3	55	11	130	141					
Total	2	6	13	4	21	40	124	1	10	165	63	3	28	10	94	5	121	91	30	217	54	497	551					
09:00	1	0	1	0	2	15	33	1	4	49	25	0	3	5	28	1	47	23	3	71	12	150	162					
09:15	0	0	3	0	3	4	52	0	18	56	22	0	5	6	27	1	33	19	0	53	24	139	163					
09:30	2	0	5	0	7	9	28	1	2	38	15	0	7	0	22	1	38	23	3	62	5	129	134					
09:45	0	1	1	0	2	11	30	1	1	42	13	0	6	0	19	1	30	10	4	41	5	104	109					
Total	3	1	10	0	14	39	143	3	25	185	75	0	21	11	96	4	148	75	10	227	46	522	568					
10:00	2	2	3	2	7	11	25	0	3	36	24	0	3	0	27	0	43	19	7	62	12	132	144					
10:15	0	0	0	0	0	7	32	1	1	40	10	1	3	3	14	0	28	18	2	46	6	100	106					
10:30	1	0	2	0	3	15	26	0	5	41	20	0	6	4	26	1	29	22	2	52	11	122	133					
10:45	0	0	1	0	1	13	24	1	3	38	23	0	6	0	29	1	35	21	4	57	7	125	132					
Total	3	2	6	2	11	46	107	2	12	155	77	1	18	7	96	2	135	80	15	217	36	479	515					
11:00	1	3	0	0	4	13	28	1	3	42	23	2	6	4	31	3	34	24	2	61	9	138	147					
11:15	4	0	3	1	7	10	33	0	2	43	24	1	9	2	34	0	36	30	4	66	9	150	159					
11:30	0	0	3	0	3	5	31	0	2	36	21	2	11	0	34	0	35	20	3	55	5	128	133					
11:45	2	0	3	1	5	3	38	1	5	42	22	0	5	2	27	1	36	19	5	56	13	130	143					
Total	7	3	9	2	19	31	130	2	12	163	90	5	31	8	126	4	141	93	14	238	36	546	582					
12:00	2	1	4	4	7	9	39	1	4	49	29	1	11	5	41	0	37	22	1	59	14	156	170					
12:15	1	1	2	0	4	10	25	1	2	36	38	0	13	4	51	0	45	28	7	73	13	164	177					
12:30	3	0	2	0	5	5	45	2	2	52	25	0	7	4	32	0	31	21	3	52	9	141	150					
12:45	1	2	6	1	9	7	36	1	4	44	33	2	6	3	41	2	28	29	2	59	10	153	163					
Total	7	4	14	5	25	31	145	5	12	181	125	3	37	16	165	2	141	100	13	243	46	614	660					
13:00	1	0	3	0	4	5	35	1	2	41	22	0	5	2	27	4	32	23	7	59	11	131	142					
13:15	1	0	0	0	1	7	33	0	1	40	21	1	9	2	31	0	29	21	3	50	6	122	128					
13:30	8	1	3	2	12	6	45	2	6	53	13	1	5	1	19	1	49	26	0	76	9	160	169					
13:45	0	3	1	0	4	4	22	1	3	27	16	3	10	4	29	0	29	20	1	49	8	109	117					
Total	10	4	7	2	21	22	135	4	12	161	72	5	29	9	106	5	139	90	11	234	34	522	556					
14:00	2	0	5	0	7	13	56	0	8	69	23	0	8	5	31	1	36	19	3	56	16	163	179					
14:15	8	5	8	1	21	12	42	1	8	55	36	2	8	1	46	2	43	24	7	69	17	191	208					
14:30	1	9	15	2	25	11	40	0	6	51	28	0	7	3	35	2	61	29	4	92	15	203	218					
14:45	28	17	30	37	75	11	42	0	3	53	32	1	18	1	51	1	93	47	4	141	45	320	365					
Total	39	31	58	40	128	47	180	1	25	228	119	3	41	10	163	6	233	119	18	358	93	877	970					
15:00	6	8	14	0	28	7	44	0	5	51	27	0	10	2	37	2	73	23	3	98	10	214	224					
15:15	7	4	8	0	19	9	43	0	0	52	34	0	17	1	51	2	54	34	4	90	5	212	217					
15:30	4	2	8	0	14	10	46	0	4	56	41	0	16	1	57	1	50	29	3	80	8	207	215					
15:45	8	6	11	0	25	10	59	0	3	69	48	1	14	3	63	0	82	18	9	100	15	257	272					
Total	25	20	41	0	86	36	192	0	12	228	150	1	57	7	208	5	259	104	19	368	38	890	928					
16:00	13	6	9	0	28	11	82	0	2	93	43	0	26	1	69	2	63	27	1	92	4	282	286					
16:15	3	2	9	0	14	3	63	0	2	66	49	0	8	1	57	1	69	31	3	101	6	238	244					
16:30	9	6	6	0	21	9	85	0	8	94	64	1	25	3	90	3	83	27	2	113	13	318	331					
16:45	5	4	12	2	21	14	74	0	6	88	42	0	14	5	56	1	77	34	2	112	15	277	292					
Total	30	18	36	2	84	37	304	0	18	341	198	1	73	10	272	7	292	119	8	418	38	1115	1153					

Anoka County Highway Department
Traffic Engineering

Weather: Rainy and Cool
Counter TDC-8
Counted by: Josie / Sean

Traffic Volume and Turning Movement Stud

File Name : TMC0202
Site Code : 02020102
Start Date : 05/08/2002
Page No : 2

Groups Printed- Unshifted

Start Time	St Francis HS Entrance Southbound					CSAH 24 Westbound					CSAH 9 Northbound					CSAH 24 Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total			
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
17:00	4	4	8	8	16	12	72	0	3	84	49	0	13	2	62	0	57	29	2	86	15	248	263
17:15	10	3	5	0	18	7	52	0	2	59	49	0	14	1	63	0	74	29	0	103	3	243	246
17:30	0	0	2	0	2	15	51	0	0	66	38	0	22	0	60	0	53	23	1	76	1	204	205
17:45	0	1	3	0	4	12	55	0	1	67	28	0	17	1	45	0	61	15	4	76	6	192	198
Total	14	8	18	8	40	46	230	0	6	276	164	0	66	4	230	0	245	96	7	341	25	887	912
18:00	0	0	2	0	2	18	33	0	1	51	23	1	26	0	50	0	39	16	1	55	2	158	160
18:15	2	1	0	0	3	9	42	0	3	51	39	0	16	1	55	0	36	27	2	63	6	172	178
18:30	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	40	20	1	60	1	62	63
18:45	0	2	0	0	2	3	25	0	0	28	27	0	13	1	40	1	40	16	1	57	2	127	129
Total	3	3	3	0	9	30	100	0	4	130	89	1	55	2	145	1	155	79	5	235	11	519	530
19:00	0	0	2	0	2	2	38	1	1	41	36	0	18	1	54	0	52	14	2	66	4	163	167
19:15	2	3	2	0	7	8	39	0	2	47	26	0	13	1	39	0	35	17	3	52	6	145	151
19:30	0	1	6	0	7	8	26	0	0	34	16	0	13	0	29	0	39	15	0	54	0	124	124
19:45	0	0	0	0	0	7	25	0	0	32	23	0	7	0	30	1	38	18	0	57	0	119	119
Total	2	4	10	0	16	25	128	1	3	154	101	0	51	2	152	1	164	64	5	229	10	551	561
Grand Total	173	114	311	105	598	577	2256	161	191	2994	1471	23	548	103	2042	72	2467	1345	210	3884	609	9518	10127
Approch %	28.9	19.1	52.0			19.3	75.4	5.4			72.0	1.1	26.8			1.9	63.5	34.6					
Total %	1.8	1.2	3.3		6.3	6.1	23.7	1.7		31.5	15.5	0.2	5.8		21.5	0.8	25.9	14.1		40.8	6.0	94.0	

Major Street Approaches:

Eastbound:

CSAH 24

Data File: E:\2002 COUNT FILES\TMC0202.war
 Count Type: IMC. Channel: 0. Count Date: 5/ 8/ 2
 Number of Lanes: 1
 Approach Speed: 40
 Total Approach Traffic: 3884

Westbound:

CSAH 24

Data File: E:\2002 COUNT FILES\TMC0202.war
 Count Type: IMC. Channel: 0. Count Date: 5/ 8/ 2
 Number of Lanes: 1
 Approach Speed: 40
 Total Approach Traffic: 2994

Minor Street Approaches:

Northbound:

CSAH 9

Data File: E:\2002 COUNT FILES\TMC0202.war
 Count Type: IMC. Channel: 0. Count Date: 5/ 8/ 2
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Traffic: 2042

Southbound:

St Francis HS Entrance

Data File: E:\2002 COUNT FILES\TMC0202.war
 Count Type: IMC. Channel: 0. Count Date: 5/ 8/ 2
 Number of Lanes: 1
 Approach Speed: 30
 Total Approach Traffic: 598

Analysis of 8-Hour Volume Warrants (Criteria refers to high volume side street for that hour):

Hour	Main (Total)	Side			Warrant 1		Warrant 2		Warrant 8	
		Vol.	Dir.	Rank	Meets?	Criteria	Meets?	Criteria	Meets?	Criteria
0	0	0	S	15		150		75		120
1	0	0	S	16		150		75		120
2	0	0	S	17		150		75		120
3	0	0	S	18		150		75		120
4	0	0	S	19		150		75		120
5	0	0	S	20		150		75		120
6	517	83	N	14	MAIN	200		100		160
7	669	106	N	9	MAIN	200	SIDE	100	MAIN	160
8	382	94	N	13		200		100		160
9	412	96	N	11		200		100		160
10	372	96	N	12		200		100		160
11	401	126	N	8		200	SIDE	100		160
12	424	165	N	4		200	SIDE	100	SIDE	160
13	395	106	N	10		200	SIDE	100		160
14	586	163	N	5	MAIN	200	SIDE	100	SIDE	160
15	596	208	N	3	--BOTH--	200	SIDE	100	SIDE	160
16	759	272	N	1	--BOTH--	200	--BOTH--	100	--BOTH--	160
17	617	230	N	2	--BOTH--	200	SIDE	100	--BOTH--	160
18	365	145	N	7		200	SIDE	100		160
19	383	152	N	6		200	SIDE	100		160
20	0	0	S	21		150		75		120
21	0	0	S	22		150		75		120
22	0	0	S	23		150		75		120
23	0	0	S	24		150		75		120

Warrant Summary:

Urban values apply.

High-volume minor approach is wide enough for two lanes. Re-striping may be desirable.

Warrant 1 - Minimum Vehicular Volumes

NOT SATISFIED. Required values reached for 3 hours. Criteria--Main St.: 500; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

NOT SATISFIED. Required values reached for 1 hours. Criteria--Main St.: 750; Side St.: See Volume Summary.

Warrant 3 - Minimum Pedestrian Volumes

NOT SATISFIED. 8th-High Hour--Pedestrians: 0. Criteria--Pedestrians: 150; Vehicles: 600.

Warrant 4 - School Crossing

NOT APPLICABLE. Gap data has not been defined.

Warrant 5 - Progressive Movement

NOT SATISFIED. Adjacent signals closer than 1000 feet and/or not part of coordinated system.

Warrant 6 - Accident Experience

NOT SATISFIED. 0 correctable accidents is fewer than required 5.

Correctable Accidents: 0; Right Angle Accidents: 0; Left Turn Accidents: 0; Other Accidents: 0.

Warrant 7 - Systems Warrant

NOT SATISFIED. At least one street has no major approaches. Peak hour total entering volume: 1115.

- Approaches which are part of the principal through traffic roadway network.
- Approaches which connect areas of principal traffic generation.
- Approaches which include rural or suburban highways outside, entering or traversing a city.
- Approaches which have surface street freeway or expressway ramp terminals.
- Approaches which appear as a major route in an official transportation plan.

Warrant 8 - Combination of Warrants

NOT SATISFIED. Required values reached for 2 hours. Criteria--Main: 600; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

NOT SATISFIED. Required values reached for 2 hours.

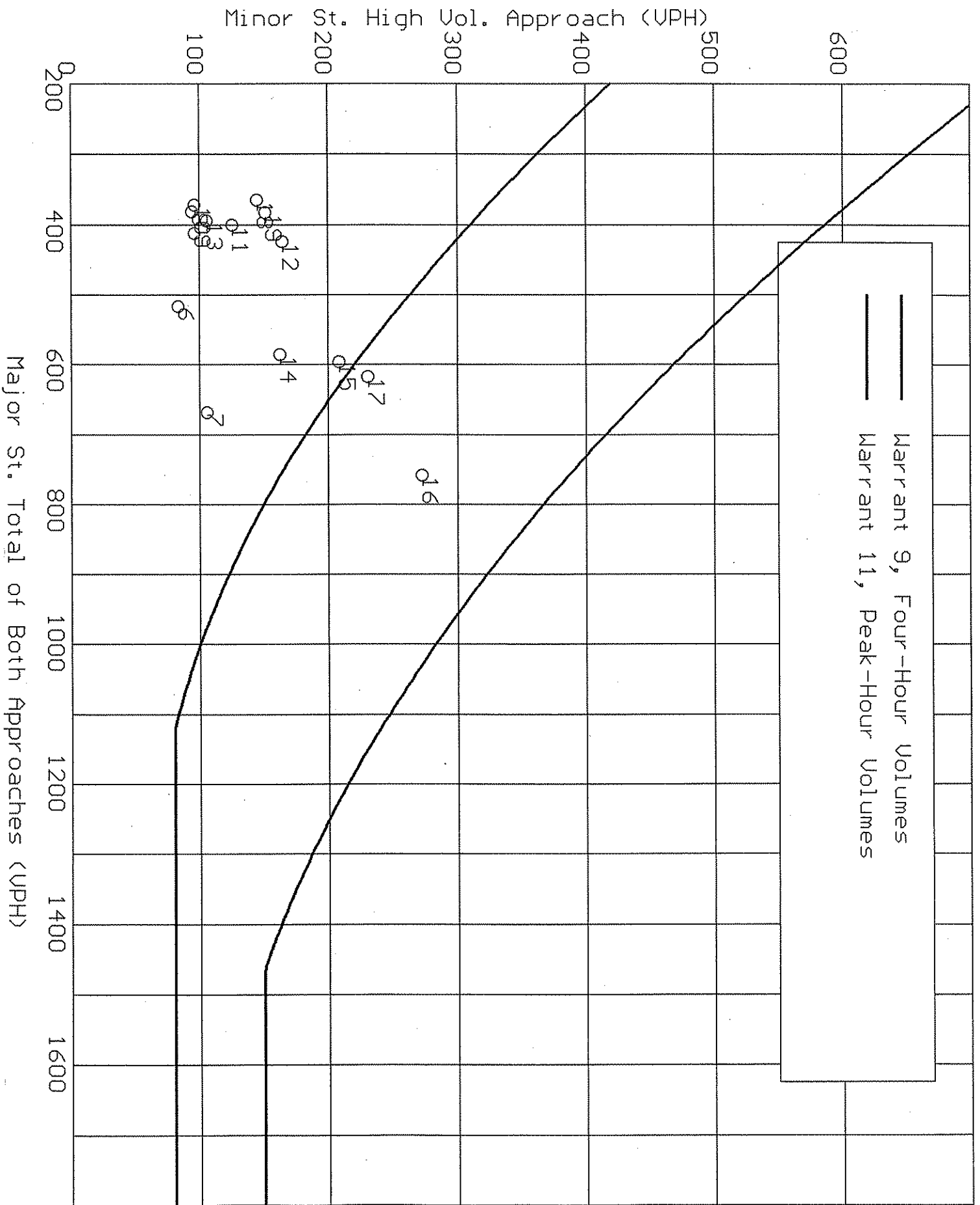
Warrant 10 - Peak Hour Delay

NOT SATISFIED. Peak hour (1600 hours) volume not adequate.

Criteria--Main St.: 800 (4 approaches), 650 (3 approaches); Side St.: 150.

Warrant 11 - Peak Hour Volume

NOT SATISFIED.



Multiway Stop Warrant Analysis
TMC 0202 CSAH 24 @ CSAH 9/ST FRANCIS HS ENTRANCE
Speed Limit of Major Roadway..... 40

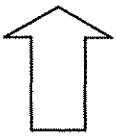
Minimum Traffic Volumes Multiway Stop Warrant Criteria:

- a) The total vehicular volume entering the intersection from all approaches must average at least 500 vehicles per hour (vph) for any 8 hours of an average day, AND:
- b) The combined vehicular and pedestrian volume from the minor street or highway must average at least 200 vph for the same 8 hours, with an average delay to minor street vehicular traffic of at least 30 seconds per vehicle during the maximum hour, BUT:
- c) When the 85-percentile approach speed of the major street traffic exceeds 40 miles per hour, the minimum volume warrant is 70% of the above requirements.

Hour	Total Vehicular Traffic Entering the Intersection	Vehicular Traffic Entering on First Minor Roadway	Vehicular Traffic Entering on Second Minor Roadway	Sum of Minor Approaches	Hours Stop Warrant Met
6 AM - 7 AM	621	83	21	104	NO
7 AM - 8 AM	878	106	103	209	YES
8 AM - 9 AM	497	94	21	115	NO
9 AM - 10 AM	522	96	14	110	NO
10 AM - 11 AM	479	96	11	107	NO
11 AM - 12 PM	546	126	19	145	NO
12 PM - 13 PM	614	165	25	190	NO
1 PM - 2 PM	522	106	21	127	NO
2 PM - 3 PM	877	163	128	291	YES
3 PM - 4 PM	890	208	86	294	YES
4 PM - 5 PM	1115	272	84	356	YES
5 PM - 6 PM	887	230	40	270	YES
6 PM - 7 PM	519	145	9	154	NO
7 PM - 8 PM	551	152	16	168	NO

TOTAL HOURS MET: 5

MULTIWAY STOP WARRANT IS NOT MET



NORTH

COUNT LOCATION:

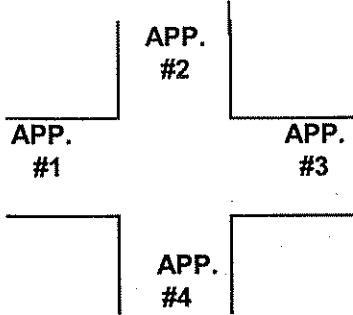
CSAH 24 (Bridge St) @

DATE:

5/8/02

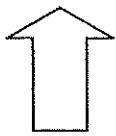
CSAH 9 (Round Lk Blvd)/St Francis HS Entrance

APP. #1= CSAH 24
APP. #2 = School Entrance
APP. #3= CSAH 24
APP. #4= CSAH 9



- 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		2
6:15-6:30						3	1	12
6:30-6:45						9	1	2
6:45-7:00	1				1	6		2
HOURLY TOTAL					1	HOURLY TOTAL		41
7:00-7:15	2					2		40
7:15-7:30	5				5	6		27
7:30-7:45	1					8	1	7
7:45-8:00						5		3
HOURLY TOTAL					5	HOURLY TOTAL		99
8:00-8:15	4				4	8		9
8:15-8:30						6		7
8:30-8:45						10		4
8:45-9:00						6		6
HOURLY TOTAL					4	HOURLY TOTAL		56
9:00-9:15	3				3	9		2
9:15-9:30	2				2	7	1	15
9:30-9:45	4				4	3		2
9:45-10:00						5		
HOURLY TOTAL					9	HOURLY TOTAL		44
10:00-10:15	2				2	8	1	2
10:15-10:30						6		
10:30-10:45	2				2	9		2
10:45-11:00						6		1
HOURLY TOTAL					4	HOURLY TOTAL		35
11:00-11:15	1				1	6	1	2
11:15-11:30	3				3	8		1
11:30-11:45	3				3	6	1	
11:45-12:00	2				2	9		2
HOURLY TOTAL					9	HOURLY TOTAL		36
12:00-12:15	2				2	7	1	6
12:15-12:30	3				3	9	1	3
12:30-12:45						6	1	2
12:45-1:00	3				3	9		1
HOURLY TOTAL					8	HOURLY TOTAL		46
1:00-1:15	1				1	7	1	2
1:15-1:30	3				3	5		1
1:30-1:45						6		4
1:45-2:00						5	1	2
HOURLY TOTAL					4	HOURLY TOTAL		34



NORTH

COUNT LOCATION:

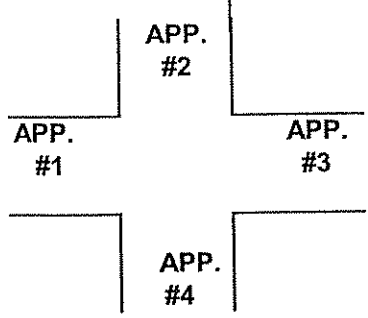
CSAH 24 (Bridge St) @

DATE:

5/8/02

CSAH 9 (Round Lk Blvd)/St Francis HS Entrance

APP. #1= CSAH 24
APP. #2 = School Entrance
APP. #3= CSAH 24
APP. #4= CSAH 9



- 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						12		4
2:15-2:30	1					10		7
2:30-2:45	13				13	7		7
2:45-3:00	25					6		40
HOURLY TOTAL					39	HOURLY TOTAL		93
3:00-3:15	4				4	7		3
3:15-3:30	1				1	2		3
3:30-3:45						6		2
3:45-4:00	2				2	11		4
HOURLY TOTAL					7	HOURLY TOTAL		38
4:00-4:15						2		2
4:15-4:30						5		1
4:30-4:45	6				6	2		11
4:45-5:00						9		5
HOURLY TOTAL					6	HOURLY TOTAL		37
5:00-5:15	3				3	6		9
5:15-5:30						3		
5:30-5:45						1		
5:45-6:00						6		
HOURLY TOTAL					3	HOURLY TOTAL		25
6:00-6:15						2		
6:15-6:30						4		3
6:30-6:45								
6:45-7:00	2				2	3		
HOURLY TOTAL					2	HOURLY TOTAL		12
7:00-7:15						4		
7:15-7:30						5		
7:30-7:45								
7:45-8:00								1
HOURLY TOTAL						HOURLY TOTAL		10