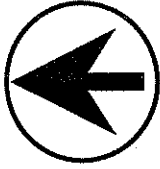


Date : 11/12/02

Count Number : TMC0230

Location : CSAH 22 (Viking Blvd.)

@ CR 66 (Cleary Rd.)



North

CR 66

920

#2

479	D	59
258	M	
162	T	162

441

CSAH 22

172	G	1816
1604	H	
40	J	

#3

3561

1745

1736

#1

3370

CSAH 22

1634	C	57
1524	B	
53	A	

344	K	59
212	L	
73	M	

#4

351

CR 66

695

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

Anoka County Highway Department

Traffic Volume and Turning

Movement Study

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

Weather: Clear and Cool
Counter TDC-8
Printed by: Krystal/Sheri

File Name : TMC0230
Site Code : 02300102
Start Date : 11/12/2002
Page No : 1

Groups Printed- Unshifted

Start Time	CR 66 Southbound					CSAH 22 Westbound					CR 66 Northbound					CSAH 22 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				
06:00	6	9	2	0	17	0	33	0	0	33	0	0	0	0	0	1	13	0	1	14	1	64	65
06:15	10	9	2	3	21	0	39	2	2	41	2	0	0	0	2	0	18	0	2	18	7	82	89
06:30	3	8	0	0	11	3	52	1	7	56	2	0	1	1	3	0	21	1	1	22	9	92	101
06:45	3	17	1	0	21	0	48	0	4	48	0	0	3	0	3	3	28	0	5	31	9	103	112
Total	22	43	5	3	70	3	172	3	13	178	4	0	4	1	8	4	80	1	9	85	26	341	367
07:00	3	6	0	0	9	0	37	2	7	39	0	1	2	0	3	0	22	0	5	22	12	73	85
07:15	4	9	1	1	14	1	43	4	6	48	1	1	2	0	4	2	23	1	6	26	13	92	105
07:30	2	11	1	0	14	0	57	3	9	60	1	3	0	1	4	0	40	2	9	42	19	120	139
07:45	3	6	2	0	11	1	45	4	8	50	0	2	1	0	3	0	35	1	6	36	14	100	114
Total	12	32	4	1	48	2	182	13	30	197	2	7	5	1	14	2	120	4	26	126	58	385	443
08:00	2	6	2	4	10	0	43	1	14	44	2	0	0	0	2	2	27	2	6	31	24	87	111
08:15	3	6	0	0	9	0	26	1	3	27	1	2	1	0	4	0	25	0	5	25	8	65	73
08:30	7	6	2	3	15	1	28	0	4	29	1	1	4	1	6	0	28	2	10	30	18	80	98
08:45	4	7	3	0	14	1	26	1	3	28	3	0	0	0	3	2	25	0	6	27	9	72	81
Total	16	25	7	7	48	2	123	3	24	128	7	3	5	1	15	4	105	4	27	113	59	304	363
09:00	3	3	3	3	9	0	29	2	11	31	4	2	0	0	6	0	23	2	4	25	18	71	89
09:15	6	6	0	2	12	0	28	1	5	29	1	1	2	1	4	0	20	3	6	23	14	68	82
09:30	3	3	0	1	6	1	23	1	6	25	1	5	0	2	6	1	17	0	7	18	16	55	71
09:45	3	3	2	1	8	1	26	1	7	28	1	1	0	0	2	3	23	0	8	26	16	64	80
Total	15	15	5	7	35	2	106	5	29	113	7	9	2	3	18	4	83	5	25	92	64	258	322
10:00	4	3	4	4	11	0	23	2	8	25	1	2	0	1	3	2	13	1	5	16	18	55	73
10:15	6	2	0	0	8	1	18	2	4	21	1	2	0	1	3	3	17	1	7	21	12	53	65
10:30	4	4	1	1	9	0	19	2	7	21	2	2	0	0	4	1	25	0	4	26	12	60	72
10:45	3	7	1	0	11	1	23	4	8	28	0	2	0	0	2	0	21	0	6	21	14	62	76
Total	17	16	6	5	39	2	83	10	27	95	4	8	0	2	12	6	76	2	22	84	56	230	286
11:00	2	1	3	1	6	0	16	2	5	18	0	0	1	0	1	4	18	2	5	24	11	49	60
11:15	10	3	2	1	15	0	25	1	6	26	3	7	2	2	12	0	17	1	2	18	11	71	82
11:30	1	3	0	1	4	0	14	4	4	18	0	2	0	0	2	0	17	0	5	17	10	41	51
11:45	4	5	0	0	9	0	26	1	5	27	1	3	0	0	4	1	12	0	3	13	8	53	61
Total	17	12	5	3	34	0	81	8	20	89	4	12	3	2	19	5	64	3	15	72	40	214	254
12:00	2	4	0	1	6	1	20	1	5	22	0	1	0	0	1	0	22	1	6	23	12	52	64
12:15	2	1	1	1	4	0	18	4	8	22	2	0	0	0	2	1	24	0	8	25	17	53	70
12:30	0	5	3	0	8	0	21	5	8	26	1	0	0	0	1	1	10	1	1	12	9	47	56
12:45	1	4	1	1	6	1	13	4	6	18	1	3	1	1	5	0	24	0	3	24	11	53	64
Total	5	14	5	3	24	2	72	14	27	88	4	4	1	1	9	2	80	2	18	84	49	205	254
13:00	1	2	2	0	5	1	22	1	5	24	1	2	0	0	3	0	18	0	6	18	11	50	61
13:15	0	2	0	1	2	0	23	1	12	24	1	2	1	0	4	1	26	1	8	28	21	58	79
13:30	1	5	0	0	6	0	25	2	5	27	0	3	1	0	4	1	23	1	7	25	12	62	74
13:45	2	3	1	1	6	0	22	1	4	23	0	3	0	0	3	0	24	1	9	25	14	57	71
Total	4	12	3	2	19	1	92	5	26	98	2	10	2	0	14	2	91	3	30	96	58	227	285
14:00	2	9	3	2	14	1	20	2	3	23	3	9	2	3	14	0	12	2	2	14	10	65	75
14:15	3	1	1	0	5	0	27	1	3	28	1	3	0	0	4	1	25	5	8	31	11	68	79
14:30	1	1	1	0	3	0	36	4	4	40	6	2	1	1	9	0	36	2	7	38	12	90	102
14:45	4	6	0	1	10	1	25	5	10	31	1	1	0	1	2	2	27	0	7	29	19	72	91
Total	10	17	5	3	32	2	108	12	20	122	11	15	3	5	29	3	100	9	24	112	52	295	347
15:00	5	6	0	1	11	0	37	5	7	42	2	8	2	0	12	4	37	0	7	41	15	106	121
15:15	1	8	2	0	11	2	42	6	12	50	5	7	0	0	12	0	51	0	3	51	15	124	139
15:30	2	2	0	0	4	0	41	8	9	49	1	10	2	1	13	0	41	0	5	41	15	107	122
15:45	3	1	2	2	6	4	32	3	9	39	1	8	2	1	11	2	48	2	11	52	23	108	131
Total	11	17	4	3	32	6	152	22	37	180	9	33	6	2	48	6	177	2	26	185	68	445	513
16:00	3	7	1	2	11	0	32	9	9	41	2	13	1	1	16	0	69	2	11	71	23	139	162
16:15	2	0	2	0	4	3	39	2	7	44	1	7	2	1	10	0	46	3	1	49	9	107	116
16:30	2	5	2	1	9	4	31	8	10	43	1	8	3	0	12	2	43	2	3	47	14	111	125
16:45	0	4	2	1	6	3	37	7	5	47	1	6	1	1	8	2	52	0	2	54	9	115	124
Total	7	16	7	4	30	10	139	26	31	175	5	34	7	3	46	4	210	7	17	221	55	472	527
17:00	3	3	1	0	7	2	30	6	5	38	1	9	1	0	11	0	44	1	1	45	6	101	107
17:15	1	3	1	0	5	0	42	3	6	45	2	5	2	1	9	0	54	1	3	55	10	114	124
17:30	2	4	0	0	6	0	32	3	2	35	0	8	0	0	8	0	48	2	3	50	5	99	104
17:45	2	1	0	0	3	2	44	9	4	55	2	8	1	0	11	1	37	2	3	40	7	109	116
Total	8	11	2	0	21	4	148	21	17	173	5	30	4	1	39	1	183	6	10	190	28	423	451

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

Weather: Clear and Cool
 Counter TDC-8
 Counted by: Krystal/Sheri

File Name : TMC0230
 Site Code : 02300102
 Start Date : 11/12/2002
 Page No : 2

Groups Printed- Unshifted

Start Time	CR 66 Southbound					CSAH 22 Westbound					CR 66 Northbound					CSAH 22 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				
18:00	3	6	0	0	9	1	23	7	3	31	3	3	1	0	7	3	30	1	2	34	5	81	86
18:15	1	1	0	0	2	0	29	6	1	35	0	8	1	0	9	1	21	1	1	23	2	69	71
18:30	3	3	0	0	6	2	32	4	2	38	0	6	7	0	13	2	22	0	0	24	2	81	83
18:45	4	3	0	0	7	0	17	5	2	22	2	6	0	0	8	2	23	2	3	27	5	64	69
Total	11	13	0	0	24	3	101	22	8	126	5	23	9	0	37	8	96	4	6	108	14	295	309
19:00	3	4	0	0	7	1	15	4	0	20	2	3	1	0	6	3	17	1	0	21	0	54	54
19:15	2	8	0	0	10	0	5	0	1	5	0	12	6	1	18	2	7	0	1	9	3	42	45
19:30	1	2	0	0	3	0	13	1	0	14	1	7	1	0	9	1	23	0	1	24	1	50	51
19:45	1	1	1	0	3	0	12	3	0	15	1	2	0	0	3	0	12	0	1	12	1	33	34
Total	7	15	1	0	23	1	45	8	1	54	4	24	8	1	36	6	59	1	3	66	5	179	184
Grand Total	162	258	59	41	479	40	1604	172	310	1816	73	212	59	23	344	57	1524	53	258	1634	632	4273	4905
Approch %	33.8	53.9	12.3			2.2	88.3	9.5			21.2	61.6	17.2			3.5	93.3	3.2			12.9	87.1	
Total %	3.8	6.0	1.4		11.2	0.9	37.5	4.0		42.5	1.7	5.0	1.4		8.1	1.3	35.7	1.2		38.2			

or Street Approaches:

Eastbound:

CSAH 22

Data File: C:\Program Files\PC-Warrants\TMC0230.war

Count Type: IMC. Channel: 0. Count Date: 11/12/ 2

Number of Lanes: 2

Approach Speed: 55

Total Approach Traffic: 1634

Westbound:

CSAH 22

Data File: C:\Program Files\PC-Warrants\TMC0230.war

Count Type: IMC. Channel: 0. Count Date: 11/12/ 2

Number of Lanes: 2

Approach Speed: 55

Total Approach Traffic: 1816

Minor Street Approaches:

Northbound:

CR 66

Data File: C:\Program Files\PC-Warrants\TMC0230.war

Count Type: IMC. Channel: 0. Count Date: 11/12/ 2

Number of Lanes: 1

Approach Speed: 55

Total Approach Traffic: 344

Southbound:

CR 66

Data File: C:\Program Files\PC-Warrants\TMC0230.war

Count Type: IMC. Channel: 0. Count Date: 11/12/ 2

Number of Lanes: 1

Approach Speed: 55

Total Approach Traffic: 479

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 3	
		Vol.	Dir.	Rank	Meets?	Criteria	Meets?	Criteria	Meets?	Criteria
0	0	0	S	15		105		52		84
1	0	0	S	16		105		52		84
2	0	0	S	17		105		52		84
3	0	0	S	18		105		52		84
4	0	0	S	19		105		52		84
5	0	0	S	20		105		52		84
6	263	70	S	1		105	SIDE	52		84
7	323	48	S	2		105		52		84
8	241	48	S	3		105		52		84
9	205	35	S	10		105		52		84
10	179	39	S	6		105		52		84
11	161	34	S	11		105		52		84
12	172	24	S	13		105		52		84
13	194	19	S	14		105		52		84
14	234	32	S	12		105		52		84
15	365	48	N	4		105		52		84
16	396	46	N	5		105		52		84
17	363	39	N	7		105		52		84
18	234	37	N	8		105		52		84
19	120	36	N	9		105		52		84
20	0	0	S	21		105		52		84
21	0	0	S	22		105		52		84
22	0	0	S	23		105		52		84
23	0	0	S	24		105		52		84

Warrant Summary:

-al values apply.

Warrant 1 - Minimum Vehicular Volumes

NOT SATISFIED. Required values reached for 0 hours. Criteria--Main St.: 420; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

NOT SATISFIED. Required values reached for 0 hours. Criteria--Main St.: 630; Side St.: See Volume Summary.

Warrant 3 - Minimum Pedestrian Volumes

NOT SATISFIED. 8th-High Hour--Pedestrians: 0. Criteria--Pedestrians: 105; Vehicles: 420.

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. Peak hour total entering volume 472 does not meet criteria of 800

EW- 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 0 hours. Criteria--Main: 504; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

NOT SATISFIED. Required values reached for 0 hours.

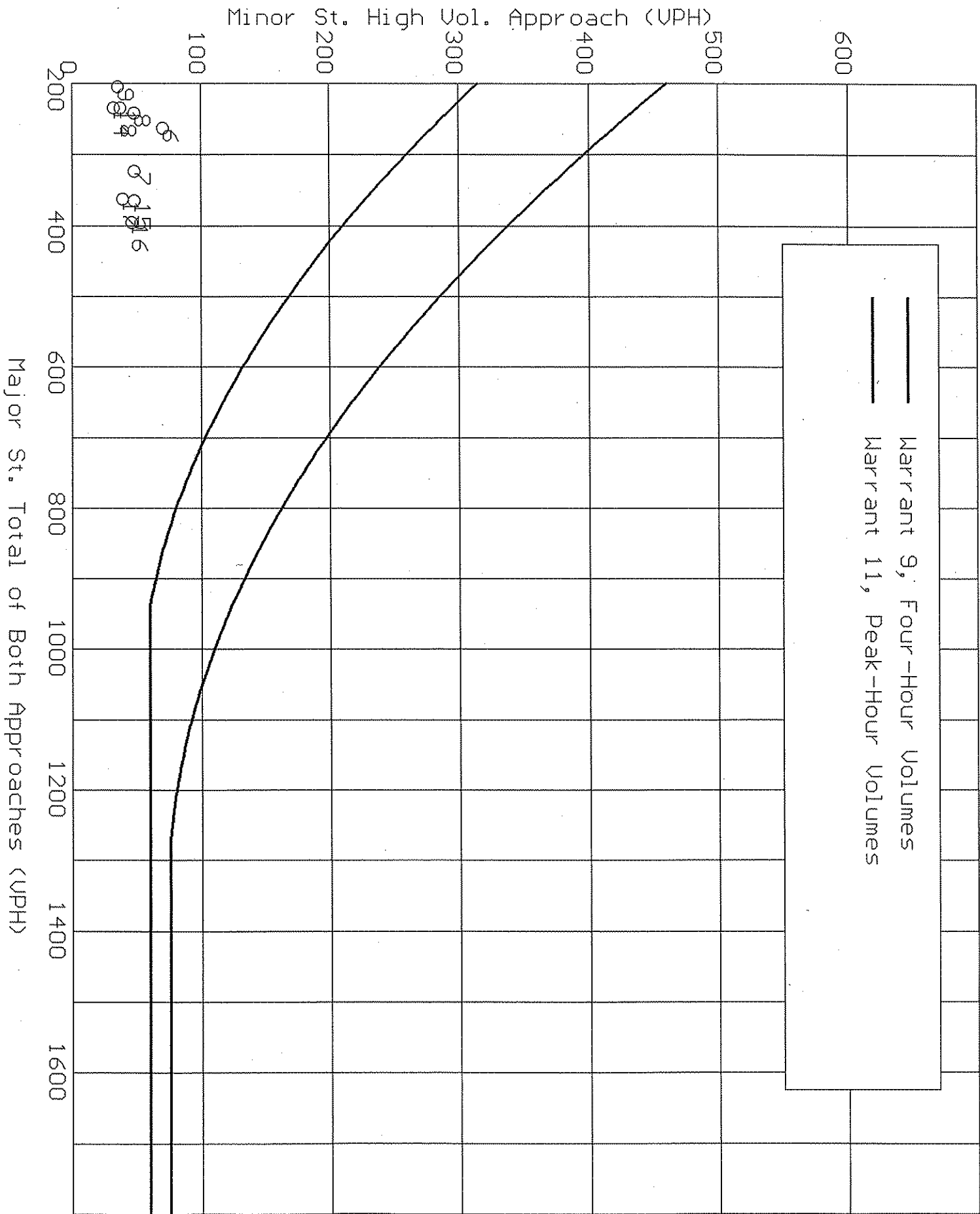
Warrant 10 - Peak Hour Delay

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

Criteria--Main St.: 800 (4 approaches), 650 (3 approaches); Side St.: 100.

Warrant 11 - Peak Hour Volume

NOT SATISFIED.



Multiway Stop Warrant Analysis
TMC 0230 CSAH 22 (Viking Blvd.) @ CR 66 (Cleary Rd.)
Speed Limit of Major Roadway..... 55

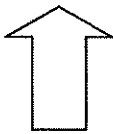
Minimum Traffic Volumes Multiway Stop Warrant Criteria:

- 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	341	70	8	78	NO
7 AM - 8 AM	385	48	14	62	NO
8 AM - 9 AM	304	48	15	63	NO
9 AM - 10 AM	258	35	18	53	NO
10 AM - 11 AM	230	39	12	51	NO
11 AM - 12 PM	214	34	19	53	NO
12 PM - 13 PM	205	24	9	33	NO
1 PM - 2 PM	227	19	14	33	NO
2 PM - 3 PM	295	32	29	61	NO
3 PM - 4 PM	445	32	48	80	NO
4 PM - 5 PM	472	30	46	76	NO
5 PM - 6 PM	423	21	39	60	NO
6 PM - 7 PM	295	24	37	61	NO
7 PM - 8 PM	179	23	36	59	NO

TOTAL HOURS MET: 0

MULTIWAY STOP WARRANT IS NOT MET



NORTH

COUNT LOCATION:

CSAH 22 (Viking Blvd.) @

DATE:

11/12/02

CR 66 (Cleary Rd.)

APP. #1= CSAH 22

APP. #2 = CR 66

APP. #3= CSAH 22

APP. #4= CR 66

APP. #2

APP. #1

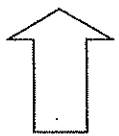
APP. #3

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						1		
6:15-6:30						6		
6:30-6:45						7		2
6:45-7:00						8		
HOURLY TOTAL						HOURLY TOTAL		24
7:00-7:15						12		
7:15-7:30						12		1
7:30-7:45						17		1
7:45-8:00						14		
HOURLY TOTAL						HOURLY TOTAL		57
8:00-8:15						22		1
8:15-8:30						8		
8:30-8:45						17		1
8:45-9:00						9		
HOURLY TOTAL						HOURLY TOTAL		58
9:00-9:15						18		
9:15-9:30						14		
9:30-9:45						16		
9:45-10:00						15	1	
HOURLY TOTAL						HOURLY TOTAL		64
10:00-10:15						18		
10:15-10:30						10		1
10:30-10:45						12		
10:45-11:00						14		
HOURLY TOTAL						HOURLY TOTAL		55
11:00-11:15						11		
11:15-11:30						11		
11:30-11:45						10		
11:45-12:00						8		
HOURLY TOTAL						HOURLY TOTAL		40
12:00-12:15						12		
12:15-12:30						17		
12:30-12:45						10		
12:45-1:00						10	1	
HOURLY TOTAL						HOURLY TOTAL		50
1:00-1:15						9		2
1:15-1:30						19	1	
1:30-1:45						10	2	
1:45-2:00						13	1	
HOURLY TOTAL						HOURLY TOTAL		57



NORTH

COUNT LOCATION:

CSAH 22 (Viking Blvd.) @

DATE:

11/21/02

CR 66 (Cleary Rd.)

APP. #1= CSAH 22

APP. #2 = CR 66

APP. #3= CSAH 22

APP. #4= CR 66

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						9	1	
2:15-2:30						11		
2:30-2:45						11	1	
2:45-3:00						17	1	1
HOURLY TOTAL						HOURLY TOTAL		52
3:00-3:15						15		
3:15-3:30						14		
3:30-3:45						15		
3:45-4:00						20	2	
HOURLY TOTAL						HOURLY TOTAL		66
4:00-4:15						20	1	1
4:15-4:30						9		
4:30-4:45						13		1
4:45-5:00						9		
HOURLY TOTAL						HOURLY TOTAL		54
5:00-5:15						5	1	
5:15-5:30						9	1	
5:30-5:45						5		
5:45-6:00						7		
HOURLY TOTAL						HOURLY TOTAL		28
6:00-6:15						5		
6:15-6:30						2		
6:30-6:45						2		
6:45-7:00						5		
HOURLY TOTAL						HOURLY TOTAL		14
7:00-7:15								
7:15-7:30						3		
7:30-7:45						1		
7:45-8:00						1		
HOURLY TOTAL						HOURLY TOTAL		5