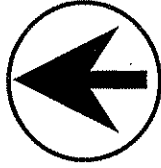


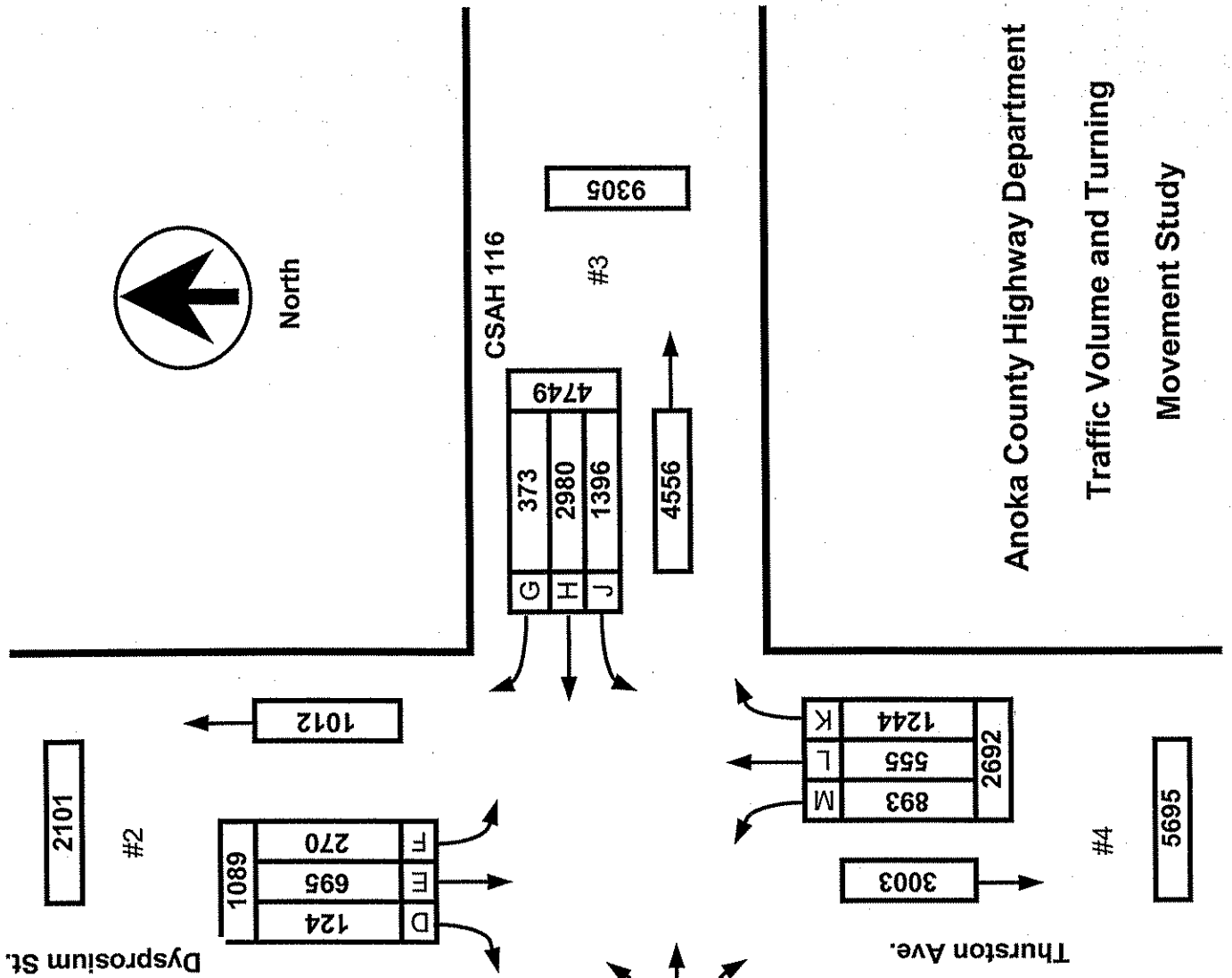
Date : 8/13/01

Count Number : TMC0129

Location : CSAH 116
 @ Thurston Ave./Dysprosium St.



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Anoka County Highway Department

Traffic Engineering

Weather: Sunny

Traffic Volume and Turning Movement Stud

File Name : TMC0129B

Counter: TDC-8

Site Code : 01290202

Counted by: Jessica/Melissa

Start Date : 08/17/2001

Page No : 1

Groups Printed- Group 1

Start Time	Dysprosium St. Southbound					CSAH 116 Westbound					Thurston Ave. Northbound					CSAH 116 Eastbound					Exclu Total	Inclu. Total	Int. Total
	Left	Thru	Rig ht	Hea vy	App. Total	Left	Thru	Rig ht	Hea vy	App. Total	Left	Thru	Rig ht	Hea vy	App. Total	Left	Thru	Rig ht	Hea vy	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	3	21	1	1	25	26	37	4	2	67	4	0	5	0	9	0	34	23	3	57	6	158	164
06:15	4	36	2	2	42	32	48	2	2	82	5	5	5	1	15	2	43	23	13	68	18	207	225
06:30	7	30	1	1	38	54	48	3	4	105	7	2	2	2	11	2	64	31	8	97	15	251	266
06:45	4	40	4	0	48	55	66	3	3	124	2	1	9	0	12	1	52	42	4	95	7	279	286
Total	18	127	8	4	153	167	199	12	11	378	18	8	21	3	47	5	193	119	28	317	46	895	941
07:00	7	33	1	2	41	32	49	3	1	84	8	5	10	1	23	2	42	36	5	80	9	228	237
07:15	3	27	3	0	33	51	53	5	6	109	2	3	12	0	17	0	58	36	14	94	20	253	273
07:30	12	40	2	1	54	57	55	1	11	113	4	2	11	2	17	0	62	37	13	99	27	283	310
07:45	6	23	4	1	33	73	68	3	5	144	5	6	9	1	20	2	74	30	10	106	17	303	320
Total	28	123	10	4	161	213	225	12	23	450	19	16	42	4	77	4	236	139	42	379	73	1067	1140
08:00	5	16	0	0	21	40	55	2	4	97	11	5	9	2	25	0	44	28	6	72	12	215	227
08:15	3	12	1	1	16	29	23	3	3	55	11	3	14	4	28	2	39	14	7	55	15	154	169
08:30	6	10	2	0	18	21	30	3	3	54	7	2	15	0	24	0	52	18	5	70	8	166	174
08:45	9	13	1	2	23	30	32	4	2	66	1	6	14	2	21	2	39	10	3	51	9	161	170
Total	23	51	4	3	78	120	140	12	12	272	30	16	52	8	98	4	174	70	21	248	44	696	740
09:00	6	12	2	0	20	19	34	4	2	57	3	2	17	2	22	1	33	14	8	48	12	147	159
09:15	4	13	1	1	18	18	28	6	9	52	7	5	19	3	31	0	35	18	11	53	24	154	178
09:30	0	9	0	0	9	16	36	4	5	56	8	2	29	4	39	0	43	14	12	57	21	161	182
09:45	7	4	2	1	13	14	31	2	5	47	8	2	16	7	26	1	46	7	12	54	25	140	165
Total	17	38	5	2	60	67	129	16	21	212	26	11	81	16	118	2	157	53	43	212	82	602	684
10:00	2	6	4	1	12	12	31	5	5	48	9	5	9	4	23	1	29	9	7	39	17	122	139
10:15	3	9	4	0	16	19	17	11	1	47	5	5	11	2	21	2	40	1	6	43	9	127	136
10:30	8	11	2	1	21	19	34	4	7	57	3	5	8	1	16	1	48	9	4	58	13	152	165
10:45	2	8	1	0	11	24	30	4	4	58	14	5	17	2	36	1	37	9	5	47	11	152	163
Total	15	34	11	2	60	74	112	24	17	210	31	20	45	9	96	5	154	28	22	187	50	553	603
11:00	9	6	2	1	17	19	29	7	8	55	9	11	22	1	42	4	43	15	6	62	16	176	192
11:15	7	13	1	1	21	24	40	7	4	71	7	8	16	2	31	1	44	9	3	54	10	177	187
11:30	7	9	0	0	16	25	28	6	8	59	19	5	38	1	62	0	51	21	6	72	15	209	224
11:45	6	5	2	0	13	24	47	9	5	80	20	1	24	6	45	3	55	12	4	70	15	208	223
Total	29	33	5	2	67	92	144	29	25	265	55	25	100	10	180	8	193	57	19	258	56	770	826
12:00	5	9	3	1	17	23	45	7	4	75	15	5	16	3	36	2	49	17	5	68	13	196	209
12:15	7	7	5	0	19	23	39	5	3	67	12	9	20	2	41	1	52	13	3	66	8	193	201
12:30	6	8	4	2	18	19	41	9	5	69	17	8	21	1	46	1	45	9	5	55	13	188	201
12:45	4	5	5	0	14	20	46	6	6	72	10	10	31	1	51	3	49	12	6	64	13	201	214
Total	22	29	17	3	68	85	171	27	18	283	54	32	88	7	174	7	195	51	19	253	47	778	825
13:00	5	6	3	1	14	24	40	11	3	75	15	5	26	3	46	4	53	17	4	74	11	209	220
13:15	5	6	3	1	14	25	51	5	6	81	8	6	17	1	31	5	48	20	4	73	12	199	211
13:30	4	4	4	2	12	21	46	6	7	73	13	13	20	2	46	2	45	15	5	62	16	193	209
13:45	5	6	3	1	14	23	43	4	5	70	16	9	22	1	47	4	45	13	3	62	10	193	203
Total	19	22	13	5	54	93	180	26	21	299	52	33	85	7	170	15	191	65	16	271	49	794	843
14:00	1	5	1	2	7	21	47	4	10	72	16	18	28	3	62	1	41	6	3	48	18	189	207
14:15	4	5	4	2	13	21	32	4	3	57	11	7	11	2	29	0	28	8	2	36	9	135	144
14:30	6	5	5	0	16	21	42	4	5	67	15	8	31	1	54	1	62	16	4	79	10	216	226
14:45	0	4	3	0	7	32	56	8	7	96	24	7	23	5	54	1	43	11	7	55	19	212	231
Total	11	19	13	4	43	95	177	20	25	292	66	40	93	11	199	3	174	41	16	218	56	752	808
15:00	1	5	1	0	7	22	57	3	8	82	24	9	23	5	56	0	57	6	6	63	19	208	227
15:15	3	5	0	1	8	21	70	2	6	93	20	13	32	4	65	1	53	11	7	65	18	231	249
15:30	6	7	3	1	16	12	84	9	8	105	47	34	78	3	159	1	75	15	3	91	15	371	386
15:45	1	4	1	0	6	25	58	9	10	92	38	26	20	2	84	1	74	16	5	91	17	273	290
Total	11	21	5	2	37	80	269	23	32	372	129	82	153	14	364	3	259	48	21	310	69	1083	1152
16:00	7	13	4	1	24	16	87	6	10	109	25	7	43	4	75	4	67	19	4	90	19	298	317
16:15	1	7	5	0	13	15	68	10	6	93	22	23	39	2	84	3	62	21	2	86	10	276	286
16:30	3	9	4	2	16	13	86	8	4	107	28	15	51	4	94	1	88	26	2	115	12	332	344
16:45	7	8	1	0	16	20	83	12	4	115	31	15	43	1	89	2	85	16	5	103	10	323	333
Total	18	37	14	3	69	64	324	36	24	424	106	60	176	11	342	10	302	82	13	394	51	1229	1280
17:00	6	1	1	0	8	14	73	8	2	95	53	21	61	3	135	2	94	14	7	110	12	348	360
17:15	3	9	2	1	14	19	85	6	3	110	43	20	35	1	98	2	66	7	1	75	6	297	303
17:30	1	5	4	0	10	17	69	6	7	92	27	15	29	2	71	0	60	14	4	74	13		

Anoka County Highway Department
Traffic Engineering

Weather: Sunny
Counter: TDC-8

Traffic Volume and Turning Movement Stud

File Name : TMC0129B
Site Code : 01290202
Start Date : 08/17/2001
Page No : 2

Counted by: Jessica/Melissa

Groups Printed- Group 1

Start Time	Dysprosium St. Southbound					CSAH 116 Westbound					Thurston Ave. Northbound					CSAH 116 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	1	9	0	1	10	12	68	7	7	87	20	12	14	0	46	2	68	8	2	78	10	221	231
18:15	3	7	0	0	10	9	62	12	2	83	14	10	12	1	36	0	48	9	1	57	4	186	190
18:30	6	10	0	0	16	8	49	9	1	66	9	16	11	1	36	0	31	10	0	41	2	159	161
18:45	2	10	1	0	13	16	29	4	1	49	5	5	11	1	21	1	43	6	0	50	2	133	135
Total	12	36	1	1	49	45	208	32	11	285	48	43	48	3	139	3	190	33	3	226	18	699	717
19:00	2	7	0	0	9	14	44	8	1	66	11	7	9	0	27	1	37	5	0	43	1	145	146
19:15	2	4	1	0	7	9	50	6	1	65	7	3	5	0	15	0	40	6	2	46	3	133	136
19:30	5	9	0	1	14	13	38	7	1	58	12	10	15	1	37	2	45	9	1	56	4	165	169
19:45	3	10	0	0	13	12	35	5	0	52	14	8	12	0	34	1	29	7	0	37	0	136	136
Total	12	30	1	1	43	48	167	26	3	241	44	28	41	1	113	4	151	27	3	182	8	579	587
20:00	2	6	2	0	10	9	40	3	0	52	8	9	9	0	26	1	35	8	0	44	0	132	132
20:15	3	9	1	1	13	8	33	9	0	50	9	8	10	0	27	0	29	7	1	36	2	126	128
20:30	1	13	0	0	14	14	36	7	1	57	13	11	11	2	35	1	25	4	0	30	3	136	139
20:45	3	11	2	1	16	9	29	5	1	43	12	9	8	1	29	2	26	5	0	33	3	121	124
Total	9	39	5	2	53	40	138	24	2	202	42	37	38	3	117	4	115	24	1	143	8	515	523
21:00	2	9	0	0	11	10	25	6	0	41	9	7	9	0	25	0	19	6	0	25	0	102	102
21:15	2	8	1	0	11	14	19	8	0	41	8	8	7	1	23	1	22	9	1	32	2	107	109
21:30	3	9	1	1	13	13	24	6	0	43	6	10	7	0	23	1	21	8	1	30	2	109	111
21:45	2	7	1	0	10	8	25	5	0	38	8	9	8	0	25	1	18	6	0	25	0	98	98
Total	9	33	3	1	45	45	93	25	0	163	31	34	31	1	96	3	80	29	2	112	4	416	420
Grand Total	270	695	124	41	1089	139	298	373	262	4749	893	555	124	115	2692	84	304	912	285	4038	703	1256	1327
Apprch %	24.	63.	11.			29.	62.	7.9			33.	20.	46.			2.1	75.	22.				8	1
Total %	2.1	5.5	1.0		8.7	11.	23.	3.0		37.8	7.1	4.4	9.9		21.4	0.7	24.	7.3		32.1	5.3	94.7	

Major Street Approaches:

Eastbound:

CSAH 116

Data File: C:\Program Files\PCWarrants\TMC0129B.war
 Count Type: IMC. Channel: 0. Count Date: 8/17/ 1
 Number of Lanes: 1
 Approach Speed: 45
 Total Approach Traffic: 4038

Westbound:

CSAH 116

Data File: C:\Program Files\PCWarrants\TMC0129B.war
 Count Type: IMC. Channel: 0. Count Date: 8/17/ 1
 Number of Lanes: 2
 Approach Speed: 45
 Total Approach Traffic: 4749

Minor Street Approaches:

Northbound:

Thurston Ave.

Data File: C:\Program Files\PCWarrants\TMC0129B.war
 Count Type: IMC. Channel: 0. Count Date: 8/17/ 1
 Number of Lanes: 2
 Approach Speed: 40
 Total Approach Traffic: 2692

Southbound:

Dysprosium St.

Data File: C:\Program Files\PCWarrants\TMC0129B.war
 Count Type: IMC. Channel: 0. Count Date: 8/17/ 1
 Number of Lanes: 1
 Approach Speed: 30
 Total Approach Traffic: 1089

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

Hour	Main	Side		Warrant 1		Warrant 2		Warrant 8		
Begin	(Total)	Vol.	Dir.	Rank	Meets?	Criteria	Meets?	Criteria	Meets?	Criteria
0	0	0	S	17		105		52		84
1	0	0	S	18		105		52		84
2	0	0	S	19		105		52		84
3	0	0	S	20		105		52		84
4	0	0	S	21		105		52		84
5	0	0	S	22		105		52		84
6	695	153	S	9	--BOTH--	105	--BOTH--	52	--BOTH--	84
7	829	161	S	8	--BOTH--	105	--BOTH--	52	--BOTH--	84
8	520	98	N	14	MAIN	140	SIDE	70	MAIN	112
9	424	118	N	11	MAIN	140	SIDE	70	SIDE	112
10	397	96	N	15		140	SIDE	70		112
11	523	180	N	5	--BOTH--	140	SIDE	70	--BOTH--	112
12	536	174	N	6	--BOTH--	140	SIDE	70	--BOTH--	112
13	570	170	N	7	--BOTH--	140	SIDE	70	--BOTH--	112
14	510	199	N	4	--BOTH--	140	SIDE	70	--BOTH--	112
15	682	364	N	1	--BOTH--	140	--BOTH--	70	--BOTH--	112
16	818	342	N	3	--BOTH--	140	--BOTH--	70	--BOTH--	112
17	729	362	N	2	--BOTH--	140	--BOTH--	70	--BOTH--	112
18	511	139	N	10	MAIN	140	SIDE	70	--BOTH--	112
19	423	113	N	13	MAIN	140	SIDE	70	SIDE	112
20	345	117	N	12		140	SIDE	70	SIDE	112
21	275	96	N	16		140	SIDE	70		112
22	0	0	S	23		105		52		84
23	0	0	S	24		105		52		84

Warrant Summary:

Rural values apply.

Warrant 1 - Minimum Vehicular Volumes

SATISFIED for 9 hours. Criteria--Main St.: 420; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

NOT SATISFIED. Required values reached for 5 hours. Criteria--Main St.: 630; Side St.: See Volume Summary.

Warrant 3 - Minimum Pedestrian Volumes

NOT SATISFIED. Ped volumes too low. Criteria--190 Peds in peak hour, 100 peds in 4th high hour.

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: 1229.

EW- Approaches which are part of the principal through traffic roadway network.

- Approaches which include rural or suburban highways outside, entering or traversing a city.
- Approaches which appear as a major route in an official transportation plan.

Warrant 8 - Combination of Warrants

SATISFIED for 10 hours. Criteria--Main: 504; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

SATISFIED for 5 hours.

Warrant 10 - Peak Hour Delay

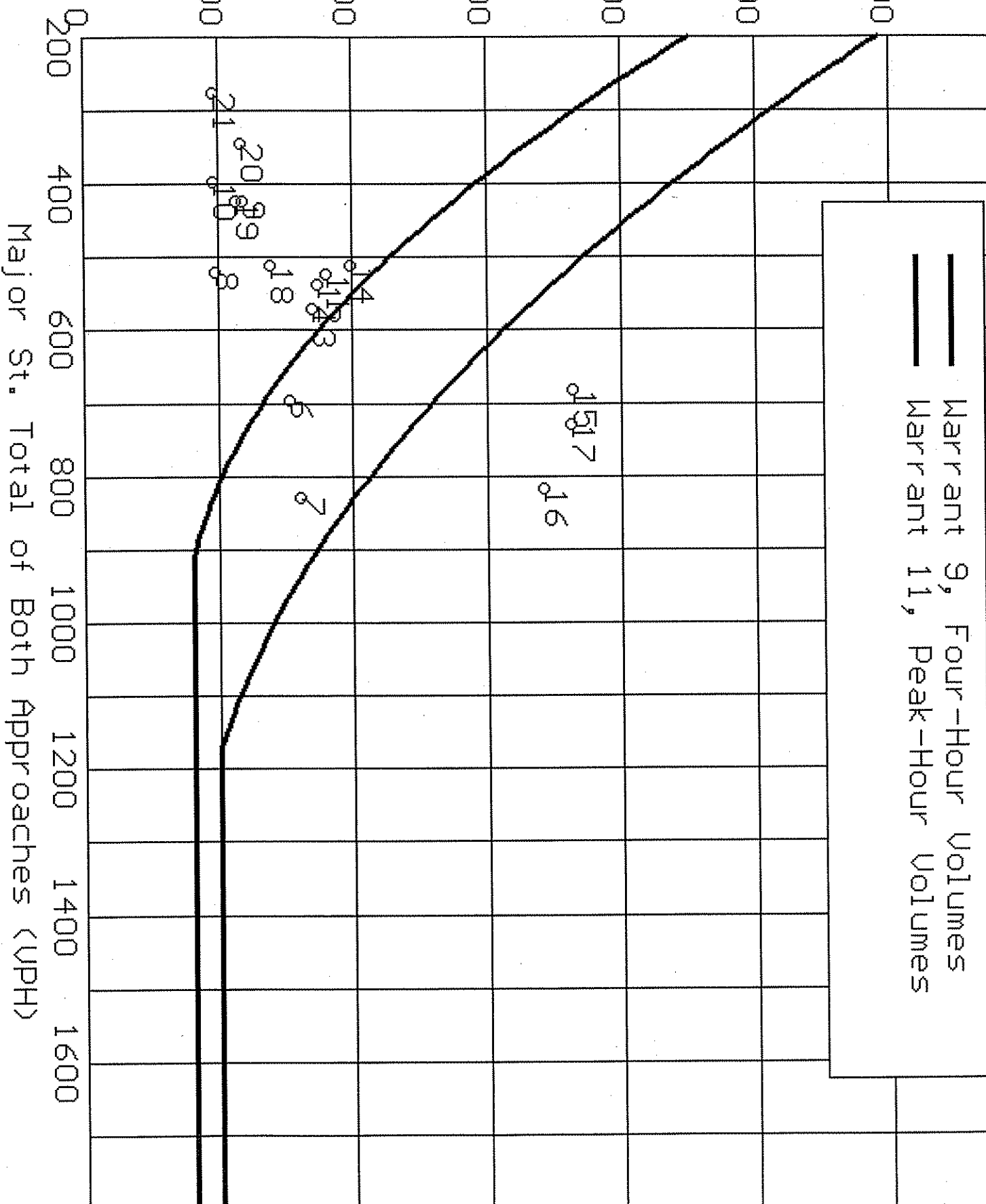
NOT APPLICABLE. Volume requirements satisfied, but side street peak hour delay not defined.

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

Warrant 11 - Peak Hour Volume

SATISFIED for 3 hours.

Minor St. High Vol. Approach (UPH)



Major St. Total of Both Approaches (UPH)

Warrant 9, Four-Hour Volumes
Warrant 11, Peak-Hour Volumes

Multiway Stop Warrant Analysis
TMC 0129 CSAH 116 @Thurston Ave./Dysprosium St.
Speed Limit of Major Roadway..... 45

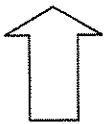
Minimum Traffic Volumes Multiway Stop Warrant Criteria:

- 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	895	153	47	200	1
7 AM - 8 AM	1067	161	77	238	1
8 AM - 9 AM	696	78	98	176	1
9 AM - 10 AM	602	60	118	178	1
10 AM - 11 AM	553	60	96	156	1
11 AM - 12 PM	770	67	180	247	1
12 PM - 13 PM	778	68	174	242	1
1 PM - 2 PM	794	54	170	224	1
2 PM - 3 PM	752	43	199	242	1
3 PM - 4 PM	1083	37	364	401	1
4 PM - 5 PM	1229	69	342	411	1
5 PM - 6 PM	1140	49	362	411	1
6 PM - 7 PM	699	49	139	188	1
7 PM - 8 PM	579	43	113	156	1
8 PM - 9 PM	515	53	117	170	1
9 PM - 10 PM	416	45	96	141	1

TOTAL HOURS MET: 16

MULTIWAY STOP WARRANT IS MET



NORTH

COUNT LOCATION:

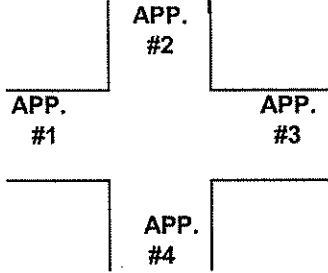
CSAH 116 @

DATE:

8/13/01

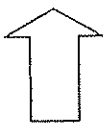
Thurston Ave./ Dysprosium St.

APP. #1 = CSAH 116
APP. #2 = Dysprosium St.
APP. #3 = CSAH 116
APP. #4 = Thurston 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		
6:15-6:30						18		
6:30-6:45						17		
6:45-7:00						8		
HOURLY TOTAL						HOURLY TOTAL		49
7:00-7:15						11		
7:15-7:30						17	1	
7:30-7:45			1		1	27		
7:45-8:00						18		
HOURLY TOTAL						HOURLY TOTAL		74
8:00-8:15						13		
8:15-8:30						15		
8:30-8:45						8		
8:45-9:00						9		
HOURLY TOTAL						HOURLY TOTAL		45
9:00-9:15						12		
9:15-9:30				1	1	22	2	
9:30-9:45						20		
9:45-10:00			2		2	23		1
HOURLY TOTAL					3	HOURLY TOTAL		80
10:00-10:15						17	1	
10:15-10:30						9		
10:30-10:45						13		
10:45-11:00			1		1	9		
HOURLY TOTAL					1	HOURLY TOTAL		49
11:00-11:15						16		
11:15-11:30			3	1	4	10		
11:30-11:45						16		
11:45-12:00				1	1	13		
HOURLY TOTAL					5	HOURLY TOTAL		55
12:00-12:15						13		
12:15-12:30						8		
12:30-12:45						13		
12:45-1:00						13		
HOURLY TOTAL						HOURLY TOTAL		47
1:00-1:15						11		
1:15-1:30						12		
1:30-1:45						16		
1:45-2:00						10		
HOURLY TOTAL						HOURLY TOTAL		49



NORTH

COUNT LOCATION:

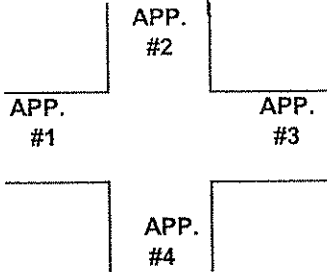
CSAH 116 @

DATE:

8/13/01

Thurston Ave./ Dysprosium St.

APP. #1 = CSAH 116
APP. #2 = Dysprosium St.
APP. #3 = CSAH 116
APP. #4 = Thurston 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
2:00-2:15PM						18		
2:15-2:30						10		
2:30-2:45						9		
2:45-3:00						20		
HOURLY TOTAL						HOURLY TOTAL		57
3:00-3:15						18		
3:15-3:30		1			1	19		
3:30-3:45				2	2	14	1	
3:45-4:00			1		1	15	1	
HOURLY TOTAL					4	HOURLY TOTAL		68
4:00-4:15						19		
4:15-4:30						9		
4:30-4:45		1			1	11		
4:45-5:00						8	1	
HOURLY TOTAL					1	HOURLY TOTAL		48
5:00-5:15	1				1	12		
5:15-5:30				2	2	5		
5:30-5:45						10	2	
5:45-6:00		2			2	11		
HOURLY TOTAL					5	HOURLY TOTAL		40
6:00-6:15		1			1	10		
6:15-6:30				1	1	4		
6:30-6:45						2		
6:45-7:00				1	1	2		
HOURLY TOTAL					3	HOURLY TOTAL		18
7:00-7:15						2		
7:15-7:30						3		
7:30-7:45						4		
7:45-8:00						1		
HOURLY TOTAL						HOURLY TOTAL		10
8:00-8:15								
8:15-8:30						2		
8:30-8:45						3		
8:45-9:00						3		
HOURLY TOTAL						HOURLY TOTAL		8
9:00-9:15								
9:15-9:30						2		
9:30-9:45						2		
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		4