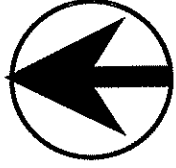


Date : 06/21/00

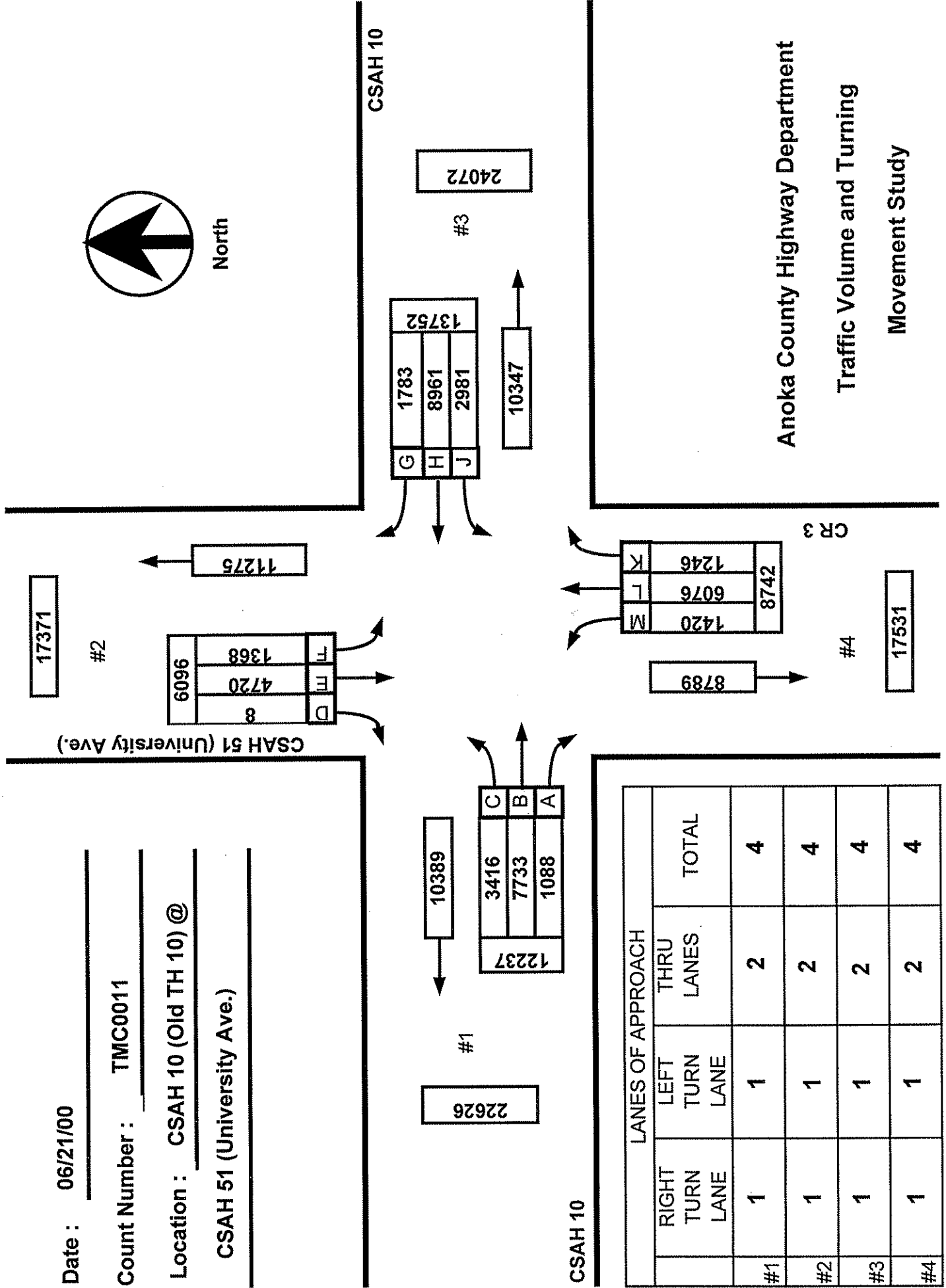
Count Number : TMC0011

Location : CSAH 10 (Old TH 10) @

CSAH 51 (University Ave.)



North



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

Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

Anoka County Highway Department  
Traffic Engineering

Weather: Mostly Cloudy/Rainy Traffic Volume and Turning Movement Study  
Inter TDC-8  
Counted by: Ryan & Justin

File Name : TMC0011  
Site Code : 00110101  
Start Date : 06/21/2000  
Page No : 1

Groups Printed- 1 - 1 - Unshifted

Start Time	CSAH 51 (University Ave.) Southbound					CSAH 10 (Old TH 10) Westbound					CR 3 Northbound					CSAH 10 (Old TH 10) 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			
	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				
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	14	44	0	0	58	4	14	0	0	18	2	7	1	1	10	7	57	4	3	68	4	154	158
06:15	17	113	0	1	130	8	54	1	2	63	1	8	5	1	14	13	120	1	2	134	6	341	347
06:30	45	126	2	0	173	14	56	5	1	75	0	17	8	1	25	10	128	2	2	140	4	413	417
06:45	43	164	0	0	207	21	82	3	3	106	2	18	2	1	22	15	148	7	0	170	4	505	509
Total	119	447	2	1	568	47	206	9	6	262	5	50	16	4	71	45	453	14	7	512	18	1413	1431
07:00	46	174	0	1	220	18	69	5	1	92	2	15	4	0	21	10	145	3	3	158	5	491	496
07:15	40	145	0	1	185	14	83	4	4	101	2	18	3	0	23	17	147	7	2	171	7	480	487
07:30	42	136	2	0	180	22	87	3	4	112	6	21	3	0	30	22	192	7	2	221	6	543	549
07:45	56	159	0	0	215	30	91	3	3	124	6	29	6	2	41	30	143	4	1	177	6	557	563
Total	184	614	2	2	800	84	330	15	12	429	16	83	16	2	115	79	627	21	8	727	24	2071	2095
08:00	25	76	0	0	101	29	89	8	2	126	3	28	5	3	36	33	140	10	0	183	5	446	451
08:15	21	79	0	1	100	16	117	10	2	143	10	35	5	0	50	25	117	11	1	153	4	446	450
08:30	26	57	0	1	83	26	90	11	4	127	6	32	8	2	46	37	91	5	3	133	10	389	399
08:45	22	43	0	1	65	31	112	10	6	153	6	31	16	0	53	36	112	6	0	154	7	425	432
Total	94	255	0	3	349	102	408	39	14	549	25	126	34	5	185	131	460	32	4	623	26	1706	1732
09:00	32	57	0	0	89	22	71	10	1	103	4	20	11	1	35	42	126	8	3	176	5	403	408
09:15	15	61	0	1	76	26	77	12	2	115	1	28	6	1	35	31	70	16	3	117	7	343	350
09:30	15	47	0	0	62	45	96	26	1	167	12	28	16	2	56	45	97	10	0	152	3	437	440
09:45	11	43	0	0	54	38	107	12	1	157	13	26	10	0	49	60	120	14	3	194	4	454	458
Total	73	208	0	1	281	131	351	60	5	542	30	102	43	4	175	178	413	48	9	639	19	1637	1656
10:00	27	68	0	1	95	49	83	13	3	145	8	36	20	2	64	31	96	6	4	133	10	437	447
10:15	24	53	0	0	77	42	105	14	2	161	4	59	17	2	80	54	132	15	3	201	7	519	526
10:30	13	55	0	0	68	38	74	5	2	117	14	38	18	2	70	58	112	27	1	197	5	452	457
10:45	16	65	0	1	81	26	87	22	1	135	13	53	21	0	87	69	117	8	0	194	2	497	499
Total	80	241	0	2	321	155	349	54	8	558	39	186	76	6	301	212	457	56	8	725	24	1905	1929
11:00	23	69	0	0	92	45	83	10	1	138	17	78	24	3	119	71	102	5	0	178	4	527	531
11:15	24	81	0	0	105	63	126	14	0	203	15	57	14	0	86	55	115	23	1	193	1	587	588
11:30	24	49	0	0	73	55	122	28	2	205	38	60	32	1	130	88	99	24	1	211	4	619	623
11:45	10	54	0	1	64	61	112	20	2	193	28	102	14	1	144	85	141	17	2	243	6	644	650
Total	81	253	0	1	334	224	443	72	5	739	98	297	84	5	479	299	457	69	4	825	15	2377	2392
12:00	22	52	0	1	74	65	172	36	1	273	44	117	22	1	183	87	148	18	2	253	5	783	788
12:15	19	44	0	0	63	81	129	25	1	235	22	91	30	2	143	99	143	27	1	269	4	710	714
12:30	16	68	0	1	84	74	167	41	2	282	36	91	31	0	158	90	160	40	2	290	5	814	819
12:45	26	102	0	0	128	56	169	31	1	256	12	105	27	1	144	59	161	22	1	242	3	770	773
Total	83	266	0	2	349	276	637	133	5	1046	114	404	110	4	628	335	612	107	6	1054	17	3077	3094
13:00	18	61	0	1	79	110	164	39	1	313	28	80	16	0	124	75	154	22	1	251	3	767	770
13:15	19	85	0	0	104	58	167	28	0	253	19	128	19	5	166	63	155	15	4	233	9	756	765
13:30	20	57	1	0	78	52	176	27	2	255	37	95	24	1	156	55	113	9	2	177	5	666	671
13:45	21	66	1	0	88	54	179	35	2	268	24	106	23	2	153	62	116	11	1	189	5	698	703
Total	78	269	2	1	349	274	686	129	5	1089	108	409	82	8	599	255	538	57	8	850	22	2887	2909
14:00	23	77	1	0	101	61	157	20	4	238	27	67	21	1	115	76	113	25	0	214	5	668	673
14:15	19	70	0	1	89	46	134	22	2	202	63	108	23	0	194	100	131	26	3	257	6	742	748
14:30	20	50	0	0	70	67	164	26	4	257	32	94	30	2	156	54	127	28	2	209	8	692	700
14:45	27	84	0	1	111	46	146	29	3	221	52	115	46	2	213	71	131	16	2	218	8	763	771
Total	89	281	1	2	371	220	601	97	13	918	174	384	120	5	678	301	502	95	7	898	27	2865	2892
15:00	25	59	0	1	84	62	181	24	6	267	28	102	25	1	155	68	162	36	4	266	12	772	784
15:15	20	70	0	1	90	53	176	39	3	268	41	120	11	1	172	82	156	9	2	247	7	777	784
15:30	23	88	0	2	111	52	200	35	1	287	29	155	30	1	214	71	146	36	0	253	4	865	869
15:45	19	55	0	0	74	63	204	52	5	319	21	192	28	1	241	85	164	26	1	275	7	909	916
Total	87	272	0	4	359	230	761	150	15	1141	119	569	94	4	782	306	628	107	7	1041	30	3323	3353
16:00	12	54	0	0	66	52	217	63	1	332	26	149	25	1	200	76	166	34	0	276	2	874	876
16:15	8	41	0	0	49	48	298	89	1	435	19	184	24	1	227	99	150	47	2	296	4	1007	1011
16:30	7	76	0	1	83	54	249	54	0	357	34	162	17	1	213	53	141	38	2	232	4	885	889
16:45	21	71	0	0	92	78	323	66	2	467	36	201	41	2	278	102	187	22	1	311	5	1148	1153
Total	48	242	0	1	290	232	1087	272	4	1591	115	696	107	5	918	330	644	141	5	1115	15	3914	3929

Anoka County Highway Department  
Traffic Engineering

Weather: Mostly Cloudy/Rainy Traffic Volume and Turning Movement Stud  
Counter TDC-8  
Counted by: Ryan & Justin

File Name : TMC0011  
Site Code : 00110101  
Start Date : 06/21/2000  
Page No : 2

Groups Printed- 1 - 1 - Unshifted

Start Time	CSAH 51 (University Ave.) Southbound					CSAH 10 (Old TH 10) Westbound					CR 3 Northbound					CSAH 10 (Old TH 10) Eastbound					Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Righ t	Hea vy	App. Total	Left	Thru	Righ t	Hea vy	App. Total	Left	Thru	Righ t	Hea vy	App. Total	Left	Thru	Righ t	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							
17:00	21	53	1	0	75	59	269	64	5	392	28	211	36	1	275	85	172	22	1	279	7	1021	1028			
17:15	11	106	0	1	117	76	287	65	0	428	40	245	34	2	319	100	95	18	2	213	5	1077	1082			
17:30	28	97	0	0	125	62	302	76	1	440	41	233	24	1	298	44	119	17	2	180	4	1043	1047			
17:45	13	118	0	0	131	56	288	59	0	403	41	240	22	0	303	45	78	14	0	137	0	974	974			
Total	73	374	1	1	448	253	1146	264	6	1663	150	929	116	4	1195	274	464	71	5	809	16	4115	4131			
18:00	24	93	0	1	117	62	191	40	2	293	32	179	15	1	226	63	151	30	1	244	5	880	885			
18:15	21	86	0	0	107	49	184	43	2	276	40	141	15	0	196	62	122	20	1	204	3	783	786			
18:30	37	109	0	0	146	48	126	34	0	208	30	102	12	0	144	37	94	12	2	143	2	641	643			
18:45	22	97	0	0	119	52	124	28	3	204	14	118	14	1	146	65	109	18	0	192	4	661	665			
Total	104	385	0	1	489	211	625	145	7	981	116	540	56	2	712	227	476	80	4	783	14	2965	2979			
19:00	22	80	0	0	102	61	126	45	0	232	32	119	25	0	176	39	117	15	0	171	0	681	681			
19:15	18	54	0	0	72	76	151	39	1	266	26	127	21	0	174	60	121	30	2	211	3	723	726			
19:30	15	83	0	0	98	59	140	38	0	237	15	123	35	0	173	56	126	20	1	202	1	710	711			
19:45	17	54	0	1	71	45	120	22	1	187	22	132	19	0	173	27	117	5	0	149	2	580	582			
Total	72	271	0	1	343	241	537	144	2	922	95	501	100	0	696	182	481	70	3	733	6	2694	2700			
20:00	14	58	0	1	72	49	121	16	0	186	34	102	45	0	181	32	73	29	0	134	1	573	574			
20:15	24	65	0	0	89	41	116	20	0	177	24	102	21	0	147	44	75	12	0	131	0	544	544			
20:30	7	44	0	0	51	53	126	24	0	203	23	103	21	0	147	41	69	18	0	128	0	529	529			
20:45	11	44	0	0	55	37	94	40	1	171	27	84	20	0	131	27	70	7	0	104	1	461	462			
Total	56	211	0	1	267	180	457	100	1	737	108	391	107	0	606	144	287	66	0	497	2	2107	2109			
21:00	15	33	0	0	48	36	98	25	0	159	41	113	36	0	190	30	47	13	0	90	0	487	487			
21:15	13	20	0	0	33	30	86	23	0	139	24	118	21	0	163	33	63	6	0	102	0	437	437			
21:30	8	39	0	0	47	23	75	15	0	113	21	91	9	0	121	25	66	19	0	110	0	391	391			
21:45	11	39	0	0	50	32	78	37	0	147	22	87	19	0	128	30	58	16	0	104	0	429	429			
Total	47	131	0	0	178	121	337	100	0	558	108	409	85	0	602	118	234	54	0	406	0	1744	1744			
Grand Total	136	472	8	24	6096	298	896	178	108	13725	142	607	124	58	8742	341	773	108	85	12237	275	40800	41075			
Apprch %	22.4	77.4	0.1			21.7	65.3	13.0			16.2	69.5	14.3			27.9	63.2	8.9			0.7	99.3				
Total %	3.4	11.6	0.0		14.9	7.3	22.0	4.4		33.6	3.5	14.9	3.1		21.4	8.4	19.0	2.7		30.0						

or Street Approaches:

Lastbound:

CSAH 10 (Old TH 10)

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0011.war  
 Count Type: IMC. Channel: 0. Count Date: 6/21/ 0  
 Number of Lanes: 2  
 Approach Speed: 50  
 Total Approach Traffic: 12237

Westbound:

CSAH 10 (Old TH 10)

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0011.war  
 Count Type: IMC. Channel: 0. Count Date: 6/21/ 0  
 Number of Lanes: 2  
 Approach Speed: 50  
 Total Approach Traffic: 13725

Minor Street Approaches:

Northbound:

CR 3

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0011.war  
 Count Type: IMC. Channel: 0. Count Date: 6/21/ 0  
 Number of Lanes: 2  
 Approach Speed: 35  
 Total Approach Traffic: 8742

Southbound:

CSAH 51 (University Ave.)

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0011.war  
 Count Type: IMC. Channel: 0. Count Date: 6/21/ 0  
 Number of Lanes: 2  
 Approach Speed: 35  
 Total Approach Traffic: 6096

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

Hour	Main Begin  (Total)	Side			Warrant 1		Warrant 2		Warrant 8	
		Vol.	Dir.	Rank	Meets?	Criteria	Meets?	Criteria	Meets?	Criteria
0	0	0	S	17		140		70		112
1	0	0	S	18		140		70		112
2	0	0	S	19		140		70		112
3	0	0	S	20		140		70		112
4	0	0	S	21		140		70		112
5	0	0	S	22		140		70		112
6	774	568	S	12	--BOTH--	140	--BOTH--	70	--BOTH--	112
7	1156	800	S	3	--BOTH--	140	--BOTH--	70	--BOTH--	112
8	1172	349	S	14	--BOTH--	140	--BOTH--	70	--BOTH--	112
9	1181	281	S	16	--BOTH--	140	--BOTH--	70	--BOTH--	112
10	1283	321	S	15	--BOTH--	140	--BOTH--	70	--BOTH--	112
11	1564	479	N	13	--BOTH--	140	--BOTH--	70	--BOTH--	112
12	2100	628	N	8	--BOTH--	140	--BOTH--	70	--BOTH--	112
13	1939	599	N	11	--BOTH--	140	--BOTH--	70	--BOTH--	112
14	1816	678	N	7	--BOTH--	140	--BOTH--	70	--BOTH--	112
15	2182	782	N	4	--BOTH--	140	--BOTH--	70	--BOTH--	112
16	2706	918	N	2	--BOTH--	140	--BOTH--	70	--BOTH--	112
17	2472	1195	N	1	--BOTH--	140	--BOTH--	70	--BOTH--	112
18	1764	712	N	5	--BOTH--	140	--BOTH--	70	--BOTH--	112
19	1655	696	N	6	--BOTH--	140	--BOTH--	70	--BOTH--	112
20	1234	606	N	9	--BOTH--	140	--BOTH--	70	--BOTH--	112
21	964	602	N	10	--BOTH--	140	--BOTH--	70	--BOTH--	112
22	0	0	S	23		140		70		112
23	0	0	S	24		140		70		112

## Warrant Summary:

Rural values apply.

## Warrant 1 - Minimum Vehicular Volumes

SATISFIED for 16 hours. Criteria--Main St.: 420; Side St.: See Volume Summary.

## Warrant 2 - Interruption of Continuous Traffic

SATISFIED for 16 hours. Criteria--Main St.: 630; Side St.: See Volume Summary.

## Warrant 3 - Minimum Pedestrian Volumes

NOT SATISFIED. 8th-High Hour--Pedestrians: 6; Vehicles: 2706. 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. At least one street has no major approaches. Peak hour total entering volume: 4115.

- 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

SATISFIED for 16 hours. Criteria--Main: 504; Side: See Volume Summary.

## Warrant 9 - Four Hour Volumes

SATISFIED for 16 hours.

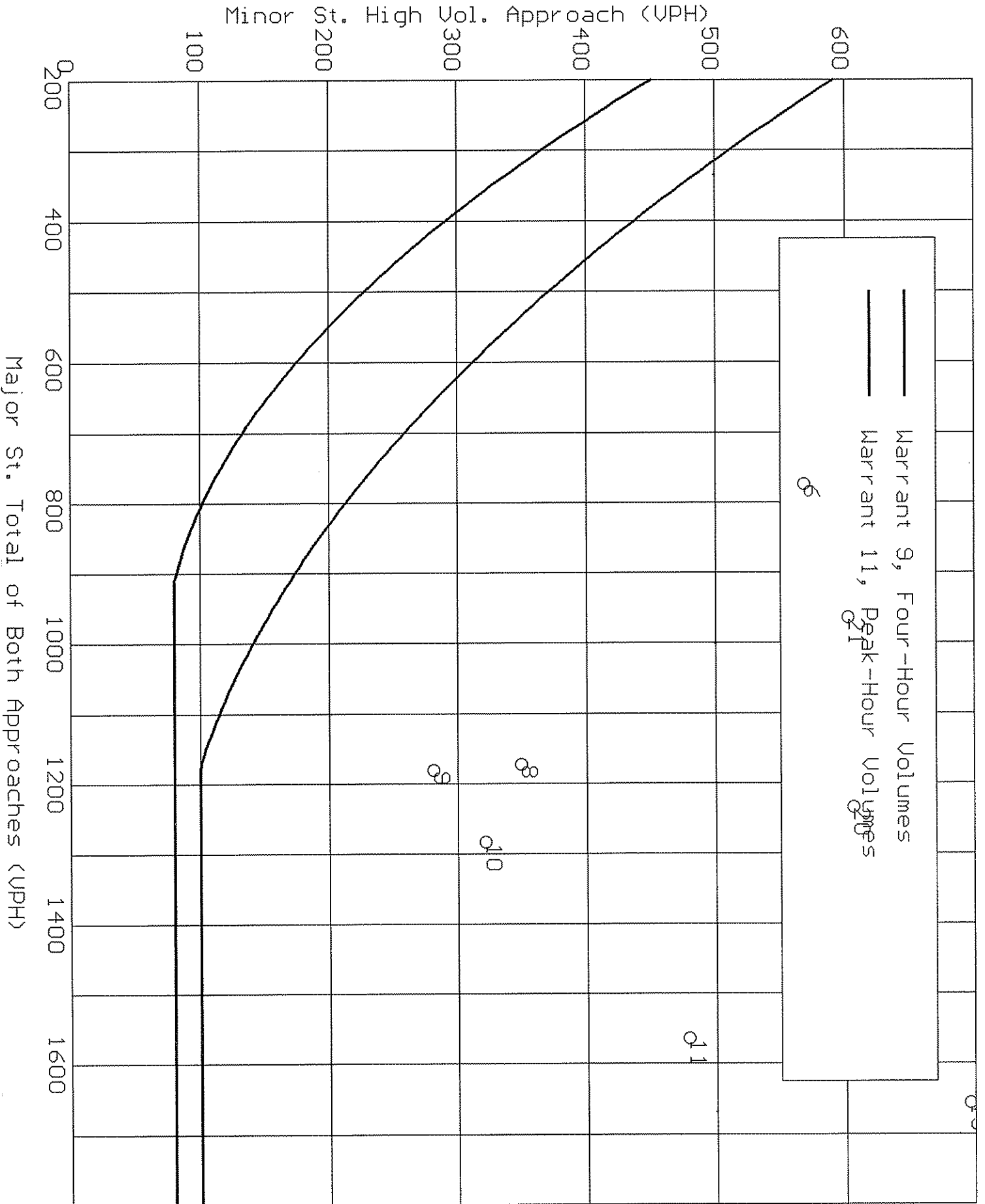
## Warrant 10 - Peak Hour Delay

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 16 hours.





**NORTH**

**COUNT LOCATION:**

**CSAH 10 @**

**DATE:**

6/21/00

CSAH 51 (University Ave.)

APP. #1= WB CSAH 10

APP. #2 = NB CR 3

APP. #3= EB CSAH 10

APP. #4= SB CSAH 51  
(University 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						3		1
6:15-6:30						5		1
6:30-6:45						4		
6:45-7:00						4		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>18</b>
7:00-7:15						5		
7:15-7:30						6		1
7:30-7:45						6		
7:45-8:00						6		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>24</b>
8:00-8:15						5		1
8:15-8:30						4		
8:30-8:45						10		
8:45-9:00						6		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>27</b>
9:00-9:15						5		
9:15-9:30						7		
9:30-9:45						1		1
9:45-10:00						4		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>18</b>
10:00-10:15						10		1
10:15-10:30						6		
10:30-10:45						5		1
10:45-11:00						2		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>25</b>
11:00-11:15						3		1
11:15-11:30								1
11:30-11:45						4		
11:45-12:00						6		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>15</b>
12:00-12:15						5		
12:15-12:30						4		
12:30-12:45						5		
12:45-1:00						2		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>16</b>
1:00-1:15						3		
1:15-1:30						9		1
1:30-1:45						3		
1:45-2:00						5		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>21</b>



**NORTH**

**COUNT LOCATION:**

**CSAH 10 @**

**DATE:**

6/21/00

CSAH 51 (University Ave.)

APP. #1= WB CSAH 10

APP. #2 = NB CR 3

APP. #3= EB CSAH 10

APP. #4= SB CSAH 51  
(University 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						5		
2:15-2:30						6		
2:30-2:45						7		1
2:45-3:00						7		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>27</b>
3:00-3:15						11		1
3:15-3:30						7		
3:30-3:45						4		
3:45-4:00						6		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>29</b>
4:00-4:15						2		
4:15-4:30						4		
4:30-4:45						4		
4:45-5:00						5		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>15</b>
5:00-5:15						6		1
5:15-5:30						5		
5:30-5:45						4		
5:45-6:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>16</b>
6:00-6:15						4		1
6:15-6:30						4		
6:30-6:45								
6:45-7:00						4		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>13</b>
7:00-7:15								
7:15-7:30						2		
7:30-7:45						1		
7:45-8:00						2		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>5</b>
8:00-8:15						1		
8:15-8:30								
8:30-8:45								
8:45-9:00						1		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>2</b>
9:00-9:15								
9:15-9:30								
9:30-9:45								
9:45-10:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		