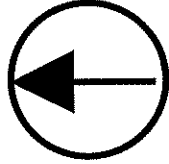


Date : 6/11/98AM 6/12/98PM

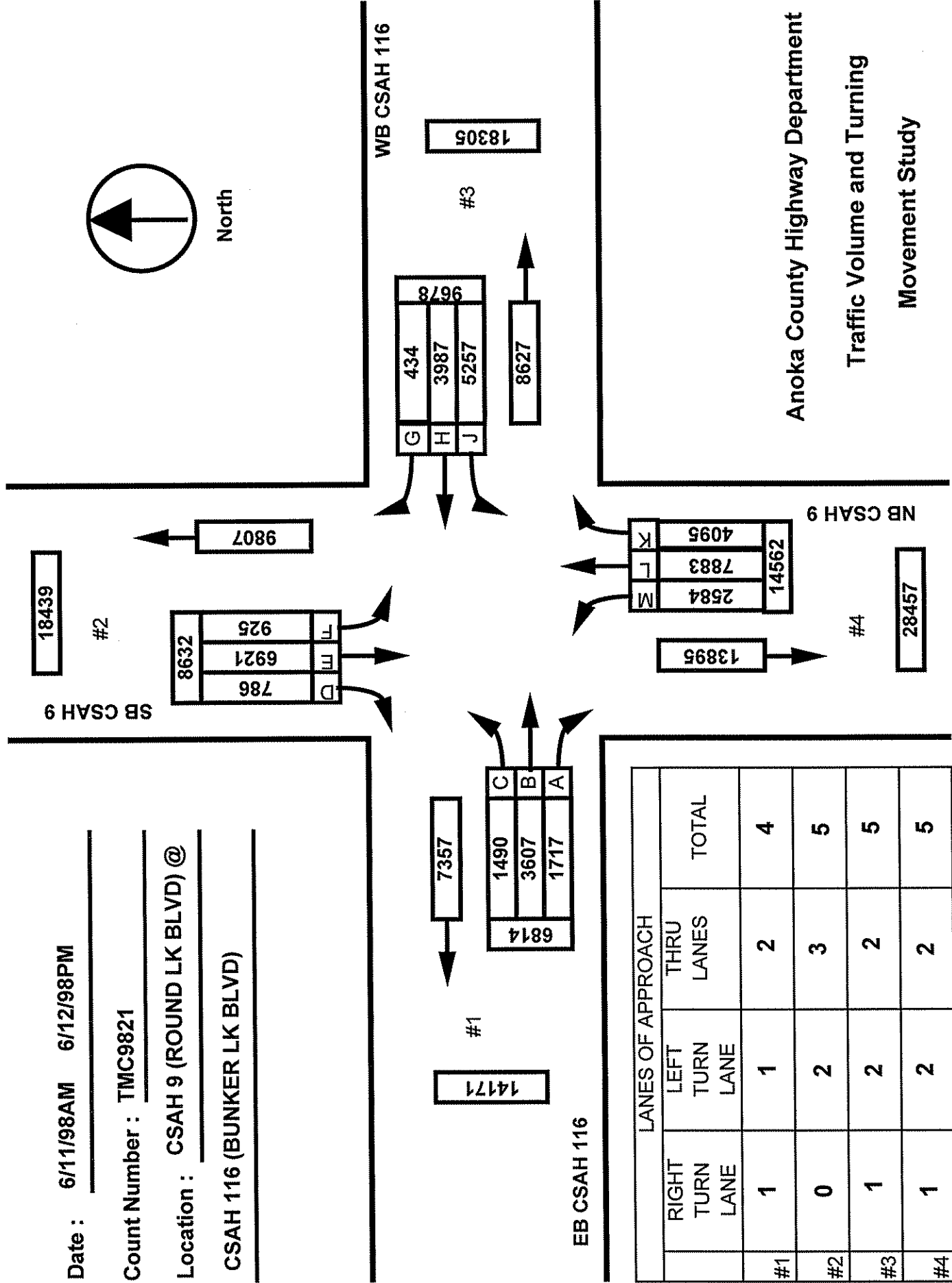
Count Number : TMC9821

Location : CSAH 9 (ROUND LK BLVD) @

CSAH 116 (BUNKER LK BLVD)



North



	LANES OF APPROACH			TOTAL
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	
#1	1	1	2	4
#2	0	2	3	5
#3	1	2	2	5
#4	1	2	2	5

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

PETRA Software

Weather :
 Counted by: Sarah and Vallie
 Board # :
 Cher :

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 Horsham, PA.

Study Name: TMC9821
 Site Code : 98210202
 Start Date: 06/12/98
 Page : 1

Vehicle group 1

Start Time	CSAH 9 (ROUND LK BLVD) Southbound				CSAH 116 (BUNKER LK BL) Westbound				CSAH 9 (ROUND LK BLVD) Northbound				CSAH 116 (BUNKER LK BL) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
06/12/98																			
06:00	6	163	10	2	38	21	1	1	5	16	11	0	3	18	19	1	315	4	311
06:15	7	190	7	12	51	37	1	0	3	11	22	5	7	40	36	3	432	20	412
06:30	10	208	15	8	62	58	0	1	14	26	30	6	8	37	45	7	535	22	513
06:45	23	161	16	4	97	65	1	3	10	21	36	6	13	49	31	5	541	18	523
Hour	46	722	48	26	248	181	3	5	32	74	99	17	31	144	131	16	1823	64	1759
07:00	9	195	5	3	67	41	3	3	15	34	38	3	6	42	38	9	511	18	493
07:15	10	159	9	8	79	63	2	6	8	39	30	7	8	54	40	5	527	26	501
07:30	8	167	7	9	82	86	1	10	7	41	46	6	12	60	43	3	588	28	560
07:45	11	168	12	5	86	75	3	6	13	51	32	6	12	56	39	3	578	20	558
Hour	38	689	33	25	314	265	9	25	43	165	146	22	38	212	160	20	2204	92	2112
08:00	9	116	25	6	77	67	4	5	14	25	17	4	15	41	23	5	453	20	433
08:15	13	119	7	9	75	50	0	10	7	46	30	7	8	45	35	9	470	35	435
08:30	9	114	6	12	61	61	1	11	11	51	28	6	10	35	19	4	439	33	406
08:45	8	111	5	10	69	32	1	6	8	46	28	11	16	37	28	7	423	34	389
Hour	39	460	43	37	282	210	6	32	40	168	103	28	49	158	105	25	1785	122	1663
09:00	13	82	6	7	86	40	5	10	11	44	30	9	13	45	27	5	433	31	402
09:15	10	111	10	3	70	36	8	5	28	63	44	9	12	43	22	2	476	19	457
09:30	11	89	8	1	75	35	1	7	13	59	22	8	13	47	31	9	429	25	404
09:45	9	107	8	9	64	46	8	6	18	67	37	7	16	41	26	3	472	25	447
Hour	43	389	32	20	295	157	22	28	70	233	133	33	54	176	106	19	1810	100	1710
10:00	16	67	10	6	82	21	1	9	15	71	31	10	19	43	27	5	433	30	403
10:15	34	84	8	1	79	33	8	4	16	78	39	1	17	37	30	8	477	14	463
10:30	7	77	8	7	74	41	2	9	18	91	46	6	18	55	25	9	493	31	462
10:45	17	98	14	9	68	46	12	13	32	103	51	12	23	52	28	6	584	40	544
Hour	74	326	40	23	303	141	23	35	81	343	167	29	77	187	110	28	1987	115	1872
11:00	10	117	15	6	73	63	6	4	31	99	56	7	26	34	25	3	575	20	555
11:15	14	119	7	8	81	58	11	9	45	94	39	6	30	37	30	4	592	27	565
11:30	13	112	13	7	117	52	9	9	35	104	71	3	20	58	40	11	674	30	644
11:45	9	78	9	2	73	29	1	4	10	39	4	2	7	12	8	0	287	8	279
Hour	46	426	44	23	344	202	27	26	121	336	170	18	83	141	103	18	2128	85	2043
12:00	11	125	12	7	104	57	1	6	25	80	52	5	19	41	22	4	571	22	549
12:15	21	120	10	2	89	83	1	11	56	179	74	12	44	61	32	6	801	31	770
12:30	6	90	8	3	105	55	6	7	47	128	75	8	31	56	29	4	658	22	636
12:45	21	109	13	5	99	82	3	12	36	136	49	7	20	60	21	9	682	33	649
Hour	59	444	43	17	397	277	11	36	164	523	250	32	114	218	104	23	2712	108	2604

PETRA Software

Weather :
 Counted by: Sarah and Vallie
 Board # :
 Character :

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Study Name: TMC9821
 Site Code : 98210202
 Start Date: 06/12/98
 Page : 2

Vehicle group 1

Start Time	CSAH 9 (ROUND LK BLVD) Southbound				CSAH 116 (BUNKER LK BL) Westbound				CSAH 9 (ROUND LK BLVD) Northbound				CSAH 116 (BUNKER LK BL) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
13:00	21	128	12	5	117	54	2	16	57	131	57	8	26	56	21	11	722	40	682
13:15	15	108	15	6	80	49	5	1	50	126	49	8	24	48	23	3	610	18	592
13:30	12	88	13	7	94	52	6	14	52	134	63	8	24	67	34	11	679	40	639
13:45	9	107	8	9	64	46	8	6	42	120	60	4	25	54	28	9	599	28	571
Hour	57	431	48	27	355	201	21	37	201	511	229	28	99	225	106	34	2610	126	2484
14:00	11	87	8	3	77	67	9	5	40	109	58	2	26	44	23	6	575	16	559
14:15	20	97	10	4	53	60	11	10	60	106	66	7	28	44	27	2	605	23	582
14:30	10	132	12	6	92	64	7	11	38	155	74	12	23	41	20	7	704	36	668
14:45	11	66	14	3	62	64	10	11	49	155	66	7	22	55	17	8	620	29	591
Hour	52	382	44	16	284	255	37	37	187	525	264	28	99	184	87	23	2504	104	2400
15:00	18	84	27	4	63	58	19	6	47	182	92	11	24	71	21	7	734	28	706
15:15	20	94	13	3	64	78	4	6	47	220	62	10	37	63	31	7	759	26	733
15:30	6	84	17	4	91	100	25	8	61	209	77	11	43	84	25	4	849	27	822
15:45	18	98	16	3	70	77	15	4	81	199	100	7	34	56	24	3	805	17	788
Hour	62	360	73	14	288	313	63	24	236	810	331	39	138	274	101	21	3147	98	3049
16:00	16	101	11	4	91	66	13	7	62	211	92	12	35	85	28	3	837	26	811
16:15	15	86	18	3	104	81	11	13	59	222	113	8	42	95	21	3	894	27	867
16:30	17	92	16	5	103	89	15	9	68	208	108	3	25	100	48	4	910	21	889
16:45	13	119	21	5	82	95	16	3	86	271	132	5	35	94	44	6	1027	19	1008
Hour	61	398	66	17	380	331	55	32	275	912	445	28	137	374	141	16	3668	93	3575
17:00	21	107	14	1	93	107	22	2	70	264	124	2	48	111	35	3	1024	8	1016
17:15	16	113	16	4	110	104	14	6	83	218	88	4	18	106	33	3	936	17	919
17:30	17	98	11	5	105	117	7	5	64	205	139	1	27	68	16	2	887	13	874
17:45	17	106	15	3	122	104	12	3	52	225	129	3	41	104	29	4	969	13	956
Hour	71	424	56	13	430	432	55	16	269	912	480	10	134	389	113	12	3816	51	3765
18:00	19	110	20	3	81	82	8	3	66	233	89	3	29	60	28	1	835	10	825
18:15	38	144	17	1	106	58	10	1	55	188	78	3	39	70	29	2	839	7	832
18:30	18	128	11	2	91	85	3	2	69	210	91	6	40	92	25	1	874	11	863
18:45	23	121	9	3	127	66	3	3	55	175	72	4	42	73	31	2	809	12	797
Hour	98	503	57	9	405	291	24	9	245	806	330	16	150	295	113	6	3357	40	3317
19:00	12	109	13	1	86	65	8	1	63	134	81	3	27	67	27	1	698	6	692
19:15	16	77	10	2	88	65	9	1	63	150	83	2	30	49	31	3	679	8	671
19:30	15	104	5	2	96	64	14	1	45	130	93	1	28	45	25	0	668	4	664
19:45	19	83	15	1	93	50	9	0	47	153	92	1	34	49	24	1	671	3	668
Hour	62	373	43	6	363	244	40	3	218	567	349	7	119	210	107	5	2716	21	2695

Weather :
 Counted by: Sarah and Vallie
 Board # :
 Character :

PETRA Software
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 Horsham, PA.

Study Name: TMC9821
 Site Code : 98210202
 Start Date: 06/12/98
 Page : 3

Vehicle group 1

Start Time	CSAH 9 (ROUND LK BLVD) Southbound				CSAH 116 (BUNKER LK BL Westbound				CSAH 9 (ROUND LK BLVD) Northbound				CSAH 116 (BUNKER LK BL Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
20:00	14	66	13	1	79	68	8	1	56	128	78	0	18	73	27	1	631	3	628
20:15	29	102	16	2	55	65	6	2	56	155	95	3	21	49	12	0	668	7	661
20:30	20	92	19	0	87	66	4	2	58	158	67	0	37	80	25	0	715	2	713
20:45	9	59	9	1	76	55	2	0	58	122	93	2	21	39	18	1	565	4	561
Hour	72	319	57	4	297	254	20	5	228	563	333	5	97	241	82	2	2579	16	2563
21:00	10	55	14	0	67	46	2	0	52	129	94	3	14	61	19	0	566	3	563
21:15	15	60	12	0	50	43	2	1	51	118	71	2	17	36	11	1	490	4	486
21:30	3	54	18	0	33	40	2	0	26	91	61	0	26	52	8	4	418	4	414
21:45	17	106	15	3	122	104	12	3	45	97	40	1	14	30	10	0	619	7	612
Hour	45	275	59	3	272	233	18	4	174	435	266	6	71	179	48	5	2093	18	2075
Total	925	6921	786	280	5257	3987	434	354	2584	7883	4095	346	1490	3607	1717	273	40939	1253	39686
% Apr.	10.3	77.6	8.8	3.1	52.4	39.7	4.3	3.5	17.3	52.8	27.4	2.3	21.0	50.8	24.2	3.8	-	-	-
% Int.	2.2	16.9	1.9	0.6	12.8	9.7	1.0	0.8	6.3	19.2	10.0	0.8	3.6	8.8	4.1	0.6	-	-	-

or Street Approaches:

Northbound:

CSAH 9 (ROUND LK BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9821.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/12/98
 Number of Lanes: 2
 Approach Speed: 45
 Total Approach Traffic: 14562

Southbound:

CSAH 9 (ROUND LK BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9821.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/12/98
 Number of Lanes: 2
 Approach Speed: 45
 Total Approach Traffic: 8632

Minor Street Approaches:

Eastbound:

CSAH 116 (BUNKER LK BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9821.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/12/98
 Number of Lanes: 2
 Approach Speed: 45
 Total Approach Traffic: 6814

Westbound:

CSAH 116 (BUNKER LK BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9821.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/12/98
 Number of Lanes: 2
 Approach Speed: 50
 Total Approach Traffic: 9678

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

Hour Begin	Main (Total)	Side			Warrant 1		Warrant 2		Warrant 8	
		Vol.	Dir.	Rank	Meets?	Criteria	Meets?	Criteria	Meets?	Criteria
0	0	0	W	17		140		70		112
1	0	0	W	18		140		70		112
2	0	0	W	19		140		70		112
3	0	0	W	20		140		70		112
4	0	0	W	21		140		70		112
5	0	0	W	22		140		70		112
6	1021	432	W	16	--BOTH--	140	--BOTH--	70	--BOTH--	112
7	1114	588	W	7	--BOTH--	140	--BOTH--	70	--BOTH--	112
8	853	498	W	13	--BOTH--	140	--BOTH--	70	--BOTH--	112
9	900	474	W	14	--BOTH--	140	--BOTH--	70	--BOTH--	112
10	1031	467	W	15	--BOTH--	140	--BOTH--	70	--BOTH--	112
11	1143	573	W	10	--BOTH--	140	--BOTH--	70	--BOTH--	112
12	1483	685	W	4	--BOTH--	140	--BOTH--	70	--BOTH--	112
13	1477	577	W	8	--BOTH--	140	--BOTH--	70	--BOTH--	112
14	1454	576	W	9	--BOTH--	140	--BOTH--	70	--BOTH--	112
15	1872	664	W	5	--BOTH--	140	--BOTH--	70	--BOTH--	112
16	2157	766	W	2	--BOTH--	140	--BOTH--	70	--BOTH--	112
17	2212	917	W	1	--BOTH--	140	--BOTH--	70	--BOTH--	112
18	2039	720	W	3	--BOTH--	140	--BOTH--	70	--BOTH--	112
19	1612	647	W	6	--BOTH--	140	--BOTH--	70	--BOTH--	112
20	1572	571	W	11	--BOTH--	140	--BOTH--	70	--BOTH--	112
21	1254	523	W	12	--BOTH--	140	--BOTH--	70	--BOTH--	112
22	0	0	W	23		140		70		112
23	0	0	W	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. 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: 3765.

- 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 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.

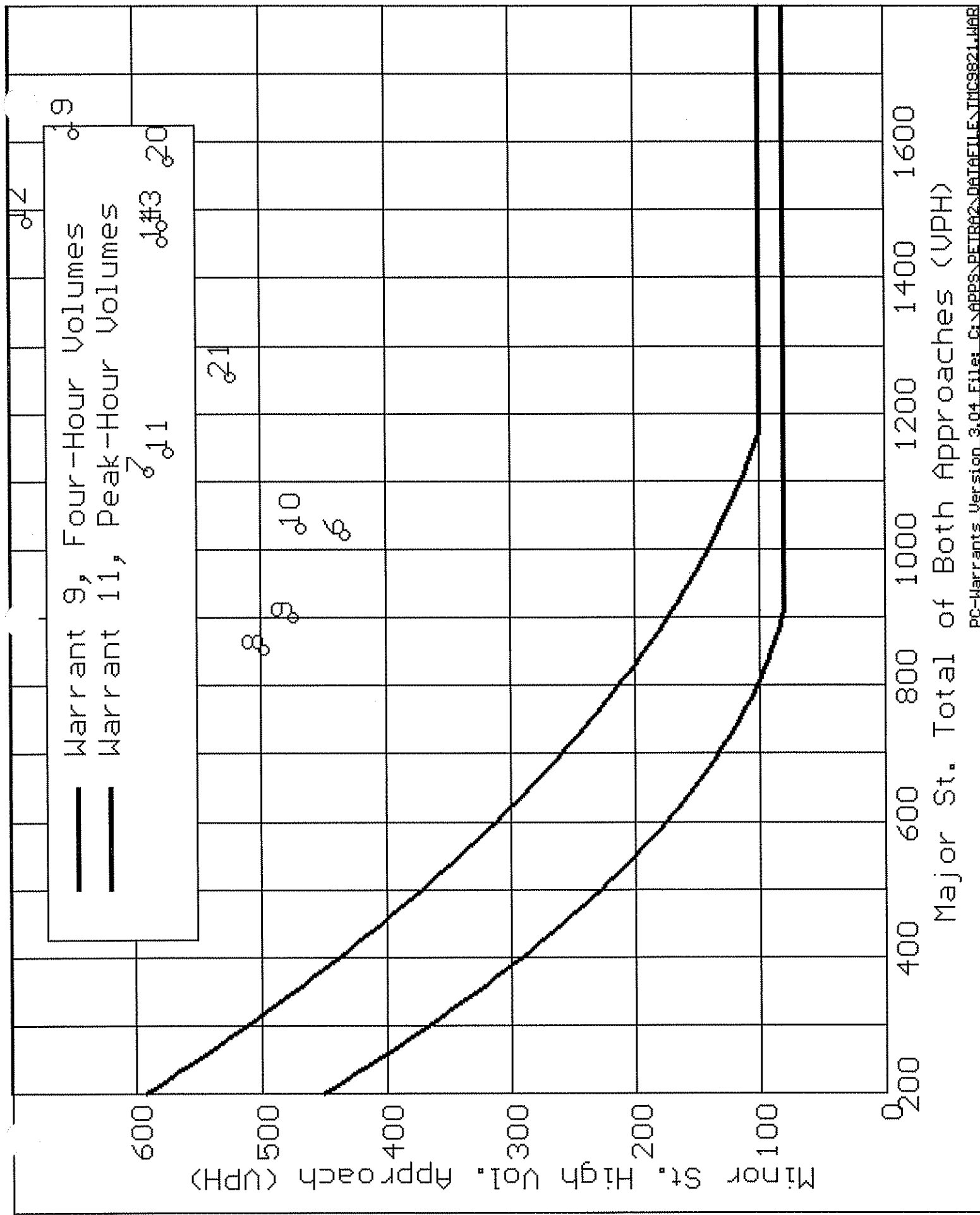
Warrant 11 - Peak Hour Volume

SATISFIED for 16 hours.

Minor St. High Vol. Approach (UPH)

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

Major St. Total of Both Approaches (UPH)





COUNT LOCATION:

CSAH 116 (BUNKER LK BLVD)

DATE:

6/12/98

CSAH 9 (ROUND LK BLVD)

- APP. #1=EB CSAH 116 (BUNKER LK BLVD)
- APP. #2 =NB CSAH 9 (ROUND LK BLVD)
- APP. #3=WB CSAH 116 (BUNKER LK BLVD)
- APP. #4=SB CSAH 9 (ROUND LK BLVD)

APP. #1

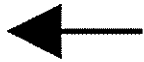
APP. #2

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		1	5		
6:15-6:30						14	4	1
6:30-6:45						19	1	2
6:45-7:00		1			1	15	2	1
HOURLY TOTAL					2	HOURLY TOTAL		64
7:00-7:15						14	1	2
7:15-7:30						22	4	3
7:30-7:45						21	1	1
7:45-8:00						13	2	3
HOURLY TOTAL						HOURLY TOTAL		87
8:00-8:15						20		
8:15-8:30			1		1	31	3	1
8:30-8:45						27	3	3
8:45-9:00						30	2	
HOURLY TOTAL					1	HOURLY TOTAL		120
9:00-9:15	2		5		7	25	3	2
9:15-9:30			4		4	18		
9:30-9:45		2	1		3	27	2	
9:45-10:00						21		
HOURLY TOTAL					14	HOURLY TOTAL		98
10:00-10:15			2		2	26		2
10:15-10:30						11	2	1
10:30-10:45						30	3	1
10:45-11:00			2		2	33	1	1
HOURLY TOTAL					4	HOURLY TOTAL		111
11:00-11:15		2			2	21		
11:15-11:30	3			3	6	27		1
11:30-11:45						26	2	2
11:45-12:00	2				2	22	1	1
HOURLY TOTAL					10	HOURLY TOTAL		103
12:00-12:15						28		
12:15-12:30	1		1	1	3	19	1	
12:30-12:45	3	8		2	13	27	3	
12:45-1:00			2		2	20	3	1
HOURLY TOTAL					18	HOURLY TOTAL		102
1:00-1:15		1			1	31	4	1
1:15-1:30						14	2	
1:30-1:45	2	3	2	2	9	32	1	2
1:45-2:00	1	3			4	20	2	
HOURLY TOTAL					14	HOURLY TOTAL		109



NORTH

COUNT LOCATION:

CSAH 116 (BUNKER LK BLVD)
CSAH 9 (ROUND LK BLVD)

DATE:

6/11/98

APP. #1=EB CSAH 116 (BUNKER LK BLVD)
APP. #2 =NB CSAH 9 (ROUND LK BLVD)
APP. #3=WB CSAH 116 (BUNKER LK BLVD)
APP. #4=SB CSAH 9 (ROUND LK BLVD)

APP.
#1

APP.
#2

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	1		1		2	14	2		
2:15-2:30		1	1		2	19	4		
2:30-2:45	5		4		9	26	1		
2:45-3:00	1		1	1	3	29	2		
HOURLY TOTAL						16	HOURLY TOTAL 97		
3:00-3:15	1				1	23	1		
3:15-3:30		3			3	24	3		
3:30-3:45						25		1	
3:45-4:00		1			1	18	1	1	
HOURLY TOTAL						5	HOURLY TOTAL 97		
4:00-4:15			2		2	21	1	1	
4:15-4:30	3	5	3	2	13	17	6	4	
4:30-4:45		2			2	18	3		
4:45-5:00						13	4		
HOURLY TOTAL						17	HOURLY TOTAL 88		
5:00-5:15		2			2	5	1	3	
5:15-5:30						9	3		
5:30-5:45		1			1	10	2		
5:45-6:00						9	3		
HOURLY TOTAL						3	HOURLY TOTAL 45		
6:00-6:15	1			2	3	7	2	1	
6:15-6:30				1	1	4	2		
6:30-6:45			1		1	8	2	1	
6:45-7:00				1	1	7	5		
HOURLY TOTAL						6	HOURLY TOTAL 39		
7:00-7:15			1		1	4		1	
7:15-7:30	2				2	6	3		
7:30-7:45			2		2	1	1		
7:45-8:00						1	2		
HOURLY TOTAL						5	HOURLY TOTAL 19		
8:00-8:15			1		1	2	1		
8:15-8:30						6		1	
8:30-8:45						1	1		
8:45-9:00						3	1		
HOURLY TOTAL						1	HOURLY TOTAL 16		
9:00-9:15						3			
9:15-9:30						2	2		
9:30-9:45								4	
9:45-10:00							1		
HOURLY TOTAL							HOURLY TOTAL 12		