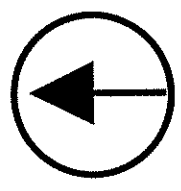


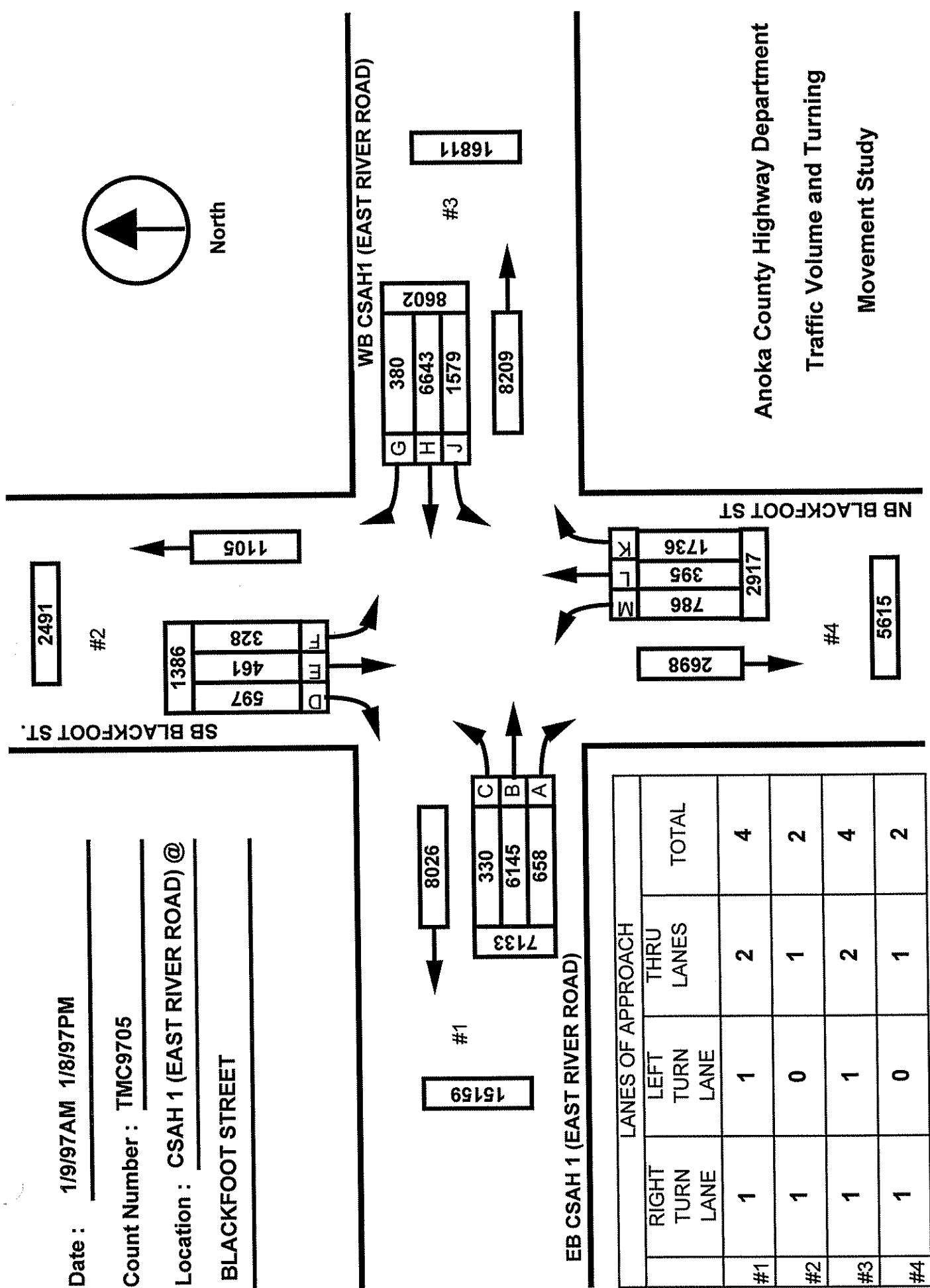
Date : 1/9/97AM 1/8/97PM

Count Number : TMC9705

Location : CSAH 1 (EAST RIVER ROAD) @
BLACKFOOT STREET



North



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

Anoka County Highway Department
Traffic Volume and Turning
Movement Study

PETRA Software

Weather :
 Counted by:
 Board # :
 Other :

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 Horsham, PA.

Study Name: TMC9705
 Site Code : 97050202
 Start Date: 01/09/97
 Page : 1

Vehicle group 1

Start Time	BLACKFOOT ST. Southbound				CSAH 1 (EAST RIVER ROA) Westbound				BLACKFOOT ST. Northbound				CSAH 1 (EAST RIVER ROA) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
01/09/97																			
06:00	10	12	3	0	14	27	0	0	0	1	7	0	3	52	7	4	140	4	136
06:15	8	11	6	0	10	50	1	2	1	0	0	0	1	57	2	3	152	5	147
06:30	11	10	19	1	25	58	1	1	1	0	5	0	1	85	4	9	231	11	220
06:45	9	25	24	0	46	73	0	0	5	2	7	0	2	86	17	11	307	11	296
Hour	38	58	52	1	95	208	2	3	7	3	19	0	7	280	30	27	830	31	799
07:00	13	15	10	0	34	67	2	3	2	1	12	0	5	72	11	3	250	6	244
07:15	6	9	11	1	38	63	1	3	6	3	15	0	2	106	16	4	284	8	276
07:30	6	27	22	0	37	73	0	1	8	5	19	1	1	150	24	5	379	7	372
07:45	2	20	21	2	57	120	3	1	7	3	15	0	1	121	19	5	397	8	389
Hour	27	71	64	3	166	323	6	8	23	12	61	1	9	449	70	17	1310	29	1281
08:00	12	20	13	1	49	64	4	2	8	2	15	0	5	85	23	3	306	6	300
08:15	3	27	13	1	35	74	1	4	5	3	15	0	3	74	23	3	284	8	276
08:30	7	13	8	2	20	70	4	6	6	2	33	1	4	91	24	1	292	10	282
08:45	4	14	18	0	36	72	2	4	12	2	23	0	1	106	17	3	314	7	307
Hour	26	74	52	4	140	280	11	16	31	9	86	1	13	356	87	10	1196	31	1165
09:00	1	10	8	0	22	94	1	7	3	1	21	1	3	88	17	1	278	9	269
09:15	4	8	10	0	24	65	2	8	13	2	19	3	2	64	19	2	245	13	232
09:30	6	3	8	2	26	73	3	5	10	4	14	1	3	109	15	2	284	10	274
09:45	6	11	5	1	30	91	2	6	15	8	39	1	2	100	22	2	341	10	331
Hour	17	32	31	3	102	323	8	26	41	15	93	6	10	361	73	7	1148	42	1106
10:00	2	10	3	0	28	84	2	4	12	16	23	0	3	81	9	1	278	5	273
10:15	3	8	2	1	44	87	3	5	14	6	24	2	2	66	12	5	284	13	271
10:30	4	10	7	1	32	92	5	1	14	5	18	0	2	101	13	5	310	7	303
10:45	4	6	10	0	26	108	6	6	28	1	28	1	2	109	8	3	346	10	336
Hour	13	34	22	2	130	371	16	16	68	28	93	3	9	357	42	14	1218	35	1183
11:00	7	5	7	0	23	101	8	5	7	3	35	3	7	97	10	5	323	13	310
11:15	2	4	12	0	21	96	3	3	11	8	29	2	2	88	10	5	296	10	286
11:30	3	4	15	1	24	90	1	1	15	7	42	0	13	136	9	5	366	7	359
11:45	7	2	8	1	19	85	4	7	15	5	30	0	3	115	9	4	314	12	302
Hour	19	15	42	2	87	372	16	16	48	23	136	5	25	436	38	19	1299	42	1257
12:00	4	3	10	1	18	129	7	6	15	6	38	2	7	131	9	2	388	11	377
12:15	5	7	6	1	21	129	8	3	8	2	24	0	8	95	13	5	335	9	326
12:30	3	8	6	0	43	128	4	4	8	6	22	0	0	120	9	4	365	8	357
12:45	6	11	14	2	47	131	6	5	12	8	26	1	5	108	20	1	403	9	394
Hour	18	29	36	4	129	517	25	18	43	22	110	3	20	454	51	12	1491	37	1454

Weather :
 Counted by:
 Board # :
 Other :

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 Horsham, PA.

Study Name: TMC9705
 Site Code : 97050202
 Start Date: 01/09/97
 Page : 2

Vehicle group 1

Start Time	BLACKFOOT ST. Southbound				CSAH 1 (EAST RIVER ROA) Westbound				BLACKFOOT ST. Northbound				CSAH 1 (EAST RIVER ROA) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
13:00	5	6	3	0	25	126	2	1	7	6	21	0	1	99	12	1	315	2	313
13:15	6	5	8	0	42	129	7	4	15	4	30	1	2	96	13	2	364	7	357
13:30	2	1	3	0	32	110	3	2	17	4	33	0	4	116	10	7	344	9	335
13:45	3	13	10	0	36	98	4	4	9	9	50	3	8	97	14	5	363	12	351
Hour	16	25	24	0	135	463	16	11	48	23	134	4	15	408	49	15	1386	30	1356
14:00	3	3	14	0	35	122	3	3	17	8	39	1	6	95	8	2	359	6	353
14:15	4	9	12	0	38	118	8	3	14	2	53	2	8	82	17	2	372	7	365
14:30	4	8	7	1	31	134	7	3	16	8	40	0	7	104	14	5	389	9	380
14:45	7	9	20	0	34	168	8	3	20	11	41	1	13	92	15	2	444	6	438
Hour	18	29	53	1	138	542	26	12	67	29	173	4	34	373	54	11	1564	28	1536
15:00	5	6	8	0	26	111	8	3	24	17	45	0	9	128	10	4	404	7	397
15:15	7	5	9	2	38	114	16	4	16	10	44	1	10	120	22	1	419	8	411
15:30	7	8	8	2	32	140	9	4	40	12	58	0	4	108	8	4	444	10	434
15:45	10	11	10	3	33	132	7	1	18	18	54	2	7	130	18	2	456	8	448
Hour	29	30	35	7	129	497	40	12	98	57	201	3	30	486	58	11	1723	33	1690
16:00	8	4	9	1	23	172	14	10	28	16	52	0	10	113	8	4	472	15	457
16:15	5	6	15	2	31	146	10	5	33	17	53	0	4	110	13	7	457	14	443
16:30	5	6	10	1	25	139	12	4	20	19	49	0	8	143	11	0	452	5	447
16:45	5	9	13	0	18	159	14	4	22	10	48	0	12	140	11	0	465	4	461
Hour	23	25	47	4	97	616	50	23	103	62	202	0	34	506	43	11	1846	38	1808
17:00	9	5	11	1	23	167	12	1	36	16	55	0	14	161	8	4	523	6	517
17:15	7	5	13	0	13	137	12	1	31	23	43	1	12	135	6	0	439	2	437
17:30	3	1	7	0	17	167	16	5	17	9	29	1	11	102	3	2	390	8	382
17:45	7	3	9	1	23	163	14	2	12	9	23	0	11	94	7	1	379	4	375
Hour	26	14	40	2	76	634	54	9	96	57	150	2	48	492	24	7	1731	20	1711
18:00	8	2	2	0	15	142	11	3	9	9	19	1	4	136	3	1	365	5	360
18:15	4	4	12	0	14	171	13	2	15	5	19	0	7	123	9	0	398	2	396
18:30	4	1	12	0	24	166	14	3	7	4	25	1	7	134	6	2	410	6	404
18:45	5	3	9	0	17	114	6	2	6	3	22	1	5	90	5	0	288	3	285
Hour	21	10	35	0	70	593	44	10	37	21	85	3	23	483	23	3	1461	16	1445
19:00	3	2	9	0	8	100	7	2	8	6	23	0	8	95	3	3	277	5	272
19:15	5	0	6	0	9	107	7	0	10	1	15	0	7	79	4	0	250	0	250
19:30	3	3	9	0	17	94	1	3	6	5	18	0	7	59	2	1	228	4	224
19:45	2	3	4	1	7	87	4	1	7	0	22	0	3	68	3	0	212	2	210
Hour	13	8	28	1	41	388	19	6	31	12	78	0	25	301	12	4	967	11	956

Weather :
 Counted by:
 Board # :
 Other :

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Study Name: TMC9705
 Site Code : 97050202
 Start Date: 01/09/97
 Page : 3

Vehicle group 1

Start Time	BLACKFOOT ST. Southbound				CSAH 1 (EAST RIVER ROA) Westbound				BLACKFOOT ST. Northbound				CSAH 1 (EAST RIVER ROA) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
20:00	8	1	4	0	8	79	5	0	6	3	16	1	1	70	0	3	205	4	201
20:15	2	2	2	0	7	88	5	0	6	4	18	0	5	56	0	0	195	0	195
20:30	2	1	5	0	4	78	8	1	6	2	16	0	5	49	2	1	180	2	178
20:45	6	0	3	0	8	70	4	0	10	2	16	0	2	59	0	0	180	0	180
Hour	18	4	14	0	27	315	22	1	28	11	66	1	13	234	2	4	760	6	754
21:00	0	0	7	0	6	48	7	0	10	6	27	1	8	58	0	0	178	1	177
21:15	2	1	4	1	7	61	5	0	3	4	7	0	4	47	1	2	149	3	146
21:30	1	1	6	0	3	47	6	0	2	1	9	0	2	28	0	0	106	0	106
21:45	3	1	5	0	1	45	7	0	2	0	6	0	1	36	1	0	108	0	108
Hour	6	3	22	1	17	201	25	0	17	11	49	1	15	169	2	2	541	4	537
Total	328	461	597	35	1579	6643	380	187	786	395	1736	37	330	6145	658	174	20471	433	20038
% Apr.	23.0	32.4	42.0	2.4	17.9	75.5	4.3	2.1	26.6	13.3	58.7	1.2	4.5	84.0	9.0	2.3	-	-	-
% Int.	1.6	2.2	2.9	0.1	7.7	32.4	1.8	0.9	3.8	1.9	8.4	0.1	1.6	30.0	3.2	0.8	-	-	-

Major Street Approaches:

Eastbound:

CSAH 1 (EAST RIVER ROAD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9705.PDF
 Count Type: IMC. Channel: 0. Count Date: 1/ 9/97
 Number of Lanes: 2
 Approach Speed: 50
 Total Approach Traffic: 7133

Westbound:

CSAH 1 (EAST RIVER ROAD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9705.PDF
 Count Type: IMC. Channel: 0. Count Date: 1/ 9/97
 Number of Lanes: 2
 Approach Speed: 50
 Total Approach Traffic: 8602

Minor Street Approaches:

Northbound:

BLACKFOOT ST.

Data File: C:\APPS\PETRA2\DATAFILE\TMC9705.PDF
 Count Type: IMC. Channel: 0. Count Date: 1/ 9/97
 Number of Lanes: 2
 Approach Speed: 0
 Total Approach Traffic: 2917

Southbound:

BLACKFOOT ST.

Data File: C:\APPS\PETRA2\DATAFILE\TMC9705.PDF
 Count Type: IMC. Channel: 0. Count Date: 1/ 9/97
 Number of Lanes: 2
 Approach Speed: 0
 Total Approach Traffic: 1386

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

Hour	Main	Side	Warrant 1	Warrant 2	Warrant 3
Begin	(Total)	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	622	148 S 12	--BOTH-- 140	SIDE 70	--BOTH-- 112
7	1023	162 S 9	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
8	887	152 S 10	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
9	877	149 N 11	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
10	925	189 N 7	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
11	974	207 N 5	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
12	1196	175 N 8	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
13	1086	205 N 6	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
14	1167	269 N 4	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
15	1240	356 N 2	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
16	1346	367 N 1	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
17	1328	303 N 3	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
18	1236	143 N 13	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
19	786	121 N 14	MAIN 140	--BOTH-- 70	--BOTH-- 112
20	613	105 N 15	MAIN 140	SIDE 70	MAIN 112
21	429	77 N 16	MAIN 140	SIDE 70	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 13 hours. Criteria--Main St.: 420; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

SATISFIED for 13 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: 1808.

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

Warrant 9 - Four Hour Volumes

SATISFIED for 13 hours.

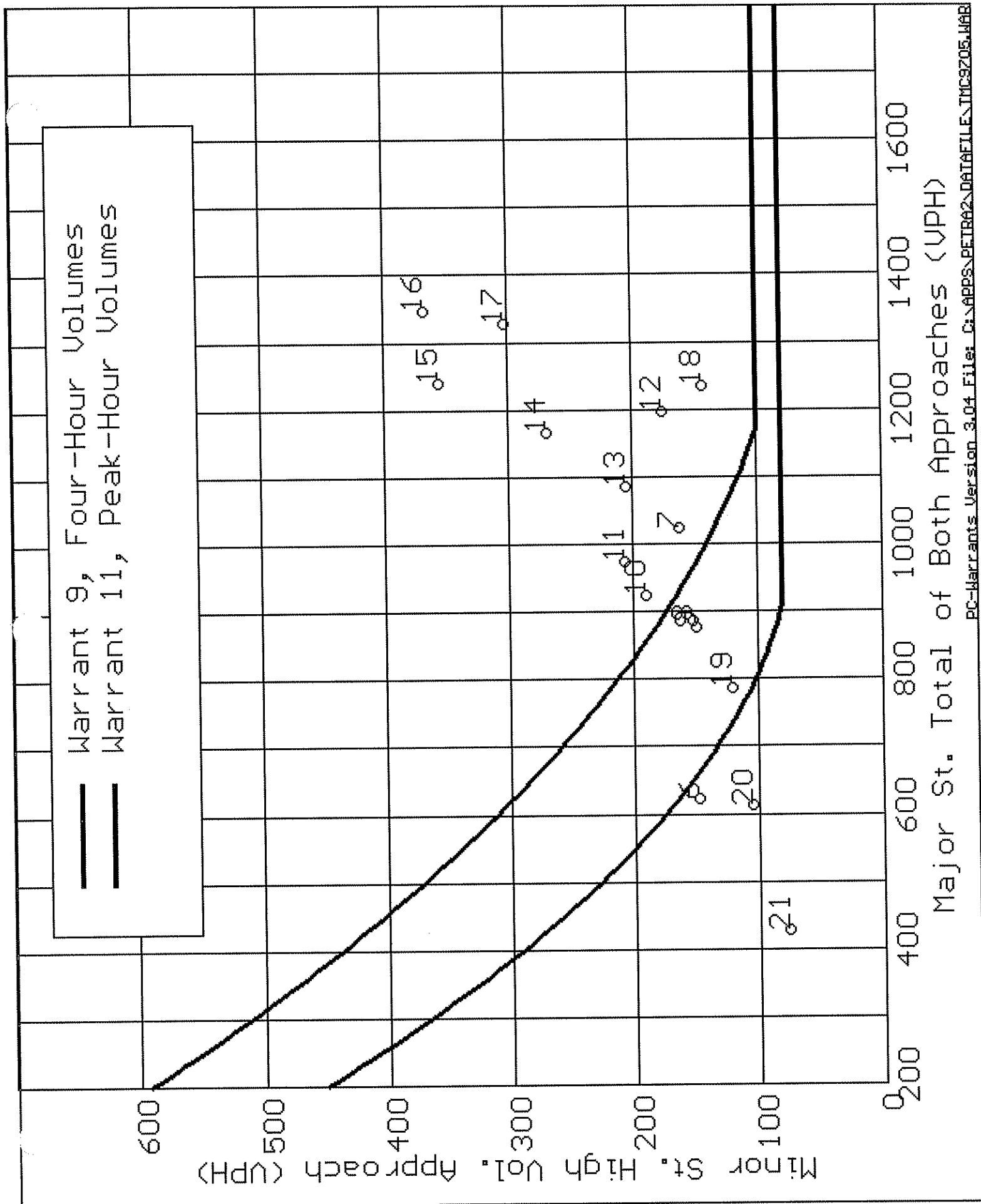
Warrant 10 - Peak Hour Delay

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 10 hours.



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

Major St. Total of Both Approaches (VPH)



NORTH

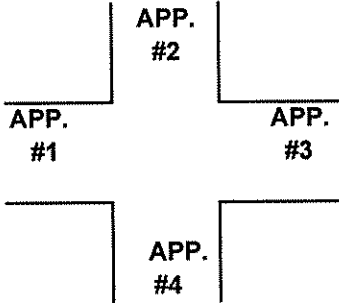
COUNT LOCATION:

CSAH 1 (EAST RIVER ROAD) @
BLACKFOOT STREET

DATE:

1/9/97

APP. #1=EB CSAH 1
(EAST RIVER ROAD)
APP. #2 =SB BLACKFOOT
STREET
APP. #3=WB CSAH 1
(EAST RIVER ROAD)
APP. #4=NB BLACKFOOT
STREET



- 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						4		1
6:15-6:30			1		1	2		3
6:30-6:45			1		1	1		10
6:45-7:00			1		1	4		7
HOURLY TOTAL					3	HOURLY TOTAL		32
7:00-7:15			1		1	2		5
7:15-7:30						5		5
7:30-7:45						3		2
7:45-8:00						5		3
HOURLY TOTAL					1	HOURLY TOTAL		30
8:00-8:15						3		3
8:15-8:30						4		4
8:30-8:45			1		1	3		7
8:45-9:00						6		1
HOURLY TOTAL					1	HOURLY TOTAL		31
9:00-9:15			2		2	7		2
9:15-9:30			1		1	7		6
9:30-9:45			1		1	8		2
9:45-10:00						6		4
HOURLY TOTAL					4	HOURLY TOTAL		42
10:00-10:15	1				1	5		
10:15-10:30			2		2	8		5
10:30-10:45						6		1
10:45-11:00			1		1	8		3
HOURLY TOTAL					4	HOURLY TOTAL		36
11:00-11:15						11		2
11:15-11:30						6		4
11:30-11:45						7		
11:45-12:00						10		2
HOURLY TOTAL						HOURLY TOTAL		42
12:00-12:15						8		3
12:15-12:30						6		2
12:30-12:45						9		1
12:45-1:00			2		2	3		6
HOURLY TOTAL					2	HOURLY TOTAL		38
1:00-1:15						2		
1:15-1:30						6		1
1:30-1:45						8		1
1:45-2:00						7		5
HOURLY TOTAL						HOURLY TOTAL		30



NORTH

COUNT LOCATION:

CSAH 1 (EAST RIVER ROAD) @

DATE:

1/8/97

BLACKFOOT STREET

APP. #1=EB CSAH 1
(EAST RIVER ROAD)

APP. #2 =SB BLACKFOOT
STREET

APP. #3=WB CSAH 1
(EAST RIVER ROAD)

APP. #4=NB BLACKFOOT
STREET

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						2		4
2:15-2:30						6		1
2:30-2:45						6		3
2:45-3:00			2		2	5		1
HOURLY TOTAL					2	HOURLY TOTAL		28
3:00-3:15			1	1	2	3		4
3:15-3:30								8
3:30-3:45			1		1	3		4
3:45-4:00						4		7
HOURLY TOTAL					3	HOURLY TOTAL		33
4:00-4:15	2				2	7		8
4:15-4:30						7		6
4:30-4:45						1		4
4:45-5:00	1		1		2	2		2
HOURLY TOTAL					4	HOURLY TOTAL		37
5:00-5:15						2		4
5:15-5:30	1				1			2
5:30-5:45	1		1		2	4		4
5:45-6:00	1	1			2	3		1
HOURLY TOTAL					5	HOURLY TOTAL		20
6:00-6:15				1	1	2		3
6:15-6:30						2		
6:30-6:45			1		1	2		3
6:45-7:00						2		1
HOURLY TOTAL					2	HOURLY TOTAL		15
7:00-7:15			2		2	4		1
7:15-7:30						1		
7:30-7:45			2		2	2		1
7:45-8:00	1				1	1		1
HOURLY TOTAL					5	HOURLY TOTAL		11
8:00-8:15						3		2
8:15-8:30								
8:30-8:45								2
8:45-9:00								
HOURLY TOTAL						HOURLY TOTAL		7
9:00-9:15								
9:15-9:30		2			2	2		1
9:30-9:45								
9:45-10:00	2			2	4			
HOURLY TOTAL					6	HOURLY TOTAL		3