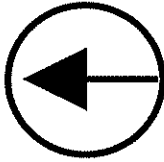


Date : 7/15/97AM 7/14/97PM

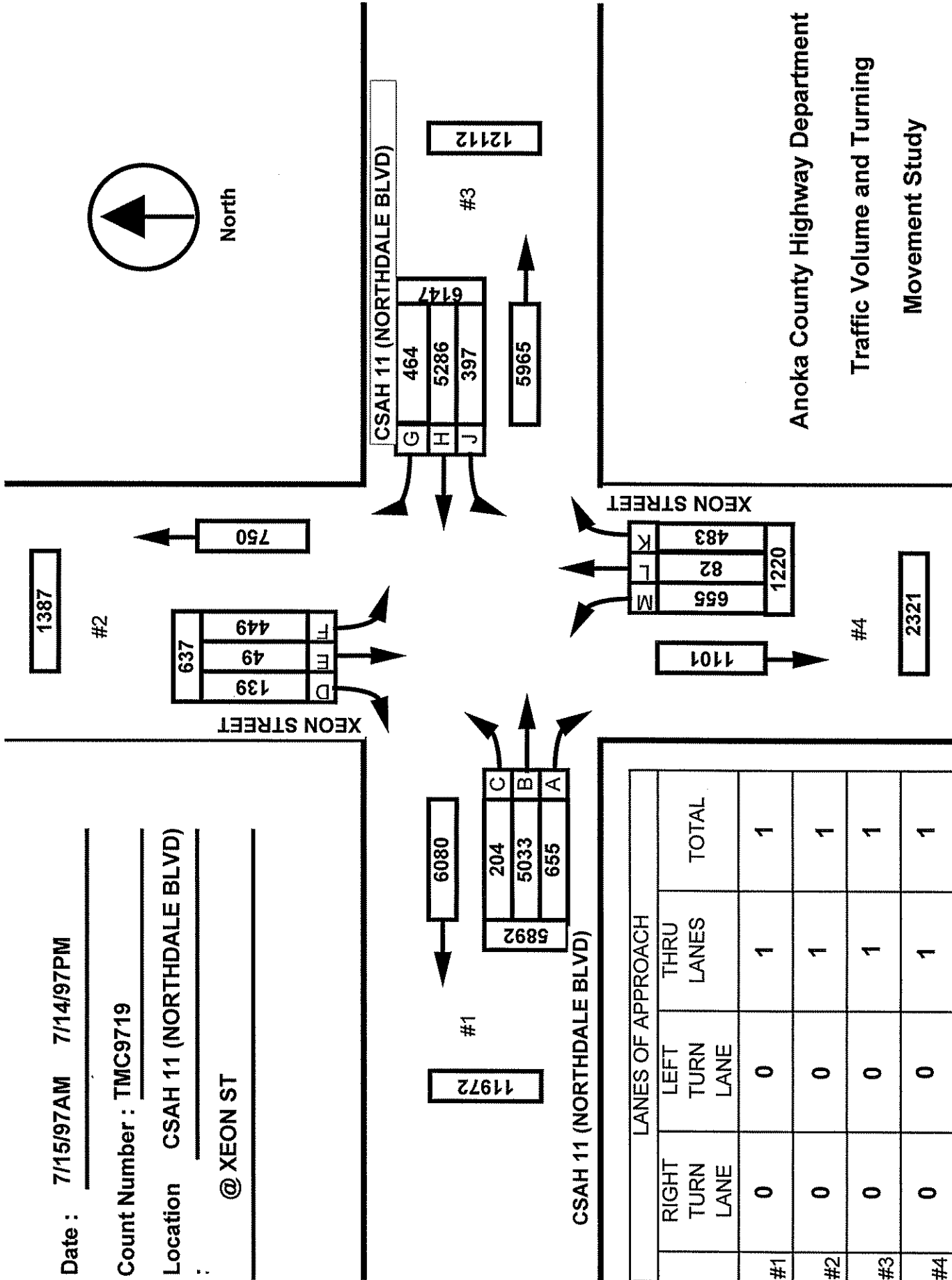
Count Number : TMC9719

Location CSAH 11 (NORTHDALE BLVD)

@ XEON 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	0	0	1	1
#4	0	0	1	1

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Weather :SUNNY
 Counted by:SARAH AND JANELLE
 Board # :
 :her :

PETRA Software
 Copyright (C) 1990, 1995
 Jamar Technologies, Inc.
 Horsham, PA.

Study Name: TMC9719
 Site Code : 97190202
 Start Date: 07/15/97
 Page : 1

Vehicle group 1

Start Time	XEON ST Southbound				CSAH 11 (NORTHEDALE BLV Westbound				XEON ST Northbound				CSAH 11 (NORTHEDALE BLV Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
07/15/97																			
06:00	13	1	2	0	4	23	2	3	3	0	0	1	0	39	10	3	104	7	97
06:15	10	2	2	0	11	35	1	1	2	0	3	0	1	60	19	2	149	3	146
06:30	11	6	1	0	23	71	1	1	1	2	2	1	0	67	55	6	248	8	240
06:45	18	5	4	0	44	53	3	3	1	0	2	0	0	63	72	4	272	7	265
Hour	52	14	9	0	82	182	7	8	7	2	7	2	1	229	156	15	773	25	748
07:00	24	4	6	2	5	42	0	2	8	0	7	4	1	63	18	9	195	17	178
07:15	20	2	3	1	11	71	2	3	5	0	7	3	4	93	16	3	244	10	234
07:30	16	1	5	2	5	81	3	5	5	1	4	2	1	79	20	8	238	17	221
07:45	8	2	1	1	21	91	3	4	4	1	14	5	0	52	29	7	243	17	226
Hour	68	9	15	6	42	285	8	14	22	2	32	14	6	287	83	27	920	61	859
08:00	9	0	4	1	7	56	0	1	6	0	3	3	1	63	15	13	182	18	164
08:15	7	0	2	0	3	54	4	2	11	0	2	4	0	60	15	6	170	12	158
08:30	5	1	2	1	8	63	3	6	8	1	4	5	1	44	7	6	165	18	147
08:45	5	1	2	1	4	65	2	3	15	1	6	7	1	70	15	6	204	17	187
Hour	26	2	10	3	22	238	9	12	40	2	15	19	3	237	52	31	721	65	656
09:00	2	0	2	0	4	65	3	2	8	0	6	7	1	33	3	4	140	13	127
09:15	5	0	0	0	8	70	4	5	7	1	3	6	2	51	11	7	180	18	162
09:30	2	1	7	0	6	58	4	5	6	0	4	4	2	39	7	4	149	13	136
09:45	3	1	0	1	3	71	6	5	6	0	0	2	0	58	8	5	169	13	156
Hour	12	2	9	1	21	264	17	17	27	1	13	19	5	181	29	20	638	57	581
10:00	5	0	1	0	4	64	6	2	15	0	2	5	1	46	9	5	165	12	153
10:15	4	0	2	2	7	61	2	3	12	0	3	6	2	52	5	8	169	19	150
10:30	4	0	2	0	4	67	5	8	9	1	8	7	1	78	10	8	212	23	189
10:45	6	1	1	0	7	79	4	4	12	0	12	8	3	87	8	8	240	20	220
Hour	19	1	6	2	22	271	17	17	48	1	25	26	7	263	32	29	786	74	712
11:00	10	2	1	2	10	62	7	4	7	0	8	2	2	88	10	11	226	19	207
11:15	4	0	7	0	3	78	5	7	15	4	11	6	0	85	9	9	243	22	221
11:30	4	0	2	1	7	69	1	4	24	1	9	8	2	76	16	7	231	20	211
11:45	5	2	1	0	9	91	14	4	26	5	19	3	2	72	16	2	271	9	262
Hour	23	4	11	3	29	300	27	19	72	10	47	19	6	321	51	29	971	70	901
12:00	2	1	4	0	15	88	5	2	19	3	23	3	3	70	23	8	269	13	256
12:15	6	2	2	0	15	72	7	5	5	0	6	1	1	85	13	3	223	9	214
12:30	3	1	0	0	8	80	4	5	8	2	7	6	4	55	8	3	194	14	180
12:45	11	1	2	3	10	82	8	2	7	0	6	3	1	70	12	4	222	12	210
Hour	22	5	8	3	48	322	24	14	39	5	42	13	9	280	56	18	908	48	860

PETRA Software

Copyright (C) 1990, 1995

Jamar Technologies, Inc.

Horsham, PA.

Weather : SUNNY

Counted by: SARAH AND JANELLE

Board # :

ther :

Study Name: TMC9719

Site Code : 97190202

Start Date: 07/15/97

Page : 2

Vehicle group 1

Start Time	XEON ST Southbound				CSAH 11 (NORTHDAL BLV Westbound				XEON ST Northbound				CSAH 11 (NORTHDAL BLV Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
13:00	7	0	3	0	6	73	5	7	12	2	3	4	0	64	10	7	203	18	185
13:15	7	1	4	0	3	81	10	2	18	0	4	4	3	81	11	7	236	13	223
13:30	6	1	2	1	3	74	6	8	24	0	5	5	4	62	7	9	217	23	194
13:45	7	2	2	2	3	77	4	4	13	1	3	3	1	72	6	6	206	15	191
Hour	27	4	11	3	15	305	25	21	67	3	15	16	8	279	34	29	862	69	793
14:00	9	0	2	0	5	59	7	6	4	0	3	2	1	65	5	2	170	10	160
14:15	7	0	2	1	6	75	7	4	8	0	6	0	2	61	8	3	190	8	182
14:30	2	1	2	0	6	89	10	5	6	0	7	5	1	75	8	2	219	12	207
14:45	3	0	0	0	14	82	8	5	13	2	12	1	5	84	15	2	246	8	238
Hour	21	1	6	1	31	305	32	20	31	2	28	8	9	285	36	9	825	38	787
15:00	2	1	0	0	9	76	7	1	21	1	5	5	4	69	12	1	214	7	207
15:15	5	0	0	1	6	86	6	4	60	10	52	4	4	92	8	3	341	12	329
15:30	4	2	2	0	4	101	14	3	15	7	19	2	8	99	9	1	290	6	284
15:45	5	0	5	0	3	75	9	2	13	2	14	1	6	94	12	3	244	6	238
Hour	16	3	7	1	22	338	36	10	109	20	90	12	22	354	41	8	1089	31	1058
16:00	3	0	1	0	7	103	10	3	31	3	24	0	9	96	19	5	314	8	306
16:15	6	1	0	0	1	110	16	4	48	16	53	4	12	118	4	2	395	10	385
16:30	8	1	4	0	3	130	14	3	21	3	19	3	9	112	9	3	342	9	333
16:45	6	0	5	0	2	121	18	7	17	5	13	2	11	109	2	3	321	12	309
Hour	23	2	10	0	13	464	58	17	117	27	109	9	41	435	34	13	1372	39	1333
17:00	3	0	1	0	5	114	14	1	8	1	13	0	8	107	4	3	282	4	278
17:15	18	1	3	0	5	118	15	2	3	1	3	0	9	118	0	5	301	7	294
17:30	13	0	3	1	4	113	13	2	8	2	9	2	4	139	6	4	323	9	314
17:45	6	0	5	0	1	125	19	1	6	0	2	0	9	127	2	1	304	2	302
Hour	40	1	12	1	15	470	61	6	25	4	27	2	30	491	12	13	1210	22	1188
18:00	7	0	4	0	0	139	8	3	6	1	5	1	8	101	0	1	284	5	279
18:15	6	0	1	0	1	111	13	3	2	0	3	0	3	110	2	1	256	4	252
18:30	7	0	2	0	1	122	8	0	1	0	2	1	6	109	0	2	261	3	258
18:45	7	0	2	1	2	107	7	0	4	0	0	0	3	136	5	1	275	2	273
Hour	27	0	9	1	4	479	36	6	13	1	10	2	20	456	7	5	1076	14	1062
19:00	9	0	2	0	0	166	8	1	0	0	0	0	1	74	0	1	262	2	260
19:15	8	0	3	0	4	90	8	1	1	0	2	0	6	94	3	0	220	1	219
19:30	7	0	1	0	2	80	10	2	5	1	2	1	5	98	4	1	219	4	215
19:45	4	0	1	0	1	65	16	0	8	0	3	1	1	103	0	1	204	2	202
Hour	28	0	7	0	7	401	42	4	14	1	7	2	13	369	7	3	905	9	896

PETRA Software

Weather :SUNNY
 Counted by:SARAH AND JANELLE
 Board # :
 pher :

Copyright (C) 1990, 1995
 Jamar Technologies, Inc.
 Horsham, PA.

Study Name: TMC9719
 Site Code : 97190202
 Start Date: 07/15/97
 Page : 3

Vehicle group 1

Start Time	XEON ST Southbound				CSAH 11 (NORTHDAL BLV Westbound				XEON ST Northbound				CSAH 11 (NORTHDAL BLV Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
20:00	5	0	3	0	4	90	12	2	3	0	0	0	3	83	5	0	210	2	208
20:15	12	0	4	0	8	129	6	0	3	1	1	1	4	75	3	0	247	1	246
20:30	14	0	0	0	3	69	12	0	5	0	3	0	5	69	5	1	186	1	185
20:45	6	1	0	0	2	86	9	1	5	0	1	0	8	83	1	0	203	1	202
Hour	37	1	7	0	17	374	39	3	16	1	5	1	20	310	14	1	846	5	841
21:00	2	0	2	0	1	91	11	0	2	0	1	0	2	62	7	1	182	1	181
21:15	0	0	0	0	1	91	7	0	2	0	4	0	1	75	1	0	182	0	182
21:30	4	0	0	0	2	58	6	0	1	0	3	0	1	61	3	0	139	0	139
21:45	2	0	0	0	3	48	2	0	3	0	3	0	0	58	0	0	119	0	119
Hour	8	0	2	0	7	288	26	0	8	0	11	0	4	256	11	1	622	1	621
Total	449	49	139	25	397	5286	464	188	655	82	483	164	204	5033	655	251	14524	628	13896
% Apr.	67.8	7.4	20.9	3.7	6.2	83.4	7.3	2.9	47.3	5.9	34.8	11.8	3.3	81.9	10.6	4.0	-	-	-
% Int.	3.0	0.3	0.9	0.1	2.7	36.3	3.1	1.2	4.5	0.5	3.3	1.1	1.4	34.6	4.5	1.7	-	-	-

Major Street Approaches:

Eastbound:

CSAH 11 (NORTHDALE BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9719.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/15/97
 Number of Lanes: 1
 Approach Speed: 45
 Total Approach Traffic: 5892

Westbound:

CSAH 11 (NORTHDALE BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9719.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/15/97
 Number of Lanes: 1
 Approach Speed: 45
 Total Approach Traffic: 6147

Minor Street Approaches:

Northbound:

XEON ST

Data File: C:\APPS\PETRA2\DATAFILE\TMC9719.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/15/97
 Number of Lanes: 1
 Approach Speed: 30
 Total Approach Traffic: 1220

Southbound:

XEON ST

Data File: C:\APPS\PETRA2\DATAFILE\TMC9719.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/15/97
 Number of Lanes: 1
 Approach Speed: 30
 Total Approach Traffic: 637

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

Hour	Main (Total)	Side Vol.	Side Dir.	Side Rank	Warrant 1 Meets?	Warrant 1 Criteria	Warrant 2 Meets?	Warrant 2 Criteria	Warrant 8 Meets?	Warrant 8 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	657	75	S	7	MAIN	105	--BOTH--	52	MAIN	84
7	711	92	S	4	MAIN	105	--BOTH--	52	--BOTH--	84
8	561	57	N	10	MAIN	105	--BOTH--	52	MAIN	84
9	517	41	N	13	MAIN	105		52	MAIN	84
10	612	74	N	8	MAIN	105	--BOTH--	52	MAIN	84
11	734	129	N	3	--BOTH--	105	--BOTH--	52	--BOTH--	84
12	739	86	N	5	MAIN	105	--BOTH--	52	--BOTH--	84
13	666	85	N	6	MAIN	105	--BOTH--	52	--BOTH--	84
14	698	61	N	9	MAIN	105	--BOTH--	52	MAIN	84
15	813	219	N	2	--BOTH--	105	--BOTH--	52	--BOTH--	84
16	1045	253	N	1	--BOTH--	105	--BOTH--	52	--BOTH--	84
17	1079	56	N	11	MAIN	105	--BOTH--	52	MAIN	84
18	1002	36	S	14	MAIN	105	MAIN	52	MAIN	84
19	839	35	S	15	MAIN	105	MAIN	52	MAIN	84
20	774	45	S	12	MAIN	105	MAIN	52	MAIN	84
21	592	19	N	16	MAIN	105	MAIN	52	MAIN	84
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

NOT SATISFIED. Required values reached for 3 hours. Criteria--Main St.: 350; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

SATISFIED for 11 hours. Criteria--Main St.: 525; 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: 1333.

- 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

NOT SATISFIED. Required values reached for 6 hours. Criteria--Main: 420; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

SATISFIED for 6 hours.

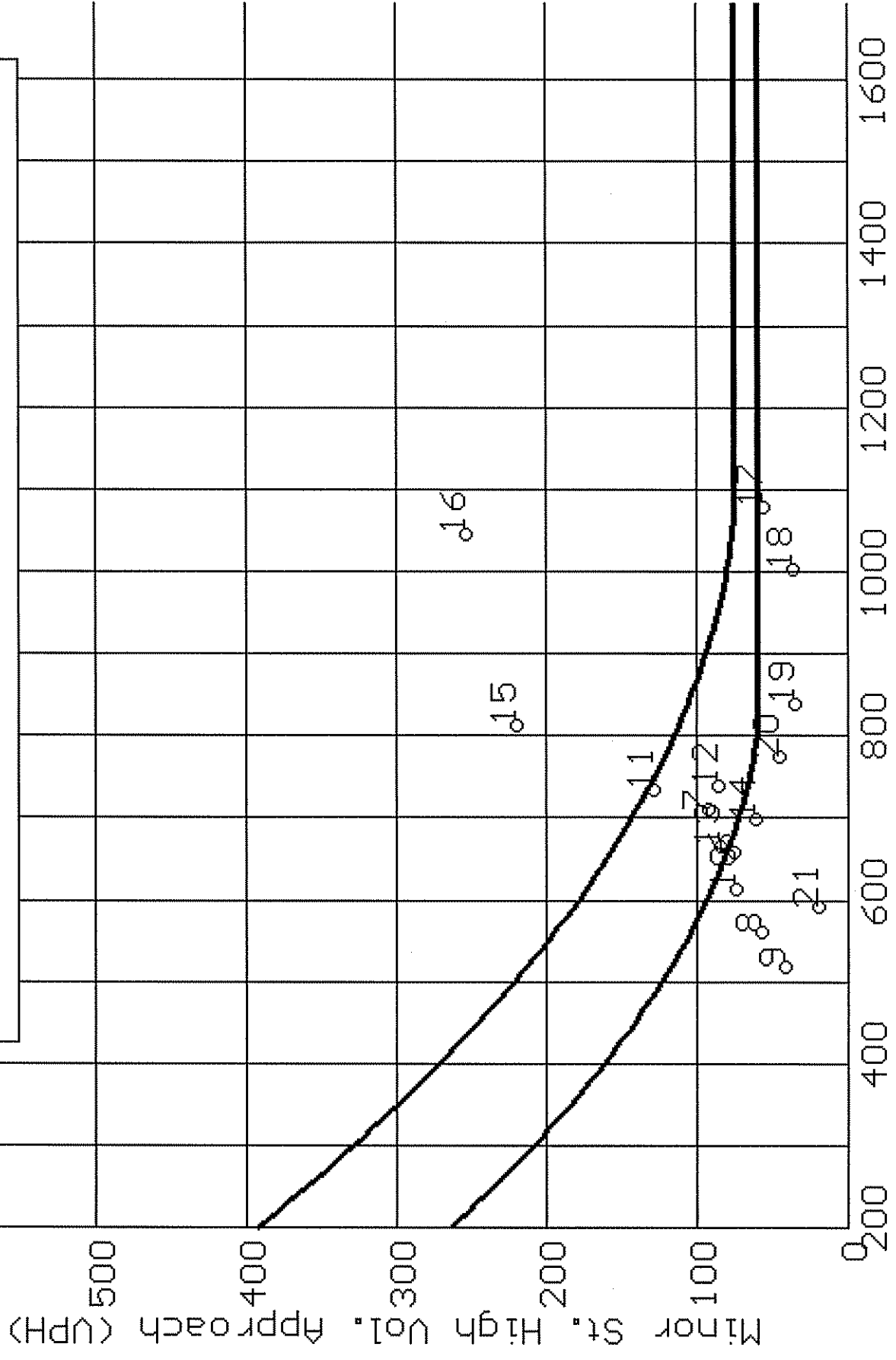
Warrant 10 - Peak Hour Delay

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

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

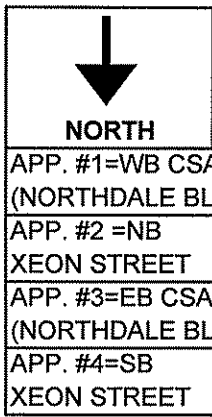
Warrant 11 - Peak Hour Volume

SATISFIED for 3 hours.



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

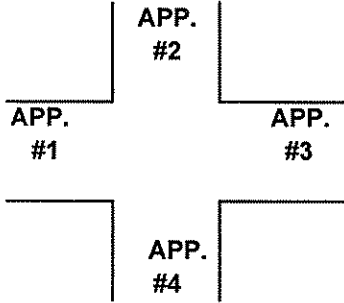
Major St. Total of Both Approaches (UPH)



COUNT LOCATION: TMC 9719 CSAH 11
 (NORTHDAL BLVD) @ XEON STREET

DATE: 7/15/97

APP. #1=WB CSAH 11
 (NORTHDAL BLVD)
 APP. #2 =NB
 XEON STREET
 APP. #3=EB CSAH 11
 (NORTHDAL BLVD)
 APP. #4=SB
 XEON 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						7		
6:15-6:30		1			1	1		2
6:30-6:45						5		4
6:45-7:00						3	2	1
HOURLY TOTAL					1	HOURLY TOTAL		25
7:00-7:15						13		4
7:15-7:30						10		3
7:30-7:45						11		7
7:45-8:00						10		3
HOURLY TOTAL						HOURLY TOTAL		61
8:00-8:15						16		3
8:15-8:30				1	1	11		1
8:30-8:45		1			1	12		3
8:45-9:00						26		2
HOURLY TOTAL					2	HOURLY TOTAL		74
9:00-9:15						9		
9:15-9:30						13		5
9:30-9:45						12		1
9:45-10:00				1	1	13		1
HOURLY TOTAL					1	HOURLY TOTAL		54
10:00-10:15						12		
10:15-10:30						16		
10:30-10:45						19	1	2
10:45-11:00				2	2	17		2
HOURLY TOTAL					2	HOURLY TOTAL		69
11:00-11:15		2		1	3	16		4
11:15-11:30				1	1	17		1
11:30-11:45		2				18	1	1
11:45-12:00		2			2	7		2
HOURLY TOTAL					6	HOURLY TOTAL		67
12:00-12:15		3			3	8	1	5
12:15-12:30		1		2	3	6	1	1
12:30-12:45		4			4	13		2
12:45-1:00		1			1	11		
HOURLY TOTAL					11	HOURLY TOTAL		48
1:00-1:15		1			1	8		1
1:15-1:30				1	1	22		1
1:30-1:45						17		4
1:45-2:00		2		4	6	12		2
HOURLY TOTAL					8	HOURLY TOTAL		67



NORTH

COUNT LOCATION: TMC 9719 CSAH 11
(NORTHDALE BLVD) @ XEON STREET

DATE: 7/14/97

APP. #1=WB CSAH 11 (NORTHDALE BLVD)
APP. #2 =NB XEON STREET
APP. #3=EB CSAH 11 (NORTHDALE BLVD)
APP. #4=SB XEON STREET

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	7		3
2:15-2:30		4		8	12	6		2
2:30-2:45						13		
2:45-3:00		3		1	4	6		
HOURLY TOTAL					17	HOURLY TOTAL		37
3:00-3:15		3			3	8		
3:15-3:30						7	1	4
3:30-3:45		4			4	6		
3:45-4:00						5		1
HOURLY TOTAL					7	HOURLY TOTAL		32
4:00-4:15		2			2	8	1	1
4:15-4:30				3	3	11		
4:30-4:45		2			2	6	1	2
4:45-5:00		1			1	8		1
HOURLY TOTAL					8	HOURLY TOTAL		39
5:00-5:15	1	1			2	4		
5:15-5:30		1		1	2	4		1
5:30-5:45		3			3	10		
5:45-6:00		1		1	2	1		1
HOURLY TOTAL					9	HOURLY TOTAL		21
6:00-6:15		4			4	6		
6:15-6:30		1			1	3	1	
6:30-6:45	2	1			3	3		
6:45-7:00				2	2	1		1
HOURLY TOTAL					10	HOURLY TOTAL		15
7:00-7:15		4			4	1		1
7:15-7:30						1		
7:30-7:45				2	2	3	1	
7:45-8:00				1	1	2		
HOURLY TOTAL					7	HOURLY TOTAL		9
8:00-8:15						1	1	
8:15-8:30		1			1	1		
8:30-8:45						1		
8:45-9:00		1		3	4	1		
HOURLY TOTAL					5	HOURLY TOTAL		5
9:00-9:15		2			2	1		
9:15-9:30				1	1			
9:30-9:45		2		1	3			
9:45-10:00								
HOURLY TOTAL					6	HOURLY TOTAL		1