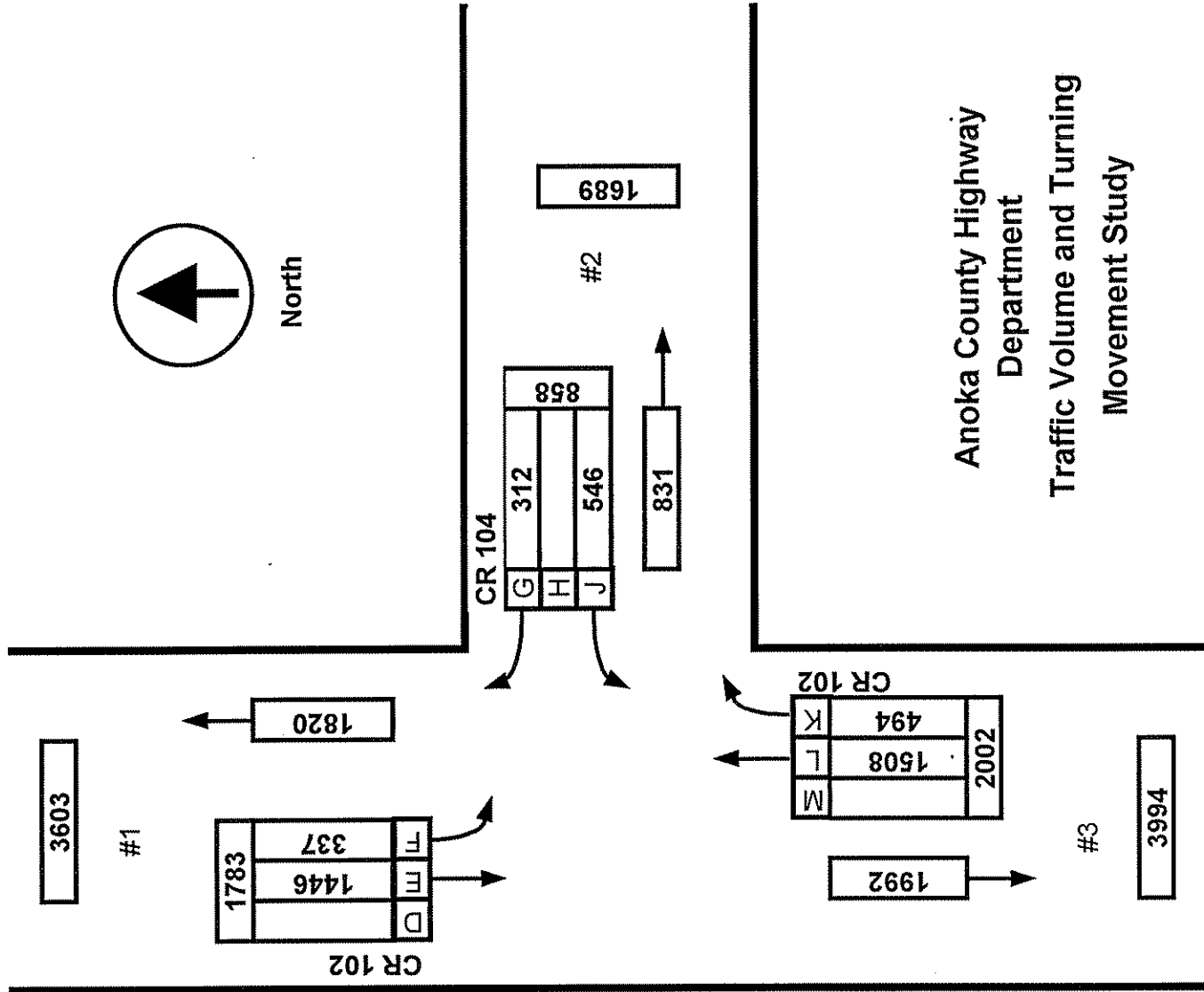


Date : 06/21/00

Count Number : TMC0022

Location : CR 102 @ CR 104



Anoka County Highway  
Department  
Traffic Volume and Turning  
Movement Study

	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

**Anoka County Highway Department  
Traffic Engineering  
Traffic Volume and Turning Movement Stud**

Weather: Sunny  
Counter TDC-8  
Counted by: Ryan & Justin

File Name : TMC0022  
Site Code : 00220101  
Start Date : 06/29/2000  
Page No : 1

Groups Printed- 1 - Unshifted

Start Time	CR 102 Southbound					CR104 Westbound					CR 102 Northbound					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			
06:00	2	14	0	0	16	12	0	5	0	17	0	12	1	1	13	0	0	0	0	0	1	46	47
06:15	1	26	0	0	27	9	0	2	0	11	0	6	1	1	7	0	0	0	0	0	1	45	46
06:30	4	31	0	0	35	18	0	5	2	23	0	8	2	0	10	0	0	0	0	0	2	68	70
06:45	5	30	0	0	35	19	0	8	0	27	0	20	2	1	22	0	0	0	0	0	1	84	85
Total	12	101	0	0	113	58	0	20	2	78	0	46	6	3	52	0	0	0	0	0	5	243	248
07:00	0	23	0	1	23	20	0	1	1	21	0	27	5	2	32	0	0	0	0	0	4	76	80
07:15	5	39	0	0	44	23	0	1	2	24	0	14	7	2	21	0	0	0	0	0	4	89	93
07:30	2	41	0	0	43	20	0	3	1	23	0	15	3	4	18	0	0	0	0	0	5	84	89
07:45	1	54	0	0	55	30	0	6	0	36	0	13	5	2	18	0	0	0	0	0	2	109	111
Total	8	157	0	1	165	93	0	11	4	104	0	69	20	10	89	0	0	0	0	0	15	358	373
08:00	2	33	0	0	35	21	0	5	1	26	0	15	3	0	18	0	0	0	0	0	1	79	80
08:15	1	17	0	0	18	7	0	2	0	9	0	10	4	2	14	0	0	0	0	0	2	41	43
08:30	3	10	0	0	13	18	0	3	0	21	0	16	4	0	20	0	0	0	0	0	0	54	54
08:45	6	13	0	0	19	4	0	3	1	7	0	20	8	3	28	0	0	0	0	0	4	54	58
Total	12	73	0	0	85	50	0	13	2	63	0	61	19	5	80	0	0	0	0	0	7	228	235
09:00	1	18	0	0	19	7	0	5	3	12	0	21	2	1	23	0	0	0	0	0	4	54	58
09:15	2	15	0	0	17	5	0	5	0	10	0	13	0	0	13	0	0	0	0	0	0	40	40
09:30	2	14	0	0	16	3	0	6	1	9	0	15	6	0	21	0	0	0	0	0	1	46	47
09:45	1	27	0	0	28	5	0	3	2	8	0	24	6	2	30	0	0	0	0	0	4	66	70
Total	6	74	0	0	80	20	0	19	6	39	0	73	14	3	87	0	0	0	0	0	9	206	215
10:00	1	14	0	1	15	4	0	7	1	11	0	16	3	2	19	0	0	0	0	0	4	45	49
10:15	4	19	0	2	23	12	0	3	5	15	0	18	3	1	21	0	0	0	0	0	8	59	67
10:30	0	17	0	0	17	4	0	3	2	7	0	13	3	2	16	0	0	0	0	0	4	40	44
10:45	8	25	0	2	33	7	0	5	2	12	0	15	3	1	18	0	0	0	0	0	5	63	68
Total	13	75	0	5	88	27	0	18	10	45	0	62	12	6	74	0	0	0	0	0	21	207	228
11:00	10	22	0	1	32	5	0	3	1	8	0	14	5	3	19	0	0	0	0	0	5	59	64
11:15	5	15	0	1	20	4	0	8	3	12	0	13	4	1	17	0	0	0	0	0	5	49	54
11:30	13	21	0	1	34	12	0	3	2	15	0	21	9	3	30	0	0	0	0	0	6	79	85
11:45	11	20	0	0	31	9	0	6	4	15	0	19	5	4	24	0	0	0	0	0	8	70	78
Total	39	78	0	3	117	30	0	20	10	50	0	67	23	11	90	0	0	0	0	0	24	257	281
12:00	5	28	0	2	33	5	0	11	0	16	0	29	20	4	49	0	0	0	0	0	6	98	104
12:15	8	31	0	4	39	14	0	9	4	23	0	30	8	1	38	0	0	0	0	0	9	100	109
12:30	6	30	0	1	36	24	0	9	2	33	0	30	9	5	39	0	0	0	0	0	8	108	116
12:45	4	21	0	2	25	14	0	4	1	18	0	25	4	3	29	0	0	0	0	0	6	72	78
Total	23	110	0	9	133	57	0	33	7	90	0	114	41	13	155	0	0	0	0	0	29	378	407
13:00	8	25	0	3	33	10	0	5	2	15	0	24	18	4	42	0	0	0	0	0	9	90	99
13:15	7	26	0	2	33	11	0	6	1	17	0	29	16	3	45	0	0	0	0	0	6	95	101
13:30	9	30	0	3	39	13	0	7	2	20	0	31	14	2	45	0	0	0	0	0	7	104	111
13:45	10	26	0	2	36	13	0	8	1	21	0	28	15	2	43	0	0	0	0	0	5	100	105
Total	34	107	0	10	141	47	0	26	6	73	0	112	63	11	175	0	0	0	0	0	27	389	416
14:00	7	31	0	4	38	6	0	4	0	10	0	17	5	1	22	0	0	0	0	0	5	70	75
14:15	3	22	0	0	25	6	0	3	1	9	0	16	6	3	22	0	0	0	0	0	4	56	60
14:30	12	23	0	1	35	9	0	9	1	18	0	28	5	1	33	0	0	0	0	0	3	86	89
14:45	8	30	0	2	38	7	0	4	1	11	0	20	4	3	24	0	0	0	0	0	6	73	79
Total	30	106	0	7	136	28	0	20	3	48	0	81	20	8	101	0	0	0	0	0	18	285	303
15:00	11	29	0	1	40	7	0	4	2	11	0	55	14	2	69	0	0	0	0	0	5	120	125
15:15	6	27	0	2	33	7	0	7	1	14	0	30	9	1	39	0	0	0	0	0	4	86	90
15:30	7	33	0	0	40	6	0	5	1	11	0	53	23	2	76	0	0	0	0	0	3	127	130
15:45	4	24	0	0	28	6	0	4	0	10	0	32	11	0	43	0	0	0	0	0	0	81	81
Total	28	113	0	3	141	26	0	20	4	46	0	170	57	5	227	0	0	0	0	0	12	414	426
16:00	8	18	0	0	26	2	0	6	1	8	0	47	19	2	66	0	0	0	0	0	3	100	103
16:15	9	22	0	1	31	6	0	6	1	12	0	58	22	0	80	0	0	0	0	0	2	123	125
16:30	11	26	0	0	37	6	0	6	0	12	0	71	19	0	90	0	0	0	0	0	0	139	139
16:45	4	27	0	1	31	5	0	8	0	13	0	52	16	0	68	0	0	0	0	0	1	112	113
Total	32	93	0	2	125	19	0	26	2	45	0	228	76	2	304	0	0	0	0	0	6	474	480

# Anoka County Highway Department Traffic Engineering

## Traffic Volume and Turning Movement Study

Weather: Sunny  
Counter TDC-8

Counted by: Ryan & Justin

File Name : TMC0022  
Site Code : 00220101  
Start Date : 06/29/2000  
Page No : 2

Groups Printed- 1 - Unshifted

Start Time	CR 102 Southbound					CR104 Westbound					CR 102 Northbound					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				
17:00	6	28	0	0	34	8	0	2	0	10	0	62	14	3	79	0	0	0	0	0	3	120	123
17:15	9	23	0	2	32	8	0	4	0	12	0	56	15	0	71	0	0	0	0	0	2	115	117
17:30	7	23	0	1	30	2	0	7	0	9	0	43	16	2	59	0	0	0	0	0	3	98	101
17:45	7	28	0	0	35	8	0	6	0	14	0	39	13	0	52	0	0	0	0	0	0	101	101
<b>Total</b>	<b>29</b>	<b>102</b>	<b>0</b>	<b>3</b>	<b>131</b>	<b>26</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>200</b>	<b>58</b>	<b>5</b>	<b>258</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>434</b>	<b>442</b>
18:00	4	18	0	0	22	4	0	0	0	4	0	31	7	0	38	0	0	0	0	0	0	64	64
18:15	9	25	0	0	34	4	0	9	0	13	0	24	11	1	35	0	0	0	0	0	1	82	83
18:30	9	17	0	0	26	4	0	6	0	10	0	21	9	0	30	0	0	0	0	0	0	66	66
18:45	4	19	0	0	23	2	0	6	0	8	0	27	4	0	31	0	0	0	0	0	0	62	62
<b>Total</b>	<b>26</b>	<b>79</b>	<b>0</b>	<b>0</b>	<b>105</b>	<b>14</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>35</b>	<b>0</b>	<b>103</b>	<b>31</b>	<b>1</b>	<b>134</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>274</b>	<b>275</b>
19:00	6	13	0	0	19	4	0	11	0	15	0	11	8	0	19	0	0	0	0	0	0	53	53
19:15	11	13	0	0	24	3	0	7	0	10	0	6	8	0	14	0	0	0	0	0	0	48	48
19:30	3	13	0	0	16	5	0	7	0	12	0	19	2	0	21	0	0	0	0	0	0	49	49
19:45	3	19	0	0	22	8	0	5	1	13	0	8	2	0	10	0	0	0	0	0	1	45	46
<b>Total</b>	<b>23</b>	<b>58</b>	<b>0</b>	<b>0</b>	<b>81</b>	<b>20</b>	<b>0</b>	<b>30</b>	<b>1</b>	<b>50</b>	<b>0</b>	<b>44</b>	<b>20</b>	<b>0</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>195</b>	<b>196</b>
20:00	2	17	0	0	19	4	0	1	0	5	0	14	3	0	17	0	0	0	0	0	0	41	41
20:15	4	11	0	0	15	6	0	3	0	9	0	14	6	0	20	0	0	0	0	0	0	44	44
20:30	4	14	0	0	18	3	0	2	0	5	0	15	5	0	20	0	0	0	0	0	0	43	43
20:45	2	9	0	0	11	2	0	3	0	5	0	12	3	0	15	0	0	0	0	0	0	31	31
<b>Total</b>	<b>12</b>	<b>51</b>	<b>0</b>	<b>0</b>	<b>63</b>	<b>15</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>55</b>	<b>17</b>	<b>0</b>	<b>72</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>159</b>	<b>159</b>
21:00	3	26	0	0	29	5	0	2	0	7	0	6	7	0	13	0	0	0	0	0	0	49	49
21:15	1	14	0	0	15	4	0	2	0	6	0	6	2	0	8	0	0	0	0	0	0	29	29
21:30	3	15	0	0	18	4	0	1	0	5	0	5	5	0	10	0	0	0	0	0	0	33	33
21:45	3	14	0	0	17	3	0	2	0	5	0	6	3	0	9	0	0	0	0	0	0	31	31
<b>Total</b>	<b>10</b>	<b>69</b>	<b>0</b>	<b>0</b>	<b>79</b>	<b>16</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>23</b>	<b>17</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>142</b>	<b>142</b>
<b>Grand Total</b>	<b>337</b>	<b>1446</b>	<b>0</b>	<b>43</b>	<b>1783</b>	<b>546</b>	<b>0</b>	<b>312</b>	<b>57</b>	<b>858</b>	<b>0</b>	<b>1508</b>	<b>494</b>	<b>83</b>	<b>2002</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>183</b>	<b>4643</b>	<b>4826</b>
<b>Apprch %</b>	<b>18.9</b>	<b>81.1</b>	<b>0.0</b>			<b>63.6</b>	<b>0.0</b>	<b>36.4</b>			<b>0.0</b>	<b>75.3</b>	<b>24.7</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>			<b>0.0</b>	<b>3.8</b>	<b>96.2</b>
<b>Total %</b>	<b>7.3</b>	<b>31.1</b>	<b>0.0</b>		<b>38.4</b>	<b>11.8</b>	<b>0.0</b>	<b>6.7</b>		<b>18.5</b>	<b>0.0</b>	<b>32.5</b>	<b>10.6</b>		<b>43.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>0.0</b>	<b>3.8</b>	<b>96.2</b>	

Major Street Approaches:

Northbound:

CR 102

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0022.war  
 Count Type: IMC. Channel: 0. Count Date: 6/29/ 0  
 Number of Lanes: 1  
 Approach Speed: 35  
 Total Approach Traffic: 2002

Southbound:

CR 102

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0022.war  
 Count Type: IMC. Channel: 0. Count Date: 6/29/ 0  
 Number of Lanes: 1  
 Approach Speed: 35  
 Total Approach Traffic: 1784

Minor Street Approaches:

Eastbound:

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0022.war  
 Count Type: IMC. Channel: 0. Count Date: 6/29/ 0  
 Number of Lanes: 1  
 Approach Speed: 0  
 Total Approach Traffic: 0

Westbound:

CR104

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0022.war  
 Count Type: IMC. Channel: 0. Count Date: 6/29/ 0  
 Number of Lanes: 1  
 Approach Speed: 30  
 Total Approach Traffic: 858

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

Hour	Main (Total)	Side			Warrant 1		Warrant 2		Warrant 3	
		Vol.	Dir.	Rank	Meets?	Criteria	Meets?	Criteria	Meets?	Criteria
0	0	0	W	17		150		75		120
1	0	0	W	18		150		75		120
2	0	0	W	19		150		75		120
3	0	0	W	20		150		75		120
4	0	0	W	21		150		75		120
5	0	0	W	22		150		75		120
6	165	78	W	3		150	SIDE	75		120
7	254	104	W	1		150	SIDE	75		120
8	165	63	W	5		150		75		120
9	167	39	W	13		150		75		120
10	162	45	W	10		150		75		120
11	207	50	W	6		150		75		120
12	288	90	W	2		150	SIDE	75		120
13	316	73	W	4		150		75		120
14	237	48	W	8		150		75		120
15	368	46	W	9		150		75		120
16	429	45	W	11		150		75		120
17	390	45	W	12		150		75		120
18	239	35	W	14		150		75		120
19	145	50	W	7		150		75		120
20	135	24	W	15		150		75		120
21	119	23	W	16		150		75		120
22	0	0	W	23		150		75		120
23	0	0	W	24		150		75		120

## Warrant Summary:

Urban values apply.

## Warrant 1 - Minimum Vehicular Volumes

NOT SATISFIED. Required values reached for 0 hours. Criteria--Main St.: 500; Side St.: See Volume Summary.

## Warrant 2 - Interruption of Continuous Traffic

NOT SATISFIED. Required values reached for 0 hours. Criteria--Main St.: 750; Side St.: See Volume Summary.

## Warrant 3 - Minimum Pedestrian Volumes

NOT SATISFIED. 8th-High Hour--Pedestrians: 3; Vehicles: 237. Criteria--Pedestrians: 150; Vehicles: 600.

## 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. Peak hour total entering volume 474 does not meet criteria of 800

- 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

NOT SATISFIED. Required values reached for 0 hours. Criteria--Main: 600; Side: See Volume Summary.

## Warrant 9 - Four Hour Volumes

NOT SATISFIED. Required values reached for 0 hours.

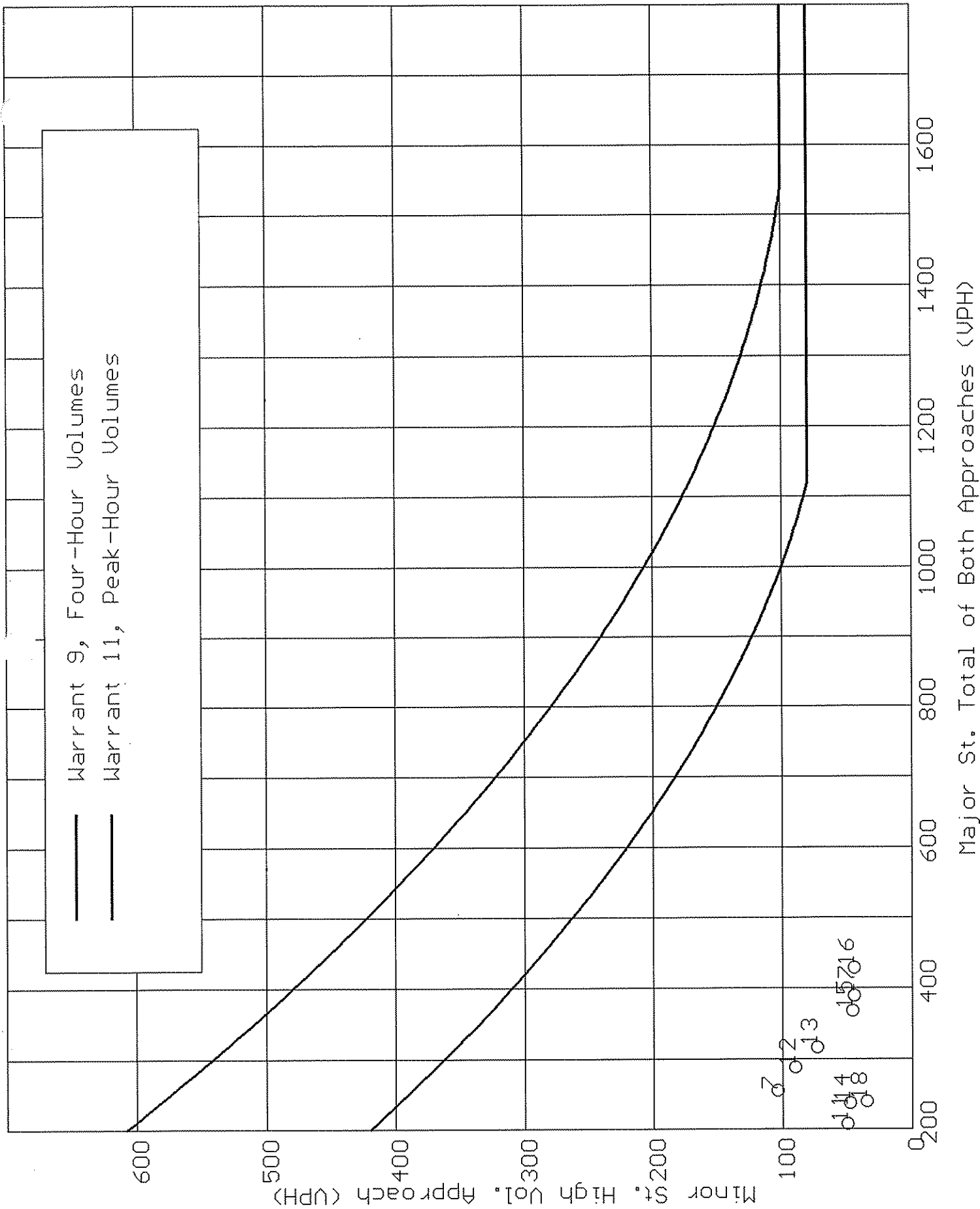
## Warrant 10 - Peak Hour Delay

NOT SATISFIED. Peak hour (1600 hours) volume not adequate.

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

## Warrant 11 - Peak Hour Volume

NOT SATISFIED.



↑  
**NORTH**

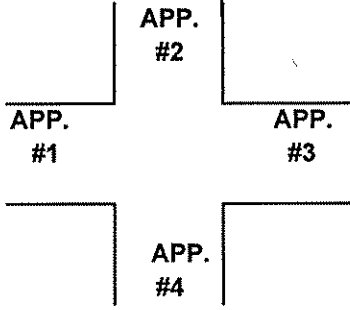
APP. #1=  
APP. #2 = SB CR 102  
APP. #3= WB CR 104  
APP. #4= NB CR 102

**COUNT LOCATION:**

CR 102 @  
CR 104

**DATE:**

6/29/00



- 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		
6:15-6:30						1		
6:30-6:45						2		
6:45-7:00						1		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>17</b>
7:00-7:15						4		
7:15-7:30						4		
7:30-7:45						5		
7:45-8:00						2		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>13</b>
8:00-8:15						1		
8:15-8:30						2		
8:30-8:45								
8:45-9:00						4		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>6</b>
9:00-9:15						4		
9:15-9:30								
9:30-9:45						1		
9:45-10:00						4		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>9</b>
10:00-10:15						4		
10:15-10:30						8		
10:30-10:45						4		
10:45-11:00						5		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>21</b>
11:00-11:15						5		
11:15-11:30						5		
11:30-11:45						6		
11:45-12:00						8		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>24</b>
12:00-12:15						6		
12:15-12:30						9		
12:30-12:45						8		
12:45-1:00						6		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>29</b>
1:00-1:15						9		
1:15-1:30						6		
1:30-1:45						6		
1:45-2:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>21</b>

↑  
**NORTH**

APP. #1=

APP. #2 = SB CR 102

APP. #3= WB CR 104

APP. #4= NB CR 102

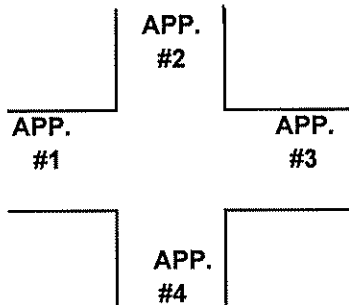
**COUNT LOCATION:**

CR 102 @

**DATE:**

6/26/00

CR 104



- 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						3		
2:30-2:45						3		
2:45-3:00						6		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>17</b>
3:00-3:15						5		
3:15-3:30						4		
3:30-3:45						2		
3:45-4:00						2		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>13</b>
4:00-4:15						3		
4:15-4:30						2		
4:30-4:45								
4:45-5:00						1		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>6</b>
5:00-5:15						3		
5:15-5:30						2		
5:30-5:45						4		
5:45-6:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>9</b>
6:00-6:15								
6:15-6:30						1		
6:30-6:45								
6:45-7:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>1</b>
7:00-7:15								
7:15-7:30								
7:30-7:45								
7:45-8:00						1		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>1</b>
8:00-8:15								
8:15-8:30								
8:30-8:45								
8:45-9:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</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>		