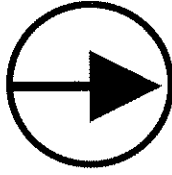


Date : 11/4/97AM 11/5/97PM

Count Number : TMC9729

Location : CSAH 116 (BUNKER LAKE BLVD)

@ MARIGOLD ST.



North

EB CSAH 116 (BUNKER LAKE BLVD)

G	6236
H	5979
J	257

#3

12700

6464

6165

#1

12491

C	6326
B	6166
A	160

WB CSAH 116 (BUNKER LAKE BLVD)

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

M	186
L	
K	298
484	

SB MARIGOLD ST.

417

#4

901

Anoka County Highway Department  
Traffic Volume and Turning  
Movement Study

Weather :  
 Counted by: Marge and Janelle  
 Board # :  
 cher :

PETRA Software  
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 Horsham, PA.

Study Name: TMC9729  
 Site Code : 97290102  
 Start Date: 11/04/97  
 Page : 1

Vehicle group 1

Start Time	MARIGOLD ST. Southbound			CSAH 116 (BUNKER LAKE Westbound			CSAH 116 (BUNKER LAKE Eastbound			Intrvl. Total	Exclude Total	Include Total
	Left	Right	Other	Thru	Right	Other	Left	Thru	Other			
11/04/97												
06:00	4	12	0	60	0	0	1	43	1	121	1	120
06:15	2	7	0	95	0	3	2	56	7	172	10	162
06:30	8	13	1	115	1	5	0	79	6	228	12	216
06:45	7	14	0	192	3	12	3	95	7	333	19	314
Hour	21	46	1	462	4	20	6	273	21	854	42	812
07:00	7	20	2	181	3	10	2	107	9	341	21	320
07:15	4	17	0	164	4	6	2	123	20	340	26	314
07:30	8	12	0	165	2	7	1	106	13	314	20	294
07:45	5	8	2	166	1	7	3	114	12	318	21	297
Hour	24	57	4	676	10	30	8	450	54	1313	88	1225
08:00	2	11	0	103	0	12	1	98	8	235	20	215
08:15	4	9	0	100	2	9	6	98	17	245	26	219
08:30	3	4	0	122	2	13	3	98	14	259	27	232
08:45	8	10	2	151	6	19	6	108	18	328	39	289
Hour	17	34	2	476	10	53	16	402	57	1067	112	955
09:00	7	6	1	111	2	14	8	82	14	245	29	216
09:15	5	3	1	100	7	1	6	91	11	225	13	212
09:30	2	3	0	107	2	9	3	65	10	201	19	182
09:45	3	6	0	93	1	5	2	63	7	180	12	168
Hour	17	18	2	411	12	29	19	301	42	851	73	778
10:00	5	4	0	102	4	8	1	93	9	226	17	209
10:15	2	4	0	70	0	10	1	96	13	196	23	173
10:30	1	3	0	94	2	11	3	84	6	204	17	187
10:45	5	4	0	89	1	6	3	87	7	202	13	189
Hour	13	15	0	355	7	35	8	360	35	828	70	758
11:00	4	1	0	97	4	12	5	101	7	231	19	212
11:15	5	1	0	92	1	11	1	98	13	222	24	198
11:30	1	6	0	115	2	12	1	102	9	248	21	227
11:45	3	5	0	120	3	9	5	102	5	252	14	238
Hour	13	13	0	424	10	44	12	403	34	953	78	875
12:00	8	6	1	117	4	6	5	138	10	295	17	278
12:15	1	1	0	100	1	5	4	129	7	248	12	236
12:30	0	4	0	110	0	6	6	100	9	235	15	220
12:45	2	1	1	127	0	7	8	115	12	273	20	253
Hour	11	12	2	454	5	24	23	482	38	1051	64	987

Weather :  
 Counted by: Marge and Janelle  
 Road # :  
 Lcher :

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 Horsham, PA.

Study Name: TMC9729  
 Site Code : 97290102  
 Start Date: 11/04/97  
 Page : 2

Vehicle group 1

Start Time	MARIGOLD ST. Southbound			CSAH 116 (BUNKER LAKE) Westbound			CSAH 116 (BUNKER LAKE) Eastbound			Intrvl.	Exclude	Include
	Left	Right	Other	Thru	Right	Other	Left	Thru	Other	Total	Total	Total
13:00	3	6	2	94	2	7	5	133	7	259	16	243
13:15	1	4	0	111	4	6	3	112	9	250	15	235
13:30	4	7	1	107	1	7	0	108	4	239	12	227
13:45	1	5	0	122	2	13	5	119	5	272	18	254
Hour	9	22	3	434	9	33	13	472	25	1020	61	959
14:00	3	1	0	108	2	13	3	84	3	217	16	201
14:15	3	3	1	95	2	9	9	140	9	271	19	252
14:30	5	3	1	106	4	7	4	151	9	290	17	273
14:45	6	3	0	117	9	3	5	129	7	279	10	269
Hour	17	10	2	426	17	32	21	504	28	1057	62	995
15:00	2	4	0	119	3	10	9	160	8	315	18	297
15:15	3	4	1	136	8	12	6	189	6	365	19	346
15:30	2	2	1	182	8	17	6	185	6	409	24	385
15:45	5	3	0	173	6	6	16	179	11	399	17	382
Hour	12	13	2	610	25	45	37	713	31	1488	78	1410
16:00	3	9	0	155	3	5	11	184	9	379	14	365
16:15	4	5	1	160	7	10	13	197	11	408	22	386
16:30	7	8	0	193	10	5	11	208	6	448	11	437
16:45	9	8	1	204	3	4	7	234	3	473	8	465
Hour	23	30	2	712	23	24	42	823	29	1708	55	1653
17:00	2	10	0	183	10	6	19	211	4	445	10	435
17:15	1	8	0	163	6	2	9	219	2	410	4	406
17:30	3	5	0	175	8	2	12	190	3	398	5	393
17:45	3	5	0	205	4	5	12	176	5	415	10	405
Hour	9	28	0	726	28	15	52	796	14	1668	29	1639
Total	186	298	20	6166	160	384	257	5979	408	13858	812	13046
% Apr.	36.9	59.1	3.9	91.8	2.3	5.7	3.8	89.9	6.1	-	-	-
% Int.	1.3	2.1	0.1	44.4	1.1	2.7	1.8	43.1	2.9	-	-	-

Major Street Approaches:

Eastbound:

CSAH 116 (BUNKER LAKE BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9729.PDF  
 Count Type: IMC. Channel: 0. Count Date: 11/ 4/97  
 Number of Lanes: 2  
 Approach Speed: 50  
 Total Approach Traffic: 6236

Westbound:

CSAH 116 (BUNKER LAKE BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9729.PDF  
 Count Type: IMC. Channel: 0. Count Date: 11/ 4/97  
 Number of Lanes: 1  
 Approach Speed: 50  
 Total Approach Traffic: 6326

Minor Street Approaches:

Northbound:

Data File: C:\APPS\PETRA2\DATAFILE\TMC9729.PDF  
 Count Type: IMC. Channel: 0. Count Date: 11/ 4/97  
 Number of Lanes: 1  
 Approach Speed: 0  
 Total Approach Traffic: 0

Southbound:

MARIGOLD ST.

Data File: C:\APPS\PETRA2\DATAFILE\TMC9729.PDF  
 Count Type: IMC. Channel: 0. Count Date: 11/ 4/97  
 Number of Lanes: 1  
 Approach Speed: 30  
 Total Approach Traffic: 484

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

Hour	Main (Total)	Side Vol.	Dir.	Rank	Warrant 1 Meets? Criteria	Warrant 2 Meets? Criteria	Warrant 8 Meets? Criteria
0	0	0	S	13	105	52	84
1	0	0	S	14	105	52	84
2	0	0	S	15	105	52	84
3	0	0	S	16	105	52	84
4	0	0	S	17	105	52	84
5	0	0	S	18	105	52	84
6	745	67	S	2	MAIN 105	--BOTH-- 52	MAIN 84
7	1144	81	S	1	MAIN 105	--BOTH-- 52	MAIN 84
8	904	51	S	4	MAIN 105	MAIN 52	MAIN 84
9	743	35	S	6	MAIN 105	MAIN 52	MAIN 84
10	730	28	S	8	MAIN 105	MAIN 52	MAIN 84
11	849	26	S	10	MAIN 105	MAIN 52	MAIN 84
12	964	23	S	12	MAIN 105	MAIN 52	MAIN 84
13	928	31	S	7	MAIN 105	MAIN 52	MAIN 84
14	968	27	S	9	MAIN 105	MAIN 52	MAIN 84
15	1385	25	S	11	MAIN 105	MAIN 52	MAIN 84
16	1600	53	S	3	MAIN 105	--BOTH-- 52	MAIN 84
17	1602	37	S	5	MAIN 105	MAIN 52	MAIN 84
18	0	0	S	19	105	52	84
19	0	0	S	20	105	52	84
20	0	0	S	21	105	52	84
21	0	0	S	22	105	52	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 0 hours. Criteria--Main St.: 420; Side St.: See Volume Summary.

## Warrant 2 - Interruption of Continuous Traffic

NOT SATISFIED. Required values reached for 3 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: 1653.

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

## Warrant 9 - Four Hour Volumes

NOT SATISFIED. Required values reached for 1 hours.

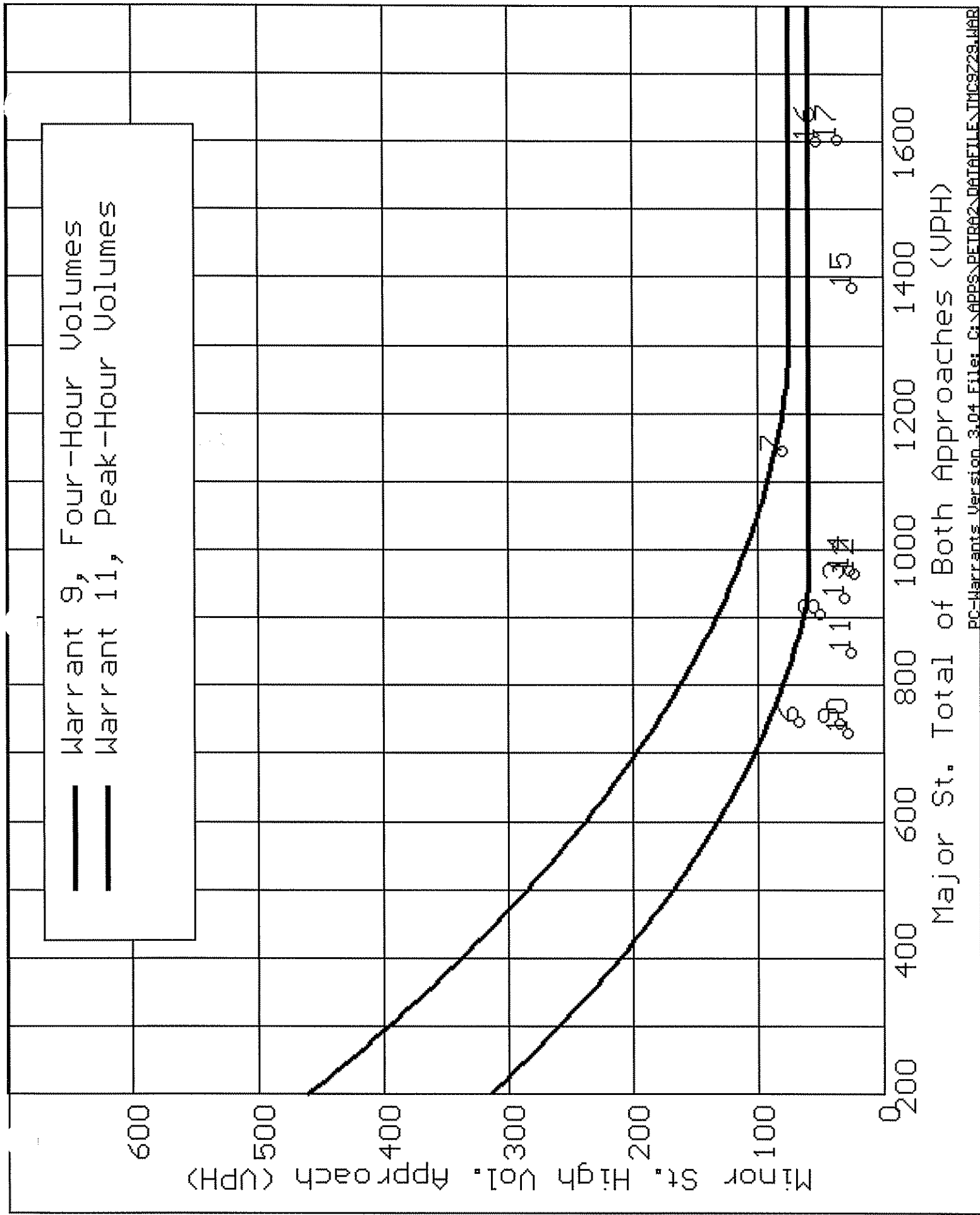
## Warrant 10 - Peak Hour Delay

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.



Major St. Total of Both Approaches (VPH)



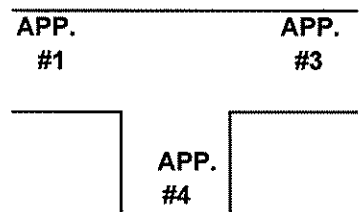
**NORTH**

APP. #1=WB CASH 116  
(BUNKER ALKE BLVD)

APP. #3=EB CSAH 16  
(BUNKER LAKE BLVD)

APP. #4=SB MARIGOLD  
ST.

**COUNT LOCATION:** CSAH 116 (BUNKER LAKE BLVD) @ **DATE:** 11/4/97  
MARIGOLD ST.



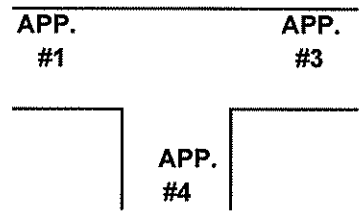
- HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT
- A. TRUCKS- A HEAVY VEHICLE INVOLVED PRIMARILY IN THE TRANSPORT OF GOODS OR IN THE DELIVERY OF A SERVICE.
  - B. RV- A HEAVY VEHICLE OPERATED BY A PRIVATE MOTORIST AND INVOLVED IN THE TRANSPORT OF RECREATIONAL EQUIPMENT OR 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						4		6
6:30-6:45						7		5
6:45-7:00						10		9
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>42</b>
7:00-7:15						8		13
7:15-7:30						19		7
7:30-7:45						20		
7:45-8:00						16		5
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>88</b>
8:00-8:15						13		8
8:15-8:30						18		7
8:30-8:45						15		13
8:45-9:00						22		16
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>112</b>
9:00-9:15						18		11
9:15-9:30				1	1	9		3
9:30-9:45						18		1
9:45-10:00	1				1	12		
<b>HOURLY TOTAL</b>					<b>2</b>	<b>HOURLY TOTAL</b>		<b>72</b>
10:00-10:15						16		1
10:15-10:30						23		
10:30-10:45						16		1
10:45-11:00						13		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>70</b>
11:00-11:15						16		2
11:15-11:30						21		3
11:30-11:45	2					17		4
11:45-12:00						12		2
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>77</b>
12:00-12:15						11		6
12:15-12:30						12		
12:30-12:45						12	1	2
12:45-1:00						13		6
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>63</b>
1:00-1:15						11	1	4
1:15-1:30						13		2
1:30-1:45						12		
1:45-2:00						5		13
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>61</b>



**COUNT LOCATION:** CSAH 116 (BUNKER LAKE BLVD) @ **DATE:** 11/5/97  
MARIGOLD ST.

APP. #1=WB CASH 116  
 (BUNKER ALKE BLVD)  
 APP. #3=EB CSAH 16  
 (BUNKER LAKE BLVD)  
 APP. #4=SB MARIGOLD  
 ST.



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.  
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 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						9		7
2:15-2:30						11		7
2:30-2:45						8		8
2:45-3:00						8		3
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>61</b>
3:00-3:15						14		4
3:15-3:30						12		7
3:30-3:45						13		12
3:45-4:00						6		9
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>77</b>
4:00-4:15						7		7
4:15-4:30						10		12
4:30-4:45						8		3
4:45-5:00						6		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>54</b>
5:00-5:15						8		3
5:15-5:30						4		
5:30-5:45						3		2
5:45-6:00						8		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>29</b>
6:00-6:15								
6:15-6:30								
6:30-6:45								
6:45-7:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		
7:00-7:15								
7:15-7:30								
7:30-7:45								
7:45-8:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</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>		