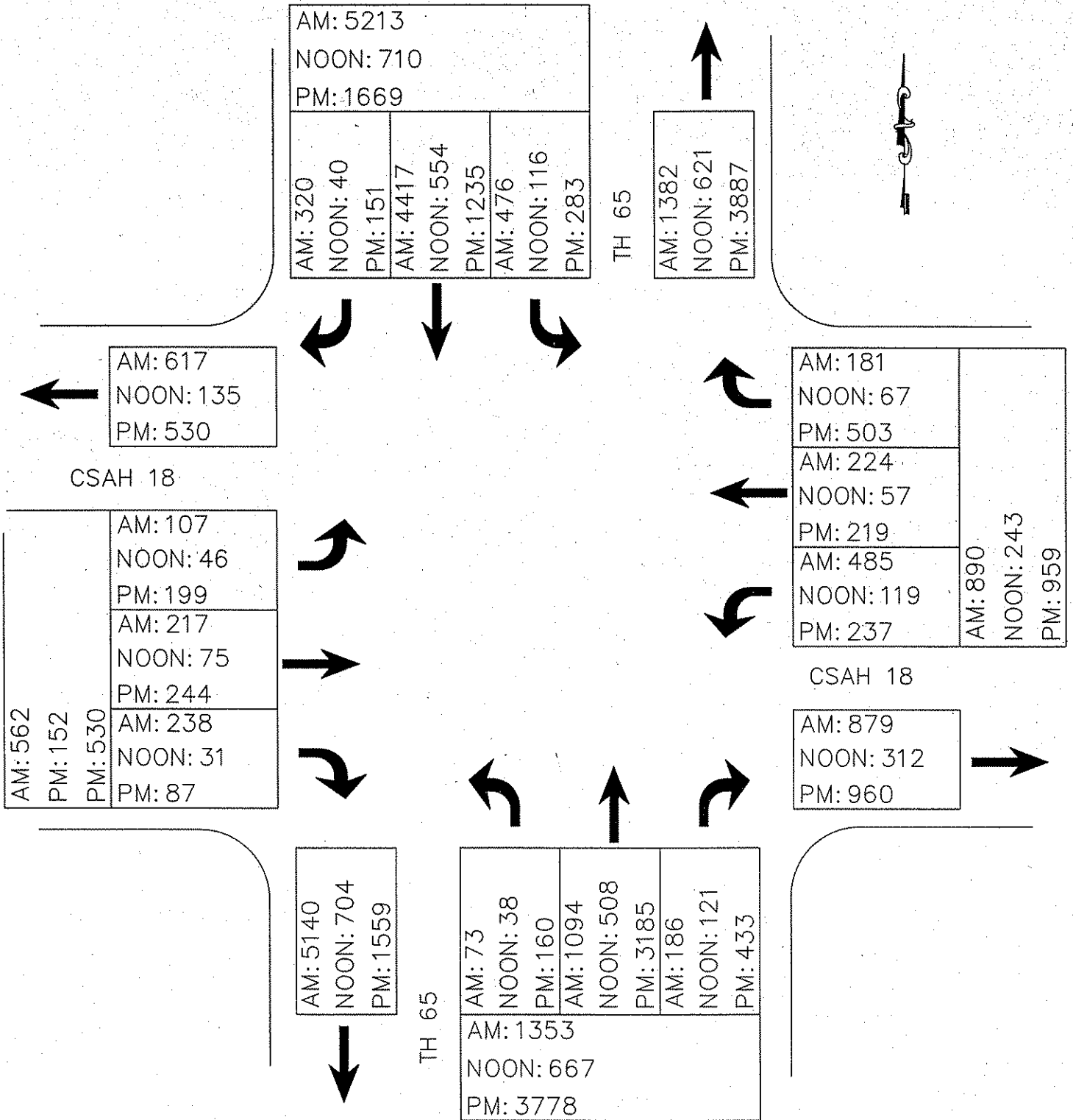


ANOKA COUNTY HIGHWAY DEPARTMENT

PEAK AM/NOON/PM TURNING MOVEMENT DIAGRAM

Location: C. S. A. H. 18 (CROSSTOWN BLVD.) @ T. H. 65 (CENTRAL AVE.)



Anoka County Highway Department
 Traffic Engineering
 Traffic Volume and Turning Movement Study

File Name : TMC0541
 Site Code : 05410101
 Start Date : 11/08/2005
 Page No : 1

Weather: Cloudy and Mild
 Counter: DB-400
 Counted by: Josie/Terri

Groups Printed- Unshifted

Start Time	TH 65 Southbound					CSAH 18 Westbound					TH 65 Northbound					CSAH 18 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		1.0	1.0	1.0	1.0				
06:00	34	464	21	14	519	41	13	13	1	67	2	56	6	7	64	4	9	13	0	26	22	676	698					
06:15	41	478	36	9	555	44	12	2	2	58	5	85	17	10	107	6	16	15	2	37	23	757	780					
06:30	51	406	27	19	484	52	19	21	8	92	6	113	15	9	134	10	28	24	4	62	40	772	812					
06:45	55	502	33	27	590	51	24	14	3	89	12	97	23	19	132	10	18	24	6	52	55	863	918					
Total	181	1850	117	69	2148	188	68	50	14	306	25	351	61	45	437	30	71	76	12	177	140	3068	3208					
07:00	58	405	29	18	492	52	26	16	6	94	3	85	6	5	94	16	14	20	3	50	32	730	762					
07:15	44	443	34	17	521	54	22	17	5	93	8	94	12	7	114	10	25	28	2	63	31	791	822					
07:30	44	377	23	20	444	41	23	20	1	84	4	113	25	17	142	10	27	18	4	55	42	725	767					
07:45	56	326	35	19	417	29	13	18	9	60	7	92	24	14	123	10	14	18	6	42	48	642	690					
Total	202	1551	121	74	1874	176	84	71	21	331	22	384	67	43	473	46	80	84	15	210	153	2888	3041					
08:00	24	265	26	14	315	25	13	12	4	50	6	76	14	17	96	11	12	19	3	42	38	503	541					
08:15	28	285	16	18	329	25	19	16	3	60	2	89	10	15	101	6	18	22	3	46	39	536	575					
08:30	23	280	26	18	329	34	21	11	5	66	9	101	22	26	132	7	12	17	2	36	51	563	614					
08:45	18	186	14	17	218	37	19	21	2	77	9	93	12	15	114	7	24	20	7	51	41	460	501					
Total	93	1016	82	67	1191	121	72	60	14	253	26	359	58	73	443	31	66	78	15	175	169	2062	2231					
*** break ***																												
12:00	34	147	9	16	190	24	5	16	4	45	10	108	31	11	149	10	32	13	4	55	35	439	474					
12:15	30	132	9	18	171	33	18	21	3	72	4	134	36	13	174	13	18	11	4	42	38	459	497					
12:30	20	141	7	15	168	32	13	14	4	59	13	128	27	10	168	9	14	2	0	25	29	420	449					
12:45	32	134	15	14	181	30	21	16	3	67	11	138	27	12	176	14	11	5	2	30	31	454	485					
Total	116	554	40	63	710	119	57	67	14	243	38	508	121	46	667	46	75	31	10	152	133	1772	1905					
*** break ***																												
16:00	35	157	26	9	218	31	33	60	7	124	14	351	62	15	427	17	26	12	4	55	35	824	859					
16:15	43	145	10	11	198	26	26	83	2	135	28	368	54	11	450	34	42	11	3	87	27	870	897					
16:30	32	168	34	16	234	31	22	45	4	98	19	448	65	9	532	23	25	11	2	59	31	923	954					
16:45	34	150	14	9	198	25	34	87	3	146	22	423	61	15	506	22	34	8	2	64	29	914	943					
Total	144	620	84	45	848	113	115	275	16	503	83	1590	242	50	1915	96	127	42	11	265	122	3531	3653					
17:00	36	158	10	8	204	28	37	68	1	133	21	416	42	20	479	29	30	14	3	73	32	889	921					
17:15	37	182	23	10	242	33	22	62	2	117	25	386	57	11	468	29	39	15	0	83	23	910	933					
17:30	29	119	20	5	168	30	23	56	1	109	18	446	49	9	513	25	28	8	1	61	16	851	867					
17:45	37	156	14	5	207	33	22	42	0	97	13	347	43	10	403	20	20	8	1	48	16	755	771					
Total	139	615	67	28	821	124	104	228	4	456	77	1595	191	50	1863	103	117	45	5	265	87	3405	3492					
Grand Total	875	6206	511	346	7592	841	500	751	83	2092	271	4787	740	307	5798	352	536	356	68	1244	804	16726	17530					
Apprch %	11.5	81.7	6.7			40.2	23.9	35.9			4.7	82.6	12.8			28.3	43.1	28.6										
Total %	5.2	37.1	3.1		45.4	5.0	3.0	4.5		12.5	1.6	28.6	4.4		34.7	2.1	3.2	2.1		7.4	4.6	95.4						

**ANOKA COUNTY HIGHWAY
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name : **TMC0541**
Study Date : **11/18/05**
Page No. : **1**

Signal Warrants - Summary

Major Street Approaches

Northbound: TH 65
Number of Lanes: 2
Approach Speed: 65
Total Approach Volume: 5,798

Southbound: TH 65
Number of Lanes: 2
Approach Speed: 65
Total Approach Volume: 7,592

Minor Street Approaches

Eastbound: CSAH 18
Number of Lanes: 2

Total Approach Volume: 1,244

Westbound: CSAH 18
Number of Lanes: 2

Total Approach Volume: 2,092

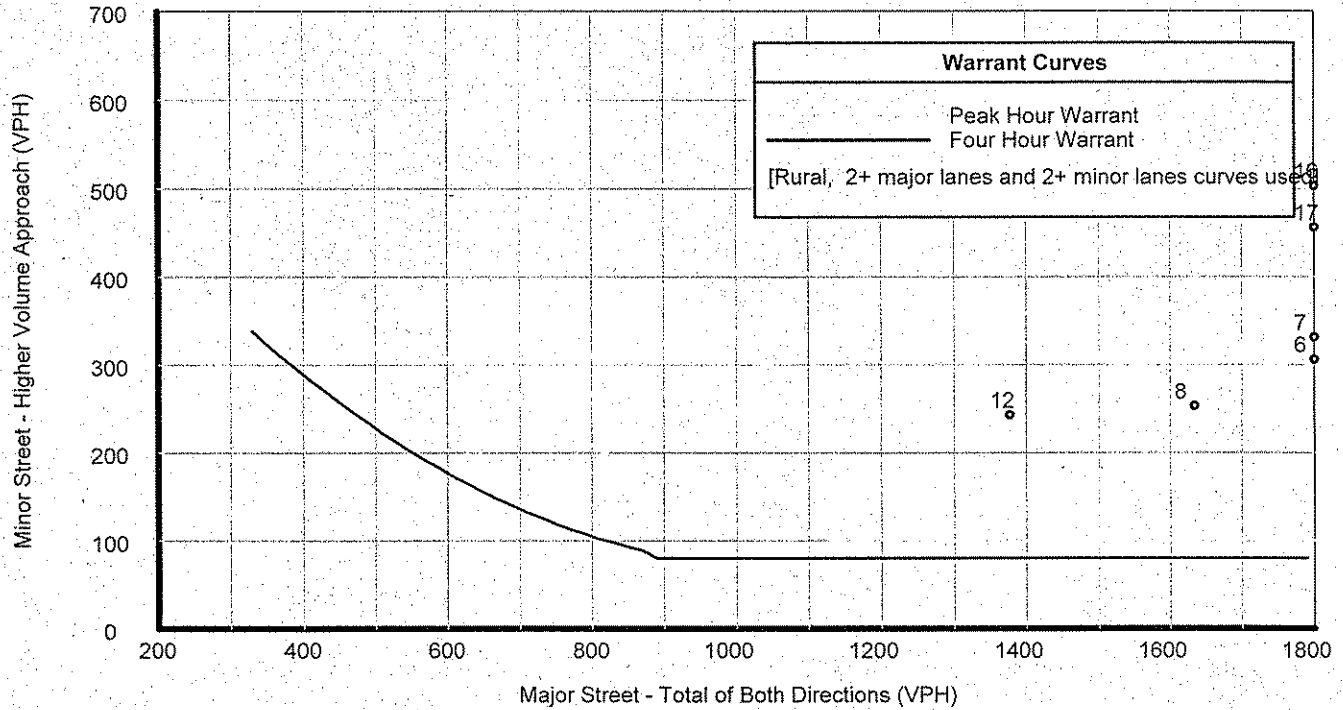
Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Not Satisfied
Warrant 1A - Minimum Vehicular Volume	Not Satisfied
Required volumes reached for 6 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Not Satisfied
Required volumes reached for 6 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Not Satisfied
Required volumes reached for 6 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (6) volumes exceed minimum >= minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Delay	Satisfied
Number of hours (23) volumes exceed minimum >= required (1). Delay data not evaluated.	
Warrant 3B - Peak Hour Volumes	Satisfied
Volumes exceed minimums for at least one hour.	
Warrant 4 - Pedestrian Volumes	Not Evaluated
Warrant 5 - School Crossing	Not Evaluated
Warrant 6 - Coordinated Signal System	Not Evaluated
Warrant 7 - Crash Experience	Not Evaluated
Warrant 8 - Roadway Network	Not Evaluated

ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC0541
Study Date : 11/18/05
Page No. : 2

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor		War-1A			War-1B			War-1A&B		
		Vol	Dir	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
01:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
02:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
03:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
04:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
05:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
06:00	2,585	306	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
07:00	2,347	331	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
08:00	1,634	253	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
09:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
10:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
11:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
12:00	1,377	243	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
13:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
14:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
15:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
16:00	2,763	503	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	2,684	456	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
19:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
20:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
21:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
22:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
23:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---

**ANOKA COUNTY HIGHWAY
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name : TMC0541
Study Date : 11/18/05

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: TH 65
Total Approach Volume: 5,798
Approach Speed: 65

Southbound: TH 65
Total Approach Volume: 7,592
Approach Speed: 65

Minor Street Approaches

Eastbound: CSAH 18
Total Approach Volume: 1,244

Westbound: CSAH 18
Total Approach Volume: 2,092

Warrant Summary

Criteria A - Interim Measure Not Evaluated
If traffic signals are justified, stop signs can be installed as an interim measure.

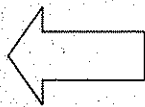
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Not Satisfied
Delay data not evaluated
Required volumes reached for 6 hours, 8 are needed

Criteria D - 80% of Volumes, Delays, and Crashes Not Evaluated
Delay data not evaluated
Required volumes reached for 6 hours, 8 are needed.

Analysis of 8-Hour Volume Warrants:

Time	Major Total	Minor Total	Crit C			Crit D		
			Major	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00 - 01:00	0	0	210-No	140-No	No	240-No	160-No	No
01:00 - 02:00	0	0	210-No	140-No	No	240-No	160-No	No
02:00 - 03:00	0	0	210-No	140-No	No	240-No	160-No	No
03:00 - 04:00	0	0	210-No	140-No	No	240-No	160-No	No
04:00 - 05:00	0	0	210-No	140-No	No	240-No	160-No	No
05:00 - 06:00	0	0	210-No	140-No	No	240-No	160-No	No
06:00 - 07:00	2,585	483	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
07:00 - 08:00	2,347	541	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	1,634	428	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
09:00 - 10:00	0	0	210-No	140-No	No	240-No	160-No	No
10:00 - 11:00	0	0	210-No	140-No	No	240-No	160-No	No
11:00 - 12:00	0	0	210-No	140-No	No	240-No	160-No	No
12:00 - 13:00	1,377	395	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
13:00 - 14:00	0	0	210-No	140-No	No	240-No	160-No	No
14:00 - 15:00	0	0	210-No	140-No	No	240-No	160-No	No
15:00 - 16:00	0	0	210-No	140-No	No	240-No	160-No	No
16:00 - 17:00	2,763	768	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	2,684	721	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:00 - 19:00	0	0	210-No	140-No	No	240-No	160-No	No
19:00 - 20:00	0	0	210-No	140-No	No	240-No	160-No	No
20:00 - 21:00	0	0	210-No	140-No	No	240-No	160-No	No
21:00 - 22:00	0	0	210-No	140-No	No	240-No	160-No	No
22:00 - 23:00	0	0	210-No	140-No	No	240-No	160-No	No
23:00 - 00:00	0	0	210-No	140-No	No	240-No	160-No	No



NORTH

APP. #1 = TH 65
APP. #2 = CSAH 18
APP. #3 = TH 65
APP. #4 = CSAH 18

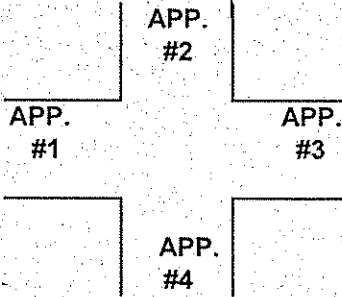
COUNT LOCATION:

CSAH 18 (Crosstown Blvd.) @

DATE:

11/08/2005

TH 65 (Central Ave.)



- 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						20		1
6:15-6:30						22		1
6:30-6:45						36		4
6:45-7:00						54		2
HOURLY TOTAL						HOURLY TOTAL		140
7:00-7:15						29		3
7:15-7:30						30		1
7:30-7:45						43		1
7:45-8:00						43		5
HOURLY TOTAL						HOURLY TOTAL		155
8:00-8:15						39		
8:15-8:30						36		3
8:30-8:45						50		1
8:45-9:00		1			1	39		2
HOURLY TOTAL					1	HOURLY TOTAL		170
					TOTAL		TOTAL	465

12:00-12:15	1				1	33	1	
12:15-12:30						34	1	3
12:30-12:45						26		3
12:45-1:00						31		1
HOURLY TOTAL					1	HOURLY TOTAL		133
					TOTAL		TOTAL	133

4:00-4:15						27	1	5
4:15-4:30						25		2
4:30-4:45						26	1	3
4:45-5:00						29		1
HOURLY TOTAL						HOURLY TOTAL		120
5:00-5:15						30	1	
5:15-5:30						21		1
5:30-5:45						17		
5:45-6:00						15		
HOURLY TOTAL						HOURLY TOTAL		85
					TOTAL		TOTAL	205