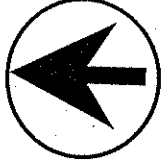


Date : 2/1/05

Count Number : TMC0501

Location : CR 56 (Ramsey Blvd.)

@ Sunwood Dr.



North

CR 56

4286

#2

2121	D	37
1971	E	
113	F	

2165

Sunwood Dr.

67	G
41	H
251	J

#3

788

429

#1

398

Sunwood Dr.

217	A	130
42	B	42
45	C	45

181

CR 56

2352

#4

4782

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

Anoka County Highway Department

Traffic Volume and Turning

Movement Study

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

File Name : TMC0501
Site Code : 05010101
Start Date : 02/01/2005
Page No : 1

Weather: Mild and Clear
Counter: TDC-8
Counted by: Josie/Terri

Groups Printed- 1 - Unshifted

Start Time	CR 56 Southbound					Sunwood Dr Westbound					CR 56 Northbound					Sunwood Dr 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				
06:00	2	55	0	0	57	6	0	1	0	7	0	9	8	2	17	0	0	0	0	0	2	81	83
06:15	0	53	0	2	53	3	1	0	0	4	2	15	14	3	31	0	0	0	0	0	5	88	93
06:30	7	47	0	1	54	7	0	0	0	7	3	17	18	4	38	0	0	0	0	0	5	99	104
06:45	8	42	0	2	50	0	1	0	0	1	3	31	23	3	57	0	0	0	0	0	5	108	113
Total	17	197	0	5	214	16	2	1	0	19	8	72	63	12	143	0	0	0	0	0	17	376	393
07:00	6	64	1	1	71	2	1	0	0	3	2	24	20	2	46	0	0	0	0	0	3	120	123
07:15	5	51	0	1	56	2	0	0	0	2	1	31	8	1	40	0	0	0	0	0	2	98	100
07:30	3	60	0	3	63	3	1	0	1	4	2	21	6	1	29	0	0	0	0	0	5	96	101
07:45	1	55	2	7	58	2	2	3	3	7	6	30	12	4	48	0	0	0	0	0	14	113	127
Total	15	230	3	12	248	9	4	3	4	16	11	106	46	8	163	0	0	0	0	0	24	427	451
08:00	1	33	0	3	34	1	0	1	1	2	4	26	9	3	39	0	0	0	0	0	7	75	82
08:15	2	39	0	1	41	2	0	1	0	3	3	23	4	6	30	0	1	0	0	1	7	75	82
08:30	0	51	0	1	51	1	1	0	0	2	1	19	5	2	25	0	0	1	1	1	4	79	83
08:45	3	28	0	0	31	2	0	0	0	2	2	14	5	2	21	1	1	1	0	3	2	57	59
Total	6	151	0	5	157	6	1	2	1	9	10	82	23	13	115	1	2	2	1	5	20	286	306
09:00	1	32	0	3	33	2	1	1	1	4	1	26	1	1	28	0	1	3	1	4	6	69	75
09:15	1	39	0	2	40	1	0	0	0	1	3	19	1	2	23	6	1	0	0	7	4	71	75
09:30	2	41	1	2	44	5	0	3	2	8	2	23	1	3	26	1	0	2	0	3	7	81	88
09:45	0	41	1	1	42	0	0	0	0	0	0	12	2	3	14	1	0	1	0	2	4	58	62
Total	4	153	2	8	159	8	1	4	3	13	6	80	5	9	91	8	2	6	1	16	21	279	300
10:00	2	29	0	0	31	3	1	2	2	6	4	19	2	5	25	0	1	0	1	1	8	63	71
10:15	0	31	1	2	32	2	0	0	0	2	3	20	1	4	24	2	4	2	4	8	10	66	76
10:30	1	24	1	1	26	0	2	0	1	2	2	16	4	1	22	0	0	1	0	1	3	51	54
10:45	1	20	1	0	22	3	0	0	0	3	0	21	1	1	22	1	0	0	0	1	1	48	49
Total	4	104	3	3	111	8	3	2	3	13	9	76	8	11	93	3	5	3	5	11	22	228	250
11:00	1	19	0	1	20	1	0	1	0	2	0	25	5	2	30	0	1	1	0	2	3	54	57
11:15	1	25	1	2	27	2	1	1	2	4	1	32	3	3	36	1	1	4	1	6	8	73	81
11:30	2	37	0	1	39	3	3	1	1	7	1	27	2	2	30	1	2	0	0	3	4	79	83
11:45	0	20	0	3	20	5	1	0	1	6	2	36	7	4	45	4	4	5	0	13	8	84	92
Total	4	101	1	7	106	11	5	3	4	19	4	120	17	11	141	6	8	10	1	24	23	290	313
12:00	3	29	1	5	33	13	0	2	0	15	5	46	8	4	59	0	4	11	2	15	11	122	133
12:15	3	30	1	0	34	8	0	0	1	8	4	25	14	4	43	0	0	4	0	4	5	89	94
12:30	2	21	0	2	23	5	0	0	2	5	5	35	3	1	43	0	2	3	0	5	5	76	81
12:45	0	23	0	1	23	1	0	1	1	2	2	40	5	2	47	0	1	2	0	3	4	75	79
Total	8	103	2	8	113	27	0	3	4	30	16	146	30	11	192	0	7	20	2	27	25	362	387
13:00	1	25	0	2	26	2	0	3	0	5	0	41	9	2	50	1	0	1	0	2	4	83	87
13:15	0	30	2	2	32	5	1	1	2	7	1	31	8	4	40	0	1	1	1	2	9	81	90
13:30	1	24	1	3	26	2	0	0	1	2	2	27	3	2	32	1	0	1	1	2	7	62	69
13:45	1	26	0	1	27	1	0	2	0	3	0	32	5	6	37	0	1	4	1	5	8	72	80
Total	3	105	3	8	111	10	1	6	3	17	3	131	25	14	159	2	2	7	3	11	28	298	326
14:00	0	30	0	3	30	0	2	0	0	2	1	38	1	2	40	0	1	0	0	1	5	73	78
14:15	1	25	0	0	26	2	1	0	2	3	2	36	1	2	39	1	0	1	2	2	6	70	76
14:30	0	21	1	2	22	5	0	2	1	7	0	40	5	3	45	0	0	0	0	0	6	74	80
14:45	3	16	0	2	19	4	0	0	1	4	3	30	4	2	37	2	0	2	3	4	8	64	72
Total	4	92	1	7	97	11	3	2	4	16	6	144	11	9	161	3	1	3	5	7	25	281	306
15:00	4	31	3	5	38	24	0	4	0	28	5	41	5	4	51	1	0	0	0	1	9	118	127
15:15	3	37	8	2	48	6	8	2	0	16	12	50	4	5	66	1	0	6	0	7	7	137	144
15:30	22	45	9	5	76	5	4	5	0	14	3	63	3	4	69	11	6	33	3	50	12	209	221
15:45	3	30	0	1	33	3	1	1	0	5	2	46	2	3	50	2	0	6	1	8	5	96	101
Total	32	143	20	13	195	38	13	12	0	63	22	200	14	16	236	15	6	45	4	66	33	560	593
16:00	4	44	0	1	48	7	1	6	0	14	2	55	3	2	60	2	3	5	0	10	3	132	135
16:15	0	50	0	2	50	5	3	2	0	10	0	61	3	2	64	1	2	5	0	8	4	132	136
16:30	2	52	1	5	55	24	0	5	0	29	0	63	1	0	64	0	0	4	0	4	5	152	157
16:45	2	59	0	2	61	10	1	4	0	15	0	70	7	0	77	1	0	7	0	8	2	161	163
Total	8	205	1	10	214	46	5	17	0	68	2	249	14	4	265	4	5	21	0	30	14	577	591
17:00	0	51	0	1	51	14	0	4	0	18	0	42	2	0	44	0	2	2	0	4	1	117	118
17:15	0	38	0	0	38	8	1	1	0	10	4	66	2	1	72	0	0	0	0	0	1	120	121
17:30	4	40	1	0	45	7	0	1	0	8	1	48	4	0	53	2	2	8	0	12	0	118	118
17:45	2	35	0	2	37	5	1	0	1	6	0	93	3	1	96	0	0	0	0	0	4	139	143
Total	6	164	1	3	171	34	2	6	1	42	5	249	11	2	265	2	4	10	0	16	6	494	500

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

File Name : TMC0501
 Site Code : 05010101
 Start Date : 02/01/2005
 Page No : 2

Weather: Mild and Clear
 Counter: TDC-8
 Counted by: Josie/Terri

Groups Printed- 1 - Unshifted

Start Time	CR 56 Southbound					Sunwood Dr Westbound					CR 56 Northbound					Sunwood Dr 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					
18:00	0	45	0	0	45	9	0	3	0	12	0	63	3	0	66	0	0	2	0	2	0	125	125	
18:15	0	37	0	0	37	4	0	0	1	4	1	51	1	0	53	0	0	0	0	0	1	94	95	
18:30	0	27	0	1	27	5	1	1	0	7	0	54	0	0	54	0	0	1	0	1	1	89	90	
18:45	0	39	0	0	39	5	0	0	0	5	0	64	0	1	64	0	0	0	0	0	1	108	109	
Total	0	148	0	1	148	23	1	4	1	28	1	232	4	1	237	0	0	3	0	3	3	416	419	
19:00	1	24	0	1	25	1	0	0	0	1	0	43	3	0	46	0	0	0	0	0	1	72	73	
19:15	0	20	0	0	20	2	0	1	1	3	0	52	0	0	52	0	0	0	0	0	1	75	76	
19:30	1	18	0	0	19	1	0	1	0	2	0	24	0	0	24	1	0	0	0	1	0	46	46	
19:45	0	13	0	0	13	0	0	0	0	0	0	47	0	0	47	0	0	0	0	0	0	60	60	
Total	2	75	0	1	77	4	0	2	1	6	0	166	3	0	169	1	0	0	0	1	2	253	255	
Grand Total	113	197	37	91	2121	251	41	67	29	359	103	2053	274	121	2430	45	42	130	22	217	263	5127	5390	
Apprch %	5.3	92.9	1.7			69.9	11.4	18.7			4.2	84.5	11.3			20.7	19.4	59.9			4.9	95.1		
Total %	2.2	38.4	0.7		41.4	4.9	0.8	1.3		7.0	2.0	40.0	5.3		47.4	0.9	0.8	2.5		4.2				

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

Study Name : TMC0501
Study Date : 02/24/05
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Northbound: CR 56
Number of Lanes: 2
Approach Speed: 55
Total Approach Volume: 2,430

Southbound: CR 56
Number of Lanes: 2
Approach Speed: 55
Total Approach Volume: 2,121

Minor Street Approaches

Eastbound: Sunwood Dr
Number of Lanes: 2

Total Approach Volume: 217

Westbound: Sunwood Dr
Number of Lanes: 2

Total Approach Volume: 359

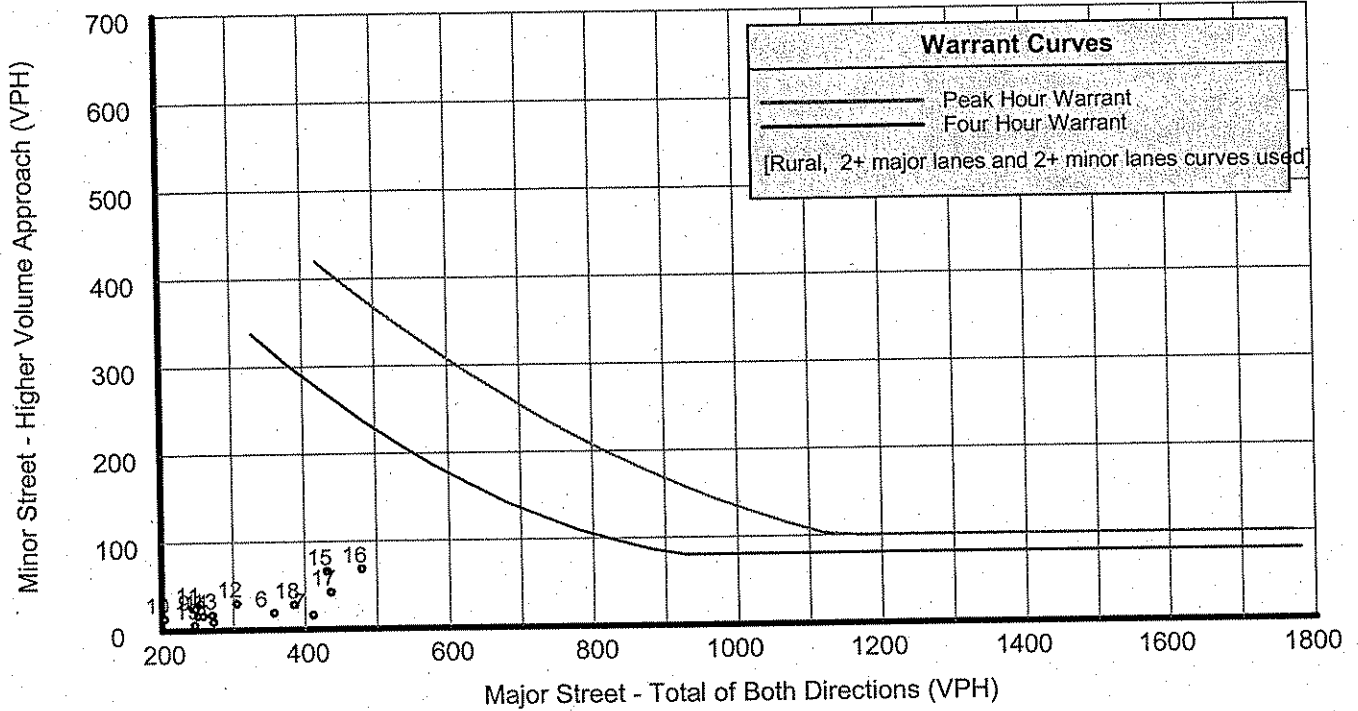
Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Not Satisfied
Warrant 1A - Minimum Vehicular Volume	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Not Satisfied
Number of hours (0) volumes exceed minimum < minimum required (4).	
Warrant 3 - Peak Hour	Not Satisfied
Warrant 3A - Peak Hour Volumes	Not Satisfied
Volumes do not exceed minimums for any hour.	
Warrant 3B - Peak Hour Delay	Not Satisfied
Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.	
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 : TMC0501
Study Date : 02/24/05
Page No. : 2

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor Vol	Dir	War-1A			War-1B			War-1A&B		
				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	357	19	WB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
07:00	411	16	WB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
08:00	272	9	WB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
09:00	250	16	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
10:00	204	13	WB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
11:00	247	24	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
12:00	305	30	WB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
13:00	270	17	WB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
14:00	258	16	WB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
15:00	431	66	EB	420-Yes	140-No	Major	630-No	70-No	---	504-No	112-No	---
16:00	479	68	WB	420-Yes	140-No	Major	630-No	70-No	---	504-No	112-No	---
17:00	436	42	WB	420-Yes	140-No	Major	630-No	70-No	---	504-No	112-No	---
18:00	385	28	WB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
19:00	246	6	WB	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 : TMC0501
Study Date : 02/24/05

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CR 56
Total Approach Volume: 2,430
Approach Speed: 55

Southbound: CR 56
Total Approach Volume: 2,121
Approach Speed: 55

Minor Street Approaches

Eastbound: Sunwood Dr
Total Approach Volume: 217

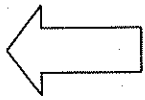
Westbound: Sunwood Dr
Total Approach Volume: 359

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
Number of crashes (0) is less than the minimum required (5).
- Criteria C - Minimum Volumes and Delays** Not Satisfied
Delay data not evaluated
Required volumes reached for 0 hours, 8 are needed
- Criteria D - 80% of Volumes, Delays, and Crashes** Not Evaluated
Delay data not evaluated
Required volumes reached for 0 hours, 8 are needed

Analysis of 8-Hour Volume Warrants:

Time	Major Crit		Crit C			Crit D		
	Total	Minor Total	Major Crit	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	357	19	210-Yes	140-No	Major	240-Yes	160-No	Major
07:00 - 08:00	411	16	210-Yes	140-No	Major	240-Yes	160-No	Major
08:00 - 09:00	272	14	210-Yes	140-No	Major	240-Yes	160-No	Major
09:00 - 10:00	250	29	210-Yes	140-No	Major	240-Yes	160-No	Major
10:00 - 11:00	204	24	210-No	140-No	No	240-No	160-No	No
11:00 - 12:00	247	43	210-Yes	140-No	Major	240-Yes	160-No	Major
12:00 - 13:00	305	57	210-Yes	140-No	Major	240-Yes	160-No	Major
13:00 - 14:00	270	28	210-Yes	140-No	Major	240-Yes	160-No	Major
14:00 - 15:00	258	23	210-Yes	140-No	Major	240-Yes	160-No	Major
15:00 - 16:00	431	129	210-Yes	140-No	Major	240-Yes	160-No	Major
16:00 - 17:00	479	98	210-Yes	140-No	Major	240-Yes	160-No	Major
17:00 - 18:00	436	58	210-Yes	140-No	Major	240-Yes	160-No	Major
18:00 - 19:00	385	31	210-Yes	140-No	Major	240-Yes	160-No	Major
19:00 - 20:00	246	7	210-Yes	140-No	Major	240-Yes	160-No	Major
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

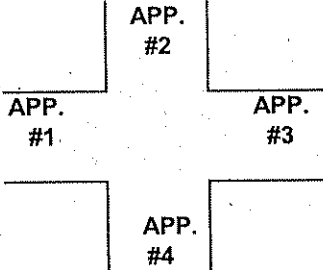


NORTH

APP. #1 = CR 56
APP. #2 = Sunwood Dr.
APP. #3 = CR 56
APP. #4 = Sunwood Dr.

COUNT LOCATION: CR 56 (Ramsey Blvd.) @ Sunwood Dr.

DATE: 02/01/2005



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						2		
6:15-6:30						3		2
6:30-6:45						4		1
6:45-7:00						4		1
HOURLY TOTAL						HOURLY TOTAL		17
7:00-7:15						2		1
7:15-7:30						1		1
7:30-7:45						5		
7:45-8:00						11		3
HOURLY TOTAL						HOURLY TOTAL		24
8:00-8:15						6		1
8:15-8:30						4		2
8:30-8:45						4		
8:45-9:00						1		
HOURLY TOTAL						HOURLY TOTAL		18
9:00-9:15						5		1
9:15-9:30						5		
9:30-9:45						6		
9:45-10:00						4		
HOURLY TOTAL						HOURLY TOTAL		21
10:00-10:15						8		
10:15-10:30						8		1
10:30-10:45						3		
10:45-11:00						1		
HOURLY TOTAL						HOURLY TOTAL		21
11:00-11:15						3		
11:15-11:30						8		
11:30-11:45						3		
11:45-12:00						7		
HOURLY TOTAL						HOURLY TOTAL		21
12:00-12:15						8		1
12:15-12:30						5		
12:30-12:45						4		1
12:45-1:00						4		
HOURLY TOTAL						HOURLY TOTAL		23
1:00-1:15						4		
1:15-1:30						9		
1:30-1:45						7		
1:45-2:00						7		1
HOURLY TOTAL						HOURLY TOTAL		28
TOTAL						TOTAL		173

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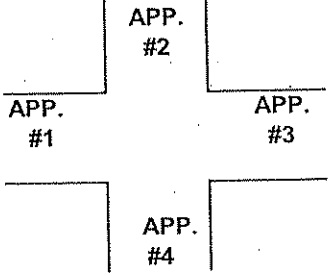
COUNT LOCATION:

CR 56 (Ramsey Blvd.) @
Sunwood Dr.

DATE:

02/02/2005

APP. #1 = CR 56
APP. #2 = Sunwood Dr.
APP. #3 = CR 56
APP. #4 = Sunwood Dr.



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	3		2
2:15-2:30						6		
2:30-2:45						4		1
2:45-3:00						8		
HOURLY TOTAL					1	HOURLY TOTAL		24
3:00-3:15						8		1
3:15-3:30						5		2
3:30-3:45						4		6
3:45-4:00						3		2
HOURLY TOTAL						HOURLY TOTAL		31
4:00-4:15						2		1
4:15-4:30						1		3
4:30-4:45						3		2
4:45-5:00								2
HOURLY TOTAL						HOURLY TOTAL		14
5:00-5:15						1		
5:15-5:30						1		
5:30-5:45								3
5:45-6:00						1		
HOURLY TOTAL						HOURLY TOTAL		6
6:00-6:15								
6:15-6:30						1		
6:30-6:45						1		
6:45-7:00						1		
HOURLY TOTAL						HOURLY TOTAL		3
7:00-7:15						1		
7:15-7:30						1		
7:30-7:45								
7:45-8:00								
HOURLY TOTAL						HOURLY TOTAL		2
					TOTAL	1		
							TOTAL	253

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