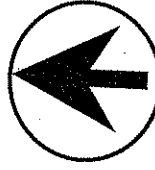


Date : 12/20/06

Count Number : TMC0627

Location : CSAH 5 (Nowthen Blvd.)

@ 167th Ave.



North

CSAH 5

4601

#2

D	55
E	1942
F	235
T	2232

2369

167th Ave.

#1

428

A	105
B	74
C	46
TOTAL	225

203

167th Ave.

#3

G	303
H	72
J	371
TOTAL	746

1395

649

CSAH 5

2418

#4

4854

M	76
L	2020
K	340
TOTAL	2436

LANES OF APPROACH

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

Anoka County Highway Department

Traffic Volume and Turning

Movement Study

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

File Name : TMC0627
Site Code : 06270102
Start Date : 12/20/2006
Page No : 1

Weather: Rainy and Cool
Counter: DB-400
Counted by: Josie/Terri

Groups Printed- Unshifted

Start Time	CSAH 5 Southbound					167th Ave. Westbound					CSAH 5 Northbound					167th Ave. 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	1	73	1	1	75	2	0	2	0	4	2	9	1	0	12	1	3	2	0	6	1	97	98
06:15	3	74	0	2	77	15	0	2	0	17	1	13	0	2	14	0	1	1	0	2	4	110	114
06:30	3	93	0	1	96	7	0	0	0	7	0	17	2	0	19	0	1	6	0	7	1	129	130
06:45	5	87	2	2	94	9	0	2	1	11	1	11	1	2	13	2	2	7	1	11	6	129	135
Total	12	327	3	6	342	33	0	6	1	39	4	50	4	4	58	3	7	16	1	26	12	465	477
07:00	2	85	1	3	88	13	2	3	0	18	0	14	7	3	21	0	0	2	0	2	6	129	135
07:15	4	75	1	0	80	21	1	8	2	30	0	30	5	1	35	1	2	3	0	6	3	151	154
07:30	2	68	0	3	70	16	1	4	0	21	0	18	4	1	22	2	1	2	1	5	5	118	123
07:45	1	84	5	3	90	7	1	11	1	19	0	24	5	4	29	1	2	4	0	7	8	145	153
Total	9	312	7	9	328	57	5	26	3	88	0	86	21	9	107	4	5	11	1	20	22	543	565
08:00	2	50	1	2	53	6	0	4	1	10	0	14	5	3	19	0	0	1	0	1	6	83	89
08:15	2	42	0	0	44	5	0	4	0	9	1	13	5	5	19	1	0	2	0	3	5	75	80
08:30	3	52	0	4	55	6	0	1	0	7	2	22	4	6	28	2	0	4	0	6	10	96	106
08:45	1	48	1	5	50	12	2	3	0	17	2	27	4	3	33	0	1	2	0	3	8	103	111
Total	8	192	2	11	202	29	2	12	1	43	5	76	18	17	99	3	1	9	0	13	29	357	386
09:00	7	48	0	6	55	9	0	3	2	12	0	13	3	1	16	0	1	2	1	3	10	86	96
09:15	1	42	1	2	44	8	2	4	0	14	1	18	8	3	27	0	1	2	0	3	5	88	93
09:30	2	25	1	0	28	7	0	7	0	14	1	15	8	2	24	0	0	1	0	1	2	67	69
09:45	3	30	0	2	33	7	1	6	1	14	2	18	3	1	23	0	1	0	0	1	4	71	75
Total	13	145	2	10	160	31	3	20	3	54	4	64	22	7	90	0	3	5	1	8	21	312	333
10:00	3	29	0	3	32	4	0	5	0	9	1	20	1	1	22	1	0	1	0	2	4	65	69
10:15	7	19	2	1	28	4	2	5	0	11	1	28	2	7	31	2	3	1	0	6	8	76	84
10:30	4	23	0	1	27	7	0	6	0	13	2	16	2	0	20	2	0	2	0	4	1	64	65
10:45	2	20	0	0	22	3	0	2	0	5	0	23	7	1	30	3	1	3	0	7	1	64	65
Total	16	91	2	5	109	18	2	18	0	38	4	87	12	9	103	8	4	7	0	19	14	269	283
11:00	5	23	0	2	28	1	3	6	0	10	2	19	4	3	25	0	6	4	0	10	5	73	78
11:15	2	33	1	1	36	6	3	5	0	14	0	21	11	3	32	1	1	5	0	7	4	89	93
11:30	4	37	1	6	42	9	0	6	1	15	0	19	6	1	25	0	0	2	0	2	8	84	92
11:45	3	30	3	4	36	4	1	3	1	8	0	29	3	1	32	1	1	1	0	3	6	79	85
Total	14	123	5	13	142	20	7	20	2	47	2	88	24	8	114	2	8	12	0	22	23	325	348
12:00	3	14	0	1	17	9	7	5	2	21	3	27	6	3	36	0	1	2	0	3	6	77	83
12:15	3	20	2	1	25	2	1	3	0	6	1	38	8	4	47	1	3	1	1	5	6	83	89
12:30	7	44	2	1	53	8	2	3	0	13	2	26	5	5	33	1	0	3	0	4	6	103	109
12:45	2	16	0	1	18	3	1	4	0	8	0	26	8	3	34	0	2	1	0	3	4	63	67
Total	15	94	4	4	113	22	11	15	2	48	6	117	27	15	150	2	6	7	1	15	22	326	348
13:00	3	11	1	0	15	2	0	5	1	7	0	24	5	4	29	1	2	2	1	5	6	56	62
13:15	4	20	1	0	25	3	0	5	0	8	1	23	4	3	28	2	1	0	0	3	3	64	67
13:30	3	20	1	6	24	7	1	7	1	15	1	29	7	1	37	2	2	0	0	4	8	80	88
13:45	7	27	3	1	37	5	0	4	2	9	1	31	4	1	36	1	2	1	1	4	5	86	91
Total	17	78	6	7	101	17	1	21	4	39	3	107	20	9	130	6	7	3	2	16	22	286	308
14:00	7	30	0	4	37	4	1	3	0	8	1	39	5	6	45	1	2	1	0	4	10	94	104
14:15	6	20	2	4	28	1	1	10	0	12	1	33	3	2	37	1	4	0	0	5	6	82	88
14:30	5	21	0	1	26	5	2	10	0	17	1	37	5	6	43	0	3	1	0	4	7	90	97
14:45	8	28	1	5	37	5	2	4	0	11	3	43	2	3	48	2	3	1	0	6	8	102	110
Total	26	99	3	14	128	15	6	27	0	48	6	152	15	17	173	4	12	3	0	19	31	368	399
15:00	7	20	0	2	27	4	2	2	0	8	0	82	8	9	90	0	0	3	1	3	12	128	140
15:15	6	27	2	2	35	9	0	12	1	21	3	64	8	1	75	0	2	3	1	5	5	136	141
15:30	7	27	2	0	36	6	4	6	0	16	2	82	13	1	97	2	2	2	0	6	1	155	156
15:45	7	36	3	2	46	5	4	10	0	19	2	76	12	4	90	2	1	2	1	5	7	160	167
Total	27	110	7	6	144	24	10	30	1	64	7	304	41	15	352	4	5	10	3	19	25	579	604
16:00	7	42	1	2	50	9	3	8	1	20	4	85	11	5	100	1	1	0	0	2	8	172	180
16:15	12	29	1	5	42	8	3	8	2	19	4	111	12	3	127	0	0	3	0	3	10	191	201
16:30	7	53	1	7	61	8	0	12	0	20	2	86	16	1	104	0	1	3	0	4	8	189	197
16:45	9	31	0	2	40	8	2	12	0	22	2	87	13	3	102	1	3	0	0	4	5	168	173
Total	35	155	3	16	193	33	8	40	3	81	12	369	52	12	433	2	5	6	0	13	31	720	751
17:00	6	31	4	3	41	10	2	8	0	20	2	76	16	1	94	0	0	2	0	2	4	157	161
17:15	5	29	1	0	35	16	1	8	0	25	4	84	14	1	102	2	1	1	0	4	1	166	167
17:30	8	26	0	1	34	5	2	9	1	16	5	66	13	1	84	0	3	2	0	5	3	139	142
17:45	5	20	2	0	27	3	4	13	1	20	0	64	11	0	75	1	1	4	0	6	1	128	129
Total	24	106	7	4	137	34	9	38	2	81	11	290	54	3	355	3	5	9	0	17	9	590	599

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

File Name : TMC0627
 Site Code : 06270102
 Start Date : 12/20/2006
 Page No : 2

Weather: Rainy and Cool
 Counter: DB-400
 Counted by: Josie/Terri

Groups Printed- Unshifted

Start Time	CSAH 5 Southbound					167th Ave. Westbound					CSAH 5 Northbound					167th Ave. 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	5	18	0	0	23	6	4	8	1	18	3	65	6	2	74	1	3	1	1	5	4	120	124
18:15	5	22	1	0	28	9	1	7	0	17	2	45	7	0	54	4	2	3	0	9	0	108	108
18:30	6	41	1	1	48	13	2	7	0	22	7	62	10	1	79	0	0	1	0	1	2	150	152
18:45	3	29	2	1	34	10	1	8	0	19	0	58	7	0	65	0	1	2	0	3	1	121	122
Total	19	110	4	2	133	38	8	30	1	76	12	230	30	3	272	5	6	7	1	18	7	499	506
Grand Total	235	194	55	107	2232	371	72	303	23	746	76	2020	340	128	2436	46	74	105	10	225	268	5639	5907
Apprch %	10.5	87.0	2.5			49.7	9.7	40.6			3.1	82.9	14.0			20.4	32.9	46.7					
Total %	4.2	34.4	1.0		39.6	6.6	1.3	5.4		13.2	1.3	35.8	6.0		43.2	0.8	1.3	1.9		4.0	4.5	95.5	

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

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 5
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Volume: 2,436

Southbound: CSAH 5
 Number of Lanes: 1
 Approach Speed: 55
 Total Approach Volume: 2,232

Minor Street Approaches

Eastbound: 167th Ave.
 Number of Lanes: 1
 Total Approach Volume: 225

Westbound: 167th Ave.
 Number of Lanes: 1
 Total Approach Volume: 746

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 1 hours, 8 are needed
 - Warrant 1 A&B - Combination of Warrants** Not Satisfied
 Required volumes reached for 1 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 Delay** Not Satisfied
 Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.
 - Warrant 3B - Peak Hour Volumes** Not Satisfied
 Volumes do not exceed minimums for any hour.

- Warrant 4 - Pedestrian Volumes** Not Evaluated

- Warrant 5 - School Crossing** Not Evaluated

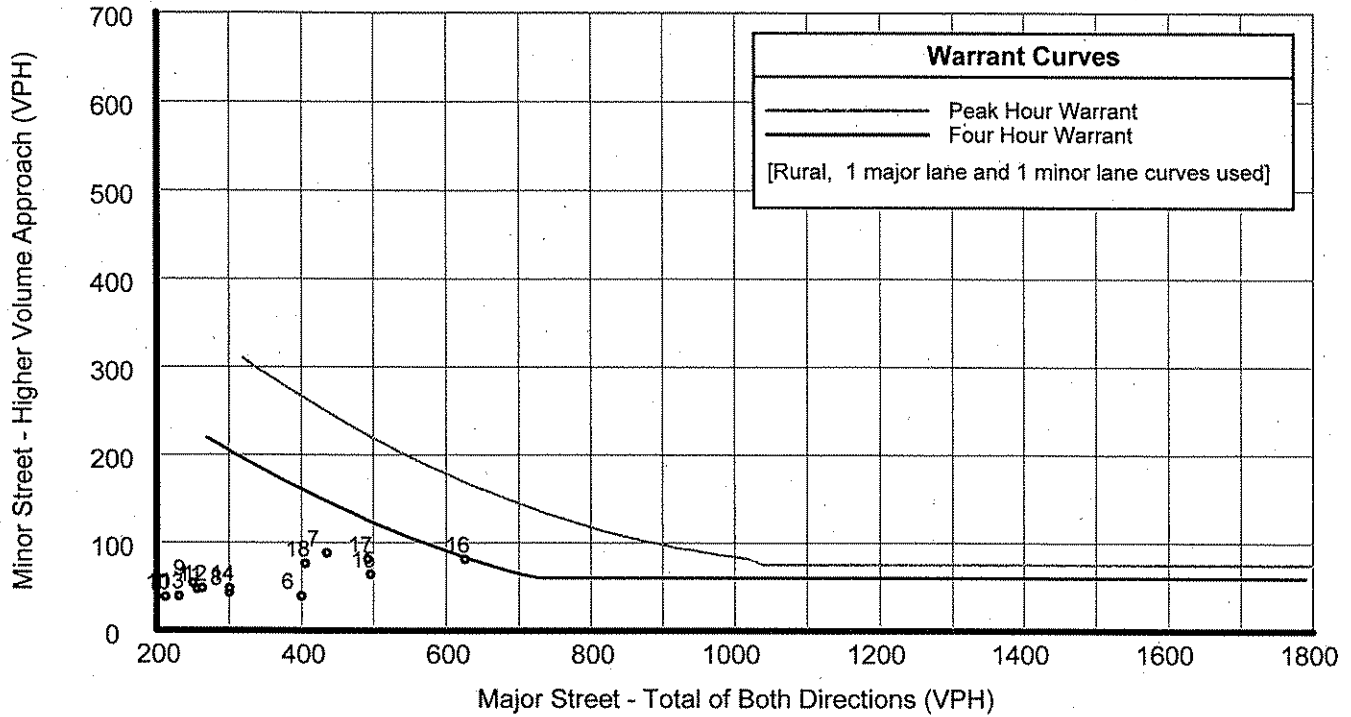
- Warrant 6 - Coordinated Signal System** Not Evaluated

- Warrant 7 - Crash Experience** Not Evaluated

- Warrant 8 - Roadway Network** Not Evaluated

ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

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	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
01:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
02:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
03:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
04:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
05:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
06:00	400	39	WB	350-Yes	105-No	Major	525-No	53-No	---	420-No	84-No	---
07:00	435	88	WB	350-Yes	105-No	Major	525-No	53-Yes	Minor	420-Yes	84-Yes	Both
08:00	301	43	WB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
09:00	250	54	WB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-No	---
10:00	212	38	WB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
11:00	256	47	WB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
12:00	263	48	WB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
13:00	231	39	WB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
14:00	301	48	WB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
15:00	496	64	WB	350-Yes	105-No	Major	525-No	53-Yes	Minor	420-Yes	84-No	Major
16:00	626	81	WB	350-Yes	105-No	Major	525-Yes	53-Yes	Both	420-Yes	84-No	Major
17:00	492	81	WB	350-Yes	105-No	Major	525-No	53-Yes	Minor	420-Yes	84-No	Major
18:00	405	76	WB	350-Yes	105-No	Major	525-No	53-Yes	Minor	420-No	84-No	---
19:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
20:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
21:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
22:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
23:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---

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

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CSAH 5

Total Approach Volume: 2,436
Approach Speed: 55

Southbound: CSAH 5

Total Approach Volume: 2,232
Approach Speed: 55

Minor Street Approaches

Eastbound: 167th Ave.

Total Approach Volume: 225

Westbound: 167th Ave.

Total Approach Volume: 746

Warrant Summary

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

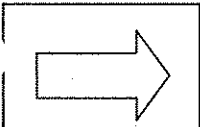
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Not Satisfied
Delay data not evaluated
Required volumes reached for 0 hours, 8 are needed

Criteria D - 80% of Volumes, Delays, and Crashes Not Evaluated
Delay data not evaluated
Number of crashes (-1) is less than the minimum required (4).
Required volumes reached for 0 hours, 8 are needed

Analysis of 8-Hour Volume Warrants:

Time	Major		Crit C			Crit D		
	Total	Minor Total	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	400	65	210-Yes	140-No	Major	240-Yes	160-No	Major
07:00 - 08:00	435	108	210-Yes	140-No	Major	240-Yes	160-No	Major
08:00 - 09:00	301	56	210-Yes	140-No	Major	240-Yes	160-No	Major
09:00 - 10:00	250	62	210-Yes	140-No	Major	240-Yes	160-No	Major
10:00 - 11:00	212	57	210-Yes	140-No	Major	240-No	160-No	No
11:00 - 12:00	256	69	210-Yes	140-No	Major	240-Yes	160-No	Major
12:00 - 13:00	263	63	210-Yes	140-No	Major	240-Yes	160-No	Major
13:00 - 14:00	231	55	210-Yes	140-No	Major	240-No	160-No	No
14:00 - 15:00	301	67	210-Yes	140-No	Major	240-Yes	160-No	Major
15:00 - 16:00	496	83	210-Yes	140-No	Major	240-Yes	160-No	Major
16:00 - 17:00	626	94	210-Yes	140-No	Major	240-Yes	160-No	Major
17:00 - 18:00	492	98	210-Yes	140-No	Major	240-Yes	160-No	Major
18:00 - 19:00	405	94	210-Yes	140-No	Major	240-Yes	160-No	Major
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



COUNT LOCATION:

CSAH 5 (Nowthen Blvd.) @

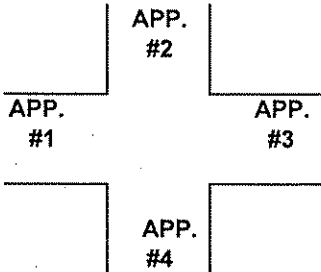
DATE:

12/21/2006

167th. Ave.

NORTH

APP. #1 = CSAH 5
APP. #2 = 167th Ave
APP. #3 = CSAH 5
APP. #4 = 167th Ave.

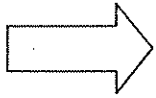


HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT

- 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						1		
6:15-6:30						3		1
6:30-6:45						2		
6:45-7:00						3		3
HOURLY TOTAL						HOURLY TOTAL		13
7:00-7:15						5		1
7:15-7:30						1		2
7:30-7:45						3		2
7:45-8:00						6		1
HOURLY TOTAL						HOURLY TOTAL		21
8:00-8:15						4		2
8:15-8:30						3		2
8:30-8:45						8		2
8:45-9:00						7		1
HOURLY TOTAL						HOURLY TOTAL		29
9:00-9:15						8		1
9:15-9:30						4		
9:30-9:45						2		
9:45-10:00						4		
HOURLY TOTAL						HOURLY TOTAL		19
10:00-10:15						4		
10:15-10:30						8		
10:30-10:45						1		
10:45-11:00						1		
HOURLY TOTAL						HOURLY TOTAL		14
11:00-11:15						5		
11:15-11:30						6		
11:30-11:45						6		
11:45-12:00						8		
HOURLY TOTAL						HOURLY TOTAL		25
12:00-12:15						6		
12:15-12:30						6		1
12:30-12:45						5		
12:45-1:00						4		
HOURLY TOTAL						HOURLY TOTAL		22
1:00-1:15						6		
1:15-1:30						3		
1:30-1:45						7		
1:45-2:00						5		
HOURLY TOTAL						HOURLY TOTAL		21
TOTAL						TOTAL		164

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NORTH

COUNT LOCATION:

CSAH 5 (Nowthen Blvd.) @

DATE:

12/20/2006

167th. Ave.

APP. #1 = CSAH 5
APP. #2 = 167th Ave
APP. #3 = CSAH 5
APP. #4 = 167th Ave.

APP. #2

HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT

APP. #1

APP. #3

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						10		
2:15-2:30						5	1	
2:30-2:45						6		1
2:45-3:00						7		1
HOURLY TOTAL						HOURLY TOTAL		31
3:00-3:15						11		1
3:15-3:30						4		
3:30-3:45						2		
3:45-4:00						4		3
HOURLY TOTAL						HOURLY TOTAL		25
4:00-4:15						4		4
4:15-4:30						6		5
4:30-4:45						6		
4:45-5:00						5		
HOURLY TOTAL						HOURLY TOTAL		30
5:00-5:15						4		
5:15-5:30						1		
5:30-5:45						3		
5:45-6:00						1		
HOURLY TOTAL						HOURLY TOTAL		9
6:00-6:15						3		1
6:15-6:30								
6:30-6:45						2		
6:45-7:00						1		
HOURLY TOTAL						HOURLY TOTAL		7
					TOTAL		TOTAL	266

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