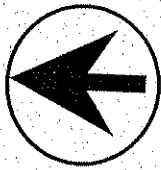


Date : 10/31/05

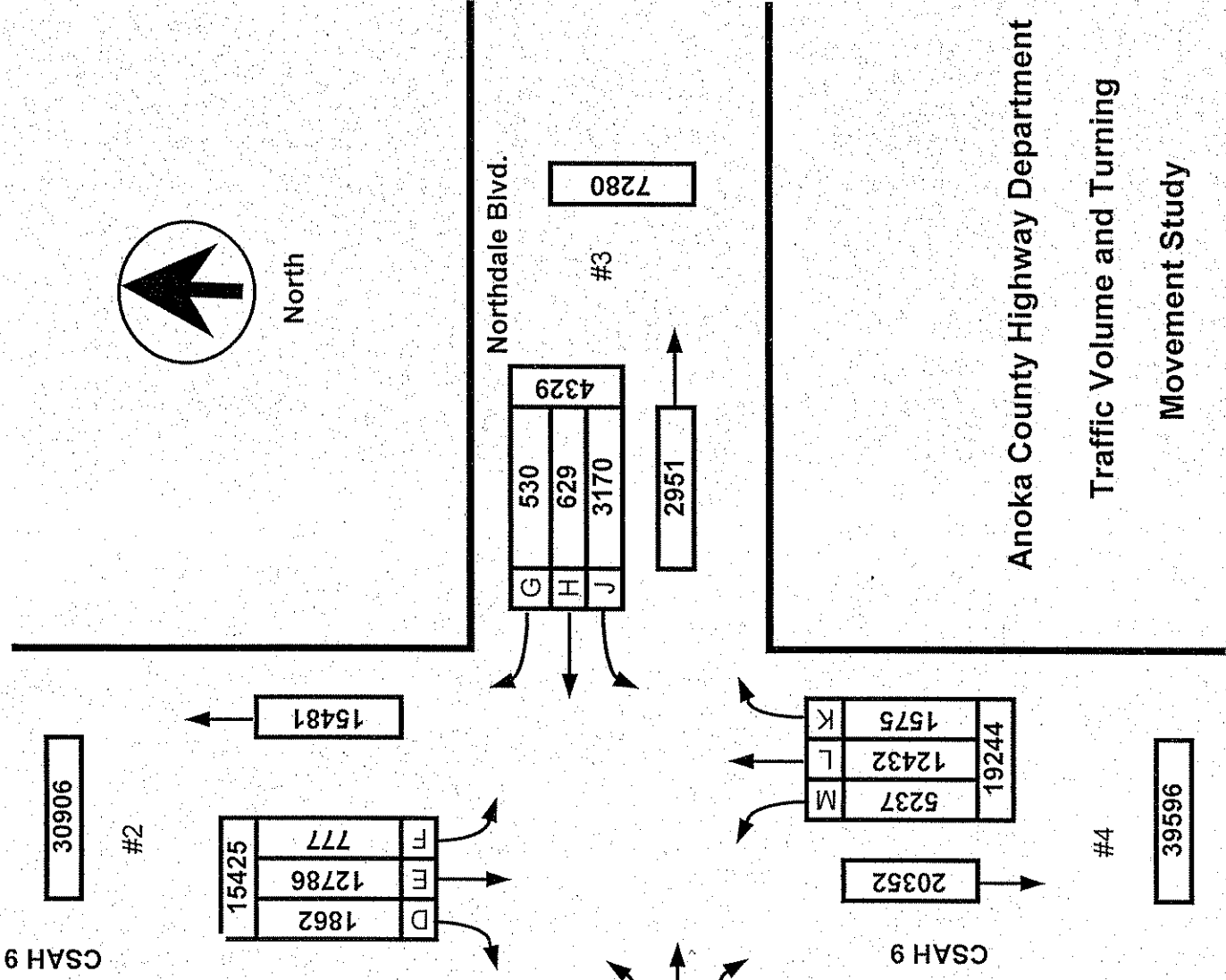
Count Number : TMC0538

Location : CSAH 9 (Round Lk. Blvd.)

@ CR 79 (Northdale Blvd.)



North



Anoka County Highway Department
Traffic Volume and Turning
Movement Study

	LANES OF APPROACH			TOTAL
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	
#1	1	1	2	4
#2	1	1	3	5
#3	1	2	2	5
#4	1	2	3	6

#1

15242	7728
7514	2519
	599
	4396

CR 79

#2

1862	12786	777
D	FM	F

#3

530	629	3170
G	H	J

4329

2951

7280

#4

5237	12432	1575
M	L	K

19244

20352

39596

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

File Name : TMC0538
Site Code : 05380101
Start Date : 10/31/2005
Page No : 1

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

Groups Printed- Unshifted

Start Time	CSAH 9 Southbound					Northdale Blvd. Westbound					CSAH 9 Northbound					CR 79 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	6	327	10	6	343	18	4	2	1	24	9	10	0	2	30	5	1	24	1	30	10	427	437
06:15	2	364	18	7	384	45	4	1	2	50	15	41	2	4	58	4	0	24	4	28	17	520	537
06:30	8	429	23	9	460	41	5	1	3	47	14	67	2	5	83	11	1	36	3	48	20	638	658
06:45	4	431	18	7	453	60	3	3	1	66	36	87	13	10	136	8	5	30	1	43	19	698	717
Total	20	1551	69	29	1640	164	16	7	7	187	74	216	17	21	307	28	7	114	9	149	66	2283	2349
07:00	11	398	21	9	430	38	2	2	0	42	23	89	8	5	120	11	2	23	2	36	16	628	644
07:15	9	442	27	9	478	46	2	1	4	49	31	125	19	13	175	17	5	44	4	66	30	768	798
07:30	14	456	23	13	493	61	4	2	3	67	34	111	7	9	152	9	5	47	1	61	26	773	799
07:45	16	457	26	13	499	57	4	1	2	62	53	102	15	12	170	20	9	42	5	71	32	802	834
Total	50	1753	97	44	1900	202	12	6	9	220	141	427	49	39	617	57	21	156	12	234	104	2971	3075
08:00	8	314	28	15	350	35	4	4	3	43	49	111	17	9	177	20	3	41	4	64	31	634	665
08:15	10	286	28	7	324	38	7	2	0	47	46	89	13	10	148	17	5	51	10	73	27	592	619
08:30	8	266	26	8	300	60	4	1	4	65	47	69	25	5	141	22	9	50	4	81	21	587	608
08:45	10	241	40	5	291	42	10	6	1	58	55	90	21	10	166	19	4	46	7	69	23	584	607
Total	36	1107	122	35	1265	175	25	13	8	213	197	359	76	34	632	78	21	188	25	287	102	2397	2499
09:00	9	215	38	11	262	54	5	1	3	60	54	95	25	12	174	29	3	59	5	91	31	587	618
09:15	14	237	46	7	297	52	14	3	2	69	76	107	21	15	204	29	3	64	5	96	29	666	695
09:30	7	199	52	5	258	44	7	5	1	56	73	104	27	12	204	32	5	64	5	101	23	619	642
09:45	3	200	45	10	248	46	11	3	1	60	78	117	25	12	220	21	8	95	6	124	29	652	681
Total	33	851	181	33	1065	196	37	12	7	245	281	423	98	51	802	111	19	282	21	412	112	2524	2636
10:00	21	181	30	10	232	38	5	3	3	46	99	127	22	5	248	59	6	89	2	154	20	680	700
10:15	17	206	51	8	274	41	5	4	4	50	112	150	30	19	292	32	11	75	6	118	37	734	771
10:30	13	202	44	6	259	49	10	11	3	70	113	146	20	11	279	53	7	97	7	157	27	765	792
10:45	10	199	32	9	241	62	14	3	1	79	114	142	33	13	289	45	14	71	5	130	28	739	767
Total	61	788	157	33	1006	190	34	21	11	245	438	565	105	46	1108	189	38	332	20	559	112	2918	3030
11:00	11	152	43	7	206	72	16	5	4	93	91	161	16	6	268	47	15	115	2	177	19	744	763
11:15	13	187	40	10	240	53	14	1	2	68	112	168	30	9	310	53	16	90	2	159	23	777	800
11:30	20	208	26	10	254	56	11	2	1	69	96	164	32	4	292	45	16	81	3	142	18	757	775
11:45	20	166	6	10	192	66	15	5	5	86	135	163	32	8	330	54	17	111	6	182	29	790	819
Total	64	713	115	37	892	247	56	13	12	316	434	656	110	27	1200	199	64	397	13	660	89	3068	3157
12:00	22	149	36	4	207	60	20	21	4	101	109	188	51	11	348	61	16	92	3	169	22	825	847
12:15	22	232	27	6	281	66	14	12	2	92	138	234	22	17	394	54	8	104	4	166	29	933	962
12:30	16	208	22	7	246	84	19	12	4	115	109	195	33	10	337	41	10	96	5	147	26	845	871
12:45	12	175	49	12	236	85	18	9	4	112	125	190	25	9	340	67	18	105	4	190	29	878	907
Total	72	764	134	29	970	295	71	54	14	420	481	807	131	47	1419	223	52	397	16	672	106	3481	3587
13:00	11	186	32	6	229	84	15	15	2	114	146	217	23	7	386	47	15	117	1	179	16	908	924
13:15	10	179	35	7	224	92	21	6	3	119	116	202	38	6	356	55	12	85	3	152	19	851	870
13:30	4	149	25	6	178	70	11	13	0	94	108	209	44	13	361	61	14	117	2	192	21	825	846
13:45	12	189	31	13	232	55	21	22	1	98	127	189	23	12	339	58	19	117	1	194	27	863	890
Total	37	703	123	32	863	301	68	56	6	425	497	817	128	38	1442	221	60	436	7	717	83	3447	3530
14:00	14	170	31	11	215	75	10	11	1	96	100	262	39	12	401	64	13	91	1	168	25	880	905
14:15	6	208	40	9	254	53	20	13	4	86	121	259	22	8	402	59	19	114	2	192	23	934	957
14:30	12	202	35	5	249	60	11	15	4	86	124	277	27	9	428	54	14	105	3	173	21	936	957
14:45	13	158	41	13	212	47	12	10	3	69	120	281	25	8	426	65	13	92	3	170	27	877	904
Total	45	738	147	38	930	235	53	49	12	337	465	1079	113	37	1657	242	59	402	9	703	96	3627	3723
15:00	15	140	38	7	193	40	9	17	3	66	137	314	34	10	485	64	15	86	4	165	24	909	933
15:15	11	191	43	7	245	51	12	10	2	73	117	418	41	13	576	75	12	90	3	177	25	1071	1096
15:30	14	139	46	3	199	57	13	22	1	92	140	354	41	7	535	84	21	99	2	204	13	1030	1043
15:45	18	191	35	6	244	54	20	13	2	87	106	377	73	4	556	72	13	108	3	193	15	1080	1095
Total	58	661	162	23	881	202	54	62	8	318	500	1463	189	34	2152	295	61	383	12	739	77	4090	4167
16:00	21	174	45	5	240	50	11	19	2	80	110	431	25	7	566	53	16	54	1	123	15	1009	1024
16:15	20	194	27	4	241	59	14	6	0	79	92	373	37	8	502	54	19	76	1	149	13	971	984
16:30	13	198	35	1	246	54	13	17	1	84	113	433	42	7	588	58	13	69	1	140	10	1058	1068
16:45	26	250	40	6	318	72	11	22	1	105	113	471	39	9	623	67	14	78	3	159	19	1203	1222
Total	80	816	147	16	1043	235	49	64	4	348	428	1708	143	31	2279	232	62	277	6	571	57	4241	4298

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

Study Name : TMC0538
Study Date : 11/16/05
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 9
Number of Lanes: 2
Approach Speed: 45
Total Approach Volume: 19,244

Southbound: CSAH 9
Number of Lanes: 2
Approach Speed: 45
Total Approach Volume: 15,425

Minor Street Approaches

Eastbound: CR 79
Number of Lanes: 2
Total Approach Volume: 7,514

Westbound: Northdale Blvd.
Number of Lanes: 2
Total Approach Volume: 4,329

Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Satisfied
Warrant 1A - Minimum Vehicular Volume	Satisfied
Required volumes reached for 14 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Satisfied
Required volumes reached for 14 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Satisfied
Required volumes reached for 14 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (14) volumes exceed minimum >= minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Delay	Satisfied
Number of hours (54) 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

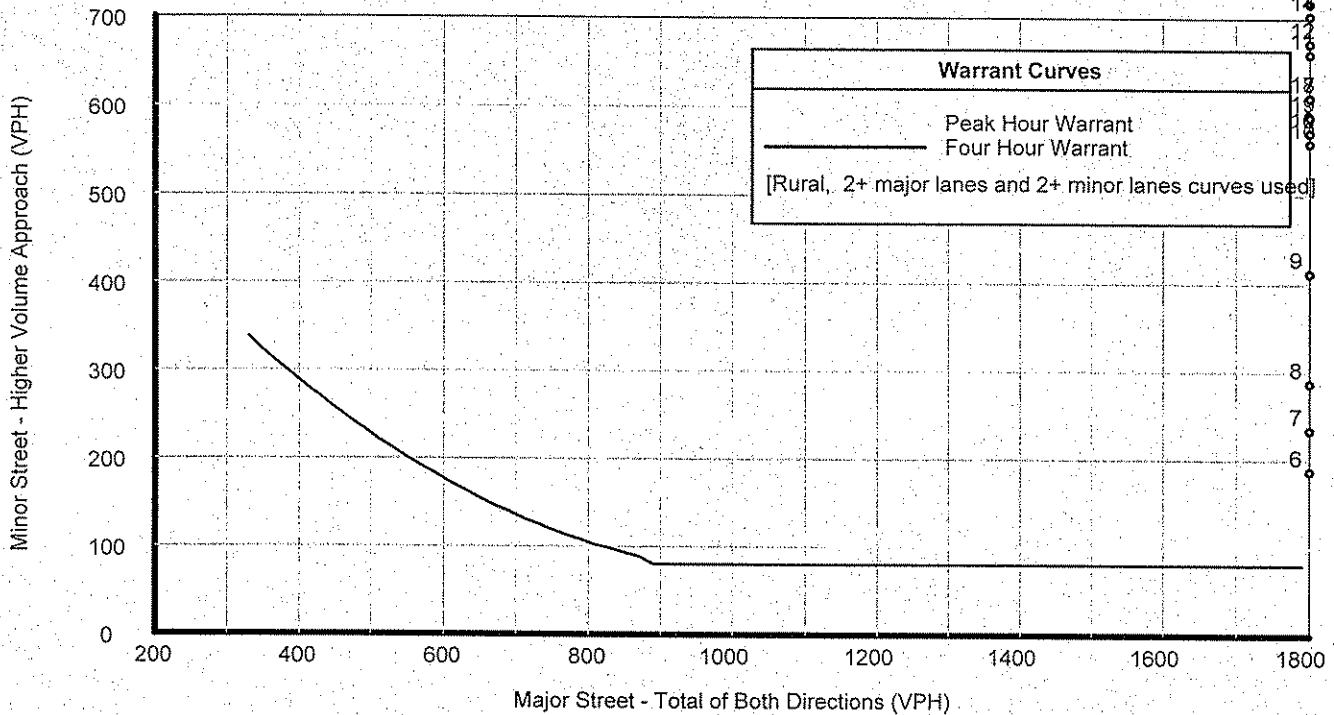
TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC0538

Study Date : 11/16/05

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	1,947	187	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
07:00	2,517	234	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
08:00	1,897	287	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
09:00	1,867	412	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
10:00	2,114	559	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
11:00	2,092	660	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
12:00	2,389	672	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
13:00	2,305	717	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
14:00	2,587	703	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
15:00	3,033	739	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
16:00	3,322	571	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	3,380	611	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	3,161	611	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
19:00	2,058	589	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
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 : TMC0538
Study Date : 11/16/05

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CSAH 9
Total Approach Volume: 19,244
Approach Speed: 45

Southbound: CSAH 9
Total Approach Volume: 15,425
Approach Speed: 45

Minor Street Approaches

Eastbound: CR 79
Total Approach Volume: 7,514

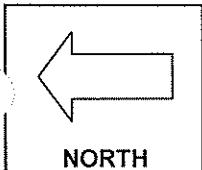
Westbound: Northdale Blvd.
Total Approach Volume: 4,329

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** Satisfied
Delay data not evaluated
Required volumes reached for 14 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 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	1,947	336	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
07:00 - 08:00	2,517	454	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	1,897	500	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
09:00 - 10:00	1,867	657	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
10:00 - 11:00	2,114	804	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
11:00 - 12:00	2,092	976	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
12:00 - 13:00	2,389	1,092	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
13:00 - 14:00	2,305	1,142	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
14:00 - 15:00	2,587	1,040	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
15:00 - 16:00	3,033	1,057	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
16:00 - 17:00	3,322	919	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	3,380	981	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:00 - 19:00	3,161	1,003	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
19:00 - 20:00	2,058	882	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
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:

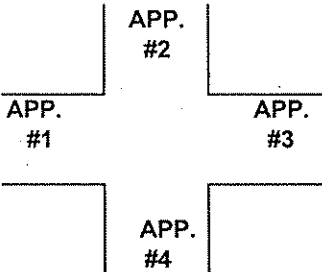
CSAH 9 (Round Lk. Blvd.) @

DATE:

10/31/2005

CR 79 (Northdale Blvd.)

NORTH
APP.#1= CSAH 9
APP.#2= Northdale Blvd.
APP.#3= CSAH 9
APP.#4= CR 79

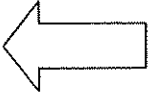


HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT

- 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						7		2
6:15-6:30						15		2
6:30-6:45						14		5
6:45-7:00						14		5
HOURLY TOTAL						HOURLY TOTAL		64
7:00-7:15	1				1	12		4
7:15-7:30						19		13
7:30-7:45						17		9
7:45-8:00	2				2	21		12
HOURLY TOTAL					3	HOURLY TOTAL		107
8:00-8:15						19		12
8:15-8:30	1				1	15		11
8:30-8:45						16		6
8:45-9:00	1		1		2	14		8
HOURLY TOTAL					3	HOURLY TOTAL		101
9:00-9:15	1				1	25		6
9:15-9:30						23		6
9:30-9:45						21		5
9:45-10:00			1	1	2	21	1	6
HOURLY TOTAL					3	HOURLY TOTAL		114
10:00-10:15						18		1
10:15-10:30	1				1	27		7
10:30-10:45						27		3
10:45-11:00		1	1		2	27		2
HOURLY TOTAL					3	HOURLY TOTAL		112
11:00-11:15	1		1		2	15		3
11:15-11:30						19		5
11:30-11:45						20		2
11:45-12:00						24		3
HOURLY TOTAL					2	HOURLY TOTAL		91
12:00-12:15						20		3
12:15-12:30						26	1	1
12:30-12:45						26		1
12:45-1:00						25		5
HOURLY TOTAL						HOURLY TOTAL		108
1:00-1:15				1	1	14		
1:15-1:30						16		2
1:30-1:45			1		1	18		3
1:45-2:00						18		9
HOURLY TOTAL					2	HOURLY TOTAL		80
					TOTAL	16		TOTAL
								777

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32



COUNT LOCATION:

CSAH 9 (Round Lk. Blvd.) @

DATE:

11/02/2005

CR 79 (Northdale Blvd.)

NORTH

APP.#1= CSAH 9

APP.#2= Northdale Blvd.

APP.#3= CSAH 9

APP.#4= CR 79

APP.
#2

APP.
#1

APP.
#3

APP.
#4

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						14		14
2:15-2:30						17		5
2:30-2:45						20		
2:45-3:00						22		7
HOURLY TOTAL						HOURLY TOTAL		99
3:00-3:15						18	1	8
3:15-3:30						16		5
3:30-3:45						9		4
3:45-4:00						10		3
HOURLY TOTAL						HOURLY TOTAL		74
4:00-4:15			1		1	13		2
4:15-4:30				1	1	10		4
4:30-4:45						8		2
4:45-5:00	2	1		1	4	15		3
HOURLY TOTAL					6	HOURLY TOTAL		57
5:00-5:15			2		2	14		3
5:15-5:30		1	1		2	9		1
5:30-5:45						12		
5:45-6:00						8		4
HOURLY TOTAL					4	HOURLY TOTAL		51
6:00-6:15			1		1	5	3	1
6:15-6:30						8	1	3
6:30-6:45						6		1
6:45-7:00						3		1
HOURLY TOTAL					1	HOURLY TOTAL		32
7:00-7:15						1		1
7:15-7:30						2		2
7:30-7:45						5		1
7:45-8:00						4		
HOURLY TOTAL						HOURLY TOTAL		16
					TOTAL	27	TOTAL	1106

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24