

Date: 10/28/08

Count Number: TMC0836

Location: CSAH 52 (Radisson Rd.)

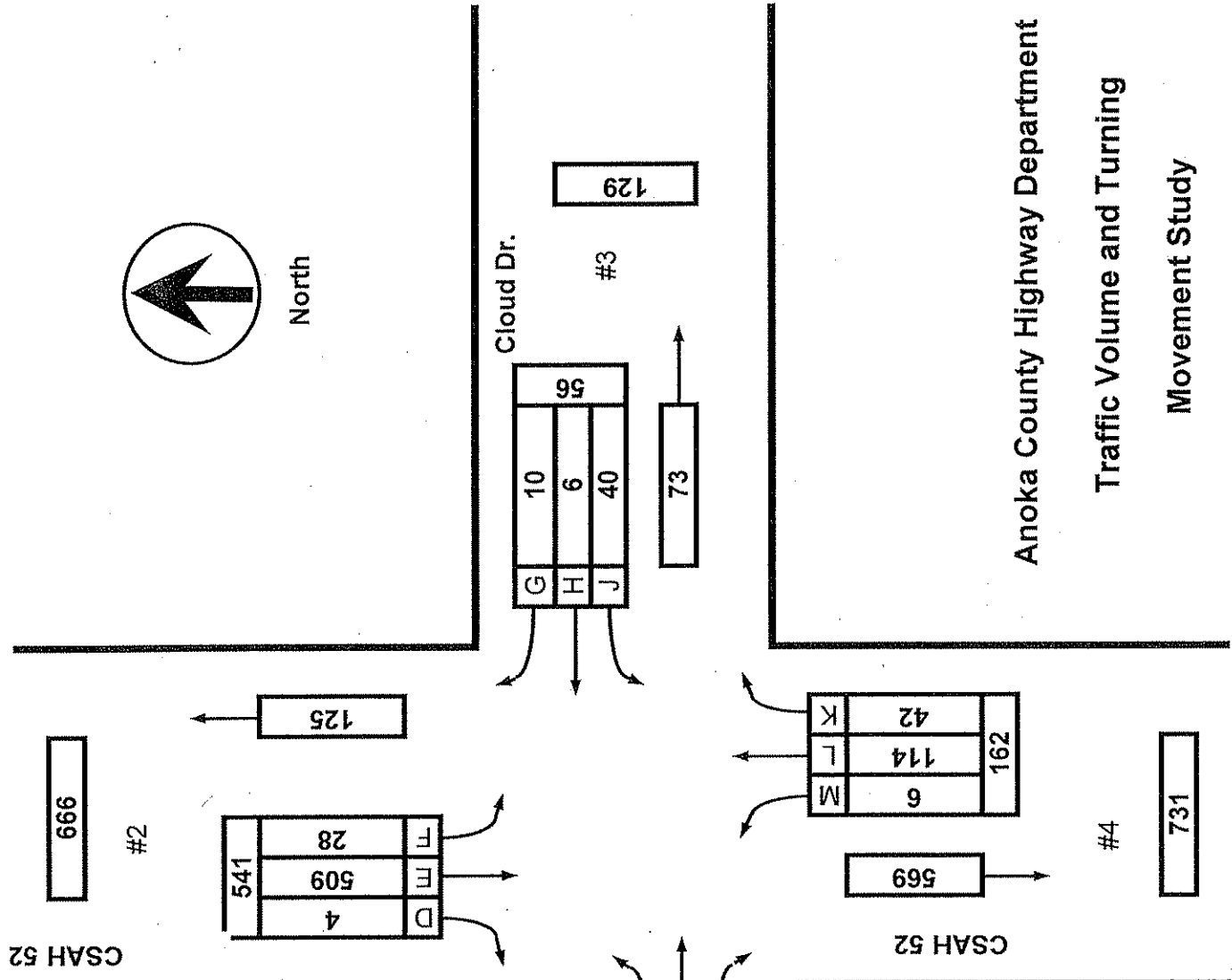
@ Cloud Dr.

Collection Period: AM PEAK

Hour: 8:00 - 9:00AM



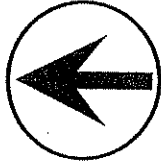
North



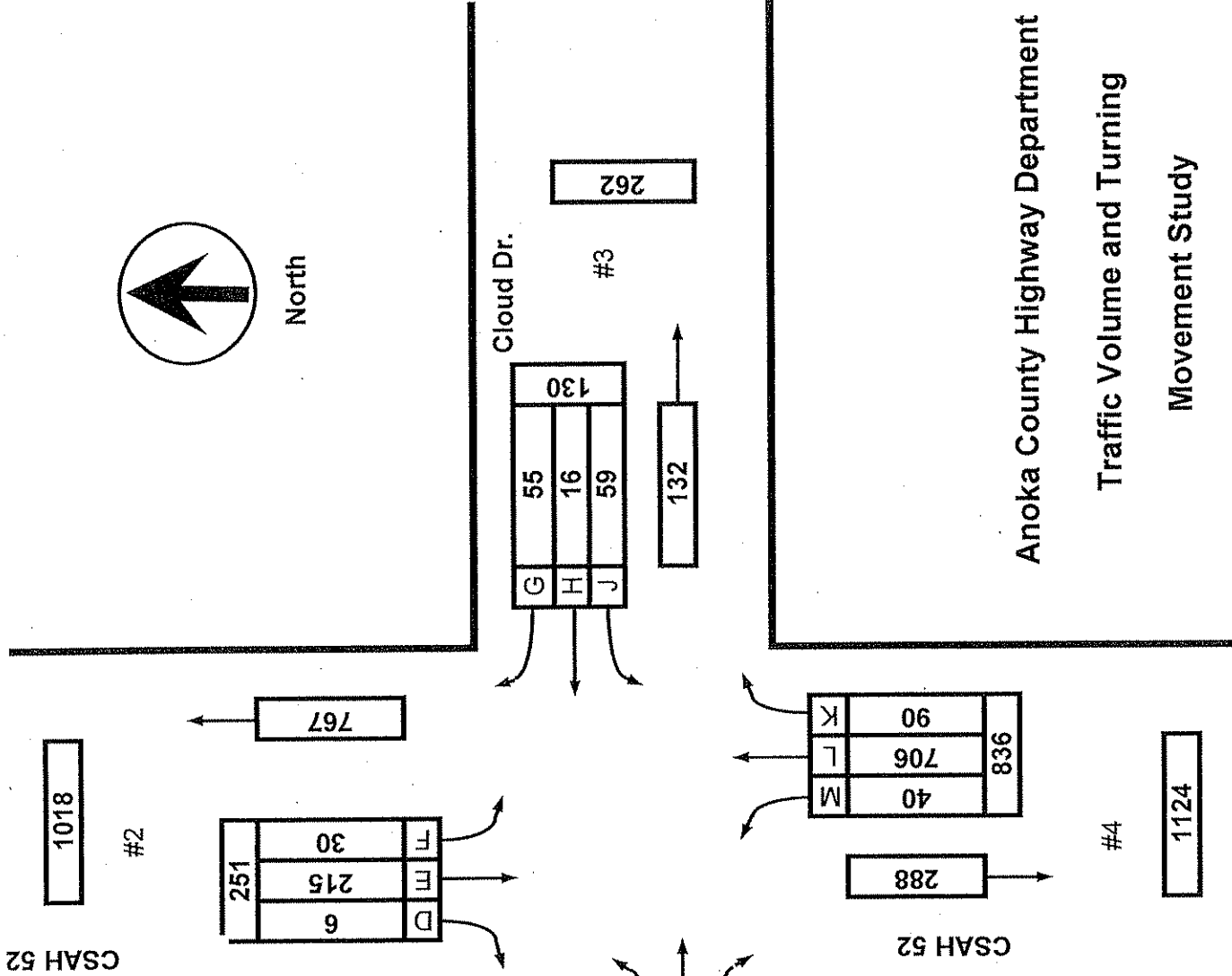
	EXISTING/PROPOSED LANES OF APPROACH			TOTAL
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	
#1	0	0	1	1
#2	1	1	2	4
#3	0	0	1	1
#4	1	1	2	4

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 10/28/08
 Count Number : TMC0836
 Location : CSAH 52 (Radisson Rd.)
 @ Cloud Dr.
 Collection Period : PM PEAK
 Hour : 3:30 - 4:30PM



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

Weather: Clear and Mild
 Counter: TDC-12
 Counted by: Josie/Terri

File Name : TMC0836
 Site Code : 08360202
 Start Date : 10/28/2008
 Page No : 1

Groups Printed- Unshifted

Start Time	CSAH 52 Southbound					Cloud Dr. Westbound					CSAH 52 Northbound					Cloud 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				
08:00	9	164	0	4	173	11	2	5	0	18	1	25	16	4	42	1	1	6	1	8	9	241	250	
08:15	5	132	0	4	137	12	1	2	0	15	2	23	1	3	26	0	1	4	0	5	7	183	190	
08:30	5	111	2	5	118	7	1	1	0	9	2	32	7	3	41	0	0	2	1	2	9	170	179	
08:45	9	102	2	5	113	10	2	2	0	14	1	34	18	7	53	0	1	8	0	9	12	189	201	
Total	28	509	4	18	541	40	6	10	0	56	6	114	42	17	162	1	3	20	2	24	37	783	820	
09:00	11	89	0	5	100	20	1	4	1	25	3	28	29	8	60	3	1	3	0	7	14	192	206	
09:15	2	66	0	6	68	25	3	2	7	30	2	43	13	6	58	2	5	6	2	13	21	169	190	
09:30	4	54	1	4	59	10	1	7	1	18	2	39	8	5	49	1	3	1	0	5	10	131	141	
09:45	9	48	2	4	59	11	1	3	1	15	0	30	3	5	33	1	0	1	0	2	10	109	119	
Total	26	257	3	19	286	66	6	16	10	88	7	140	53	24	200	7	9	11	2	27	55	601	656	
*** BREAK ***																								
14:30	5	44	3	3	52	6	0	6	2	12	3	72	5	2	80	1	0	1	0	2	7	146	153	
14:45	8	51	1	1	60	7	2	4	1	13	5	96	6	4	107	3	4	0	0	7	6	187	193	
Total	13	95	4	4	112	13	2	10	3	25	8	168	11	6	187	4	4	1	0	9	13	333	346	
15:00	4	41	1	1	46	5	4	7	0	16	9	93	19	5	121	0	5	6	1	11	7	194	201	
15:15	5	53	2	1	60	9	7	8	1	24	14	120	25	7	159	2	1	1	0	4	9	247	256	
15:30	7	52	1	0	60	15	5	7	1	27	9	137	26	3	172	0	2	3	1	5	5	264	269	
15:45	6	50	1	0	57	22	4	17	4	43	7	168	22	6	197	2	4	1	0	7	10	304	314	
Total	22	196	5	2	223	51	20	39	6	110	39	518	92	21	649	4	12	11	2	27	31	1009	1040	
16:00	8	58	2	3	68	12	2	14	1	28	14	171	18	3	203	0	2	5	0	7	7	306	313	
16:15	9	55	2	4	66	10	5	17	0	32	10	230	24	7	264	4	4	5	0	13	11	375	386	
Grand Total	106	1170	20	50	1296	192	41	106	20	339	84	1341	240	78	1665	20	34	53	6	107	154	3407	3561	
Apprch %	8.2	90.3	1.5			56.6	12.1	31.3			5	80.5	14.4			18.7	31.8	49.5						
Total %	3.1	34.3	0.6		38	5.6	1.2	3.1		10	2.5	39.4	7		48.9	0.6	1	1.6		3.1	4.3	95.7		

Start Time	CSAH 52 Southbound				Cloud Dr. Westbound				CSAH 52 Northbound				Cloud Dr. Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 to 11:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	9	164	0	173	11	2	5	18	1	25	16	42	1	1	6	8	241
08:15	5	132	0	137	12	1	2	15	2	23	1	26	0	1	4	5	183
08:30	5	111	2	118	7	1	1	9	2	32	7	41	0	0	2	2	170
08:45	9	102	2	113	10	2	2	14	1	34	18	53	0	1	8	9	189
Total Volume	28	509	4	541	40	6	10	56	6	114	42	162	1	3	20	24	783
% App. Total	5.2	94.1	0.7		71.4	10.7	17.9		3.7	70.4	25.9		4.2	12.5	83.3		
PHF	.778	.776	.500	.782	.833	.750	.500	.778	.750	.838	.583	.764	.250	.750	.625	.667	.812

Peak Hour Analysis From 12:00 to 16:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 15:30																	
15:30	7	52	1	60	15	5	7	27	9	137	26	172	0	2	3	5	264
15:45	6	50	1	57	22	4	17	43	7	168	22	197	2	4	1	7	304
16:00	8	58	2	68	12	2	14	28	14	171	18	203	0	2	5	7	306
16:15	9	55	2	66	10	5	17	32	10	230	24	264	4	4	5	13	375
Total Volume	30	215	6	251	59	16	55	130	40	706	90	836	6	12	14	32	1249
% App. Total	12	85.7	2.4		45.4	12.3	42.3		4.8	84.4	10.8		18.8	37.5	43.8		
PHF	.833	.927	.750	.923	.670	.800	.809	.756	.714	.767	.865	.792	.375	.750	.700	.615	.833

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

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 52
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Volume: 1,665

Southbound: CSAH 52
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Volume: 1,296

Minor Street Approaches

Eastbound: Cloud Dr.
 Number of Lanes: 1
 Total Approach Volume: 107

Westbound: Cloud Dr.
 Number of Lanes: 1
 Total Approach Volume: 339

Warrant Summary (Rural values apply.)

- Warrant 1 - Eight Hour Vehicular Volumes Not Satisfied
 - Warrant 1A - Minimum Vehicular Volume Not Satisfied
 Required volumes reached for 1 hours, 8 are needed
 - Warrant 1B - Interruption of Continuous Traffic Not Satisfied
 Required volumes reached for 2 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 (1) volumes exceed minimum < minimum required (4).

- Warrant 3 - Peak Hour 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 Satisfied
 Volumes exceed minimums for at least one hour.

- Warrant 4 - Pedestrian Volumes Not Evaluated

- Warrant 5 - School Crossing Not Evaluated

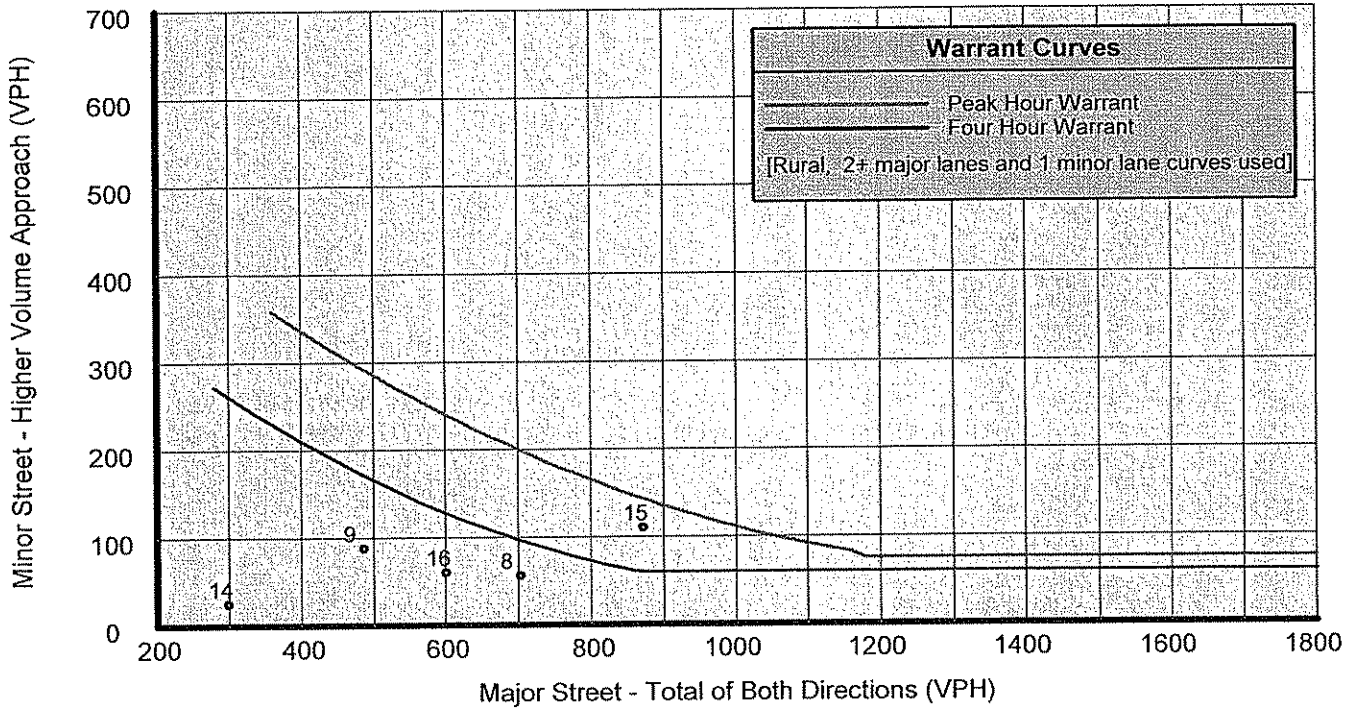
- Warrant 6 - Coordinated Signal System Not Evaluated

- Warrant 7 - Crash Experience Not Evaluated

- Warrant 8 - Roadway Network Not Evaluated

ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

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	105-No	---	630-No	53-No	---	504-No	84-No	---
01:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
02:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
03:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
04:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
05:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
06:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
07:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
08:00	703	56	WB	420-Yes	105-No	Major	630-Yes	53-Yes	Both	504-Yes	84-No	Major
09:00	486	88	WB	420-Yes	105-No	Major	630-No	53-Yes	Minor	504-No	84-Yes	Minor
10:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
11:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
12:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
13:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
14:00	299	25	WB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
15:00	872	110	WB	420-Yes	105-Yes	Both	630-Yes	53-Yes	Both	504-Yes	84-Yes	Both
16:00	601	60	WB	420-Yes	105-No	Major	630-No	53-Yes	Minor	504-Yes	84-No	Major
17:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
18:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
19:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
20:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
21:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
22:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
23:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---

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

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 Number of Lanes: 2
 Total Approach Volume: 107

Westbound: Cloud Dr.
 Number of Lanes: 2
 Total Approach Volume: 339

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 0 hours, 8 are needed

- Warrant 2 - Four Hour Volumes** **Not Satisfied**
 Number of hours (1) volumes exceed minimum < minimum required (4).

- Warrant 3 - Peak Hour** **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** **Satisfied**
 Volumes exceed minimums for at least one hour.

- Warrant 4 - Pedestrian Volumes** **Not Evaluated**

- Warrant 5 - School Crossing** **Not Evaluated**

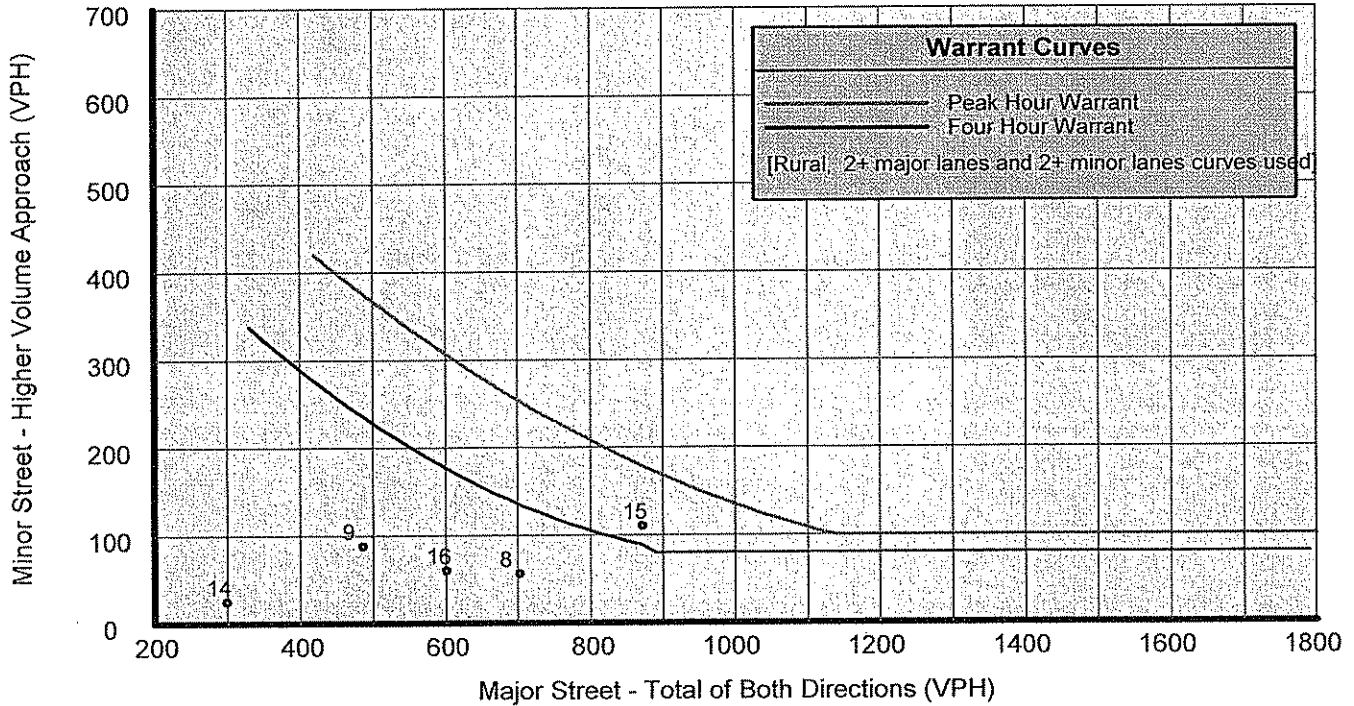
- Warrant 6 - Coordinated Signal System** **Not Evaluated**

- Warrant 7 - Crash Experience** **Not Evaluated**

- Warrant 8 - Roadway Network** **Not Evaluated**

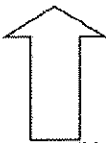
ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

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	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
07:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
08:00	703	56	WB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
09:00	486	88	WB	420-Yes	140-No	Major	630-No	70-Yes	Minor	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	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
13:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
14:00	299	25	WB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
15:00	872	110	WB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-No	Major
16:00	601	60	WB	420-Yes	140-No	Major	630-No	70-No	---	504-Yes	112-No	Major
17:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
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	---



NORTH

COUNT LOCATION:

CSAH 52 (Radisson Rd.) @

DATE:

10/28/2008

Cloud Dr.

APP. #1 = Cloud Dr.

APP. #2 = CSAH 52

APP. #3 = Cloud Dr.

APP. #4 = CSAH 52

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
8:00-8:15AM	1				1	7		3
8:15-8:30						5		2
8:30-8:45						6		3
8:45-9:00						9		3
HOURLY TOTAL					1	HOURLY TOTAL		38
9:00-9:15AM						5		9
9:15-9:30						13		7
9:30-9:45						10		
9:45-10:00						10		
HOURLY TOTAL						HOURLY TOTAL		54
					TOTAL	1	TOTAL	92

TIME	PEDESTRIANS					HEAVY VEHICLES		
	APP. #1	APP. #2	APP. #3	APP. #4	15 MIN TOT	TRUCKS	RV	BUS
2:30-2:45PM						8		
2:45-3:00				1	1	5		1
3:00-3:15						5		1
3:15-3:30						5		4
HOURLY TOTAL					1	HOURLY TOTAL		29
3:30-3:45PM						2		3
3:45-4:00						5		5
4:00-4:15						5		2
4:15-4:30						9		1
HOURLY TOTAL						HOURLY TOTAL		32
					TOTAL	1	TOTAL	61