

CROW WING COUNTY

Nov. 18, 2016 Snow Event #1 2016-8



Reported Event Conditions	
Date:	11/18/2016
Event No:	#1 2016-8
Begin Time:	11/17/16 10pm
End Time:	11/18/16 9pm
Weather:	Rain/Snow
Precipitation:	.75"Rn/15"snw
Temperature:	44\14
Wind:	20-45 mph

Event Costs	
Salt	\$43,571
Sand	\$0
Brine	\$4,471
Equipment/Fuel	\$46,413
Personnel Reg.	\$15,548
Personnel OT	\$8,100
Total	\$118,103
Cost Mile	\$211
Season Total:	\$118,103

Priority By Route	
Priority 1	
% Target 1A Met:	100%
% Target 1B Met:	1%
Priority 2	
% Target 2A Met:	100%
% Target 2B Met:	22%
Priority 3	
% Target 3A Met:	100%

Legend

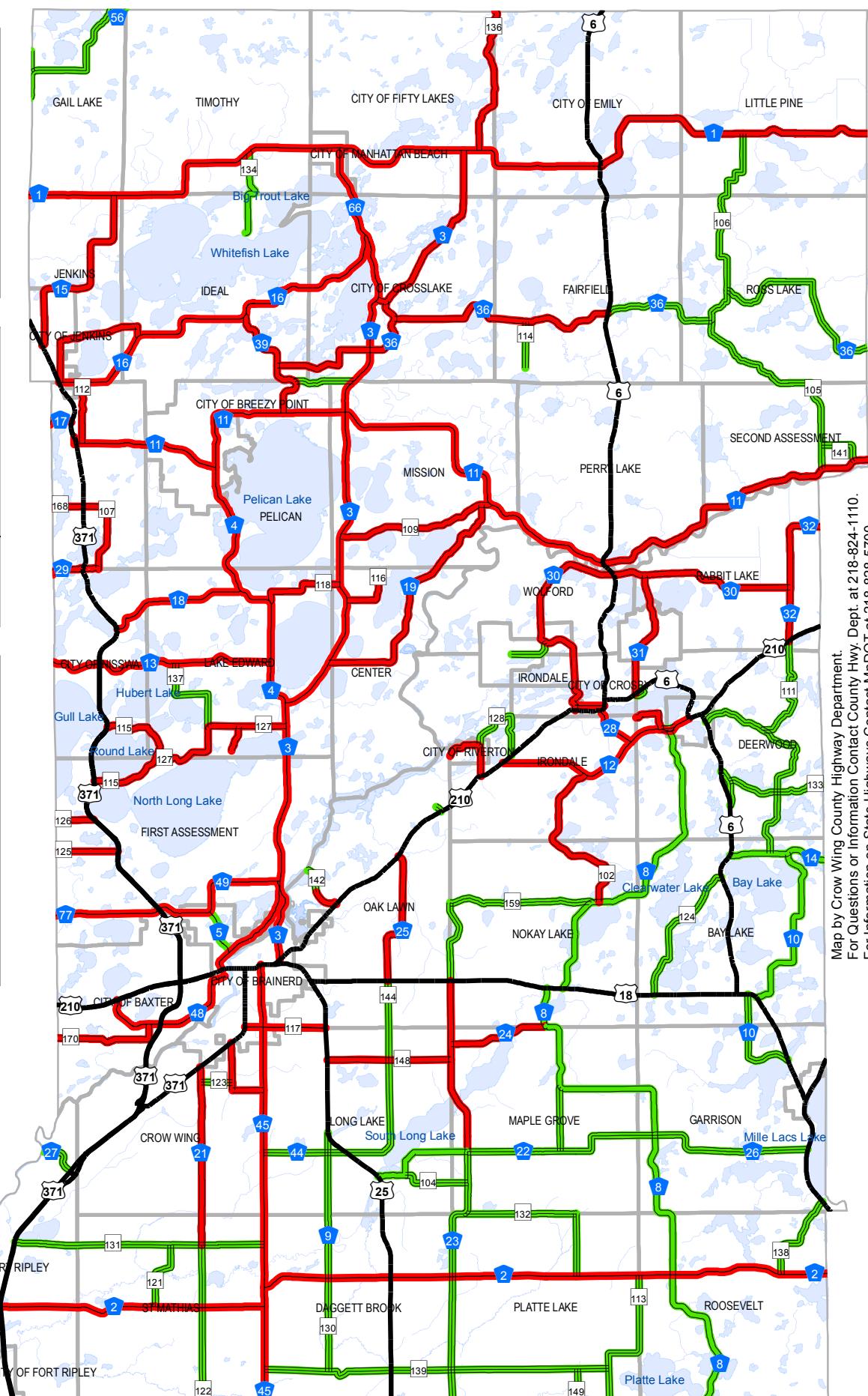
— MnDOT Highway

Route Priority

- 1 (ADT>5000)
- 2 (500>ADT<500)
- 3 (ADT<500)

Route Target

- Target Achieved
- Target Not Achieved



Map by Crow Wing County Highway Department
For Questions or Information Contact County Hwy Dept at 218-824-1110.
For Information on State Highways Contact MnDOT at 218-828-5700.

2016/2017 Summary For Snow Event # 1 2016-8

Date 11-18-16

Salt Cyds	Salt \$	Sand Cyds	Sand \$	Brine gal	Brine \$	Mat. Total	Equip \$	Reg. Personnel	OT \$
494	\$43,571	0	\$0	6774	\$4,471	\$48,042	\$46,413	\$15,548.00	\$8,100

Total \$118,103

Total \$118,103 41 hrs = \$2,881 per/hr
\$211 per/CL/Mile 616 man hours

Forecast

Rain changing to heavy snow, 12"-18", strong 20-30 MPH winds with 50 mph gusts.

Winter Storm Warning issued for 11/18/16 6 A.M. - 6 P.M.

Pre Plan

Have trucks ready to go Thursday. Start shift at 7 A.M., start plowing when there is enough snow to plow.

Trucks will continue to plow into the night, unless visibility becomes so bad it creates a safety issue.

Trucks will apply 200 lbs at intersections and critical areas initially and 300 lbs. on final plow pass at night.

Comments

Snow started in the north first and continued south.

Crosslake trucks started plowing at 7:30 A.M. Brainerd, Pine Center and Deerwood started plowing at 10 A.M.

Strong winds and heavy snow started to topple trees at 11 A.M.

Very heavy snowfall made it extremely difficult for plow trucks.

Snow compacted hard in various areas on almost all of our priority 1 roads.

Conditions

Heavy snow with extremely limited visibility for plow drivers.

Snow fell at a rate of 1"-2" per hour late morning into the afternoon.

Roads started to get slippery mid morning.

Limited visibility at times less than 50', heavy snowfall with strong winds and numerous cars in the ditch.

Wet heavy snow very hard to move. Numerous cars stuck in the middle of the road that the trucks had to work around.

Many cars in the ditch and even stuck in the middle of the roads during the event.

Temps dropped below freezing and the moisture on the road froze with the compacted snow.

Road	RDTemp	Date/Time		Air Temp
45	40	11\18\16	5 A.M.	34
31	31	11\18\16	11:30 A.M.	31
45	26	11\19\16	5AM	19

Date	High	Low
11\17\16	44	34
11\18\16	35	20
11\19\16	28	14
11\20\16	27	17
11\21\16	33	17
11\22\16	31	30
11\23\16	34	27

Summary

The snow was coming down and filling in behind the trucks as fast as they were plowing it.

Priority 3 roads cleaned up the best because traffic didn't compact the snow in lifts.

Compaction on many roads mainly in the open to the north areas and in slow moving areas.

These areas compacted hard and we struggled to cut it on applying material didn't help loosen it.

Blades with Shark edges and trucks with serrated edges had trouble cutting the snow compaction.

Decisions Made

At noon decided to try rolling plows forward to cut compaction. It worked.

Had drivers grab their tire chains to get more traction.

Decided not go out on Sunday, we let the material work and traffic break the compaction, it worked OK.

Sent blades and serrated edges out on Saturday but struggled once it got later in the day.

Sent blades and serrated edges out again on Monday & Tuesday. Had better luck cutting the hard pack.

Lessons Learned

If we could have left the roads until the storm was over we may have had better results. This was not an option due to the heavy consistency and the number of vehicles getting stuck.

Material at intersections didn't seem to help with the snow compaction

Goals Met/Not Met

<u>Plowing</u>	<u>Bare wheel paths</u>
Priority 1 Yes	Priority 1 no
Priority 2 Yes	Priority 2 no
Priority 3 Yes	

Hard pack did not allow us to meet our goals.