

CROW WING COUNTY

December 28-30, 2019 Snow Event #25 - 2019 - 11

Reported Event Conditions	
Date:	12/30/2019
Event No:	#25 2019 11
Begin Time:	12/28/19 9 AM
End Time:	12/31/2019 10 PM
Weather:	Rain/Snow
Precipitation:	1" / 7"
Temperature:	36° / 17°
Wind:	0-25 MPH

Event Costs	
Salt	\$60,242
Sand	\$408
Brine	\$4,989
Equipment/Fuel	\$49,675
Personnel Reg.	\$14,318
Personnel OT	\$10,693
Total	\$140,325
Cost Mile	\$251
Season Total:	\$575,266

Priority By Route	
Priority 1	
% Target 1A Met:	52%
% Target 1B Met:	60%
Priority 2	
% Target 2A Met:	41%
% Target 2B Met:	75%
Priority 3	
% Target 3A Met:	33%

Legend

— MnDOT Highway

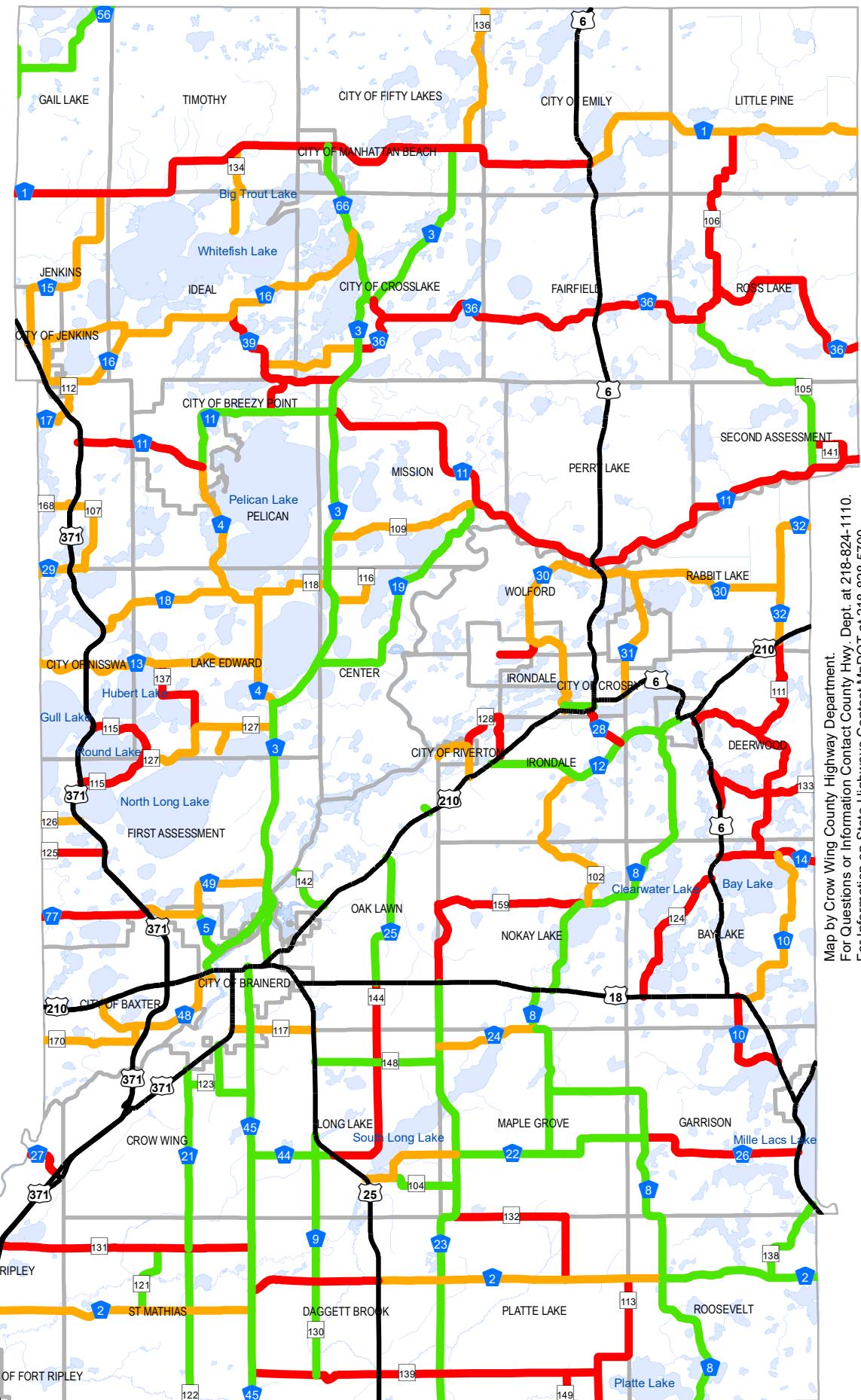
Route Priority

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

Route Target

- Target Achieved
- Target Partly Achieved
- Target Not Achieved

Report Date: 1/3/2020



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.

2019/2020 Summary For Snow Event #25 - 2019 - 11

Date 12-30-19

Salt Tons	Salt \$	Sand Tons	Sand \$	Brine gal	Brine \$	Mat. Total	Equip \$	Reg. Personnel	OT \$
662	\$60,242	12	\$408	7559	\$4,989	\$65,639	\$49,675	\$14,318.00	\$10,693

Total \$140,325

38.5 Plow hrs.

\$3,645 per/hr.

679 Man hrs.

\$251 per/CL/mile

\$5.29 per/household for entire County

Forecast

4"-16" of snow and an inch of rain forecasted to fall 12-28-12-31-19. Strong winds on 12/29.

Pre Plan

Start plowing at 3 p.m. 12-28 and apply 400 lbs. of salt to keep the snow/rain soft as to continues to fall. Start plowing at 6 a.m. 12-29 and apply 400 lbs. of salt to get the roads melting as the snow continues. Start plowing at 6 a.m. 12-30 and apply 400 lbs. of salt to keep the snow soft and melting as the snow falls. Start plowing at 3 a.m. 12-31 and apply 500 lbs. to get the roads to melt before the temps dropped.

Actual Event

Event start: 12/28/2019 9AM

Event ended 12-30-19 10PM

Comments

Snow ended sooner than expected on 12/30. 12-29 wind caused drifting issues. On 12-31 temps dropped quickly, causing black ice to form and the salt ineffective for a short time.

Conditions

Continued snow and rain for four days. 20 mph winds on 12-29.

Road	Road Temp	Date	Time	Air Temp
Hwy 6	28	12/20	2:00 PM	27
Cr 11	5	12/31/19	10:00 PM	9

Date	High	Low
12/27/2019	29	18
12/28/2019	34	17
12/29/2019	36	33
12/30/2019	33	19
12/31/2019	21	9
1/1/2020	28	10

Source: weather.com. Monthly Weather. 56401

Summary

Continued snow and rainfall for multiple days made it difficult to keep roads open and when the temps dropped, black ice formed. Over an inch of rain and 7" of snow fell over the three days. The event ended 8 hours sooner than expected. It was forecasted to continue until 6 am 12/31. With the event ending earlier than forecasted, plowing within set targets was not achieved. Operators plowed roads multiple times 12-28-12-30 and began plowing at 3 am 12/31. The temps fell fast, the salt stopped working and black ice formed in shaded areas, mainly along east west county roads.

Decisions Made

Decided to stop plowing after opening everything up 12/28 and 12/29, to let the snow absorb the rain that fell overnight. Amounts of salt were based on guidelines and what the drivers were observing while plowing. The decision was made to add additional salt to drive lanes to combat the black ice that started to form.

Lessons Learned

Letting the snow absorb the rain with salt under the snow helped the roads clean up well. Amounts of salt applied kept the snow from compacting and allowed for bare wheel paths before black ice formed. We should have adjusted our start time on 12/31 with the event ending earlier than forecasted. Adding salt to drive lanes worked in some areas but not all areas.

Goals Met/Not Met

	Plowing	Goals
Priority 1	Not met	6 hr.
Priority 2	Not met	8 hr.
Priority 3	Not met	10 hr.

	Bare wheel paths	Goals
Priority 1	Not met	18 Hr.
Priority 2	Not met	48 hr.