

CROW WING COUNTY

Snow Event 6-2023-11 February 15, 2023



Reported Event Conditions

Date:	2/15/2023
Event No:	6-2023-11
Begin Time:	2/14 10AM
End Time:	2/15 9AM
Weather:	Rain/Snow
Precipitation:	.5"R/.5"S
Temperature:	41/0
Wind:	15-45 MPH

Event Costs

Salt	\$35,090
Sand	\$119
Brine	\$1,740
Equipment/Fuel	\$23,457
Personnel Reg.	\$8,365
Personnel OT	\$331
Total	\$69,102
Cost Mile	\$123
Season Total:	1.4M

Priority By Route

Priority 1

% Target 1A Met:	100%
% Target 1B Met:	86%

Priority 2

% Target 2A Met:	100%
% Target 2B Met:	88%

Priority 3

% Target 3A Met:	100%
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— MnDOT Highway

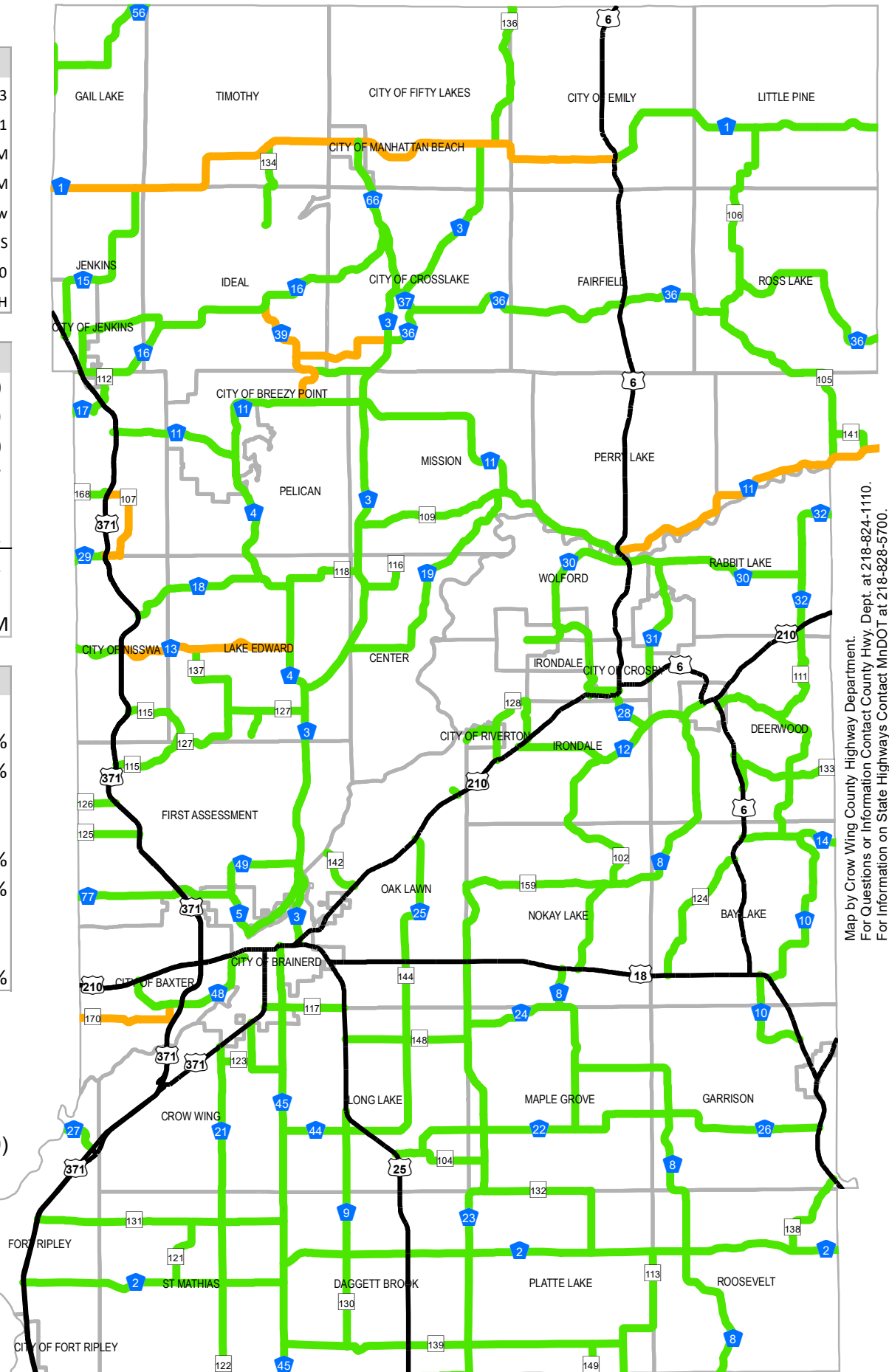
Route Priority

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

Route Target

- Target Achieved
- Target Partly Achieved
- Target Not Achieved

Report Date: 2/17/2023



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.

Date 2-15-23

Salt Tons	Salt \$	Sand Tons	Sand \$	Brine gal	Brine \$	Mat. Total	Equip \$	Reg. Personnel	OT \$
242	\$35,090	3.5	\$119	2636	\$1,740	\$36,949	\$23,457	\$8,365.00	\$331

Total	\$69,102	13.7 Plow hrs.	\$5,060 per/hr.
		219 Man hrs.	\$123 per/CL/mile
			\$2.61 per/household for entire County

Forecast

.5" of rain and 1.2" of snow forecasted to begin falling at 10:00 am on 2/14/23 and continue until 11:00 am 2/15/23. The rain was forecasted to switch to snow at 2:00 am 2/15/23 as the temps got to 32. 15-40 mph winds also forecasted from 1:00 am until 4:00 pm 2-15-23.

Pre Plan

Begin plowing and applying 400 lbs of treated salt to roads at 5:00 am 2/15/23. Reevalue roads once all roads have been plowed and rescrpe and apply if needed.

Actual Event

Event start: 10:00AM 2/14/23

Event ended 2/15/2023 9:00AM

Details/Comments

The snow mostly tapered off at 6:00 am but sparatic flurries continued until 9:00 am on 2/15/23. Plows began at 5:00 am and applied 400 lbs of treated salt. Roads kept rain and snow slushy until 5:00 am. Once the plows scraped the road, the residual froze instantly. Blowing snow caught on areas where salt was applied. Salt had to be applied to melt the ice that formed and because of warmer pavement temps in the afternoon of 2-15-23.

Conditions

30 degree air and pavement temps that quickly dropped on 2-15-23.

Road	Road Temp	Date	Time	Air Temp
Hwy 6	37	2\14\23	10:00AM	34
Hwy 25	36	2\14\23	10:00AM	38
Hwy 6	31	2\15\23	5:00AM	30
Hwy 25	32	2\15\23	5:00AM	31
Hwy 6	37	2\15\23	3:00PM	21
Hwy 25	26	2\15\23	3:00PM	21

Date	High	Low
2/13/2023	43	29
2/14/2023	41	24
2/15/2023	24	0
2/16/2023	15	-9
2/17/2023	28	19

Source: weather.com. Monthly Weather. 56401

Summary

Salt worked but was slow and did not melt out towards the fog lines as we had hoped. Continued flurries and blowing snow caught slowing the salt's effectiveness. At 11 the plows rescraped and reapplied material to achieve more effective wheel path results. Pretreating roads on 2-14-23 would not have been effective due to the rainfall and even humidity forecasts of >80%, which is not within the guidelines of best practices. Some plows went out the next day to scrape and apply material to shaded areas of priority two and three roads due to blowing snow catching and refreezing after the sun set on 2/15/23. The drastic temperature drop to below zero caused the material to slow and then stop working overnight. Observed ice formations in sparatic shaded areas, mainly on the north end of the County.

Decisions Made

Begin plowing at 5:00 am and apply 400 lbs. of treated salt. Recrape and reapply to help achieve bare wheel paths.

Lessons Learned

With the majority of the snow ending earlier, we could have started earlier, possibly 3 or 4 am. Possibly could have gone with a lower material rate but with the slow reaction until 11:00 am, the 400 lbs. kept the centerlines soft and allowed the material to work effectively once the sun came out.

Goals Met/Not Met

Plowing		Goals
Priority 1	Met	6 hr.
Priority 2	Met	8 hr.
Priority 3	Met	10 hr.

Bare wheel paths		Goals
Priority 1	86%	18 Hr.
Priority 2	88%	48 hr.