

# CROW WING COUNTY

## Storm Event 5-2024-9 March 24-27, 2024



## Reported Event Conditions

|                |              |
|----------------|--------------|
| Date:          | 3/24-27/2024 |
| Event No:      | 5-2024-9     |
| Begin Time:    | 3/24/24 1AM  |
| End Time:      | 3/27/24 4AM  |
| Weather:       | Rain/Snow    |
| Precipitation: | 16" Snow     |
| Temperature:   | 32/11        |
| Wind:          | 10-35 MPH    |

## Event Costs

|                |           |
|----------------|-----------|
| Salt           | \$58,380  |
| Sand           | \$0       |
| Brine          | \$5,434   |
| Equipment/Fuel | \$116,138 |
| Personnel Reg. | \$16,465  |
| Personnel OT   | \$22,413  |
| Total          | \$218,831 |
| Cost Mile      | \$391     |
| Season Total:  | 1.09M     |

## Priority By Route

## Priority 1

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

## Priority 2

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

### Priority 3

% Target 3A Met: 100%

## — MnDOT Highway

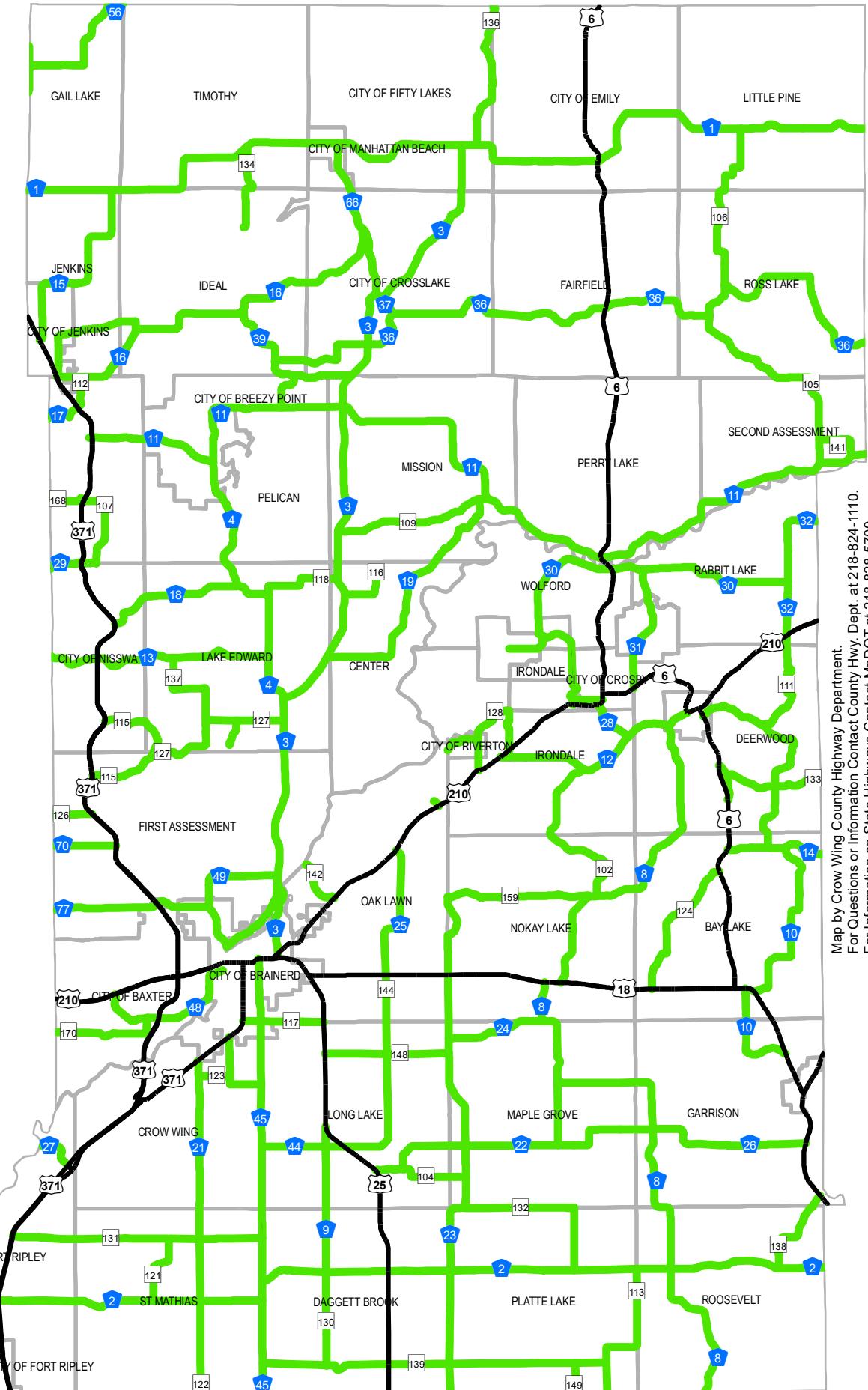
## Route Priority

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

## Route Target

- Target Achieved
- Target Partly Achieved
- Target Not Achieved

Report Date: 4/1/2024



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.

## 2023/2024 Summary For Snow Event 5-2024-9

Date 3/24-3/27/24

| Salt Tons | Salt \$  | Sand Tons | Sand \$ | Brine gal | Brine \$ | Mat. Total | Equip \$  | Reg. Personnel | OT \$    |
|-----------|----------|-----------|---------|-----------|----------|------------|-----------|----------------|----------|
| 589.7     | \$58,380 | 0         | \$0     | 8234      | \$5,434  | \$63,815   | \$116,138 | \$16,465.00    | \$22,413 |

**Total** \$218,831

49.6 Plow hrs.

\$4,410 per/hr.

794 Man hrs.

\$391 per/CL/mile

\$8.25 per/household for entire County

### Forecast

8"-19" of snow forecasted on 3/22/24. Totals started to drop as 3/24/24 approached. Event was forecasted Midnight 3/24/24 - noon 3/26/24. Rain was forecasted to fall on 3/25/24. Strong winds 10-35 mph starting from the east and transitioning to the north, northwest Tuesday. Updated storm forecast was expected to end at 8:00 p.m. on 3-27.

### Pre Plan

Begin plowing at noon on 3/24/24 and apply 200 lbs. on C/L, begin plowing at 3:00 a.m. 3/25/24 and apply 200 lbs on C/L and begin plowing at 3:00 a.m. on 3/26/24 and apply 300 lbs.

### Actual Event

Event start: 3/24/24 1:00AM

Event ended 3-27-24 4:00AM

### Details/Comments

Light wet snow started to fall overnight on 3/23/24. About an inch of accumulation at 12:00PM 3/24/24. Snow continued overnight and by 4 a.m. 3/25/24 there was 6". East winds were a factor, causing drifting on a few roads. Roads scraped down well but became quickly covered again with the continuous snow. 4 additional inches by 3 a.m. 3/26/24. Another 3 inches fell during the day and overnight on 3/26/24. The event tapered off around 4:00 a.m. 3/27/24, but small snow squalls to the north end of the county caused more snow during the day on 3/27/24 before ending at 4 a.m. and another 3" of snow. We ended the event with about 16" total, although due to the moisture content it settled out to about 10" by 3/27. Heavier amounts were seen in the central and north end of the county.

### Conditions

Continuous snow and wind throughout the event. Temps in the mid-teens to low 30s. Strong winds from the east then north, northwest at 15-35 mph. Continued falling and blowing snow stuck to the roads and started to melt before freezing on 3-26-24 causing ice on all roads, even trunk highways. The temperature dropped 5 degrees cooler than forecasted with the NW winds.

| Road   | Road Temp | Date    | Time    | Air Temp |
|--------|-----------|---------|---------|----------|
| Hwy 6  | 29        | 3/24/24 | 12:00PM | 28       |
| Hwy 25 | 29        | 3/24/24 | 12:00PM | 28       |
| Hwy 6  | 24        | 3/25/24 | 3:00AM  | 28       |
| Hwy 25 | 31        | 3/25/24 | 3:00AM  | 29       |
| Hwy 6  | 25        | 3/26/24 | 3:00AM  | 23       |
| Hwy 25 | 32        | 3/26/24 | 3:00AM  | 26       |
| Hwy 6  | 15        | 3/27/24 | 3:00AM  | 16       |
| Hwy 25 | 19        | 3/27/24 | 3:00AM  | 15       |

| Date      | High | Low |
|-----------|------|-----|
| 3/22/2024 | 32   | 9   |
| 3/23/2024 | 33   | 21  |
| 3/24/2024 | 28   | 25  |
| 3/25/2024 | 32   | 20  |
| 3/26/2024 | 21   | 13  |
| 3/27/2024 | 27   | 11  |
| 3/28/2024 | 39   | 13  |
| 3/29/2024 | 42   | 25  |

Source: weather.com. Monthly Weather. 56401

### Summary

Roads cleaned up well due to light salt applications on 3/24 & 25. Compaction was observed early on Sunday and Monday on untreated areas. Roads cleaned up well Monday but became covered again overnight. Continued snowfall during the day started to melt and froze causing compaction on 3/26 into 3/27. Scraping and reapplication of salt melted ice compaction and the roads started to melt clean.

#### **Decisions Made**

Early starts and long shifts kept traffic moving as it snowed. Light salt application through the event kept the snow soft and allowed for easy removal until 3/26. We were seeing areas where the wind was blowing snow across the road and it was sticking to salted areas. We stopped applying salt early on 3/26 to stop the snow from collecting. We applied later in the day to allow the compaction to soften overnight before resuming operation 3/27.

#### **Lessons Learned**

Applying a small amount of salt during the day Sunday & Monday kept the snow soft and allowed for quick clean up without compaction. Everything we tried on 3/26 was ineffective. We salted, then stopped and then reapplied to allow the salt to soften the collecting compaction overnight. It did soften the compaction and reactivated on 3/27 for removal of the compacted snow.

#### **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 | Met              | 18 Hr. |
| Priority 2 | Met              | 48 hr. |