

2020-2021 Winter Road Maintenance Summary

ISSUE

This report is a summary of winter operations for the 2020-2021 winter season.

BACKGROUND

Snow and ice management of roads, bridges and pathways focuses on public safety and citizen mobility during the winter months. The service level for Snow and Ice Management was approved in 2017. This service level includes all the activities undertaken for snow and ice management including regular maintenance and targeted response strategies to inclement weather.

CURRENT STATUS

The 2020-2021 winter season included four snow events and ten weather events which is less than average. Snow events are snowfalls where the accumulation of snow is greater than 5 cm and snow grading on all priority streets is initiated. Contractor assistance is required, and all priority streets are graded within 72 hours. Weather events include snowfall, freezing rain, or other adverse winter weather that requires targeted response strategies that do not include snow grading on all priority streets.

The winter started with an extreme snowstorm that occurred from November 7 to 9. The snowstorm was very challenging due to its severity. This was the worst snowstorm experienced in Saskatoon since 2007. Freezing rain, high winds, and snowfall of approximately 30 to 40 cm made streets and pathways impassable. As crews were grading snow on city streets, an additional 8 to 10 cm of snow fell on November 13.

Snow grading of all streets in Saskatoon was initiated due to mobility challenges. In addition to grading almost double the number of kilometres in relation to a typical snowstorm response, snow grading effort was more than double the normal effort because of the depth and volume of snow.

Snow grading improved mobility along local streets but created problems with parking availability and sight lines at intersections and driveways and concerns with spring flooding. After snow grading was completed, the stored snow from all priority and local streets in residential neighbourhoods was removed.

The snowstorm response required a massive effort from City staff and contractors as this was the city's largest snow grading and removal ever undertaken.

There were two more snow events after November, resulting in a lower than average total annual snowfall accumulation.

Service level commitments were not met for the extreme snowfall that occurred in November due to its severity but were met for the other snow events that occurred over the winter.

DISCUSSION/ANALYSIS

Last year was a record year for the number of truck loads of snow removed from Saskatoon's streets. Over 90,000 truck loads of snow were hauled to snow management facilities. The previous record from 2012 was approximately 35,000 truck loads.

At the end of the winter, approximately 1.6 million cubic meters of snow was piled at snow management facilities. Last year that amount was 300,000 cubic meters. Temporary expansion of the snow management facility at the Civic Operations Center was required to provide additional storage for the massive influx of snow. The additional area used for snow piling was to the north of the existing snow pad. Planning work is underway to identify sites for future snow management facilities. The new sites will replace non-engineered facilities near Wanuskewin Road and Central Avenue due to growth plans in the area and environmental concerns.

Lessons learned from the November snowstorm have been documented and will be used in the development of a formal Emergency Response Plan for future extreme or unusual snow events.

In general, the feedback from residents on snow grading and removal on local streets in residential neighbourhoods was positive. The Administration has prepared a separate report for the Standing Policy Committee on Transportation and City Council, outlining several options for potential enhancement of the current Service Level for Snow and Ice Management. These options will be brought forward for City Council consideration as part of the Multi-Year Business Planning and Budget process.

Winter Maintenance Program Improvement Initiatives

1. Introduction of an annual "Winter Maintenance Support" contract using a competitive bidding process to secure additional resources in the event of a severe shortage of staff or an emergency snowstorm.
2. Work is underway on a plan to better manage the use of salt for improving winter driving conditions.
3. Planning work has been initiated for the installation of Environmental Sensor Stations to support decision making on ice management strategies.

Snow and Ice Management Budget

The November snowstorm response resulted in significant incremental costs. The total cost of the November snowstorm response was approximately \$14.0 million. This included approximately \$11.0 million in 2020 and \$3.0 million in 2021.

The total 2020 Snow and Ice Management costs were approximately \$23.7 million. These expenses include the 2020 Snow and Ice Management budget of \$13.4 million and the incremental cost of \$10.3 million incurred in 2020. The Snow and Ice Management Contingency Reserve of \$3.45 million offset a portion of the incremental 2020 cost before being fully depleted.

OTHER IMPLICATIONS

There are no privacy, legal, social, or environmental implications identified.

NEXT STEPS

Planned continuous improvement initiatives include further enhancement of reporting and work progress tracking using data from GPS, installation of Environmental Sensor Stations to monitor weather and road conditions, and further development of a plan to better manage use of salt for improving winter driving conditions.

A formal Emergency Response Plan for future extreme or unusual snow events is in development and will be presented to City Council for approval in the third quarter of 2021.

APPENDICES

1. Photos - 2020-2021 Winter Road Maintenance Summary

Report Approval

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