

Winter Control Update – March 2020

Background and Summary

This report is intended to provide a summary of winter maintenance activities for the month of March 2020, including financial variances. It is important to note that due to normal lags in receipt of costs related to these activities, final costs for this period may vary from the information reported at this time.

The City of Greater Sudbury's winter maintenance service levels are defined in Council approved winter control service policies as well as guidelines within the Minimum Maintenance Standards (MMS), O.Reg. 239-02.

During the month of March, there was only one significant snow event that required full deployment of City crews and Contractors. Temperatures were generally favorable for a manageable and slow snowmelt with warm days and cool nights. These temperature fluctuations did lead to many freeze-thaw cycles resulting in the formation of potholes, particularly earlier in the month. The relatively mild weather, with fewer interruptions for regular snow plowing activities, allowed for greater opportunities to address maintenance concerns such as drainage and potholes.

The total snow accumulation for March was less than the averages for the same period of time, resulting in less expense than budgeted for this period. The overall expenditures for the fiscal year 2020 are now only slightly higher than projected for the first three months of 2020, estimated at approximately \$148,000 over budget.

Weather Statistics

As shown on table 1, from January to end of March there has been five major snow events and one freezing rain event that have required full deployment of all available City and Contractor snow plowing equipment. Furthermore, table 1 highlights the statistical information for the 2020 winter season from Environment Canada including the 30 year normal (1981 – 2010) for snowfall. The total snow accumulation for the 2020 calendar year to date is 5.9 feet or 1.80 meters. The 30 year normal for the same period

is 4.8 feet or 1.46 meters. This represents a 23% increase. On the other hand, the total snow accumulation for the 2019-2020 winter season, up to and including March 2020, is 10.8 feet or 3.30 meters compared to the 30 year normal of 8.0 feet or 2.44 meters. This represents a 35% increase. The statistical summary for the month of March shows snow accumulations less than the 30 year normal averages.

Table 1 – 2020 Weather Statistics

Month	Snow Accumulation (cm's)	30 Year Normal (cm's)	Increase/(Decrease) Compared to 30 Year Normal (%)	Snow Event	Rain/Freezing Rain Event
Jan	70.8	59.5	19.0	2	1
Feb	78.2	51.7	51.2	2	0
Mar	30.8	34.9	(11.7)	1	0
Apr					
May					
Jun-Sep					
Oct					
Nov					
Dec					
Totals	179.8	146.1	23.1	5	1

Note: All weather data taken from Environment Canada website for weather station Sudbury A.

Winter Control Service Categories

1) Roadway Snow Plowing/Sanding/Salting

Includes work activities such as plowing, sanding, salting, anti-icing roads and winter stockpile management.

Status Update

For the March 2020 reporting period there was one major snow storm coupled with several melting periods resulting in less plowing/sanding/salting through the month. The under expenditure highlighted in Table 2 for this category is the result of less utilization of contract plowing services.

Challenges

No significant challenges in this reporting period.

2) Snow Removal

Includes work activities such as bus stop clearing, snow removal with loaders, snow dump operation and snow bank removal in the downtown centres.

Status Update

Snow removal requirements have been higher than budgeted through the month of March. The majority of the over expenditure is associated with the snow removal with a loader activity. In 2019 Council approved an increase in the snow removal budget of \$43,000 for the downtown core, including an enhanced service level which allows some discretion for removal of snow to facilitate pedestrian activity in the various downtowns throughout the City.

Due to above average snow falls in January and February, additional snow removals became necessary early in the month of March. As an example contracted services were utilized to remove portions, or “cut-outs” of the snowbanks around high traffic parking stations to assist with pedestrian movement in downtown Sudbury. Full snow bank removal was also completed in other areas of the City on an “as needed” basis, to ensure adequate site distance at intersections, roadway width, and ensure drainage systems are free from significant accumulations of snow.

The overall response from the Downtown BIA was positive for the 2019/2020 winter season, however, additional coordination between the BIA and City are ongoing to obtain more specific feedback on opportunities to address any concerns.

Challenges

As the Community becomes more pedestrian friendly, and as Active Transportation processes and infrastructure are enhanced, it is becoming increasingly evident that winter control service levels may not match expectations of pedestrians. This is particularly evident in the downtown areas where citizens with mobility concerns

continue to enjoy opportunities to conduct regular business and social activities without using conventional vehicle modes of transportation.

It is apparent that the City will continue to see increased demand for enhanced services in relation to snow removal for pedestrian activity.

3) Winter Sidewalk Maintenance

Includes work activities such as sidewalk plowing and sanding.

Status Update

For the March 2020 reporting period there was one major snow storm coupled with several melting periods resulting in lesser need for sidewalk plowing/sanding in the month.

Challenges

Similar to challenges for snow removal, increased demand for pedestrian activity is creating increased demand for enhanced winter sidewalk maintenance. The success of the City's Active Transportation Plan, the success of the Transit System Route modifications, and the emphasis on increased investment in sidewalk construction is all contributing to a greater expectation for improved sidewalk maintenance.

An alternative equipment technology was studied to enhance mechanical snow plowing on sidewalks. The success of this study encouraged Operations Committee to request a more detailed business case for consideration in the 2021 Budget. It is apparent that the City will continue to see increased demand for enhanced services in relation to winter maintenance for pedestrian activity.

4) Roadway Snow Plowing with Graders/Loaders/4x4s

Includes work activities such as snow plowing with graders, 4x4s and loaders, municipal parking lot maintenance and snow fence maintenance.

Status Update

As noted previously, services were required to address one major snow storm in the month of March. The lack of significant snow events has resulted in an under

expenditure in this category of activities of approximately 57% less than the budgeted amount. This under expenditure can be largely attributed to the reduced need for road scraping and municipal parking lot plowing during the report period.

Challenges

No significant challenges in this reporting period.

5) Winter Ditching/Spring Clean Up

Includes work activities such as winter ditch maintenance and spring clean up with sweepers/flushers on roads and sidewalks.

Status Update

As of the end of March 2020 staff had commenced a portion of the regular spring maintenance program. Activities such as steaming ditches, culverts and catch basins were undertaken. The early spring conditions, and significant snow melt in the later weeks of March, created opportunities to commence some activities related to spring maintenance programs.

Challenges

No significant challenges in this reporting period.

6) Miscellaneous Winter Maintenance

Includes work activities such as property restoration (plow damage), pothole patching, winter road patrol, employee standby, equipment standby, health and safety training (snow school), fringe benefits and tool repairs.

Status Update

Pothole patching is the only activity that has had any notable changes under this category during this reporting period.

During the month of March, the temperatures were favorable for a relatively slow snowmelt, including warm days and cool nights. Although this type of March weather benefits many maintenance activities, these temperature fluctuations also produce many freeze-thaw cycles in which contributes to the formation of potholes. According

to Environment Canada data, there were eleven days that experienced that freeze then thaw effect.

Although the pothole patching requirements were increased through the month of March, the slow snowmelt allowed these maintenance activities to proceed more expeditiously. In addition, by the later weeks in March, volume of traffic on area roads had reduced due to the effects of the response to the global Pandemic. The reduction in traffic has contributed to the temporary pothole repairs lasting longer than normal. This combination of effects resulted in a 66% decrease of 311 resident pothole complaints.

Challenges

Pothole patching is a necessary but temporary component of regular road maintenance activities. The overall asset status of the road network continues to put pressure on this category of road maintenance. Until a fully funded asset management plan for the road network is in place, this category of road maintenance is vulnerable to substantive variability in expenses.

Council's emphasis on road capital investment, as well as continued research and study into best practices in pothole repair and road construction will help to mitigate the risk associated with variable costs for this category of maintenance.

Financials

The estimated financial results of the 2020 winter roads operations for the 2020 fiscal year between January and March are summarized below.

Table 2 depicts the estimated result for 2020 to date, which shows an over expenditure of approximately \$148,000. Any over or under expenditure in winter control will form part of the year end position.

Table 4 describes a summary of the Winter Maintenance Activity for the 2019/2020 winter, shows an over expenditure of approximately \$1.5M. It is important to note that all activity costs before January 2020 have been included in the 2019 fiscal year and have been accounted for in the 2019 year end position.

In summary, favorable weather conditions in the later periods of March and April would suggest that costs attributable to winter maintenance for the 2020 Fiscal year are tracking in line with budget allocations.

Table 2 – Financial Results

2020 Winter Summary					
As at March 31, 2020					
	Annual	2020 YTD			
	Budget	Budget	Actual	Variance	% Change YTD
Snow Plowing/Sanding/Salting	7,823,358	4,772,635	4,269,049	503,586	89%
Snow Removal	871,321	773,560	1,235,681	(462,121)	160%
Winter Sidewalk Maintenance	1,124,424	730,876	735,845	(4,969)	101%
Snow Plowing - Graders/Loaders/4x4s	933,969	718,806	898,242	(179,436)	125%
Winter Ditching/Spring Clean Up	2,279,958	995,183	762,657	232,526	77%
Miscellaneous Winter Maintenance	7,350,517	3,411,920	3,649,787	(237,867)	107%
Totals	20,383,547	11,402,980	11,551,262	(148,282)	101%

Table 3 – Miscellaneous Winter Maintenance Budget Breakdown

2020 Miscellaneous Winter Maintenance	
Expense Type	Annual Budget (millions \$)
Employee Benefits	1.57
Asphalt Patching	1.36
Internal Recoveries (HR, Finance, IT)	0.73
Standby (Contractor Services)	0.73
Health & Safety	0.17
Other (Road Patrol, Emergency Response, Tool Repair, Property Restoration, etc.)	0.58
Administration & Supervision	2.21
Total	\$ 7.35

Table 4 – 2019/2020 Winter Season Financial Summary

2019/2020 Winter Season Summary			
October, 2019 to March, 2020			
	Season Budget	Season Actual	Variance
Snow Plowing/Sanding/Salting	7,271,205	7,886,502	(615,297)
Snow Removal	1,002,731	1,395,768	(393,037)
Winter Sidewalk Maintenance	1,105,054	1,195,875	(90,821)
Snow Plowing - Graders/Loaders/4x4s	934,991	1,506,321	(571,330)
Winter Ditching/Spring Clean Up	1,018,580	877,139	141,441
Miscellaneous Winter Maintenance	5,618,709	5,609,747	8,962
Totals	16,951,270	18,471,352	(1,520,082)

Note: Of the 1.52 million season-to-date deficit, 1.37 million is attributable to 2019 and \$0.15 million is attributable to 2020.