

Service Level for Snow and Ice Management

Scope

Service Level (SL) documents are prepared to allow citizens of the City of Saskatoon (City) to review and understand the services *currently* provided. This document includes activities completed under the Snow and Ice Management service line. This service may be completed by various divisions in the City.

Service Overview: *what we do*

The City's Snow and Ice Management program focuses on public safety, ensuring citizen mobility, and environmental responsibility. The program typically runs from November to April and provides snow and ice management through regular maintenance and targeted response strategies. Regular snow and ice maintenance includes activities such as regular ice inspections, sanding and salting of high traffic intersections and streets, snow grading and removal in high use and high traffic areas based on mobility standards, and other snow management activities. Targeted response strategies include the focused and time based response system to maintain and restore mobility during and after snow events.

Purpose: *why we do it*

Saskatoon's climate requires a variety of snow and ice management activities to meet the public's safety and mobility needs and ensure the quality of life of citizens is maintained throughout the winter months.



Programs within Service Line	Service Attributes and Customer Values	Service Level Outcomes	Customer Performance Measures
Regular Maintenance	Safety, Quality, Efficiency, Environmental Responsibility, Quality of Life, Accessibility, Fiscal Responsibility	Throughout the winter months citizen mobility is monitored and action is taken to ensure safety concerns are minimized and access to services and amenities is consistently maintained.	<p><u>Roadway Snow Grading and Removal</u></p> <ul style="list-style-type: none"> • Local or neighborhood roads with severe rutting or an average overall snow pack of more than or equal to a 15 cm depth will be graded prior to snowmelt, taking into consideration impacts to on-street parking. • No-Parking signs will be posted no less than 36 hours in advance of ticketing and towing to prepare for local or neighborhood road snow grading. <ul style="list-style-type: none"> ○ When towing is used vehicle locations will be available on the Find My Vehicle App within 5 minutes of relocation on average. • 24 Hour Snow Route Parking Bans, using existing permanent signage, will only be announced at 7 a.m. or 3 p.m. in order to give citizens 8 hours' notice prior to becoming effective at either 6 p.m. or 11 p.m. • Stored or windrowed snow is removed when capacity is reached to make room for future snowfalls, when it interferes with street parking adjacent to businesses within a Business Improvement District, and in back lanes when it prevents safe access for utility work and/or collections crews. • Snow is not stored or windrowed within posted Accessibility Parking areas, posted school loading zones, or in Saskatoon Transit stops. • Regular winter maintenance is not completed in school zones between 8 a.m. and 4 p.m. • Snow stored in windrows in school zones will not exceed 60 cm in height for more than 72 hours. <p><u>Sidewalk and Pathway Clearing</u></p> <ul style="list-style-type: none"> • Sidewalks that are adjacent to property owned by the City of Saskatoon and along public walkways including bridge decks will be cleared and sanded as required to minimize snow and ice buildup. • City-maintained sidewalks have less than 5 verified complaints related to slip/fall/ice hazards after Sidewalk Clearing Bylaw No. 8463 timelines annually. • Other sidewalks are the responsibility of the adjacent landowner; information is available under Winter Walking & Snow Clearing at Saskatoon.ca. For more information on bylaw services see the Bylaw Compliance service line. <p><u>Roadway Ice Management</u></p> <ul style="list-style-type: none"> • Ice inspections occur every 4 hours on all freeways, high use streets (e.g. 8th Street, College Drive, 22nd Street), and on emergency facility access routes. • Ice inspections occur every 8 hours on all medium use streets (e.g. Main Street, 11th Street West, Lenore Drive) and all transit routes. • Ice inspections occur every 12 hours on all remaining Business Improvement Districts, bus routes, school zones, and around City Hall and City Downtown Yards. • De-icer and sand for traction is applied as needed.

			<u>Snow Storage Site</u> <ul style="list-style-type: none"> There are less than five verified complaints of noise from the area surrounding the snow storage sites with “No Tailgate Slamming Policies” annually. Snow management sites available for City, Contractor, and private use as posted while weather and site conditions permit. At least one snow management facility will be available 24/7 from the first snow event until spring melt.
Snow Event Response	Safety, Responsive, Accessibility	Targeted response to addressing weather and snow events begins after severe weather and/or snowfall ends and it is safe to deploy crews. City streets are then inspected for ice, sanded and salted and graded based on the Priority Street System to ensure citizen mobility and safe access to services is restored quickly.	<u>Roadway Snow Grading and Removal</u> <ul style="list-style-type: none"> Contractor and all available City of Saskatoon staff are called in as soon as a snow event is declared. <ul style="list-style-type: none"> Snow events are called if snow fall impacts driving conditions through heavy drifting or accumulation of more than 5 cm on roadways. Driving lanes for all freeways, high traffic streets, and emergency facilities access routes are graded within 12 hours of snowfall ending. Driving lanes for all medium use streets and all transit routes are graded within 36 hours of snowfall ending. Driving lanes for all remaining Business Improvement Districts, bus routes, school zones, and areas around City Hall and City Downtown Yards are graded within 72 hours of snowfall ending. Snow is removed from ramping hazards along Circle Drive within six days of snowfall ending. Snow is removed from parking zones in high density business areas within 13 days of snowfall ending. <u>Sidewalk and Pathway Clearing</u> <ul style="list-style-type: none"> City-maintained sidewalks and pathways are graded within 48 hours of snowfall ending as per the Sidewalk Clearing Bylaw No. 8463 or Council Policy C07-021.

Resource Allocation: what does it cost

All costing information presented is estimated based on available data.

Service Line	Programs	2017 Budgeted Cost to Deliver Service	2017 Estimated Actual Cost to Deliver Service	2017 Estimated Variance
Snow and Ice Management	Regular Maintenance and Snow Event Response	\$13,150,000	\$11,000,000	\$2,100,000*
		\$12,590,000 civic budget + \$560,000 UHCP funding		

*The Snow and Ice Management service line is designed based on an average winter that includes five snow events. With recent changes in weather patterns the total cost of this service line can be highly variable year over year. For instance, addressing a single snow event can cost \$1.5M or more. In order to mitigate some of this financial uncertainty the Snow and Ice Contingency Reserve was created and positive variance dollars are allocated to this fund to prepare for the future.

Service Line	Program Components	Cost per Program	Cost per Unit
Snow and Ice Management	Snow Grading, Removal, and Sidewalk Clearing	\$10,150,000	\$3,287 per lane kilometer of total winter maintenance*
	Snow Event Response		
	De-icing Activities	\$3,000,000	
Unit: # lane kilometres = 4,000 lane kms			

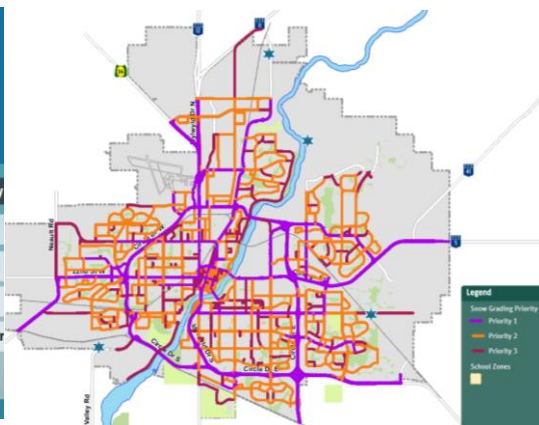
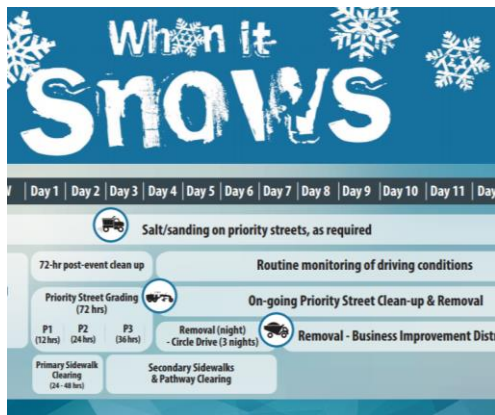
*In a comparison with 15 other municipalities from across Canada in the MBNCanada 2015 Report the average total winter maintenance cost per lane kilometre maintained is \$4,800. The lowest average cost for total winter maintenance per lane kilometre is \$2,020 in Thunder Bay, ON and highest is in Montreal, QC at \$15,280.

Financial Assumptions

Costs are represented as averages but are highly variable in reality due to street design, available snow storage, use of contractors, and amount/density of snow.

Supporting Information

To view complete images of the When it Snows timeline, Priority Street Map, or Be in the Know about Snow information sheet click the image to follow the hyperlink.



Constraints

Risk factors and variances that impact the ability to deliver the service include:

- The service line budget estimates are based on an average winter with five snow events, additional snow events or longer seasons can increase costs rapidly
- Severe weather can slow snow event resource deployment
- Cumulative snow quantities affecting snow management facility operations
- Unseasonably warm weather limiting access to snow management facilities
- Material costs and contractor cost and availability
- Amount of roadway inventory

Supporting References

- Sidewalk Clearing, Bylaw No. 8463
- Walkway Maintenance, Council Policy C07- 02