

Sidewalk Snow Plowing Damage

Date: April 29, 2021

To: Scarborough Community Council

From: Director, Operations and Maintenance, Transportation Services

Wards: Ward 20, Scarborough Southwest; Ward 21, Scarborough Centre; Ward 22, Scarborough-Agincourt; Ward 23, Scarborough North; Ward 24, Scarborough-Guildwood; Ward 25, Scarborough-Rouge Park

SUMMARY

This report is in response to a letter submitted to the Scarborough Community Council, Item SC 13.18, requesting the General Manager Transportation Services to report back regarding property damage as a result of mechanical sidewalk snow clearing.

RECOMMENDATIONS

The Director, Operations and Maintenance, Transportation Services recommends that:

1. Scarborough Community Council receive this report for information.

FINANCIAL IMPACT

Transportation Services confirms that there are no immediate financial implications in the current budget year or in future years resulting from the recommendations included in this report. Funding for unforeseen financial implications arising from this report will be included for consideration in future budget submissions.

DECISION HISTORY

At its meeting held on February 5, 2020, the Scarborough Community Council received a letter from Councillor Paul Ainslie which requested staff to report back regarding damage to sod and other infrastructure adjacent to the sidewalk as a result of mechanical sidewalk clearing in Scarborough. Item SC13.18 was adopted by the Scarborough Community Council at its meeting on February 5, 2020. The decision can be found at:

COMMENTS

Transportation Services is responsible for the provision of winter maintenance services on approximately 5,600 km of roads, 5,681 km of sidewalks, and 940 km of bike lanes/trails/routes across the City. The winter maintenance program is based on four main activities: anti-icing, de-icing, snow plowing and snow removal. Together these activities all contribute to maintaining the safe and efficient operation of the transportation network during the winter months. For each of these maintenance activities, there are corresponding council approved levels of service which establish a set of criteria, thresholds and expectations for the delivery of that service.

Presently, the mechanical sidewalk snow clearing program is only provided in areas of the City where it is mechanically feasible to do so. In Scarborough, most sidewalks meet the criteria for mechanical sidewalk clearing and receive sidewalk clearing service. Winter sidewalk clearing is differentiated between high volume and low volume pedestrian routes, both of which are cleared once 2cm of snow has accumulated. High pedestrian volume sidewalks include those on arterial roads, within school zones and along transit routes, while low pedestrian volume sidewalks are mainly on collector and local neighbourhood roads. It takes approximately 13 hours to clear snow on both high and low volume routes per activation. Multiple rounds of sidewalk clearing may be required, particularly in response to large snowfalls. Staff may also initiate sidewalk clearing or de-icing in response to icy conditions.

Regular mechanical sidewalk snow clearing is delivered by contractors working on behalf of the City. In Scarborough, there are four separate contracts for mechanical sidewalk snow clearing. The current contracts began in 2015 and are for a seven year term ending in the spring of 2022. The equipment used by the contractors remains the same throughout the duration of the contract with the exception of some equipment that may be replaced or upgraded periodically.

Encroachments

As a result of mechanically snow clearing sidewalks, there are instances where the clearing operation results in damages to the areas on either side of the sidewalk. In Scarborough, the areas on either side of the sidewalk are typically composed of soft surface grass boulevards. However, there can also be different types of infrastructure located adjacent to the sidewalk such as driveways, precast concrete curb stones, driveway curbs, stairs, walkways, fences and retaining walls. In most cases this infrastructure is located on City property, which extends beyond the edge of the sidewalk towards the private property. As per City of Toronto Municipal Code Chapter 743, Streets and Sidewalks, Use of, owners and occupiers of land adjoining the street are permitted under the Chapter to maintain certain encroachments as long as they conform to certain specified criteria, including that they do not interfere with the City's ability to keep the street free of snow and ice. Also, unless otherwise specified in Chapter 743, encroachments other than soft landscaping are required to be set back a

minimum of 0.5m from the edge of the sidewalk closest to the street line (line dividing public and private property).

A couple of provisions within Chapter 743, such as Section 743-31G and Section 743-32C of Chapter 743, provide that, the City is not responsible for repairing or replacing any encroachment damaged as a result of clearing and removing litter, graffiti, posters, snow or ice, or as a result of street repairs or reconstruction. However, in accordance the current winter maintenance contract provisions the City does hold the contractor responsible for damages that have been determined by the City to be a direct result of their sidewalk clearing operations. There are no direct costs to the City for performing these repairs.

Process for Reporting Winter Damages

In the event that sod or other encroachments are damaged as a result of mechanical sidewalk snow clearing, residents can submit a Service Request through 311 which is input in the problem code for this type of damage as "Boulevard-Plough Damage". Once a request has been placed through 311, an investigation will be completed by Transportation Services' staff. As part of the investigation, staff will conduct a site visit and document their findings. If damage is determined to be the result of a winter maintenance operation and work is required, the contractor is notified of the locations and they are added to a list for future repairs by the contractor. If the damage is determined to not be the result of the winter maintenance operation, the investigation notes will be added to the file and the service request closed. Residents can contact 311 for updates and the results of the investigation.

Alternatively, residents may choose to submit a claim through the City's claim submission process. When a claim is submitted, the City's adjuster sends a copy of the claim to Transportation Services for response. Transportation Services' staff conduct a site investigation to review the claim and take measurements, photos and notes regarding the claim in question. The investigation report is then forwarded to the City's claims adjuster for inclusion in the claim file. The claims adjuster will review and make a decision on the outcome and then communicate with the claimant.

Winter Mechanical Sidewalk Clearing Damages

During a typical winter season, there are a number of factors which can contribute to the amount of damages resulting from mechanical sidewalk snow clearing. This includes the inability to differentiate the sidewalk from the boulevard in snow covered conditions and warm ground temperatures which make the ground susceptible to damage. Both of these factors are influenced by the weather conditions and the number of freeze thaw cycles during a winter season. In addition to the two factors above, the presence of encroachments located immediately adjacent to the sidewalk also increases the likelihood of damages.

Snow Covered Conditions

When mechanical sidewalk snow clearing is activated in response to snow accumulation, the equipment operators follow the path of the sidewalk while clearing. In

a snow covered condition, both the boulevard and sidewalk are covered in snow and therefore it may be difficult to differentiate between the two. After mechanical sidewalk snow clearing is completed, there are windrows left on either side of the sidewalk. When temperatures remain low after sidewalk clearing, the windrows remain in place and serve as a guideline for future sidewalk clearing operations. When there is a freeze/thaw cycle between winter events and the snow melts away, there are no longer windrows in place to guide future operations. During subsequent sidewalk clearing events, the sidewalks and boulevard are again covered in snow and again operators may not be able to differentiate the sidewalk and boulevard. During recurring freeze thaw cycles and subsequent sidewalk clearing events, it is more likely that damage will occur as operators do not have guidelines to follow from the previous winter event.

Ground Temperatures

Ground temperatures and soil conditions can also increase the likelihood of damage from mechanical sidewalk snow clearing. During periods of warm temperature and or repeated freeze/thaw cycles, the topsoil may not freeze and may retain additional moisture. When the topsoil is not frozen and has a high moisture content, it is more susceptible to damage from mechanical sidewalk snow clearing equipment.

Encroachments

The presence of encroachments immediately adjacent to the sidewalks can increase the likelihood of damages in two ways. First, encroachments which abut the sidewalk present an obstacle for snow clearing equipment and may not be visible underneath snow accumulation and or windrows. They also may not provide sufficient space for the equipment to clear the area. Secondly, when an operator attempts to avoid hitting an encroachment they may have to veer away from the intended path of travel which can result in damages to the boulevard area opposite the encroachment, that being most often sod.

2018-2020 Winter Damages Analysis

During the 2018/2019 winter season, Transportation Services received 247 Service Requests for Boulevards Plough Damage. In comparison, 934 service requests were received during the 2019/2020 winter season. The increased volume of damage requests during the 2019/2020 can be attributed to the following factors as discussed in the paragraphs below

In 2019, there was an early season weather event on November 11, 2020. This storm took place prior to the arrival of the mechanical sidewalk snow clearing equipment which was scheduled to be in place for December 01, 2020. In anticipation of this winter storm, Transportation Services and its contractors were able to mobilize and deploy approximately 50% of the mobilized equipment. This equipment was rapidly mobilized and was deployed to clear multiple snow clearing routes. This differed from our normal practice which consists of reviewing route changes and onboarding of seasonal contracted staff in advance of the first winter storm activation.

The freeze/thaw cycles during the 2019/2020 winter season also resulted in the mechanical sidewalk snow clearing operators having less visibility of the sidewalk lines during subsequent sidewalk snow clearing events. In winters with consistent cold

weather, the snow windrows provide sightlines for operators to follow when the sidewalk is not visible.

In contrast, during the 2018/2019 winter season, the City received several snow storms close together with little to no thaw cycle in-between. The snow on the boulevard did not melt away, which provided sidewalk snow clearing operators with a windrow path as a guide from previous storm(s).

Improvements to Existing Processes

To reduce the number of damages, the City will have preconstruction meetings as early as possible given the unpredictability of the winter season to ensure that if there are early winter storms we can activate crews efficiently and with care for our transportation network. Prior to the season starting, Transportation Services will also be instructing the contractors to conduct a walk-over of all sidewalks. Furthermore, Transportation is developing an enhanced communication strategy specifically with regards to damages as a result of sidewalk snow clearing.

Another measure to reduce the frequency of damages is to conduct more pro-active enforcement of encroachments that do not comply with City Bylaws as well as additional public education regarding encroachments. Finally, Transportation Services is also reviewing its best practices and identifying opportunities for improved management of contractor performance.

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SIGNATURE

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Director, Operations & Maintenance, Transportation Services

ATTACHMENTS:

1. Summary of property damage related to mechanical sidewalk snow clearing

Attachment 1 - Summary of property damage related to mechanical sidewalk snow clearing

Table 1 - Summary of Mechanical Sidewalk Snow Clearing Damages

Type of Damage	Number of Service Requests (2018/2019)	Number of Service Requests (2019/2020)	Grand Total
Curb / Driveway		1	1
Dirt Debris	1	2	3
Driveway	2	5	7
Driveway Border Curb	12	22	34
Encroachment	21	39	60
Fence	19	29	48
Horticulture	9	4	13
Retaining wall	11	15	26
Sidewalk Asphalt Patch	11	3	14
Sod	144	777	921
Sod / Driveway	1	3	4
Sod / Encroachment	6	14	20
Sod / Horticulture	3	2	5
Sod / Sidewalk	2	2	4
Sod / Utility Infrastructure	1	4	5
Tree	1		1
Utility Infrastructure	2	4	6
Vehicle Damage		3	3
Walkway	1	5	6
Grand Total	247	934	1181

Table 2 - Mechanical Sidewalk Clearing Damages Requiring Repairs

Type of Damage	No	No Damage Observed	Yes	Grand Total
Curb / Driveway			1	1
Dirt Debris			3	3
Driveway	1		6	7
Driveway Border Curb		1	33	34
Encroachment	8		52	60
Fence	2	3	43	48
Horticulture		3	10	13
Retaining wall	2	1	23	26
Sidewalk Asphalt Patch			14	14
Sod	3	45	873	921
Sod / Driveway			4	4
Sod / Encroachment			20	20
Sod / Horticulture			5	5
Sod / Sidewalk			4	4
Sod / Utility Infrastructure			5	5
Tree	1			1
Utility Infrastructure	1		5	6
Vehicle Damage			3	3
Walkway		1	5	6
Grand Total	18	54	1109	1181