TORONTO

REPORT FOR ACTION

January 16-17, 2022 Major Snow Event Post-Operational Report

Date: March 17, 2022
To: Infrastructure and Environment Committee
From: General Manager, Transportation Services
Wards: All

SUMMARY

On January 16-17, 2022, the City of Toronto experienced an extraordinary winter storm that involved extreme cold temperatures, very rapid snowfall, and an ultimate snow accumulation of 55 centimetres in just 15 hours. The below freezing temperatures that followed the storm and lasted for more than two weeks created a unique set of challenges for storm clean up. Responses to this winter weather event required additional efforts above and beyond typical salting and snow plowing activities, and included significant involvement from Transportation Services, Strategic Public and Employee Communications, 311, and Fleet Services.

Preparations for the January storm began with proactive communications and a pre-treatment of salt brine on expressways, select major arterial roads, hills and bridges. Salting and plowing operations commenced as the snow began to fall and continued with numerous rounds on all roads and sidewalks. A Significant Weather Event and Major Snow Storm Condition was declared from 18:00 on January 17 until 18:00 on February 16 to assist crews with snow clearing, including removal of 180,000 tonnes of snow from streets, sidewalks and bicycle paths. The removal alone cost more than $17 million, or almost 20% of the winter maintenance budget for Transportation Services.

None of the existing Council-approved service levels accounts for extreme weather events, and therefore the levels do not set a feasible response time for a storm of the magnitude experienced in January. In addition, a number of challenges were experienced as a result of the storm including supporting the immediate needs of emergency services, digging out TTC vehicles, strain on equipment, manual clearing to avoid infrastructure and property damage, logistics of removing and relocating the volume of snow as quickly as possible, some contractor issues and communicating service levels and response times.

Following an external winter maintenance review in 2019 and a 2020 Winter Road Maintenance Program Audit, Transportation Services has implemented changes and improvements to existing and future service provision. Nonetheless, the January 16-17 winter storm highlighted the need for continuous improvement including the development of an Extreme Winter Weather Response Plan with new service levels.

RECOMMENDATIONS

1. City Council request the General Manager, Transportation Services to consult with internal and external stakeholders and report back to the Infrastructure and Environment Committee on an Extreme Winter Weather Response Plan in the first quarter of 2023.

FINANCIAL IMPACT

Transportation Services confirms that there are no financial implications resulting from the recommendation included in this report.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

City Council, at its meeting of February 2, 2022, directed the General Manager, Transportation Services to provide a post-operational report on the January 16-17, 2022 major snow event to the March 29, 2022 meeting of the Infrastructure and Environment Committee.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.EX29.15

City Council, at its meeting of December 15-17, 2021, authorized the General Manager, Transportation Services to negotiate, enter into, and execute agreements for the provision of winter maintenance services commencing in October 2022.
https://www.toronto.ca/legdocs/mmis/2021/ie/bgrd/backgroundfile-173608.pdf

Infrastructure and Environment Committee, at its meeting of December 2, 2021, requested the General Manager, Transportation Services to review the October 21, 2021 ruling of the Supreme Court of Canada regarding municipal winter maintenance.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.IE26.13

City Council, at its meeting of July 14-16, 2021, received the Auditor General's Phase 2 report on the Audit of Winter Road Maintenance Program, and requested a number of actions from the General Manager, Transportation Services.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.AU9.11

City Council, at its meeting of June 8-9, 2021, requested the General Manager, Transportation Services to expand mechanical sidewalk winter snow clearing services to cover all sidewalks and to purchase the required equipment to provide this service.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.IE22.13

City Council, at its meeting of October 27, 2020, received the Auditor General's Phase 1 report on the Audit of Winter Road Maintenance Program, and requested a number of actions from the General Manager, Transportation Services.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.AU6.2

Infrastructure and Environment Committee, at its meeting of October 17, 2019, received for information a comprehensive Winter Maintenance Program Review as was requested of the General Manager, Transportation Services by City Council at its meeting of March 7, 2019.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.IE8.6
https://www.toronto.ca/legdocs/mmis/2021/ie/bgrd/backgroundfile-166801.pdf

COMMENTS

City of Toronto Winter Maintenance Services

Winter maintenance for Toronto's public right-of-way is a vital municipal service provided by the Transportation Services division to residents and businesses. Winter maintenance services typically include anti-icing, salting, plowing, and snow removal on rare occasions, with a goal of ensuring safe and passable conditions in the transportation system. The disruptions to daily life caused by winter weather are mitigated by prioritizing maintenance operations for emergency services access as well as addressing the needs of all right of way users - drivers, cyclists, and pedestrians - simultaneously. These services are a major activity of Transportation Services, whose annual winter maintenance budget for 2022 totals $89.2 million.

Winter maintenance services are informed by provincially established Minimum Maintenance Standards For Highways in the City of Toronto (Regulation 612/06) under the City of Toronto Act, 2006. They are further directed by a set of Council-approved service levels that either match or exceed the Minimum Maintenance Standards (MMS), particularly for sidewalks and bicycle lanes. These service levels determine which operations are deployed, the maximum amount of completion time following a storm within which snow clearing activities are to be completed, and the expected performance outcomes from these activities. See Attachment 1 for the MMS and City Council-approved service levels.

In cases of extreme weather, snow clearing response timeframes may be suspended for the duration of a City declaration of a Significant Weather Event. Furthermore, none of the existing Council-approved service levels accounts for extreme weather events, and therefore the levels do not set a feasible response time for a storm of the magnitude experienced in January. This left a gap in expectations and created uncertainty amongst residents regarding when the snow clearing would be completed, leaving many people anxious and frustrated. Recent outreach and communications campaigns regarding winter maintenance services are included in Attachment 2.

Unique Challenges Related to the January 16-17 Major Snow Event Response

On January 16-17, 2022, the City of Toronto faced a significant winter storm that ultimately blanketed streets with 55 centimetres of snow in 15 hours - an amount greater than the total snowfall received in January, February and March of 2021 and one of the top ten single largest snowfall events ever recorded in Toronto. Not only was the volume of snow remarkable, the speed was exceptional, falling at a rate of up to five centimetres per hour; a rate of one centimetre per hour is normally defined as heavy. Compounding the snowfall, extreme cold conditions persisted during the storm, and the temperature did not rise above the freezing mark for the following two weeks.

The weather conditions associated with this storm created a number of challenges and urgent needs outside of typical winter event maintenance response, including the following:

- Traditional salting and plowing operations and equipment became less effective, therefore different snow removal equipment had to be deployed;
- Storage capacity on city streets for such a high volume of snow was insufficient and made it more challenging to clear a path of an appropriate width leading to the need for snow to be removed;
- Snow removal required considerably more time than salting and plowing;
- Wear and tear on equipment was higher causing more breakdowns and requiring additional maintenance to ensure the fleet remained active;
- The COVID-19 pandemic severely disrupted global supply chains, leading to parts and product shortages, shipping delays and disruptions to manufacturing processes for newly approved sidewalk clearing equipment;
- Crews that normally perform snow clearing and removal had to be temporarily redeployed to attend to other urgent issues; therefore, snow removal crews temporarily stopped removing snow;
- A few contractors were unable to maintain consistent service provision due to equipment breakdowns and staff shortages;
- Staff performing manual clearing, especially during extreme cold, progressed at a slower pace than usual as they took steps to prevent injury;
- Clearing of and around street furniture (such as benches, transit shelters and litter bins) was often manual so that it was not damaged by heavy equipment;
- Narrow areas (such as bike lanes) had to be cleared carefully to avoid equipment and infrastructure damages; and
- Multiple rounds of clearing were required as snow piles shifted from operations on both the right-of-way and from private contractors clearing private properties.

Consequently, the City declared a Significant Weather Event and Major Snow Storm Condition on January 17th and winter operations immediately transitioned to executing full snow removal. Ultimately, 179,442 tonnes of snow were removed from 3,471 km of roads, requiring almost 60,000 truckloads. Removal was conducted over a 30-day period; however, operations were suspended when additional snow events occurred, meaning snow was removed on a total of 23 non-consecutive days. The total cost of the snow removal operation (not including salting and plowing) was approximately $17.6 million.

Other exceptional services delivered by crews include providing assistance to dig out more than 500 TTC buses, removing snow from first responder locations, and supporting snow clearing operations at hospitals. These urgent response activities are not typically undertaken, but were a necessary redeployment of Transportation Services resources that was required to minimize delays to emergency services and ensure access to critical health care. Additional details regarding the operational response to the storm are included in Attachment 3.

Strategic Public and Employee Communications significantly scaled up its communications efforts and resources in response to the January 16-17 storm with numerous news releases, reoccurring media availabilities (i.e., press conferences), daily media bulletins, daily communications to members of Council, removal schedules to members of Council, social media posts, responses to media queries, and coordination of daily opportunities for members of the media to capture footage of snow clearing and removal operations. All of the City's winter maintenance communications included detailed information about the City's snow clearing services and the role of residents and businesses in clearing snow and ice from sidewalks and private properties.

Residents who called 311 were provided with frequent and timely communication updates and winter operational information regarding the mobilization of Transportation Services and clean-up efforts. In an effort to stabilize service levels and minimize disruption to non-snow related calls, 311 activated mitigation protocols such as upfront messages and alerts to communicate operational updates and wait times to residents, increase staffing levels, and shift resources to all hands on deck. 311 handled 62,000 calls and over 21,000 snow and ice related service requests were created, in which 25% of those service requests were made using self-serve options.

Service requests are not logged by 311 until sufficient time has been allotted for Transportation Services to undertake a first round of winter maintenance following snow fall; however, operators do provide callers with information regarding service levels and referral to other sources of information, such as the PlowTO website. Additional details regarding communications and 311 assistance during the storm are also included in Attachment 3.

Pending Improvement to Winter Maintenance Operations

New Contracts Effective 2022/2023 Winter Season

New winter maintenance service contracts for 2022-2029 are set to commence in October 2022 and will consolidate operations for all road classifications, sidewalks, and cycling facilities within the same vicinity achieving a more integrated method to delivering services. Improvements implemented include the following:

- The City currently has 47 separate winter contracts; under the new contracts, winter maintenance operations are divided into 11 geographic contract areas that have been awarded to five vendors. This will allow existing staff resources to better focus and administer contracts;

- Non-expressway zones cover all modes of transportation in an equitable and consistent manner;
- Flexibility to modify the contractual Winter Season where feasible to better react to uncommon storms and generated potential savings;
- Performance based metrics to hold vendors accountable to contract requirements;
- Leveraging GPS technology to monitor contractor performance and verify payments; and
- Consolidation and reduction of yard facility footprint.

These contracts will now require vendors to be responsible for winter maintenance on all infrastructure in a contract area including roads, sidewalks, and cycling facilities. This was a strategic decision to allow vendors to be efficient in the way they address each infrastructure type including such items as windrows at intersections between roads and sidewalks. The existing winter services contracts, for which operations will be completed by April of this year, have multiple different contractors servicing each of the infrastructure types which have differing completion times and coordinating these services can be difficult, requiring multiple clean ups in the same area and dispatching calls to get the desired service conditions. Windrows at intersecting roads and sidewalks will continue to be a pain point during operations, but is anticipated to be more effective with one vendor being required to achieve the overall desired service levels.

2019 Winter Maintenance Program Review

At the request of the Mayor and Council, following the major storm event in 2019, Transportation Services engaged engineering consulting firm HDR, Inc. to undertake a comprehensive review of the Division's winter maintenance program. At that time, a comprehensive program review had not been carried out in over a decade. The HDR review resulted in 11 recommendations to improve the program, almost all of which have been integrated into the 2022-2029 contracts and implemented by staff as indicated in Attachment 4.

Auditor General Findings and Recommendations

In 2020, the Auditor General reviewed the 2015-2022 winter contracts with an aim of improving the way the City delivers winter maintenance services. The Audit of Winter Road Maintenance Program - Phase One: Leveraging Technology and Improving Design and Management of Contracts to Achieve Service Level Outcomes report identified thirty key recommendations to improve service delivery and safeguarding best value for the City. Fifteen of the 30 recommendations focused on improving contract language which was implemented as recommended by the Auditor General.

The Phase Two: Analysis Deploying Resources report released in July of 2021 provided recommendations around the data analysis conducted on the number of resources and equipment deployed during each winter event over the last five years. This report detailed the number of pieces of equipment required for deployment and the frequency of activations in the last five years. It also included information and recommendations about Transportation Services management of the data and errors in the existing work

management system. Another key recommendation identified that Transportation Services should be including the flexibility to modify terms within the contracts for items such as warming or more extreme weather due to climate change and bringing specific additional work in-house where it made operational sense to do so.

With the use of the information provided from the Auditor General's Phase Two audit, Transportation Services decided to make improvements to monitor the data inputs in the procurement for the contracts commencing in 2022 with increased rigor and ability to analyze the required pieces of equipment to complete winter maintenance services. This will require moving away from the existing business system to the new Enterprise Work Management System (EWMS) to obtain this type of data analysis. A team of Transportation Services staff are currently working on this with a target for 2022 implementation.

In December 2021, the Auditor General's 2022 Work Plan was revised to add the following review following the award report of the new winter maintenance services contracts:

- A review of the City of Toronto's Negotiated Request For Proposal process;
- A review of the terms of the winter snow maintenance contracts against previously provided winter maintenance Auditor General recommendations; and
- A review of Transportation Services' contract management process, to ensure internal processes are sufficient to hold winter maintenance contractors accountable to the contract terms.

Transportation Services has been diligently working on implementing the Auditor General's recommendations from Phase One and Two reviews, and continuing to provide information in respect of the Auditor General's revised 2022 work plan. The division has developed an internal work plan to address the significant number of items prior to the next winter season. Some of the items on this work plan are as follows:

- Revisions to processes and procedures;
- Administration, roles and responsibilities of staff;
- Training manual and staff training;
- Revised patrol and representative routes by contract area;
- GPS/AVL pilot and upgrades to devices;
- Construction of salt dome at Castlefield Yard;
- Contract Management updates to coordination with vendors;
- Decommissioning existing vendors and minor renovations to yards; and
- Transition to Enterprise Work Management System (EWMS).

Proposed Extreme Winter Weather Response Plan

The response to the storm from January 16-17 highlighted the need to address the increased range of responses required from Transportation Services during extreme weather, the impacts on all snow clearing from storms with total accumulation of well over 25 centimetres, and the need for increased coordination with supportive services for the most vulnerable. While storms of this magnitude are not usual for Toronto, other

Canadian cities have developed response plans for this type of extreme weather; accordingly, the sections below provide a brief overview of what could be included in a proposed Extreme Winter Weather Response Plan for Toronto that would be brought forward for City Council consideration in early 2023. Where feasible, changes will be implemented for the next 2022-2023 winter season.

New Service Levels

The existing levels of service for winter events reference four storm types as follows:

- Type 1 - up to five centimetres of snow accumulation;
- Type 2 - five to 15 centimetres of snow accumulation;
- Type 3 - 15 to 25 centimetres of snow accumulation; and
- Type 4 - over 25 centimetres of snow accumulation.

As global temperatures continue to rise and the world's climate continues to change, cities around the world are experiencing more extreme and unusual weather events. The incidences of extreme weather are expected to increase in frequency and severity in the years to come. Accordingly, Transportation Services is reviewing the storm level services of other comparable cities to develop service levels that address an additional two storm types as follows:

- Modified Type 4 - 25 to 35 centimetres of snow accumulation;
- New Type 5 - 35 to 50 centimetres of snow accumulation; and
- New Type 6 - over 50 centimetres of snow accumulation.

When storms of a Type 5 or 6 are forecasted, the proposed Extreme Winter Weather Response Plan would be activated along with Transportation Services area command centres, which will coordinate with the Office of Emergency Management as required. Increased levels of operational communication are proposed that align with typical emergency response.

Accessibility for Vulnerable Communities

The Accessibility for Ontarians with Disabilities Act (AODA) mandates that municipalities have multi-year accessibility plans that specify policies and procedures regarding maintenance of public infrastructures and spaces. The City promotes accessibility by clearing all sidewalks at snow accumulation of two centimetres, where mechanically possible, and an additional 1,300 kilometres following the Council-approved expansion of the sidewalk clearing program.

The needs of seniors, individuals with disabilities, and vulnerable groups will be considered in consultation with relevant divisions to ensure their needs can be attended to while they are temporarily unable to safely travel within the city. Transportation Services began consultations with The Toronto Accessibility & Advisory Committee (TAAC) on February 22, 2022 regarding the process of developing the Extreme Winter Weather Response Plan that would ensure Toronto remains an accessible city for all.

This will be done by reviewing the current levels of winter service for all public spaces including sidewalks and pathways connected to Toronto Transit Commission routes, schools, parks, areas, community centres, bicycle lanes, cycle tracks, Toronto Transit Commission stops, transit routes, etc. and to ensure that the City can meet its obligations in accordance with the AODA. In addition, Transportation Services, in collaboration with Social Development, Finance and Administration (SDFA), will engage with internal and external stakeholders and the accessibility community and study other jurisdictions that prioritize winter service provisions predicated on accessibility-based criteria.

Review of Snow Removal Operations

A review of snow removal operations will be conducted to assess the snow removal logistics needed to increase efficiency and the capacity of the existing snow storage facilities. City staff will consult with the winter maintenance industry on how to smoothly transition contractors from typical storms to extreme storms and review the existing snow removal plan focusing on the addition of new designated snow routes, re-prioritization of removal activities and efficiency of the equipment used for snow removal.

Maintenance Support for Sidewalk Equipment

Transportation Services acquired, this winter season, the remaining sidewalk plows necessary to accomplish the city crew led sidewalk snow clearing program. All 50 sidewalk snow plow units arrived end of February 2022 to complete the entire order of 59 sidewalk plow machines. A number of these units required maintenance over the duration of the January 17 event due to the extreme conditions.

Fleet Services and the vendor provided exceptional, on-site service to support the Transportation Services team during the storm response. They continue to have on-going discussions with the supplier on how to overcome the spare parts supply shortages experienced during 2021/2022 winter season to better meet City's operational requirements.

Fleet Services has also been working with the sidewalk snow plow vendor to expand the local authorized service provider's network to support the maintenance, service, parts supply and training. With an expanded dealer network this will add an additional layer of service, and further optimize equipment performance.

Severe Weather Event Communications

A Severe Weather Event Communications Strategy outlines the guidelines and steps required to scale up communications staffing and support during severe weather events that do not meet the threshold of Emergency Operations Centre (EOC) activation. The objectives of this Strategy are as follows:

- Safety: Protecting residents, visitors to the city, workers, and City of Toronto staff is the primary objective. Communicating accurate information before, during, and after an event will help keep residents safe.

- Expediency: Providing accurate information as quickly as possible will help ensure individuals are making the safest decisions for themselves and their families. Warnings and preparedness information should be shared as early as possible when severe weather is forecasted.
- Reliable information source: The City of Toronto is the primary source of information with the best interest of residents at the centre of all response activities. Frequent use of a subject matter expert as spokesperson ensures accountability with the public.
- Internal communication: Coordination of internal teams is key to an accurate and timely communications response. Internal resources are to be identified in advance and key staff should be looped in as early as possible.

During a severe weather event, specifically when a major snow storm condition is declared or there is significant rainfall/flooding, Strategic Public and Employee Communications will mobilize a dedicated group of staff to oversee all communications before, during and after a severe weather event. These members will be re-assigned from their day-to-day duties so they can completely focus on communications related to snow or significant rainfall/flooding. This group will be managed by the Infrastructure and Development Services Communications Manager and will comprise the Transportation Services communications lead, a communications advisor, two members from the Media Relations & Issues Management unit, one member from the Digital Communications unit and one member from the social media team.

Extreme Winter Weather Communications

In addition to the Strategy outlined above, additional internal communications and updates will be implemented in situations of extreme winter weather. In recognition of the role Councillors play in communicating with residents and business during emergency situations, these enhanced communications could include daily briefings for Councillors on the status of winter storm preparations and response, as well as providing detailed and frequent information to Councillors on the status of resolving escalated 311 service requests in their wards. The following activities are further proposed to be included as part of the development and implementation of the Extreme Winter Weather Response Plan:

- Consult with Councillors to develop the Plan to establish the ways they would like to receive communications;
- Provide better live and two-way communication with Councillors in the moment on the information they need and as pertinent to their ward, including the possibility of calls and Q and A sessions at the end of each day when in an extreme weather event, similar to those conducted during the COVID emergency response;
- Provide robust winter briefings prior to the winter season to educate on winter maintenance service levels and expectations; and
- Establish a process for addressing escalated 311 service requests, which may include protocols for communication between the constituency staff, operational staff, and Community Council and Issues Management (CCIM) Managers in Transportation Services.

Staff will endeavour to work with the Councillor's Office over the spring and summer in order to implement some of the communications initiatives for the upcoming 2022-2023 winter season.

PlowTO

In addition to the forms of communication described above, the City first introduced PlowTO, a digitally accessible public-facing web tool, for the 2018/2019 winter season. It has quickly become a valuable resource for residents with over 33,487 views in the 2020/21 winter season and currently 272,166 views in the 2021/22 winter season. PlowTO provides a quick way to identify when roads and sidewalks were last serviced, broken down in time intervals (e.g. less than 4 hours, 4 - 12 hours, etc), including real-time tracking of the winter maintenance equipment. In short, this map-based digital solution provides residents with a way to quickly navigate to a street address of interest so they can proactively plan their routes, as well as adding transparency on the Transportation Services' efforts in effective snow removal.

PlowTO was also limited in providing comprehensive information that reflects the needs for multiple rounds of clearing and snow removal in an extreme winter weather event. Transportation Services, in partnership with Technology Services, has gathered feedback and suggestions over the last three years on this public-facing tool. This feedback will be key as the two Divisions plan to significantly enhance the current implementation to improve the tool. The planned enhancement will include leveraging the new winter maintenance contracts and fleet technology to gather and display more accurate data. In addition, PlowTO will be revamped to include both salting and plowing categories. This work will be carried out by internal City of Toronto staff and be rolled out for the next winter season.

Improvements to 311 Response

The 311 Division launched a new client relations management tool in November 2021 and launched a mobile app during the snowstorm on January 25th, providing residents with more choices in accessing over 600 different service requests and answers in the 311 knowledge base. The change will promote the self-serve channels and allow more convenience, timely access and processing of service requests.

If residents choose the phone channel to connect with 311, staff are working to establish a framework with Transportation Services and Strategic Public and Employee Communications to activate a dedicated hotline - 311 previously experienced success with this type of hotline when working with Toronto Water and Shelter, Support and Housing Administration to provide a more efficient access to city services when residents are challenged by weather-related events of large magnitude. 311 is also exploring an emergency management protocol to have a third-party vendor assist during extreme inclement weather events that have a large impact on City services. This will ensure overflow calls are managed without disruption to regular operational performance targets.

Coordination with Other Agencies

Winter maintenance services are only provided for infrastructure supported by the City and located on the right-of-way; for example, Transportation Services is responsible for clearing sidewalks parallel to the road and curbside pick-up/drop-off areas on the street in front of schools, but does not maintain walkways that connect schools to the sidewalk, nor pick-up/drop-off loops that connect to the street.

Winter maintenance throughout the City does involve coordination with a number of other agencies acting in the right-of-way or providing adjacent snow clearing services. Transportation Services has a Service Level Agreement (SLA) with the TTC regarding roles and responsibilities for winter maintenance services covering the TTC surface transit network. This SLA is subject to review and renewal in 2023. Transportation Services will explore opportunities and clarify roles and responsibilities through a similar type of SLA with agencies such as the Toronto District School Board, Toronto Catholic District School Board, and Toronto Parking Authority.

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SIGNATURE

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ATTACHMENTS

Attachment 1: Winter Maintenance Standards and Service Levels
Attachment 2: Communication Winter Maintenance Service Levels
Attachment 3: January 16-17 Major Snow Event Operational Response
Attachment 4: Status of 2019 Winter Maintenance Program Review Recommendations

Attachment 1: Winter Maintenance Standards and Service Levels

Minimum Maintenance Standards for Highway in the City of Toronto

The Minimum Maintenance Standard for addressing snow accumulation on roadways is described in O. Reg. 612/06 of the City of Toronto Act, 2006 and is excerpted below:

Snow accumulation, roadways

4. (1) Subject to section 4.1, the standard for addressing snow accumulation on roadways is,

(a) after becoming aware of the fact that the snow accumulation on a roadway is greater than the depth set out in the Table to this section, to deploy resources as soon as practicable to address the snow accumulation; and

(b) after the snow accumulation has ended, to address the snow accumulation so as to reduce the snow to a depth less than or equal to the depth set out in the Table within the time set out in the Table,

(i) to provide a minimum lane width of the lesser of three metres for each lane or the actual lane width, or

(ii) on a Class 4 or Class 5 highway with two lanes, to provide a total width of at least five metres.

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(5) For the purposes of this section, addressing snow accumulation on a roadway includes,

(a) plowing the roadway;
(b) salting the roadway;
(c) applying abrasive materials to the roadway
(d) applying other chemical or organic agents to the roadway
(e) any combination of the methods described in clauses (a) to (d).

Table
Snow Accumulation - Roadways

Class of Highway	Depth	Time
1	2.5 cm	4 hours
2	5 cm	6 hours
3	8 cm	12 hours

Class of Highway	Depth	Time
4	8 cm	16 hours
5	10 cm	24 hours

Snow accumulation on roadways, significant weather event

4.1 (1) If the City declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on roadways until the declaration of the end of the significant weather event is,

(a) to monitor the weather in accordance with section 3.1; and
(b) if deemed practicable by the municipality, to deploy resources to address snow accumulation on roadways, starting from the time that the City deems appropriate to do so.

(2) If the City complies with subsection (1), all roadways within the City are deemed to be in a state of repair with respect to snow accumulation until the applicable time in the Table to section 4 expires following the declaration of the end of the significant weather event by the City.

Section 1(1) defines “significant weather event” as meaning "an approaching or occurring weather hazard with the potential to pose a significant danger to users of the highways within the City;"

Snow accumulation, bicycle lanes

4.2 (1) Subject to section 4.3, the standard for addressing snow accumulation on bicycle lanes is,

(a) after becoming aware of the fact that the snow accumulation on a bicycle lane is greater than the depth set out in the Table to this section, to deploy resources as soon as practicable to address the snow accumulation; and

(b) after the snow accumulation has ended, to address the snow accumulation so as to reduce the snow to a depth less than or equal to the depth set out in the Table to this section to provide a minimum bicycle lane width of the lesser of 1 metre or the actual bicycle lane width.
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(4) For the purposes of this section, addressing snow accumulation on a bicycle lane includes,

(a) plowing the bicycle lane;
(b) salting the bicycle lane;

(c) applying abrasive materials to the bicycle lane;
(d) applying other chemical or organic agents to the bicycle lane;
(e) sweeping the bicycle lane; or
(f) any combination of the methods described in clauses (a) to (e). O. Reg. 367/18, s. 6.

Table
Snow Accumulation - Bicycle Lanes

Class of Highway or Adjacent Highway	Depth	Time
1	2.5 cm	8 hours
2	5 cm	12 hours
3	8 cm	24 hours
4	8 cm	24 hours
5	10 cm	24 hours

Snow accumulation on bicycle lanes, significant weather event

4.3 (1) If the City declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on bicycle lanes until the declaration of the end of the significant weather event is,

(a) to monitor the weather in accordance with section 3.1; and

(b) if deemed practicable by the City, to deploy resources to address snow accumulation on bicycle lanes, starting from the time that the City deems appropriate to do so.

(2) If the City complies with subsection (1), all bicycle lanes within the City are deemed to be in a state of repair with respect to snow accumulation until the applicable time in the Table to section 4.2 expires following the declaration of the end of the significant weather event by the City.

Snow accumulation on sidewalks

16.3 (1) Subject to section 16.4, the standard for addressing snow accumulation on a sidewalk after the snow accumulation has ended is,

(a) to reduce the snow to a depth less than or equal to 8 centimetres within 48 hours; and
(b) to provide a minimum sidewalk width of 1 metre. O. Reg. 367/18, s. 15.

(2) If the depth of snow accumulation on a sidewalk is less than or equal to 8 centimetres, the sidewalk is deemed to be in a state of repair in respect of snow accumulation. O. Reg. 367/18, s. 15.

(3) If the depth of snow accumulation on a sidewalk exceeds 8 centimetres while the snow continues to accumulate, the sidewalk is deemed to be in a state of repair with respect to snow accumulation, until 48 hours after the snow accumulation ends. O. Reg. 367/18, s. 15.
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(5) For the purposes of this section, addressing snow accumulation on a sidewalk includes,

(a) plowing the sidewalk;
(b) salting the sidewalk;
(c) applying abrasive materials to the sidewalk;
(d) applying other chemical or organic agents to the sidewalk; or
(e) any combination of the methods described in clauses (a) to (d). O. Reg. 367/18, s. 15.

Snow accumulation on sidewalks, significant weather event

16.4 (1) If the City declares a significant weather event relating to snow, the standard for addressing snow accumulation on sidewalks until the declaration of the end of the significant weather event is,

(a) to monitor the weather in accordance with section 3.1; and
(b) if deemed practicable by the City, to deploy resources to address snow accumulation on sidewalks starting from the time that the City deems appropriate to do so. O. Reg. 367/18, s. 15.

(2) If the City complies with subsection (1), all sidewalks within the City are deemed to be in a state of repair with respect to any snow present until 48 hours following the declaration of the end of the significant weather event by the City. O. Reg. 367/18, s. 15.

(3) Following the end of the weather hazard in respect of which a significant weather event was declared by the City under subsection (1), the City shall,

(a) declare the end of the significant weather event when the City determines it is appropriate to do so; and
(b) address snow accumulation on sidewalks in accordance with section 16.3. O. Reg. 367/18, s. 15.

Ice formation on sidewalks and icy sidewalks

16.5 (1) Subject to section 16.6, the standard for the prevention of ice formation on sidewalks is to,

(a) monitor the weather in accordance with section 3.1 in the 24-hour period preceding an alleged formation of ice on a sidewalk; and

(b) treat the sidewalk if practicable to prevent ice formation or improve traction within 48 hours if the City determines that there is a substantial probability of ice forming on a sidewalk, starting from the time that the City determines is the appropriate time to deploy resources for that purpose. O. Reg. 367/18, s. 15.

(2) If ice forms on a sidewalk even though the City meets the standard set out in subsection (1), the sidewalk is deemed to be in a state of repair in respect of ice until 48 hours after the City first becomes aware of the fact that the sidewalk is icy. O. Reg. 367/18, s. 15.

(3) The standard for treating icy sidewalks after the City becomes aware of the fact that a sidewalk is icy is to treat the icy sidewalk within 48 hours, and an icy sidewalk is deemed to be in a state of repair for 48 hours after it has been treated. O. Reg. 367/18, s. 15.

(4) For the purposes of this section, treating a sidewalk means applying materials including salt, sand or any combination of salt and sand to the sidewalk. O. Reg. 367/18, s. 15.

Icy sidewalks, significant weather event

16.6 (1) If the City declares a significant weather event relating to ice, the standard for addressing ice formation or ice on sidewalks until the declaration of the end of the significant weather event is,

(a) to monitor the weather in accordance with section 3.1; and
(b) if deemed practicable by the City, to deploy resources to treat the sidewalks to prevent ice formation or improve traction, or treat the icy sidewalks, starting from the time that the City deems appropriate to do so. O. Reg. 367/18, s. 15.

(2) If the City complies with subsection (1), all sidewalks within the City are deemed to be in a state of repair with respect to any ice which forms or is present until 48 hours after the declaration of the end of the significant weather event by the City. O. Reg. 367/18, s. 15.

(3) Following the end of the weather hazard in respect of which a significant weather event was declared by a City under subsection (1), the City shall,

(a) declare the end of the significant weather event when the City determines it is appropriate to do so; and
(b) address the prevention of ice formation on sidewalks or treat icy sidewalks in accordance with section 16.5. O. Reg. 367/18, s. 15.

City of Toronto Winter Maintenance Service Levels

Summary of Road Plowing and Driveway Windrow Opening Service Levels

ROAD CATEGORY	PAVEMENT CONDITION AFTER SANDING /SALTING	START OF PLOWING AFTER ACCUMULATION OF (cm)	TIME TO COMPLETION PLOWING (HOURS) AFTER THE END OF SNOWFALL			
			STORM TYPE 1 up to 5cm	STORM TYPE 2 5-15 cm	STORM TYPE 3 15-25 cm	STORM TYPE 4 +25cm
Expressways	Bare pavement	2.5 to 5.0 and still snowing	2-3 (1)	2-3 (1)	2-3 (1)	2-3 (1)
Arterial roads, street-car routes	Bare pavement	5.0 and still snowing	-	6-8	8-10	12-14+(2)
Bus routes, collect-or roads, local streets w/ hills	Centre Bare	5.0-8.0(3)	-	8-10	10-12	14-16+(2)
Local streets	Safe and Passable	8.0(3)	-	14-16	18-20	24-36+(2)
Local streets w/o boulevards and with long term parking	Safe and Passable	8.0(3)	-	14-16	18-20	24-36+(2)
Dead Ends	Safe and Passable	8.0(3)	-	14-16	18-20	24-36+(2)
Laneways(4)	Salt to maintain safe and passable conditions	Plowing and/or removal, subject to conditions	-	-	-	- Salted within 24hrs of the end of event

Residential Driveway Windrow Opening - Commences at same time as roadway plowing on local roads when windrow height exceeds 25cms and be completed within two hours of roadway ploughing. Driveway windrow opening to commence at the final round of roadway plowing on arterial and collector roads when windrow height exceeds 25cms.

Notes:
(1) Plowing on Expressways is continuous for bare pavement conditions
(2) Completion of plowing under Type 4 Storm is dependent upon total accumulation
(3) Snowfall to be substantially completed prior to plowing operations commencing (except for heavy snowfalls)
(4) Snow removal at laneway frontages will be completed within 48hrs of the plowing on the adjacent local road

Summary of Sidewalk and Transit Stop Service Levels

ROAD CLASS-IFICATION	SNOW ACCUMULATION REQUIRED TO COMMENCE OPERATIONS		TIME TO COMPLETE SIDEWALK CLEARING OPERATIONS AFTER THE END OF SNOWFALL (4)			
	November & April (1)	December to March (2)	STORM TYPE 1 up to 5cm (3)	STORM TYPE 2 5-15 cm	STORM TYPE 3 15-25 cm	STORM TYPE 4 +25cm
All pedestrian routes	8cms	2cms	1 round (5)	2 rounds	3 rounds	4 rounds
Transit stops & crosswalk pads	8cms	2cms	1 round (6)	1 round (6)	1 round (6)	1 round (6)

Criteria for service:

- Street must be greater than 8m in width.
- Sidewalk must be greater than 1.5m in width.
- Sidewalk is not immediately adjacent to the street.
- Parking is not immediately adjacent to the sidewalk.
- No obstructions such as utility poles, planters, retaining walls, immediately adjacent to or within the sidewalk that would create significant potential for damage or an operating safety concern for the equipment operator or public.
- Consideration to be given to whether the mechanical clearing could be done in a contiguous area.

Notes:
(1) Shoulder season level of service - all times to complete sidewalk clearing operations are doubled due to absence of contracted forces.
(2) Standard level of service.
(3) Not every storm Type 1 will require a mobilization.
(4) Time to complete operations is dependent on total snow accumulation.
(5) One round takes approximately 13 hrs to complete. Multiple rounds are separated by at least an 8hr break due to legislative requirements.
(6) One round takes approximately 48 hrs to complete.
Arterial road, school areas, transit areas and accessibility locations - only where mechanical clearing is possible.

Summary of Cycling Facility Service Levels

BIKE LANE CATEGORY	DESIRED PAVEMENT CONDITION AFTER SALTING / PLOWING (1)	ACCUM-ULATION (cm) TO INITIATE PLOWING	TIME TO COMPLETION FOR SALTING / PLOWING & SNOW REMOVAL (AFTER THE END OF SNOWFALL) (2)			
			STORM TYPE 1 up to 5cm	STORM TYPE 2 5-15 cm	STORM TYPE 3 15-25 cm	STORM TYPE 4 +25cm
Martin Goodman Trail	Bare pavement	5.0 and still snowing	Plowing & salting within 6-8hrs	Plowing & salting within 6-8hrs	Plowing & salting within 6-8hrs	Plowing & salting within 6-8hrs
Cycle Tracks (incl. bus pads) Sherbourne, Roncesvalles	Bare pavement	5.0 and still snowing	Salted to a higher level of service as (adjacent) road	Plowing & salting within 6-8hrs	Plowing & salting within 6-8hrs	Plowing & salting within 6-8hrs
Priority Bike Lanes East – west North - south	Bare Pavement	5.0 and still snowing	Salted to a higher level of service as (adjacent) road.		Plowing & salting as per road classification. Full removal within 48 – 72hrs when required to achieve bare pavement.	
Arterial Roads Bike lanes Contra-flow Sharrows	Bare Pavement	5.0 and still snowing	Salted to a higher level of service as (adjacent) road	Plowing & salting within 6-8hrs	Plowing & salting within 8-10hrs	Plowing & salting only within 12-14hrs
Collector Roads Bike lanes Contra-flow Sharrows	Bare Pavement	5.0-8.0	Salted to a higher level of service as (adjacent) road	Plowing & salting within 8-10hrs	Plowing & salting within 10-12hrs	Plowing & salting only within 14-16hrs

Note: Multiple applications of salt may be required to achieve a bare pavement condition. This may take up to 72hrs and will be subject to temperature constraints. Bike lane snow removal is prioritized within the hierarchy of Managed Snow Removal operations.

Highlighted Service Levels

Snow removal is prioritized for safe access to emergency services vehicles and major transit routes, school areas, all transit stops, seniors and disabilities program with local roads remaining passable. Snow removal near schools addresses the school drop-off/pick up area at the curb of the road only. This curb side is usually at the front of the school and is where school buses and parents drop off and pick up children. The snow is removed and/or displaced by the City from the road, the boulevard (if one exists) and the sidewalk to provide loading and unloading access for children. School boards are responsible for the snow on their property, which includes walkways connecting schools to sidewalks, driveways, and pick-up and drop-off loops that connect to the road.

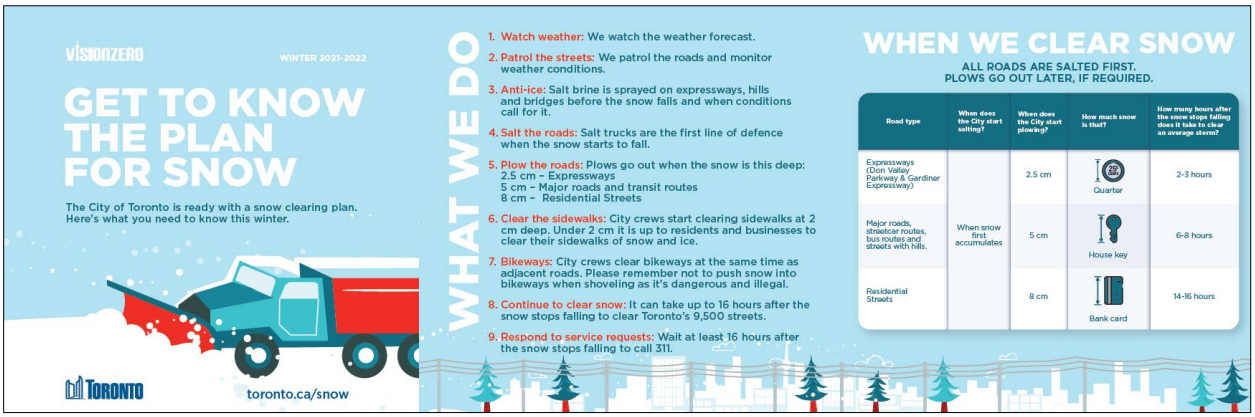
Attachment 2: Communication Winter Maintenance Service Levels

Following a significant snow storm in 2019, and the City's subsequent operational and communications response, consulting firm HDR was hired to undertake a comprehensive Winter Maintenance Program Review. A key outcome of the review was the recognition of a need for a sustained public awareness program to help inform/educate residents of the winter services that the City of Toronto delivers, the extent and limitations of these services, and the important role that the public plays in supplementing these services.

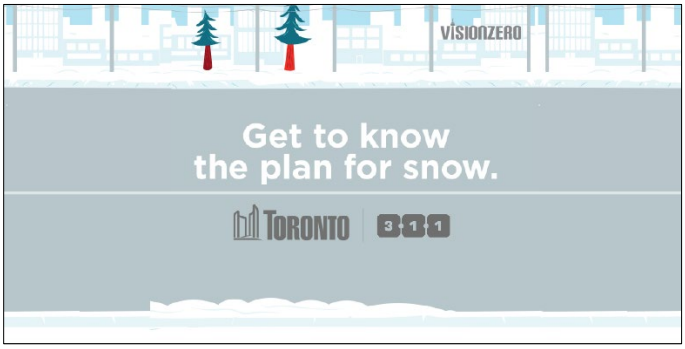
Acting on the results of the review, Transportation Services spent approximately $560,000 in 2019-2020, $700,000 in 2020-2021 and $760,000 in 2021-2022 for public education and advertising about the City's winter maintenance programs. These efforts included a suite of city-wide advertising campaigns and proactive public education tactics that aimed to build broad public awareness of the City's winter maintenance programs, educate residents about their role in keeping roads and sidewalks safe and passable, and increase public and stakeholder confidence by delivering effective and timely communications.

The public education and advertising tactics comprised out-of-home advertising (bus shelters, subway posters, etc.); a dedicated Canada Post mail-out to approximately 1.1 million homes and apartments; radio and digital streaming ads; multilingual digital and print ads; and paid and organic social media posts and infographics, including geo-targeted social ads. These tactics are also regularly supplemented by news releases, media availabilities and briefings, organic social media posts via multiple City accounts, "snow media" bulletins, photos and videos of snow clearing, updates to toronto.ca, newsletters to BIAs and stakeholders (such as TRCA), Council updates and newsletters, and coordinated communication with 311 and the City's agencies, including the TTC and the Toronto Police Service.

The examples below are from the three public education and advertising campaigns for the 2019-2020, 2020-2021 and 2021-2022 winter seasons. Examples of radio, video and live digital ads are also available.




RESIDENTIAL STREETS:
HOW AND WHEN SNOW IS CLEARED
What you can expect:
Major roads and expressways are cleared of snow sooner and more frequently than residential streets so that more vehicles, including emergency vehicles, can get where they need to be. Residential streets are salted as soon as snow starts to fall and plows are only sent out after the snow reaches 8 cm or more. It's normal and acceptable for residential streets to have some snow and ice on them after City vehicles have treated the roadway.
Driveway Openings: "Windrows"
A windrow is the snow left at the end of your driveway after a snow plow has cleared your street. In the hours after the snow stops falling, plows with special blades clear the openings of about 262,000 driveways (houses) to an opening of no more than three (3) metres wide. These plows can only operate where there is no on-street parking, roads are wide and there are no other obstacles.
DID YOU KNOW?
• It can take a long time for salt trucks and plows (if necessary) to reach all Toronto roads. Please don't contact 311 when the snow is falling. Wait about 16 hours first, or use the PlowTO map to track road or sidewalk plows in your area. Visit toronto.ca/PlowTO
• City crews clear snow and ice on stairs and steps, that connect pedestrian walkways, and around bus and streetcar shelters to help keep transit riders safe.
• Toronto has a Salt Management Plan that manages how we use, store, and transport road salt. Visit toronto.ca/salt
• Toronto is one of the world's biggest winter cities. The budget to deliver its comprehensive winter services program in 2021 (January to December) is about $90 million.
• Toronto is one of just a few cities in Canada that has a plan to clear all public sidewalks in the city.
PlowTO Map
Use the PlowTO map to track road and sidewalk plows in your neighbourhood, and to see an approximate time frame for when an area was last cleared. Visit toronto.ca/PlowTO
如需看繁體字版本的此信息, 請瀏覽
Pour consulter ces informations en français, veuillez visiter le site :
Para visualizar esta informação em português visite:
Para consultar esta información en español visite:
இந்த தகவலை தமிழில் பார்ப்பதற்கு:
toronto.ca/snow
toronto.ca/snow toronto.ca/PlowTO
311 416-338-0TTY (0889) 311@toronto.ca
Please wait about 16 hours after snow stops falling before contacting 311.
@TO_WinterOps @TO_Transport @cityoftoronto


VISIONZERO
Get to know the plan for snow.
TORONTO 311

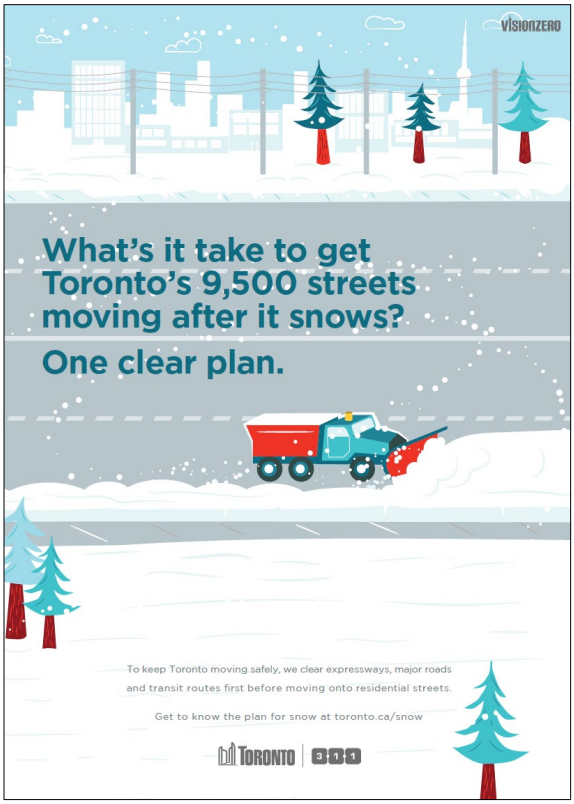

VISIONZERO
Get to know the plan for snow.
TORONTO 311


Avoid parking on city streets so plows can do their job.
TORONTO
toronto.ca/snow


KM TRAVELLED BY SALT TRUCKS
49,371 KM
KM TRAVELLED BY PLOWS
13,197 KM
toronto.ca/snow
187031


Major Snow Storm Condition
No parking on roads with streetcar tracks
SNOW ROUTE
TORONTO
toronto.ca/snow


VISIONZERO
There are 7,945 km of sidewalks in Toronto.
Be a good neighbour and do your bit.
Please shovel your sidewalk within 12 hours of a snowfall for the safety of you and your neighbours. And remember to shovel the snow onto your property. Not the road.
Get to know the plan for snow at toronto.ca/snow
TORONTO | 311


VISIONZERO
What's it take to get Toronto's 9,500 streets moving after it snows?
One clear plan.
To keep Toronto moving safely, we clear expressways, major roads and transit routes first before moving onto residential streets.
Get to know the plan for snow at toronto.ca/snow
TORONTO | 311

Attachment 3: January 16-17 Major Snow Event Operational Response

Winter storms have a number of variables that can impact their severity - volume of snow, speed of snowfall, type/mix of precipitation, temperatures, and winds. A normal event would involve between 10-15 centimetres of accumulation, and would cause little disruption to daily life. A storm with an accumulation of 25 centimetres would take just under a week for winter maintenance to be completed, and would typically involve 10-15,000 tonnes of snow removal. Before this winter, the most recent emergency condition created by a winter storm was more than 20 years ago in 1999 - when 38 centimetres of snow fell on January 2, and a series of subsequent storms led to a total accumulation of 118.4 centimetres over a two-week period.

On January 16-17, 2022, the City of Toronto received a record-breaking winter storm that ultimately blanketed streets with 55 centimetres of snow - an amount greater than the total snowfall received in January, February and March of 2021 and was in the top ten of single largest snowfall events ever recorded in Toronto. Not only was the volume of snow noteworthy, the speed was exceptional, falling at a rate of up to five centimetres per hour. A rate of one centimetre per hour is normally defined as heavy, and a total accumulation of 10 centimetres is considered to be a large snow event. Compounding the precipitation, extreme cold conditions were present during the storm, and the temperature did not rise above the freezing mark for the following two weeks. The entire clean-up from this storm took a month to complete, and resulted in the removal of just under 180,000 tonnes of snow.

The weather conditions associated with this storm, particularly the speed of snowfall, created a number of urgent needs outside of typical winter maintenance response. Crews provided assistance to dig out more than 500 TTC buses, remove snow from first responder locations, and supported snow clearing operations at hospitals. These urgent response activities are not typically undertaken, but were a necessary redeployment of Transportation Services resources that was required to minimize delays to emergency services and ensure access to critical health care.

The aforementioned redeployments, combined with the intensity of snowfall, resulted in clearing timeframes in excess of the 25 centimetre accumulation service level, which is the basis for winter maintenance budgeting and resourcing. A storm exceeding this benchmark is a strain on normal and routine operations, creating challenges in operational planning and predicting when each street would be cleared. Understandably, many residents and businesses were frustrated by inexact or incomplete information on what they could expect, and observed what seemed to be uneven service between streets and neighbourhoods. Repeated and one-off requests, as well as localized reprioritizations, further bogged down operations and stretched out anticipated response times. An additional complicating factor was confusion over who is responsible for clearing snow at certain locations - such as at schools or in parks - which are outside the scope of winter maintenance services provided by Transportation Services.

Activations - Salting and Plowing

In anticipation of the January 16-17 storm, Transportation Services prepared city streets before snow began to fall by applying a liquid salt brine to all expressways, arterial and collector roads throughout the city. As snow began to fall, the following activations were implemented:

- Sunday, January 16 starting at 22:50 - bikeway clearing; nine cumulative rounds were completed by Tuesday January 18 at 18:30
- Sunday, January 16 starting at 23:00 - salting on expressways, arterials and collectors; 23 cumulative rounds were completed by Wednesday, January 19 at 04:00
- Monday, January 17 starting at 02:00 - plowing on expressways, arterials and collectors started; 33 cumulative rounds were completed by Tuesday, January 18 at 22:00
- Monday, January 17 starting at 03:00 - salting and plowing on sidewalks; 16 cumulative rounds were completed by Wednesday, January 19 and then sidewalk clearing was continuously deployed while snow removal was ongoing
- Monday, January 17 starting at 05:00 - plowing on local roads; nine cumulative rounds were completed by Wednesday, January 19 at 04:00

Declaration of Significant Weather Event and Major Snow Storm Condition

Due to the severity of the storm, a Significant Weather Event was declared on January 17, which temporarily suspends minimum maintenance standards under the City of Toronto Act, 2006. In addition, City of Toronto Municipal Code Chapter 950, Traffic and Parking ("Chapter 950"), contains provisions related to a Major Snow Storm Condition and which outline when the Mayor or the General Manager may declare that a Major Snow Storm Condition exists. Chapter 950 also contains provisions which prohibit parking or standing a vehicle on highways set out in the applicable Schedule to the Code Chapter during the period of a Major Snow Storm Condition where signs have been erected and which prohibit parking or standing a vehicle on a streetcar track or so as to block the passage of a streetcar on highways set out in the applicable Schedule to the Code Chapter during the period of a major snow storm condition where signs have been erected.

This declaration was necessary in order to effectively implement snow removal operations. Due to the large amount of snowfall, the snow storage capacity on boulevards was not sufficient and it needed to be removed from streets and transported to the City's snow storage facilities. The Significant Weather Event and Major Snow Storm Condition was in effect from 18:00 on January 17 until snow removal operations were completed at 18:00 on February 16.

Removal Operations

Snow removal began on expressways and designated snow routes starting January 20. Transportation Services worked closely with emergency service providers, including Toronto Police Service, Fire Services, Toronto Paramedic Services and the Emergency Operations Centre, to ensure emergency vehicles and their facilities received the snow clearing required to continue to deliver their services. Snow removal was also prioritized

for arterial roads and local roads, where necessary, to ensure emergency vehicle access, and then for more than 500 school safety zones and all streetcar routes. Snow removal operations were undertaken for 24 hours a day until February 6, and limited snow removal continued until February 16. In total, 179,442 tonnes of snow were removed from 3,471 km of roads, requiring almost 60,000 truckloads. The total cost of the snow removal operation (not including salting and plowing) was approximately $17.6 million.

Enforcement Activities

City of Toronto Municipal Code Chapter 719, Snow and Ice Removal, provides that the owners or occupants of any building are responsible, within 12 hours after any fall of snow, rain or hail has ceased, to clear away and completely remove snow and ice from any sidewalk on any highway in front of, alongside or at the rear of the building. Chapter 719 further provides that this requirement does not apply to an owner or an occupant of a building where, pursuant to City of Toronto policy, the City of Toronto has undertaken the responsibility to clear away and completely remove snow and ice from the sidewalk on the highway in front of, alongside or at the rear of the building at that location. Nonetheless, Chapter 719 also provides that, after the removal of snow and ice, if any portion of the sidewalk becomes slippery from any cause, the owner or occupant must immediately and as often as necessary apply to the sidewalk ashes, sand, salt or some other suitable material so as to completely cover the slippery surface.

Complaints regarding sidewalk conditions following the January 17 storm were not recorded until January 20. Seven hundred, sixty-three complaints were received during the four weeks following the storm; approximately three-quarters of which were located in the Toronto and East York District.

Communications

Strategic Public and Employee Communications significantly scaled up its communications efforts and resources in response to the January 16-17 storm with the aim of providing preparedness information and progress updates to residents and members of the media as quickly as possible. The January 17 major snow storm communications included the following:

- Seven news releases with progress updates about snow clearing and removal operations, impacted City services, the declaration of a major snow storm condition and the tagging and towing of abandoned vehicles;
- Six media availabilities (i.e., press conferences) with the General Manager of Transportation Services and the Director of Operations and Maintenance;
- Seventeen media bulletins to members of the media that included snow clearing and removal progress updates, road safety advisories, tips and advice for residents and businesses and information about reporting issues to 311, friendly tows, the Sidewalk Clearing Program and how the City is coordinating with its agencies;
- Daily communications to members of Council with suggested communications and social media posts for their constituents;
- Fifty-seven social media posts;
- Responses to approximately 80 news media queries; and

- Coordination of daily opportunities for members of the media to capture footage of snow clearing and removal operations.

Additionally, all of the City's winter maintenance communications include detailed background information about the City's snow clearing role on roads, sidewalks and bike lanes, as well as information about the role of residents and businesses in clearing snow and ice from sidewalks and private properties. This information is also available on toronto.ca/snow.

311 Call Volumes and Trends

On January 16th, 2022, 311 started to receive various snow and ice related inquiries as snowfall took place. As call volumes amplified, residents were provided with frequent and timely communication updates and winter operational information regarding the mobilization of Transportation Services and clean-up efforts. In an effort to stabilize service levels and minimize disruption to non-snow related calls, 311 activated mitigation protocols such as upfront messages and alerts to communicate operational updates and wait times to residents, increase staffing levels, and shift resources to all hands on deck.

On January 20th, 2022, 311 began to process service requests for areas that needed further investigation. 311 handled 62,000 calls during this period, an increase of 47% in call volume by comparison to the same time period the last two years. Over 21,000 snow and ice related service requests were created, in which 25% of those service requests were made using self-serve options. The top five impacts by area and by service are outlined in the tables below.

Between January 17th and January 31st, 311 scheduled up to 1900 additional hours by extending part time shifts and overtime hours to manage high call volumes. Staffing levels increased as much as 58% to complement regular staffing levels. Normal seasonally projected call volume and performance indicates 311 would have been able to maintain service level at 83%, however the snowstorm impacted service level negatively by 13% and financially by $120,000 due to overtime costs, shift extensions, and increased staffing levels.

Table 1: Top 5 Service Requests – Jan 16th to Jan 31st

Problem Type	Calls Handled
Sidewalk Snow Clearing	4356
Road Ploughing Required	3603
Driveway – Blocked by Windrow	1988
Road- Winter Request/Complaint	1274
Boulevards – Snow Piled Too High/ Too Much	1188

Table 2: Top 5 Total Service Requests by Ward – Jan 16th to Jan 31st

Ward	Total Service Request
Toronto-St Paul's	1,212
York South-Weston	1,049
Davenport	1,014
Eglinton-Lawrence	988
Scarborough Southwest	881

Attachment 4: Status of 2019 Winter Maintenance Program Review Recommendations

Recommendation	Status
1.Conduct a physical inventory of the 1,400 km of sidewalk that are currently not mechanically cleared to confirm the sidewalk segment lengths, widths and encroachments which will assist with program development.	Completed in 2020 and 2021 as part of the Mechanical Sidewalk Winter Maintenance Trial.
2. During the 2019 / 2020 winter season conduct a snow clearing trial program on approximately 250 km of the sidewalks which are currently not cleared to assess program feasibility, staffing, manual clearing, equipment and cost.	Completed in 2020 and 2021. Mechanical Sidewalk Winter Maintenance expansion implemented in 2021.
3. Initiate snow clearing on low volume sidewalks at a 2cm accumulation of snow (currently 8cm) to improve equity of service, safety, and pedestrian mobility.	Completed in 2020. All winter maintenance activation for all sidewalks enhanced to 2cm.
4. Review the efficacy of the Major Snow Storm Condition declaration and consider a more robust application of the program to improve parking control and snow clearing along major City routes.	Completed. Major Snow Storm Condition declaration enacted first day of January 17th winter event.
5. Review sidewalk encroachment management, resident responsibilities and bylaw control.	Ongoing. Initiated in 2021 as part of the Mechanical Sidewalk Winter Maintenance Trial. Review completion in 2022.
6. Review the snow clearing LOS on cycle facilities to ensure current practices meet the needs of the cycle community.	Completed. All winter maintenance activation for cycle tracks activated at 2cm and all other bicycle lanes are activated at the same time as the adjacent road levels of service.
7. Review the application of “Design for Winter” principles to ensure the design of facilities consider unique winter maintenance needs for snow clearing and storage.	Completed. Included in 2022-2029 winter maintenance contracts.

Recommendation	Status
8. The City should review the balance between in-house and contract staff within the winter maintenance program to ensure more staff are available during the winter fringe period.	Completed. External consultant study completed in 2020 and Auditor General review completed in 2021. Expanded mechanical sidewalk program executed with in-house staff.
9. The City should review the retention of contractor equipment within the maintenance depots for possible deployment during major fringe weather events.	Completed. Included in 2022-2029 winter maintenance contracts.
10.The City develop a comprehensive public advertising and communication plan to improve the public's understanding of the City's winter maintenance program policies, level of service, service delivery, activities and responsibilities. As well, the realities of winter maintenance responses to major weather events needs to be better understood.	Completed. Multi-media communication/education campaign initiated in 2020 and continued annually.
11. The City review the 311 response policies and phone script to ensure the services are meeting the needs of the residents and the winter maintenance program.	Ongoing. New 311 phone scripts to inform residents about winter maintenance services developed in 2021 and reviewed annually.