

City of Toronto

# 2025 Winter Storm Response and Winter Maintenance Program Review

Prepared for:

**City of Toronto**

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July 10, 2025



## Executive Summary

In February 2025, Toronto experienced one of its most intense snowstorms in recent history, with over half a metre of snow falling across the City. The official 24/7 snow removal operation began on February 19, focusing on clearing priority roads, sidewalks, bike lanes, and areas with limited snow storage. By February 25, crews had removed over 144,000 tonnes of snow.

Despite these efforts, many residents reported delayed or inadequate service, especially on sidewalks and local roads. Vulnerable populations - seniors, people with disabilities, and transit users- were particularly affected. The City logged over 25,000 winter-related 311 service requests, reflecting widespread public dissatisfaction. In response, Mayor Olivia Chow and City Council called for a comprehensive review of the City's winter maintenance program and the specific response to the February event.

To lead this review, the City retained Municipal VU Consulting Inc., an independent firm with municipal public works expertise. The goal is to identify what worked, what didn't, and where improvements are necessary to enhance the City's readiness for future storms.

## Scope and Methodology

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Municipal VU applied a custom Mixed Methods approach, which is an evidence-based methodology used during discovery and diagnosis phases to work through complex municipal challenges. It integrates quantitative data with qualitative insights through an iterative and comprehensive cross-verification process. Analysis included internal and published documents and videos, operational data, staff and Council input, site visits, public perspectives, sector comparisons, and benchmarking against cities like Montreal. By using this approach, findings are generated that are validated across multiple sources wherever possible, to help diagnose systemic gaps and develop tailored, actionable insights.

## Findings

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The February 2025 storms revealed both the dedication of City crews and significant shortcomings in sidewalk clearing, communications, and readiness for more extreme weather. While major roads were kept functional, pedestrian accessibility and local street service fell far below expectations.

### Successes

- **Priority Road Clearing:** Arterial roads and expressways were generally cleared within 24 hours of snowfall, maintaining emergency and transit access.
- **Major Snowstorm Declaration:** Enacted on February 12, it facilitated parking bans and enabled more efficient snow clearing on key corridors.

- 24/7 Snow Removal: A massive round-the-clock operation led to the removal of over 144,000 tonnes of snow. The focus on high-priority zones helped mitigate worst impacts.
- Monitoring and Coordination Tools: Use of GPS and work management systems improved situational awareness. Emergency Operations Centre coordination was stronger than during the January 2022 storm.

## Challenges

- Sidewalk Clearing Gaps: Many sidewalks remained impassable for days, and key issues included:
  - Limited snow storage on narrow rights-of-way.
  - Unreliable equipment (machines frequently broke down or underperformed).
  - Reporting discrepancies: Systems showed route completion even when sidewalks were reburied or missed.
  - Accessibility challenges, especially for curb ramps and pedestrian crossings.
- Local Street Delays: Residential roads often went uncleared for extended periods, causing safety issues and public frustration. Communications via 311 and PlowTO were inconsistent.
- Contract Limitations: Contracts are structured for salting and clearing, but not for large-scale snow removal, which must be triggered and billed separately. Single contractors are assigned large districts, reducing flexibility. There is a lack of built-in fleet availability, which delayed snow hauling operations.
- Communication Gaps: Public messaging was inconsistent with delayed responses through 311. There was confusion among residents about what to report and when, and vulnerable residents lacked clear channels for urgent help.
- Preparedness Deficits: The City lacked surge capacity in staffing and equipment. Delayed equipment rentals and reactive decision slowed response. No formal contingency contracts or cross-training were in place for rapid redeployment.

## Core Issues

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The February 2025 winter storm response revealed that the City's winter maintenance processes and procedures tend to work reasonably well for routine snowfall, however they face systemic gaps that limit their effectiveness when major snow events hit. The gaps are interconnected, cutting across policy, operations, contracts, technology, and communication, and should be addressed as a whole to build a more resilient, agile, accountable program.

### Three Major Events and Limited Urban Snow Storage

Significant back-to-back snowfalls overwhelmed already constrained urban snow storage, especially in dense downtown and inner-suburban areas. The City had to toggle between

plowing and full-scale removal without enough lead time, resulting in narrowed lanes, blocked sidewalks, and reduced accessibility.

### **Major Snow Event Response Plan Lacked Details**

While the Multi-Stakeholder Emergency Response Plan outlined broad strategies, it lacked detailed, pre-defined snow removal maps, priority haul routes, and staging zones necessary for rapid response during severe events. The absence of granular operational guidance led to fragmented removal efforts and delayed decision-making.

### **Reporting Tools Ineffective at Tracking Results**

AVL and GPS tools logged vehicle movements but did not verify whether conditions on the ground met service standards. This disconnect created misaligned public messaging, delays in crew redeployment, and limited ability to hold contractors accountable for results.

### **Gaps in Contract Design for Extreme Events**

The City's large-scale, performance-based winter maintenance contracts did not include stand-by clauses or surge capacity provisions for major snow removal operations. Contractors lacked flexibility and clear directives for city-wide resource allocation during extreme events.

### **Snow Removal Not Clearly Defined or Resourced**

Snow removal was treated as an exceptional activity, rather than an integral part of winter operations. The City lacked clear service levels, triggers, and standby contracts for removal, which led to delays and inconsistent results in neighbourhoods severely affected by snow accumulation.

### **Communication Gaps and Misaligned Expectations**

Public messaging during the storm did not reflect on-the-ground realities. Optimistic updates based on incomplete AVL data created confusion and frustration. Residents, Councillors, and staff lacked clear and timely information about snow removal timelines and operational constraints.

## **Recommendations for Immediate Implementation**

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To improve readiness for the 2025/26 winter season, six primary recommendations are provided for immediate implementation.

### **1. Detailed Major Snow Event Response Plan**

The City should finalize and operationalize a detailed, scalable response plan with escalation triggers, mapped routes, and defined roles. The plan should specify neighbourhood-level removal beats, staging areas, snow dump sites, haul routes, decision thresholds, and task checklists aligned with Emergency Operations Centre protocols.

## **2. Stand-Alone Snow Removal Contracts**

The City should procure dedicated, unit-based snow removal contracts that guarantee standby equipment and rapid deployment capacity. These contracts must be integrated with the City's response plan so that removal beats, staging, and logistics are already pre-mapped and crews and equipment can be promptly activated.

## **3. Quality Monitoring and Reporting Tools**

Real-time condition verification should supplement GPS data with patroller photo-reports and standardized ratings to confirm service quality. Field patrollers should be equipped with photo-enabled apps to verify actual surface conditions on all road segments travelled, and submit standardized, geo-tagged reports, seamlessly linked to AVL data and contractor logs within a centralized dashboard to improve operational oversight.

## **4. Storm Communications**

The City should implement a modernized, tiered communication approach that distinguishes emergency storm updates from routine messages, based on clear, consistent, distinct protocols for public updates, Council briefings, contractor reporting, and internal scripting.

## **5. Towing Capacity**

Standby towing contracts should be secured for activation during major events, paired directly with snow crews to clear blocked curb lanes. Temporary off-street parking should also be arranged to encourage compliance and reduce the volume of parked vehicles that obstruct operations.

## **6. Year-Round Winter Operations Unit**

A permanent Winter Operations Planning Unit should coordinate all aspects of winter readiness year-round, including plan development, mapping, training, contract oversight, and inter-divisional drills. The unit could be established through restructuring rather than requiring additional headcount.

The next phase of this review will focus on refining these findings into a clear set of prioritized recommendations, including longer-term structural reforms. A practical implementation plan will follow, detailing timelines, lead responsibilities, resource needs, and performance measures to guide delivery and support Council decision-making.

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# 1. Introduction

In February 2025 a series of three snowstorm events occurred throughout much of southern Ontario, including the City of Toronto (the City). The series of events presented a significant test of Toronto's winter maintenance program and revealed challenges in operational readiness, equipment availability, service coordination, and public communication.

With over 58 centimeters of snow accumulating across multiple storms, the City's snow clearing and removal efforts were placed under scrutiny. The City declared a Major Snowstorm Condition, activated emergency response protocols, and mobilized internal and contracted resources. Despite these efforts, the response faced significant challenges: sidewalk and transit access remained limited for days, 311 was inundated with service requests, and the public and Members of Council expressed frustration with what was perceived as a slow and inconsistent cleanup. Council responded by directing the City Manager to undertake a thorough and objective review with a focus on lessons learned, root causes, and forward-looking solutions. Municipal VU Consulting Inc. (Municipal VU) was retained by the City Manager to carry out this review.

## 1.1. Study Goals

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The goals of this review are to:

1. Conduct a comprehensive review of the City's 2025 winter storm response, including operational performance, service standards adherence, contractor management, resource deployment, and public communications.
2. Benchmark the City's storm response against recognized North American municipal leaders in winter maintenance, including Montreal, Ottawa, Chicago, Minneapolis–St. Paul, and Buffalo, identifying practices that have proven successful in similar or even more extreme conditions.
3. Identify potential short-term operational improvements and long-term strategic changes.
4. Provide recommendations that are actionable, scalable, and tailored to the City's unique size, governance model, infrastructure, and expectations for public service.

This project requires not just a retrospective review of operational activities, but also a strategic forward-looking assessment that will inform the City's ability to respond to major winter events more effectively in the years ahead.

Municipal VU's approach is practical, data-driven, and focused on actionable and measurable solutions, with a commitment to bringing an independent and constructive perspective to this

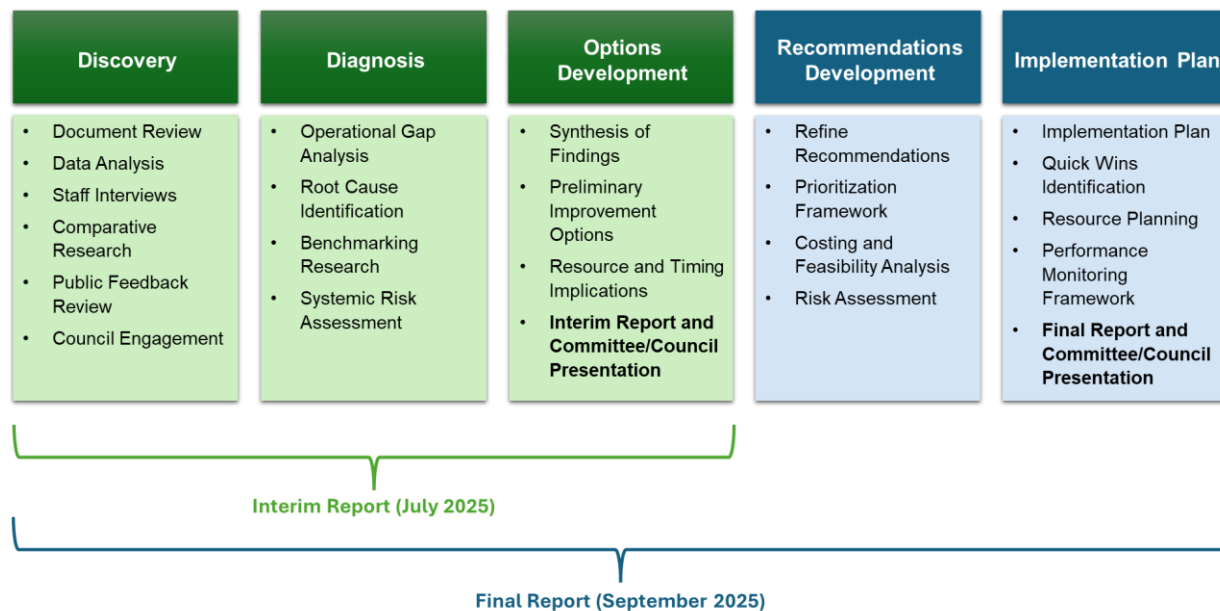


important review. The Municipal VU work is grounded in operational realism, leading practices research, and a deep understanding of the importance of ensuring that the City’s residents, businesses, and institutions can continue to thrive, even in the harshest of winter storms.

## 1.2. Scope of Work

Municipal VU’s scope of work is organized into five core phases as illustrated in Figure 1. The first three phases form the basis of this report, and the final two phases will be included in a final report in September 2025.

Figure 1: Work Plan Overview



This structured and adaptable framework ensures that the review is comprehensive, methodical, and aligned with the City Manager’s need to deliver both initial findings to Council in July 2025 and a refined set of recommendations and an implementation plan in September 2025.

## 1.3. Organization of Report

This report is organized into the following sections:

1. Introduction – This introductory section documents the purpose of this review, scope of work, key terms and organization of the report.
2. Project Approach – This section describes the methods used to conduct the review and prepare findings.

3. About Toronto Winter Maintenance Services – This section provides background information about the delivery of the City’s winter maintenance program, its history, levels of service, major snowstorm response plan, parking bylaws and continuous improvement activities.
4. About the February 2025 Major Snow Event – This section provides an overview of the February 2025 major snow event including preparations before the storms, details about the storms, the City’s response and the aftermath.
5. Comparative Research – This section provides notable findings from a review of winter services at comparable large urban cities.
6. Diagnosis – This section describes key findings observed, including strengths and challenges, and a discussion of the core issues that may be fundamental to the success of winter services at the City.
7. Improvement Opportunities – This section synthesizes the results from the previous phases and establishes a listing of short and long-term opportunities for improvement, for presentation to Council in July 2025. Recommendations for immediate action are also included.
8. Next Steps – The final section of this report documents the next steps for this project including the refinement of clear, prioritized and actionable recommendations that are documented in an implementation plan.

## 1.4. Key Terms

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Below are definitions of some key winter maintenance-related terms that are used throughout this report. These definitions are sourced from the City’s Major Snow Event Response Plan Update Report (IE12.7, March 2024).

**311 Blackout:** A 311 blackout is a temporary period at the start of a winter event when new winter maintenance service requests cannot be created because equipment is deployed to provide winter clearing operations. During this hold period, callers are informed about ongoing winter operations by the customer service agent. This hold period is lifted once the majority of activations are completed.<sup>i</sup>

**Activation:** Activation is the formal instruction to commence winter maintenance operations, such as salting or plowing. Contractor activation is required for the contractor to mobilize and begin work, based on notification from the City.

**Direct liquid application:** Direct liquid application or anti-icing, is the application of salt brine on roads prior to frost or snowfall to prevent the bonding of snow and ice to pavement during the early period of the snowstorm.

**Extreme Winter Weather:** Extreme winter weather can include major snow events but also events or sequences of events with a range of phenomena such as freezing rain or ice precipitation,

flash flooding, flash freezes, high winds, and extreme cold temperatures and a variety of combinations of these.

**Major Snow Event:** A major snow event is a weather event with substantial snow accumulation (typically greater than 25 cm), or a series of smaller snow events which together accumulate enough snow that a significant city-wide snow removal effort is required. Based on historical data, snow events with greater than 25 cm of accumulation are expected once every two years.<sup>ii</sup> The incidence of major snow conditions based on cumulative events will vary based on the length of time between snowstorms but also the extent to which temperature, wind and hours of sunlight are able to generate snowmelt.

**Major Snowstorm Condition:** A major snowstorm condition is defined in the City of Toronto Municipal Code to describe exceptional weather events. The Mayor and the General Manager of Transportation Services have the authority to declare a 'major snowstorm condition'. When this happens, parking on roads designated as snow routes is prohibited. This term could apply to either major snow events or extreme winter weather. Major snow conditions have the potential to overwhelm the snow storage capacity of the right of way, consequently requiring snow removal operations. The speed of completing full snow removal on the right of way for a major snowstorm is limited by many factors, including but not limited to the amount of snow removal equipment on hand, the number of obstructions the equipment needs to work around (i.e. parked cars, street furniture, utility infrastructure), and the time required for trucks to move the snow from the removal site to the disposal site and return.

**Normal Snow Conditions:** Normal snow conditions are snow events with accumulation typically between 2 cm to 10 cm in which snow can be cleared with salting and, on occasion, plowing activations. Events between 10 cm and 25 cm are typically treated the same way, but with more rounds of snow clearing, sometimes coupled with managed snow removal in priority areas.

**Right of Way:** Right-of-way is the public land set aside for roads, sidewalks, and utilities, typically the space from one property line to the other across a street.

**Salting (De-icing):** Salting or de-icing is the application of solid and/or a combination of solid and liquid material to the infrastructure which is typically done during the early stages of the snowfall and/or in conjunction with snow plowing on roads, sidewalks and bike lanes to treat icy conditions and thawing snow during or after snowfall.

**Significant Weather Event:** Ontario Regulation 612/06 defines a Significant Weather Event as an approaching or occurring weather hazard with the potential to pose significant danger to users of the highways within the City. During a significant weather event, typical service levels are suspended as it takes longer to clear roads, sidewalks, bus stops and bikeways. This term could apply to either major snow events or extreme winter weather.

**Snow Plowing:** Snow plowing involves the mechanical clearing of snow to the edges or boulevards of roads, bike lanes, sidewalks and walkways during or following a snow event. Direct liquid application, salting and snow plowing are all essential pieces in the response to both normal and major snow events.

**Snow Removal:** Snow removal is the process of removing snow from the right of way and transporting it to one of five designated snow storage areas in the city. Removal is completed either by shaving (where a snowblower moves along a curb and clears windrows that are overhanging) or the more time-consuming process of full removal (where windrows are pulled off the curb/sidewalk into the lane, and accumulated snow is removed). Snow removal is done on a limited basis under particular conditions, and in locations that have insufficient snow storage space within the right-of-way. Places with limited snow storage include bridge decks, bike lanes and alongside narrow sidewalks. Snow removed through this activity is collected and stored in one of five City-owned snow storage facilities.

## 1.1. Acronyms

AVL: Automatic Vehicle Location

EOC: Emergency Operations Centre

EWMS: Enterprise Work Management System

GPS: Global Positioning System

KPI: Key Performance Indicator

MMS: Minimum Maintenance Standards

MSERP: Major Snow Event Response Plan

MOT: Maximum Operating Time

NRFP: Negotiated Request for Proposal

RFT: Request for Tender

ROW: Right of Way

RWIS: Road Weather Information System

SPEC: Strategic Public and Employee Communications

TEM: Toronto Emergency Management

TPA: Toronto Parking Authority

TTC: Toronto Transit Commission

## 2. Project Approach

For both discovery and diagnosis phases, Municipal VU employs a Mixed Methods Analysis approach to deliver a robust, evidence-based understanding of complex city challenges. This methodology is a custom Municipal VU approach that combines quantitative data analysis with qualitative investigation, enabling the identification of root causes, systemic patterns, and actionable insights.

At the core of this approach is a comprehensive cross-verification process, where information is gathered from a wide range of sources and analyzed in relation to one another. This ensures that findings are not based on isolated observations but are consistently validated across multiple perspectives and data points.

The cross-verification process includes:

- **Internal Documentation Review:** Plans, studies, service levels/standards, operational documents, budgets, and staff reports to Council are examined in detail and also cross-checked alongside records to determine consistency between plans and actual practice.
- **Quantitative Data Analysis:** All data provided is analyzed to identify trends, anomalies, or evidence of constraint.
- **Staff and Council Engagement:** Semi-structured interviews and workshops are conducted across a cross-section of roles to surface operational practices and realities. Interviews are designed to elicit open, honest, and experience-based responses.
- **Council Review:** Council meeting videos and agenda packages are reviewed to assess the messages received and communicated by elected officials through meetings.
- **Public and External Perspectives:** Social media posts, online forums, and media coverage are analyzed to understand how service levels and infrastructure issues are experienced and perceived by the public. The website, Council notifications, and public communications are reviewed to assess messages, consistency and transparency in outward-facing information.
- **Sector Benchmarking and Peer Comparison:** Targeted scans of comparable municipalities are conducted to identify effective practices and to contextualize the findings within the broader municipal sector.

This layered methodology is particularly effective in uncovering gaps between planning and delivery, identifying misalignment between internal and external narratives, and validating the significance of observed challenges. By integrating diverse data sources into a unified evidence base, Municipal VU delivers findings that are analytically rigorous, operationally grounded, and tailored to the specific conditions of the city.

## 2.1. Discovery Methodology

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This section documents Municipal VU's approach related to discovery phase of the project. The discovery phase establishes a comprehensive understanding of the series of snow events in February 2025, the City's response, and the broader operational environment. Information was collected to help understand and analyze what was planned (procedures and standards) and what occurred (records). The discovery phase is foundational to ensure that both quantitative and qualitative evidence are captured before moving to diagnostic analysis.

The results of the discovery phase led to the compilation of facts in Section 4 describing the February 2025 Major Snow Event, Section 5 showing comparative research results, and Section 6 diagnosis from the review overall.

Sections 2.1.1 to 2.1.5 describe the types of information that were collected during the discovery phase and a summary information provided is included in Appendix A. Online sources are listed in Appendix C.

### 2.1.1. Document Review

Numerous documents were reviewed by the Municipal VU team regarding the February 2025 major snow event and the City's winter maintenance program, including the following:

- Staff Reports to Council;
- Previous Consultant Reports;
- Auditor General Reports;
- Level of Service Documents;
- Staff Presentations;
- Manuals and Standard Operating Procedures;
- Bylaws;
- Winter Maintenance Contracts;
- Meeting Minutes;
- Emails;
- Councillor Advisories and Updates;
- Media Advisories and Bulletins;
- Patroller End of Day Reports; and
- Internal After-Action Reports.

### 2.1.2. Data Analysis

The Municipal VU team reviewed and analyzed a wide range of data, with a particular focus on the following comprehensive data sources:

- MyGeotab for telematics, fleet management solutions, and Automatic Vehicle Location (AVL) data.
- Maximo O&M Service Request Tableau Dashboard for work order, service request data and mapping.
- Master Tracker\_2025 Snow Removal Excel File for snow removal data.
- Snow Removal Work Order List Excel File for snow removal work order data exported from Maximo.
- Winter Operating Log Excel File for winter maintenance (excluding snow removal) work order data exported from Maximo.
- Major Storm Winter Activations Excel File for the summary of activation details that is provided to stakeholders during winter events.
- Winter Contracted Equipment List Excel File for identifying the equipment per contract area.
- 2020-2025 Winter Maintenance Contracts and Salt Expenditures Excel File for annual expenditure data.

The results of Municipal VU's data analysis are included as part of the findings that are presented throughout this report.

### 2.1.3. Staff Feedback

City staff planned, managed, executed and debriefed the City's response to the February 2025 major storm event. As such, they possess a valuable and unique perspective about the events that unfolded and areas for improvement. Staff shared information and insights with the Municipal VU team through a series of meetings, workshops and site tours, as summarized below. Their comments were synthesized thematically and informed the findings of this report.

#### Introduction Meeting with Key City Staff and the Municipal VU Team – May 14, 2025

At this introductory meeting the Municipal VU team reviewed and confirmed the project approach and logistics with the City Manager; Deputy City Manager, Infrastructure Services; General Manager, Transportation Services; and Director, Transportation Operations and Maintenance. Municipal VU provided a request for information to the City that included a comprehensive list of documents and data to support this review. A listing of information **provided is included in Appendix A.**

#### Meeting with Director, Operations and Maintenance – May 21, 2025

At this half-day meeting, the Municipal VU team worked closely with the Director, Operations and Maintenance and the Senior Project Manager, Strategic Management Office to review the historical context of the City's winter maintenance program and specific details related to the February 2025 major snow event. City staff shared valuable information and timelines and discussed some of the documents and data sources to be provided as part of Municipal VU's



request for information. The meeting ended with a site tour of Transportation Services' Murray Road Yard.

#### Meeting with General Manager, Transportation Services – May 22, 2025

The Municipal VU team met with the City's General Manager, Transportation Services to discuss her views on the February 2025 major snow event including what worked well, what did not work well and any early ideas for changes or improvements. The General Manager also provided some historical context regarding changes in the division over the recent past.

#### MyGeotab and Maximo Group Meeting – May 27, 2025

The Municipal VU team met with Transportation Services technical and contract management staff to discuss how they use MyGeotab and Maximo software. The team also discussed how winter activations are initiated and details regarding patrollers.

#### Tours with Transportation Services Managers – May 28, 2025

The review team did site walkthroughs and curbside observations at several depots including:

- 320 Bering Avenue
- 677 Wellington Street West
- 40 Boncer Drive
- 1116 King Street West

The team also toured the city to observe, measure, and/or photograph Snow Dump Site 1, and a sampling of all road classes, bridges, cycling infrastructure, sidewalks, laneways, transit stops, and crosswalks. The team also observed signage, neighbourhoods in a variety of contract areas with particular storage and access challenges, arterials and collectors with traffic calming features, permanent patios, Zicla platforms, and narrow right-of-ways.

#### Meeting with Fleet Services – June 2, 2025

The Municipal VU team met with the General Manager, Fleet Services and Director, Fleet Maintenance to discuss the February 2025 major snow event as it related to the City's fleet. Fleet Services shared information about equipment issues and repairs, particularly related to the mechanical sidewalk plows. After the meeting, Fleet Services shared their summary of findings including their equipment and repair analysis, challenges, and after-action reviews.

#### Preliminary Data Review Results – June 3, 2025

The Municipal VU team presented the preliminary results from the data analysis with Transportation Services staff. Feedback and clarifications were received and Municipal VU worked to update the results in preparation for the Manager's Workshop.

#### Manager's Workshops – June 4 and 11, 2025

The Municipal VU team facilitated a workshop (over two days) with Operations and Maintenance



Managers, Senior Project Managers and Supervisors within the Transportation Operations and Maintenance group. The team presented the project overview, workplan, issues identified to-date and preliminary opportunities. The majority of the time was spent in an interactive discussion surrounding the issues and opportunities identified. City staff provided valuable context, feedback and additional ideas for consideration by the Municipal VU team. City staff also shared their own presentation highlighting lessons learned, their interim snow removal plan and ongoing updates to the Major Snow Event Response Plan.

#### Contractor Meeting – June 16, 2025

The Municipal VU team met with the City's snow removal contractors to discuss their impression of the February 2025 major snow event, including what worked well, what challenges were encountered, and potential areas for improvement. Contractors also shared input on operational coordination, equipment usage, deployment timing, contract structure, communication practices, and data sharing processes.

#### SPEC Meeting – July 2, 2025

The Municipal VU team met with members of the Strategic Public and Employee Communications (SPEC) team to discuss communications related to the February 2025 major snow event. The discussion covered media relations, public messaging challenges, terminology, social media engagement, approval processes, staffing, and innovative outreach efforts.

### 2.1.4. Council Engagement

Members of Council were engaged to provide feedback regarding the City's winter maintenance program and the major snow event of February 2025. A summary of ways in which the Municipal VU collected feedback from the Mayor and Councillors is outlined below. The valuable feedback provided by Members of Council was synthesized thematically and helped to inform this report. Municipal VU is appreciative to the Mayor and Councillors for their thorough and thoughtful insights.

#### Interview with the Mayor's Office – June 5, 2025

Municipal VU met with staff from the Mayor's office to get firsthand account of the types of issues that were coming into her office and to understand from their perspective what work and didn't work during the storm event. The discussion also included any potential ideas for improvement that they may have or changes that could or should be made in the short term and the longer term.

#### Interview with the Chair of the Infrastructure & Environment Committee – June 9, 2025

Municipal VU met with the Chair of the Infrastructure and Environment Committee to get firsthand account of the types of issues that were coming into her office and to understand from their perspective what work and didn't work during the storm event. The discussion also

included opinions regarding contractor performance, opinions regarding the balance between public and private service delivery, and what improvements should be considered going forward.

#### Interview with the Chair of the TTC and TAAC – June 9, 2025

Municipal VU met with the Chair of the TTC, who is also the Chair of the Toronto Accessibility Advisory Committee (TAAC) and his staff to understand the difficulties that were experienced by the TTC and its riders. The discussion also involved a perspective on the challenges that were experienced by members of the public who have accessibility issues.

#### Councillor Survey – June 10 to 18, 2025

An online survey was distributed to the Mayor and Members of Council in June 2025 to gather feedback on the City's winter maintenance program, with a focus on experiences during and after the February 2025 storm events and opportunities for improvement. The survey received a 42 percent response rate, with 11 responses submitted out of 26 possible. Further details about the results from the survey are included in Section 4.4.3.a).

#### Toronto Accessibility Advisory Committee (TAAC) Meeting – June 23, 2025

Municipal VU attended the June 23, 2025, TAAC meeting to give the committee a brief overview of the project and ask for any feedback that they may have related to the storm event.

#### Emailed Comments from Councillors

In addition to responding to the Councillor survey, some Members of Council shared feedback with Municipal VU via email. Emails with descriptions of issues and photos were received by Municipal VU and helped to improve the team's understanding of issues encountered in different parts of the City.

#### Review of Council Meeting Videos

In addition to the items described above, the Municipal VU team also reviewed several Committee and Council meetings specific to this storm and over the last several years that involved discussions about the City's winter maintenance program and associated service levels. Reviewing these historical meetings, in conjunction corresponding reports, provided the team with context regarding the evolution of the City's winter maintenance program.

## 2.1.5. Comparative Research

Municipal VU conducted a comparative analysis of practices from leading cities, using storm severity-adjusted metrics where available (e.g., plow deployment timing, sidewalk clearing standards, residential street clearing strategies).

The goal was to benchmark the City's storm response against recognized North American municipal leaders in winter maintenance, including Montreal, Ottawa, Chicago, Minneapolis–St. Paul, and Buffalo, identifying practices that have proven successful in similar or even more extreme conditions.

## 2.2. Diagnosis Methodology

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This section outlines the Municipal VU methodology for the diagnostic phase of the review. Drawing on the Mixed Methods Analysis described in Section 2.1, this phase synthesized data and insights from the array of qualitative and quantitative sources into a structured diagnostic framework. Wherever possible, observations were corroborated across multiple sources to ensure consistency and validity.

The diagnostic process proceeded through the following key stages:

- Development of key findings, where observed strengths and challenges were categorized thematically based on emerging patterns from the data, including consideration of risk. Descriptions of each finding are provided, supported by evidence, examples, or triangulated insights from multiple sources. These findings were grouped under major operational and organizational themes relevant to the City's winter service delivery context.
- Identification of core issues, where an iterative root cause analysis process helps identify deeper, systemic drivers that may be underlying the observed challenges. This included facilitated team discussions, structured evaluation of findings, and an operational cause and effect analysis.
- Formulation of improvement opportunities, where preliminary solutions to address core issues and other challenges are developed. Building on the identified strengths where possible, these opportunities are designed to be practical, scalable, and aligned with the City's operational environment, drawing from the Municipal VU team's operational and winter service experience and leading practices.

## 3. About Toronto Winter Maintenance Services

Winter maintenance of the public right-of-way is an essential municipal service provided by the City's Transportation Services Division. With an overall annual winter maintenance budget of \$143.8 million<sup>iii</sup>, Transportation Services manages anti-icing, salting, snow clearing (plowing) and snow removal operations for 14,700 lane-km of roads, 7,900 km of sidewalks, and 487 lane-km of cycling infrastructure and major trails.<sup>iv</sup> All assets in the transportation network are maintained, including assets requiring special care such as bridges, cycling infrastructure, traffic calming, and safety features.

The overall service goal in the winter is to provide safe and passable conditions in the transportation system. The disruptions to daily life caused by winter weather are aimed to be mitigated by addressing the needs of all right of way users, including motorists, cyclists, pedestrians, individuals using mobility devices, and those using other forms of active transportation.

Winter maintenance services are provided by in-house staff and contract crews who are on call with necessary equipment between October 15 to April 15 each year.

This section provides a factual background of the City's winter maintenance services, including information about the evolution of changes in winter services, levels of service to the community, budget, service model, bylaws, and operational plans and processes.

### 3.1. History

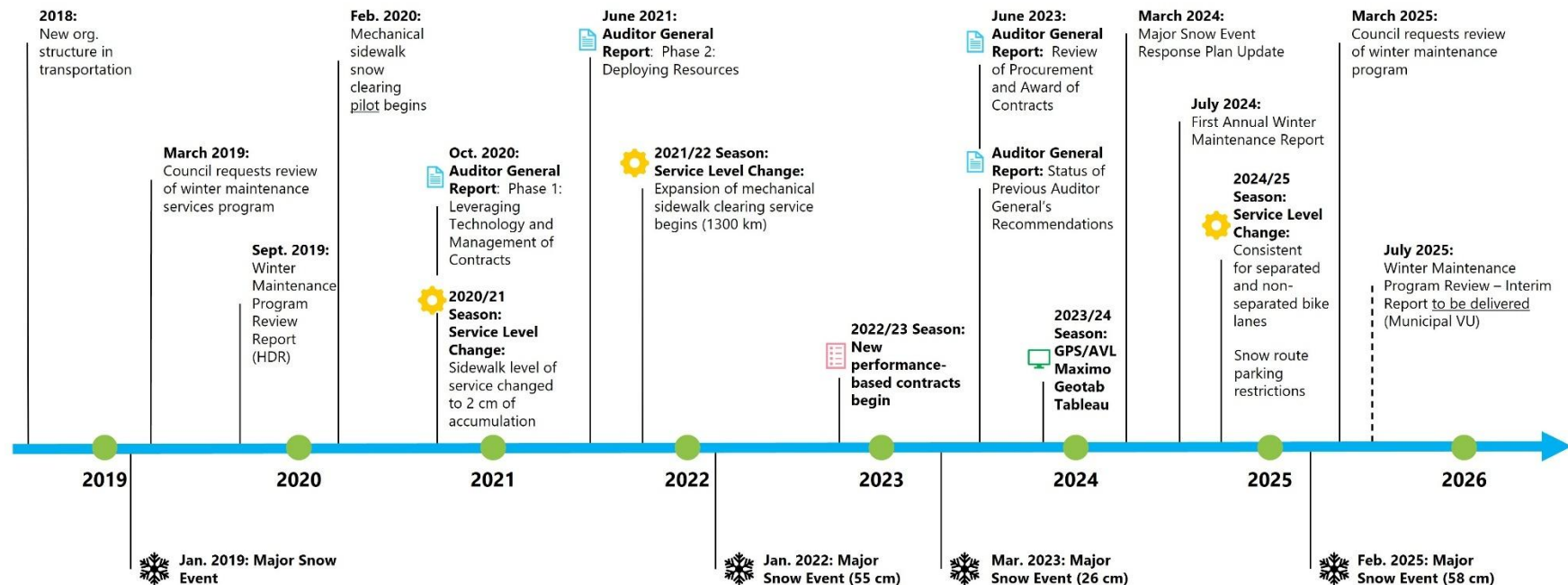
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The delivery of the City's winter maintenance program has continually evolved over the recent past. Since 2018, the following milestones, opportunities and challenges have occurred:

- Divisional re-organization (2018);
- Program review study (2019);
- Several audits by the Auditor General (2020, 2021, 2023);
- Execution of new performance-based winter contracts (December 2021);
- Several service level changes;
- Four major snow events (2019, 2022, 2023 and 2025);
- Several other changes to address Auditor General recommendations, Consultant recommendations, and continuous improvement initiatives.

These milestones, as illustrated in Figure 2, have generated numerous recommendations and areas for improvement that have shaped the operations of the winter maintenance program as it exists today.

Figure 2: Milestones in Toronto Winter Maintenance History (2018-2025)



### 3.1.1. Program Review Report

Following the major storm event in 2019, the Mayor and Council requested a comprehensive review of the City's winter services maintenance program. Transportation Services engaged HDR Inc. to undertake this review.

HDR's Winter Maintenance Program Review Report (September 2019) found that the City's levels of service for winter maintenance met or exceeded those of their Greater Toronto and Hamilton Area (GTHA) peers. At the time of HDR's report, there were approximately 1,400 km of sidewalks not included in the City's sidewalk clearing program due to narrow widths, encroachments and equipment limitations. HDR made recommendations to explore if the City's sidewalk clearing program could be expanded to include all sidewalks. These recommendations set the stage for the mechanical sidewalk clearing pilot program that ran during the 2019/2020 and 2020/2021 winter seasons and the subsequent level of service changes for the 2021/2022 season.

In total, HDR's report identified 11 recommendations related to sidewalk levels of service, the winter fringe period (events outside of mid-November to mid-April), and public communications.

### 3.1.2. Auditor General Reports

Four Auditor General reports have been published related to the City's winter maintenance program since 2020. A brief synopsis of each of these reports and their findings is provided below.

#### 1. Audit of Winter Road Maintenance Program – Phase 1: Leveraging Technology and Improving Design and Management of Contracts to Achieve Service Level Outcomes

This audit was completed in October 2020 and its objectives included determining whether the Transportation Services Division:

- i. Met the council-approved service levels for winter road maintenance, and
- ii. Managed contracts, evaluated contractor performance, and held contractors accountable in accordance with the contract terms.

The audit report included 22 recommendations related to modernizing Transportation Services' winter maintenance program, resolving contract management and contractor performance issues, and measuring and meeting the Council approved service levels.

#### 2. Winter Road Maintenance Program – Phase 2 Analysis: Deploying Resources

This audit was completed in June 2021 and its objectives included:

- i. Determining whether the best value for money is provided through the contracted services model, or if it would be more cost-effective to perform winter services in-house using City equipment and staff, and
- ii. Identifying opportunities for improved efficiency and cost effectiveness in managing the contracted services model (e.g. cost drivers).

The audit report included four recommendations related to the procurement process for the new winter maintenance contracts.

### 3. A Review of the Procurement and Award of the Winter Maintenance Performance-Based Contracts

This report was completed in June 2023, and its purpose was to assess whether the City's Negotiated Request for Proposal (NRFP) procurement process for the new winter maintenance vendors was conducted in a fair, open, and transparent manner.

This report includes 16 recommendations that focus on continuous improvement of the NRFP process, technical proposal requirements, and evaluation criteria, with the goal of keeping as many suppliers as possible through the evaluation stages and achieving the best possible outcomes and value for the City.

### 4. Winter Road Maintenance Program Follow-Up: Status of Previous Auditor General's Recommendations & Processes to Hold Contractors Accountable to New Contract Terms

This report, also completed in June 2023, provides the status of recommendations from two previous Auditor General's reports on the City's winter maintenance program, including Transportation Services' processes to hold winter maintenance contractors accountable to the new contract terms.

The audit report includes four new recommendations that can help management in measuring performance using technology to modernize and improve efficiency of processes, holding contractors accountable, and ensuring Transportation Services pays contractors in accordance with the contract terms.

## 3.1.3. Performance Based Winter Maintenance Contracts

Based on Transportation Services' review and industry consultations, it was determined that amendments were required to the procurement strategy for the next round of winter maintenance contracts (awarded in December 2021 to begin for the 2022/23 season).

Key changes of the new contracts included:<sup>v</sup>

- Consolidated Contract Areas: Previously, the City had 47 winter maintenance contracts covering different areas and different infrastructure types. For the new contracts, the City was divided into 11 geographic contract areas that consolidated operations for all road



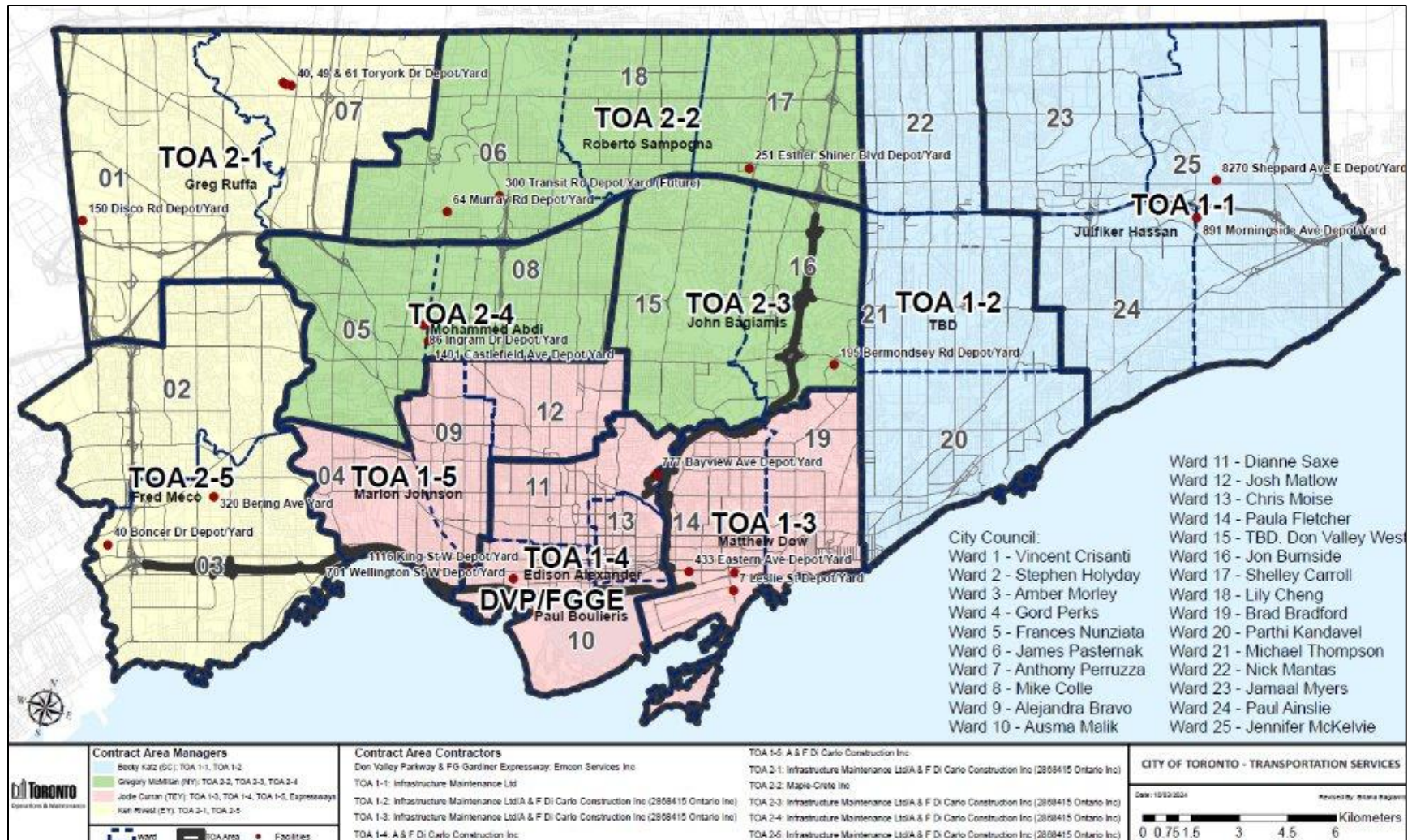
classifications, sidewalks and cycling infrastructure within each area (with exception of the approximately 1,400 kms of sidewalks that are cleared by in-house staff). According to management, this enabled staff to better collaborate with Contractors to improve the quality and performance with a goal of servicing all modes of transportation in an equitable and consistent manner.

- **New Procurement Approach:** Utilizing an NRFP procurement process, rather than a traditional RFT process, provided an opportunity to leverage the industry's expertise by requesting Vendors to submit a proposal with potential innovative solutions and volume discounts.
- **Performance Based:** The new contracts are performance based and contain metrics to hold Contractors accountable to contract requirements. Contractor payment is based on meeting levels of service, not hours worked.
- **Equitable and Consistent Services:** The ten non-expressway contract areas cover all modes of transportation in an equitable and consistent manner.
- **Leveraging Technology:** All winter maintenance equipment is installed with City-authorized GPS/AVL devices. The intent of the GPS data is to verify payments, verify service levels and track equipment locations and activations.
- **Flexibility to modify contractual winter season:** Where feasible, the contractual winter season may be modified to better react to uncommon storms and generate potential savings.

In total, 11 contracts were awarded to service the areas illustrated in Figure 3. The colour coding on the map, indicates the manager that is responsible for that area.



Figure 3: Winter Maintenance Contract Areas



### 3.1.4. Updated Service Levels

Since 2019, several winter maintenance service level changes have been approved by Council, including the following:

- 2020/21 Season: Harmonized service levels for sidewalks are adopted. Snow clearing is now initiated on low volume sidewalks at a 2 cm of snow accumulation (previously 8 cm) to improve equity of service, safety, and pedestrian mobility.<sup>vi</sup>
- 2021/22 Season: Expanded mechanical sidewalk clearing service for all City sidewalks begins.<sup>vii</sup>
- 2024/25 Season: A consistent level of service for salting and plowing of separated and non-separated bike lanes begins<sup>viii</sup>. Dedicated equipment clears snow off all cycling infrastructure beginning when there is at least 2 cm of snow on the ground and completed within a maximum of 8 hours.

### 3.1.5. Operational Changes and Tools

As a result of HDR's Program Review Report, the Auditor General's recommendations, and Transportation Services' review and industry consultations, a number of operational changes and tools were implemented over the last several years in conjunction with the new performance-based contracts.

These changes include:

- GPS/AVL devices: As of the 2023/24 season, GPS/AVL devices were installed in all 1,200+ pieces of contracted winter maintenance equipment.<sup>ix</sup> These devices are used to monitor contracted equipment by tracking start and end times, routes completed within the maximum operating time, missed streets, equipment locations during operations and standby periods. This technology is also used to verify vendor invoicing and collect information required for responding to claims.<sup>x</sup>
- Transportation Winter Operations Dashboard: The Winter Operations Dashboard, implemented in the 2023/24 season, is intended to enable City staff to monitor contractor performance in real-time using GPS technology and download automatically generated verification reports. The Dashboard was developed by the City's GPS vendor, GeoTab, in conjunction with Deloitte and will eventually be managed in-house.<sup>xi</sup>
- Enterprise Work Management System (EWMS): The EWMS was implemented in the 2023/24 season along with a new Winter Maintenance Contract Administrative Manual. Together these tools help ensure consistency between staff who manage the 11 winter maintenance contracts.

- Maximo O&M Service Request Tableau Dashboard: The Service Request Tableau Dashboard was implemented in the 2023/24 season for service request data and mapping.

### 3.1.6. Major Snow Events

Since 2019, the City recorded four major snow events with accumulations in excess of 25 cm, as listed in Table 1.

Table 1: Major Snow Events 2019 to Present

Date	Snowfall (cm)
January 28-29, 2019	33 cm
January 16-17 2022	55 cm in 15 hours
March 4, 2023	26 cm in 24 hours
February 8-16, 2025	58 cm total from 3 storms over 9 days

Each major snow event represented an opportunity to test the City's winter maintenance program, and each resulted in several lessons learned and associated improvements. Many of these improvements are described further in this report.

The first major snow event since the commencement of the new contracts occurred in March 2023; however, at 26 cm of accumulation the event was just over the threshold of a major snow event. The February 2025 major snow event, with an accumulation of 58 cm from three back-to-back storms over nine days, represented a more significant challenge of the winter maintenance program and the new performance-based contracts. Further details about this storm are included in Section 4.

## 3.2. Service Levels

### 3.2.1. Winter Services Overview

From November through April, the City delivers 24-hour winter operations to maintain safe and passable transportation networks. Services include anti-icing, salting, plowing, and snow removal, and involve a complex, coordinated effort involving front-line operators, patrollers, fleet mechanics, communications and finance staff, operations coordinators, and more. The City uses a combination of internal crews and contracted resources to deliver services, guided by weather forecasts, road condition monitoring, and legislated response timelines. Field activity and vehicle movements are tracked and logged through dedicated software and GPS, providing records to support operational decisions, performance oversight, and due diligence.



### 3.2.2. Minimum Maintenance Standards

Ontario Regulation 612/06 establishes the minimum maintenance standards for different road classifications in the City of Toronto under the City of Toronto Act, 2006. Under the regulation, roads are organized into classes based upon posted speed limits and average annual daily traffic. For example, all roads with speed limits of 100 km/hour are Class 1 Highways and a road with a speed limit of 40 km/hour with 500-999 motor vehicles passing per day is considered a Class 5 Highway.

The City must monitor weather, and must patrol roads at defined frequencies during winter, either by physically driving routes or using reliable technology like road sensors and weather monitoring systems. These patrols help identify when roads become icy or snow-covered so that treatment can begin as soon as reasonably possible.

When ice is present or expected, the City must begin treatment, such as spreading salt, within 3 hours of becoming aware of the condition. When snow begins to accumulate, snow plowing must start within specific timeframes depending on the class of the road. The more important or busier the road, the faster and more thoroughly it must be cleared.

There are defined limits on how much snow can be allowed to build up before action is required.

- For Class 1 roads, such as expressways like the Don Valley Parkway, the City must act when snow depth reaches 2.5 cm. Subsequently, after the snow has stopped, the City is required to reduce the snow depth to 2.5 cm or less within 4 hours.
- For Class 2 roads, the maximum depth is 5 cm, and snow must be reduced to this level within 6 hours after the end of snowfall.
- For Class 3 roads, the maximum depth is 8 cm, and snow must be reduced to this level within 12 hours after the end of snowfall.
- For Class 4 roads, the maximum depth is 8 cm, and snow must be reduced to this level within 16 hours after the end of snowfall.
- For Class 5 roads, which are low travelled local roads, the maximum depth is 10 cm, and snow must be reduced to this level within 24 hours after the end of snowfall.

Clearing requirements for snow accumulation on bicycle lanes are also included.

During severe weather, these requirements are challenging to uphold, where the regulation defines a "significant weather event" as *"an approaching or occurring weather hazard with the potential to pose a significant danger to users of the highways within the City."*<sup>xiii</sup> When a significant weather event has been declared, such as the February 2025 storm, these minimum requirements are suspended.

### 3.2.3. Approved Service Levels

The City has established Council-approved service levels for snow clearing operations, and it should be noted that the City's Council-approved service levels meet or surpass all of the minimum requirements of O. Reg. 612/06. The City's winter maintenance service levels have changed over time, so Table 2 illustrates the City's current levels of service for snow clearing activities for regular winter maintenance operations, adopted by Council on July 24-25, 2024<sup>xiii</sup>. These service levels also serve as the contractors' contractual obligations.

Table 2: Winter Maintenance Service Levels (2024)

Activity	Initiation Level	Notification Period	Mobilization Period	Maximum Operating Time	Required Outcome
<b>Direct Liquid Application</b>					
<b>Expressway / Arterials / Collectors</b>	As Required	1 hour	30 mins	6 hours	Visible Salt Residue Per Lane
<b>Salting Operations</b>					
<b>Expressways</b>	< 2.5 cm	15 mins	30 mins	2 hours	Bare Pavement
<b>Arterials</b>	< 5 cm	15 mins	30 mins	4 hours	Bare Pavement
<b>Collectors</b>	< 8 cm	1 hour	30 mins	4 hours	Centre Bare
<b>Local Roads</b>	< 8 cm	1 hour	30 mins	8 hours	Safe and Passable
<b>Laneways</b>	24 hours from end of snowfall				Safe and Passable
<b>Plowing Operations</b>					
<b>Expressways</b>	2.5 cm	1 hour	30 mins	2 hours	Bare Pavement
<b>Arterials</b>	5 cm	1 hour	30 mins	6 hours	Bare Pavement
<b>Collectors</b>	8 cm	1 hour	30 mins	8 hours	Centre Bare
<b>Local Roads</b>	8 cm	2 hours	30 mins	14 hours	Safe and Passable
<b>Windrow Clearing</b>	Windrow height exceeds 25 cm	N/A	N/A	Same as adjacent roadway plus 2 hours	Safe and Passable
<b>Combined Salting &amp; Plowing Operations</b>					
<b>Sidewalks</b>	2 cm	2 hours	30 mins	12 hours	Safe and Passable
<b>Bus Stops &amp; Pedestrian Crossovers</b>	2 cm	2 hours	30 mins	12 hours	Safe and Passable
<b>Separated Cycle Tracks &amp; Multi-use Paths</b>	2 cm	1 hour	30 mins	8 hours	Bare Pavement
<b>On-road Cycle lanes</b>				8 hours	Safe and Passable
<b>Hand Crew</b>		2 Hour	30 mins	Same as Work Area	

**Notes:**

1. The City may initiate salting or plowing earlier than the indicated standard.
2. Following plowing operations on expressways, arterials, collectors, and locals, the Contractor is required to salt the

infrastructure at no additional cost to the City.

3. *Bare Pavement means pavement conditions whereby 90% of all pavement is free of snow, slush, and ice.*
4. *Centre Bare means pavement conditions whereby 90% of all pavement on the lanes adjacent to the centre line is free of snow, slush, and ice, and any remaining lanes must be safe and passable.*
5. *Safe and Passable for on-road cycle lanes (also known as non-separated bike lanes) means pavement conditions whereby all loose snow, slush and ice are pushed aside to provide a path with 60% of the infrastructure as Bare Pavement. Snow pack conditions may be present on those areas that are not required to be Bare Pavement.*
6. *Separated cycle tracks must be cleared by the Contractor as part of adjacent sidewalk Operations. Bare Pavement for separated cycle tracks means pavement conditions whereby 90% of all Pavement is free of snow, slush, and ice.*

Definitions for the table headings are:

- **Initiation Level:** The level of accumulation at which an activity is initiated.
- **Notification Period:** the time period specified for the Contractor to have operators report to and/or be available in all Depots to operate Equipment activated during a Winter Event, commencing immediately after the Contract Administrator has called the Contractor to activate Equipment for Winter Maintenance Services.
- **Mobilization Period:** the 30-minute time period, commencing immediately after the expiry of the Notification Period, during which the Contractor must load material and have all Equipment depart from all Depots.
- **Maximum Operating Time:** The maximum time required to perform Operations to meet the applicable Service Level requirements.
- **Required Outcome:** The required performance outcomes.

### 3.2.3.a) Service Levels During Significant Weather Events

As described in Section 3.2.2, when a significant weather event is declared, regular service levels are suspended as the City focusses on clearing priority routes such as major roads and emergency routes first. At present, there are no Council-approved service levels for significant weather events.

It is not typical for municipalities to publish fixed targets for when roads, sidewalks, or cycling infrastructure will be cleared during or following significant weather events, as variable conditions make it impractical or unsafe to meet standard thresholds. In these events, operational priorities may shift dynamically based on storm severity, weather conditions (winds/drifts, extreme temperatures) and resource availability. Publishing rigid service level targets during these events may misrepresent the City's ability to respond adaptively and could undermine public understanding of the flexibility that is built into the regulatory framework.

## 3.3. In-house and Contracted Service Delivery

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The City's winter maintenance services are provided by in-house staff and contractor crews who are on call with necessary equipment between October 15 to April 15 each year.

### 3.3.1. Snow Clearing

As described in Section 3.1.3 and in Figure 3, the City is divided into 11 contract areas for winter maintenance services. Within each area, the Contractor is responsible for snow clearing operations including anti-icing, salting and plowing for all roads, bus stops, pedestrian crossovers, cycle tracks and multi-use paths. In most contract areas, the Contractor is also responsible for salting and plowing operations for sidewalks, however, there are approximately 1,461 km of sidewalks cleared by City crews (1,350 km mechanically cleared and 111 km manually cleared).<sup>xiv</sup>

Sidewalks cleared by City crews are located in the following areas:

- Contract Areas 1-3, 1-4, and 1-5: Sidewalks on local roads are cleared by City crews (arterial and collector sidewalks are treated by the Contractor);
- Contract Areas 2-3 and 2-4: A small portion of local sidewalks are cleared by City crews (remaining locals and arterials and collectors are treated by the Contractor).

### 3.3.2. Snow Removal

During a Major Snow Event, the focus of the staff and contractors is to carry out snow removal throughout the City, where snow storage in the ROW has reached capacity. Managers in Operations and Maintenance essentially divide the City up and each focus on priority areas for snow removal, and like snow clearing, approximately 30% of snow removal operations are conducted by in-house Transportation Services crews and approximately 70% by contractor crews 70%).<sup>xv</sup>

## 3.4. Major Snow Event Response

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### 3.4.1. Major Snow Event Response Plan

In March 2024 the GM of Transportation Services presented to the Infrastructure and Environment Committee a report outlining the Major Snow Event Response Plan (MSERP), outlining the concept and the approach to dealing with such events. In July 2024, the GM of Transportation Services brought a further update of the plan and detailed the status of the plan and the outstanding items that were still to be completed or further refined before the 2024/25 winter season. Figure 4 below describes the guiding principles of the MSERP, and this figure is further described below.<sup>xvi</sup> It should be noted that Transportation Services did have an existing plan that was called the Extreme Winter Weather Plan, and this had not been updated for over 10 years. The 2024/25 winter season was the first year for the new MSERP.

Figure 4: Guiding Principles of the Framework for the Major Snow Event Response Plan



When developing a snow removal operations plan for a major snowstorm event, staff apply the guiding principles approved by City Council in July 2024 (Annual Winter Maintenance Report) known as the Major Snow Response Principles:

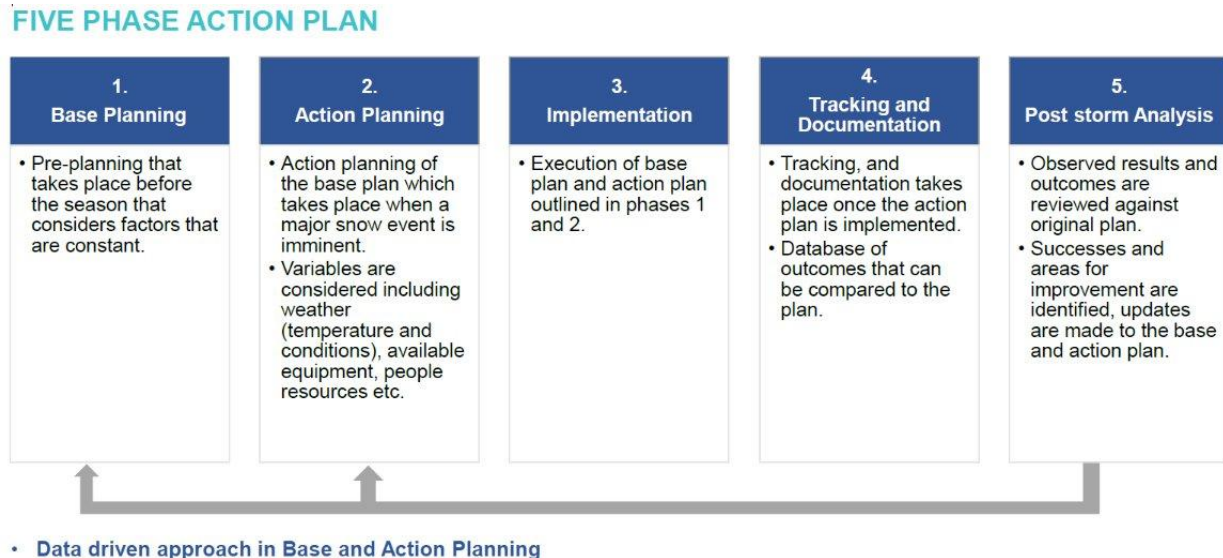
1. Safety – Prioritize snow removal in areas that present the greatest safety risks.
2. Access – Minimize the time to remove snow-related barriers to emergency and essential services, including transit routes and stops.
3. Mobility – Ensure that snow removal activity serves everyone in a way that recognizes the needs of each mode of travel.
4. Environment – Mitigate operational impacts on the environment while facilitating safe travel paths. Preserve snow covering on natural landscaping where possible
5. Efficiency – Optimize operations to minimize the duration of disruption caused by major snow accumulation, leveraging existing resources to their optimum level. Engage the public in removing obstructions (such as parked cars) as required.
6. Communication – Communicate clearly with the public on multiple platforms and in multiple languages to advise of progress in removing snow and to manage expectations for timing of snow removal. Coordinate action among City staff, service providers and partner agencies.

The MSERP is designed to be an iterative process where the framework and criteria are updated when patterns are observed and opportunities for improvement are identified. The plan takes a proactive approach to public communication and a systematic response to remove snow, to increase public confidence in the system.<sup>xvii</sup>



Figure 5 describes the five phases of the Major Snow Event Response Plan.

Figure 5: Five Phase Activation Plan<sup>xviii</sup>



### 3.4.2. Severe Weather Event Communications Strategy

As described in the January 16-17, 2022 Major Snow Event Post-Operational Report,<sup>xix</sup> the City has developed a Severe Weather Communications Strategy that is utilized during a severe weather event, specifically when a major snowstorm condition is declared or there is significant rainfall/flooding. Strategic Public and Employee Communications (SPEC) mobilizes a dedicated team to oversee communications before, during and after a severe weather event. The severe weather communications plan recognizes that major snow removal operations must be clearly explained in advance, including how parking bans, towing and snow route restrictions help crews access buried curb lanes. When storage space in the ROW is overwhelmed, the City must communicate realistic timelines for when snow piles will be cleared from streets, sidewalks, bike lanes and transit stops.

### 3.4.3. Extreme Winter Weather Coordination Plan

As described in the Major Snow Event Response Plan Update Report,<sup>xx</sup> the Toronto Emergency Management (TEM) office developed an Extreme Winter Weather Coordination Plan which can call upon an interdivisional/inter-agency Incident Management Team to support the response to extreme winter weather. The Major Snowstorm Event Response Plan is intended to integrate and communicate with TEM on the snow clearing and snow removal aspect of that response.

## 3.5. Snow Removal

Snow removal involves the physical removal of snow through the use of snow blowers, front end loaders and dump trucks, as illustrated in Figure 6. Removed snow is transported to one of the City's five designated snow storage sites.<sup>xxi</sup> Snow removal is a completely different operation from snow clearing and is utilized when there is no longer any storage capacity in the ROW to store snow that has been cleared. It is an arduous and time-consuming operation and the City has only had to carry out full scale snow removal operations previously in the 2019 winter storm and the 2022 winter storm.

Figure 6: Photo of Snow Removal Operations



*Source: City of Toronto Transportation Services Winter Services Guide 2024-2025*

At present, there are no Council-approved service levels or performance metrics for snow removal operations. Snow removal operations are provided by the City's current contractors on a 'time and materials' basis (ad hoc emergency basis) and the current contract does not have stand-by or payment categories for these events.

The timeline for snow removal operations varies based upon several factors including the amount of snow accumulation, weather conditions, the amount of snow removal equipment available, the number of obstructions the equipment needs to work around (i.e. parked cars,

street furniture, utility infrastructure) and unique infrastructure characteristics such as monolithic sidewalks and boulevards.<sup>xxii</sup>

According to staff, full-scale City-wide snow removal operations may be initiated when there is a minimum of 25 cm of snow accumulation for a single event or combined accumulation from multiple events in a seven to ten-day period. City staff also consider the weather conditions and identify infrastructure where snow storage capacity is limited in accordance with the guiding principles of the Major Snow Event Response Plan. For events under 25 cm of accumulation, Transportation Services may initiate small-scale snow removal to ensure safety and accessibility for priority areas including sidewalks on bridge decks and cycling infrastructure.<sup>xxiii</sup>

### 3.5.1. Priorities

Based on the guiding principles of the Major Snow Event Response Plan, Transportation Services identified the following priority areas for snow removal:<sup>xxiv</sup>

- Main street sidewalks and around pedestrian signals;
- Surface transit stops, including streetcar and bus stops;
- Hospitals and emergency services stations including sidewalks and boulevards next to parking locations adjacent to hospitals;
- Pedestrian crossing intersections in school zones, school bus loading zones and on-street parking and loading in school zones, including the sidewalk and boulevards adjacent to these spaces;
- Bikeways to facilitate safe and passable cycling conditions, recognizing that bicycle design makes users of bicycles more vulnerable to slippery and uneven surfaces; and
- Roads with limited snow storage capacity, recognizing that certain roads have more snow storage capacity.

### 3.5.2. Equipment

Snow removal equipment is operated by:

- **Transportation Services:** Transportation Services operates an in-house fleet of snow removal equipment;
- **Contractors:** The City's winter maintenance contractors each have a fleet of snow removal equipment; and
- **Haulage Vendors:** Snow haulage services (dump trucks) are provided under a separate contract. The City nor the contractors have sufficient haulage vehicles to carry out this operation, so the Transportation Services Division's Haulage Contractor is enlisted to work along side the City and contractor crews.

Transportation Services owns and operates the snow removal equipment listed in Table 3.

Table 3: Transportation Services In-House Snow Removal Equipment<sup>xxxv</sup>

Equipment	Unit Count	Life Expectancy Details
<b>Front End Loaders</b>	Unit Count: 23 Spares: 3	Life Expectancy: 12 years <ul style="list-style-type: none"> <li>7 units are 14-15 years old</li> <li>7 units are 5-6 years old</li> <li>9 units are less than 4 years old</li> </ul>
<b>Skid Steers</b>	Unit Count: 10 Spares: 0	Life Expectancy: 12 years <ul style="list-style-type: none"> <li>All units are less than 4 years old</li> </ul>
<b>Tractors</b>	Unit Count: 15 (5 John Deere, 10 Kubota) Spares: 0	Life Expectancy: 12 years <ul style="list-style-type: none"> <li>John Deere units are all less than 3 years old</li> <li>Kubota units are less than 1 year old</li> </ul>
<b>Snow Blowers</b>	Unit Count: 20 Spares: 0	Life Expectancy: 15 years <ul style="list-style-type: none"> <li>2 are 17-18 years old</li> <li>14 are 14-15 years old</li> <li>4 are less than a year old</li> </ul>
<b>Melters</b>	Unit Count: 2 Spares: 0	Life Expectancy: Varies depending on usage

The Contractor's equipment list identifies the vehicles available for snow removal. The total quantity of equipment and those tagged for snow removal are summarized in Table 4. Roughly 12% of the contract equipment is identified for snow removal across all contract areas.

Table 4: Summary of Contractor Equipment

Contract Area	Total Contract Equipment	Snow Removal Equipment
DVP-FGGE	39	9
TOA1-1	186	15
TOA1-2	188	17
TOA1-3	99	22
TOA1-4	92	16
TOA1-5	92	19
TOA2-1	165	14
TOA2-2	168	7
TOA2-3	112	18
TOA2-4	126	17
TOA2-5	191	20
<b>Total</b>	<b>1458</b>	<b>174</b>



In a report to Council regarding updates to the Major Snow Event Response Plan (March 2024),<sup>xxvi</sup> Transportation Services reported that:

*"The amount of [snow removal] equipment the City owns is thought to be a reasonable balance between recovering the infrastructure in a timely manner and avoiding equipment sitting unused over the course of its lifespan. A larger on-hand fleet of snow removal equipment will increase annual costs of the winter maintenance program, with the only benefit being some possibility of restoring infrastructure a few days earlier after large storms, which may happen only rarely."*

### 3.5.3. Public Notification

Temporary orange signs, as illustrated in Figure 7, are used to communicate upcoming snow removal operations to local residents. The signs are posted by 8:00 p.m. the previous day if snow removal is being conducted during the day or by 3:00 p.m. the same day if snow removal is being conducted overnight.<sup>xxvii</sup> Parking on the road is prohibited until snow removal is completed and the signs are removed. Residents may also receive a knock on their door from crews requesting they move their vehicles for snow removal. In addition, snow removal operations are broadly communicated through media releases and the City's social media channels.

Figure 7: Example of Temporary Snow Removal Signage



Source: City of Toronto General Manager Updates to Councillors (emails of February 21 & 26, 2025)

## 3.6. Parking Bylaws

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Prior to Toronto's amalgamation in 1998, individual municipalities like North York had distinct winter parking bylaws. For example, North York enforced a ban on overnight street parking from 2:00 a.m. to 6:00 a.m. between December 1 and March 31 to facilitate snow plowing.

After amalgamation, the City began harmonizing some parking regulations across former municipalities. However, some legacy bylaws, such as North York's overnight parking ban, remained in effect in their respective areas.

In May 2015, the Toronto Municipal Code Chapter 950 §950-1316a introduced Schedule XViiA Parking and Standing During Snow Emergencies, a list of street segments that are snow routes (§950-406a).

In the October 2, 2019, winter maintenance program review, it was noted that the City was going to review how it declares major snow events and enforces parking restrictions to improve winter operations and prevent streetcar blockages.

In June 2022, the City amended its Snow and Ice Removal Bylaw to mandate property owners clear snow and ice from steps, driveways, parking spaces, and similar areas within 24 hours of snowfall.

In July 2022, changes to the Municipal Code (Chapter 950 Traffic and Parking) require no parking or standing during snow emergencies on set road segments 950-406 Schedule XVII (Feb 24 2021).

For the 2024–2025 winter season, the City implemented a new measure allowing the city to restrict parking on designated snow routes up to 72 hours before an anticipated heavy snowfall, under Toronto Municipal Code Chapter 950, Section 950-406. This proactive approach aimed to expedite snow removal on main roads.

- City Council approved amendments to allow for advance notification of a "*major snowstorm condition*" enabling residents to prepare for impending parking restrictions.
- The General Manager of Transportation Services was granted the authority to temporarily close roads for up to 24 hours between November 8 and April 7 in every year to facilitate snow removal operations.
- The criteria were revised to allow declarations based on forecasted weather hazards, not solely on actual snowfall accumulation, providing greater flexibility in managing snow events.
- During major snowstorm conditions, parking on designated snow routes is now prohibited, with violators subject to fines up to \$200 and potential towing.

As such, the City has continued to progressively update its winter parking regulations, especially after 2019, including:

- 72-hour parking bans on designated snow routes during declared major snow events.

- Authority to pre-emptively declare “*major snowstorm conditions*” based on forecast (not just snow already fallen).
- Expanded powers for temporary road closures during snow removal periods.
- Stepped-up enforcement (fines, towing) when bans are in effect.

However, some parking regulation remnants remain from pre-amalgamation municipalities.

- In the former North York district, overnight parking is generally prohibited, which differs from many other parts of the city and can confuse drivers unfamiliar with these localized restrictions. On the contrary, in the former Toronto and East York districts, overnight parking is often permitted but typically requires a permit.
- Many areas enforce alternate side parking rules, requiring vehicles to be moved to the opposite side of the street twice a month, commonly on the 15th and the last day of the month. However, the timing and frequency of these rules vary, with some areas enforcing them only during specific months. In certain neighbourhoods, such as the Danforth area, alternate side parking is rotated solely on a monthly basis, with the permitted side changing in specific months, such as May, July, September, and November, rather than within the month. Additionally, some streets prohibit parking on one side on certain days of the week, usually Wednesdays or Thursdays, to accommodate street sweeping or garbage collection.
- There are also rush hour parking restrictions, with signs indicating ‘No Parking’ during off-peak direction rush hours and ‘No Stopping’ during peak rush hour periods.

## 3.7. Budget

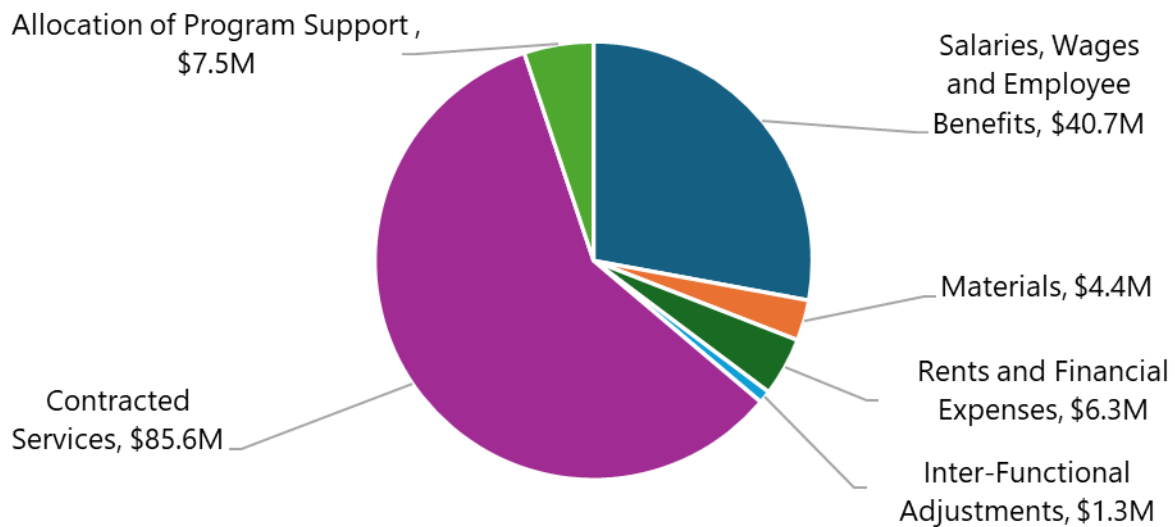
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The City allocates resources each year to ensure its infrastructure is cleared effectively and efficiently. According to the 2023 Financial Information Return (FIR), the total reported cost of delivering winter maintenance services in the City was approximately \$145.8 million after all adjustments. This includes a wide range of expense categories, such as salaries, wages, and employee benefits (\$40.7 million), materials like salt and abrasives (\$4.4 million), and contracted services (\$85.6 million), which account for the largest single line item. Other costs include rents and financial expenses (\$6.3 million) and internal allocations for program support (\$7.5 million).

The summary of these expenditures is provided in Figure 8.



Figure 8: Summary of 2023 FIR Winter Control Expenditures



The two of the larger external expenditure categories within the program are road salt and winter maintenance contracted services.

Figure 9 shows annual budgeted vs. actual expenditures for winter maintenance overall, from 2020 to 2025.

Figure 9: Annual Winter Maintenance Expenditures, 2020-2025

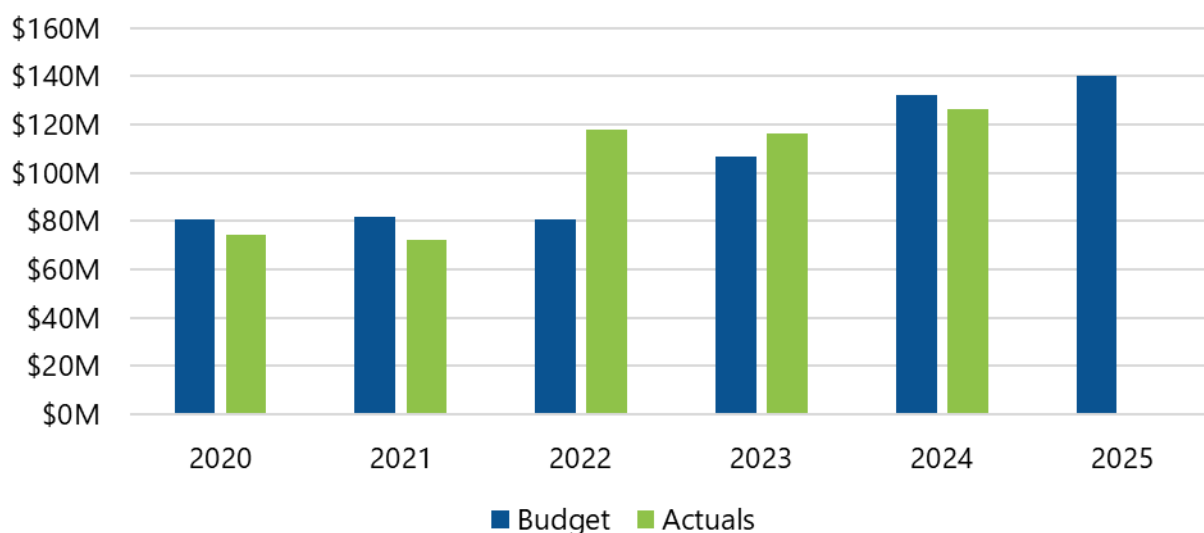


Figure 10 shows annual budgeted vs. actual expenditures for salt.

Figure 10: Annual Salt Expenditures, 2020-2025

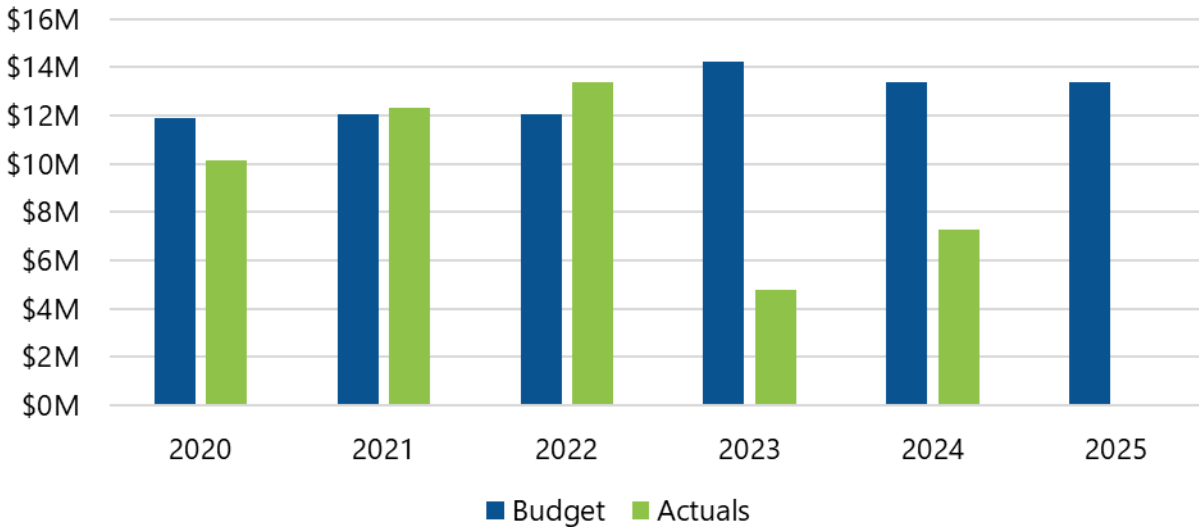
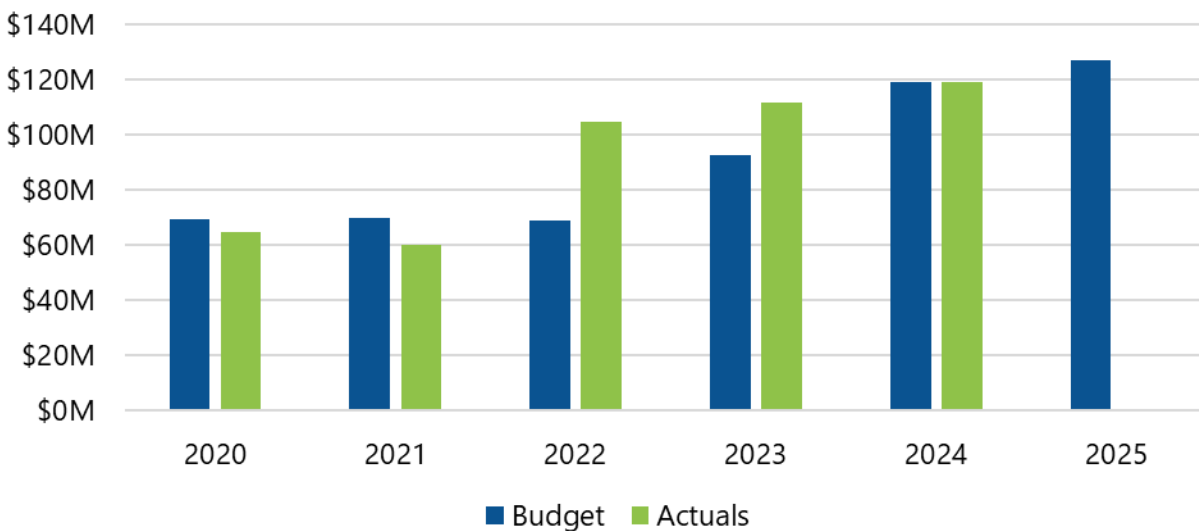


Figure 11 shows annual budgeted vs. actual expenditures for contracted services.

Figure 11: Annual Winter Maintenance Contract Expenditures



Variances between budgeted and actual expenditures in winter maintenance are common and largely driven by the unpredictable nature of winter weather. Annual snowfall amounts, storm frequency, temperature fluctuations, and the timing of major events can significantly influence the need for salt application and contracted services. For example, prolonged freezing rain or back-to-back snow events may require more intensive and sustained response efforts, leading

to higher-than-anticipated costs. Conversely, milder winters may result in underspending. Additionally, fluctuations in the unit cost of salt and changes in contractor rates or availability can further contribute to year-over-year budget deviations. While the City employs historical averages and contingency planning to develop its budgets, a degree of volatility is expected and should be interpreted in the context of these operational realities.

## 3.8. Continual Improvement

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As described in the previous sections, the City has undergone numerous changes in the last six years including audits by the Auditor General, the execution of new performance-based contracts, various service level changes and operational improvements. In addition to the changes described in Section 3.1, Transportation Services has also implemented the following improvements since the January 2022 major snow event.<sup>xxviii</sup>

- Created new protocols with 311 that allow winter maintenance teams to focus on priority areas while also assisting residents with time-sensitive emergency needs.
- Reviewed and updated 311 problem codes to reflect the reality of operations and service levels.
- Updated the PlowTO website to allow residents to see the location of salt trucks, sidewalk plows, cycle track clearing equipment and road plows, and when each street was last serviced.
- Added 250 seasonal in-house staff to operate sidewalk clearing equipment and assist with snow removal activities.
- Adopted by-laws to proactively declare a major snowstorm condition to prohibit parking and allow snow clearing operations to be more effective.
- Enhanced weather forecast reports by installing two additional RWIS stations, increasing the City's total to 10 RWIS stations.
- Implemented pre-storm briefings that allow supervisors to formulate strategic plans in advance of impending storms. These briefings are scheduled 8 to 24 hours prior to the onset of a storm.

## 4. About the February 2025 Major Snow Event

### 4.1. The Preparation

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Transportation Services prepares for winter operations every year and undertakes additional preparations in advance of forecasted storms. The following sections describe routine seasonal preparations and specific preparations for the February 2025 major snow event.

#### 4.1.1. Seasonal Preparations

Annual winter maintenance preparations include:

- Delivering the annual week-long mandatory Snow School training for staff each fall;
- Providing training related to new tools, processes and procedures, as required;
- Updating and publishing the annual Winter Services Guide for Councillors;
- Facilitating Information Sessions for Councillors;
- Hosting pre-season planning meetings with Contractors; and
- Servicing and preparing all winter maintenance equipment.

#### 4.1.2. Pre-Storm Preparations

In addition to routine seasonal preparations, Transportation Services staff completed the following tasks on February 6 and 7 in preparation for the forecasted storm.<sup>xxix</sup>

- Analyzed WSP weather reports; 11 cm of snow were forecasted for February 8, 2025;
- Held winter conference call to discuss weather forecasts and winter maintenance activations;
- Held meetings held with contractors to review snowstorm response plan;
- Provided extended mechanical maintenance service hours for in-house sidewalk equipment;
- Some documented operational preparations;
- Issued six Winter Councillor Advisories (February 6); and
- Issued a Media Bulletin (February 7).

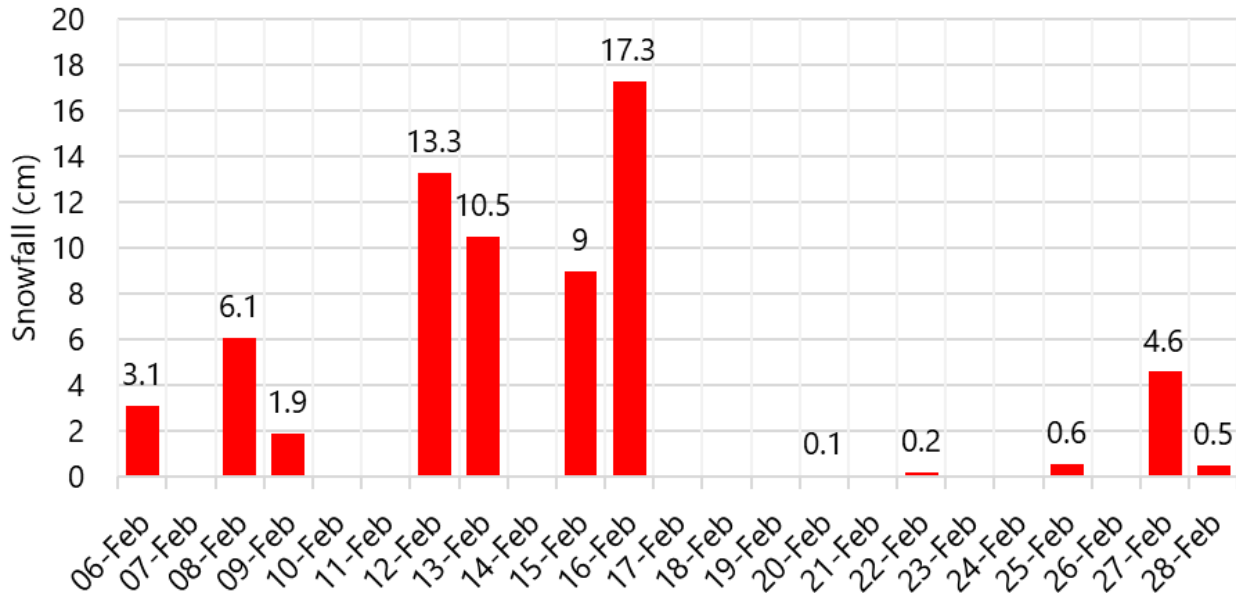
### 4.2. The Storm

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For the major snow event in February 2025, three large snowfalls occurred within the span of nine days overall, from Saturday evening to the following Sunday afternoon, as shown in Figure

12. Based on Environment Canada<sup>xxx</sup> weather data for February 2025 at the Toronto City<sup>1</sup> station, a **total of 58.1 cm of snow fell** between February 8 to 25 inclusive., plus an additional 5 cm on February 27/28.

Figure 12 Snowfall in Toronto, February 6-28, 2025 (cm)



The major snow event involved:

- Snow from Saturday Feb 8 evening into Sunday Feb 9 morning. A total of 8.0 cm snow (avg. temp. -2 °C to -4 °C).
- Snow again from Wednesday Feb 12 afternoon to Thursday Feb 13 morning. A total of 23.8 cm snow (avg. temp. -4 °C to -6 °C). The Major Snowstorm Condition and Significant Weather Event declaration was made on Feb 12 at 10pm.
- Snow again Saturday Feb 15 morning to Sunday Feb 16 afternoon: 26.3 cm snow (avg. temp. -3 °C to -6 °C).

Because of the day and night temperatures through these dates, freeze/thaw and snowpack further complicated clearing efforts.

<sup>1</sup> Latitude: 43°40'00.000" N, Longitude: 79°24'00.000" W, Elevation: 112.50 m

## 4.3. The Response

### 4.3.1. Activations & Contractor Activity

An analysis of contractor performance during the February 2025 snow event reveals a clear distinction between service delivery under typical conditions and during periods of operational strain. Between February 6–11, contractors met their Maximum Operating Time (MOT) requirements in 92% of applicable activations across all contract areas. This suggests the current contracted model is effective under normal operational circumstances. However, from February 12–28, during and following the major snow event, on-time completion fell to 80%, with several contract areas experiencing noticeable declines in MOT compliance. It is important to note that MOT standards are not in effect (and the contractor is not penalized) during the declared major snow event period, however, they are still tracked and documented. The summary of winter activation is provided in Table 5.

Table 5: Summary of Winter Activation MOTs

Contract Area	% Completed on Time Feb 6-11	MOT Applicable Activations Feb 6-11	% Completed on Time Feb 12-28	MOT Applicable Activations Feb 12-28
DVP-FGGE	33%*	3	33%*	4
TOA1-1	90%	21	70%	37
TOA1-2	89%	19	76%	41
TOA1-3	95%	19	83%	34
TOA1-4	84%	19	76%	35
TOA1-5	100%	19	92%	44
TOA2-1	95%	21	85%	29
TOA2-2	91%	23	75%	30
TOA2-3	100%	23	89%	40
TOA2-4	89%	28	90%	53
TOA2-5	95%	21	71%	27
<b>Grand Total</b>	<b>92%</b>	<b>216</b>	<b>80%</b>	<b>374</b>

\*MOT were not met due to heavy traffic congestion.

### 4.3.2. Emergency Operations Centre Activation

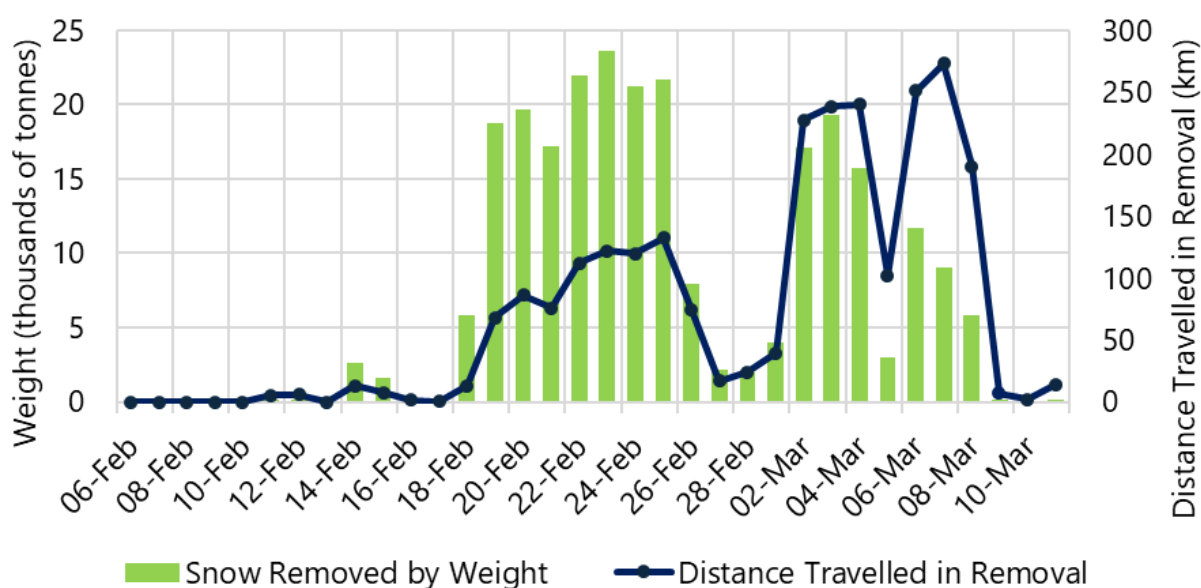
The City activated its Emergency Operations Centre (EOC) on February 12, 2025, to coordinate resources across City divisions, agencies and corporations and to assist with preparations and response activities related to the major snow event.

### 4.3.3. Snow Removal

Unlike salting and clearing, snow removal operations in the City are not governed by formal levels of service, nor are they considered a contractual item in the current performance contracts, and their initiation is determined by City staff based accumulating snow and weather conditions (cold forecasted temperatures).

The snow removed during the February 2025 storm event is graphed in Figure 13, by weight hauled and by distance the haulage equipment travelled. Daily totals of snow removed are represented by the green bars, and distance travelled in conducting the removal activities is shown by the dark blue line.

Figure 13: Snow Removal and Distance Travelled in Removal Activities, Feb 6 – Mar 10



As shown in the figure above, following the major snowfalls on February 12-16, snow removal activities began modestly on February 14, but did not scale up significantly until February 19. Between February 19 and 25, a large volume of snow was removed, both in terms of weight and distance travelled. The temporary dip in activity from February 26 to 28 aligns with a minor snowfall on February 27, during which time resources were reallocated back to snow clearing operations.

Interestingly, the data shows that from March 1-8, the distance of snow removal was increasing, but the weight of snow removed decreased noticeably. This may indicate that by early March, remaining snow was more dispersed across the City, and crews were driving farther distances each day and covering more ground as there was potentially less snow in need of removal.

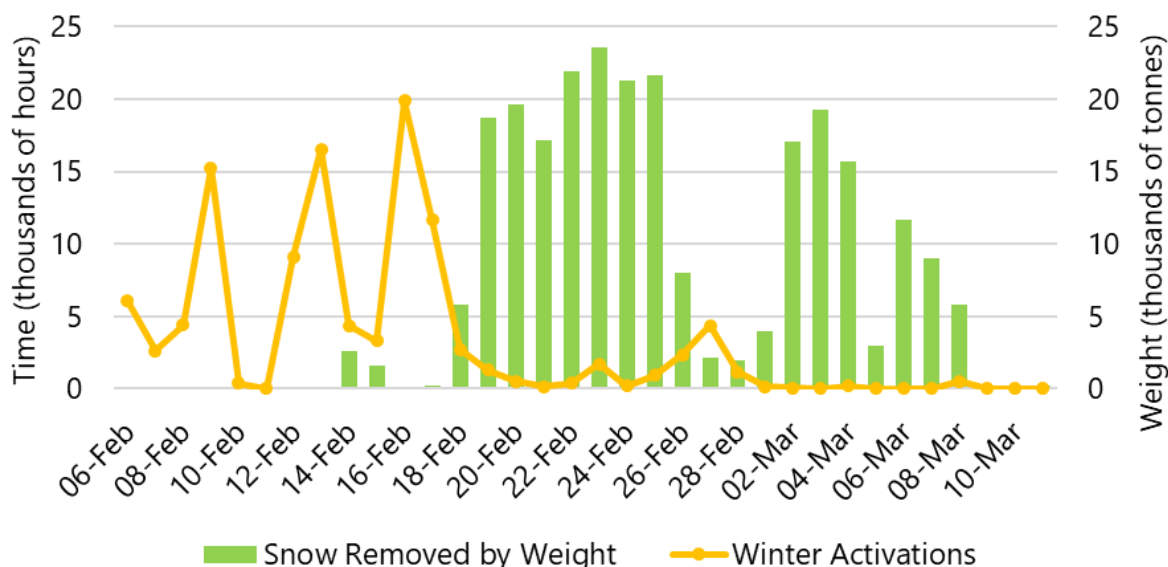


The relationship between winter activations (e.g., triggers for road plowing and salting) and snow removal operations over the course of the February 2025 storm event is illustrated in Figure 14.

- During periods of high snowfall and repeated activations, notably February 8–16, contractor and City resources were primarily focused on core clearing activities to meet service level targets. Snow removal was initially limited, reflecting the prioritization of keeping the road network passable.
- Once the major snowfall subsided, particularly after February 16, snow removal activity increased substantially beginning February 19, aligning with reduced clearing activations.
- A temporary dip in snow removal occurred between February 26 and 28, corresponding to a new snowfall event and a renewed focus on clearing activities.

This demonstrates the shared staffing and equipment constraints in the current delivery model, where contractors must pivot between clearing and removal based on operational priorities.

Figure 14: Snow Removal and Winter Activations, Feb 6 – Mar 10



#### 4.3.4. Communication to the Public

Before, during, and after the major snow event, the City posted snow-related website updates, including media advisories on February 11, 12, 13, 16, 18, and 24, and news releases on February 12, 14, 17, and 19. In that time, the City's Instagram and Facebook channels posted the following general messages:

Feb 7/8 *"Don't worry our crews are on standby"*

Feb 12 *"Snow clearing operations are now underway to ensure safety and accessibility",  
Major snowstorm condition, "Do your part"*

- Feb 13 "Here's what you need to know", check the PlowTO map
- Feb 16 "Crews have completed multiple rounds"
- Feb 19 Winter waste collection tips
- Feb 20 The City has started removal operations
- Feb 25 "We're working on removing the snow"
- Feb 27 Crews are transitioning from removal to clearing

## 4.4. The Aftermath

While the preceding sections describe the City's preparation, the storm, and the immediate operational response, this section turns to what unfolded in the days that followed, when operational challenges compounded, public frustration intensified, and confidence in the winter maintenance system began to fray.

### 4.4.1. Media Coverage

Media coverage described the storms and the immediate impacts.

- On February 12, CP24 reported "*Ontario's biggest winter storm of the season*", and that the storm led to hazardous driving conditions, with vehicles getting stuck on snowbanks and ramps.<sup>xxxix</sup>
- Also on February 12, CityNews reported that the City declared a "*major snowstorm condition*" and a "*significant weather event*" in anticipation of up to 25 centimeters of snow, they reminded the public that parking is prohibited on designated snow routes, and that the City activated its Emergency Operations Centre.<sup>xxxii</sup>

Figure 15: Related News Articles<sup>xxxiii</sup>

#### City of Toronto declares 'major snowstorm condition' ahead of incoming winter storm



A City of Toronto snow plow applies salt to a downtown arterial road. CITYNEWS / File / Nick Westoll

By Patricia D'Cunha

Posted February 12, 2025 9:54 am. Last Updated February 12, 2025 9:33 pm.

CANADA

#### Toronto winter storms may take 3 weeks to clear with snow removal: city



By Gabby Rodrigues • Global News

Posted February 17, 2025 11:55 am • Updated February 17, 2025 12:29 pm • 3 min read



GTA dealing with consecutive winter storms

Global NEWS

WATCH: GTA digs out after being hit with another winter storm. Lexy Benedict reports – Feb 16, 2025

On February 15, Ontario Provincial Police (West Region) posted on X: *"Please STAY HOME if you can! However, if you need to travel, roadways and highways are snow and ice covered!"*

On February 16, *Yahoo!News* posted this photo, noting the third storm.<sup>xxxiv</sup>



On February 25, Global News reported *"Toronto mayor 'frustrated' over city's snowstorm response"*. The article also noted that *"Toronto begins removing snow as complaints pile up"*. The report also noted Chow said the priority is to clear the roads, especially as Ontarians head to the polls Thursday.<sup>xxxv</sup>

Social media posts from the public provided an additional perspective. On February 11, @voilakevin posted this photo on Instagram, showing a local Toronto street with bare pavement and cleared sidewalks.





On February 12, Destination Toronto posted the photo on the right below of Front and Wellington on Instagram, showing snow covered arterials and some sidewalk accumulation. <sup>xxxvi</sup>

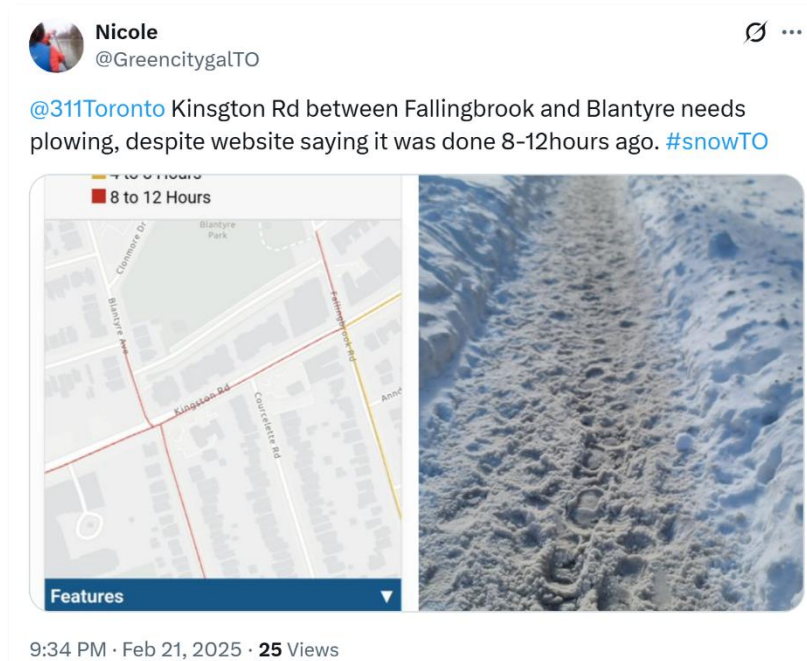


On X, a variety of public posts expressed frustration with the storms' response. Advocacy groups and community members voiced concerns. Cycling advocates highlighted the dangers posed by unplowed bike lanes, while disability advocates emphasized the city's failure to ensure accessible pathways. <sup>viii</sup>

On February 13, @DJBenToronto posted frustration with the "recently serviced" status for bike lanes (on Gerrard Street West, east of Bay Street).



On February 21, @GreencitygalTO posted frustration with the state of Kingston Rd, even though PlowTO showed a plow pass in the past 8-12 hours.



The hashtag #SnowTO also became a hub for residents to share real-time updates, express frustrations, and highlight challenges faced across the city, across multiple platforms.

These examples are just a small sampling of media and posts that demonstrate the public's mounting frustration with the response.

#### 4.4.2. 311 Service Requests

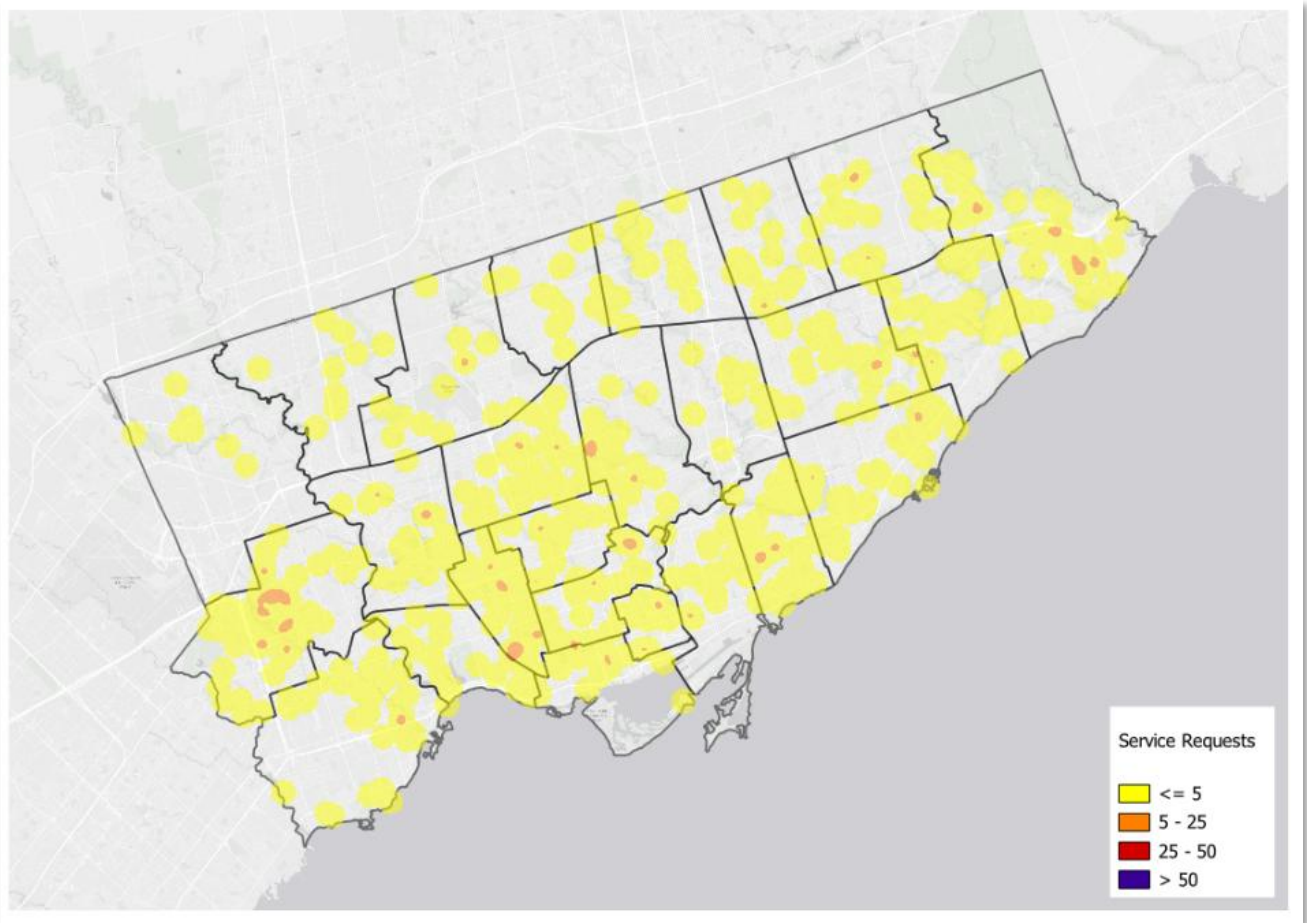
In the days following the February 2025 snowstorm, the City's winter maintenance systems faced widespread pressure, as reflected in the volume and distribution of 311 service requests. Between February 6 and March 14, thousands of residents contacted 311 to report unmet service needs across all parts of the city. The four most common types of requests were: road plowing, sidewalk salting, sidewalk clearing, and driveway blocked by windrow.

Heatmaps of the service requests are provided in Figure 16 to Figure 20 to visually show the aftermath of how the storm unfolded and how residents responded. A 500-metre radius kernel was used to highlight clusters of higher-than-average request activity in specific areas of the city over defined time intervals.

The initial period leading up to the major snowfall showed relatively low levels of service request activity, with most areas registering five or fewer requests. Complaints were sparse and scattered, appearing sporadically across wards, with no single neighbourhood displaying

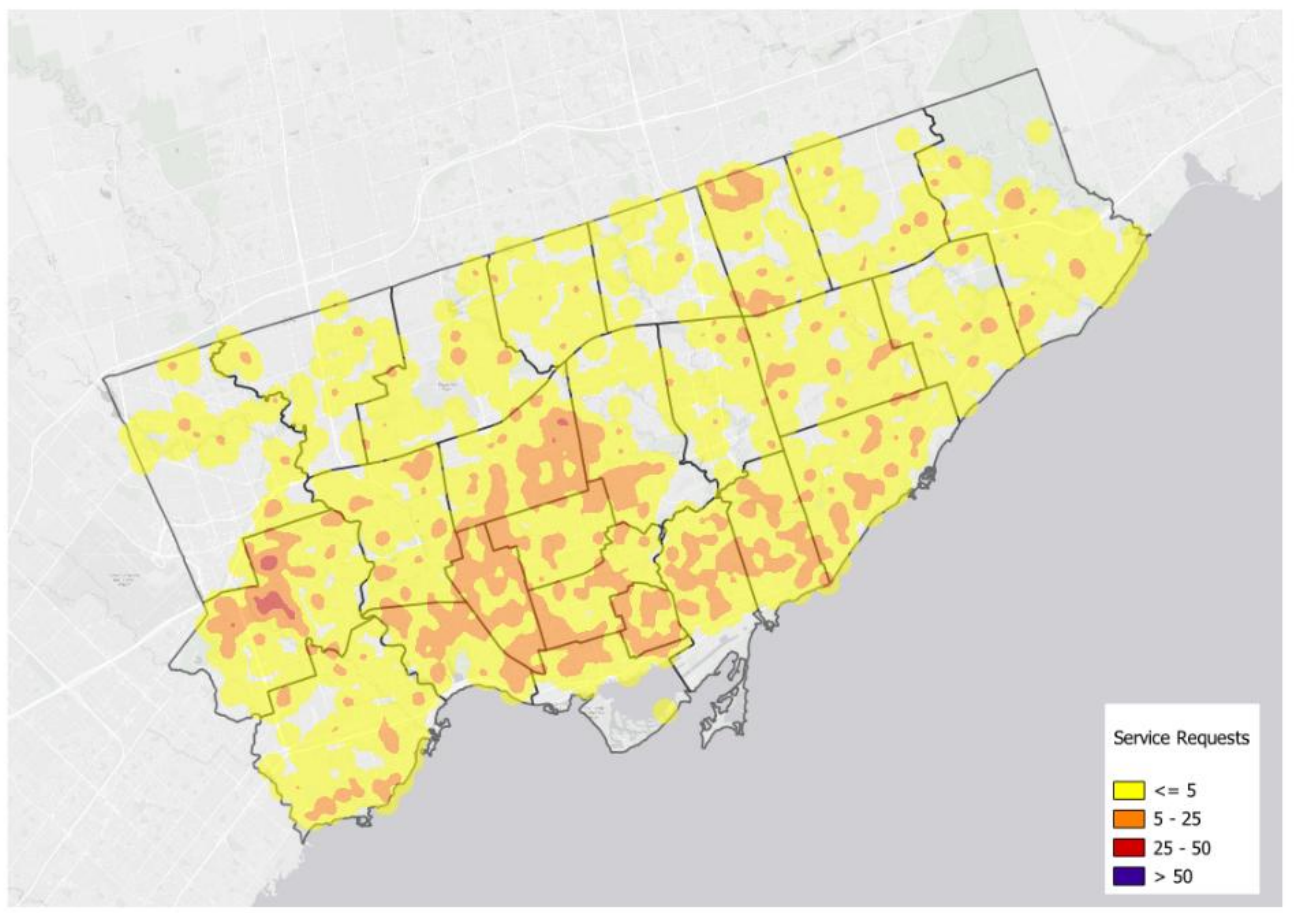
concentration. This reflects typical winter maintenance during periods of moderate snow and aligns with normal operating expectations. The few minor clusters may indicate localized trouble areas or early concerns with response readiness as snow began to accumulate.

Figure 16: Heatmap of Service Requests, February 6 to 11, 2025



As snow volumes increased between February 12 and 14, a noticeable rise in 311 requests emerged. Areas in the city's west end and downtown began to show moderate clustering, with requests in the 5–25 range (orange zones). While citywide conditions were worsening, this period marked the transition from isolated service needs to system-wide pressure. Complaints likely reflected worsening sidewalk and road conditions, and early signs of windrow blockage issues.

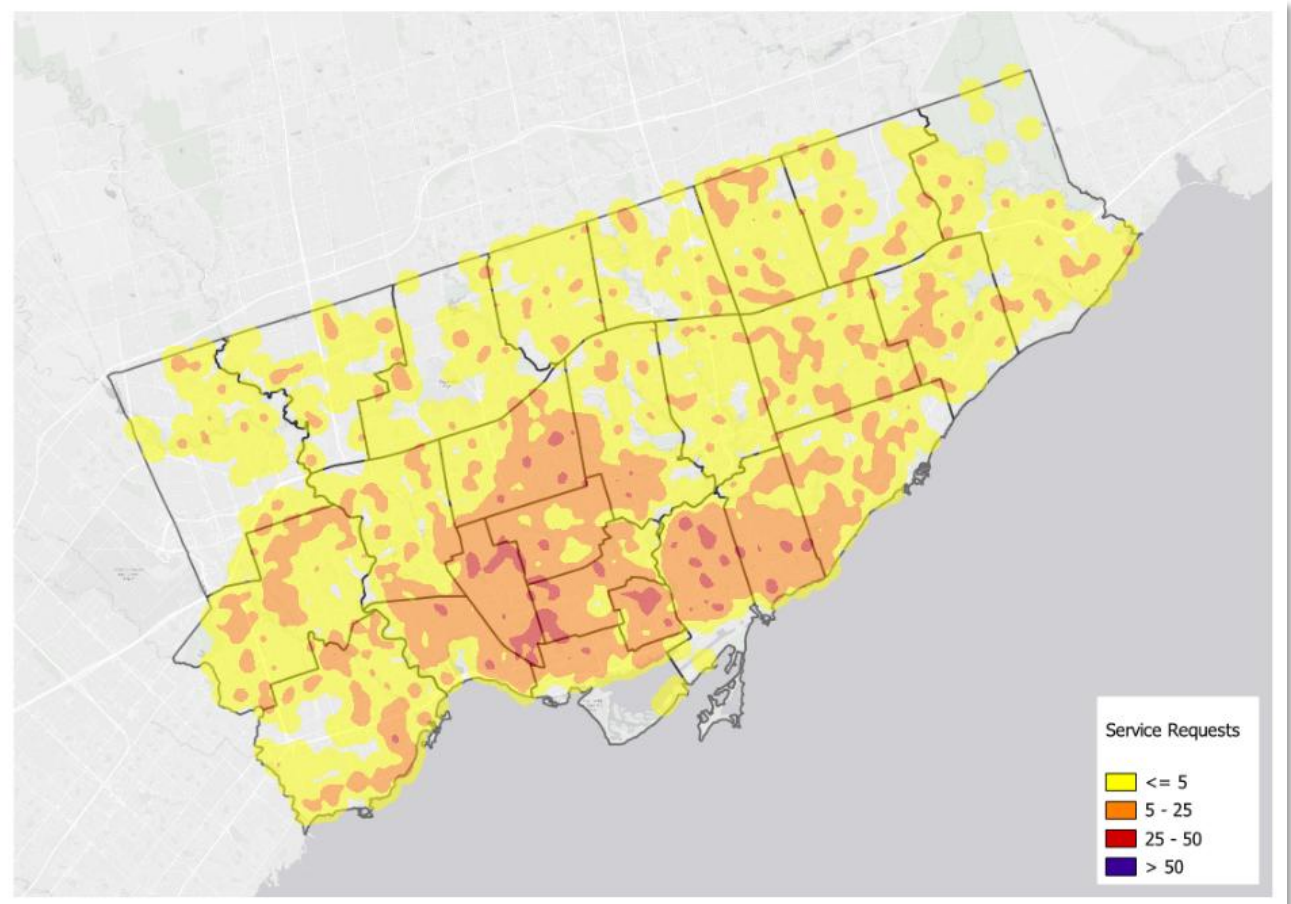
Figure 17: Heatmap of Service Requests from February 12 to 14, 2025





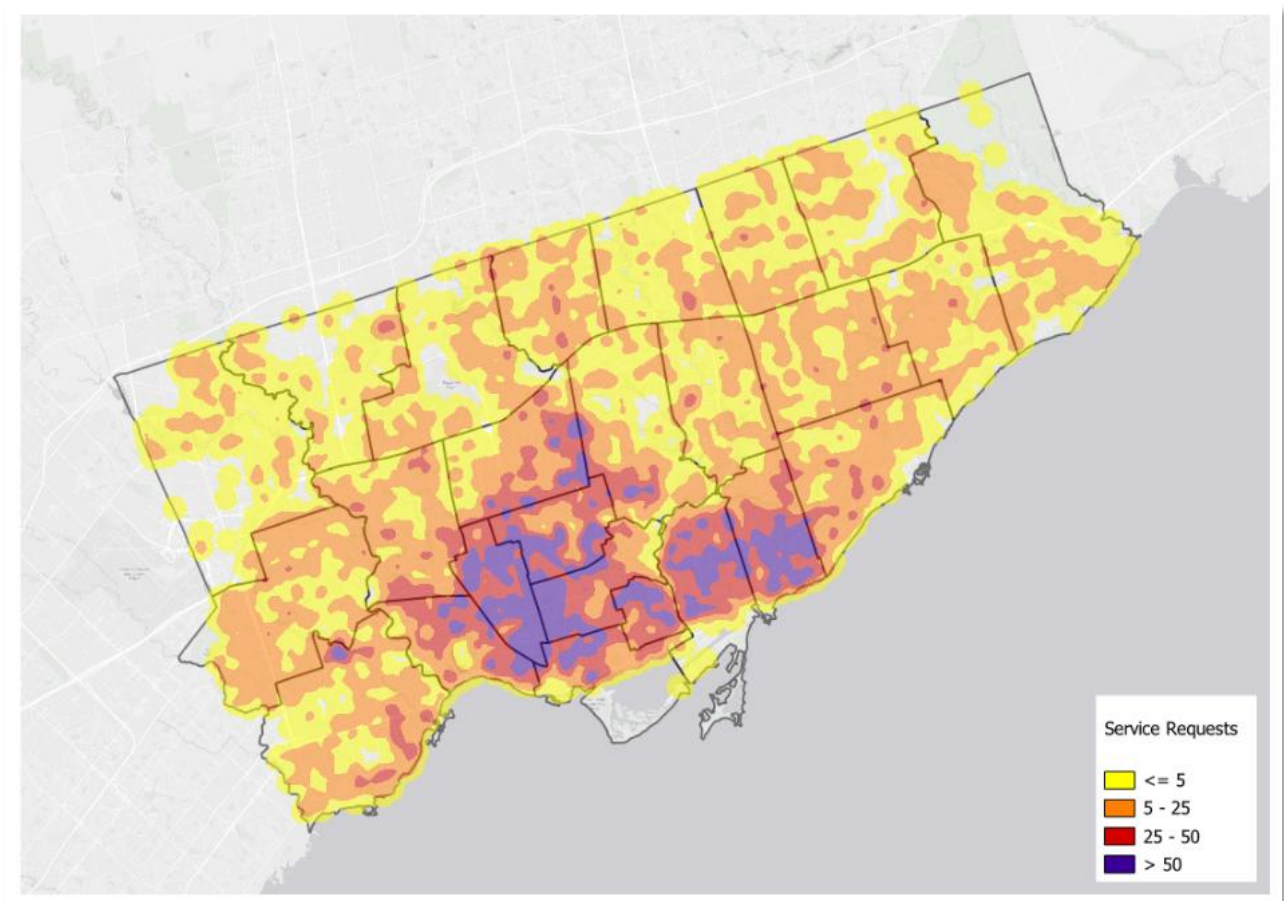
During the peak of the snow event, complaints surged. The heatmap shows significant clustering across downtown Toronto, with large areas reaching the 25–50 request range (red zones), and early signs of deep saturation in some neighbourhoods. The core downtown, west end, and parts of the south-central area displayed the heaviest concentrations. These patterns suggest strain on the ability to keep pace with accumulation, especially where driveway windrows and sidewalk accessibility issues emerged as key public frustrations.

Figure 18: Heatmap of Service Requests from February 15 to 18, 2025



As operations continued, the volume of service requests remained high and spread more evenly across the city. This map shows widespread clustering with many zones surpassing 50 requests (purple), particularly in downtown Toronto, the west end, and several dense residential areas in the south. This pattern likely reflects resident frustration with prolonged snow buildup and areas not fully cleared due to snowbanks. The shift from red to purple zones across several wards also points to an accumulation of unmet service needs. Despite snow removal beginning on the 19<sup>th</sup>, public dissatisfaction continued to grow.

Figure 19: Heatmap of Service Requests from February 19 to 28, 2025



Finally, Service requests began returning to lighter levels (yellow) by early March, as most of the snow removal was complete.

Figure 20: Heatmap of SR from March 1 to 14, 2025

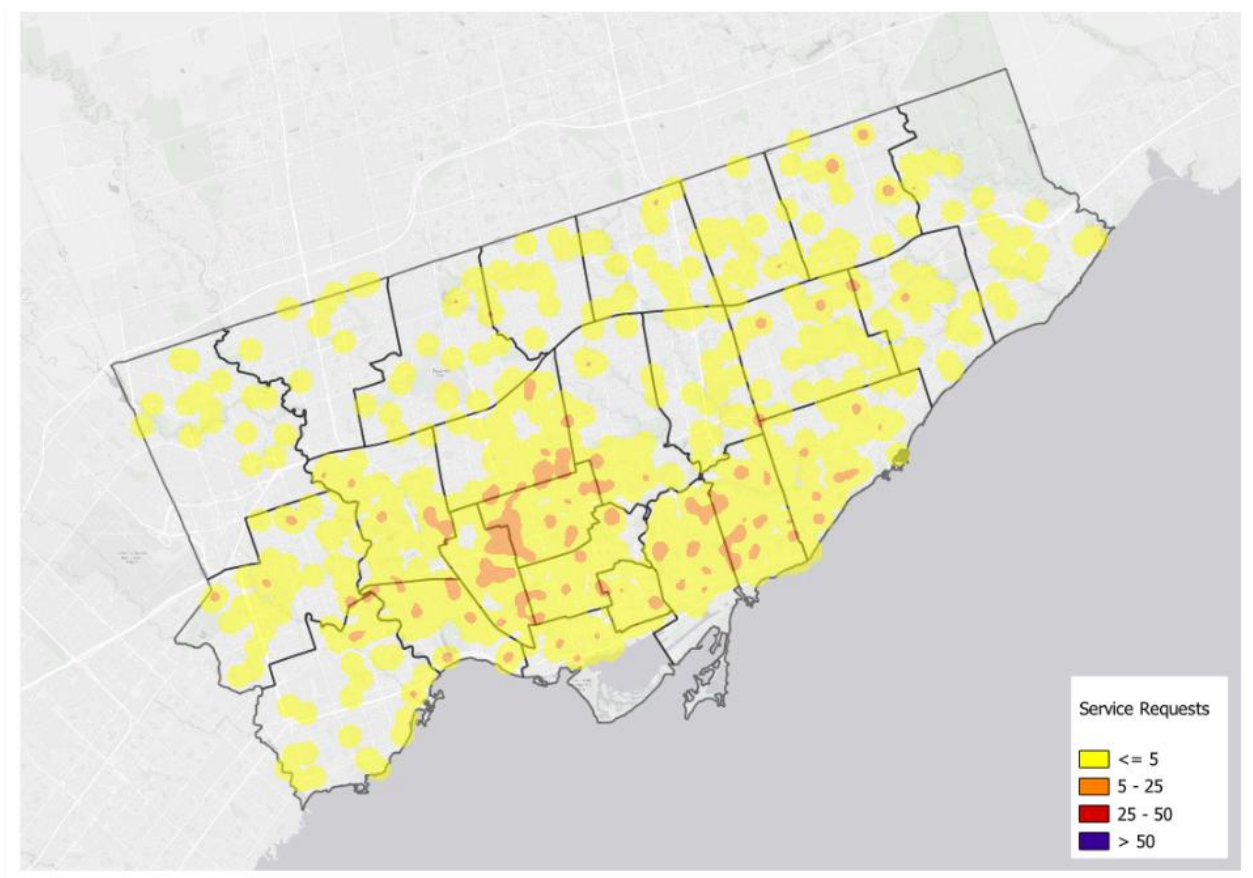


Figure 21 presents daily snowfall (red line) along with total service requests (blue bars), for the period between February 6 and 28. It can be seen that as more snow fell, service requests rose. A major spike in service requests occurred on February 18, closely following a day with nearly 20 cm of snow. Request volumes remained elevated for several days, reflecting a backlog effect as snow removal began. Grey bars indicate 311 blackout periods when no new requests were accepted, which caused visible dips in reporting but were followed by sharp increases after.

Figure 21: Service Requests and Snowfall by Day, February 6 - 28

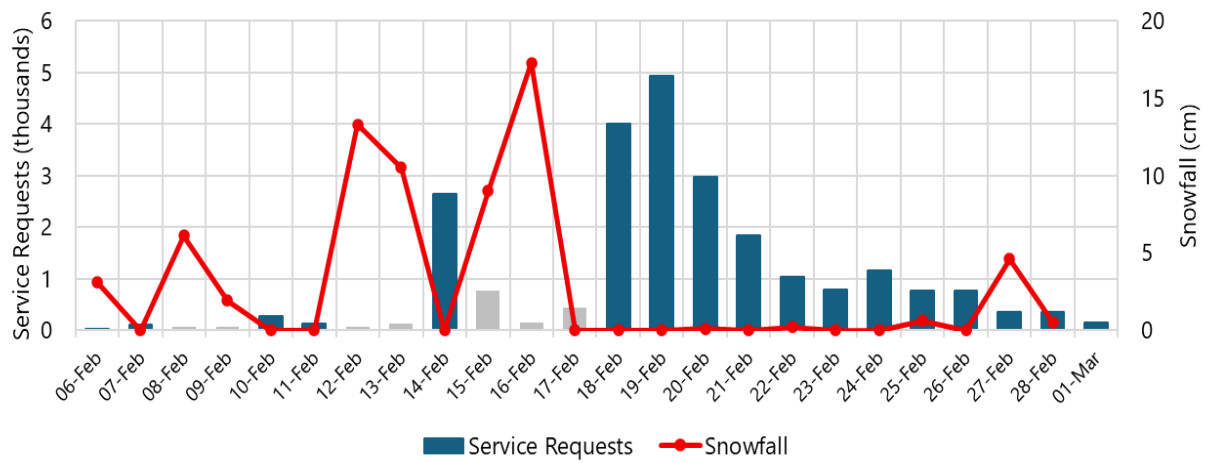
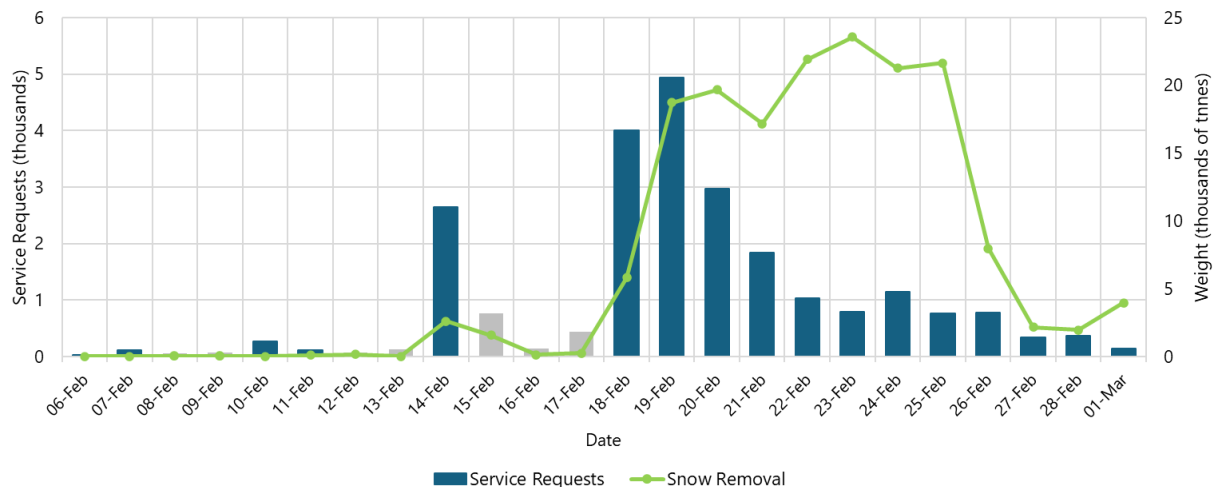


Figure 22 illustrates the correlation between the total service requests and the daily tonnage of snow removed (green line). Again, grey bars indicate 311 blackout periods. The graph shows the service requests declining as the snow removal was completed by the end of February.

Figure 22: Service Requests and Snow Removal by Day, February 6 - 28



### 4.4.3. Council Feedback

On February 25, Mayor Olivia Chow publicly expressed frustration with the city's snow removal efforts, labelling the efforts as "*unacceptable*." Despite reports indicating that 100% of sidewalks had been cleared, Mayor Chow pointed to visible snowbanks obstructing pedestrian pathways, calling such claims "*blatantly untrue*" <sup>xxxvii</sup>. The Mayor and Council directed a comprehensive review of winter maintenance contracts and requested investigations by both the City Manager and the Auditor General to assess the effectiveness of current operations and the implementation of past recommendations.

The Infrastructure and Environment Committee convened on February 27 to discuss improvements to the city's snow response strategy. Proposals included reinstating responsibilities for sidewalk clearing to corporate property owners and enhancing penalties for vehicles obstructing snow routes.

On March 12, then, Deputy Mayor Jennifer McKelvie submitted an Administrative Inquiry to seek information on the February 2025 snow events. This inquiry was addressed to the City Clerk, John Elvidge, and was intended for consideration at the City Council meeting scheduled for March 26, 2025. The inquiry sought detailed information on various aspects of the city's response to the significant snowfall. The City Manager provided a comprehensive response to this inquiry on March 25, 2025.

#### 4.4.3.a) Post-Season Councillor Survey

An online survey was distributed by Municipal VU to the Mayor and Members of Council in May 2025, to gather feedback on the City's winter maintenance program, with a focus on experiences during and after the February 2025 storm events and opportunities for improvement.

The survey received a 42% response rate, with 11 responses submitted out of 26 possible from Council, which includes 25 Councillors and the Mayor. All responses were included in the analysis to ensure a comprehensive reflection of Council feedback. A full list of survey questions can be found in Appendix B, while selected key results are presented below.

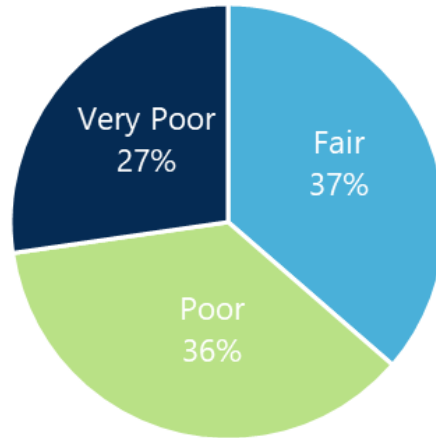
#### Council Survey Results: 2025 Snowstorms

The majority of respondents (63%) perceived the City's overall performance during the February 2025 major snowstorms as poor or very poor, while 37% described the City's performance as fair.



Figure 23: Council Response: Overall Performance

*City's Overall Performance During February 2025 Major Snow Event*



The top three most significant reported issues related to the storms were:

1. Poor sidewalk and road conditions
2. Blocked driveways due to windrows
3. Limited parking availability

The top three most important expectations heard from the public were:

1. Infrastructure should be cleared more promptly and consistently
2. Infrastructure should be cleared to a higher standard
3. Residents should be informed about when infrastructure will be safe and accessible

Councillors reported significant issues with delayed or missed windrow clearing, poor snow removal on courts, and safety concerns due to buried fire hydrants.

The majority of respondents (63%) feel that the community expects the same service levels during a major snowstorm, while 36% disagree or are unsure.

Only 9% of respondents feel as though their community is willing to pay for increased levels of service related to major snowstorms, the remaining 91% are either unsure or feel as though the community is not willing to pay.

### **Council Survey Results: Coordination and Communication**

Communication and coordination were recurring concerns; 311 was often seen as ineffective, with long wait times, unresolved or prematurely closed tickets, and confusion around blackout periods. A lack of timely, clear updates from City staff further frustrated both Councillors and residents, making it difficult to manage expectations or escalate service issues.

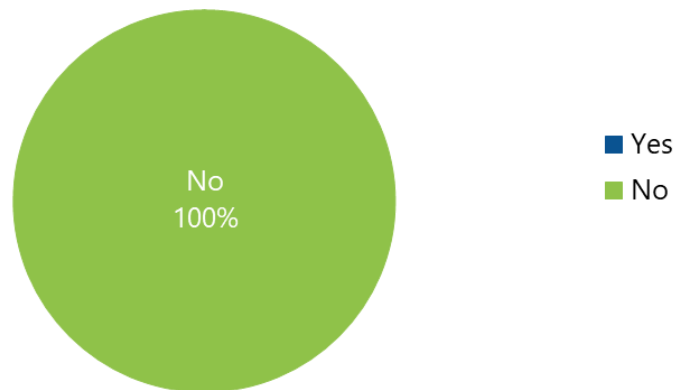
Regarding 311 blackout periods, 90% of respondents reported that the 311 blackout periods affected the volume of calls to their office. Survey responses indicated a significant increase in call volume to Councillor offices during those periods because residents were unable to report urgent issues such as blocked driveways, icy sidewalks, and missed snow clearing around school zones. The results show that there was a lack of awareness and understanding of the blackout periods, along with limited alternatives for escalation, that caused widespread frustration, especially among seniors and residents who rely on non-digital communications. In many cases, Councillor offices escalated concerns directly to staff or held them for follow-up once the blackout ended.

### Council Survey Results: Contractor Performance

Regarding contractor performance, 100% of respondents felt as though the contractors did not meet their obligations for snow clearing and removal during the major snowstorms.

Figure 24: Council Response: Contractor Performance

*Do You Believe the Contractors Met Their Obligations for Snow Clearing and Removal During the Feb 2025 Major Snow Event?*



Regarding the contracts, 72% of respondents feel as though the structure of the contracts should change going forward.



## 5. Comparative Research

While the City is in many ways unique among Canadian and North American cities, due to its size, density, climate variability, and service delivery model, it is still valuable to examine how other jurisdictions approach winter maintenance. To support this review, comparative information was gathered from a selection of North American winter cities chosen for their similarities to Toronto in terms of average snowfall, population size, and urban form. These comparator cities, Montreal, Ottawa, Chicago, Minneapolis–St. Paul, and Buffalo, provide relevant context for assessing winter maintenance practices in dense, snow-prone urban environments.

Table 6: Baseline Comparator Data

City	Population	Average Snowfall/Year (cm)	Road Length (Lane-km)
<b>Toronto</b>	<b>3,025,647</b>	<b>113<sup>xxxviii</sup></b>	<b>14,743</b>
Montreal	1,762,949	~210	11,436
Ottawa	1,017,449	~223m	12,459
Chicago	2,716,450	~100	15,130
Minneapolis – St. Paul	428,579	~150	11,655
Buffalo	276,617	~250cm	2,575

Comparative data is approximate, based on the most recent published information that could be sourced.

### 5.1. Montreal

The City of Montreal is widely known for having one of the most efficient and effective snow removal programs in North America. Montreal focuses on moving snow out, not just pushing it aside. Following each significant snowfall, the City activates a highly coordinated, city-wide operation involving its central Transportation Department and all 19 boroughs. This rapid response model prioritizes full clearance.

The City spends over \$200 million each winter on snow operations. Snow is first pushed to the sides and then systematically removed by convoys of snowblowers and dump trucks. On average, Montreal removes over 12 million cubic metres of snow per season. The operation involves approximately 3,000 personnel and 2,500 pieces of equipment working around the clock during major events. The City relies on a balanced delivery model, with approximately half of the operations carried out by private contractors to ensure flexibility and capacity. Montreal utilizes innovative infrastructure for snow disposal, directing about 20% of snow into storm

sewer chutes connected to treatment plants to prevent street buildup. The City also operates snow melters at key locations and maintains several large snow dumping sites capable of handling vast volumes of snow.

Temporary no-parking signage is posted in advance of snow removal operations to alert residents and ensure streets are clear for plows and loaders. This effort is supported by a team of 450 dedicated enforcement staff responsible for ticketing and towing. To help residents comply and reduce disruptions, the City uses digital tools, such as mobile apps and online maps, to communicate snow removal schedules and identify available free municipal parking during operations.

## 5.2. Ottawa

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The City of Ottawa follows strict Maintenance Quality Standards that specify how quickly different classes of roads and sidewalks must be cleared. The city's policy is to clear all roads, sidewalks, and transit routes within 24 hours of a snowfall's end. To meet these targets, Ottawa utilizes a mix of city crews and contractors, with a fleet comprising large road plows, graders (for scraping packed snow), snow blowers, sidewalk plows, and dump trucks. Sidewalk snow removal is a standard city service, ensuring safe and reliable mobility for drivers, transit riders, and pedestrians by the day after a storm.

The City doesn't remove snow from every street routinely, but it does carry out snow removal in areas with limited storage such as downtown and urban commercial streets once snowbanks grow too high. Dozens of plow trucks, graders, and sidewalk plows are deployed in a during significant snowfalls, with plows often working main roads while snow is still falling to prevent accumulation, and snow blowers promptly reducing large banks at corners and bus stops. Ottawa also leverages technology, using rubber-edged blades on plows to avoid damaging roads and better scrape to bare pavement. The City declares a "*Significant Weather Event*" during blizzards or prolonged storms, which legally suspends the normal timelines, and they provide real-time updates to residents on plow progress.

From November 15 to April 1, the City of Ottawa may implement winter weather parking bans to support snow clearing operations. When a ban is in effect, on-street parking is prohibited to allow crews to clear roads more efficiently. Residents can access a list of designated off-street parking locations via the City of Ottawa website and have the option to sign up for winter parking e-alerts to receive timely notifications whenever a parking ban is called.

## 5.3. Chicago

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The City of Chicago has adopted a no-nonsense, highly centralized snow removal strategy. Chicago's Department of Streets and Sanitation (DSS) runs a 24/7 Snow Command Center that

monitors weather radar, pavement sensors, and 1000+ traffic cameras. Chicago deploys its snow fleet in phases, starting with main routes like expressways and bus corridors, then moving to side streets and residential areas. Their large fleet covers extensive routes quickly, supported by pre-treating roads with salt or brine to prevent icing. Main roads are typically clear on the same day, and residential areas are often plowed within 24 hours once the snowfall ends. Rather than waiting for snow to melt, Chicago treats every snowfall as requiring immediate action.

Chicago equips up to 200 garbage trucks with quick-attach plow blades during major storms, effectively doubling its plowing force on demand. These auxiliary plows run in tandem with salt-spreader trucks to keep streets clear and ice-free. The City also maintains a fleet of 20+ smaller plows and pickups for narrow side streets and alleys, ensuring no street is left unplowed.

Chicago enforces strict parking bans to facilitate plowing. From December 1 to April 1, the City enforces overnight parking bans on key streets regardless of snowfall. When more than 5 cm of snow falls, a wider network of designated Snow Routes must be cleared of parked cars, or vehicles risk being ticketed and towed. This helps ensure plows can clear curb-to-curb on important roads.

In Chicago, sidewalk clearing is the legal responsibility of property owners, who must shovel within a few hours of daylight after a snowfall. While the City promotes compliance through education and fines, it does not provide widespread sidewalk plowing. The City does clear areas around transit stations, public buildings, and bridges, and some community groups assist vulnerable residents. Chicago also promotes public transparency through a real-time Plow Tracker map, allowing residents to monitor plowing activity in their neighbourhoods and helping to build accountability and trust in winter operations.

## 5.4. Minneapolis-St. Paul

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The Twin Cities of Minneapolis and St. Paul, Minnesota, have developed a Snow Emergency system widely regarded as a model for residential street clearing. Minneapolis and St. Paul both have substantial fleets with hundreds of plows, sanders, and loaders, and they also contract out supplemental help for hauling or clearing snow piles. They often don't immediately haul away snow unless necessary; snow can be pushed onto boulevards or between sidewalk and curb where it hardens. Later in the season, if these piles cause visibility or width issues, they will be hauled away. The immediate priority is to plow every road wide enough for traffic and emergency vehicles. The cities pre-designate snow dump sites when hauling is needed. They also make heavy use of sand in extreme cold, keeping sand on residential streets for traction when it is too cold for salt to work.

When a significant snowfall hits, around 8 cm can trigger the City to declare a Snow Emergency which sets off a parking ban: on Night 1, no parking is allowed on Snow Emergency Routes so those can be plowed entirely; on Day 2, parking is banned on one side of residential streets so

that side can be plowed curb-to-curb; on Day 3, the opposite side is cleared similarly. By the end of this period, every street has been plowed to the curb.

Sidewalk clearing is primarily the responsibility of property owners. Programs are in place to enforce sidewalk shoveling, and crews will clear sidewalks if owners neglect them, billing the owner afterward. As a result, sidewalks may not be cleared as quickly as roads, but key areas such as those around schools, parks, and public buildings receive priority attention.

## 5.5. Buffalo

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The City of Buffalo's Department of Public Works (DPW) oversees snow removal operations, aiming to plow each residential street at least once within 24 hours after a snow event ends. The City manages snow removal with around 60 plows and several snow blowers, supplemented by additional support from county, state, and outside crews when necessary. Buffalo doesn't hesitate to ban travel or call in state emergency help when needed.

Buffalo prioritizes main roads and emergency routes before systematically plowing residential streets. The City often plows even while snow is still falling heavily to prevent falling behind, supported by a smaller street grid that allows for shorter plow routes and quicker turnarounds. Sidewalks in Buffalo are generally the responsibility of property owners, and many do not maintain them well, leading to accessibility challenges.

Buffalo has alternate-side parking rules on many residential streets during winter months, requiring odd-even day parking to create room for plows to clear more snow. The City also enforces overnight parking bans on bus routes and certain narrow streets from November to April.

## 6. Diagnosis

Building on the evidence collected in the discovery phase, the diagnosis phase focuses on critical analysis. The Municipal VU goal is to move beyond just surface-level symptoms and determine why challenges occurred and what systemic issues may be involved. The following sections present:

- Key findings, organized into successes and challenges.
- Summary of overall core issues.

### 6.1. Key Findings

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These findings are organized into successes and areas for improvement as further described in Sections 6.1.1 and 6.1.2, respectively.

#### 6.1.1. Successes

The February 2025 storm events placed the City's winter maintenance services under unprecedented scrutiny generating public frustration, accessibility concerns, and media and political attention. However, the events of February 2025 also highlighted several areas of strength; it is equally important to acknowledge and learn from these successes.

##### **Staff and Contractor Dedication**

The City's dedicated staff and contractors worked tirelessly in difficult circumstances for three weeks to ensure the City's public right-of-way was safe and passable. The staff and Contractor's commitment during this emergency event warrants recognition.

In addition to their commitment during the storm, City staff have been equally committed to continuous improvement and applying lessons learned. All of the staff who met with the Municipal VU team during the discovery phase offered thoughtful suggestions and ideas for the common goal of improving the City's winter maintenance program.

##### **Declaration of a Major Snowstorm Condition**

The declaration (enacted the evening of February 12) proved effective in facilitating the clearing of expressways and arterials, it allowed for parking bans on designated snow routes that otherwise impeded plows. This helped crews plow curb-to-curb on key streets more efficiently. Overall, core vehicular routes and highways were one aspect where the City's response met expectations, enabling emergency vehicles to operate and basic traffic flow to resume on main thoroughfares relatively soon after the storms.

## 24/7 Snow Removal Operation and Scale of Cleanup

The City's decision to commence city-wide snow removal (trucking away snow) and to run those operations around the clock, was a critical factor in eventually clearing the accumulated snow. Once mobilized, the coordinated effort of City and contracted crews working continuous 12-hour shifts achieved over 144,000 tonnes of snow removed from hundreds of kilometers of roadway and sidewalk. By concentrating first on high-priority areas (such as downtown streets, transit stop zones, school zones), the City mitigated some of the most urgent hazards within the first week. This was the first time since 2022 that such a large-scale snow removal was required, and many of the enhancements implemented since 2022 did prove beneficial.

## Inter-Divisional Coordination

Through the Emergency Operations Centre (which was activated for the storm) helped improve information flow between Transportation Services, 311, Toronto Police and other entities. This coordination was stronger compared to the 2022 storm response, indicating that some lessons were learned and applied

## Technology and Tools

A number of new tools have been implemented since the major snow event in January 2022 that led to increased efficiency during the 2025 event. These include improved GPS/AVL tracking capabilities as well as the implementation of Maximo. These tools enabled staff to track contractors, activations and service requests in real-time. The City's Maximo EWMS, the Geotab AVL system and the Tableau interface with the 311 Service Requests allowed increased tracking of plows/crews and provided real-time information to managers and staff, this helped identify coverage gaps and redeploy resources as needed. It should be noted however, that there are further issues and improvements around technology and tools throughout the Findings and Opportunities sections of this report.

## Snow Clearing and Salting

Snow clearing operations generated a number of areas for improvement, but it is important to acknowledge the activations that worked well, including:

- Salting and clearing operations were generally successful until the storage capacity of the right-of-way was reached. This is shown in Table 5, where 92% of the MOTs were met from February 6-11.
- Highways, arterials and collectors were generally accessible and met service standards throughout the storm.



## 6.1.2. Challenges and Areas for Improvement

A number of challenges and areas for improvement were identified through Municipal VU's collection and analysis of documents, data, staff feedback, Councillor feedback and public feedback. These challenges and areas for improvement can be organized into six key themes, as illustrated in green in Figure 25.

Figure 25: Key Themes



Challenges and areas for improvement related to each theme are summarized below.

### 6.1.2.a) Communication Challenges

Effective communications are essential for exchanging information between stakeholders during regular operations and especially during emergency situations. Below is a listing of the key communication-related issues that were identified by the Municipal VU team.

#### Finding 1 - Results vs. Effort

Several of the communications that were issued to the public and members of Council during the storm event focussed on effort rather than quality or routes rather than results. For example, on February 16, 2025, a City Instagram post noted that *"Crews have completed multiple rounds of snow clearing on roads and sidewalks"*. However, on February 16 many of the City's streets, sidewalks and bike lanes remained snow covered. In fact, on February 18 when the 311 blackout was lifted, numerous complaints were received regarding sidewalks that needed clearing and areas where road plowing was still required. Residents don't understand operational terms and become frustrated as they think that since all of this effort has been reported, their street/sidewalk should be cleared.

In many cases, routes were completed but due to the volume of snow and storage limitations, snow was moved around and infrastructure that may have been cleared became buried in snow

once again. Communicating the number of rounds of snow clearing provided a false sense of the actual condition of the roads, sidewalks and cycling infrastructure.

### **Finding 2 - Regular Vs. Emergency Operations Messaging**

Communication, as noted in section 4.3.4 above, was very routine and lacked a sense of urgency. During a major snowstorm event, clear emergency messaging is essential to help residents understand the real risks, changing conditions, and what specific actions they must take to stay safe. While routine winter operations may rely on standard, reassuring service updates (“crews are out plowing, please be patient”), a severe storm with heavy accumulation, blowing snow, and freeze-thaw cycles demands a shift to more direct, proactive emergency communications. This includes using plain language to outline road closures, parking bans, towing, sidewalk hazards, and priority routes. When the public receives timely, unambiguous information about what services are suspended or delayed, they can plan travel, avoid hazards, and reduce unnecessary 311 requests. Strong emergency messaging also helps coordinate resident actions, such as moving parked vehicles or assisting neighbours, which directly supports operations crews working under difficult conditions.

By contrast, relying on routine, overly optimistic or generic messaging during a severe event can erode public trust and cause confusion. If updates do not reflect the true scale of delays or the limits of what can realistically be cleared in certain timeframes, residents may feel misled, especially when they see unplowed sidewalks or buried streets days after a storm. This can fuel frustration and overwhelm communication channels with duplicate complaints. Effective emergency communications build credibility by setting realistic expectations, explaining constraints, and clarifying what the City is doing, what residents can do, and how long disruptions may last.

### **Finding 3 - Quality Feedback**

GPS/AVL devices provide valuable information for tracking routes completed; however, they do not provide information about quality. For example, the Winter Operations Dashboard may show a route has been completed. However, if several obstructions impacted that route (i.e. parked cars), there is currently no formal straightforward mechanism for the Contractor to communicate this information to the City. Similarly, the format and quality of the feedback from on road patrollers is difficult to respond to or act upon.

### **Finding 4 - 311 Blackouts**

A 311-service request blackout period is a temporary period at the start of a winter event when new winter maintenance service requests (such as requests for snow clearing or salting) cannot be created, as winter equipment is already deployed to provide winter clearing services. This blackout period does not have a set timeframe, and its ending is at the discretion of the

operations staff. This causes confusion for the public and for the customer service staff in 311, as they are unable to advise residents when the blackout period will formally end.

311 blackout periods were also confusing at times, because there were multiple snow events in a row; in some cases, residents wanted to report issues from a previous storm event but were unable to because a new storm resulted in another blackout. On the Councillor survey, Councillors noted examples of residents who were not able to get through to 311 to report lack of clearing around school zones, seniors blocked in their driveways, and several instances of windrows blocking residents in their driveways.

The Councillor survey also revealed that 100% of respondents reported that call volumes to their offices increased significantly during the 311 blackout periods. A lack of awareness and understanding of the blackout periods, along with limited alternatives for escalation, caused widespread frustration, especially among seniors and residents who rely on non-digital communications.

#### **Finding 5 - Communications: To Council**

During the February 2025 storm events, Winter Councillor Advisories were issued multiple times per day by Transportation Services. They provided detailed information about rounds of salting/plowing/clearing/removal by infrastructure type by ward. The results of the Councillor survey suggest that Councillors liked the level of detail and information included in the advisories. However, there is room for improvement as 100% of survey respondents indicated they would also like summaries of key points and progress maps during major snowstorm events. Many Councillors also reported they wanted more information including a live map, progress to-date, and actions being taken by staff. Furthermore, some respondents indicated that information was not always shared in a timely manner and more real-time updates and proactive communication would be appreciated.

Councillor Winter Operations Updates were also sent via email by the General Manager of Transportation Services during the February storm events. These updates contained important information and some also included photos. Municipal VU's analysis indicates that Councillors appreciated the updates; however, some indicated that they would like more consistency in communications. There may be an opportunity to streamline updates into a single concise and timely format.

#### **Finding 6 - Communications: To the Public**

Communication to the public about winter operations, especially important updates during a major snow event, may be messaging outdated information through a difficult interface (website), while messaging opportunities through social media channels may have missed the opportunity to express the emergency nature of the storms.

Some of the communications that were reviewed gave a sense that the storm was 'business as usual' and did not sufficiently emphasize the severity of the event. For example:

- *"There's up to 10 cm of snow in the forecast this weekend, #Toronto. Don't worry our crews are on standby with approximately 1,100 pieces of equipment...."* (Instagram post, February 7, 2025)
- *"Happy snowy #FamilyDay, Toronto. #CityofTO snow crews and contractors have been working tirelessly to plow the roads and sidewalks after 16 – 23 centimetres of snow fell over the weekend (on top of the 15 – 20 cm already accumulated) and work will continue today to clean up our city..."* (Instagram post, February 17, 2025)

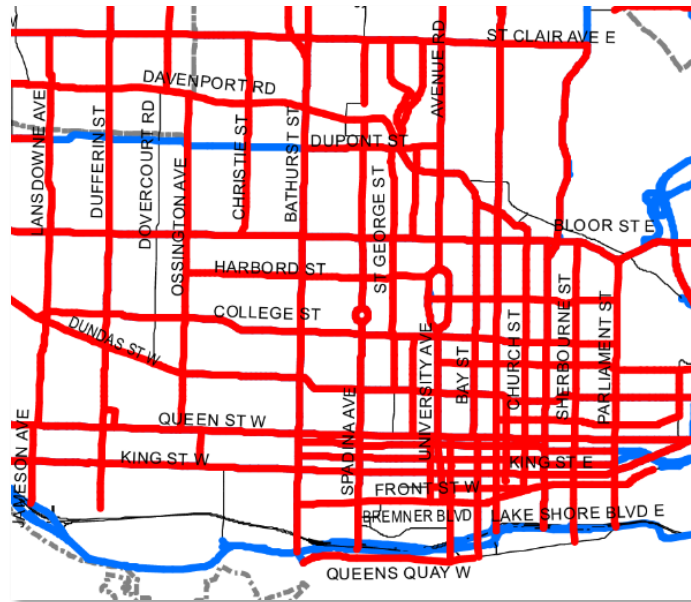
Messaging implies 'don't worry' the City is prepared and responding, "*crews are working around the clock*", perhaps a missed opportunity to stress the importance of the storms. A significant weather event is an emergency situation during which typical service levels are suspended. There are currently no Council-approved service levels for significant weather events. However, in the Councillor survey, 63% of respondents felt that the community expects the same service levels during a major snow event. As a result, there is a misalignment of the public's expectations and the reality of a significant weather event.

In addition, the website interface about some of the winter operations information is difficult to navigate and understand, and some material is outdated. Maintaining an updated, easy to navigate website is essential to minimize frustration and confusion and encourage the public to refer to the website as a trusted source for information. On the website, a substantial amount of winter operations information is posted, however some of the vital look-up information is outdated, difficult to navigate, and PlowTO indicates where plows have been rather than the status of road condition.

A link on the City website is provided to review streets that are designated snow routes, impacted by the declaration of a major snow condition.<sup>xxxix</sup>

- The link is a pdf list, rather than offering a user-friendly lookup feature.
- The list is an outdated schedule from the Municipal Code (posted date May 12, 2015, but most recent approved schedule is Feb 24, 2021, and some minor streets have changed).
- If the map link is selected instead, the posted map a lower resolution pdf that is challenging to read based on detail, resolution, and accessibility, shown in the following figure.

Figure 26: Excerpt of Map on City Website to Show Designated Snow Routes



Source: City of Toronto Website

## Finding 7 - Communications: Parking Restrictions

Some of the permanent winter parking restriction signage is difficult to understand and difficult to see. For example, the parking restrictions illustrated on the three signs in Figure 27 are not immediately obvious and may require some interpretation.

Figure 27: Example of Parking Restriction Signage



Source: Municipal VU Site Tours

Residents can become frustrated especially if their vehicle is ticketed or towed. This also created confusion on whether or not a vehicle could be legally towed.

In addition to the permanent signage, the City also posts temporary signage in advance of snow removal operations. Temporary orange signs are erected in nearby snowbanks advising residents to move their vehicles off the street ahead of snow removal operations. Residents may also receive a knock on their door from crews requesting they move their vehicles for snow removal. Staff noted that better methods of advanced communication of snow removal operations may result in fewer parked cars remaining.

As a result of insufficient or unclear signage, many residents continued to park along snow routes or in the way of snow removal operations. Furthermore, staff reported that insufficient signage limited the City's ability to tow parked vehicles in some cases, further exacerbating the issues.

### 6.1.2.b) Operations and Process Challenges

The second key theme identified during the diagnosis phase relates to operations and processes. A number of challenges and areas for improvement were identified. Below is a listing of the key operations-related issues that were identified by the Municipal VU team.

#### Finding 8 - Service Levels

Standard service levels for normal winter operations are suspended during significant weather events in accordance with Ontario Regulation 612/06 and the City's own assertions. There are also no approved service levels for snow removal. However, this distinction is not clearly conveyed in public-facing materials. For instance, 63% of Councillor survey respondents indicated that residents expect the same level of service during major snowstorms. This suggests a disconnect between formal policy and public perception.

Also, although the City has Council-approved service levels for winter maintenance, the sampling of various publications revealed inconsistencies in how these service levels are defined and communicated. As an example, there were notable discrepancies in service level descriptions across various City website pages, the 2024/25 Winter Service Guide, and the 2024 Councillor Information Session. These sources vary in terminology, thresholds, and expected timelines for services such as plowing, windrow clearing, cycling infrastructure and bus stops plowing, and the definition (and photographs) of "*centre bare*" pavement differs across documents. These variations, although seemingly minor, can lead to misunderstandings about what service the public should expect and when.

Publication of maximum operating times (MOTs) in public-facing materials can be misleading. The MOTs are related to one round as per contractual requirements, and additional rounds or major snow events are not part of those reported response times, but the public may perceive the MOTs as the time to clear the snow.



In comparison:

- Montreal and Buffalo do not appear to report operating times or times to clear snow on websites.
- Ottawa does not use *"safe and passable"* as a desired outcome, but rather *"snow packed"*.

### **Finding 9 - Major Snow Event Response Plan**

The major snow event of February 2025 presented the first real test for the City's new MSERP. The plan was not as robust or detailed as it could have been and several areas for improvement were identified:

- All of the mapping for priority areas were not fully or thoroughly documented prior to the event.
- In conjunction with the previous statement, route maps for snow removal were not prepared prior to the event.
- Clear roles and responsibilities for various senior staff were not fully documented prior to the event. Furthermore, there was confusion regarding who, when, where and how the plan was being implemented.
- A clear and concise emergency communication strategy was lacking.
- Scenarios (such as towing, alternate parking, streetcar or solid waste collection suspension, etc.) were not pre-planned in advance of the event.
- There was no pre-planned staff re-deployment strategy for different scenarios similar to a business continuity plan.
- Coordination with TTC, TPA and other stakeholders was not well defined.

Staff have already begun to address some of these issues.

### **Finding 10 - Incident Management Principles**

The City's Emergency Operations Centre (EOC) was activated on February 12, 2025, to coordinate resources from across the City and help respond to the major snow event. Although the EOC was activated, the response within the Transportation Services Division did not effectively employ the use of Incident Management Principles. The application of these principles could have benefitted their response. For example, minutes from meetings and conference calls that occurred during the storm events are limited. Such as:

- Formal and regular cycle cadence for meetings
- The designation of a scribe would have improved the City's documentation while enabling responders to focus on operations.
- Situation reports and updates.

### **Finding 11 - Patroller Reports**

Despite having multiple patrollers in the field during every winter event, the City's current road

condition monitoring process is arduous, and misses a key opportunity to use this presence as a real-time intelligence asset. The volume, format, and variability of patroller reports present challenges for managers attempting to review information at a contract area scale.

Using pre-determined routes, four to five patrollers monitor weather conditions, road conditions, and contractor activities in each contract area, while also responding to service requests. The patroller location and is time-tracked with GPS technology, and at least every 30 minutes, each patroller is prompted to record the current road location and condition in a Maximo work order, along with other investigative work or observations. At the end of the patrol shift, the patroller manually prepares a report to summarize the shift activities and patrol results.

- End-of-Shift reports are free-form emails with unique subject lines, not standardized reports, making bulk sorting, processing, data mining, actioning trends, and sorting (of up to 150 reports per day) challenging.
- The content and structure of these report emails vary significantly across patrollers. Some contain minimal narrative, other include work order logs, weather data, city advisories, and/or contractor activations, as both attachments, or pasted into the email body, with no consistent approach to formatting (varying in fonts, colours, layout). This lack of standardization makes it difficult for report reviewers to efficiently scan, interpret, or aggregate information across shifts or contract areas. As a result, the current process does not support real-time decision-making, consistent oversight, or effective monitoring of contractor performance.
- Patrollers pause every 30 minutes to enter their location and road observations into a Maximo work order. However, the precision of these entries varies (some log only a street name, while others specify the road segment). Although GPS tracking captures the vehicle's actual location, reconciling this data with the work order requires manual effort. Work orders default the road condition to "*snow covered*," increasing the likelihood of inaccurate entries if staff are not vigilant, an issue confirmed during the Municipal VU review.
- Some patrollers attach the work order pdf to the end-of-shift email, but in this format, this adds another layer of separation for reviewers, who must then locate and access the work order in Maximo to verify or analyze the data in digital format. Despite its potential to provide near-real-time insight into field conditions, this information is underutilized due to access and quality issues. Moreover, from a liability standpoint, the work order alone does not fully capture the results of the patrol route; confirming the patroller's coverage and corresponding road conditions would require reconciliation with GPS data, as not every road driven is linked to a documented observation in the work order.

The current patrolling approach reflects a missed opportunity to harness patrols as a real-time intelligence asset. Patrollers currently record road conditions by driving representative routes,

but the insights they gather are often delayed, passed through multiple manual steps before they reach decision-makers. By the time reports are submitted at shift end, reviewed, and used to make adjustments, the information may no longer reflect on-the-ground reality.

#### **Finding 12 - Coordination with TTC, TPA, TW and Solid Waste**

Transportation Services staff reported positive collaboration with key partners during recent snow events, including the TPA, TTC, Toronto Water, and Solid Waste Management Services. Support activities such as bagging parking meters, deploying temporary signage, adjusting transit schedules, and assisting with snow clearing were critical to effective operations. However, many of these efforts were coordinated on an ad hoc basis without formalized protocols or pre-established communication pathways.

To improve responsiveness and consistency during major snow events, Transportation Services should formalize interdivisional coordination through standard operating procedures, defined roles, and pre-season planning exercises. This should include the development of clear, centralized communication protocols to replace informal outreach and ensure all divisions are aligned in real-time. Establishing structured coordination frameworks would enhance operational efficiency, reduce confusion, and ensure that supporting divisions are mobilized in a timely and predictable manner.

#### **Finding 13 - Snow Removal Operations**

The City does not have a clear, Council-approved plan or standard for snow removal operations. While snow clearing, plowing and salting, have defined service levels, removal of accumulated snow piles is triggered reactively and lacks consistent timelines, dedicated funding, or clear contractor obligations. As a result, when multiple major storms hit in succession, crews faced overloaded curb lanes, blocked sidewalks, and constrained storage capacity with no clear playbook for how quickly to haul snow away city-wide.

This gap created avoidable delays and confusion for residents and staff alike. Without strong contract terms or surge resources for hauling, operations relied heavily on stretched City crews and ad hoc contractor capacity, limiting how fast snow could be removed. The absence of clear removal timelines also made it harder to manage public expectations and communicate realistic updates.

During the February 2025 major snow event, 632 work orders were created related to snow removal. As of June 2025, only 218 (34%) have been marked as complete. The direction was to get snow removal equipment on the streets whether the equipment was listed on the contract or not. It was difficult to verify whether snow removal work had been completed because equipment not listed in the contract lacked GPS/AVL tracking. This verification gap delayed the ability to close work orders and issue payments, contributing to the 66% of work orders that remained unresolved.

#### Finding 14 - Salting of Separated Cycle Tracks

The current salting strategy is not always effective for separated cycle tracks. Road salt is more effective if there is sun or friction to help begin the melt process. On separated cycle tracks there is less friction than on a road that is traversed by vehicles. As a result, road salt does not always effectively melt the snow in the separated cycle tracks.

#### Finding 15 - AVL System

While the City has invested in modern GPS and AVL systems for its plows and contractor fleets, the way this technology is currently used, creates operational blind spots and sometimes undermines service oversight. The AVL system and Geotab units show where plows have travelled and when routes were completed, but they primarily report the *effort* of making a pass rather than the *result* on the ground. This means the system can log that a sidewalk or road segment was “cleared” even if snow conditions, heavy drifts, parked cars, or equipment limitations, meant the plow could not actually remove the snow to the required standard.

This gap between logged activity and real conditions has serious consequences. During the February storms, multiple sidewalk routes showed as “100% complete” in internal dashboards when, in reality, many remained snow-covered or partially blocked. Frontline supervisors and 311 staff often had no easy way to reconcile AVL pass data with real-time on-the-ground condition checks, which meant inaccurate or overly optimistic service updates were provided to the public and elected officials. This created a false narrative that the work was done, eroding public trust and delaying follow-up deployment to problem areas.

Another operational weakness is that the AVL system is not fully integrated with condition monitoring tools. While the technology tracks plow movements, it does not capture or display real-time road or sidewalk conditions, such as packed snow depth, ice build-up, windrows, or obstructions. Field checks are often manual, relying on limited staff inspections, phone updates or resident complaints. As a result, the City lacks a true live situational dashboard to verify whether the completed work meets standards. This makes it difficult to redeploy crews dynamically, hold contractors accountable, and respond quickly when initial passes are ineffective, especially during large back-to-back storms.

#### Finding 16 - Timing of Sidewalk Activations

A well-intentioned change in Toronto’s winter service standards reduced the sidewalk plowing activation threshold from 8 cm to 2 cm of snow accumulation. This adjustment was introduced to ensure that sidewalks are cleared earlier, with the goal of improving safety and accessibility for pedestrians, people using mobility devices, seniors, and families with strollers. The standard also sets an ambitious target of clearing sidewalks within 12 hours once the activation point is reached.

However, the February 2025 storm sequence highlighted that while this lower activation threshold is effective during moderate snowfalls, it created unintended operational challenges during this large, prolonged storm that deliver heavy accumulations in rapid succession. Because sidewalk plowing now begins before local and collector road plowing is triggered (many local streets are not activated until 8 cm of snow accumulation), sidewalks along these streets may be cleared once, only to be re-buried by the road plows when they eventually pass through later in the event. This sequence can occur multiple times in a single major storm, particularly when heavy snow, blowing snow, and drifting make repeat passes unavoidable.

This created an outcome that was counter to the original intent of the lowered sidewalk threshold: instead of staying clear and accessible, sidewalks were sometimes left buried under fresh windrows pushed back by curb plows or sidewalk-adjacent roadway clearing. The end result is that vulnerable users can face repeated blockages despite the early activation, leading to frustration and additional calls for service.

Another significant issue is the operational reality for sidewalk plow operators, many of whom operate smaller machines on tight urban beats that require significant maneuvering. Once a storm begins, these operators are often dispatched promptly to meet the 2 cm activation standard. Because sidewalk plowing is time-consuming, involving repeated passes, detours around parked cars, and handwork at corners, operators can reach their maximum allowable working hours (typically 13 hours under the Highway Traffic Act) well before the entire storm cycle is complete.

In practice, operators who start early on sidewalks may reach their 13-hour limit before they have a chance to return and re-clear sections that were re-buried by subsequent road plowing. Once this limit is reached, they are legally required to stand down for a mandatory 8-hour rest period. While this ensures safe working conditions and aligns with legal operator fatigue management requirements, it leaves limited capacity to redo sidewalks in a timely manner.

### 6.1.2.c) Contract Challenges

The next key theme relates to the winter maintenance contracts. A number of contractual challenges and areas for improvement were identified during Municipal VU's diagnosis. Below is a listing of the key contracts-related issues that were identified by the Municipal VU team.

#### **Finding 17 - Pool of Contractors**

The City's performance-based winter maintenance contracts have resulted in several improvements over the previous contracts, but they have also brought to light additional areas for improvement. The City was successful in reducing the number of contracts from 47 to 11. However, the RFPs did not prevent vendors from bidding on multiple areas, so the resulting 11 contracts involve only five vendors, and three of those five are intertwined in a joint venture,

further limiting capacities. This has resulted in an overreliance on a small number of vendors and has exacerbated staffing, equipment and other resource availability issues.

### **Finding 18 - Contract does not Address Snow Removal**

One key gap identified is the fact that the City's current performance-based winter maintenance contracts do not address large-scale snow removal operations. Snow removal is not adequately described, nor is it adequately resourced in the current contracts. Historically, staff focused contract terms on routine plowing and salting with clear standards and payments, while treating snow removal as an unpredictable, exceptional task handled on an ad hoc basis when ROW storage runs out.

Performance-based contracts were largely designed to shift risk and day-to-day operational control to contractors for routine clearing, not for high-cost surge operations like large-scale removal. In many cases, these details were not fully specified in past contracts, partly to avoid driving up bid prices with additional standby costs for work that may not be needed every winter.

Snow removal has historically fallen into a grey area: too costly and variable to fully build into base contracts, but too critical to leave purely to chance. The February 2025 storm revealed the real operational risks of this gap, and shows why stronger contract language, and reliable resourcing are needed if the City is to manage major snow accumulations more proactively and effectively in future winters.

A summary of snow removal issues related to the current contracts include:

- The winter maintenance contracts were not designed to deal with snow removal.
- Snow removal is billed based on time and material. Media reports have indicated that residents want clear snow removal service levels. TTC Riders, a volunteer organization of transit riders stated, "*We want to see the city of Toronto implement very clear service standards for snow removal with clear timelines to remove snow.*"<sup>xxl</sup>
- Unlike snow clearing operations, the current contracts do not require dedicated removal crews and equipment on standby. This contributed to the delays during the February snow events. Snow removal operations should be able to be done simultaneously with snow plowing/salting operations.
- Unlike snow clearing operations, snow removal is not performance-based and as a result it is difficult to monitor quality and verify invoicing.
- Snow removal equipment capacity and types are not covered in the contracts (i.e. blower capacity and types not specified).
- Snow removal requires haulage trucks, and this service is managed through a separate contract with limited resources to keep the blowers running while they drive to the disposal sites and return.



**Finding 19 - Contractor Staff Capacity – Snow Removal**

As stated above, snow removal is not adequately described in the current contracts which do not require dedicated crews and equipment on standby for removal activities. As a result, the same crews that perform snow clearing operations are also tasked with snow removal. Since the February 2025 major snow event involved several back-to-back storms, crews were re-directed from snow removal operations to fulfill their MOT requirements for snow clearing. The current contracts do not require Contractors to have sufficient staff to conduct snow clearing and snow removal operations at the same time.

Furthermore, in accordance with O. Reg. 555/06 under the Highway Traffic Act, *"after a driver has accumulated 13 hours of driving time in a day, the driver shall not drive again on the same day."* In many cases Contractor crews were unable to continue work after completing snow clearing duties, and snow removal operations had to wait.

**Finding 20 - Performance Based vs Traditional Contracts**

The City's current winter maintenance approach relies heavily on performance-based contracts, which focus on outcomes rather than micromanaging routes, equipment or staffing hour by hour. Under this model, the City defines broad service standards, such as how quickly roads must be cleared to bare pavement, etc. and leaves it to contractors to plan how they deliver that result. This can provide predictable pricing, encourage efficiency, and reduce the City's day-to-day oversight burden. However, when oversight tools like GPS or condition inspections are weak, there is a risk that contractors report work as complete when actual conditions still fall short, especially for sidewalks and local streets where results can be harder to verify in real time.

In contrast, traditional unit-based or hourly contracts give the City more operational control but come with different trade-offs. This was the City's previous approach with 47 different contractors. In this model, the City set detailed beat maps, approves which equipment is used, and pays contractors based on actual hours worked and materials used. This allows staff to directly supervise sensitive or high-risk routes, like narrow sidewalks, downtown zones or priority transit stops. However, unit-based contracts demand more hands-on management and create more administrative work verifying time sheets and usage logs. They can also expose the City to higher costs in severe winters, because more hours worked means more cost, whether the work is efficient or not.

**Finding 21 - Equipment Type and Substitution**

Under the existing contracts, contractors are responsible for determining the required equipment to complete the required servicing. This was a decision made to encourage innovation. However, it has resulted in a lack of control by the City with regards to equipment selection. A more balanced approach whereby the contract specifies equipment types may be preferable.

Furthermore, the performance-based contracts have also resulted in Contractor equipment substitutions. Contractors have implemented substitutions that they believe can still achieve their performance-based objectives.

### **Finding 22 - Contractor Deficiencies**

In the Councillor survey, 100% of respondents felt as though the contractors did not meet their obligations for snow clearing and removal during the major snowstorms. While it may have appeared that there were deficiencies, Municipal VU extensively sampled activation records and patroller reports, and was unable to identify any significant deviations from the contract performance indicators. Although there were many deficiencies identified by patrollers and work orders created in Maximo, the contractor went back on their own dime to rectify known issues. It should also be noted that during a significant weather event, MOTs and many time metrics are suspended.

Instead, the issues identified throughout this section collectively contributed to the City's overall performance during the major snow event. In particular, the core issues identified in Section 6.2 played a significant role in the effectiveness and efficiency of snow clearing and removal operations. In the end, snow clearing and removal issues were largely attributed to the fact that the contracts were not set up for snow removal; there are no maximum operating times or service standards by which to hold the Contractors accountable. If snow removal deficiencies were found, Transportation Services would send Contractors out to fix them; however, no liquidated damages at that point were applicable.

#### **6.1.2.d) Physical Constraint Challenges**

A number of challenges related to physical barriers or constraints were identified throughout the diagnosis phase. These constraints made snow clearing and removal operations more difficult and also affected snow storage capacity in some cases. Below is a listing of the key issues related to physical constraints that were identified by the Municipal VU team.

### **Finding 23 - Limited Right-of-Way Storage**

A physical constraint affecting winter maintenance operations is the limited availability of snow storage space within the public right-of-way in many areas of the City, particularly in older, denser neighbourhoods. Narrow streets, on-street single or dual side parking, minimal boulevard space, monolithic sidewalk design, and illegally parked cars can leave reduced capacity to store accumulated snow. As a result, plowing and removal operations were often hampered not just by the volume of snowfall, but by the physical limitations of the built environment and parked cars. As snow accumulated through successive events, the limited storage space within the right-of-way became one of the most persistent operational barriers in the winter response.

**Legally Parked Vehicles:** Even when parked in accordance with regulations, on-street parking during or after a snowfall prevented plows and removal equipment from operating effectively, especially on streets with parking on both sides. In situations where snow is already stored along the curb or in windrows, the presence of parked cars significantly reduced the maneuvering room available for equipment. This often results in narrower cleared lanes, unplowed curbside sections, and reduced access for emergency vehicles. Parked vehicles became further buried by plowed snow, which also delayed sidewalk and curb clearing, and in some cases, create localized drainage or accessibility issues as windrows hardened and blocked crossings or curb cuts.

**Illegally Parked Vehicles:** Vehicles parked in contravention of winter parking rules (such as parking on designated snow routes during a major snowstorm condition) presented direct obstructions. These vehicles caused delays, forced inefficient re-routing, or necessitated towing operations before clearing could proceed.

**Narrow Travel Lanes:** Many local and collector streets are not wide enough to accommodate large snow-clearing equipment once snowbanks begin to encroach. This led to reduced maneuverability and, in some cases, forced operations to be delayed or rerouted.

**Lack of Boulevard Space:** In areas with monolithic sidewalk design (where sidewalks are directly adjacent to the curb, with no buffer zone to store snow), snow from the roadway, sidewalk, and driveways competed for the same limited storage space.

**Private Snow Clearing onto the Right-of-Way:** In some areas, particularly in the downtown core where space is already constrained by hardscaping, snow was cleared from private property into the public right-of-way. This practice, though common and difficult to prevent, exacerbated the challenge of snow storage.

#### **Finding 24 - Street-Level Features**

While many street-level features within the right-of-way serve important public, functional, or design purposes, such as supporting transit use, accessibility, waste collection, or public realm enhancements, these can also present access and maneuverability challenges and delays during major snow events.

Through interviews with City staff and site visits conducted by the Municipal VU team, a range of street-level features were identified that require special equipment, specialized routes, and/or manual clearing techniques. These features can be both temporary and permanent, and include permanent patios, Zicla platforms, traffic calming infrastructure, poles and posts, retaining walls, fences, gates, and planters, to name a few. While essential to the function and character of the streetscape, their presence, especially in narrow or high-demand areas, can make snow clearing or removal more difficult in storms.

#### **Finding 25 - Depot Space**

The winter maintenance depots are facing growing space constraints, safety challenges, and

redevelopment pressures that threaten the City's ability to deliver reliable and efficient winter services now and in the future.

Winter maintenance depots are operational hubs for the city's winter operations. Strategically located across the city, these sites serve as bases for both City staff and engaged contractors, to enable timely deployment of resources during winter operations. The space at depots must accommodate staff facilities and parking, fleet and equipment parking, refueling stations, and salt domes, with sufficient layout to support the movement, turning, and safe backing of large vehicles into the domes, fuel, and parking areas. Depots serve as the operational base where crews begin and end their shifts, where fleet is refueled and re-loaded with salt and brine, and where materials are stored, requiring a site design that enables these activities to be safe for staff, contractors, and the surrounding neighbourhood. Space in at least one depot is typically designated per contractor, and the same depots also support City fleet and operations.

However, several challenges with depot space exist.

- Several of the existing depot sites are operating at or near capacity, and current space may not be sufficient to support growing operational demands. There are currently no additional depot sites available should additional contractors be engaged that require depot space.
- The physical layout and available space at some depots present limitations on safe and efficient operation. Large and specialized winter vehicles such as backhoes, graders, and tri-axle dump trucks with plow and wing attachments, require significant space to park, turn, and maneuver, within and in/out of the site, all while maintaining clear and unobstructed access routes. In some locations, these operations spill into surrounding residential areas, creating conflicts with narrow rights-of-way and contributing to congestion. These constraints not only create operational inefficiencies but also introduce safety concerns for staff and the public.
- The winter depot network is designed to provide geographic coverage aligned with service areas, but this has resulted in several depots being located in areas with very high land value. Sites like Wellington and King are especially strategic for downtown service delivery, yet they sit on land with significant redevelopment potential. Staff have noted that discussions are underway about the future of some of these sites. Any loss or downsizing of these depots could limit the City's ability to maintain timely and effective winter services in affected neighbourhoods.

## **Finding 26 - Snow Dump Site Capacity**

The City operates five snow dump sites that are strategically located to receive, store, and sometimes melt collected snow under controlled conditions. These sites require a significant footprint not only for snow storage but also for safe maneuvering, unloading, and queuing of large trucks, activities that must be supported by the site layout.

Two of the sites had reached capacity during the major snow event, raising concerns about long-term adequacy. Finding suitable space for snow storage in a dense urban environment is difficult due to land use pressures, traffic impacts, environmental constraints, and public safety considerations. Without reliable disposal capacity, snow removal operations can be slowed or more costly.

### 6.1.2.e) Resources and Equipment

Resources and equipment refer to the availability, suitability, scalability and operational readiness of staff, fleet, and contractors that are required to effectively carry out winter maintenance, especially in major snow events. Throughout the diagnosis phase a number of challenges or areas for improvement were identified that relate to this theme. Below is a listing of the key resources-related issues that were identified by the Municipal VU team.

#### **Finding 27 - Staff Redeployment**

During the February 2025 major snow event, a number of staff were redeployed from Toronto Water (primarily backhoe operators, along with backhoes) and from Solid Waste Management Services (primarily for manual clearing labour). Approximately 50 personnel were redeployed to assist with snow clearing, especially for manual clearing on steps, walkways, and overpasses.

While this cross-divisional support provided meaningful operational relief and was welcomed by Transportation Services, it was arranged on an ad-hoc basis through informal conversations and working relationships. No formal, documented redeployment framework currently exists to guide or scale this kind of assistance during major snow events.

#### **Finding 28 - In-House Sidewalk Equipment**

As widely published in the news media, the City's in-house sidewalk clearing equipment was not fully operational when the February 2025 major snow event hit.

The City owns 59 sidewalk plows of which six are spare units. As per Fleet Services After Action Report<sup>xli</sup>, the following units were active and available before and during the February 2025 major snow event

- End of November 2024: 48 units, 90.6% available
- February 7 (end of day before snow event): 43 units, 81.1% available
- February 8-9: 14 units came in and 10 units were repaired and returned
- February 11: 38 units, 71.7% available
- February 12-13: 34 units came in and 23 units were repaired and returned
- February 15: 33 units, 55.9% available
- February 16-17: 21 units came in and 9 units were repaired and returned

*Note: These numbers differ from those reported in the City Manager's March 25, 2025, Response to the Administrative Inquiry Regarding February 2025 Snow Events due to receiving updated information from Fleet Services.*

Councillors and the public were concerned that nearly half the fleet was down at some points during the major snow event. Transportation Services reported that 60% of the unavailable units were attributed to vehicle issues (i.e. hydraulics, tires and attachments failures) and 40% were attributed to operational use (i.e. collisions or overloading and broken components due to intense use).

In their Mechanical Sidewalk Winter Maintenance Trial report to Council in 2021, Transportation Services staff reported the results of the mechanical sidewalk snow plow trial, noting that the equipment had difficulties on February 15 and 16, 2021, when approximately 10-15 cm of snow accumulated. These difficulties were attributed to lack of power, lack of traction, and failed hydraulic systems due to snow accumulations surpassing machine capability<sup>xlii</sup> further illustrating potential limitations of the equipment during heavy snowfalls.

The challenges with the City's mechanical sidewalk plows slowed operations in the areas of the downtown that they are responsible for, but these difficulties do not appear to be the root cause of the widespread issues reported across the City. As stated earlier, the main issue with the sidewalks was the limited storage space in the ROW, requiring more intensive snow removal, not just plowing (clearing). It is difficult to quantify, but if the City had all of its fleet operational, these overriding root cases would have still perpetuated.

### **Finding 29 - Snow Removal Equipment**

In a report to Council regarding updates to the Major Snow Event Response Plan (March 2024),<sup>xliii</sup> staff reported that:

*"The amount of [snow removal] equipment the City owns is thought to be a reasonable balance between recovering the infrastructure in a timely manner and avoiding equipment sitting unused over the course of its lifespan. A larger on-hand fleet of snow removal equipment will increase annual costs of the winter maintenance program, with the only benefit being some possibility of restoring infrastructure a few days earlier after large storms, which may happen only rarely."*

Only 12% of contract equipment was identified as eligible for snow removal. Thus, equipment not listed as snow removal nor on the contract had to be negotiated as the storm unfolded.

The City had to rely on additional snow removal outside of the contract that was not fitted with GPS/AVL devices. Without GPS tracking, the City lacked real-time visibility into where equipment is operating, making it difficult to manage snow removal operationally, monitor progress, or identify coverage gaps. This also limits the ability to perform quality control on reported completion data or validate contractor billing.



### **Finding 30 - Melting Equipment**

Snow melters are large units that are stationed at two of the snow dumpsites and are an important part of the overall snow removal process. If melters fail, snow storage capacity is reached sooner, which results in increased haulage/costs in carrying removed snow to alternate sites. Without reliable melters, especially in dumpsites with capacity constraints, the job is only half done when snow is dumped, and the system can lose its ability to keep up during major snow events.

When visited in the spring, the melting equipment at one snow dump site was found to be non-operational. Staff reported that the melters were not used in 2025 as they are at the end of their useful life and one unit was broken down. New melting equipment is reported to take 1-2 years to procure.

Insufficient storage space at snow dump sites, in combination with inadequate melting equipment, highlight potential risks to timely snow disposal during peak conditions.

### **6.1.2.f) Parking Policies and Bylaws**

Policies and bylaws impact the City's winter maintenance program, especially as it relates to parking. Below is a listing of the key policy/bylaw-related issues that were identified by the Municipal VU team.

### **Finding 31 - Parking Enforcement and Towing Resources**

Parked cars represented a challenge that hindered snow removal operations. In accordance with Toronto Municipal Code Chapter 950, Section 950-406, during major snow storm conditions, parking on designated snow routes is prohibited, with violators subject to fines up to \$200 and potential towing at the owner's expense. During the 2025 major snow event, there were 3,633 tickets issued by Toronto Police Services, but only 74 vehicles were towed.<sup>xliv</sup> Staff reported ticketing was prioritized over towing, due to operational constraints and a focus on striving to maintain traffic flow. It was also reported that towing numbers were low due to insufficient signage in some locations, and limited availability of towing resources.

Towing is managed through separate contracts with private towing companies, each responsible for one of three zones. These companies are tasked with removing vehicles that obstruct snow removal efforts, particularly on critical routes like streetcar lines. The east and west zones have one 90,000-square-foot impound lot each. The limited number of tow trucks and impound facilities can delay the removal of obstructing vehicles, impacting the efficiency of snow clearing operations.

### **Finding 32 - Application of Parking Bylaws**

The City's ability to apply firm, consistent parking restrictions during major snow events is constrained by the fragmented nature of its existing parking bylaws. As different parking rules apply across different districts (for example, whether overnight parking is allowed, whether

permits are required, or how alternate-side parking is enforced), the patchwork of bylaws creates confusion for both residents and City staff, and limits the clarity needed to enforce temporary restrictions during major snow events.

- These challenges are particularly acute in dense urban areas where snow storage is limited and parking is already tightly constrained. Despite the operational need to clear streets efficiently, the City lacks a targeted, ready-to-activate plan to temporarily restrict parking or close roads in areas with the greatest storage and access issues, especially where local bylaws do not align with winter operational needs.
- While the City issued tickets during the February 2025 event, towing was limited due to capacity and resource constraints. Without sufficient vehicle relocation, many streets remained partially obstructed by parked cars, which slowed snow clearing and removal operations.

### **Finding 33 - Public Awareness and Compliance**

Challenges remain in ensuring that the public is aware of what parking is permitted or prohibited during major snow events, and how to access this information, gaps that continue to affect overall compliance with parking regulations. Short notice, inconsistent messaging, and insufficient signage likely contributed to reduced public awareness of snow route parking bans.

- While the City has made efforts to improve communication, such as installing additional signage to clarify parking restrictions, limited space often constrains where and how clearly information can be displayed.
- Public-facing communication tools such as the City's website and social media channels offer opportunities for greater impact. At present, they may not reach all audiences effectively or provide the level of clarity needed during major snow events.
- Enforcement limitations also play a role. Low fine amounts, limited towing capacity, and the absence of viable alternative parking opportunities likely contributed to widespread non-compliance. Many residents appeared to knowingly accept the risk of a fine or tow, given the lack of practical alternatives.
- In benchmarking against other winter cities, such as Montreal, a key difference is the level of public familiarity and routine, as major snow events trigger a well-understood set of public behaviours and responses. The City does not yet exhibit this same level of embedded public awareness for what can be expected in major snow events.

## **6.2. Summary of Overall Core Issues**

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The February 2025 winter storm response revealed that the City's winter maintenance system, while fundamentally sound for routine snowfall, faces systemic gaps that limit its effectiveness when major snowstorm events hit. These core issues are interconnected, cutting across policy, operations, contracts, technology, and communication, and should be addressed as a whole to

build a more resilient, agile, accountable program. The findings and observations that impacted the City's response to the February 2025 major snow event were described above in detail in Section 6.1.2, and some findings had more impacts than others. The following section summarizes and highlights the more systemic, core issues that significantly impacted the City's response. The six core issues diagnosed by Municipal VU are described below.

### **6.2.1. Three Major Events and Limited Urban Snow Storage**

One of the most significant factors was the sheer magnitude and timing of the winter weather. In less than nine days, Toronto experienced three significant snow events, depositing approximately 58 centimetres of snow on the city's dense urban grid. This total snowfall, coupled with repeated freeze-thaw cycles, rapidly overwhelmed the available on-street snow storage capacity. Unlike suburban areas with wide boulevards or large setback spaces, Toronto's downtown and inner-suburban streets have limited curb lanes and narrow rights-of-way. Once boulevards and sidewalks are buried, there is nowhere to safely store new snow except to pile it higher, creating windrows that block pedestrian crossings, bury bus stops, and reduce road capacity.

The limited storage capacity meant that the City had to switch back and forth, between routine plowing to full-scale snow removal, a much more resource-intensive operation that depends on timely planning, hauling, staging and disposal. However, because storage fills up fast in a major storm sequence, every delay in activating removal operations compounds the blockage problems city-wide. Many streets were forced to operate with narrowed lanes for days, impeding transit, emergency access and local traffic. In residential neighbourhoods with tight streets and extensive on-street parking, snow piles restricted visibility, limited parking supply even further, and made access for garbage collection, school buses, and deliveries more challenging.

These realities are not new; Toronto's core urban areas have always faced snow storage constraints. But the February 2025 sequence highlighted how quickly normal capacity can be overwhelmed during consecutive large storms. Without clear escalation points and fully resourced removal and hauling operations, the City had to react to mounting snow piles after the fact, rather than removing snow preventively to protect mobility.

### **6.2.2. Major Snow Event Response Plan Lacked Details**

While the City's MSERP outlines high-level triggers and actions, it lacks the detailed operational guidance required to manage the unique demands of a severe multi-day, multi-storm scenario. Specifically, the plan did not include pre-defined snow removal beat maps, priority hauling routes, or neighbourhood-level staging areas that could speed up removal once storage capacity was exceeded. It also lacked some key areas of focus such as scenario planning,

contingency staffing, and the availability of *surge* snow removal equipment and operators. This means that operations staff and contractors had to make real-time ad hoc decisions about which areas to tackle first, where to stage loaders and haul trucks, and how to coordinate hauling logistics, all during the peak of the crisis, when time and resources are already constrained.

Without these granular plans and in place, snow removal operations risk becoming fragmented, with districts making different tactical decisions and limited ability to coordinate equipment across zones. In the February 2025 major snow event, this resulted in inconsistent removal timelines between neighbourhoods and some confusion about which streets would be addressed first. It also complicated coordination with other City services like Solid Waste and TTC.

Detailed, street-level plans for major storm events would also help crews better manage complications like on-street parking and towing. In many cases, cars remained parked on snow routes for hours or days after bans were declared, making plowing and removal more difficult. Clear, pre-planned maps linked to parking bans, towing zones and snow pile staging would give field crews a stronger framework to deploy resources efficiently and give residents more accurate information about what to expect.

The City's emergency preparedness for major snow events was not as agile or scalable as it could have been. This storm underscored the need for improvements such as contingency contracts, a reserve pool of trained personnel, and more robust emergency drills tailored to winter scenarios.

### 6.2.3. Reporting Tools Ineffective at Tracking Results

The City's current GPS and Automatic Vehicle Location (AVL) tools, while useful for tracking plow movement, were not designed to measure final conditions on the ground. The systems primarily log whether a plow or salter has driven a route, which is used as a proxy for completion, but this does not confirm whether the route actually meets service levels once the equipment has passed. In a dense city with parked cars, obstacles and varying snow depths, one or even several passes, does not guarantee that a road, sidewalk, or bike lane is truly clear and safe.

This 'effort vs. result' gap caused some confusion during the February 2025 storm response. Internal dashboards often showed high rates of route completion while residents, Councillors and media reported that sidewalks and side streets were still buried. Operations staff then faced delays in redeploying crews because the AVL data implied the work was done. Meanwhile, the limited ability to perform integrated, real-time condition checks meant that discrepancies between reports and reality were only discovered once complaints or 311 service requests surged.

This misalignment undermined the City's ability to provide credible updates to Council and the public. It also weakened accountability with contractors, who could demonstrate that their plows were operating within zones, even if the results on the ground were incomplete. Without condition-based monitoring, such as visual verification, integrated patroller feedback or automated sensors, the AVL system does not close the loop between "*route travelled*" and "*route clear*," which is essential for performance-based contracts to function effectively.

In addition, real-time patroller reports and condition monitoring are not consistently standardized, and insights gathered during patrols must be reconciled with AVL data to form a comprehensive and complete operational record. This creates operational blind spots, weakens quality assurance, and limits the City's ability to proactively redeploy crews or hold contractors accountable for final service conditions.

#### 6.2.4. Gaps in Contract Design for Extreme Events

The City's large, performance-based winter maintenance contracts are built to deliver efficient plowing and salting for routine storms but are less effective at addressing the unique demands of multiple major storms in rapid succession. The City is divided into 11 winter maintenance zones but relies on only five main contractors to cover them. Each contractor has autonomy to allocate equipment and staff within its zone. While this offers efficiency for day-to-day operations, it limits flexibility when extra capacity is needed for city-wide hauling or removal.

This contract design does not include stand-by clauses or clear requirements for contractors to provide surge equipment and operators for large-scale snow removal. Nor does it detail how contractors should prioritize or reassign resources when storage space runs out. Instead, the same crews and machines often handle both plowing and removal, which means hauling operations must wait until regular plowing tasks are done, delaying removal even further when streets are already narrowed by snow piles.

The limited number of contractors also increases risk. If one large contractor underperforms, has equipment breakdowns, or cannot redeploy crews fast enough, an entire zone's response is impacted. The City has very few levers to enforce timely removal and ensure contractors maintain dedicated haulage capacity for extreme events.

The lack of specified snow removal resources, combined with no contractual obligation for stand-by capacity for removal, left gaps in accountability and hindered the City's ability to direct additional trucks, operators, or haulage when right-of-way storage was exhausted.

#### 6.2.5. Snow Removal Not Clearly Defined or Resourced

While the City's contracts and service levels comprehensively address salting and plowing operations for routine events, the City currently treats snow removal as an exceptional, ad hoc

activity rather than an integrated part of storm response. Without formal service levels, clear triggers, and pre-arranged capacity, staff reactively plan snow removal once right-of-way storage is exhausted, leading to delayed mobilization and inconsistent outcomes.

Additionally, the City does not maintain a robust network of standby hauling contractors or extra dump site arrangements for severe storm events. When severe or back-to-back storms like those in February 2025 occur, operations are forced to search for additional hauling capacity at peak demand, often competing with private haulers booked for other work or unable to mobilize quickly. This lack of defined capacity prolongs the time streets remain narrowed, sidewalks remain blocked, and snow piles encroach on catch basins, bus stops and intersections.

Without clear service levels, standby contracts and dedicated resources for removal, the City's operations plan defaults to reactive clean-up, rather than proactively removing snow before it causes extended blockages. This gap directly contributed to slower-than-expected clearing of sidewalks, side streets and intersections during the February events.

## 6.2.6. Communication Gaps and Misaligned Expectations

Finally, the February 2025 storm sequence demonstrated how communication gaps can amplify operational challenges. While some communication efforts were noted as positives, several gaps undermined public trust during the storm. The City's winter communications have historically focused on routine, reassuring updates rather than true 'emergency-style' messaging when severe events strike. The February 2025 storms highlighted that standard service bulletins do not match the reality of prolonged delays, large piles and blocked pedestrian routes during extreme conditions.

Inaccurate or overly optimistic statements about progress, combined with the AVL system's incomplete picture, created frustration when residents and Councillors could see that streets or sidewalks were not actually clear. Stronger, more transparent messaging is needed to set realistic timelines, explain operational constraints, and clarify when removal operations will be completed.

Better coordination with stakeholders, clearer escalation messages for Council, and more transparent updates to residents about realistic timelines and operational limits are all needed to align expectations with what is actually possible during extreme storms. Without this, public trust erodes, and operational staff face growing pressure to respond reactively rather than work from a coordinated plan.



## 7. Improvement Opportunities & Recommendations

To formulate improvement opportunities, the Municipal VU team brainstormed, discussed, and explored solutions to address core issues and to address other challenges. Building on the identified strengths where possible, these opportunities were developed and designed to be practical, scalable, and aligned with the City's operational environment and goals, drawing from the Municipal VU team's operational and winter service experience and leading practices.

To align with the upcoming budget cycle and winter season, several recommendations for immediate action are also presented in this section.

This section presents:

- Improvement opportunities,
- Recommendations for immediate implementation, and
- Resource and timing implications.

### 7.1. Improvement Opportunities

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Sections 7.1.1 through 7.1.6 document improvement opportunities for consideration by the City. These opportunities are organized into the same six categories as the findings, for consistency, although many of the improvement opportunities may address multiple findings. The categories are:

- Communications
- Operations and Process
- Contracts
- Physical Constraints
- Resources and Equipment, and
- Policies and Bylaws.

Improvement opportunities under each category are described in two-time horizons:

- Immediate to short term opportunities, which are most suited to implement within this or the next year generally based on risk, benefit, ease of implementation, or if the actions are fundamental to the success of operations.
- Long term opportunities, which are likely most suited to initiate later, based on risk, benefit, or complexity of implementation, or will take a longer time to implement.

Benchmarking notes with examples from other North American municipalities are included, where possible.

### 7.1.1. Communications Opportunities

The goal of making improvements in Communications is to provide proactive, coordinated, and realistic information that is easy for the community to understand and act upon and enables a two-way flow of important and relevant information.

#### 7.1.1.a) Short Term Improvements

The following improvement opportunities in Communication were identified, which may be candidates for implementation in the immediate to short term.

##### Opportunity 1 - Communicate Significant Weather Events as Emergencies

When significant weather events are declared, typical service levels are suspended in accordance with Ontario Regulation 612/06. The City should consider treating these events as emergency situations and clearly communicating the severity of the event and the suspension of typical service levels.

Benchmarking Notes:

- Buffalo applies three tiers to snow events, where Tier 2 is called a Localized Large-Scale Extreme Snow Event (> 12 inches of snow in a day), and Tier 3 is a Citywide/Regionwide Extreme Snow Event/Blizzard (> 24 inches in a short-term event).
- Minneapolis has a fully established Snow Emergency system that is enacted whenever a significant storm hits.

##### Opportunity 2 - Communicate Results Rather Than Effort

During a snow event, the public and members of Council want to know the snow conditions on the public right of way. Communicating the number of rounds of snow clearing provided a false sense of the actual condition of the roads, sidewalks and cycling infrastructure.

During or after major snow events, in addition to reporting *"first round complete"* or *"crews working around the clock"*, the City should communicate other reporting metrics that indicate quality rather than only effort. Extensive data is recorded through patrolling and contractors, which may be utilized for more realistic reporting. For example, reporting might include the following messages:

- Percentage of road classes, sidewalks, or bike lanes that are salted or cleared down to minimum maintenance standards, or down to target outcome (e.g. *"50% of expressways are cleared to bare pavement"*)
- Which road classes, sidewalks, or bike lanes are actively being worked on (e.g. *"Crews are active on local roads in Ward 5"*).
- Remaining expected and realistic timelines (e.g. *"If weather conditions don't change, sidewalks are estimated to be safe and passable in 24 hours"*).

- Careful choice of terminology for road classes that will be the most easily understood (e.g. expressways vs. arterials).
- Reminders that multiple passes may be needed, weather conditions can degrade progress, and some roads are intentionally prioritized due to criticality, speed, and traffic volume.

Communicating up-to-date conditions of the City's roads, sidewalks and cycling infrastructure, will lead to a more informed public and more realistic expectations. This will require accessing and processing road condition data from patrolling work order records.

#### Benchmarking Notes:

- Montreal has a separate portal for clearing vs. removal. The snow removal portal (also an app) shows percentage of removal completions by borough.
- Edmonton's Snow and Ice Control public portal reports clearing of roads (by road priority) as completed, in progress, or scheduled, and separately on the dashboard reports clearing status for roads during a snow event. The portal has a disclaimer landing page that reminds visitors about snow events and parking. Edmonton also publishes a simple 2-page infographic about service levels.
- The Ottawa public portal reports "*plowed*" vs. "*not plowed*" for roads and cycling infrastructure.

### Opportunity 3 - Improve Consistency of Councillor Communications

Councillors receive advisory emails during major snow events. The advisory includes:

- Weather forecast summary and forecast vs actual snow accumulation table (by district), which can be misleading.
- Active 311 blackouts.
- Schedule of winter operations, showing action (e.g. arterial salting, sidewalk clearing), round number (e.g. "2" for 2nd pass), estimated start and end times for rounds (not to target service levels) by service and geography.

No progress summary or city-wide framing that ties back to service goals is provided.

As part of the Councillor survey, some Councillors indicated that they would like more consistency in communications. Survey results confirmed that all respondents preferred:

- City-wide operations updates
- Email summaries at key points, and
- Progress maps.

The City should investigate opportunities for streamlining updates to members of Council into a single concise and timely format that includes, where possible:

- A concise high-level overview, such as *"It is actively snowing, and as of 7:00 p.m., 68% of arterial roads, 45% of collector roads, and 12% of local roads city-wide have been treated at least once"*.
- Icons where suitable, for easier quick scanning (✅ = complete, 🔄 = in progress).
- Still image of a progress dashboard or GIS layer showing progress by ward or road type, even if it's a snapshot from internal systems. Councillors requested this explicitly.
- Added service outcome language, such as *"Arterial salting in Toronto East York began at 5:45 p.m. and is expected to restore travel lanes to bare pavement within 4 hours (weather dependent)."*

#### Opportunity 4 - Discontinue 311 Blackout Periods

To help minimize mis-communication and frustration and ensure alternatives are available for those who rely on non-digital communication, Transportation Services should explore discontinuing the 311 blackout periods for major snow events and utilizing alternate methods to minimize call volumes. Blackout periods can transition into a 'pause on action' model that retains outward communication access for residents. Instead of fully suspending 311 channels during major winter events:

- Allow the public to still call 311, and for snow-related calls, they will hear pre-recorded messages.
- Use automated responses and service deferrals to reduce call volume. Pre-messaging can provide timely answers to common questions and concerns.
- Internally, maintain operational 'quiet zones' where new requests are queued or not acted upon, as per the current intent, while staff are fully mobilized on winter operations rather than call investigation.

This model preserves the benefits of blackout periods for staff, fewer new inputs during high-volume operations, without the resident confusion and frustration that occurs when 311 is perceived to be unavailable or unresponsive.

Benchmarking Notes:

- Montreal and Chicago do not appear to exercise any 311 blackout periods.
- Buffalo extends coverage of its 311 services during snow events.
- In Ottawa, residents are requested to refrain from calling 311 or creating a service request for anything other than an emergency.

#### 7.1.1.b) Long Term Improvements

The following improvement opportunities in Communication were identified, which may be candidates better suited for implementation in the longer term.

### Opportunity 5 - Improve Public Notifications of Parking Bans

Transportation Services should explore opportunities for improving public notifications of parking bans including:

- The use of an app with push notifications to alert residents of upcoming emergency work and parking bans. This could be a feature built into Plow TO, where residents sign up for alerts.
- Enhancements to PlowTO, the City's website and social media posts. These could display parking ban zones with timeframes, real-time countdowns to two start times, and a 'check my address' lookup tool (the current address reference links to an outdated pdf of alphabetical street segments).
- 311 recordings and scripts that repeat relevant parking ban information.

Currently, information is shared across multiple channels including the City's website, 311, social media, and PlowTO, but public awareness and compliance remain inconsistent, particularly in areas where on-street parking is heavily relied upon.

Benchmarking Notes:

- Ottawa offers the public the ability to sign up for e-alerts to receive parking ban notifications.
- Montreal uses digital tools to post removal schedules and installs parking signage. There is a separate portal for clearing vs. removal. The snow removal portal shows percentage of removal completions by borough, and links for each borough of where to park during removal times.
- Minneapolis alerts residents to alternate parking arrangements via apps, texts, and sirens.

## 7.1.2. Operations and Process Opportunities

The goal of making improvements in Operations and Processes is to plan and execute work consistently, especially in major snow events where the emergency mode is planned, prioritized and proactively managed.

### 7.1.2.a) Short Term Improvements

The following improvement opportunities in Operations and Processes were identified, which may be candidates for implementation in the immediate to short term.

### Opportunity 6 - Develop and Communicate Consistent Service Levels

Clarify Service Provision for Major Storm Events or Snow Removals: In the absence of defined service levels during a significant weather event, the public may be left confused and have

unrealistic expectations, and 63% of Councillor survey respondents felt that the community expects the same service levels during a major snowstorm. Transportation Services should consider the development and communication of different service levels for significant weather events, as well as service levels (which may include timelines) for snow removal.

In addition, Transportation Services should ensure that service levels that are communicated are clear and consistent across all public website and publications.

Clarify public, Council, and internal messaging to clearly distinguish between regular winter operations service levels, and activation triggers (or response levels) for major snow events and removals. Communication should explicitly state when and why service levels may shift, and what the public can expect in different scenarios.

Reframe Service Level Messaging: The City should consider removing time-based service level metrics from public-facing documents and digital materials or reinforcing that any published time targets are not applicable during storms, and why. If time-based service levels are preferred, reference to the maximums from the minimum maintenance standards, which is the time to reduce snow accumulation to the legislated depth (not to the full clearance of snow or achievement of bare pavement).

Instead, timeframes could be used internally only, such as for 311 scripts or customer service staff, who may require reference points to manage inquiries. All public messaging should strongly emphasize that service delivery timelines vary significantly depending on conditions. For example:

- Snowfall intensity and duration
- Whether snow is still falling or recurring
- Blowing and drifting snow
- Temperature and moisture conditions affecting ice buildup.

### **Opportunity 7 - Implement Incident Management Response Approach**

The City did enact the EOC during the February 2025 storm event, however, the action and command still resided in Transportation. Transportation Services should consider implementing a more formal Emergency Operations Centre (EOC) or Incident Management System (IMS) approach within the division brings all relevant sections and contracted partners under a single command structure during a declared Major Snowstorm Condition. Instead of each team making isolated decisions, an EOC coordinates priorities, shares real-time information, sets clear city-wide objectives, and aligns limited resources across competing needs.

An EOC-led approach also supports clear escalation. Decision-makers can declare when to trigger additional resources, mutual aid, standby contractors, or shifts in service levels, all based on an integrated, division wide picture rather than local work zone reports alone. It enables real-



time situational awareness through dashboards, patrol reports, and AVL data combined, so gaps between 'reported plowed' and actually passable can be closed quickly.

In practice, this means the City's winter maintenance strategy would predefine the conditions under which a severe storm moves from routine operations to EOC-led incident management, including:

- Pre-established roles (Incident Commander, Operations, Logistics, Planning, Communications)
- Integrated storm-specific playbooks with beat maps, removal routes, towing zones, staging sites
- Clear authority for rapid redeployment of staff or equipment
- Joint information centre for public messaging and Council updates
- Regular real-time briefings to senior leadership and stakeholders

Benchmarking Notes:

- Cities like Montreal, New York, and Chicago already use an incident command model for major snowstorms, recognizing that the scale, unpredictability, and tight urban constraints of heavy snow events demand a higher level of real-time control and cross-agency teamwork.
- Buffalo's EOC is immediately activated in response to a state of emergency for snow.
- Minneapolis has a fully established Snow Emergency system that is enacted whenever a significant storm hits.

### **Opportunity 8 - Implement a More Robust Major Snow Event Response Plan**

Transportation Services has a MSERP, but they should update, document and implement a more robust plan. A strong Major Snow Event Response Plan goes far beyond broad policy statements or general storm declarations, it lays out detailed, practical, operational blueprints for exactly how the City and its contractors respond when regular plowing and salting are no longer enough to keep streets and sidewalks safe and passable.

In practice, a modern, effective plan should include clear escalation triggers: for example, specific snowfall thresholds (e.g., 30 cm+ in 24 hours), repeated events within a set number of days, or when storage capacity in curb lanes and boulevards reaches known limits. The plan should define exactly when and how the City declares a Major Snowstorm Condition, what service standards are modified, and when normal clearing shifts to full removal operations.

A robust plan also includes pre-developed, map-based removal routes for each neighbourhood, priority grids for hauling, staging areas for loaders and dump trucks, designated snow dump sites with real-time capacity tracking, and clear hauling corridors that integrate with parking bans and towing enforcement. The plan spells out who is responsible for each removal zone, including which contractors or City crews are on standby, what equipment they must have

available, and how staffing surge capacity will be activated if multiple storms arrive back-to-back.

A detailed plan also sets out communication protocols for the entire response: who issues storm status updates, how often public and Council bulletins go out, how 311 is equipped with clear answers, and how information about removal zones, parking restrictions, and accessible travel routes is shared in real time. It links directly with an EOC or Incident Management structure identified in Opportunity 7 above, clarifying who leads the response, how decisions are coordinated across divisions like Transportation, Parking Enforcement, TTC, Solid Waste, and Emergency Services, and how conflicts between priorities are resolved quickly.

A detailed Major Snow Event Response Plan transforms a reactive scramble into a coordinated, city-wide system, ensuring the City's response keeps pace with the reality of bigger, back-to-back storms and limited urban storage space. It connects service levels, contract expectations, operations, communications, and resource planning into one integrated playbook that protects mobility, accessibility, and public confidence when severe winter weather hits.

It is an essential tool for responding to future major snow events and should be updated to document various winter storm scenarios and their associated responses, timelines, responsible parties and resources required. It should also include detailed plans for snow removal and detailed mapping of priority areas.

Benchmarking Notes:

- Montreal, Buffalo, and Minneapolis have established emergency response plans for snow events.
- Buffalo's plan is reported as a collaborative exercise that involves multiple agencies.

## **Opportunity 9 - Implement a Fully Resourced Snow Removal Plan**

The February 2025 major snow event brought to light that snow removal must be better coordinated. In a dense, built-up city like Toronto, simply pushing snow to the side is not enough during major or repeated snowstorms. Unlike plowing and salting, which can be done with a predictable fleet on defined beats, snow removal is an intensive, costly operation that must haul accumulated snow off streets and sidewalks to designated dump sites or melters. This is the only way to reclaim narrowed streets, clear buried sidewalks, protect accessibility, and maintain safe movement for vehicles, transit and pedestrians after storage space runs out.

Even the best plan fails if there is no dedicated equipment, operators, haul trucks, loaders and dump sites ready to go when the plan is triggered. Relying on the same plows and crews who just finished clearing roads, with no backup fleet or operators on standby, means removal only starts after basic clearing is done, which wastes precious time. If multiple major storms arrive back-to-back, this can quickly overwhelm the system, and equipment and operators are re-assigned back to clearing.

A robust removal plan requires:

- Standby hauling contractors or surge agreements so extra dump trucks and loaders are available on short notice.
- A dedicated budget line for removal operations so costs are not just absorbed from general salting/clearing budget.
- Pre-approved snow dump sites with sufficient capacity, safe access routes, and, where feasible, modern snow melters that speed up disposal in urban cores.
- Dedicated staff or flexible crews cross-trained to handle removal shifts in parallel with plowing, so removal can start as soon as lanes and sidewalks reach capacity, not days later.

Activation levels should be clearly documented, priority areas clearly mapped, and timelines established. Procedures for verifying contractor invoicing should also be developed.

Benchmarking Notes:

- Montreal reports a city culture that treats timely snow removal as critical to keeping a large metropolis safe and moving through winter.
- Buffalo includes a snow removal plan in its Winter Snow Plan.

### **Opportunity 10 - Establish Earlier Activation Triggers for Snow Removal**

Traditionally, snow removal in Toronto is only triggered once storage capacity, curb lanes, boulevards, sidewalk buffers, are visibly full, windrows spill into travel lanes, or piled snow starts to cause major blockages for cars, buses and pedestrians. This reactive approach means crews often tackle large, hardened snowbanks only after multiple storms have compounded the problem, making removal slower, costlier, and more disruptive to traffic.

A more proactive approach shifts that mindset, instead of waiting for streets to be buried edge to edge, the City would initiate targeted snow removal at smaller accumulation levels, after each significant storm or during clear weather windows between storms. For example, once curb lanes are partially filled, say 50% - 60% full, removal crews could haul away windrows and piles in priority locations to reclaim valuable storage space before the next snowfall hits. This ensures that new snow can still be pushed aside during the next plow cycle rather than building up on top of hardened piles that can't be moved easily.

This staged approach means removal isn't a massive scramble days after storage is already maxed out, instead, it becomes a routine, rolling operation that stays ahead of the problem.

From a cost and capacity standpoint, smaller, more frequent removal can actually be more efficient than large, last-minute operations that require extra surge trucks and overtime. Crews can target trouble spots systematically instead of fighting hardened piles city-wide. And, by keeping storage capacity open, the City reduces the chance that back-to-back storms will push

the system beyond its limits, forcing extended closures, narrowed lanes, and costly emergency response measures.

Benchmarking Notes:

- Montreal starts snow removal at 10-15 cm of accumulation.

### **Opportunity 11 - Strategize Starting Times for Sidewalk Plowing**

The City's decision to lower the sidewalk plowing activation threshold from 8 cm to 2 cm reflects a strong commitment to equitable service and accessibility, particularly for seniors, wheelchair users, parents with strollers, and others who rely on safe, passable sidewalks as soon as possible. In smaller or moderate storms, this standard works well, crews can keep up, routes are cleared quickly, and sidewalks stay passable with minimal interruption.

However, in large, high-volume storms, especially when multiple snow events arrive back-to-back, this lower threshold can create unintended consequences. When sidewalks are cleared first, but main roads, local streets, and cycling lanes are still being plowed, heavy road plows push snow back onto freshly cleared sidewalks. This refills curb lanes, blocks driveways and bus stops, and buries sidewalk edges with new windrows.

Meanwhile, because sidewalk operators are already dispatched at the first sign of 2 cm, they may reach their maximum allowable operating hours (typically 13 hours under the Highway Traffic Act and labour regulations) before the storm cycle is fully over. Once they are legally required to take an 8-hour break, there may be no surge crews left to redo sidewalks buried by road plows, leaving pedestrians facing snowed-in routes for hours until crews can legally return.

This creates an unfair situation where the City's intention to protect accessibility actually backfires during a major storm: sidewalks are done early but then buried again, with no capacity to redo them promptly.

To address this, the City should maintain the 2 cm threshold for smaller events but adopt a more flexible, dynamic sidewalk clearing strategy for major snow events:

- **Staged Activation:** For large storms (e.g., 15+ cm forecast), align sidewalk clearing with road plowing progress. Deploy sidewalk plows to follow directly behind road plows where possible, preventing fresh windrows from re-burying sidewalks.
- **Split Routes and Priority Zones:** Use split-beat route planning so that sidewalks near transit stops, schools, hospitals, and high-priority pedestrian corridors are cleared first, with less critical areas sequenced to match road clearing completion.
- **Surge Capacity and Staggered Shifts:** Strengthen the pool of standby or on-call sidewalk operators to rotate fresh crews in when initial operators reach the 13-hour legal limit. This ensures follow-up clearing is available if sidewalks are buried again.

- Integrated Coordination: Improve cross-team coordination so road, cycling and sidewalk plows operate in sync, supported by real-time updates and a centralized storm operations dashboard.

A more strategic activation approach respects the needs of people with mobility challenges *and* the real limits of operators and equipment. It avoids wasted passes, repeat burial, and long wait times when operators are forced off shift mid-event. The result is a fairer, more reliable service that keeps sidewalks genuinely passable during extreme weather, not just briefly cleared and then buried again.

### **Opportunity 12 - Improve Cross-Service Coordination and Communication**

Transportation Services should explore improving and documenting plans for cross service coordination and communication with the TTC, TPA and Solid Waste. Plans should be developed to prioritize and/or support winter service provisions during major snow events, such as bagging of parking signs, arranging shuttles in place of streetcars, and suspending garbage collection.

The City should ensure that snow clearing is tightly coordinated with the TTC, Police, Fire, EMS and others. Transit stops and routes should be second only to hospitals in priority.

Benchmarking Notes:

- Chicago's stance is to suspend some other City services during the peak of a major snow event, this may include garbage collection and public transit suspensions.
- Montreal suspended garbage collection during the same February 2025 storm.
- Minneapolis and Buffalo also exercise service suspensions during major storms.

### **7.1.2.b) Long Term Improvements**

The following improvement opportunities in Operations and Processes were identified, which may be candidates better suited for implementation in the longer term.

### **Opportunity 13 - Enhance the Emergency Operations Centre**

In conjunction with Options 7 and 8, Transportation Services should pursue further longer-term enhancements to the Emergency Operations Centre. This includes using specialized software to track decisions and share updates in real time, preparing clear plans across City divisions to keep services running during storms, and training a team that's ready to step into key roles when the EOC is activated. The City should also set up formal agreements with key partners like TTC and Emergency Services to improve coordination.

In the future, adding data tools that help predict where problems might occur can make the City's response faster and more targeted.

## Opportunity 14 - Improve Deficiency Reporting by Patrollers

The City's AVL and GPS systems show where plows have travelled and when beats are marked "complete," but this only verifies that equipment has passed through, not that the snow was fully cleared to standard, that sidewalks are passable, or that crossings and bus stops are accessible. This creates an accountability gap that leaves operations teams blind to incomplete or blocked areas until 311 complaints arrive from frustrated residents and Councillors. By that point, valuable time and resources may already be tied up elsewhere.

Transportation Services should consider optimizing or enhancing tools for monitoring quality and progress of winter maintenance activities. The City may consider a transition away from labour-intensive manual patrol reporting and instead implement more modernized, integrated methods for real-time or near-real-time monitoring of winter maintenance operations. This should enhance data accuracy and improve responsiveness, especially for priority areas like bus stops and high-pedestrian corridors.

The current method, where patrollers record conditions in Maximo work orders via manual entries and periodic prompts, then export and email PDF reports at end of shift, is time-consuming, duplicative, and under-leverages the system's full potential. This manual workflow depends heavily on AVL data to fill in route coverage gaps and places a high administrative burden on both patrollers and supervisors, especially during high-activity periods. While Maximo is a robust platform, the current quality reporting process is not effective or capitalizing on the real-time data being collected.

- Modernizing the workflow could include using mobile applications to drop pins and photos of observed conditions for every road segment travelled.
- Optimizing existing tools and data could involve leveraging Maximo's real-time integration potential with AVL and sensors to auto-populate patrol observations based on location and environmental data.
- Creating dashboards could consolidate patrol records, photo evidence, and AVL traces for each shift in real time.
- Artificial intelligence innovations such as technology that can take photos of completed work and uses machine learning to flag deficiencies. Staff have noted that this would be particularly useful for bus stop servicing. As a longer-term opportunity, staff should evaluate the use of vision-based AI tools mounted on patrol or maintenance vehicles that:
  - Capture images of cleared roadways, sidewalks, and bus stops
  - Use machine learning models to identify missed spots, poor-quality plowing
  - Reduce the need for manual condition notes, especially for bus stops and sidewalk segments where visual confirmation is key.



This reduces reliance on after-the-fact 311 calls, strengthens contractor oversight by providing hard proof of real conditions, and allows supervisors to redeploy crews where they are truly needed before issues escalate. With better real-time information, the City can provide more honest, transparent updates to Council and the public, and deliver a winter maintenance program that measures success by clear streets, open sidewalks, and accessible crossings, not just plow mileage logged.

Benchmarking Notes:

Montreal is exploring artificial intelligence opportunities, beginning with leveraging the network of traffic cameras to link to deep learning algorithms.<sup>xlv</sup>

### 7.1.3. Contracts Opportunities

The goal of making improvements in Contracts is to further establish flexible, right-sized, and performance-driven contracts.

#### 7.1.3.a) Short Term Improvements

The following improvement opportunities in Contracts were identified, which may be candidates for implementation in the immediate to short term.

##### **Opportunity 15 - Change the Approach to Contracting Snow Removal**

Transportation Services should immediately begin the process of procuring a contract for snow removal independent of improving how snow removal is covered in winter maintenance contracts.

Consolidated performance-based winter maintenance contracts are reasonably well-designed for routine plowing and salting, they are not optimized to deliver large-scale, rapid snow removal when back-to-back storms overwhelm urban storage capacity.

Having dedicated removal contracts or stand-alone removal providers would separate these critical but distinct tasks. It would ensure that hauling crews, trucks, loaders, and dump site operators can be mobilized in parallel with plowing, not after the fact, so snow piles don't sit for days while the plowing workforce cycles through mandatory breaks or finishes road clearing first. Separate contracts can also be written with very clear removal triggers, beat maps, service level timelines, and defined performance penalties and bonuses. This creates a direct line of accountability for removal quality and speed, rather than removal being buried in broad plowing contract language that focuses mainly on bare pavement standards.

A stand-alone removal contract model can also open up the work to specialized hauling firms that may not have the equipment or scale to bid for an entire winter plowing zone but are very well equipped to provide loaders, dump trucks, and snow site management on short notice. This can broaden competition, strengthen surge capacity, and reduce reliance on a few very large

contractors, which in Toronto's case has sometimes constrained flexibility when the same vendors control multiple zones.

At the same time, many cities with tight urban grids maintain a core of in-house snow removal team or fleet to guarantee that a minimum level of hauling can be triggered immediately, regardless of contractor availability. While it may not make sense for Toronto to self-deliver all snow removal, building a small, modernized in-house unit, equipped with loaders, sidewalk blowers can provide a critical "first wave" when rapid removal is needed for key areas like major intersections, transit hubs, and dense neighbourhoods with no local storage. This in-house capacity can also act as a quality control fallback if a contractor underperforms or has equipment failures at peak times.

Additionally, the following changes could also be considered:

- Consider establishing an emergency contractor deployment list for additional trucking and loaders (many sewer and water contractors park equipment in the winter or can pull equipment off projects temporarily).
- Equipment for snow removal needs to be more robust and more equipment that is solely for snow removal should be specified. The amount of snow removal equipment should be increased to meet any new service levels developed and to improve managed snow removal operations.
- Snow removal operations should be able to be done simultaneously with snow clearing operations. Dedicated staff and crews are required.
- Include more information on equipment needs to operate the snow dumps.
- More powerful equipment is required for cycle tracks in some cases, particularly for snow removal. Chameleons (brand name) are one option that should be explored to be added to the equipment complement, specifically in areas with a robust cycle network such as downtown.

Benchmarking Notes:

- In Montreal, snow removal starts as soon as there is 10 to 15 cm of snow of accumulation.
- In Ottawa, full snow removal is done in core areas when accumulations of snowbanks grow large and begin to restrict sightlines, travel widths, or pedestrian, vehicular, and cycling traffic.
- In Buffalo, complete snow removal is reserved for downtown or if snow accumulations from multiple storms become unmanageable.

## Opportunity 16 - Negotiate Improvements with Current Contracts

Transportation Services has already developed a listing of areas that they feel need adjusting in

the current performance contracts. They should proceed to begin to negotiate improvements with the current winter maintenance contracts where it is feasible and make financial sense.

### 7.1.3.b) Long Term Improvements

The following improvement opportunities in Contracts were identified, which may be candidates better suited for implementation in the longer term.

#### **Opportunity 17 - Limit The Number of Contracts One Contractor Can be Awarded**

For future winter maintenance contracts, Transportation Services should consider limiting the number of zones a Contractor may bid on / be awarded. This may be achieved through:

**Dividing Contracts into Smaller Zones:** The City may further split jurisdictions into multiple smaller service areas, allowing medium and small contractors to bid on more manageable sections. This approach lowers the barrier to entry and encourages broader participation. For example, Montreal's decentralized snow removal system, managed by its 19 boroughs, enables local contractors to handle specific areas, promoting diversity in service providers.

**Implementing Vendor Caps:** Limit the number of contracts a single vendor can hold simultaneously. This policy prevents monopolization and ensures that no single contractor becomes indispensable, maintaining a competitive environment.

**Encouraging Subcontracting:** By allowing larger contractors to engage with smaller firms, the City can build local capacity and distribute work more equitably. This strategy helps smaller businesses gain experience and resources, fostering a more diverse contractor base.

**Establishing Pre-Qualified Vendor Pools:** Creating a roster of pre-qualified vendors for snow removal would enable the City to engage multiple contractors as needed during major snow events. This flexibility supports smaller operators who may not have the capacity for full-season contracts but can contribute effectively during peak periods, especially idle construction contractors with haulage equipment (rather than plows).

**Providing Transparent Bid Feedback:** Offer detailed feedback to unsuccessful bidders to help bidders understand areas for improvement, enhancing their competitiveness in future tenders. This practice encourages continuous improvement and sustained participation from a diverse range of contractors. This is a leading practice promoted on municipal digital bidding platforms.

#### **Opportunity 18 - Identify Type and Amount of Equipment**

Transportation Services should consider the following items for future winter maintenance service contracts:

- In the existing contracts, contractors were responsible for developing the required equipment to complete all required servicing. This was a decision made to encourage innovation. For future contracts, a more balanced approach should be considered where the contract is more specific on equipment complement. There are different approaches that can be explored such as specifying specific equipment for specific tasks or specifying ratios of equipment for different infrastructure classes
- Equipment naming and definitions clarity should be improved with particular attention to what constitutes a hand crew and nurse trucks.
- Consider specifying new artificial intelligence innovations such as Rubicon's technology that can take photos of completed work and uses machine learning to flag deficiencies. This would be particularly useful for bus stop servicing.
- Stay in alignment with Vision Zero best practices. For example, side guards will most likely need to be required for the next contract for all large equipment.
- Include a more robust requirement for spares and equipment repair protocols.

#### **Opportunity 19 - Provide More Input on Routes and Beats and Priorities**

Under the current performance-based model, contractors propose their own routing strategies, which has limited the City's ability to influence service allocation, respond to operational issues, or prioritize critical infrastructure such as transit stops, school zones, and accessibility routes.

Future winter maintenance contracts should include clear provisions that preserve the City's authority to define or adjust routes, beats, and priority locations. Reintroducing City-defined service parameters, either at the outset or through direction clauses, could improve oversight, allow for more responsive service modifications, and ensure alignment with Council-approved service levels goals.

### **7.1.4. Physical Constraints Opportunities**

The goal of making improvements in Physical Constraints is to prevent, predict, and better plan for physical constraints that limit performance and/or snow storage capacity, so that infrastructure supports service delivery and does not impede winter operations.

#### **7.1.4.a) Short Term Improvements**

The following improvement opportunities in Physical Constraints were identified, which may be candidates for implementation in the immediate to short term.

#### **Opportunity 20 - Remove Temporary Encroachments**

Transportation Services should consider the feasibility of removing non-permanent encroachments every fall, in combination with Opportunity 21 - Collaborate on Designs and Use More Permanent Infrastructure.

### 7.1.4.b) Long Term Improvements

The following improvement opportunities in Physical Constraints were identified, which may be candidates better suited for implementation in the longer term.

#### **Opportunity 21 - Collaborate on Designs and Use More Permanent Infrastructure**

There is a growing need for dedicated and consistent involvement from operations throughout the design and construction process for new infrastructure within the right-of-way, such as street-level features. As the City continues to implement more complex infrastructure (e.g. cycle tracks, curb extensions, Zicla platforms), involvement of operational staff early and often may result in designs that do not pose winter maintenance challenges. This input can enable permanent installations to be maintained effectively during winter, including storms. Operational perspectives can inform key design elements such as snow storage zones, equipment access, and clearance requirements. Formally embedding an operational lens upstream in the design process can lead to infrastructure that performs reliably not only in ideal conditions, but also during the City's most challenging winter weather.

#### **Opportunity 22 - Conduct a Depot Rationalization Study**

To address space limitations at depots, Transportation Services should pursue a depot rationalization study to quantify current limitations and identify requirements and potential opportunities.

## 7.1.5. Resources and Equipment Opportunities

The goal of making improvements in Resources and Equipment is to have the most appropriate type and amount of resources available for scalable winter operations, this includes people, equipment and contractors.

### 7.1.5.a) Short Term Improvements

The following improvement opportunities in Resources and Equipment were identified, which may be candidates for implementation in the immediate to short term.

#### **Opportunity 23 - Redeploy Staff for Significant Weather Event Response**

The City should explore the development of a formal redeployment plan for major winter storms. This could include the redeployment of skilled staff who can operate City vehicles (i.e. backhoe operators) as well as staff who could assist with quality control observations and staff who could assist with going door to door to communicate snow removal operations. Existing redeployment plans related to labour shortages could serve as a starting point.

Benchmarking Notes:

- In Montreal, redeployment is mainly within Public Works, where crews and equipment shift between plowing, snow loading, and salting as needed.
- In Ottawa, Public Works (Roads and Parking Services) staff get reassigned internally (e.g., bolstering sidewalk clearing crews), shift extensions and standby crews are activated, and transit maintenance staff sometimes shovel bus stops.
- In Chicago, thousands of staff from Dept. of Streets & Sanitation reportedly are deployed to 12-hour shifts for storms, including garbage truck drivers to snow-plowing duty.
- In Minneapolis, Public Works staff are redeployed internally (e.g., from street maintenance, forestry) to assist with plowing. Additional crews are added during storms, and ad hoc volunteer or assigned staff help from across city divisions in big events.
- In Buffalo, emergency plans include occasional help from external aid (state department of transportation, National Guard).

### **Opportunity 24 - Establish a Dedicated Winter Planning Resource Unit**

Large, complex cities like Toronto face unique challenges that make winter operations fundamentally different from other seasonal municipal work. Unlike road repairs or parks maintenance, winter operations must pivot instantly from planning to emergency-level deployment and then sustain that pace for days or weeks when back-to-back storms hit. The February 2025 snow sequence showed clearly that when snow clearing, snow removal, contractor oversight, equipment readiness, communications, towing, parking enforcement, transit impacts and 311 all collide at once, Toronto's current structure, where winter is managed as a seasonal add-on within broader divisions, leaves coordination gaps that weaken the overall response.

A dedicated, year-round Winter Operations Unit solves this by making winter maintenance someone's full-time, clear accountability, not just an add-on for a few months of the year. Instead of ramping up planning each fall and winding down each spring, the City would have a stable team responsible for planning, managing, monitoring, innovating and continuously improving winter operations every month of the year.

While this Unit would directly own implementing the recommendations and opportunities in this review, like improving the Major Snow Event Response Plan, tightening contractor oversight, modernizing removal triggers, and deploying smarter tools, it would also fill other essential year-round gaps that Toronto struggles with today:

- Data-driven readiness: Using off-season months to analyze past storms, run scenario planning, and adjust service levels before contracts go out.
- Surge planning: Developing and maintaining a surge roster of standby staff and backup contractors, so response is never improvised at the last minute.
- Training: Running annual cross-training for staff, patrollers, and supervisors to ensure consistent quality across all zones and contractors.



- Innovation: Piloting new equipment (like sidewalk blowers, smart sensors, or snow melters) and integrating best practices from other cities.
- Coordination with Climate Plans: Adapting to changing storm patterns, freeze-thaw cycles, and sustainability goals, for example, salt management and fuel-efficient equipment.

When snow falls, residents expect safe, passable streets and sidewalks. A year-round, dedicated Winter Operations Unit puts full accountability in one place, closes gaps between planning and on-the-ground response, and ensures Toronto's winter maintenance program is modern, resilient, and continuously improving, not just in the heat of an emergency, but every day of the year.

### **Opportunity 25 - Explore Alternate Opportunities for Sidewalk Clearing Equipment**

In 2020 when the mechanical sidewalk winter maintenance trial was undertaken, the 42-inch sidewalk plows the City procured were the only sidewalk plow available with dimensions small enough to be used in the City's narrow downtown streets<sup>xlvi</sup>. Transportation Services should work with the Contractors and Vendors to explore if there are any new opportunities on the market for sidewalk equipment that would meet the City's unique needs. Fleet and Transportation staff are already working on this initiative.

#### **7.1.5.b) Long Term Improvements**

The following improvement opportunities in Resources and Equipment were identified, which may be candidates better suited for implementation in the longer term.

### **Opportunity 26 - Increase Spares for Sidewalk Clearing Equipment**

Transportation Services should consider the procurement of additional spare sidewalk plows. The Fleet Services After Action Report noted that it would be preferable to have more spare units available for Transportation Services. The current spare ratio is about 10% for the sidewalk plows and the industry standard spare ratio is 15-20%.<sup>xlvii</sup>

Additionally, the addition of more spare parts to the sidewalk plow inventory should be explored. Fleet Services reported that approximately \$50,000 of spare parts were added to the inventory last year to prepare for the 2024/25 season. Fleet Services should continue to review lessons learned and add more spare parts as required.

### **Opportunity 27 - Increase Availability/Capacity of Snow Dump Sites**

Transportation Services should investigate opportunities for additional snow dump capacity to ensure there is long-term adequacy for snow removal operations and disposal.

Benchmarking Notes:

- Montreal has 10 snow dump sites with 13 sewer snow dumping points. The City utilizes snow loading plows to windrow the snow, and then blowers are used to load it into dump trucks.
- Edmonton, Ottawa, and Saskatoon also report having snow storage sites.

### **Opportunity 28 - Improve Operability and Procure New Melters**

Transportation Services should explore opportunities related to snow melting equipment. Investigations into the reparability of the current units in addition to the procurement of new units should be explored to help ensure long term adequacy for snow removal operations and disposal.

## **7.1.6. Policies and Bylaws Opportunities**

The goal of making improvements in Policies and Bylaws is to enable winter operations to scale to the weather conditions and get parked cars out of the way. The following improvement opportunities in Policies and Bylaws were identified, which may be candidates for implementation in the immediate to short term.

### **7.1.6.a) Short Term Improvements**

The following improvement opportunities in Policies and By-laws were identified, which may be candidates for implementation in the immediate to short term.

### **Opportunity 29 - Optimize Enforcement of Existing Parking Bylaws**

**Activate Street Closures:** The City should make strategic use of its existing authority to temporarily close roads for snow removal, as permitted under the Municipal Code. Specifically, the General Manager of Transportation Services is authorized to close streets for up to 24 hours to facilitate winter operations. Exercising this authority through a structured and proactive plan can improve snow removal efficiency.

To support implementation, Transportation Services should identify candidate streets in advance, establish criteria and triggers for closures, plan for operations and coordination, and coordinate closely with enforcement and emergency services. Public education and targeted communications delivered through signage, notifications, and digital alerts will require planning.

The street closure plan would form part of the Major Snow Event Response Plan.

**Improve Signage:** The City should improve permanent and temporary street signage. Transportation Services should investigate opportunities to improve permanent parking restriction signage and temporary snow removal signage so that it is easier to see and understand, is sufficiently spaced, and provides sufficient notice to the public. Educate residents on existing rules through targeted communications.

#### Benchmarking Notes:

- In Montreal, when the weather forecast calls for a snowfall of 15 cm or more, or when there's enough snow on the ground to warrant it, signs are posted on narrow streets to prohibit parking on the right-hand side of the street. A narrow street parking sticker may be issued which allows holders to park on the left-hand side of the street from 7 p.m. to 9 a.m.
- In Chicago, signage is permanently posted along the affected routes. Flyers are left on cars parked on the streets affected by the parking ban as an additional reminder before restrictions begin.
- In Buffalo, there are Regular Winter Parking Restrictions on certain narrow streets, and driving bans are declared in blizzards to keep roads clear for plows.
- In Minneapolis, roughly 80 tow trucks remove an average of 1,500 illegally parked vehicles each snow emergency, which is about 20% of illegally parked cars.<sup>xlvi</sup> The City provides a map of where parking is allowed on any day of a snow emergency with a specific route outlined for how the City plows during a snow emergency. Once an emergency route has been plowed, people are permitted to park on the road.

#### Opportunity 30 - Improving Towing Capacity and Coordination

A critical barrier to efficient plowing and snow removal in dense urban neighbourhoods is the presence of parked vehicles, both illegally parked vehicles that ignore declared snow routes and legally parked vehicles that remain on streets designated for temporary removal to allow blowers and haul trucks to operate curb-to-curb. The February 2025 storm clearly demonstrated that even with parking bans and declared Major Snowstorm Conditions in place, significant stretches of narrow local roads, arterial streets, and residential side streets remained partially blocked by vehicles. This forced operators to plow around cars, leaving snow behind that then freezes, blocks curb lanes and catch basins, and adds to the volume that must be hauled away later at greater cost.

To deal with this issue, the City should expand its dedicated snow response towing capacity by securing additional standby tow truck contracts with private operators who can be deployed on short notice during major snowstorm conditions. This should include a clear protocol for pairing tow trucks directly with loaders, and blowers in high-density corridors. Crews and towing contractors should operate together in rolling convoys, plows open curb lanes, tow trucks relocate vehicles immediately ahead of blowers, and streets are fully cleared curb-to-curb in one pass, without repeated backtracking.

An enhanced snow event towing program should also include clear resident communications in advance of major snow events, explaining where cars will be moved, how owners can locate their vehicle, and what to expect if they fail to move it on their own.

Toronto should also examine opportunities to coordinate towing more effectively with the Toronto Parking Authority, Toronto Police Service, Parking Enforcement, and contracted snow removal crews. Real-time digital dispatching of towing teams, AVL tracking of which blocks have been cleared, and designated towing zones can help ensure that operators do not waste time waiting for parked cars to be moved or detoured around.

Improving towing capacity and coordination is not only about removing illegal parking; it is a practical, essential tool to help Toronto maximize the effectiveness of plows, sidewalk machines, blowers, and haul trucks during the short windows when major snow removal must happen. Clear accountability for towing operations, fair and transparent communications for residents, and strong surge contracting capacity will help Toronto clear streets faster, reduce snow pile build-up, and protect vital curb lanes, sidewalks, and catch basins during extreme winter conditions.

#### Benchmarking Notes:

- Montreal, Boston, and Chicago have extensive contracts for towing during the winter season.
- Montreal provides residents with online maps, SMS alerts, and 24-hour hotlines to help drivers find relocated vehicles quickly, minimizing public complaints and towing disputes.

### **Opportunity 31 - Enable Compliance Through Supportive Measures**

**Arrange Free Temporary Parking:** Transportation Services should explore opportunities to provide free temporary parking for residents displaced from their permitted on-street parking spaces during winter, major snow events, or snow removal operations. This would support compliance with winter parking restrictions while minimizing inconvenience for affected residents. Potential solutions could include partnerships with nearby municipal facilities, such as City-owned parking lots or 'Green P' lots, activated only during specified conditions.

Implementation would require coordination with other departments including Toronto Parking Authority, clear public communication, and operational protocols for eligibility, duration, and signage. Temporary plans for parking could form part of the Major Snow Event Response Plan.

**Implement Friendly Towing:** Transportation Services should consider the feasibility of 'friendly towing' to get legally parked cars out of the way during snow removal operations. Friendly towing is the practice of relocating vehicles to nearby legal parking spots or towing around the block and replacing in same location an hour later, rather than impound lots. This approach, successfully used in cities like Montreal and Minneapolis, improves operational efficiency while reducing the burden on residents. Implementation would require robust communication protocols, real-time mapping, and a tracking system to notify vehicle owners of their relocated vehicle's location.

The plan for friendly towing could form part of the Major Snow Event Response Plan.

Benchmarking Notes:

- In Montreal, during snow removal periods free parking spaces are available at night (maps are provided on the website). An app is in place to inform the public when to move a vehicle and where to park it. Also, tow trucks use audible warning devices which are intended to reduce the number of tickets issued.

### 7.1.6.b) Long Term Improvements

The following improvement opportunities in Policies and By-laws were identified, which may be candidates better suited for implementation in the longer term.

#### Opportunity 32 - Enhance Parking Bylaws

**Establish Overnight Parking Bans:** Transportation Services should assess the feasibility of implementing overnight parking bans on designated roads/segments during major snow events to facilitate uninterrupted plowing and snow removal operations. Overnight hours offer a window for clearing roads with minimal traffic/parking interference. Considerations should include operational planning, enforcement capacity, the availability of alternative parking opportunities, and public education to ensure awareness and compliance.

**Establish Alternate Side Parking:** Transportation Services should explore the feasibility of implementing alternate side parking restrictions on target streets where parking is normally permitted on both sides, to enable more effective snow removal during major events (or also more effective regular clearing). This approach would allow crews to access both sides of the street in a coordinated manner, improving service levels and reducing the need for repeat visits. Implementation feasibility would require consideration of year-round public education and clear signage, targeted notification activated during snow events (which could include an app or other targeted notices), and the logistical framework needed to inform and accommodate vehicle movements. Effective communication and operational coordination will be important in achieving compliance and minimizing disruption.

The plan for alternate side parking, if only enacted during major snow events, could form part of the Major Snow Event Response Plan.

**Align Parking Bylaws City-wide:** Parking bylaws related to winter maintenance and major snow events remain partially fragmented across former municipal boundaries. The City should undertake a comprehensive review of all existing winter-related parking regulations to identify inconsistencies, eliminate outdated or legacy provisions, and establish a fully harmonized bylaw framework. A unified set of winter parking rules would improve operational clarity, enforcement consistency, and public compliance across all areas of Toronto.

Benchmarking Notes:

- In Ottawa, overnight on-street parking bans implemented during heavy snowfall has been instituted to aid plowing. This includes parking for parking permit holders. Failure to remove a vehicle from a zone where temporary no stopping signs are posted will result in a ticket, and the vehicle will be towed to a nearby street.
- Chicago enforces a strict winter overnight parking ban on arterials regardless of snowfall.
- Minneapolis executes alternate day / alternate side parking and snow emergency routes during snow emergencies. The alternate-side parking rules apply over a 3-day operation, where cars must move off designated routes and sides to allow curb-to-curb plowing. City has recently piloted a new snow operations model with a weekly alternating one-sided parking cycle (2025), starting with two small pilot areas.

## 7.2. Recommendations for Immediate Implementation

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The February 2025 storm sequence demonstrated that Toronto's winter maintenance framework provides a strong foundation, there are several gaps that should be closed to enable the City to be ready to respond more effectively to future severe events. The following immediate actions set out in this section are practical, high-impact measures that can and should be implemented prior to the 2025/26 winter season. Together, these targeted improvements address core operational, contractual, technological, and organizational weaknesses and will make Toronto's winter program safer, more reliable, and better aligned with the needs of residents, frontline staff, and Council expectations for the coming winter season.

### 7.2.1. Finalize and Operationalize a Detailed Major Snow Event Response Plan

One of the highest priorities for strengthening Toronto's winter resilience is to develop and operationalize a more robust Major Snow Event Response Plan (MSERP) that is practical, detailed, and ready for activation when severe conditions occur. While the City's current plan establishes high-level conditions for declaring a Major Snowstorm Condition, escalation alone is not enough, staff, contractors, and stakeholders need precise playbooks that define how resources are deployed, in what order, and under what clear triggers.

A robust MSERP must include detailed route maps for both partial and full-scale removal, clear escalation thresholds for when snow storage capacity is reached, and explicit criteria for moving from routine plowing to full-scale removal. These details must be tailored for each neighbourhood and reflect local storage limitations, known choke points, priority pedestrian corridors, transit routes, and accessibility considerations. The plan should also identify



designated staging sites for loading and hauling operations, snow dump locations, and confirmed traffic routes for haul trucks to minimize congestion.

The MSERP must set out formal roles and responsibilities under an integrated Incident Management approach. Key operational, supervisory, communications, and escalation roles must be defined for each phase of a major event, supported by chain-of-command clarity that aligns with Toronto's Emergency Operations Centre (EOC) protocols. Clear task checklists, decision thresholds, and real-time reporting expectations should be part of the plan so that all teams and contracted partners understand their duties in advance. Before the 2025/26 season, the plan should be tested through tabletop exercises and scenario drills with Transportation Services, Emergency Management, TTC, Solid Waste, Parking Enforcement, and all major contractors to ensure that the framework holds under real-world stress.

## 7.2.2. Develop Distinct Snow Removal Contracts

Toronto must address one of the most significant structural gaps exposed in the performance-based contract model is the absence of a clearly defined, stand-alone language and resources specifically for proactive snow removal. Currently, winter maintenance contracts and plans provide detailed service levels for plowing and salting, but snow removal remains an undefined, reactive activity bundled into broader contracts with no distinct scope or guaranteed stand-by capacity. This leaves the City dependent on the same crews, operators, and equipment that are already tasked with routine clearing, creating delays when large, repeated storms quickly fill the storage capacity of the right-of-way and local roads, sidewalks and bridges.

The City should immediately begin a procurement process to secure and implement a dedicated snow removal contract, separate from general plowing and salting services, that is unit based, not performance based. Unlike performance-based plowing contracts, this agreement would use pre-negotiated unit rates (e.g., hourly rates for loaders, haul trucks, operators, traffic control, and site supervisors) and include guaranteed standby fees to ensure that equipment and crews are held in reserve and ready for immediate activation by the City when required.

Under this model, snow removal would remain a City-activated service, triggered by operational needs and real-time storage constraints rather than rigid service level guarantees that may not match every storm's conditions. The contract should clearly specify the types, quantities, and minimum standards for equipment (such as loaders, tandem trucks, blowers, and specialized haulage trailers) and define maximum response times for mobilization once the City issues an activation order. This ensures that removal operations can ramp up within hours, not days, when large snow events occur or back-to-back snowfalls fill local storage, sidewalks and curb lanes.

A unit-based approach gives the City flexibility to scale removal operations up or down based on real-time weather forecasts, storage site capacity, and evolving conditions on the street. It also encourages competitive pricing by allowing multiple qualified vendors to provide

specialized removal services without bundling them under the same large performance contracts that manage day-to-day plowing.

To be effective, this separate removal contract must be fully integrated with the Major Snow Event Response Plan (MSERP) so that routes, staging areas, haul corridors, and dump sites are pre-identified, and crews can be deployed efficiently. The contract should include clear stand-by rate terms, minimum guaranteed availability, GPS tracking or AVL requirements for all removal equipment, and strong oversight provisions so that work is documented and verified in real time.

Communicating the details of this arrangement to Council, the public, and stakeholders in advance of the 2025/26 season is critical. Residents and local businesses need to understand when and why removal will be activated, how parking bans and towing will support hauling operations, and how the dedicated removal contract helps keep streets clear, lanes open, and sidewalks accessible when routine plowing alone cannot keep up with major storms.

### **7.2.3. Strengthen Real-Time Reporting and Condition Monitoring Tools**

Accurate real-time monitoring and condition verification are essential to closing the long-standing gap between effort-based reporting and actual outcomes on the ground. The City's investment in AVL and GPS technologies has been valuable for tracking where plows travel and when beats are logged as complete. However, as the February 2025 storm demonstrated, this only verifies that equipment made a pass, not that the road, sidewalk, or bike lane is actually clear, safe, and passable.

The City must enhance its monitoring systems to include direct condition validation. Patrollers should be equipped with user-friendly mobile apps that allow them to submit photo-verified reports, geo-tagged condition ratings, and notes on barriers such as parked cars, drifting, or reburial. These inputs must flow into a centralized dashboard linked to AVL and contractor reports so that supervisors see not just what routes were driven but whether the clearing standard was achieved. These types of projects can take many years to perfect and implement, but there are numerous off the shelf products that can be purchased and their implementation prioritized to ensure their availability for the 2025/26 winter season.

These upgrades will allow operations managers to identify problem spots proactively and redeploy crews before service requests escalate. This real-time, verified data should also inform more accurate, transparent communications to Council, 311, and the public about where service is on track and where extra clearing is underway.

## 7.2.4. Update and Strengthen Communications for Major Snow Events

Toronto's current winter operations communications model has proven effective for typical, routine snow events, providing residents, Councillors, and staff with general service updates, plow activation notices, and reminders about parking bans and priority routes. However, the February 2025 storm sequence highlighted that this routine communications approach is not designed for the scale, complexity, and real-time coordination demands that come with Major Snow Events involving large, repeated accumulations and constrained urban snow storage.

To maintain trust and support effective decision-making during major storms, the City should establish a more direct and robust communications framework that clearly distinguishes between day-to-day updates and the more urgent, transparent messaging needed when a severe snowstorm condition is declared. The City should have clear protocols for how and when this shift happens.

For Council, this means timely, consistent briefings with clear explanations of operational realities, storage capacity limits, contractor performance status, and practical removal timelines when large snow event or multiple back-to-back storms occur.

For contractors, updated communications protocols should clarify expectations for reporting conditions from the field, escalating blockages or obstacles, and submitting progress data that feeds directly into live dashboards. Contract managers should ensure that contractors' frontline supervisors are prepared to provide timely, accurate updates that align with City patroller reports, closing the gap between AVL "effort" data and actual on-the-ground results.

For the public, communications during major storms must go beyond routine "crews are out, please be patient" messages. Residents need clear explanations about what areas will be cleared first, what delays are possible, when windrows may re-bury sidewalks or driveways, and what realistic timelines they should plan around for snow removal. Communications should also help people understand what they can do to help, such as respecting parking bans, moving vehicles, avoiding unnecessary travel during removal operations, and safely assisting neighbours who may face barriers when sidewalks are blocked.

For staff, 311 call-takers, supervisors, and Emergency Operations Centre teams, the updated communications framework must include simple, standardized scripts that reflect live operational data and condition reports. This ensures consistent answers, reduces confusion, and minimizes duplicate service requests that divert crews from priority tasks.

### 7.2.5. Expand and Modernize Towing Capacity

Even with parking bans in place, plowing and snow removal operations in dense urban streets can be severely slowed by vehicles that remain parked on-street, whether illegally or legally but still obstructing curb-to-curb clearing. This reality forces plow operators and blower crews to navigate around cars, leaving behind windrows that re-freeze, block catch basins, and add unnecessary time and cost to snow removal work.

To address this, the City should immediately secure expanded standby towing capacity for the 2025/26 winter season. This includes negotiating unit-based contracts with private tow operators who can be deployed rapidly during declared Major Snowstorm Conditions. A clear operational protocol should be established to pair these tow trucks directly with plowing and snow removal crews, forming coordinated convoys that open curb lanes fully on the first pass. By linking towing and removal beats in real time, the City can reduce repeated backtracking and better maintain storage capacity for successive snowfalls.

To make these towing measures work, the City must also explore arrangements for temporary free parking to support residents who normally rely on permitted on-street parking. Designating municipal lots, Green P garages, or other available spaces during major snow events can encourage voluntary compliance with parking bans and reduce the number of vehicles left in removal zones. Implementation will require close coordination with the Toronto Parking Authority, clear eligibility rules, signage, and resident communications.

### 7.2.6. Dedicated Year-Round Winter Operations Unit

Major snow response readiness cannot be treated as a seasonal project. Toronto should establish a dedicated, permanent Winter Operations Planning Unit to serve as the single point of accountability for ensuring that operational readiness, contracts, plans, technology, training, and inter-divisional coordination are maintained year-round.

This unit's responsibilities should include developing the Major Snow Event Response Plan, updating snow clearing and removal maps, coordinating procurement of specialized equipment and contract services, and organizing joint training exercises with other divisions, contractors, and emergency services. The unit should maintain ownership of monitoring tools and ensure all operators, supervisors, and patrollers are trained to use new reporting systems and technology effectively. This does not necessarily need to be a net new FTE ask, this can be accomplished through re-purposing some positions and looking at an overall re-structuring exercise.

This team would also be responsible for convening post-season after-action reviews, documenting lessons learned, updating public information materials, and briefing Council before each winter season.

## 7.3. Resource and Timing Implications

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The successful implementation of these actions will require clear commitments of funding, staffing, and administrative support in advance of the next winter season. New or amended snow removal contracts, increased stand-by capacity, and specialized haulage resources will introduce new operating costs, which must be factored into the 2026 Budget process.

Equally important, new technology tools for patrollers and condition monitoring must be procured, tested, and integrated with existing AVL systems well before the first major storm of the 2025/26 cycle. Staff must develop standardized training for field crews, supervisors, and contractors to ensure that photo-based reporting and live dashboards are used consistently and effectively. This rollout must be supported by clear protocols for how real-time condition data is reviewed, escalated, and used to redeploy resources during active storm operations.

Resource plans must also account for the formation and staffing of the permanent Winter Operations Planning Unit. This could be accomplished through repurposing some positions or an overall structure change. These positions will need clear reporting structures within Transportation Services and must be empowered to work closely with Emergency Management and other operational divisions to embed winter readiness into city-wide resilience planning.

To align public and Council expectations, a robust communications plan must be finalized alongside these operational upgrades. This will include updated Major Snow Event public advisories, parking ban messaging, service level explanations, and transparent tracking dashboards that residents can trust. 311 scripts, Councillor briefings, and stakeholder coordination protocols must be tested and refined as part of the overall readiness plan.

Finally, to secure full benefits from these improvements, the City must commit to continuous improvement and accountability. Clear performance targets, post-season debriefs, and transparent reporting to Council will ensure that these investments deliver measurable results and that Toronto's winter maintenance program remains responsive and credible, even when future storms test the city's resilience.

## 8. Next Steps

### 8.1. Recommendations Refinement

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Following this report, the next phase of this review will involve refining the Municipal VU analysis into clear, prioritized, and actionable recommendations that differentiate between short-term improvements (implementable before Winter 2025–26) and longer-term systemic reforms.

Key activities will include:

- **Refined Recommendations:** Finalize recommendations across key themes: equipment and resource readiness, contractor management, service prioritization, escalation protocols, communications strategies, sidewalk and accessibility enhancements, and governance improvements.
- **Prioritization Framework:** Classify recommendations into:
  - Immediate (before Winter 2025–26);
  - Medium-term (2026–2027 implementation);
  - Long-term (structural reforms over 3+ years).
- **Costing and Feasibility Analysis:** Provide resource estimates (capital and operating) to facilitate budget planning, including identifying any funding gaps that could require Council decision-making.
- **Risk Assessment:** Assess risks and dependencies associated with recommended changes (e.g., impact if contractor market capacity is limited, or if certain capital investments are deferred).

### 8.2. Implementation Plan

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The final phase will focus on translating recommendations into a practical, time-bound implementation plan. The urgency to embed improvements quickly is understood by the Municipal VU team, especially for initiatives requiring 2026 capital or operating budget allocations.

Key activities will include:

- **Implementation Plan:** Develop an Implementation Plan specifying key initiatives, milestones, timelines, lead divisions, interdependencies, and success measures.
- **Quick Wins Identification:** Highlight improvements that can be initiated immediately (e.g., communications updates, policy adjustments, minor operational tweaks) to build early momentum.
- **Resource Planning:** Identify human, financial, and equipment resources required for short-term and long-term initiatives, enabling integration into 2026 budget processes.



- Performance Monitoring Framework: Propose KPIs and metrics to track winter operations performance moving forward, supporting continuous improvement and public accountability.
- Final Presentation to Council: Support the City Manager's presentation of final findings and recommendations to Council in September 2025, ensuring alignment with budget deliberation timelines.

## **Appendix A: Summary of Information Sources Provided**

**Audit Reports**

- Audit of Winter Road Maintenance Program – Phase One
- Audit of Winter Road Maintenance Program Update – Nov 4, 2020
- Auditor General Review – June 22, 2023

**Bylaws and Codes**

- By-Law 850-2024
- Traffic and Parking Code

**Contracts, Agreements and RFPs**

- Contract RFP
- Contracts
- Contracts and Salt Expenditure
- Joint Venture Part 1
- Joint Venture Part 2
- Joint Venture Part 3
- Technical Proposals
- Winter Maintenance Contract Administration

**Equipment Data**

- Contracted Equipment
- In-house Snow Removal Equipment

**External Review and Studies**

- HDR Service Delivery Review Report

**Financials**

- In-house Sidewalk Clearing and Winter Standby Costs – 2020-2025

**Internal and External Communications**

- Media Advisories
- Media Bulletins
- News Releases
- Ward Updates
- Winter Events Operations Updates
- Winter Maintenance Survey

**Internal Presentations and Training**

- 2024 Snow School Presentations
- Major Storm Response Plan Presentation
- Winter Power Point Presentations

**Internal, Staff and Council Reports**

- 2024 Annual Report
- Administrative Inquiry
- Clearing the Path Towards a Safe and Accessible Winter
- GM Presentation
- July Draft Report
- Mechanical Sidewalk Winter Maintenance Trial Report
- Snow Feedback February 2025

- Staff Report on Winter Maintenance
- Update to Winter Maintenance Program Follow Up
- Winter All Segments
- Winter Maintenance Council Committee Reports and Decisions
- Winter Maintenance Program Follow Up
- Winter Maintenance Program Review incl HDR
- Winter Road Maintenance Program – Phase 2 Analysis – Deploying Resources
- Winter Road Salt Usage and Environmental Impacts
- Winter Service Guide

#### **Major Snowstorm Data**

- Major Snowstorm Response – Chronology
- Sidewalk Snow Plowing Damage
- Snow Operations Summary Fleet
- Snow plow Damage to Sod Along Sidewalks

#### **Meeting Minutes**

- Daily Snow Removal Discussion
- Expressways Tentative Operation Plan
- Pre-event Meeting
- Pre-storm Meetings
- Winter Contracts Minutes

#### **Org Charts**

- Transportation Services Org Charts

#### **Procedures and Plans**

- Major Snow Event Response Plan and Update
- Major Snowstorm Condition Enforcement

#### **Service Requests**

- Snow Service Requests Feb 12-24

#### **Weather Reports**

- Climate – Pearson
- WSP Feb to March 2025

#### **Winter Communications**

- Councillor Advisories
- District Snow Advisories
- GM Updates to Mayor and Members of Council

## Appendix B: Council Survey Questions

1. Which ward do you represent or support?
2. Overall, how would you describe the City's performance during the February 2025 major snowstorms? (excellent to very poor)
3. In your view, what were the most significant resident or business issues in your ward related to the February 2025 major snowstorms? Check up to 2.
  - Bike lane/cycling track conditions
  - Driveway blocked by windrow
  - Parking availability / conditions
  - Road conditions
  - Sidewalk conditions
  - Transit / transit stop conditions
4. In your view, what were the most important expectations you heard from residents, businesses, media, or others during and after the storm? Check all that apply.
  - Infrastructure should be cleared sooner / kept cleared
  - Infrastructure should be cleared to a better quality (e.g. bare pavement)
  - Transit should not be affected by a winter storm
  - Parking should continue to be a priority during a winter storm
  - The public should know when their road/sidewalk/cycling lane will be clear to use
  - Other:
5. Are you aware of the City's service levels with respect to snow clearing?
6. Do you feel the community expects the City to maintain the same service levels during a major snowstorm?
7. Do you feel your community is willing to pay for increased levels of service, especially related to major storms?
8. In your view, during the February 2025 major snowstorms, were there specific neighborhoods or areas within your ward that experienced more significant issues than other areas?  
If "Yes", please provide further details below.
9. During the February 2025 major snowstorms, were there priority areas within your ward that you feel should have been attended to sooner?  
If "Yes", please provide further details below. 2
10. Were there any aspects of the response to the February 2025 major snowstorms that you felt worked well?  
If "Yes", please share any examples or highlights.
11. In your view, what communication or coordination issues occurred during the February 2025 major snowstorms, if any?
12. "During February 2025, 311 holds (blackout periods) on winter service requests were in effect on Feb. 8-9, 12-14, and 15-17. In your view, did the 311 holds affect the volume of calls to your office? (The objective of 311 holds is to focus first responder)  
If "Yes", please provide further details below, including the types of issues and complaints, if known.



13. How would you prefer to be updated in the future during major snowstorm events? (select all that apply)
- Pre-storm briefings
  - City-wide operations updates
  - Email summaries at key points
  - Progress maps
  - Post-storm debriefings
  - Other:
  - What update frequency would be most helpful to your office in the future during major snowstorm events?
    - Daily
    - Weekly
    - Twice per week
    - Only at key milestones (e.g. plowing operations begins, first full plowing pass complete, etc.)
    - Other:
  - Are there specific improvements or changes you would like to see in how the City communicates with your office during major snowstorms, including the type or amount of information shared?
14. Do you believe that the contractors met their obligations for snow clearing & removal during the February 2025 major snowstorms?
15. Should the structure or oversight of the snow clearing & removal contracts change going forward?
16. Do you have any suggestions of changes to the contract structure or oversight?
17. Looking ahead, what short-term and long-term improvements would you want to see prioritized? Can be through budget, policy, operations, or communication.
18. Do you have any additional comments or feedback regarding winter maintenance services or the response to the February 2025 major snowstorms?

## Appendix C: End Notes

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- <sup>xxiii</sup> City of Toronto. *Administrative Inquiry Response*. March 25, 2025.
- <sup>xxiv</sup> City of Toronto. *Administrative Inquiry Response*. March 25, 2025.
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- <sup>xxvi</sup> City of Toronto. *Major Snow Event Response Plan Update*, March 13, 2024.
- <sup>xxvii</sup> City of Toronto. *Winter Services Guide*. 2024-2025.
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