



## REPORT

---

**TO:** Mayor Lawlor and Members of Council

**FROM:** Mark Covert, Director of Public Works

**DATE:** August 15, 2023

**REPORT NO.:** TPW-2023-023

**SUBJECT:** Winter Control Levels of Service Considerations

---

### RECOMMENDATION:

THAT Report No. TPW-2023-023, dated August 16, 2023, regarding Winter Control Levels of Service Considerations, be received for information.

### KEY POINTS:

The following are key points for consideration with respect to this report:

- The Town's "winter control" services are provided by the Public Works Division to over 1,000 km of roads, 160 km of sidewalks and 27 parking lots.
- The Town typically experiences over 20 "minor" and 5-10 "major" winter events each season.
- Winter road operations are planned and executed in accordance with Provincial Minimum Maintenance Standards for Municipal Highways, O. Reg. 239/02.
- Resident concerns related to services provided on main roads are infrequent, although staff note a few areas of risk:
  - Resources during weekends and holidays, and
  - Tandem plowing of multi-lane arterial roads.
- Typical resident concerns related to services provided to residential and rural routes include:
  - Snowpack on residential and rural roads, and
  - Driveway Windrows.
- The Town maintains just over half of all the sidewalks and walkways in the community.
- Resident concerns regarding services provided to sidewalks include:
  - Expanding sidewalk snow clearing Town-wide, and

- Sidewalks fronting parks and unoccupied lots.
- Council may direct staff to provide a detailed analysis and budget proposal on any particular issue(s) for inclusion in the 2024 or future year Budget deliberation process.

## **BACKGROUND AND DISCUSSION:**

The Town's snow and ice management services (typically referred to as "winter control" by municipalities) are provided by the Public Works Division (PW) to over 1,000 km of roads, 160 km of sidewalks and 27 parking lots. Winter Control is one of the largest sources of calls and emails the Town receives from residents, contributing 25% of PW service requests.

The Town typically experiences over 20 "minor" and 5-10 "major" winter events each season. A minor event generally involves salting of main roads and parking lots, and/or limited road sanding or plowing (often above the Niagara Escarpment to the north-west). A major event generally involves salting and plowing of main roads, and town-wide plowing of all local residential roads, rural roads, sidewalks and parking lots, etc. The Town's levels of service, established practices and Q&A are provided on the Town's website.

The purpose of this report is to provide an overview of the Town's winter control service levels and to provide high-level discussion and options in service areas that have received notable resident feedback or have been identified as an area of risk by staff.

### **Road Level of Service**

Winter road operations are planned and executed in accordance with Provincial Minimum Maintenance Standards for Municipal Highways, O. Reg. 239/02 (MMS). This regulation prescribes standards for "treating" roads in terms of timing based on road condition (i.e. snow and ice accumulation) and road class. Road class is based on traffic volume and speed limit, with the highest class of road receiving the highest service standard. The standards outlined in the MMS Regulation are not mandatory, but when met can provide municipalities with a due diligence defense. Town winter road operations typically fall well within the MMS standards through operationally pragmatic routing, which also takes into consideration factors such as hills, curves, and school areas, etc.

Winter road operations in Halton Hills (and similarly in other area municipalities) are generally grouped in two categories: salt routes and non-salt routes. Bare pavement cannot regularly be achieved without the use of road salt. The implication for salted roads is that a bare pavement road condition is achieved after a winter event has passed, while non-salt roads may remain in snow-pack condition for some time following an event, depending on ambient weather conditions. Although main roads throughout Southern Ontario and elsewhere are traditionally salted to achieve bare

pavement, the MMS regulation does not prescribe standards for achieving bare-pavement conditions.

### Salted Roads

Salted roads are generally the Town's main arterial (e.g. Guelph St, Mountainview Rd) and collector (e.g. Delrex Blvd, Tanners Dr) roads, with additions to elevate roads with hills, curves, and school areas, etc., to this group. The Town also maintains all Regional arterial roads (e.g. Trafalgar Rd, Steeles Ave) within Halton Hills under agreement with the Region of Halton.

Typically, any accumulation of snow or formation of ice results in the deployment of resources to treat salted roads. One exception is when pavement and/or air temperatures are actively melting minor accumulations of snow or ice. Arterial roads are serviced first and treated as a priority over collector roads. In addition to salt, snow is plowed-off of main roads when warranted by accumulation depth. When conditions allow, a solution of salt brine may be applied to designated arterial roads in advance of snowfall to help prevent snow and ice from bonding to the pavement.

Resident concerns related to services provided on salted roads are uncommon, although staff note a few areas of risk below:

#### ***Consideration 1: Resources during Weekends and Holidays***

*Issue:* Currently during weekends and holidays, PW relies on limited stand-by staff and volunteer call-in staff to operate salters and plows.

*Impact:* The Town's ability to service all routes equally is limited, especially during extended events, as operator shifts are generally limited to 12 hours.

*Option:* Staff are currently reviewing route plans, shift schedules, and standby complement. These items are affected by provisions within the Town's Collective Agreement with CUPE Local 73 staff. Staff are hopeful this issue can be mitigated through the collective agreement negotiations currently planned and with minimal budget impact. Some adjustments are anticipated for the 2023-2024 season and possible further adjustments for the 2024-2025 season.

#### ***Consideration 2: Tandem Plowing of Multi-Lane Arterial Roads***

*Issue:* During major snowfall events, additional resources are required on arterial roads, and when plowing is required, additional equipment is needed to tandem plow multi-lane roads (e.g. Steeles Ave, Guelph St). Tandem plowing allows for multiple lanes to be cleared simultaneously, which is generally more efficient and safer overall. This places pressure on available resources and delays moving on to servicing collector and residential/rural roads.

*Impact:* Inefficient plowing of arterial roads (i.e. cannot always tandem plow), delayed ability to service collector roads, and to meet MMS.

*Option:* Additional resources to provide additional plow units for tandem plowing operations. Following completion of main roads, these additional units could be further utilized to expedite residential road plowing. The delivery model (contract service or internal) would require further analysis to fully consider all operational impacts. If delivered internally, approximately \$750,000 in capital funding would be required for additional equipment, with ongoing operating costs of about \$130,000 (e.g., seasonal operators, maintenance, fuel, etc.). If additional plow units were added through contracted services, the annual operating cost is estimated at \$180,000. A significant portion of these costs may be recovered by Halton Region for the improved service provided on Regional roads.

This option could be combined with *Consideration 3* (below).

### Residential and Rural Roads

Residential and rural roads are the numerous local urban streets, cul-de-sacs, rural estate areas and low-volume rural roads. Residential and rural roads are not salted to achieve bare pavement and periodic snowpack conditions can be expected.

When snow accumulations warrant, plowing of residential and rural roads starts after main arterial and collector roads are cleared of snow and ice. Residential and rural roads are sanded, as required, to provide traction. When all streets require plowing following a major storm, the aim is to complete all plowing within 24 hours after the end of the snowfall. Heavy snowfalls or successive storms can extend this period beyond 24 hours.

Typical resident concerns related to services provided to residential and rural roads are discussed below:

### ***Consideration 3: Snowpack on Residential and Rural Roads***

*Issue:* As priority salted roads are being serviced, accumulating snow on residential and rural roads becomes compacted by traffic. As plows have a very limited ability to remove compacted snow, the degree of compaction imparted by traffic, the particular snow/ice/rain mix and temperatures all play a role in a plow's ability to clear a road. Typically, some amount of snowpack will remain. If freezing temperatures persist, snowpack can remain on roads for several weeks. While residential and rural roads are sanded for traction, only the application of salt and timely plowing can effectively ensure bare pavement. Applying salt to melt thick snow/ice already bonded to the road is not practical since an unreasonable amount of salt would be required.

*Impact:* When temperature conditions prolong a relatively thick snowpack, bumpy and undesirable driving conditions can result, leading to resident dissatisfaction.

*Option:* Getting plows on residential and rural roads quickly provides the most effective means of minimizing snowpack conditions. Providing increased plowing resources would allow equipment to start and complete residential and rural routes more quickly,

helping to minimize the development of snowpack. The delivery model (contract service or internal) would require further analysis to fully consider all operational impacts. If delivered internally, approximately \$750,000 in capital funding would be required for additional equipment, with ongoing operating costs of about \$130,000 (e.g., seasonal operators, maintenance, fuel, etc.). If additional plow units were added through contracted service, the annual operating cost is estimated at \$180,000.

This option could be combined with *Consideration 2* (above), as the same additional plowing resources utilized to assist with arterial road plowing could then be dispatched to assist with residential and rural route plowing.

#### ***Consideration 4: Driveway Windrows***

*Issue:* Driveway windrows, the pile of snow deposited by plows as they pass driveways, is one of the most frequent winter complaints received by many communities, and Halton Hills is no exception. With high accumulations and wet snow, as experienced in the winter of 2022-2023, windrows can be very difficult for some homeowners to remove themselves. The Town does not have a driveway windrow clearing program. Currently, seniors and persons with disabilities are directed to *Links2Care* for assistance connecting with service providers at the resident's expense.

*Impact:* *Links2Care*, a non-profit community support organization, provides a referral service linking qualifying homeowners with service providers to perform household tasks, such as snow removal, but has a very limited capacity. Many homeowners challenged with snow removal feel the Town should provide some degree of assistance.

*Option 1 - Town-wide Windrow Removal:* Some GTA communities provide municipality-wide removal programs. One approach is to outfit plow equipment with windrow gates that interrupt snow coming off the plow blade at driveways. This approach requires a significant capital investment of about \$1,800,000 in specialized equipment and additional plows to maintain current service levels due to extended plow route completion times, and with annual operating costs of approximately \$225,000 if achieved using internal resources. Staff would also anticipate significant service interruptions due to breakdowns and high annual maintenance costs of the specialized equipment. Another approach is to have a dedicated set of equipment for windrow removal following regular road plows. For operational reasons, this would likely be a contracted service estimated to cost \$400,000 annually. It is important to note that neither option would fully remove snow from the bottom of driveways and some portion of windrow would remain. Furthermore, providing a satisfactory service in tighter/denser neighbourhoods with limited snow storage could be problematic. Staff also anticipate a Town-wide driveway windrow removal program would create a new winter service complaint category, as the seemingly individual service provided at each residence would become relied-upon, and subject to scrutiny based on individual needs and expectations.

*Option 2 - Town Program Serving Seniors and Persons with Disabilities:* A number of GTA municipalities provide a limited fee-based driveway windrow removal service for

qualifying residents. Fees typically cover a portion of the cost to deliver the program and vary widely. These programs typically have pick-up trucks with plows clear each driveway within 12 hours of the road being plowed. This service level provided may not be adequate for some residents needing their driveways cleared quickly. Staff estimate that such a service in Halton Hills for seniors and persons with disabilities might allow for 100 registrants at an estimated annual operating cost in the range of \$75,000.

### **Sidewalk Level of Service**

The Town maintains only designated sidewalks during winter. Approximately 160 km of sidewalks and pathways, or just over half of all the sidewalks and walkways in the community, are maintained. To preserve reasonable budgetary expense, By-law No. 2007-0003 provides the Council-approved criteria for the provision of sidewalk snow clearing services. The criteria include sidewalks on roads with traffic exceeding 1,000 vehicles/day (typically main and collector roads) and sidewalks adjacent to schools. Sidewalks not cleared by the Town are left for residents to clear, although Town resources are deployed to address any reports of icy or slippery sidewalks.

The current practice is to plow included sidewalks as required to address snow accumulation or treat as required to address icy conditions. When plowing of sidewalks is undertaken, the goal is to complete plowing of the routes within 48 hours after snowfall ending. Other than downtown areas, sidewalks are typically not salted to achieve bare pavement and periodic snowpack conditions can be expected. Sand is usually applied to sidewalks when required, and salt may be applied in icy conditions.

Typical resident concerns related to services provided to sidewalks are discussed below:

#### ***Consideration 5: Town-Wide Sidewalk Snow Clearing***

*Issue:* Report TPW-2021-0040 Sidewalk Snow Clearing Expansion Considerations, included in the Council Agenda on November 15, 2021, discussed several compelling reasons to consider expanding the Town's sidewalk snow clearing program to all municipal sidewalks. The report also discussed several challenges and deterrents. Due to continuing operating budget pressures, expansion of the sidewalk plowing program was not recommended. Staff suggested it may be timely for staff to present Council with a Town-wide sidewalk clearing program for consideration as part of planning for winter operations in the Vision Georgetown community. This program would include public consultation and provide recommendations on the operational model (internal or contract), specific level of service recommendations, communications, and start-up costs.

*Impact:* Provincial Minimum Maintenance Standards for Municipal Highways, O. Reg. 239/02 (MMS) does include standards for winter maintenance of sidewalks, which are not met for sidewalks not maintained by the Town. As such, MMS cannot be utilized as a potential due diligence defense, although the passing of By-law No. 2007-0003 does provide the Town with a defense against gross negligence. The applicability of any defense relies heavily on the facts of a specific case. Sidewalk winter complaints

received are typically related to sidewalks maintained by the Town (mostly about damage caused to sod), as opposed to inquiries about expanding the service to unserved sidewalks.

*Option:* As noted above, Report TPW-2021-0040 suggested it may be timely for staff to present Council with a Town-wide sidewalk clearing program for consideration as part of planning for winter operations in the Vision Georgetown community. Staff estimate the additional cost for a Town-wide sidewalk clearing program to be in the range of \$1,200,000 in capital and about \$300,000 in operating costs if delivered internally, or about \$400,000 in annual operating costs if the additional units are contracted.

### ***Consideration 6: Sidewalks Fronting Parks and Unoccupied Lots***

*Issue:* A somewhat frequent winter sidewalk complaint received by the Town is the lack of sidewalk winter maintenance along vacant, non-residential frontages (e.g. parks, creek blocks). Including these areas within existing sidewalk clearing routes would create an inconsistent patchwork of maintained sidewalks routes or lead to excessive “deadheading” (non-productive travel time) of sidewalk machines.

*Impact:* While adjacent sidewalks are typically cleared by neighbouring residents, in many cases the sidewalks along these vacant frontages are not cleared and become a concern for the immediate community.

*Option:* An approach could be to have a dedicated crew with a snowblower(s) on a trailer attend and clear these locations throughout the Town following winter events. While some further analysis would be required on the criteria for which specific locations would be included, staff estimate the cost of this additional service to be in the range of \$55,000 annually with a minor capital impact of about \$20,000.

### **Salt Management**

Road salts (primarily sodium chloride) are the conventional de-icing/anti-icing chemicals for maintaining winter safety due to their cost, effectiveness and ease of handling. The amount of salt used is determined by level of service policies, the transportation network, weather conditions and operational practices. The use of salt has adverse environmental impacts.

As part of Environment and Climate Change Canada’s “Code of Practice for the Environmental Management of Road Salts”, the Town maintains a Salt Management Plan (SMP). The content of this SMP is consistent with recommendations found in the Code of Practice and assesses Town practices against industry best practices.

### **Conclusion**

This report discusses a number of winter control issues for Council’s consideration. Council may direct staff to provide a detailed analysis and budget proposal on any particular issue(s) for inclusion in a future year Budget deliberation process.

**STRATEGIC PLAN ALIGNMENT:**

This report aligns to the Town's Strategic plan recognizing the value to provide responsive, effective municipal government and strong leadership in the effective and efficient delivery of municipal services.

**RELATIONSHIP TO CLIMATE CHANGE:**

This report is administrative in nature and does not directly impact or address climate change and the Town's Net Zero target.

**PUBLIC ENGAGEMENT:**

Public Engagement was not needed as this report is administrative in nature.

**INTERNAL CONSULTATION:**

This report has been discussed internally within the Transportation & Public Works Department and with the Town's Risk & Insurance Advisor.

**FINANCIAL IMPLICATIONS:**

This report is administrative in nature and does not have any financial implications.

Estimated costs presented in this report are at a conceptual level and are provided for comparative purposes. Further investigation and program definition is required to develop accurate cost estimates that can be utilized for budgeting purposes.

Reviewed and approved by,

Bill Andrews, Commissioner of Transportation & Public Works

Chris Mills, Chief Administrative Officer