

Winter Sidewalk Maintenance Service Standards – Review 2023

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Report Summary

This report provides information regarding the winter sidewalk maintenance service standards.

Relationship to the Strategic Plan, Health Impact Assessment and Community Energy & Emissions Plan (CEEP)

A pillar of the Strategic Plan 2019–2027 is the Asset Management and Service Excellence strategic initiative. One of the key principles of this initiative is to continually look for innovative and cost-effective approaches for the operational services staff deliver each day. Utilizing this continuous improvement approach ensures Linear Infrastructure Services provides efficient, high quality operational activities that meet the needs of residents and supports how they work, live and play in Greater Sudbury. As well, accessible winter sidewalks will encourage more residents to utilize active transportation rather than use motorized vehicles to get to their destination, which is consistent with the objectives of Greater Sudbury’s Community Energy and Emissions Plan (CEEP).

This report is also consistent with Council’s Strategic Plan with respect to the goal of conducting research, benchmarking and experimentation to ensure road maintenance practices reflect appropriate best practices.

Financial Implications

There are no financial implications associated with this report.

Background

Linear Infrastructure Services maintains 350 kilometers of sidewalks across Greater Sudbury each winter. Winter sidewalk maintenance involves plowing and sanding sidewalks to reduce slip hazards and provide a smooth surface for sidewalk users. As the City strives toward their on-going commitment to becoming a more pedestrian friendly community in line with the City of Greater Sudbury Strategic Plan pillar to “Create a Healthier Community” and CEEP Goal #8 to encourage active transportation and reduce vehicle use, the importance of clearing sidewalks in the winter to help residents maintain healthy, active lifestyles and to provide access to work, school, shopping, and GOVA Transit services is recognized.

On February 16, 2021, the Finance and Administration Committee passed resolution FA2021-06 requesting

that staff prepare a study of service standards and service delivery models for winter sidewalk maintenance with recommended service level options for potential consideration as a possible business case for the 2022 budget deliberations including but not limited to reviewing: snow accumulation to initiate operations; continuous plowing practices; priorities for the sidewalk network; service models and best practices in other cities; and alignment with the active transportation policies and goals of the Community Energy and Emissions Plan (CEEP).

Upon review, it was determined that a complete and all-encompassing study of winter sidewalk maintenance service standards and service delivery models would be a large undertaking that would require a considerable amount of research, analysis, and citizen engagement which could not be appropriately completed prior to the 2022 budget submission. As such, it was determined that multiple reports to Committee would be more appropriate to keep Committee updated and engaged in the process.

The first such report to Operations Committee titled “Winter Sidewalk Maintenance Service Standards” presented on September 20, 2021, by the General Manager of Growth and Infrastructure provided background on the City’s existing sidewalk winter maintenance standards and its origins. It also shared public opinion gathered through 311 customer service data and surveys conducted by the Greater Sudbury Safer Sidewalks (GSSS) community group and the City’s “Over to You” platform.

The second such report presented to Operations Committee entitled “Winter Sidewalk Maintenance Service Standards 2022” presented on August 8, 2022, by the General Manager of Growth and Infrastructure, compared sidewalk winter maintenance standards of twenty (20) Canadian Municipalities of similar population and climate to the City of Greater Sudbury. In addition to identifying techniques for mitigating the above noted public concerns through existing resources, Staff were able to cross reference these concerns with maintenance standards provided by other municipalities to develop several feasible sidewalk winter maintenance standard options for consideration.

This report is a conclusion to the winter sidewalk maintenance service standards review. The report reiterates the current service winter sidewalk maintenance levels, provides details of other feasible maintenance options, and summarizes additional public feedback obtained through the City’s “Over to You” platform and an independent poll run by Sudbury.com.

Analysis

Minimum Maintenance Standards for Municipal Highways (O.Reg 239/02)

The City of Greater Sudbury endeavors to adhere to or exceed the Minimum Maintenance Standards for Municipal Highways (MMS) as set out in O.Reg 239/02. These standards speak to requirements for road and sidewalk maintenance as well as requirements for patrolling of both to monitor conditions.

As it relates to snow accumulation on sidewalks, the MMS states two requirements to be followed after the snow accumulation has ended. The first is to reduce the snow depth to less than or equal to 8 centimeters within 48 hours. The second is to provide a minimum sidewalk width of 1 meter. The MMS further states that if the snow depth is less than 8 centimeters, the sidewalk is deemed to be in a state of repair and if the snow depth exceeds 8 centimeters while snow continues to accumulate, the sidewalk is deemed to be in a state of repair until 48 hours after the snow accumulation ends.

The MMS also speaks to ice formation on sidewalks and notes that if ice forms on a sidewalk the sidewalk is deemed to be in a state of repair until 48 hours after the municipality first becomes aware that the sidewalk is icy. The municipality must treat the sidewalk within that 48 hours and the sidewalk is deemed to be in a state of repair for 48 hours after that treatment. As it relates to the City of Greater Sudbury, treating a sidewalk means applying sand.

Finally, the MMS sets out requirements for patrolling sidewalks which consists of visually observing the

sidewalk by driving on the adjacent roadway or driving or walking on the sidewalk. The standard for patrolling sidewalks is to patrol sidewalks that the municipality selects as representative of its sidewalks at intervals the municipality deems necessary.

Current Winter Sidewalk Maintenance Standards

Sidewalk winter maintenance within the City have evolved over a number of years. The City's current winter sidewalk maintenance standards have been derived from the City's Active Transportation Winter Maintenance Policy and the Province of Ontario's Minimum Maintenance Standards (O.Reg 239/02). In general terms, the Active Transportation Winter Maintenance Policy identifies which sidewalks should receive winter maintenance and the Minimum Maintenance Standards (often referred to as the MMS) identify the minimum frequency required for patrolling, weather monitoring and plowing and sanding municipal roads and sidewalks. To note, the sidewalks which receive winter maintenance are reviewed annually at Operations Committee. Table 1 summarizes the City's current overall winter sidewalk maintenance standard.

Table 1 – Current Sidewalk Winter Maintenance Standards

Sidewalk Winter Maintenance - Snow Events			Service Timelines ¹		Service Timelines when SWE is Declared
Sidewalk Classification	Protocol / Action	Snow Accumulation	Complete Round #1 / Initial Deployment	Clear / Material Application	
Downtown	Plow & Sand Sidewalks	N/A	Midnight to 8 am, Weekdays	-	None
Class 1 ²	Plow & Sand Sidewalks	8 cm	Within 4 - 24 Hours of reaching 8 cm Threshold	12 - 24 Hours after Storm Ends ^{if Required}	None
Class 2 ³	Plow & Sand Sidewalks	8 cm	Within 8 - 24 Hours of reaching 8 cm Threshold	12 - 24 Hours after Storm Ends ^{if Required}	None

Sidewalk Winter Maintenance - Ice Events			Service Timelines ¹		Service Timelines when SWE is Declared
Sidewalk Classification	Protocol / Action	Ice Detection	Complete Round #1 / Initial Deployment	Clear / Material Application	
Downtown	Plow & Sand Sidewalks	N/A	Midnight to 8 am, Weekdays	-	None
All Sidewalks	Sand Sidewalks	Detected	Within 24 Hours of Ice Detection	24 Hours after Storm Ends ^{if Required}	None

¹ Winter Control Supervisor's may alter any policy statement to suit actual weather conditions.

² Class 1 Sidewalks - Sidewalks adjacent to Class 1 - 3 Roads

³ Class 2 Sidewalks - Sidewalks adjacent to Class 4 - 6 Roads

SWE – Significant Weather Event

Delivering Sidewalk Winter Maintenance Services

There are twenty-two (22) sidewalk plow routes throughout the City of Greater Sudbury. Generally, these routes were designed to be completed by one sidewalk plow during the course of one shift (8 to 13 hours) however some may take longer based on the route and weather conditions. During a winter event, sidewalk plowing begins on all routes once 8 centimeters (cm) of snow accumulation occurs or icy conditions are detected. The City has four (4) to twenty-four (24) hours after a snow event has ended to complete this service standard during typical winter weather events. Snow accumulation on sidewalks is generally cleared with a single pass. The Collective Bargaining Agreement (CBA) allows for sidewalk plow operators to work on a "first eight (8) in twenty-four (24)" schedule which means that staff may start at any time of day within a twenty-four (24) hour period based on operational need. A typical shift is eight (8) hours but may be extended up to thirteen (13) hours on overtime with staff concurrence. This service is staffed for only one shift which means that when the previously mentioned shift has ended, all staff are entitled to a mandatory rest period of

at least 11 hours prior to returning to work. During this period of time, there is no staff available to continue clearing sidewalks. If the storm ends in the middle of a shift, and staff cannot complete the work before the end of said shift, any sidewalks that are not completed will be left until the following shift commences.

The downtown area of Sudbury is unique as it has been listed as a priority area. As such, the routes associated with downtown Sudbury are serviced to the minimum standards above and in addition they are serviced every weekday from midnight to 8 a.m. regardless of snow accumulation.

During periods of non-snow/ice events, sidewalk plow operators are utilized to complete all required winter maintenance tasks such as pothole patching, snow removal and winter ditching as needed. Sidewalks outside of downtown Sudbury are patrolled on regular intervals as set-out in the Minimum Maintenance Standards (MMS) and are spot plowed and / or sanded as necessary to ensure they are passable for pedestrians.

Citizen Survey's

As noted previously, the first report to Operations Committee titled "Winter Sidewalk Maintenance Service Standards" presented on September 20, 2021, by the General Manager of Growth and Infrastructure, gathered public opinion through the 311 customer service data and surveys conducted by the Greater Sudbury Safer Sidewalks (GSSS) community group and the City's "Over to You" (OTY) platform. The findings of these surveys are summarized as follows:

GSSS Survey:

- Address slippery and bumpy sidewalk conditions
- Address snow blocking sidewalks
- Ensure accessibility with plowing commencing sooner and continuing more frequently
- Improve access to information and communication

"Over to You" Survey:

- Majority of respondents utilize the sidewalks for leisure/general walkability while one-third to one-half of that number utilize the sidewalks to get to school or work.
- Residents who utilize the sidewalks in the winter as opposed to the summer for leisure/general walkability declines by less than 10%. Also noted was that 60% of respondents utilize the sidewalks less during winter months citing the condition of the sidewalks between storms being the cause of reduced usage.
- 66% of respondents noted experiencing difficulties with sidewalk conditions occurring between storms. Noting that slippery conditions and icy patches as the highest concern with uneven surfaces, snow piled at intersections, and deep snow ranking fairly equally behind.
- The survey also gauged how receptive residents would be to a service level change. It was determined that 32% of respondents selected "None of the above" for service level changes, 32% would consider businesses being responsible for clearing snow in front of their property to allow for an increase to service levels at other priority locations and 30% noted that they would consider clearing snow on arterial and collector roads sidewalks sooner and more frequently during a storm while not plowing local road sidewalks until a storm had ended.
- Finally, the survey determined that 70% of respondents were unaware of the City's Active Transportation Winter Maintenance Policy and that 89% stated they did not know a request could be made to have a sidewalk reviewed for potential winter maintenance

Also noted previously, the second report presented to Operations Committee entitled "Winter Sidewalk Maintenance Service Standards 2022" presented on August 8, 2022, by the General Manager of Growth and Infrastructure, investigated feasible maintenance options that could be implemented to improve the public concerns outlined above. The feasibility of the options was determined by cross referencing the City's current winter sidewalk maintenance model with that provided by other municipalities of similar population and/or

weather patterns. However, each option developed vary in effectiveness and cost of implementation. Understanding that expectations of winter sidewalk maintenance vary broadly throughout the community, public input on the options was deemed an essential part of the review prior to formulating recommendations.

The “Over to You” platform was once again utilized in 2023 to gather public opinion on the most desirable winter sidewalk maintenance options. To improve citizen engagement, staff communicated the undertaking through several modes of media (including social media), advertisements (i.e. electronic billboards), meetings with special interest groups (i.e. CAN’s, GSSS) and in-person engagement with the public at two local events (Science North and Sudbury Arena) in March of 2023. The “Over to You” survey ran from February 22nd, 2023 to March 24th, 2023 and allowed people to vote on five (5) different winter sidewalk maintenance options from the most desirable to the least desirable option. These winter sidewalk maintenance options are discussed in detail in this report.

There were 1,184 submissions to the City’s “Over to You” campaign. A report on the survey results can be found in Appendix A. The survey allowed the public to rank preferred winter sidewalk maintenance standard options from 1 to 5. The analysis objective was to average the public scoring for each option such that the lowest average score is deemed to be the most desirable and the highest average score is deemed to be the least desirable of the options presented. The average rank shown in Figure 1 indicates the average scoring received for each option. The top two choices of this survey were “Begin plowing at 5 cm” (Option A) and “24/7 sidewalk winter maintenance” (Option C) respectively.

Please choose the order of the options you prefer, from most desired (1) to least desired (5). You may provide feedback in the comments section below.

OPTIONS	AVG. RANK
Option A: Begin Sidewalk Plowing at 5 cm instead of 8 cm of Snow Accumulation	2.45
Option C: 24/7 Sidewalk Winter Maintenance	2.63
Option B: Priority Sidewalk Winter Maintenance on Non-Residential, Main Routes	2.97
Option E – No Change	3.46
Option D: Private/Public Partnership for Sidewalk Winter Maintenance	3.49

Figure 1: “Over to You” Survey Results

Sudbury.com Public Opinion Poll

Sudbury.com ran a concurrent public opinion poll on the same sidewalk winter maintenance standard options provided through the City’s “Over to You” survey. According to the website, there were 943 opinions submitted in this poll. Contrary to the “Over to You” survey, this poll only allowed the public to vote on one desired maintenance option. The online results as depicted in Figure 2, indicate that the top two preferences were “No changes” (Option E) and a “Public/Private partnership” (Option D) to sidewalk winter maintenance which were the two lowest ranked options based on the OTY survey.

Poll Results

The city is seeking public feedback on winter sidewalk maintenance. Of the options presented, which would you prefer to see enacted?

[View related story](#)

1. Begin sidewalk plowing at 5 cm instead of 8 cm of snow accumulation – anticipated to cost an additional \$1 million 101 votes 10.71 %



2. Priority sidewalk winter maintenance on non-residential, main routes – anticipated to cost approximately an additional \$140,000 69 votes 7.32 %



3. 24/7 sidewalk winter maintenance – anticipated to cost approximately \$3 million 187 votes 19.83 %



4. Private/public partnership for sidewalk winter maintenance – no increase in cost and a potential positive budget impact 280 votes 29.69 %



5. No changes – no cost 306 votes 32.45 %



Total votes: 943

Added: 1 d

Figure 2: Sudbury.com's Survey Results

Order of Plowing - Later Start to Sidewalk Maintenance

One of the main themes received from survey comments conducted through the “Over to You” platform was regarding the “Order of Plowing”.

This option considered winter sidewalk maintenance commencing after roadway snowplows have completed their work. Theoretically, this would allow MT's to plow and sand sidewalks on a onetime basis after a particular winter snowfall event has ended with minimal risk of road plows pushing snow into already cleared sidewalks. However, the downside to this option is that during prolonged winter events, there exists a potential that sidewalks may not see a MT plow for multiple days thereby defeating the purpose of implementing such an option to improve sidewalk winter maintenance. Furthermore, this option runs the risk of allowing potential buildup and hardening of roadway snow and ice on the sidewalks over prolonged periods of time. Given the significant quantity of snow/ice/rain fall and extreme temperature fluctuations (including normal freeze/thaw cycles) experienced annually in the CGS, a significant amount of time and resources (labour and specialized snow removal equipment) may be required to mitigate such conditions.

There are two main reasons why road plowing cannot be effectively coordinated with sidewalk plowing to prevent roadway snow from being deposited onto already cleared sidewalks. Firstly, road plows currently operate on a 2-shift model (available to plow on a 24/7 basis) while sidewalk plows operate on a 1-shift model (available to plow between 8 to 13 hours a day). Therefore, during winter events, roads are often still being plowed when sidewalk plowing has ended for the day. Secondly, sidewalk maintenance routes are generally shorter (~10 to 12 hours per route) than road maintenance routes (~16 to 24 hours per route on Class 4 - 6 Roads). This often results in roads still being plowed when sidewalk plowing has ended for the day. Both circumstances described may lead to the undesirable possibility of roadway snow being deposited

into already cleared sidewalks. This phenomenon is amplified in circumstances where minimal roadside storage is available (i.e. roads with no boulevards). However, staff have taken several steps to mitigate this concern as described in Option E.

Options and Analysis

Option A: Begin Sidewalk Plowing at 5 cm of Snow Accumulation

Option A considers that sidewalks be plowed and sanded after a snow accumulation of 5 cm and / or icy conditions have been detected rather than the current model of 8 cm and / or icy conditions have been detected and cleared no later than 24 hours after a winter event has ended. Because sidewalk plows will have less initial snow to clear, this option will likely lead to a quicker completion of the first plowing pass within a route. This may lead to a more level walking surfaces during minor winter events (i.e. short duration / low intensity snowfalls). In contrast, during major winter events (long duration / high intensity snowfalls), snow will likely accumulate on already cleared sidewalks which may lead to a more challenging walking surface. It is also expected that the earlier start to sidewalk plowing during major winter events could lead to a later completion time for a final cleanup. To ensure sidewalks are cleared no later than 24 hours after a major winter event has ended, the City will have to readjust its existing plow routes by adding three (3) additional sidewalk plows and three (3) additional seasonal sidewalk plow operators to its existing resources. The number of sidewalk routes will change from 22 to 25 thereby reducing the length of each route that needs to be cleared. The reduced route distance will theoretically reduce service times by approximately 12% or 1.5 Hours in most areas of the City during periods of minor winter events.

All sidewalks will continue to be maintained to a snow packed state. All maintained sidewalks will continue to be plowed and sanded on an as needed basis throughout the winter months. Downtown sidewalks will continue to be maintained on weekdays between midnight and 8:00 am as it is done presently.

Analysis of Option A

Of the five options presented for public opinion, the “Over to You” survey has Option A as the highest ranked priority, while the Sudbury.com poll has this option indicated as the fourth highest priority.

Option A only partially addresses the concern: “Ensure accessibility with plowing commencing sooner and continuing more frequently” as provided through the GSSS survey of 2021. This is mainly because an earlier start can only be expected to occur a handful of times in any given winter season. During the past five (5) winter seasons, the City of Greater Sudbury has only experienced 22 snowfall events that were greater than 5 cm and less than 8 cm, for an average of four (4) such occurrences annually.

Option A does not effectively address two other major concerns provided through the GSSS survey which is to improve “slippery and bumpy conditions” and “snow blocking sidewalks”. Improvements to these conditions can only be achieved by more frequent plowing. This option could theoretically improve snow pack the additional resources discussed in this option will improve route completion times during minor winter events. This would theoretically allow sidewalk plows to make a second pass over parts of its completed route within the time available in a daily crew shift schedule. However, a full second pass over an already completed sidewalk route is not possible within any 24-hour period because the existing single shift schedule is limited to a maximum work period of thirteen (13) hours a day with a mandatory eleven (11) hours off duty. The partial second pass that is described under these circumstances will not result in uniform sidewalk conditions that would improve pedestrian passage. Furthermore, residents that front a sidewalk portion that would receive a second pass under this circumstance could be burdened with the added responsibility of clearing a second snow windrow created by the sidewalk plow. This option will create advantages and disadvantages to residents and pedestrians in a disproportionate manner and is therefore not a recommended maintenance option.

Option B: Priority Winter Maintenance on Class 1 Sidewalks

Option B considers that all available sidewalk plows (22 MT's) only be deployed along Class 1 Sidewalks (i.e. sidewalks adjacent to major roads such as Paris Street, Lasalle Boulevard, Errington Avenue, MR 24 and MR 80) during a major winter event. This will result in Class 1 Sidewalks being cleared faster and with a notably improved walking surface than what is provided currently. Class 2 Sidewalks (i.e. sidewalks adjacent to residential roads such as Roxborough, Moss, Brookside, Sugarbush and Morin) will not receive any winter maintenance during a major winter event. Since sidewalk plows would only be redeployed to Class 2 Sidewalks after the Class 1 Sidewalks have been cleared, the cleanup of Class 2 Sidewalks will not be completed until up to 48-Hours after a major winter event has ended. The delayed start to plowing during major winter events may lead to significant snow or ice accumulation on Class 2 Sidewalks that could impede pedestrian passage and develop uneven walking surfaces. It is estimated that two (2) additional Mechanical Ice Breaker (MIB) attachments will need to be purchased and used with sidewalk plows to mitigate this condition.

All sidewalks will continue to be maintained to a snow packed state. All maintained sidewalks will continue to be plowed and sanded on an as needed basis throughout the winter months. Downtown sidewalks will continue to be maintained on weekdays between midnight and 8:00 am as it is done presently.

Analysis of Option B

Option B only partially addresses the 2021 "Over to You" survey concern of "sidewalk conditions between winter events" and the GSSS survey concerns of improving "slippery and bumpy conditions" and "snow blocking sidewalks". That is, the redistribution of existing resources will greatly improve sidewalk conditions adjacent to main roads but will do the opposite for sidewalks adjacent to residential roads. There will also be lost maintenance efficiencies by sidewalk plows driving through residential neighbourhoods to get to sidewalks on main roads.

Especially at the outset of winter and during major winter events, there is a higher probability that sidewalk plows will cause damage to lawns and private infrastructure found adjacent to the residential sidewalks due to diminished visibility of the plowing path. This may lead to increased restoration costs.

Also of note, the 2021 "Over to You" survey found that a large majority of residents utilize sidewalks for leisure/general neighbourhood walkability as well as going to and from work/school noting that usage would decline slightly during the winter months due to the condition of sidewalks between storms. This option would leave residential sidewalks without maintenance for up to 48 hours after a storm has ended as opposed to the current standard of 24 hours and does not address the sidewalk maintenance between storm events.

Of the five options presented for public opinion in 2023, The "Over to You" survey has Option B ranked as the third highest priority, while the Sudbury.com poll has this option indicated as the lowest ranked priority. This is therefore not a recommended maintenance option.

Option C: 24/7 Sidewalk Winter Maintenance

Similar to road plowing service levels, Option C considers that sidewalk plows would also be available to service all winter-maintained sidewalks on a 24/7 basis during the winter months. This means that any amount of snow and or ice accumulation can be cleared on a continuous basis with at least one pass being completed within 24-Hours of commencing that maintenance. All winter-maintained sidewalks will be cleared faster with no break in service during prolonged winter events. Sidewalks will realize reduced snowpack and a more level walking surface throughout the winter months. The concerns related with road plows pushing snow onto already cleared sidewalks and intersections (roads / sidewalks) will also diminish with a continuous sidewalk plowing operation.

The current sidewalk winter maintenance model allows maintenance crews to work eight (8) to thirteen (13) hours per day followed by a mandatory eleven (11) hours off. To provide 24/7 winter maintenance coverage

for sidewalks, an additional eight (8) to thirteen (13) hour shift of sidewalk maintenance crews will be required. This can be achieved by adding twenty-two (22) seasonal sidewalk plow operators (doubling the work force) and increasing equipment needs (fuel, maintenance and the MT spare ratio) to suit. Utilizing the existing equipment twice as much as it is currently will inevitably lead to additional equipment downtime. To ensure that the service level can be delivered as planned, four (4) additional MT's with attachments will be required.

All sidewalks will continue to be maintained to a snow packed state. Downtown sidewalks will continue to be maintained on weekdays between midnight and 8:00 am as it is done presently. All maintained sidewalks will continue to be plowed and sanded on an as needed basis. When sidewalk maintenance is not required, the additional resources can be used for other winter maintenance work, such as catch basin snow clearing and pothole patching which is anticipated to decrease the use of contract services for the same.

Analysis of Option C

Of the five options presented for public opinion in 2023, the "Over to You" survey has Option C ranked as the second highest priority, while the Sudbury.com poll has this option indicated as the third highest priority.

Option C lends itself to address the majority of concerns raised by citizens with respect to winter sidewalk maintenance. However, this option only realizes its maximum benefit during winter seasons where conditions are considered severe. In times of less severe winter conditions, some of the resources available under Option C would be redundant. Although, the additional resources can be used to conduct other winter work which would potentially reduce contract costs for this work, the volume of winter work available is proportional to the severity of any given winter season. That is, less snowfall during a given winter season will result in less snow removal being required. Likewise, low precipitation (snowfall and rain) combined with fewer temperature fluctuations during should lead to less pot-hole patching being required.

The increased plowing that is expected to occur with Option C will result in the proportionally increased creation of snow windrows on either side of sidewalks. This will result in additional snow clearing for property owners that front a winter-maintained sidewalk.

While seemingly the solution to a majority of winter sidewalk maintenance concerns, Option C comes with the highest tax impact of all the options presented. It may be construed as a hasty reaction to addressing seasons of severe winter weather. Given the conflicting survey results between the "Over to You" survey and the Sudbury.com poll, it is clear that the public is divided on its opinion of this option. This option largely benefits only one of the various winter activities needed to maintain all of the City's infrastructure and thus may not be the best use of these resources. This is therefore not a recommended maintenance option.

Option D: Private/Public Partnership for Sidewalk Winter Maintenance

A recent review of sidewalk winter maintenance standards indicated that 40 per cent (eight of 20) of the municipalities researched have by-laws in place that require private property owners to maintain sidewalks adjacent to their properties, according to their respective service level standards.

This option considers that a similar public/private partnership be established within the City. It would require that all Class 2 Sidewalks (mainly in residential areas) be maintained by the adjacent property owners during the winter months. These property owners would therefore have to meet the City's current policy for winter sidewalk maintenance which is to plow and sand their sidewalk when snow accumulation reaches 8 cm or icy conditions are detected and complete this maintenance no later than 24-Hours after a winter storm ends. Like in Option B, the City will redeploy all sidewalk plows to plow and sand Class 1 Sidewalks (mainly on arterial and collector roads) during major winter events. This will result in Class 1 Sidewalks being cleared faster and with a notably improved walking surface than what is provided currently. One of the biggest advantages of this option is it allows all sidewalks in the City to be maintained during the winter months. By not plowing and sanding Class 2 Sidewalks, sidewalk plows will no longer create snow windrows at the end of residential driveways. This may lower the snow clearing burden for those respective property owners.

All sidewalks will continue to be maintained to a snow packed state. All Class 1 Sidewalks will continue to be plowed and sanded on an as needed basis throughout the winter months by City crews. When sidewalk maintenance is not required, these crews can be used for other winter maintenance work such as catch basin snow clearing and pothole patching which is anticipated to decrease the use of contract services for the same. Downtown sidewalks will continue to be maintained on weekdays between midnight and 8:00 am as it is done presently.

Additional winter maintenance resources are not expected to be required to implement this option. However, the City would have to create a bylaw for enforcing winter sidewalk maintenance by the public and expand its by-law services to ensure that those maintenance standards are upheld.

Analysis of Option D

Of the five options presented for public opinion in 2023, the “Over to You” survey has Option D ranked as the lowest priority, while the Sudbury.com poll has this option ranked as the second highest priority.

There were various comments received through the “Over to You” survey surrounding this option. The greatest concern surrounded property owners that were physically incapable of clearing their portion of the sidewalk during the winter months. Also seen as a complication is managing the inconsistent levels of winter sidewalk maintenance that can be expected by having individual property owners maintain the City’s sidewalk network. This option may be the most challenging to implement and enforce while yielding similar results to option B with regards to the walkability of sidewalks during the winter months. This is therefore not a recommended maintenance option.

Option E: Continue Sidewalks Winter Maintenance under Current Model

Option E considers that the City continue providing sidewalk winter maintenance as it is currently done with the incorporation of new techniques that have yielded positive results of late. These include, using of the Mechanical Ice Breaker (MIB) and the serrated MT plow blades that has improved the evenness of snow packed sidewalks as detailed in the report presented to Operations Committee on July 11, 2022, titled “Mechanical Ice Breaker for Sidewalk Winter Maintenance 2021-2022 Pilot Project Update” from the General Manager of Growth and Infrastructure. Incorporation of a dedicated road patroller in 2021, continued training of staff on the proper practices involving sidewalk winter maintenance and better utilization of operational data has also improved the service delivered.

Analysis of Option E

Of the five options presented for public opinion in 2023, the “Over to You” survey has Option E ranked fourth in priority, while the Sudbury.com poll has this option ranked as its highest priority.

As with the priority rankings for Option A, Option C indicates contrasting results. This may mean that the surveys are reaching different audiences or that citizens are divided in their expectation of winter sidewalk maintenance should comprise. However, a more plausible interpretation of the results is that citizens are generally content with the winter sidewalk maintenance standard provided currently but expect continuous review and improvement of service delivery mechanisms. Recent improvements to how winter sidewalk maintenance has been delivered include the following:

- Utilization of serrated cutting edges on sidewalk plows that allow for less snowpack being created;
- Utilization of the Mechanical Ice Breaker attachment to remove snowpack rutting when it is an issue;
- Implementation and enhancement of a road patrol App that enables better detection and correction of conditions that impede pedestrian passage on sidewalks during the winter months. The application allows our dedicated road patroller and forepersons to report deficiencies such as potholes and sightlines issues with voice commands while actively patrolling the roads
- Continued education for maintenance personnel and supervision on proper maintenance techniques,

- new technologies and a greater understanding of citizen needs;
- A more robust communication plan to promote citizen engagement through the City's 311 network to identify sidewalk concerns and provide a rapid response when appropriate; and
- The continued annual review of the Active Transportation Maintenance Plan for which sidewalk segments will receive maintenance.

Based on these improvements to how winter sidewalk maintenance is being delivered, Option E is the recommendation resulting from the Winter Sidewalk Maintenance Service Standards Review.

Conclusion

Although comparable in the response rate, the two surveys yielded very contrasting results. A reasonable interpretation of these results is that the public is generally satisfied with the current service model for winter sidewalk maintenance provided by the City but expect continuous improvement considerations. This interpretation is consistent with City's Strategic Plan and CEEP Goals of continually looking for innovative and cost-effective approaches to provide operational services and encouraging use of active transportation to reduce greenhouse gas emissions.

The highest ranked option (Option A, commencing plowing at 5 cm of snow accumulation) in the "Over to You" survey only addresses the concern of "Ensure accessibility with plowing commencing sooner and continuing more frequently" identified by the independent 2021 GSSS survey. It does not address many of the other concerns raised in other public surveys such as minimizing slippery and bumpy sidewalk conditions and snow blocking sidewalks at road intersections and preventing roadway plows from depositing snow onto already cleared sidewalks. Conversely, the second highest ranked option (option C, 24/7 Sidewalk Winter Maintenance) addresses many of the concerns raised in the public surveys conducted. However, it comes at a significant increase to maintenance costs and may cause additional burden to residents that front a maintained sidewalks due to the expected additional driveway clearing requirement. Based on the above, it would not be recommended to increase maintenance costs in order to implement these options noting that they would not address the majority of the concerns raised in previous public consultation.

Ultimately, weather conditions dictate how effectively a winter sidewalk maintenance model performs. During mild winter seasons, sidewalk maintenance may appear to be very effective, whereas the opposite may be true during severe winter seasons. The current winter sidewalk maintenance standard has evolved to optimize existing resources to handle a typical CGS winter season rather than plan for extremes in weather. This approach ensures that the City delivers winter sidewalk maintenance to the public in a cost-effective and responsible manner. Analysis of public feedback obtained through the City's "Over to You" platform and the Sudbury.com poll corroborates the City's approach to delivering cost effective winter sidewalk maintenance. Therefore, it is recommended that the City continue to provide winter sidewalk maintenance as it does currently (option E).

Staff will continue making improvements to the City's Road Patrol App to identify and resolve road and sidewalk maintenance needs in accordance with City policies and the MMS. Road supervisors will continue to receive annual training on best practices for winter sidewalk maintenance with emphasis placed on concerns raised through this review of standards. The annual review of maintained sidewalks will continue with an objective of further optimizing maintenance based on the Active Transportation Winter Maintenance Policy. Staff will continue to monitor citizen concerns submitted through its 311 system to appropriately address individual concerns on a case-by-case basis. Finally, an elaborate communication plan will be implemented prior to the start of each winter control season including improvements to the City's website to provide additional information about winter sidewalk maintenance.

Resources Cited

Operations Committee Report dated August 8, 2022, titled "Winter Sidewalk Maintenance Service Standards 2022" <https://pub-greatersudbury.escribemeetings.com/filestream.ashx?DocumentId=47354>

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