

Winter Sidewalk Maintenance: A Greater Sudbury Safer Sidewalks Report

Executive summary

Greater Sudbury Safer Sidewalks (GSSS) is a grassroots group of residents working towards positive change to make it safer and easier to get around on foot or with a mobility device in Greater Sudbury, all year round.

GSSS advocates for improved winter sidewalk maintenance standards and service delivery models that provide mobility for all residents, recognize that sidewalks are an essential part of Sudbury's transportation network, and support people's physical and mental well-being.

Winter sidewalk maintenance standards determine whether residents can get to their destinations safely, must risk falling, or be stuck at home. Decisions around clearing sidewalks are decisions that impact the health, well-being, and basic mobility of residents.

"If Sudbury wants to truly be a livable city 12 months of the year, walkability must become a priority" – Survey respondent

At the February 16, 2021 Finance and Administration Committee meeting, a motion directing staff to prepare a study of service standards and service delivery models for winter sidewalk maintenance before the end of August was approved.

Following our initial [information sheet](#) and recommendations, GSSS is happy to provide further recommendations for improved winter sidewalks maintenance. To ground our feedback in community members' experiences, and to address the needs of diverse community members, GSSS created an online survey. Survey responses were collected from February 28 - March 25, 2021. A total of 428 survey responses were received, from every Ward and community in Greater Sudbury.

Current winter sidewalk maintenance standards are preventing people from safely reaching essential destinations, walking for their own physical or mental health, or even leaving their homes. People are falling and hurting themselves due to poor sidewalk conditions. As a result, people are forced to risk their safety to reach essential destinations.

Among respondents

- 49% had fallen and injured themselves on icy sidewalks.
- 45% often or always have to stay at home during the winter because they cannot get around on the sidewalks.
- 68% go on the street because sidewalks are impassable, even though they feel unsafe in traffic.
- 68% feel unsafe using sidewalks to get to essential destinations.

Poor winter sidewalk conditions have a significant impact on residents' quality of life. The top three impacts expressed were: fear of walking, not being able to get around, and a negative impact on physical well-being. Seventy-six percent of respondents need to walk for their physical or mental health. Below are quotes from survey respondents:

"My older parents and I cannot leave our house because we are afraid of falling"

"It's hard - you take away my independence in the winter cause you can't get around"

"This winter, poorly plowed sidewalks have meant I don't go out to exercise very much. That's bad for my mental health, my physical health and my sleep"



Icy, uneven surfaces make sidewalks impassable. Water on ice is especially treacherous.

Deep snow or snow piles block sidewalks and intersections.

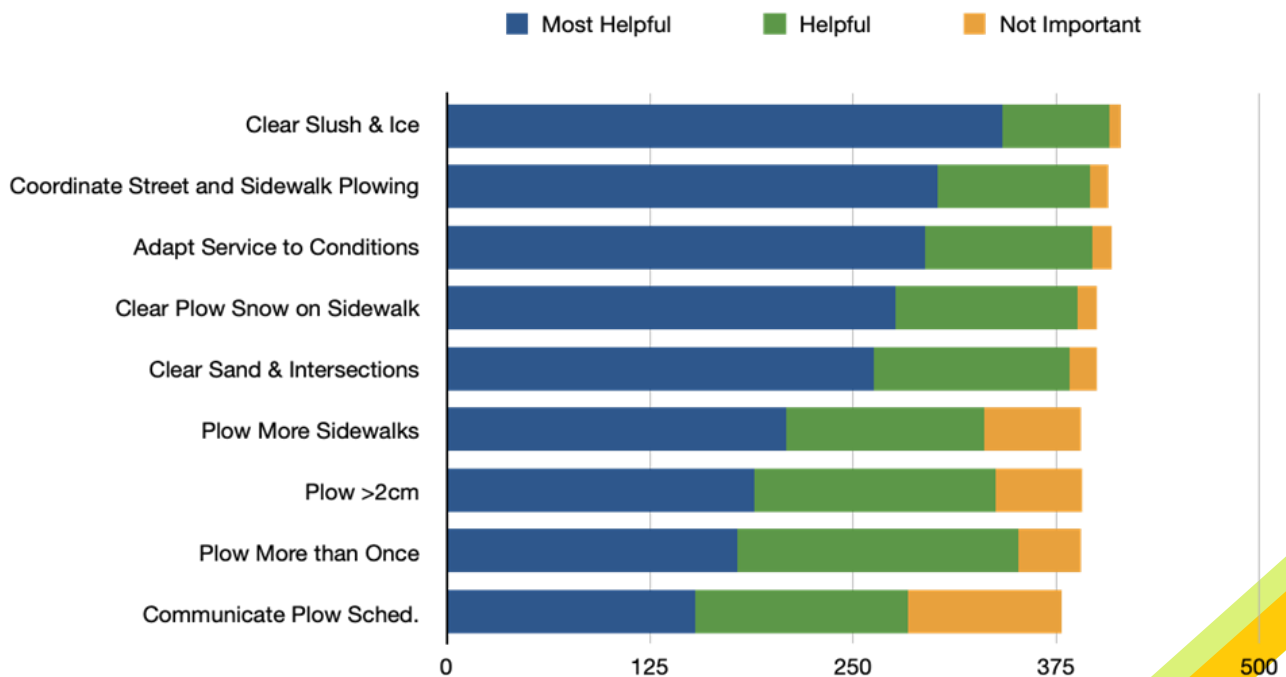
The biggest challenges faced by residents using winter sidewalks are ice and slippery conditions (91%), uneven surfaces (81%), and piles of snow blocking their way (77%).

“When snowplows push snow from the streets into the sidewalks, and when snow on the sidewalks melts into slush and/or freezes, it makes it more difficult and dangerous for my husband and I - both seniors - to take our daily walks to maintain our good health” - Survey respondent

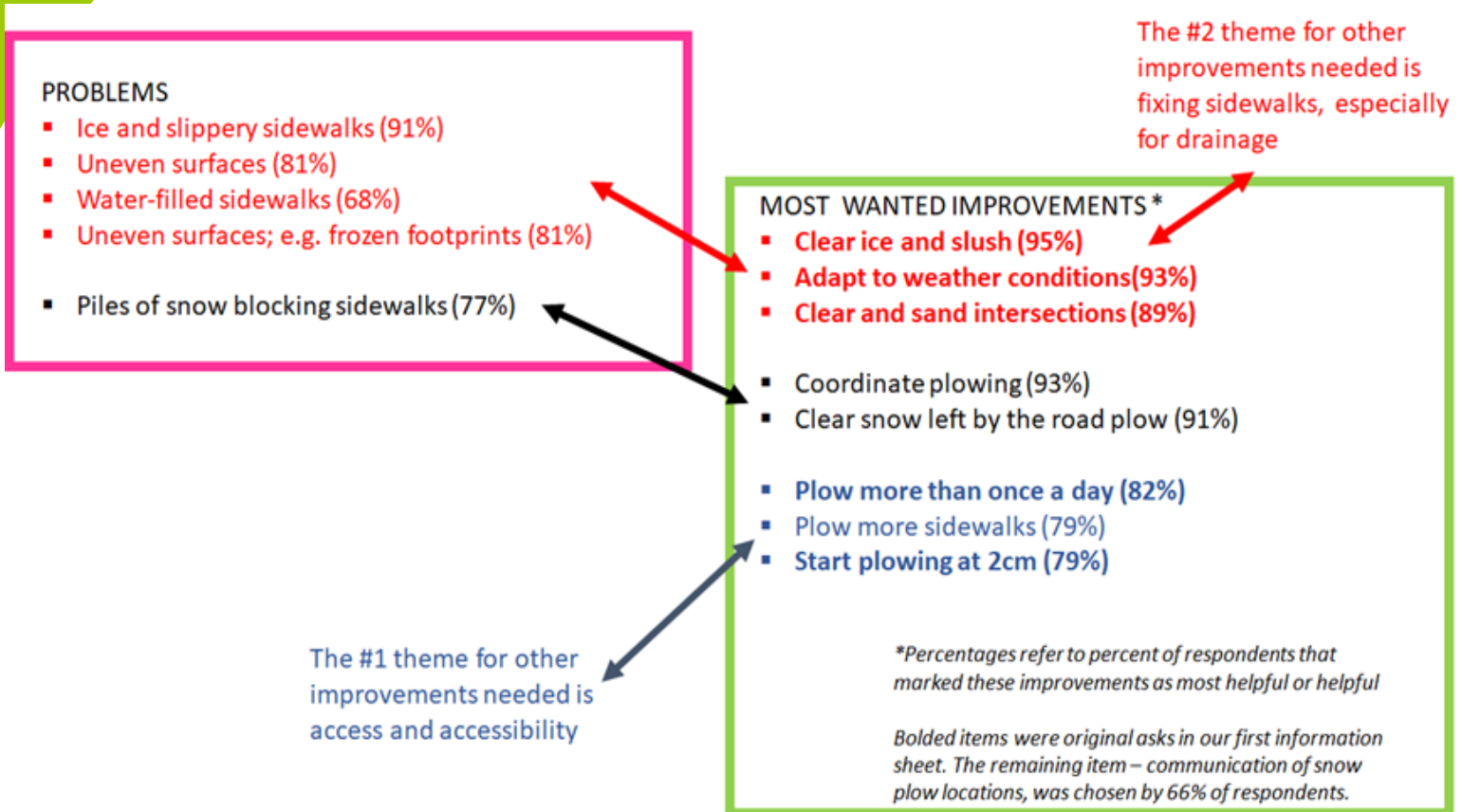
The improvements identified by residents reflect these challenges.

In summary, the most needed improvements to winter sidewalk maintenance are:

- **Address slippery conditions and bumpy surfaces:** Clear ice and slush from sidewalks; Adapt to weather conditions; Clear and sand intersections.
- **Address snow blocking sidewalks:** Coordinate plowing; Clear snow knocked into the sidewalk, or blocking access to sidewalks at intersections.
- **Ensure accessibility:** Start plowing at 2cm; Plow more than once a day; Plow more sidewalks.



Note that 90% of the respondents that use a wheelchair, scooter, walker, cane, or stroller identified starting to plow at 2cm as most helpful or helpful, reflecting the importance of this improvement to accessibility. Keeping sidewalks and intersections clear of ice, slush and snow were even more important for these residents than for all respondents. We would also like to note the importance of keeping bus stops clear of snow for safety and accessibility.



GSSS recommends that the following improvements to winter sidewalk maintenance are necessary for residents to be able to safely reach their destinations and get out for physical and mental health:

- Snow, slush and ice removal from sidewalks should be thorough to prevent the snow and ice build-up that creates dangerously slippery and uneven walking surfaces.
- Winter maintenance should be responsive to weather conditions:

- Snow removal should begin once snowfall reaches a depth of 2 cm, and should be repeated as necessary to avoid build-up of ice and hard snow that creates uneven, slippery walking surfaces.
- Sidewalks and intersections should be monitored and cleaned and sanded as conditions change. Slush should be cleared away on warm days. Sidewalks and intersections should be sanded when melting or winter rain causes icy conditions. Snow knocked into sidewalks and intersections should be cleared away in a timely manner.
- The winter maintenance of sidewalks and roads should be coordinated: to ensure snow from road clearing does not end up dumped onto plowed sidewalks, to avoid blocking access to sidewalks at intersections, and ensure that snow does not get knocked onto sidewalks nor block access to sidewalks, and to ensure bus stops are cleared in a timely manner.

Other helpful improvements to City winter sidewalk maintenance would be: improved communication and access to information; addressing drainage issues; creating maintenance standards for ice, in addition to snow.

To support residents using active transportation, residents' basic mobility, and residents' health, the City of Greater Sudbury needs to maintain safe sidewalks all year round.

Introduction

Greater Sudbury Safer Sidewalks (GSSS) is a grassroots group of residents working towards positive change to make it safer and easier to get around on foot or with a mobility device in Greater Sudbury.

GSSS believes everyone has the right to walk around their neighbourhood and get to where they need to go throughout all seasons. This is essential to basic mobility and well-being.

Current winter sidewalk maintenance standards prevent people from safely reaching essential destinations, walking for their own physical or mental health, and even prevent people from leaving their homes. People are falling and are getting hurt or injured due to poor sidewalk conditions.

At the February 16, 2021 Finance and Administration Committee meeting, a motion directing staff to prepare a study of service standards and service delivery models for winter sidewalk maintenance before the end of August was approved.

GSSS is happy to provide feedback for this important report, adding to our recommendations in our [December 2020 information sheet](#) (Appendix 1).

GSSS's winter sidewalk maintenance survey

As a grassroots group, GSSS needs to ground our feedback in community members' experiences, and to address the needs of diverse community members. GSSS created an online survey to collect community members' experiences using winter sidewalks.

See **Appendix 2** for the survey, which was created using google forms. The questions chosen were informed by the experiences shared by community members in the Facebook Group, and GSSS meetings, which captured people's experiences using winter sidewalks, the challenges they face, and the improvements in winter sidewalk maintenance they need. Respondents could also share in which area of Greater Sudbury they reside.

Residents were invited to complete the survey through the GSSS e-mail list, the Facebook group, Coalition for a Liveable Sudbury social media and e-newsletters, and

other partners (such as Parkside, Community Action Networks, and Rainbow Routes). Due to COVID-19 restrictions, outreach was online only, which may have excluded some residents (e.g., some seniors or any residents without online access, or not part of these online networks).

Survey responses were collected from February 28 - March 25, 2021. To analyse survey results, a simple quantitative analysis was done for check-box answers, while thematic analysis was done for short answer responses. See **Appendix 3** to view all survey responses (duplicate responses and identifying information removed).

Number and location of respondents

A total of **428 survey responses** were received. This large response shows the importance of winter sidewalk conditions to residents and their quality of life. The number of responses was especially impressive given the unseasonably warm conditions this March.

Residents from every Ward and every community in Greater Sudbury responded to the survey. The largest number of responses came from residents in the South End and New Sudbury. However, winter sidewalk conditions affect the quality of life of residents in all of Greater Sudbury's communities.

Table 1. Location of respondents

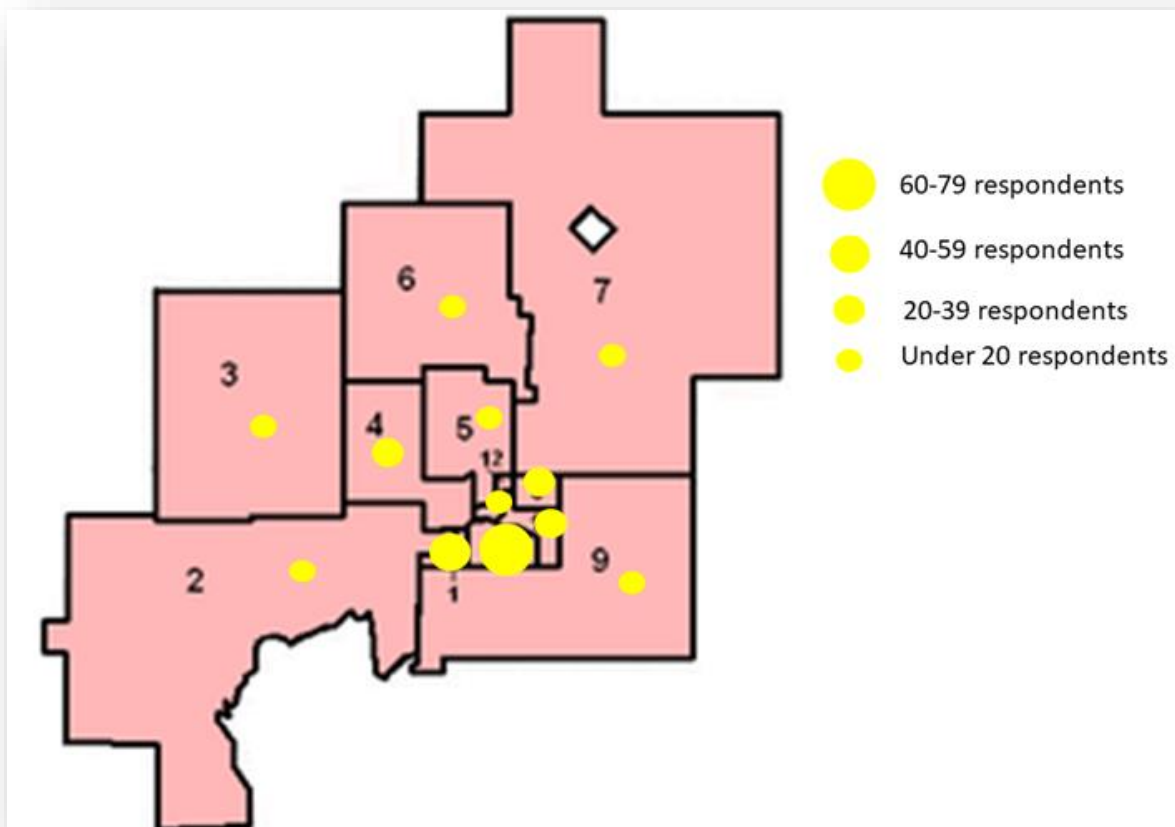
Ward	Number of respondents	Service Area*	Number of respondents
1	48	1	24
2	16	2	28
3	4	3	62
4	20	4	19
5	10	5	76
6	5	6	21
7	17	7	4
8	23	8	6
9	17	9	2

10	72	10	9
11	21	11	10
12	12	12	12
		13	8
		14	2
	Total**		Total**
	265		283

*Service Area: 1. Downtown; 2. Donovan. Flour Mill; 3. New Sudbury; 4. Minnow Lake; 5. South End; 6. West End; 7. Copper Cliff; 8. Walden, Lively, Naughton, Whitefish; 9. Dowling, Levack, Onaping; 10. Azilda, Chelmsford, Rayside Balfour; 11. Valley; 12. Garson, Falconbridge, Skead; 13. Coniston, Wahnapiatae; 14. Capreol

**Not all respondents shared their location or knew their Ward

Figure 1. Residents from every Ward answered the survey



Residents' experiences using winter sidewalks

The respondents for this survey include some of our most vulnerable citizens. Eighty percent of the survey respondents were either seniors (36%), or parents walking with young children (15%), or whose children walk alone on the sidewalks to get to essential destinations (28%). Fifteen percent use some kind of device (walker, wheelchair, stroller) to get around (see Figure 2).

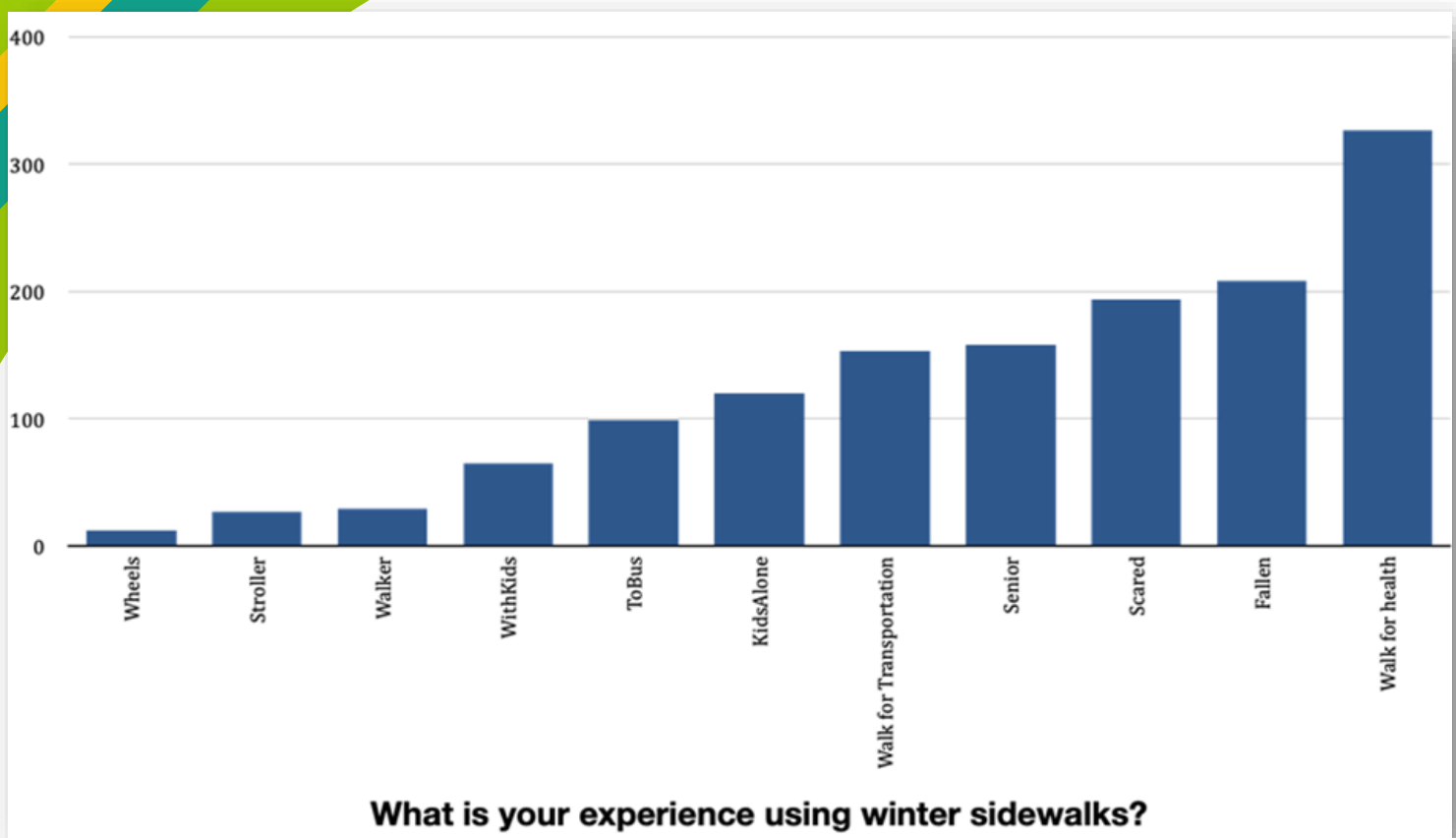
"I have a family and it creates stress thinking I will be forced to walk along the road with my family because the sidewalks are unsafe. The idea of my young children slipping and falling into traffic is terrifying and a very real concern. Especially where we live there isn't many sidewalks to begin with" – Survey respondent

Walking is an essential form of transportation for over half the respondents: walking is the main form of transportation for 36% of the respondents, and 23% walk to catch a bus. Additional comments showed that people walk daily to get to their places of work, to run errands, and to exercise their pets. The ability to get out and walk for mental and physical well-being was important to 75% of the respondents.

Walking on Sudbury's winter sidewalks, however, is not a safe experience: almost 50% of respondents have fallen on Sudbury sidewalks, and a similar amount are fearful of falling and experiencing an injury. Respondents used the "other" section to fill in details about how the unsafe conditions prompted them to use devices such as cleats and walking poles.

Among respondents, 45% report that they often or always stay home because they feel unsafe on Sudbury's winter sidewalks. Many others do not have the choice to stay home, despite safety concerns: 68% reported feeling unsafe using the sidewalks to get to essential destinations. Approximately 68% of respondents reported that they walk or use a wheelchair in the street in the winter because the sidewalks are unusable despite fear of traffic, and 67% said they worry about their loved ones using sidewalks to get around.

Figure 2. Residents' experiences using winter sidewalks



In fact, eight respondents volunteered the information that they filled in the survey to record the experiences of their neighbours' or family members who become housebound in winter because sidewalk conditions are too dangerous for them to navigate. Although this is a small percentage of respondents, this level of concern and care for community members who cannot speak out for themselves highlights the importance of this issue and how sidewalk safety affects not just the people directly affected, but also all those who care about them. These safety issues affect us all. Below are respondents' experiences shared in our survey:

“Unsafe sidewalks in winter leave me housebound for long periods of time”

“Winter sidewalk conditions make me afraid to walk alone in case I fall. I can't take my grandchildren for walks because it's not safe navigating with little ones. I have to take my car and worry about parking even though I am in walking distance of my bank, dentist, and doctor”

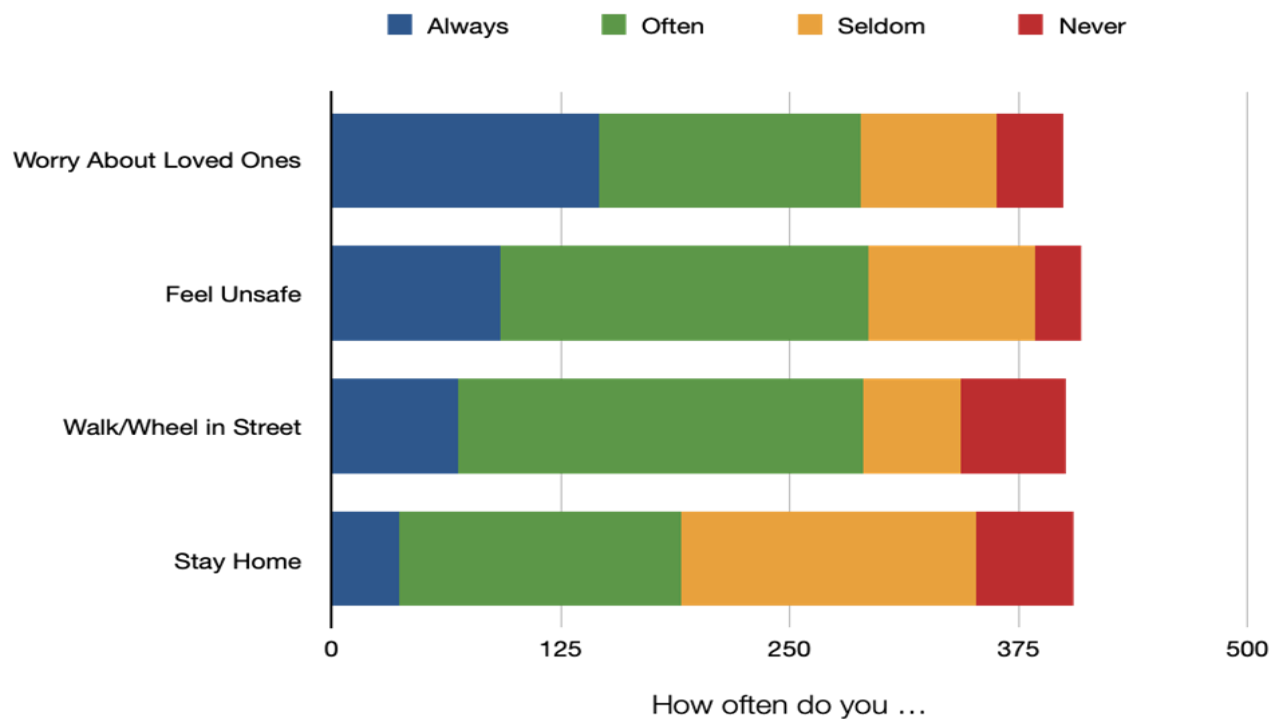
"My mother is mobile but due to the horrendous sidewalks we can never keep her mobility up in the winter"

"I walk every day and when sidewalks are impassable I walk on the road which is dangerous."

"Kids must walk in street and avoid heavy school traffic... very dangerous for parents, kids, strollers"

It is clear that people want to be using winter sidewalks to get to places they need to go but feel that they and their loved ones are compromising their safety and well-being to do so.

Figure 3. Impact of winter sidewalk conditions



What makes it difficult to use winter sidewalks?

When sidewalks are not fully scraped clear of snow or ice, the surfaces can get quite treacherous. Even when temperatures are quite low, the daytime sun can melt the snow that remains on the surface. Pedestrian tracks on this softened snow harden at night making sidewalk surfaces uneven and creating pockets where snowmelt can collect and harden into ice. 92% of respondents found that ice and slippery surfaces make it hard to use sidewalks to get around, and 81% find it hard to manoeuvre uneven surfaces. During the day, the snow melts and turns into water, which sits on top of the

remaining snow or ice on the sidewalks. This makes for treacherously slippery conditions: 69% of respondents report water-filled sidewalks are a barrier. Below are photographs of Sudbury's sidewalks that pedestrians experience any given day in the winter months. The sidewalks are icy, uneven surfaces that are impassable. Water is often on top of the ice which is especially treacherous

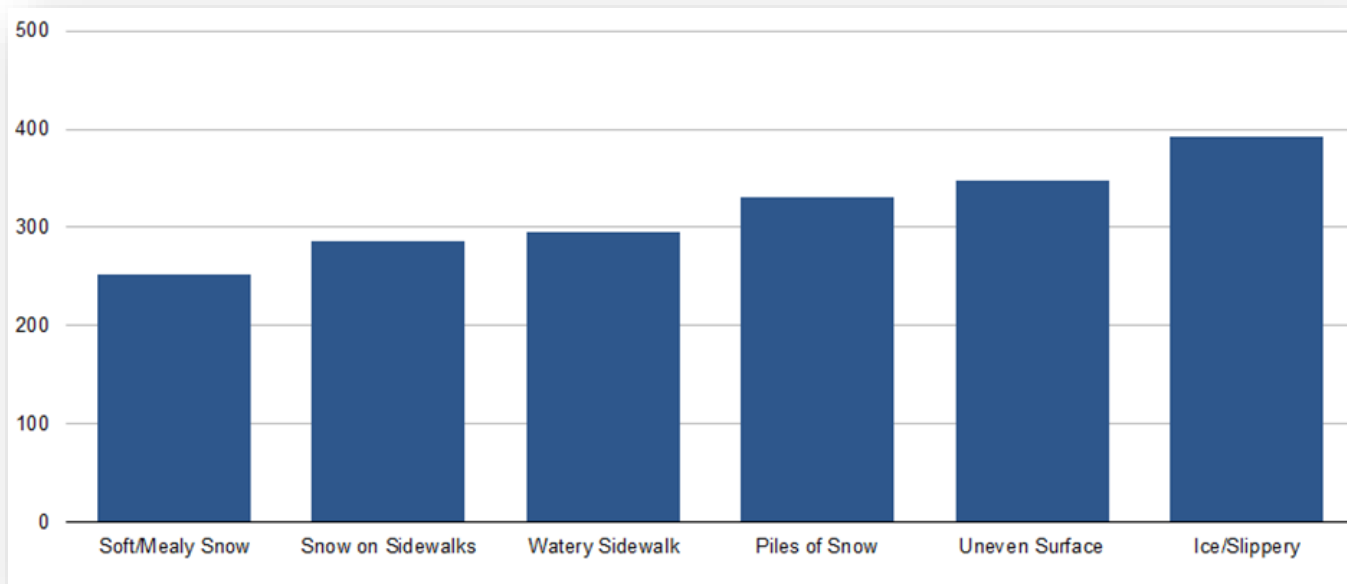


Most of the respondents report being hindered by the amount or condition of snow. Deep snow is hard to navigate. The type of snow can make a difference as well. Heavy sticky snow, or mealy snow, requires a lot more effort to navigate through. Seventy-seven percent (77%) of respondents report being hindered by piles of snow in their way, and over 60% find snow and snow conditions make getting around on the sidewalks very difficult. Below a respondent shares the limitations they experience because of sidewalk conditions:

"Slippery, slushy, or wet (puddles!) sidewalks limit my ability to get groceries and medications. I also cannot get out to just walk get some exercise/fresh air as it is not safe to do so."



Figure 4. Obstacles to using winter sidewalks



What improvements would make using winter sidewalks better for residents?

Respondents indicated which winter sidewalk maintenance improvements would be most helpful, helpful, or not important to them, from among the following list: Start plowing the sidewalk after 2cm of snow instead of 8cm; Plow more than once a day when it is snowing; Clear snow knocked into the sidewalk by the road plow; Clear slush and ice on warm days, so that it does not freeze into a slippery, bumpy surface that is very hard to walk on; Clear and sand intersections so that sidewalks are accessible and to prevent falls; Plow more sidewalks; Have the flexibility to adapt service to the weather conditions as appropriate to keep sidewalks walkable; Communicate when the sidewalk plows are out, to help plan; and finally, Coordinate plowing so that road plows do not cover sidewalks that have just been plowed.

In order, the improvements that over three-quarters of respondents identified as most helpful or helpful are: clear slush and ice (95%), adapt service to weather conditions (93%), coordinate road and sidewalk plows (93%), clear away snow knocked into the sidewalk by the road plow (91%), clear and sand intersections (89%), plow more than once per day when snowing (82%), start plowing at 2cm of snow (79%), plow more sidewalks (77%).

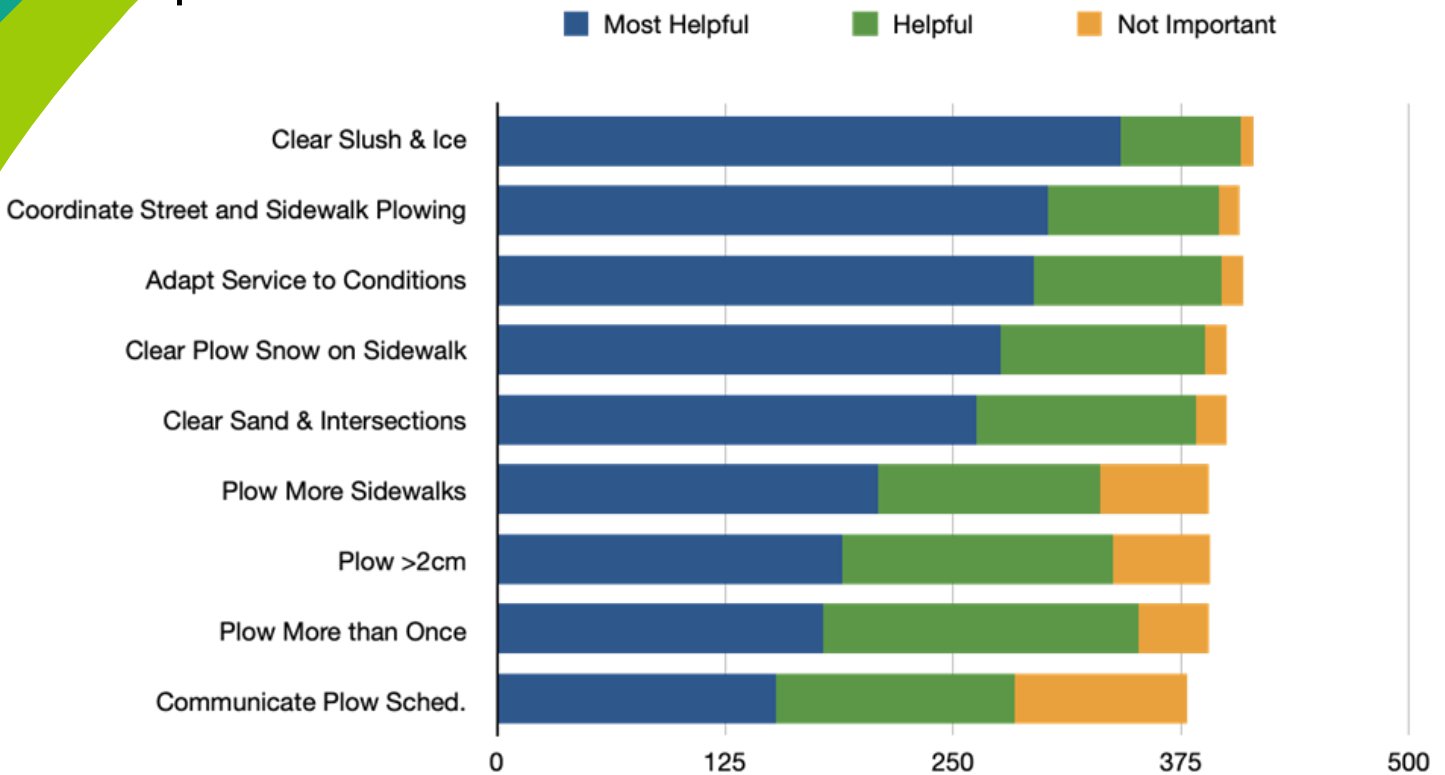
For respondents that use a wheelchair, scooter, walker, cane, or stroller (n=61), there is an even higher need for clearing ice and snow (98%), clearing and sanding intersections (95%), and clearing snow knocked on sidewalks (95%). However, the biggest difference was the need for plowing to begin at 2cm (90% of these respondents identified this as most helpful or helpful). This reflects the greater impact of snow cover on accessibility for these residents. Levels of support for coordinating plows and adapting to weather conditions were similar to all respondents.

“My son is in a wheelchair if there is more than an inch or two of snow we’re not going anywhere” – Survey respondent

As described in the previous section, leaving slush and snow on sidewalks results in uneven surfaces, and melted snow collecting in pockets on slippery surfaces or on top of hardened snow or ice is especially treacherous, so it’s not surprising that 95% of respondents strongly support clearing away slush and ice. A clear majority of respondents (93%) also want to see winter sidewalk maintenance service adapted to changing conditions. The need to respond to changing conditions is supported by some of the other responses: 91% strongly support clearing away snow thrown up by

snowplows, 89% felt clearing and sanding intersections would be useful, 82% would like to see snow plowed from sidewalks more than once on snowy days, and 78% want to see sidewalks plowed when snowfalls measure above 2cm.

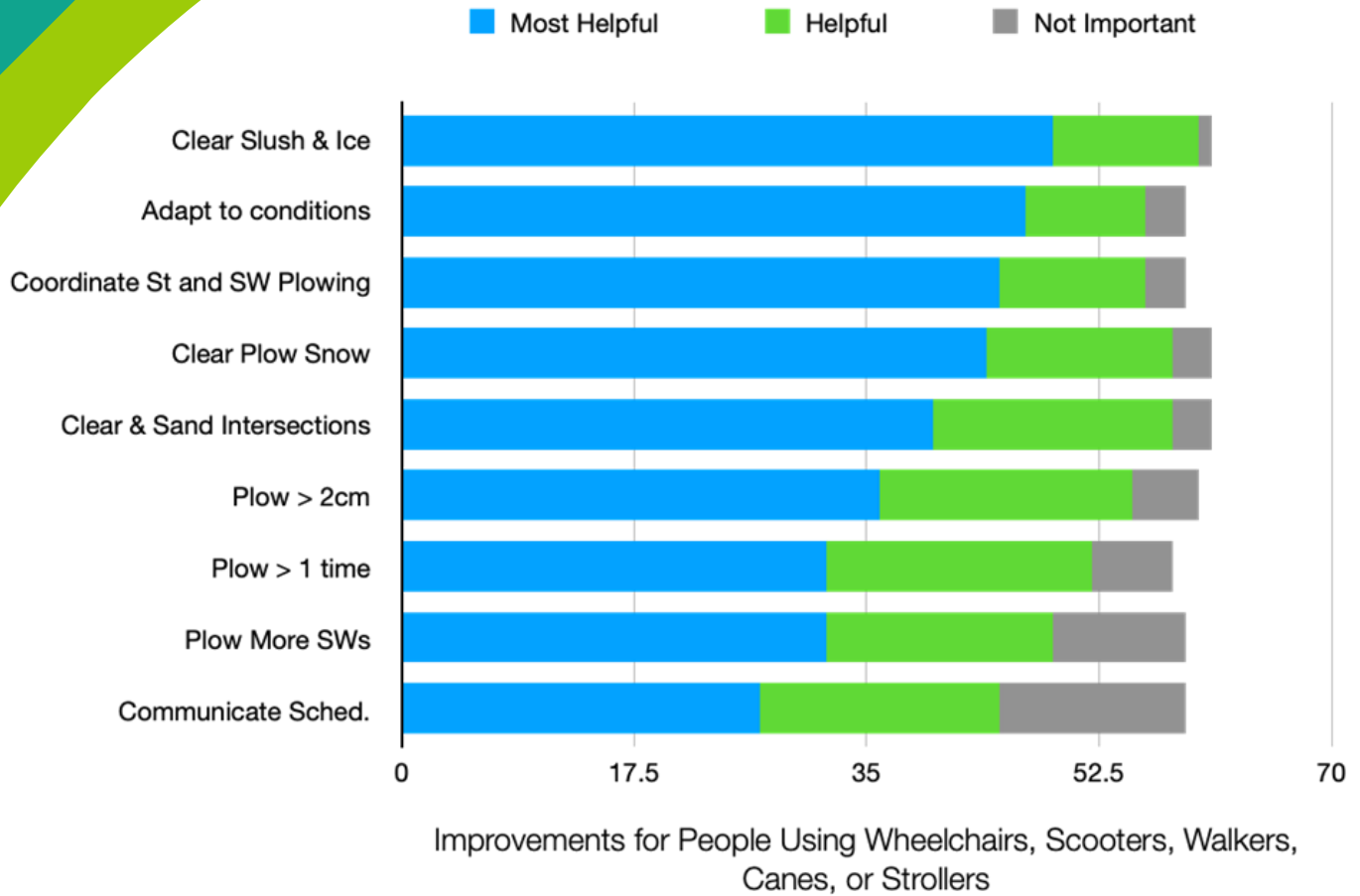
Figure 5a. Improvements to winter sidewalk maintenance – all respondents



The improvements most important to everyone are even more important for the group of respondents using wheelchairs, scooters, walkers, canes, or strollers. These are some of our more vulnerable community members, and they also rely on walking as a way to get to essential destinations and to catch buses (60%). However, slightly over half are fearful of falling and getting hurt, and slightly under half have already been injured while using winter sidewalks.

As the chart below illustrates, this group shows an overwhelming support for a more thorough and more frequent clearing of snow, slush, and ice from sidewalks, better coordination of street and sidewalk snow plowing, and better clearing and sanding of intersections. They strongly support starting plowing when snow reaches a depth of 2 cm or more, and for the plowing to continue as long as necessary to keep the sidewalks clear. They also want to have more sidewalks kept clean in winter, and 74% would find it useful if there were better communication of the plowing schedules/activities.

Figure 5b. Improvements to winter sidewalk maintenance –respondents using wheelchairs, scooters, walkers, canes, or strollers.



See **Appendix 4** for data tables for all quantitative analyses.

“I do not drive or have a license so walking is one of my main modes of transportation. I’m a young, healthy individual but I have still slipped on sidewalks many times during winter and have injured myself. I think my quality of life would drastically improve if winter sidewalk conditions were more acceptable” – Survey respondent

Analysing the impacts sidewalk winter maintenance has on Sudbury residents' quality of life

We asked respondents what other improvements would make a big difference for them, and how winter sidewalk conditions affect resident's quality of life. Before reading the responses, we selected a method that seemed to align well with the data. We decided to utilize a Thematic Analysis based on categories and tallying. We utilized Microsoft Excel and Word to create tables for categorizing and tallying the themes that we saw while manually reading through each comment provided by the respondents. Reading through each response allowed us to gather people's stories, thoughts, feelings, and ideas into themes.

Themes were added to a list upon each first mention from a respondent. Eventually, common themes began to emerge. Common themes were made clear by adding the tallies. Additionally, we decided respondents could mention any number of themes and have each sentiment counted, rather than limiting their comments to suggest one single theme. Thus, many responses contained multiple sentiments or "themes". Any sentiment brought forward in their response counted as one (1) tally towards a theme, however, if a respondent mentioned the same sentiment multiple times it would be limited to one (1) tally towards the corresponding theme because they had already brought the theme forward. See **Appendix 5** for data tables for the thematic analysis.

This approach means that we can see the most mentioned ideas (not already brought forward in our data) that would make a significant difference for our community directly from our residents regarding other improvements the City can make. In the following section, we can see how sidewalk conditions intimately affect our citizen's quality of life today.

What other improvements would make a big difference for residents

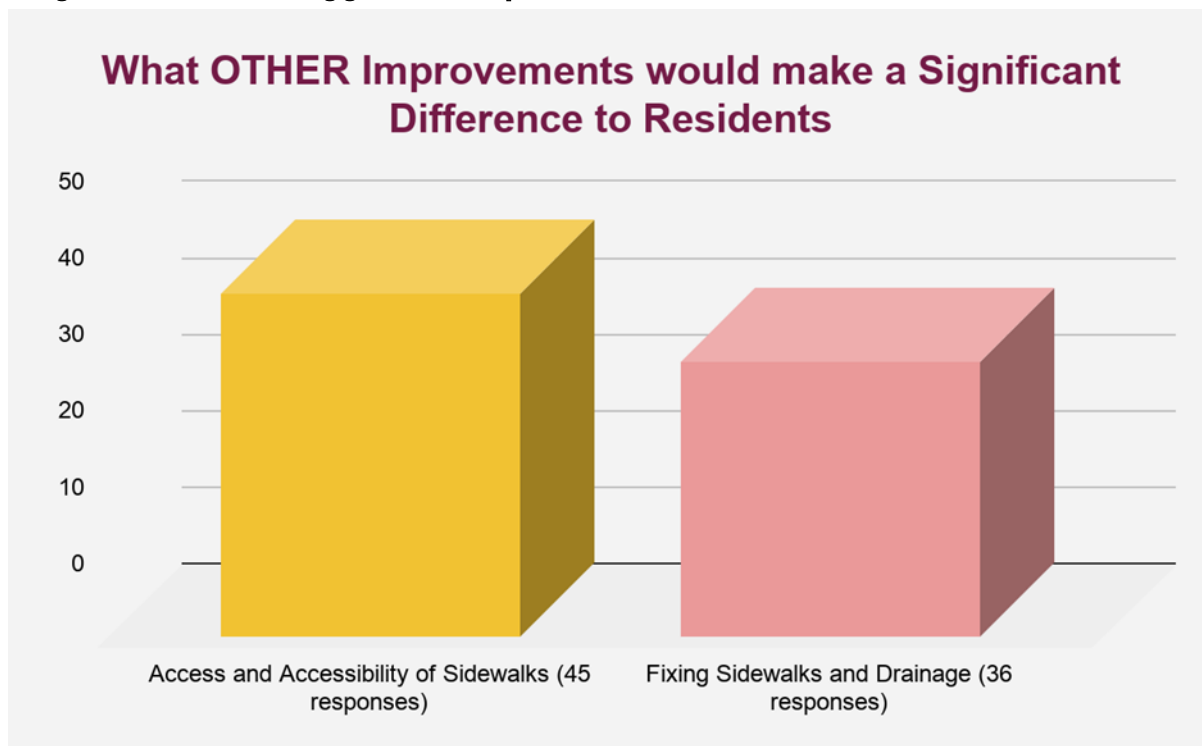
Answers to the question of other improvements were quite diversified (see **Appendix 5**). Many respondents offered a variety of interesting and creative ideas. There were two responses with the highest numbers of commonality. The most common theme among respondents in regards to improvements were issues rooted in pedestrian Access and Accessibility. Out of 428 responses 239 people chose to answer this question. So, this is reflective of 19% of 239 responses. Answers spanned from

access for getting on and off of sidewalks, crosswalks, and connecting paths, to overarching accessibility needs for people with disabilities. A respondent's comment from the next question profoundly speaks to the issues regarding Sudbury's Access and Accessibility:

"[The sidewalk] often dictates my ability to get exercise. I recently suffered an injury this summer and recognized that the sidewalk conditions are not favorable for those that have disabilities. The city is designed for vehicles and able bodied. Those that fall on hard times, experience a very different city. Their lives are further burdened by the current practices/policies. Creating policies/procedures and city planning that accommodates the most vulnerable of our population only makes things better for all"

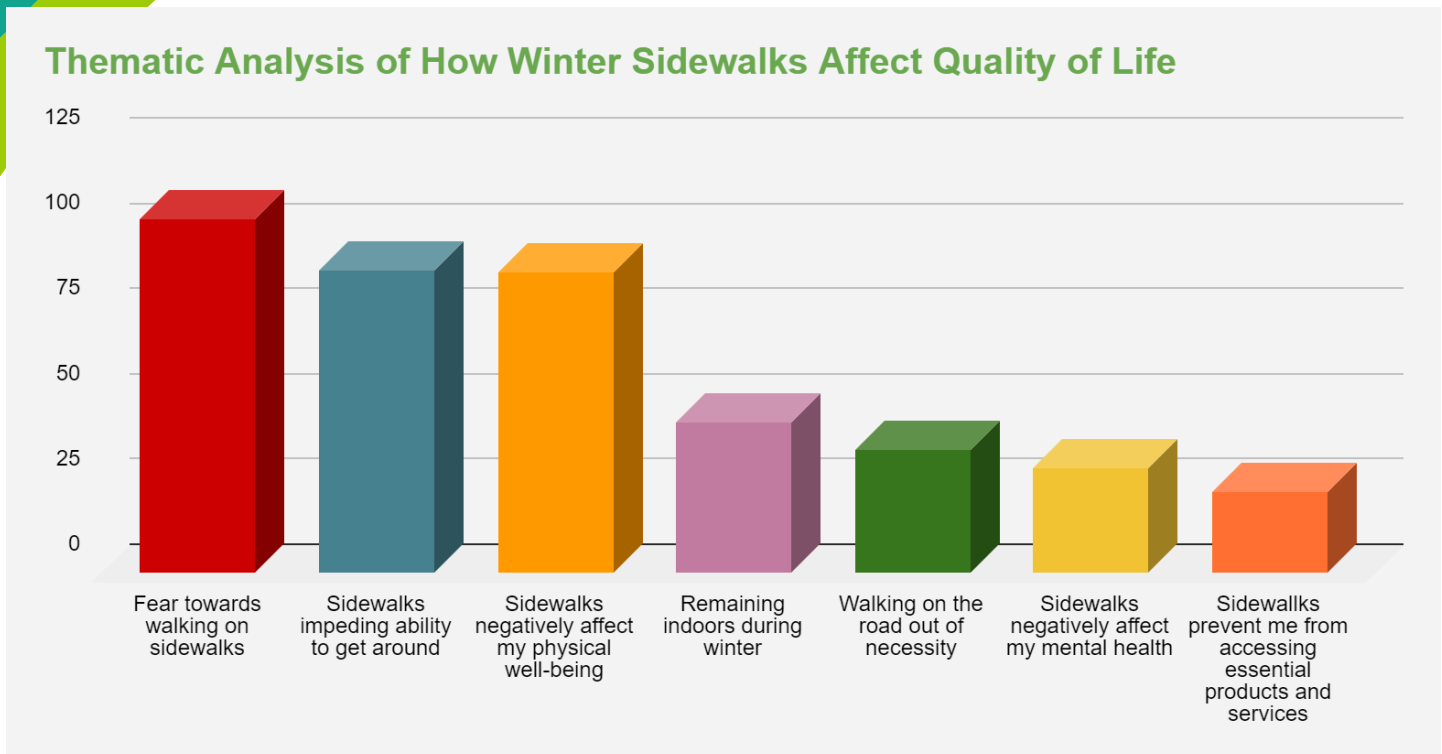
The next most mentioned idea for improvements was an overhaul of fixing sidewalks especially in regards to drainage issues. Fixing sidewalks and drainage account for 15% of responses. Numerous areas and streets of the city were mentioned, including along some of Sudbury's heavily used roads like Paris St., Regent St., Elm St., and Ramsey Lake Rd. to name a few, numerous sidewalks and areas of the city were also mentioned.

Figure 6. Other suggested improvements



How do winter sidewalk conditions affect residents' quality of life?

Figure 7. Impact of winter sidewalk conditions on quality of life.



Sudbury respondents expressed three important themes: Fear of walking; Not being able to get around; and a Negative impact on their physical well-being. Out of 428 responses 320 people chose to answer this question (see **Appendix 6**). Their responses highlighted negative impacts they are experiencing: 35% expressed Fear of walking on Sudbury sidewalks (tally of 104 respondents). Some quotes speaking to the experience of fear included:

"I'm afraid to walk in winter even with cleats on and walking sticks. Because the sidewalk are extremely uneven and slippery"

"I have suffered a major injury due to dangerous sidewalks. What was meant to be a nice walk ended up in months of pain."

Next, 28% expressed Sidewalks are impeding their ability to get around (89 respondents). Here's what residents had to say about how their ability and mobility is affected:

"I just don't go anywhere"

"My son is in a wheelchair if there is more than an inch or two of snow we're not going anywhere"

"...Sidewalks limit my ability to get groceries and medications"

And 27% expressed Sidewalks are negatively impacting their physical well-being (86 respondents). Respondents mentioned the risks they take using sidewalks, and how they are forced to limit their physical activity due to sidewalk conditions:

"Very frustrating. I'm pregnant and my sidewalk is completely ice covered"

"My mother is mobile but due to the horrendous sidewalks we can never keep her mobility up in the winter. Also I can never park a block away from the hospital, stores etc because I'm scared she'll fall, it's a big reality... [One year] she broke her wrist trying to walk a block downtown due to terrible parking and worse sidewalks"

"My running group often cancels runs because of sidewalk conditions"

The reality is that many Sudbury residents' lives are intimately impacted by our city's winter sidewalk maintenance. People fear for themselves and loved ones, stay home in excess even to the point of personal detriment, and expect Sudbury sidewalks to be safe, and highly usable for a variety of physical activities throughout the winter months.

Priorities for service improvements for winter sidewalk maintenance

Problems that most need addressing

The biggest challenges faced by residents using winter sidewalks are:

- **Ice and slippery sidewalks:** Melting during warm conditions or winter rain events causes water to pool on sidewalk surfaces. Water on top of the ice, or

water that freezes into ice causes dangerously slippery conditions on sidewalks and at intersections. This is aggravated by poor drainage on sidewalks (where water is often channeled between snowbanks) and at intersections.

- **Uneven surfaces:** With snow clearing beginning only at 8cm, and clearing not done to bare pavement, residents are often walking in soft mealy snow or slush. Footprints and chunks of ice freeze into hard bumpy surfaces that are very difficult to walk on or navigate.
- **Piles of snow blocking sidewalks:** Piles of snow are often blocking sidewalks. Road plows often knock snowbanks into sidewalks, and block sidewalk access at intersections with large ridges of snow. Snow piles can also block sidewalks at private driveways, where homeowners or private contractors leave snow from driveways.

Most needed service improvements

The improvements most needed by residents are:

Address slippery conditions and bumpy surfaces:

- o **Clear ice and slush from sidewalks** to prevent dangerous slippery conditions.
- o **Adapt to weather conditions:** Take advantage of warm days to clear slush, snow and ice from sidewalks before they freeze. Sand when there is melting or 'rain on snow.'
- o **Clear and sand intersections:** Intersections get especially slippery and are a common fall hazard.

Address snow blocking sidewalks and intersections:

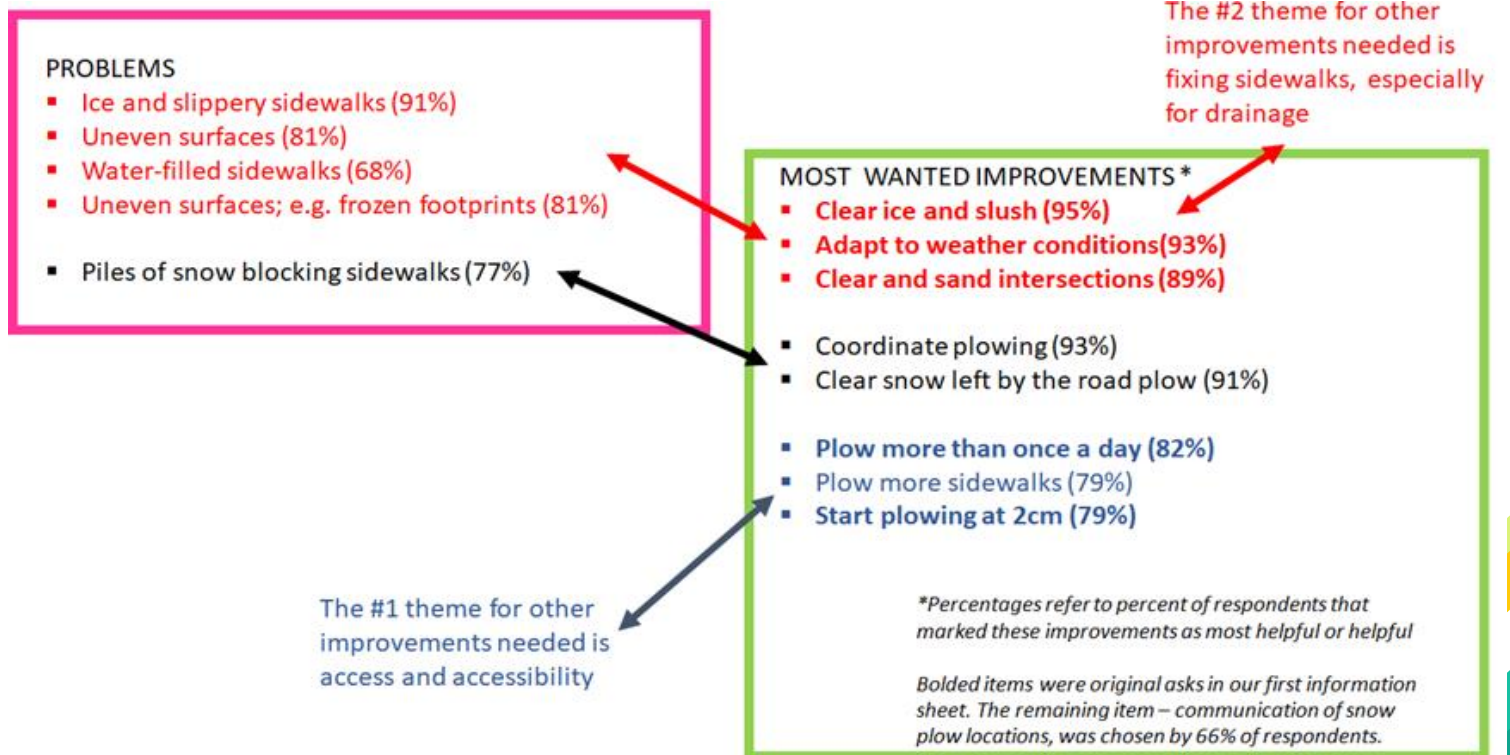
- o **Coordinate plowing** so the road plow does not fill the sidewalk
- o **Clear snow knocked into the sidewalk or blocking intersections** in a timely manner, so that sidewalks are usable and accessible.

Ensure accessibility:

- o **Plow more than once a day** so that sidewalks can be used throughout the day
- o **Start plowing at 2cm.** Note that 90% of respondents using a wheelchair, mobility aid or stroller would find this most helpful or helpful. To prevent falls, in 2016, the Toronto Acting Medical Officer of Health recommended to Toronto City Council that the snowfall threshold for sidewalk clearing be reduced to 2 cm to improve sidewalk safety in winter months.
- o **Plow more sidewalks** so that residents are not left without a safe place to walk.

These improvements are needed to meet the principles of sidewalks that provide full mobility (all ages and abilities), are an effective transportation network, and allow people to get out safely for their physical and mental wellness.

Figure 8. Problems and improvements identified by respondents for winter sidewalk maintenance



Note that 90% of the respondents that use a wheelchair, scooter, walker, cane, or stroller identified starting to plow at 2cm as most helpful or helpful, reflecting the importance of this improvement to accessibility. Keeping sidewalks and intersections clear of ice, slush and snow is even more important for these residents. We would also like to note the importance of keeping bus stops clear of snow for safety and accessibility.

Improved winter sidewalk maintenance is necessary for residents to get around safely during a large portion of the year, and providing safe sidewalks is a choice municipalities can and should make. Montréal, with similar weather to Greater Sudbury, begins plowing at 2.5cm, clears sidewalks within four hours, and carries out plowing and sanding operations continuously until the streets and sidewalks are cleared and safe. In Montréal, sidewalks, and streets have the same service level, recognizing that sidewalks are an essential part of our transportation system. Listen to what some of our residents have to contribute to this topic:

“I recently moved from a rural area and was looking forward to being able to walk in the city. That has not been possible at all given my disabilities and the lack of clear sidewalks in the winter. I am not yet confined to a wheelchair or a walker and I am still housebound in the winter due to the sidewalks” – Survey respondent

“Quality of life is not seasonal, we can’t lock ourselves up for months at a time” – Survey respondent

Improving winter sidewalk maintenance is necessary for basic mobility and quality of life for Greater Sudbury residents

Current winter sidewalk maintenance standards are preventing people from safely reaching essential destinations, walking for their own physical or mental health, or even leaving their homes. People are falling and hurting themselves due to poor sidewalk conditions.

Many people are falling and getting hurt on icy sidewalks (49% of respondents). The #1 impact on quality of life is fear of falling.

Quote: "I'm affected because I slip and fall on sidewalks not maintained and then I'm stuck home with injuries."

Many people feel unsafe getting to essential destinations (68% of respondents often or always feel unsafe). Many people are walking/wheeling in the street, even though they feel unsafe in traffic because they cannot use sidewalks (68% of respondents often or always). Despite not feeling safe, many people have no choice but to use winter sidewalks to reach work or other essentials and risk injury (36% of respondents walk as their main form of transportation). Many people are stuck at home (45% often or always). The #2 impact on quality of life is not being able to get around.

"I have a family and it creates stress thinking I will be forced to walk along the road with my family because the sidewalks are unsafe. The idea of my young children slipping and falling into traffic is terrifying and a very real concern" – Survey respondent

"When the sidewalks become unusable throughout the winter, we feel trapped in our home" – Survey respondent

People need to be able to walk/wheel on sidewalks for their physical or mental health (76% of respondents walk for their physical or mental health). The #3 impact on quality of life is a negative impact on physical well-being.

"I am scared of using winter sidewalks in case I fall or get stuck, I need to walk for my physical or mental health" – Survey respondent

"I get very depressed and suffer from mental illnesses because I become so afraid and so frustrated trying to walk anywhere for my essential outings! I end up staying inside nearly all winter" – Survey respondent

Safe sidewalks have always been an essential part of our transportation system because many residents do not drive or have access to a private vehicle, and all residents will experience a time in their life when driving is not an option.

In addition, since 2010, there has been a rapidly growing demand for active transportation infrastructure in Greater Sudbury ([Sustainable Mobility Plan 2010](#)). Residents now expect equitable, walkable sidewalks in their neighbourhoods and their community. Walking/wheeling are essential modes of transportation as well as part of a healthy lifestyle, desired by residents, and recommended by physicians. Walking is essential to physical, mental, and social health.

"I do not drive or have a license so walking is one of my main modes of transportation. I'm a young, healthy individual but I have still slipped on sidewalks many times during winter and have injured myself. I think my quality of life would drastically improve if winter sidewalk conditions were more acceptable" -- Survey respondent

In 2019, Greater Sudbury declared a Climate Emergency and committed to net-zero greenhouse gas emissions by 2050. To reach this goal, 35% of residents will be using active transportation ([Greater Sudbury Community Energy and Emissions Plan](#)).

To support residents in using active transportation, having basic mobility, and taking care of their health, Greater Sudbury needs to maintain safe sidewalks all year round.

"If Sudbury wants to truly be a livable city 12 months of the year, walkability must become a priority" – Survey respondent

Recommendations

Safe sidewalks are necessary to people's ability to get to essential locations, and to provide opportunities for outdoor exercise in support of physical and mental well-being. To facilitate our community's ability to meet those needs, the following changes should be made to winter sidewalk maintenance in our city.

- Snow, slush and ice removal from sidewalks should be thorough to prevent the snow and ice build-up that creates dangerously slippery and uneven walking surfaces. This is an urgent need for both busy roads and neighbourhood streets. Melt and winter rain events leading to very slippery conditions are more common with climate change and winter maintenance standards and practices should address this change.
- Winter maintenance should be responsive to weather conditions:
 - Snow removal should begin once snowfall reaches a depth of 2 cm, and should be repeated as necessary to avoid build-up of ice and hard snow that creates uneven walking surfaces.
 - Sidewalks and intersections should be monitored and cleaned and sanded as conditions change. Slush should be cleared away on warm

days. Sidewalks and intersections should be sanded when melting or winter rain causes icy conditions. Snow knocked into sidewalks and intersections should be cleared away promptly.

- The winter maintenance of sidewalks and roads should be coordinated: to ensure snow from road clearing does not end up dumped onto plowed sidewalks, to avoid blocking access to sidewalks at intersections, and ensure that snow does not get knocked onto sidewalks nor block access to sidewalks, and to ensure bus stops are cleared in a timely manner.

Other helpful steps would be:

- Improved communication and access to information:
 - The winter maintenance activities (e.g., location and time of plowing) should be communicated to residents so they can plan their outings appropriately.
 - Encourage the use of 3-1-1 (and possibly other online tools such as interactive maps) for residents to easily report problem areas to be addressed in a timely manner.
- Address drainage issues (e.g., by fixing sidewalks or removing snowbanks) so that water does not pool on sidewalks.
- Create maintenance standards for ice, in addition to snow.
- Education and/or pro-active by-law enforcement to ensure that snow removal by residents and private companies does not redirect snow from private driveways to sidewalks or intersections, and so that ATV's or snow machines are not using sidewalks and making them unsafe for pedestrians.

Contact

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Appendices

Appendix 1: Greater Sudbury Safer Sidewalks Information Sheet

Greater Sudbury Safer Sidewalks [December 2020 information sheet](#).

Appendix 2: Greater Sudbury Safer Sidewalks online survey

The online survey was created using google forms and can be viewed at

<https://docs.google.com/forms/d/e/1FAIpQLSeyUpdMoFQITlQFHQEmrDvsowQ-W-fvklidXAll6GrEloHtuw/viewform>.

Appendix 3: Survey responses

Full survey responses can be viewed here:

<https://drive.google.com/file/d/1Vf9LgcARiCw8Guf65LGdHrP7GnFlZxMN/view?usp=sharing>

Duplicate responses (identical e-mail and replies) were removed to avoid double-counting. Names and e-mails have been removed for privacy. Number columns for Ward and Service Area have been added for analysis.

Appendix 4: Data tables for quantitative analysis

Question 1: In the winter, how often do you?

	Walk/Wheel in the street	Stay home	Feel unsafe	Worry about loved ones
Always	69	37	92	146
Often	221	154	201	143
Seldom	53	161	91	75
Never	58	53	25	36

Question 2: What makes it hard for you to use sidewalks in winter?

Soft/Mealy Snow	252 (59%)
Snow on Sidewalks	286 (67%)
Watery Sidewalk	295 (69%)
Piles of Snow	331 (77%)
Uneven Surface	347 (81%)
Ice/Slippery	392 (92%)

Question 3: What improvements would make using winter sidewalks better for you?

All respondents

Improvements	Plow > 2cm	Plow more than once on snow days	Clear plow snow on sidewalk	Clear slush & ice < freeze	Clear & sand intersections	Plow more sidewalks	Adapt service to weather conditions	Communicate plow sched.	Coordinate st & sw plows sched
Most Helpful	189	179	276	342	263	209	294	153	302
Helpful	149	173	112	66	120	122	103	131	94
Most helpful + helpful	338 (79%)	352 (82%)	388 (91%)	408 (95%)	383 (89%)	331 (77%)	397 (93%)	284 (66%)	396 (93%)

Not Important	53	38	12	7	17	59	12	94	11
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Respondents who use a wheelchair, scooter, walker, cane, or stroller (n=61)

Improvements	Plow > 2cm	Plow more than once on snow days	Clear plow snow on side walk	Clear slush & ice < freeze	Clear & sand intersections	Plow more sidewalks	Adapt service to weather conditions	Communicate plow sched.	Coordinate st & sw plows sched
Most Helpful	36	32	44	49	40	32	47	27	45
Helpful	19	20	14	11	18	17	9	18	11
Most helpful + helpful	55 (90%)	52 (85%)	58 (95%)	60 (98%)	58 (95%)	49 (80%)	56 (92%)	45 (74%)	56 (92%)
Not Important	5	6	3	1	3	10	3	14	3

Question 6: What is your experience using winter sidewalks?

	Walk
Use a wheelchair or scooter	12
Stroller	27

Use a walker	29
With Kids	65
To Bus	99
Kids Alone	120
Walk for Transportation	153
Senior	158
Scared	194
Fallen	208
Walk for health	327

Appendix 5: Data tables for qualitative analysis

Question 4: What other improvements would make a big difference for you?

Themes Tracking Chart

Highlighted are the top OTHER improvements that would make a big difference to residents that we did not already include previously in the survey (highlighted, over 15% of responses).	Themes Identified in Survey Responses	Areas Mentioned
1. Bus stops snow removal	14	Hyland, Summerhill Cres., Auger,
2. Intersections snow removal	8	Ward 1, near Libraries, hilly areas

<p>3. Bylaws & enforcement: prevent private driveway clearing from blocking sidewalks (16); responsibility for owners to clear their own sidewalks (9)/ Being like other municipalities that have better results; prevent parking on sidewalks (5)</p>	<p>26 total 19 for homeowners 7 for businesses and city</p>	<p>Ward 1, Coniston, Copper St.,</p>
<p>4. Improving Pedestrian visibility i.e., by plowing, by lighting,</p>	<p>5</p>	<p>Azilda, Montee Principale, Notre Dame, Elizabeth St/Edmund St, Lively,</p>
<p>5. Enforcing and Changing traffic laws and bylaws</p> <ul style="list-style-type: none"> • 1 person mentioned advertising 	<p>14</p>	<p>Ward 1 (see comment 59 for changes), Moss Street, Grandview, Beaumont,</p>
<p>6. Creating more sidewalks</p>	<p>21</p>	<p>Flour Mill, Ramsey Lake, Kirkwood area, Azilda, Montee Principale, Notre Dame, Melbourne, Moonglow area, Lakepointe, Kirkwood, Paris St., Regent St., Walford, York, Ramsey Lake Rd., New Sudbury, Beatrice, Countryside Rd., Stephen St., Southview Crosswalk, Jean St., Laurentian University area, St. Joseph’s Villa area, Lansing Ave., Adanac</p>
<p>7. Fixing sidewalks and drainage for puddling etc.</p>	<p>36</p>	<p>Flour Mill, Lorne Street, Making sidewalks less sloped, Kingsway, Paris St., Downtown to York St., Marcel St., Southend, Moonglow, Elm St, McNeill, Paris St., Regent St., Walford, York, Ramsey Lake Rd., New Sudbury, Beatrice, Countryside Rd., Stephen St., Southview Crosswalk,</p>

		Grandview, Lively, Westmount Park, Porter St. Westmount Ave, Danforth Ave
8. Spring /Summer maintenance improvements, sweeping, etc.	4	Sweeping, Fix the potholes, Student athletes slipping and falling due to ice, slush, and sand,
9. Snow Bank Removal and Snow removal at parking meters	22	Parkside center, Downtown, Parking lot beneath the YMCA,
10. Integrating technology/communication for pedestrians to report problem areas/for pedestrians to know when sidewalks are plowed	9	Ward 1, Rainbow Routes trails, New Sudbury, 119 Schedule Idea,
11. Walking on the road, because sidewalks that already exist not being plowed	18	Kingsway, Paris St., Downtown to York St., Moonglow area, Elm St., Paris St., Regent St., Walford, York, Ramsey Lake Rd., New Sudbury, Beatrice, Countryside Rd., Laurentian University area, St. Joseph's Villa area, Summerhill Cres., Auger,
12. Pedestrian's experiential knowledge provide Specific Recommendations for improving the way the City coordinates winter maintenance	(68 total) 41 Recommendations for City and winter maintenance	Garson, Downtown, Ward 1, Kingsway, Paris St., Downtown to York St., Walking paths to be plowed (like Lansing), Paris St., Regent St., Walford, York, Ramsey Lake Rd., New Sudbury, Beatrice, Countryside Rd., Avenue/Adanac, Coniston, Westmount, Lively, Bellevue Ave., between Portage St. and Mooney Street, Kirkwood, Lakepoint, Ramsey Lake Road east, Hospital Area, Memorial Park, Less affluent areas of Sudbury, Lively, Bancroft Dr.,
Subthemes <ul style="list-style-type: none"> ● Plows vs. Sidewalk Plows Timing Requests ● Change sidewalk plows into sidewalk snow blowers ● More sanding 	8 for Plows vs. Sidewalk plows 3 for snowblowers 16 for More sanding	

		Westmount, Downtown, Parking lot beneath the YMCA, Memorial Park
13. Subtheme Distrust of city winter maintenance protocols, Lack of faith the City cares about pedestrians, Feeling less important than cars	25 total 17 for Distrust 8 Feeling less important	Lively, Summerhill Cres., Auger,
14. Using changes in temperature to have an advantage on sidewalk clearing	7	
15. Recommendations for garbage/litter pollution	5	More Dog poop/Trash receptacles, Tickets for people leaving their dog's poop on the street
16. Suggestions for us writing our surveys in the future	1	
17. Falling due to ice/ Fear of ice/ Fear of falling general/ Ice as their main issue	24 11 for Fear 8 for Falling 5 for Ice as their main issue	Kingsway, Paris St, Downtown to York St, Moonglow area, Bell Park Area, York St., Paris St., Regent St., Walford, York, Ramsey Lake Rd., New Sudbury, Beatrice, Countryside Rd.,
18. Bare sidewalks in winter	15	
19. Safer Sidewalks request, general	18	See comments: 130, 137, 149, 163, 195, 314, 317, 353, 67, 92, 225 Elm St., Paris St., Regent St., Walford, York, Ramsey Lake Rd., New Sudbury, Beatrice, Countryside Rd., Repainting crossing lines, etc,
20. Access and Accessibility Subthemes:	45	Downtown, Ward 1, Bike lanes to help give pedestrians space for Covid-19 social distancing, Comment: I do not own a

<ul style="list-style-type: none"> • Safety for children • Plowing both sides of the sidewalk (noticed at 324). • More space for walking • Bike lanes plowed • Seniors unable to clear their own sidewalks 		<p>vehicle and I feel like my mobility is very limited in the winter due to unusable sidewalks all season long.”, “Equitable snow removal for every neighbourhood”, Clear bike lanes, Elm St, Paris St., Regent St., Walford, York, Ramsey Lake Rd., New Sudbury, Beatrice, Countryside Rd., Lively, uneven side walk tiles (195), snow banks at parking meters, Grandview, Downtown, Parking lot beneath the YMCA, Memorial Park, Less affluent areas of Sudbury, Jean St., The Hospital Area, Kingsway, Lively, Hyland, Laurentian University area, St. Joseph’s Villa area</p>
<p>21. Uncategorized, uncommon themes</p>	<p>4</p>	

The raw data for this thematic analysis can be viewed at <https://drive.google.com/file/d/1LMc25nKRAjxWWoU5KGlQu10fVLyu9Ba/view?usp=sharing>.

Appendix 6: Data tables for qualitative analysis

Question 5: How do winter sidewalk conditions affect your quality of life?

Themes Tracking Chart

<p>How do winter sidewalk conditions affect your quality of life? (highlighted)</p> <p>Themes</p>	<p>Tally</p>	<p>Places Mentioned</p>
<p>1. Negatively affects Mental health</p>	<p>31</p>	

2. Negatively affects Emotional health	19	Comments: 2, 7, 13 depression
3. Negatively affects Physical health	86	Falling, cannot walk for fresh air, Injuries, Injuries lasting months and years (fear associated), Jean St., Eva St., St. Joseph's Villa, common areas for students
4. Negatively affects Social interaction/support system/ family	10	
5. Negatively affects my clients	1	
6. Removes independence and Impedes my ability to get around Words like "challenge" are used	89	Paris St., Inability to achieve Environmental goals, Doing less than they typically can because it is too difficult to walk on sidewalks in winter, 1028 Moss Street, Poor coordination, Jean St., Eva St., Regent St., Beatty Hill
7. Care and Concern for people, other than themselves, who are disabled or elderly in Sudbury mentioned	51	Parkside Centre, Wembley, Winchester, St. Joseph's Villa, common areas for students,
8. Feelings of fear towards walking in Sudbury	104	Edmund St., Bell Park, Elizabeth St., Trans Canada Trail, Absolute fear for own life, injuries, long-term injuries College St., Notre Dame, Humber St., Dell St., Downtown, Beatty Hill, St. Joseph's Villa, common areas for students
9. Negatively affects Financial	19	Icey sidewalks turn into Floods in their basement 86,
10. Negatively affects Animal health	6	Minnow Lake

11. Time consuming to walk on poor sidewalks	15	
12. Prevents me from getting essential life supplies, services, and local businesses	24	Downtown
13. Enjoyment and use of walking when provided a safe environment	13	
14. Remain indoors all winter	44	
15. Leaves the city to spend winter and get exercise elsewhere	1	
16. Walking on the streets/road	36	Azilda, Loaches, Wembley, Winchester,
17. Does not affect my quality of life	14	1 person who drives made a joke about adding more to the piles of snow. Mallards Landing
18. Other	12	

The raw data for this thematic analysis can be viewed at https://drive.google.com/file/d/1P_17-BXTmNKCBdtoVBtKC2B-otemWZhd/view?usp=sharing