

Transportation Report to  
SPC on Transportation and Transit  
2021 June 16

ISC: UNRESTRICTED  
TT2021-0819  
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## **Snow and Ice Control Investments to Improve Accessibility**

### **RECOMMENDATIONS:**

That the Standing Policy Committee on Transportation and Transit recommend that Council receive this report for the Corporate Record.

### **RECOMMENDATION OF THE STANDING POLICY COMMITTEE ON TRANSPORTATION AND TRANSIT, 2021 JUNE 16:**

That Council receive this report for the Corporate Record.

## **HIGHLIGHTS**

- Council previously authorized one-time funding of \$18.5 million to enhance Snow and Ice Control (SNIC) services for priority sidewalks, pathways, bus pads and wheelchair crossings from 2018 October through 2020 December. Specific improvements:
  - Increased the priority of sidewalk clearing for all City-owned properties to 24 hours
  - Added 100 km of pathways to be cleared
  - Removed snow build up (windrows) at 500 high-priority wheelchair ramp locations
  - Communications campaign to increase public awareness of importance of clearing sidewalks, including helping neighbours (Snow Angels) and new fines
- New fines were added for those who fail to clear snow and ice from the public sidewalks adjacent to their property. \$250 for first-time offences, growing to \$750 for repeat offenses. While 90 per cent of properties that receive a warning about snowy sidewalks do comply, 74 tickets have been issued to date.
- **What does this mean to Calgarians?** Snow and ice control on sidewalks and pathways ensure that Calgarians have options for how they choose to travel during the winter, particularly those citizens who have limited or restricted mobility.
- **Why does it matter?** Slippery or un-shoveled surfaces can lead to injuries, and the fear of a serious fall can discourage people from leaving their homes during winter, which can take a toll on their well-being.
- Administration recommends that these pedestrian focused SNIC service levels continue for the upcoming winter season and advises that no additional funding is required to deliver the service until the end of 2022 December.
- Establishing the SNIC service levels going forward, including funding requirements and policy updates, will require Council direction during the 2022 budget deliberations.
- Strategic Alignment to Council's Citizen Priorities: A city that moves
- Background and Previous Council Direction is included as Attachment 1.

## **DISCUSSION**

The City of Calgary's Snow and Ice Control (SNIC) program is committed to helping make pedestrian, bicycle and vehicle passage along streets, sidewalks and pathways safer in winter. However, questions had been raised about the timeliness of snow removal from pedestrian spaces, and how this impacted seniors and people with disabilities in Calgary. In 2018, Council directed Administration to review walking-focused snow and ice control policies and funding.

## **Snow and Ice Control Investments to Improve Accessibility**

Council chose to adopt the following recommendations to improve the accessibility, safety, and equity of Calgary's walking network.

### **Fines for failing to clear snow and ice from sidewalks**

Property owners are responsible to clear snow and ice from the public sidewalks in front of their property. Complaints about sidewalks left uncleared results in a warning notice, which is effective 90 per cent of the time (Attachment 2). Approximately 4400 warnings are issued each year. Wanting to encourage better compliance in the future, Council approved a penalty of \$250 that could be issued to those who failed to clear the sidewalks, particularly for those properties that repeatedly fail to make the sidewalks safe for others to travel on. Calgarians were advised of the new penalties through the first winter season (2018-19), but enforcement action did not start until the following season. In total, 74 tickets were issued between 2019 October - 2021 April.

### **24-hour timeline for clearing sidewalks and pathways next to City property**

The City's business units (BUs) with public sidewalks outside of their depots, office buildings or public facilities were previously meeting the same 24-hour timelines to remove snow/ice as required of private property owners. However, the two BUs that are responsible for the largest, least occupied parcels had a planned SNIC response that was slower – Parks had a 72-hour response rate for their 300 km of sidewalk, and Roads completed all sidewalks in their inventory within seven days of the end of snowfall.

With the increased funding, both Roads and Parks were able to achieve the new 24-hour timeline 95 per cent of the time.

### **Plow windrows away from high-priority wheelchair ramps**

Windrows are the continuous trails of snow that are left behind by snowplows on the road that can create a barrier to seniors and people with mobility challenges when trying to cross the street. In consultation with The City's Advisory Committee on Accessibility, Administration identified 500 wheelchair ramp (curb ramp) locations that were in high-use areas around the city that would be cleared of any build up of snow.

### **Clear an additional 100 km of pathway within 24-hours**

Parks identified an additional 100 km of pathways that if cleared would increase accessibility and improve access to the pathway network. The City now clears a total of 442 km of pathways in the winter, ensuring year-round options for pedestrians and cyclists. Criteria for more pathways to be selected included access to the primary network, usage patterns and connections to destination sites.

The location of all City pathways, sidewalks, wheelchair ramps and bus pads that receive SNIC service can be viewed on The City's website at [maps.calgary.ca/PathwaysandBikeways](https://maps.calgary.ca/PathwaysandBikeways).

### **Budget analysis**

Administration monitored the costs to provide the enhanced SNIC service levels that Council set in 2018. Due to a fewer number of snow events in the 2020/2021 season, and efficiencies in route planning and tracking, Administration was able to deliver the services for less than the original range estimates. The total expenditures were approximately \$11.45 million through 2021 April. Administration is confident that with the remaining funds, the enhanced SNIC service levels and communications can be maintained through to the end of 2022 (Attachment 2).

## **Snow and Ice Control Investments to Improve Accessibility**

Establishing the SNIC service levels for pedestrian spaces going forward, including base funding requirements and policy updates, will require Council direction in 2022 November when the 2023-2026 budget cycle is being discussed and approved.

### **STAKEHOLDER ENGAGEMENT AND COMMUNICATION (EXTERNAL)**

- ☐ Public Engagement was undertaken
- ☐ Public Communication or Engagement was not required
- ☐ Public/Stakeholders were informed
- ☒ Stakeholder or customer dialogue/relations were undertaken

Administration engaged The City's Advisory Committee on Accessibility (ACA), including the Access Design sub-committee, to provide feedback on the changes made to SNIC services for the pedestrian environment. This committee's role is to advise and recommend solutions to Council on accessibility and disability matters. Key themes we heard:

- Communicating to the public as to 'why' snow & ice clearing is so important, as well as having a clear path of travel in all seasons of the year is vital.
- Improvements have been noticed, particularly in the Downtown. The clearing of windrows made the area easier and more reliable to navigate for those people using mobility devices, guide dogs and canes.
- Pathway clearing has also been improved
- Inconsistent clearing of sidewalks and ramps city-wide remains a concern. Gaps in clearing, or snow piles left behind by plows or power equipment can prevent some people from completing their travels.
- The issue of not clearing laneway crossings (aprons) and the engineered walkways between properties continues to be a challenge, and the ACA is recommending Council revisit and update policies to address these areas (Attachment 2 and 3).

## **IMPLICATIONS**

### **Social**

Improvements to snow and ice control in our pedestrian spaces will provide opportunities for Calgarians to be mobile during the winter season, regardless of age, gender, income or ability. Being mobile not only improves the health of individuals, it promotes independence and fosters social interaction and community awareness. It's also an affordable and inclusive way to travel.

### **Environmental**

Having more citizens walk is a key long-term strategy for improving air quality while reducing Calgary's per capita consumption of energy from fossil fuels, which is the dominant source of greenhouse gas emissions and air pollution at the local level.

## **Snow and Ice Control Investments to Improve Accessibility**

### **Economic**

A well designed and maintained pedestrian realm also promotes access to services and adds value to public space and to the social fabric that keeps Calgary a competitive and international city built around strong neighborhoods.

### **Service and Financial Implications**

Existing operating funding - One-time

\$18.5 million for enhanced SNIC services from 2018 October through 2020 December

#### ***Current and Future Operating Budget:***

While this report does not contain specific recommendations to adjust the current operational budget, any decisions made by Council to expand or accelerate the delivery of SNIC services would require additional investment in operational budgets.

#### ***Current and Future Capital Budget:***

While this report does not contain specific recommendations to adjust the current capital budget, any decisions made by Council to expand or accelerate the delivery of SNIC services would likely require additional investment in capital budgets.

### **RISK**

The Pedestrian Strategy contained an ambitious vision and a series of actions for Administration to take to deliver a safe, enjoyable and easy to use network for pedestrians by 2025. Additional investments were required to make improvements to the connectivity and accessibility of this network, particularly during winter conditions. The vision and key results will not be met by the 2025 target without maintaining these new SNIC service levels.

Roads, sidewalks, walkways and pathways are city property, and as such The City has a duty under the Municipal Government Act to consider and assign a standard for maintenance for these spaces, including snow and ice control. Engineered walkways and laneway crossings have not yet been assigned such a standard, nor has responsibility for SNIC been delegated to others. This lack of clarity causes inconsistent SNIC service to these community connectors, leaving citizens to decide in-the-moment on whether to take a risk themselves and travel along these spaces during winter. Assigning responsibility for SNIC on engineered walkways and laneway crossings will allow The City to appropriately manage risk related to conditions and claims. Cost estimates for adding SNIC responsibilities for these areas, and other levels of service, are provided in Attachment 3.

### **ATTACHMENT(S)**

1. Background and Previous Council Direction
2. Reviewing the Snow and Ice Control Investments to Improve Accessibility
3. Options for Additional SNIC Investment for Pedestrian Spaces

**Transportation Report to  
SPC on Transportation and Transit****ISC: UNRESTRICTED  
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Page 5 of 5****Snow and Ice Control Investments to Improve Accessibility**

## Department Circulation

General Manager	Department	Approve/Consult/Inform
Doug Morgan	Transportation	Approve
Katie Black	Community Services	Consult

# Background

The City of Calgary's Snow and Ice Control (SNIC) program is committed to helping make pedestrian, bicycle and vehicle passage along streets, sidewalks and pathways safer in winter. These services are delivered primarily by the Transportation Department, led by Roads and Transit. Calgary Parks, Waste and Recycling Services and Calgary Community Standards also provide SNIC-related services, including bylaw enforcement

## Context

On 2018 January 29, Council approved Notice of Motion C2018-0107 Improving Accessibility and Reducing Injuries Through Snow and Ice Control Reform. Administration was directed to review walking-focused snow and ice control policies to improve the accessibility, safety and equity of Calgary's walking network. Administration was directed to report to Council with options to improve walking-focused snow and ice control, including One Calgary budget impacts, by the end of Q2 2018

## Previous Council Direction

2018 November 14, Council approved the funding of up to \$44 million for one-time budget recommendations as part of the final 2019-2022 Service Plans and Budgets (C2018-1158). This included \$9 million for Snow and Ice Control for the 2019 and 2020 winter season in addition to the already approved \$9 million for the 2018 and 2019 winter seasons. This investment was to provide two winter seasons of enhanced service for Sidewalks & Pathways.

Following two seasons, an effectiveness review would be conducted to provide Council with recommendations for future service changes which may require permanent operating funding to deliver the required service level.

2018 June 25, Council approved the recommendations with respect to Report TT2018-0467 (Improving Accessibility and Reducing Injuries through Snow and Ice Control):

1. File the Administration Recommendation contained in Report TT2018-0467.
2. Direct Administration to enhance the one-time budget commitment from the Fiscal Stability Reserve through the One Calgary process for the 2018-2019 SNIC season:
  - Provide SNIC services to additional 100 km of pathway - \$0.5-1 million (operating)
  - Clear all sidewalks adjacent to City property within 24 hours - \$3-5 million (operating)
  - Plow windrows away from high priority wheelchair ramp locations - \$2-3 million (operating)
3. Develop a funding strategy for the One Calgary 2019 to 2022 budget to further enhance service including the development of high priority pedestrian networks.

4. Prepare amendments to the Street Bylaw 20M88 to:

- (a) Add minimum and specified penalties for offences related to owners or occupants failing to remove ice and snow from the required portion of the sidewalk or pathway within 24 hours after ice and snow has been deposited;
- (b) Create an escalating fine schedule for offences indicated in subsection (1), that would increase the minimum and specified penalties for any second or third offence occurring within a 12-month period;
- (c) Require owners or occupants of a private parcel of land adjacent to a sidewalk or pathway, where the sidewalk or pathway contains a curb cut or crosses a laneway, responsible for the removal of snow and ice on the sidewalk that crosses the laneway, proportionate to any other private parcel of land that is adjacent to same sidewalk; and
- (d) Report back to Council on July 30 with respect to the Bylaw.

5. Organize an advisory panel that includes business improvement areas, accessibility groups, seniors, public health providers, and other stakeholders for feedback and continual improvement.

6. Direct Administration to provide Council with additional detail on the snow and ice control options related to the high-priority network that could be achieved this 2018/2019 winter season.

Council did debate a motion to amend the recommendations which would have required laneway aprons (where the sidewalk or pathway crosses a laneway) to also be cleared of snow and ice by the adjacent property owners. This motion was defeated – 6 For, 9 Against.

#### Step Forward

2016 January, Council approved a pedestrian strategy called Step Forward that envisioned a safer, more inviting and better maintained realm for pedestrians. This plan set out 49 actions for Administration to take to achieve this goal, to encourage walking more often as a transportation option. Four of these actions were directly related to SNIC on pedestrian facilities:

- Action 30 – Enhance the existing snow and ice control operations to reduce obstructions at transit stops and road crossings in high pedestrian activity areas. Investigate and trial alternative materials and equipment.
- Action 31 – Undertake an assessment of engineered walkways, develop a management plan, amend the bylaw to address public concerns, and identify funding requirements to upgrade and maintain the walkways city wide.
- Action 36 – Increase the snow clearing response time to P1 (within 24 hours of a snow event) on City managed sidewalks in high pedestrian activity areas.
- Action 49 – Investigate ways to encourage property owners to undertake prompt snow and ice clearing from sidewalks, support those not able to carry out snow clearing, and improve bylaw enforcement on non-compliance.

## Bylaws, Regulations, Council Policies

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### **Calgary Street Bylaw 20M88**

The Street Bylaw establishes the responsibility of owners or occupants of a private parcel of land to remove snow and ice from the public sidewalk or pathway adjacent to the parcel. The sidewalk or pathway must be cleared to the bare surface within 24 hours after the ice and snow was deposited. The City may clear sidewalks at the parcel owner's expense, and issue fines, when the ice and snow has not been removed as required.

### **Snow and Ice Control Policy TP004 (2011)**

The Snow and Ice Control Policy establishes the priorities, standards and service levels of the SNIC program. An effective and efficient SNIC program is necessary to allow the municipality to reduce winter hazards and to provide reasonable winter mobility on City infrastructure including roadways, sidewalks and pathways.



# Reviewing the Snow and Ice Control Investments 2019-2021

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## Context

The City of Calgary's Snow and Ice Control (SNIC) program is committed to helping make pedestrian, bicycle and vehicle passage along streets, sidewalks and pathways safer in winter. These services are delivered primarily by the Transportation Department, led by the Roads and Transit Business Units (BUs). Calgary Parks, Waste and Recycling Services and Calgary Community Standards (CCS) BUs also provide SNIC-related services, including bylaw enforcement.

In 2016, The City approved a pedestrian strategy called "Step Forward" that envisions a safer, more inviting and better maintained realm for pedestrians. For this to happen, action items were developed (Table 1) to improve winter conditions for walking, as snow and ice clearing was identified as a significant barrier to Calgarians.

2016 Pedestrian Strategy – Action Items	
Action 30	Enhance the existing snow and ice control operations to reduce obstructions at transit stops and road crossings in high pedestrian activity areas. Investigate the trial alternative materials and equipment.
Action 31	Undertake an assessment of engineering walkways, develop a management plan, amend the bylaw to address public concerns, and identify funding requirements to upgrade and maintain walkways city wide.
Action 36	Increase the snow clearing response time to P1 (within 24 hours of a snow event) on City-managed sidewalks in high pedestrian activity areas.
Action 49	Investigate ways to encourage property owners to undertake prompt snow and ice clearing from sidewalks, support those not able to carry out snow clearing, and improve bylaw enforcement on non-compliance.

Table 1: 2016 Pedestrian Strategy – Action Items

Ice or snow that builds up on sidewalks and pathways creates much more than an inconvenience; it can contribute to slips or falls that result in injury. The City obtained statistics from Alberta Health Services (AHS) regarding slips and falls. Table 2 shows the number of emergency department and urgent care centre visits due to falls involving snow and ice on public streets and sidewalks. AHS statistics reveal that an average of 233 people per year are treated for injuries sustained by slipping or falling on public sidewalks and streets in Calgary alone, and 710 across Alberta. Table 2 also contains the number of 3-1-1 calls The City received about people who slipped and fell due to sidewalk conditions, and the total of uncleared sidewalk complaints that Calgary Community Standards (CCS) responded to over the past eight years

AHS – Slip & Fall Injuries			3-1-1 – Snow / Ice on Sidewalks (CCS)		
Year	Calgary	Alberta	Year	Slip & Fall	Total
2013	287	1,406	2013	195	5,568
2014	267	848	2014	734	14,958
2015	166	518	2015	281	6,375
2016	129	374	2016	277	5,681
2017	303	657	2017	457	9,090
2018	302	736	2018	703	18,426
2019	206	555	2019	330	13,120
2020	205	586	2020	462	15,142
<b>Average</b>	<b>233</b>	<b>710</b>	<b>Average</b>	<b>430</b>	<b>11,045</b>

Table 2: Annual Slip and Fall statistics for AHS and City 311 (2013-2020)

With these concerns and opportunities in mind, Council directed Administration to enhance SNIC services for pedestrian spaces to improve the safety, accessibility and equity of Calgary's winter walking network. This included adding new fines to be issued when sidewalks are not kept clear of snow and ice, and investing \$18.5 million in one-time funding to ensure The City's own sidewalks were cleared of snow within 24 hours, adding 100 km of pathways to be cleared, and

500 locations where windrows (piles of snow) would be removed from wheelchair ramps at street crossings. The following information is an update on the effectiveness of these SNIC investments, as well as feedback from the Advisory Committee on Accessibility on the changes, and the service gaps that remain.

## Enforcement

Calgary Community Standards (CCS) provides education and enforcement related to snow and ice on sidewalks with a goal of improving public safety and accessibility in pedestrian spaces. Community Peace Officers (CPOs) respond to complaints from Calgarians through 3-1-1, and proactively address snow and ice concerns during the course of their regular duties.

Under section 67(1) of The City's Street Bylaw 20M88, public sidewalks and pathways bordering private property must be cleared of snow and ice within 24 hours of a snowfall ending. The owner or occupant of the property is required to clear the sidewalk down to the bare surface. These provisions do not apply to sidewalks or pathways separated from the rest of the parcel by a developer-built retaining wall, a community screening fence or a sound attenuation barrier.

When a service request is submitted to 3-1-1 for a snow and ice concern, a Snow and Ice Letter is generated and sent to the registered property owner to advise of the complaint. This letter is sent as a courtesy to educate property owners on the bylaw requirements and to advise that a CPO will be attending the property to inspect the sidewalk. Over the past 5 years, the compliance rate following receipt of a Snow and Ice Letter is 61 per cent, with no further action required by CCS.

If a CPO attends a property and finds that the sidewalk has not been sufficiently cleared of snow and ice, they may issue a Snow and Ice Warning Notice giving the owner or occupant 24 hours to comply. The Snow and Ice Warning Notice allows the CPO to proceed immediately with corrective action should the owner/occupant fail to clear the sidewalk within the 24-hour time period. If the situation has not been remedied upon the CPO returning for a recheck, the file is sent to a City-approved contractor who dispatches a crew to clear the sidewalk. The property owner is invoiced for the cost of snow removal, which has a minimum flat rate of \$150 plus GST and administrative fees. If the property owner fails to pay the invoice these costs are added to the annual property tax bill. Since 2013, just over 10 per cent of all snow and ice service requests required corrective action by a contractor (Table 3).

3-1-1 Service Requests for 'Snow and Ice on Sidewalks'							
Year	Annual Snowfall (cm)	Total SR generated	Complied without Warning	Warning Issued	Complied with Warning	Standard Work Order Generated	Percent to Work Order
2013	146.3	5,568	49.10%	2,834	89.50%	551	10.50%
2014	175.3	14,958	50.59%	7,391	92.50%	1,076	7.50%
2015	104.1	6,375	47.23%	3,364	85.80%	896	14.20%
2016	61.7	5,681	50.77%	2,797	88.20%	649	11.80%
2017	144.6	9,090	66.22%	3,071	90.30%	866	9.70%
2018	213.8	18,426	65.12%	6,427	88.88%	2,049	11.12%
2019	190.9	13,120	64.88%	4,608	90.98%	1,183	9.02%
2020	162.3	15,142	58.17%	6,334	90.21%	1,482	9.79%
2021 (Q1)	52.4	6,862	62.31%	2,586	92.36%	524	7.64%
<b>Average</b>	<b>149.9</b>	<b>11045</b>	<b>56.5%</b>	<b>4603</b>	<b>89.5%</b>	<b>1094</b>	<b>10.5%</b>

Table 3: 311 Service Requests for Snow and Ice. Averages do not include the Q1 2021 values.

Although CPOs respond to all complaints with an education-first approach, there are a small number of chronic offenders who regularly fail to maintain their sidewalks. In 2018 July, amendments to the Street Bylaw were approved by Council which introduced a \$250 fine for failing to remove ice and snow from an adjacent sidewalk or pathway within 24 hours. Following an implementation period between 2018 September and 2019 May which focused on raising public awareness of the new fine, CPOs were granted the authority to issue violation tickets in instances where property owners have already received a Warning Notice and/or corrective action within the previous 12 months.

Additionally, individuals with a prior conviction within a 12-month period may be fined \$500 for a second offence and \$750 for a third offence and each offence thereafter. Since the new provisions of the Street Bylaw were introduced, only 0.2 per cent of all snow and ice service requests have resulted in a violation ticket (Table 4).

Tickets Issued for Failing to Keep Sidewalks Clear			
2018	2019	2020	2021 (Q1)
0	6	56	12

Table 4: Tickets Issued for Failing to Keep Sidewalks Clear of Snow and Ice

## Reviewing the Enhanced SNIC Services

Council approved the current Snow and Ice Control Policy (TP004) in 2011. The policy established the priorities, standards and service levels of The City's snow and ice control operations for streets and sidewalks. However, the policy defines response targets that are focused primarily on the roadway conditions for vehicles.

Prior to 2018, this meant that SNIC resources were often redeployed back to Priority 1 and 2 streets if snow continued to fall for several days, resulting the interruption of work to clear pedestrian infrastructure. This resulted in snow accumulations that would make travel more difficult, particularly for people with limited or reduced mobility. It also meant that The City was delivering SNIC for sidewalks well after the 24-hour response time expected of citizens.

Council's decision in 2018 to allocate a total of \$18.5 million to expand and prioritize SNIC services for pedestrian infrastructure has resulted in a more reliable network for winter travel. Table 5 shows the SNIC service levels for The City's pedestrian infrastructure. This includes the specific improvements for City inventory sidewalks to be cleared of snow within 24 hours, adding 100 km of pathways to be cleared, and 500 locations where windrows would be removed from wheelchair ramps at street crossings.

SNIC Service Levels for Pedestrian Infrastructure	
Infrastructure Type	Current Level of SNIC Service
<b>Pathways</b>	442 km are completed 24 hours after snow stops falling
<b>Sidewalks</b> (City inventory to clear)	958 km are completed within 24 hours. Includes Parks, Roads and City facilities
<b>Bus Zones</b>	1089 priority locations are completed within 24 hours All other bus zones are cleared within the 7-day plan
<b>Pedestrian Bridges</b>	19,2 km cleared within 24 hours
<b>Wheelchair Curb Ramps</b>	500 priority locations. Windrows cleared within 24 hours
<b>Medians and Traffic Islands</b> (at crossing locations)	1970 locations cleared
<b>Traffic Calming Curb crossings</b>	123 locations cleared
<b>Public stairs and other locations requiring hand-clearing</b>	190 locations cleared

Table 5: SNIC Service Levels for Pedestrian Infrastructure

## Budget

The \$18.5 million allocated for the enhanced SNIC services was based on cost-range estimates developed at the time. Administration was committed to delivering the new levels of service in the most cost-effective manner possible, including quality assurance reviews of operations, and strategic deployment of labour between contracted and City work forces. The actual expenditures for each winter season are presented in Tables 6-8.

For the period of October 2018 to December 31 2018				
Pathway & Sidewalk SNIC	Department	Budget	Expenditures	Recovery from Enhanced Budget
	Roads	1,110,035	1,878,313	768,278
	Parks	224,766	1,791,240	1,566,474
	2018 Total	1,334,801	3,669,553	2,334,752
For the period of January 2019 to May 31 2019				
Pathway & Sidewalk SNIC	Department	Budget	Expenditures	Recovery from Enhanced Budget
	Roads	1,466,296	2,007,825	541,529
	Parks	1,392,289	2,557,812	1,165,523
	2019 Total	2,858,585	4,565,637	1,707,052
<b>2018/2019 Season Total</b>		<b>4,193,386</b>	<b>8,235,190</b>	<b>4,041,804</b>

Table 6: SNIC expenditures on pathways and sidewalks during the 2018/2019 SNIC season

For the period of October 2019 to December 31 2019				
Pathway & Sidewalk SNIC	Department	Budget	Expenditures	Recovery from Enhanced Budget
	Roads	1,082,217	1,924,501	842,284
	Parks	337,824	1,753,347	1,415,523
	2019 Total	1,420,041	3,677,848	2,257,807
For the period of January 2020 to May 31 2020				
Pathway & Sidewalk SNIC	Department	Budget	Expenditures	Recovery from Enhanced Budget
	Roads	1,174,836	1,546,715	371,879
	Parks	1,017,856	3,268,089	2,250,233
	2020 Total	2,192,692	4,814,804	2,622,112
<b>2019/2020 Season Total</b>		<b>3,612,732</b>	<b>8,492,652</b>	<b>4,879,919</b>

Table 7: SNIC expenditures on pathways and sidewalks during the 2019/2020 SNIC season

For the period of October 2020 to December 31 2020				
Pathway & Sidewalk SNIC	Department	Budget	Expenditures	Recovery from Alternate funding
	Roads	1,000,772	969,837	
	Parks	550,000	1,799,836	
	2020 Total	1,550,772	2,799,673	
For the period of January 2021 to April 30 2021				
Pathway & Sidewalk SNIC	Department	Budget	Expenditures	Recovery from Alternate funding
	Roads	908,269	916,005	
	Parks	570,000	1,838,946	
	2021 Total	1,478,269	2,754,951	
<b>2020/2021 Season Total</b>		<b>3,029,041</b>	<b>5,554,624</b>	<b>2,525,583</b>

Table 8: SNIC expenditures on pathways and sidewalks during the 2020/2021 SNIC season

The total pedestrian SNIC expenditures for the three winter seasons (2018-2021) was:

	Budget	Expenditures	Recovery from Alternate funding
<b>2018-2021 Total</b>	<b>10,835,159</b>	<b>22,282,466</b>	<b>11,447,306</b>

The number of annual snow events does influence the total SNIC expenditures. The 2019/2020 winter season had an unusually high number of events, almost double of what was experienced in 2020/2021 (Table 9).

Annual snow events (2018-2021)			
	2018/19	2019/20	2020/21
<b>Snow Events</b>	25	39	21

Table 9: Annual snow events (2018-2021)



## Performance

Calgary Parks and Roads report that approximately 95% of routes were cleared within the 24-hour window. Of the 5% where this target was not achieved, the following contributing factors occurred:

- Vehicle and/or equipment breakdown or failure
- Extreme weather conditions resulting in very heavy snowfall during a single event
- Contractors not mobilized due to warm weather melting the snow within 24 hours, negating need for call-out to contractors
- Back to back snow events where equipment may already be in-field
- Technical issues, such as software failure or tracking hardware malfunction (clearing is still achieved, but may show false positive of clearing not occurring, affecting reporting)

## Operations Staffing

Administration runs SNIC operations 7 days a week. Calgary Parks annually hires 17 dedicated staff to conduct seasonal SNIC operations as well as one seasonal Foreman. Calgary Roads has contracted resources to provide the pedestrian SNIC service.

However, City staff are responsible for the customer service and administrative duties that support the entire SNIC program, including:

- Processing and assigning 311's to correct regions
- Processing and approving/querying contractor invoices
- Reviewing additional locations for addition to routes, based on select criteria
- Addition of reviewed locations via GIS software and documentation
- Operational cost tracking and time management
- Contractor and staff supervision
- Processing insurance claims

For Parks, staff also conduct additional SNIC activities, such as:

- Clearing snow and ice around parked vehicles adjacent to narrow sidewalks
- Drifting snow clearing from existing areas
- Sanding and pickling sites throughout the city
- Field work assessments and repairs due to SNIC activities
- Staff and contractor Route inspections

## Contract Resources

The City retains contracted resources to augment City personnel and equipment for various SNIC operations. Below is a table showing services provided by contractors to Parks, Roads and Transit.

Business Unit	Services Provided to Pedestrians	Expenditure on Contractor/City Forces (%)
<b>Parks</b>	Clearing of sidewalks adjacent to Parks' property and the priority pathways	62% : 38%
<b>Roads</b>	Steps, sidewalks, priority bus zones and pedestrian overpasses	100% contracted
<b>Transit</b>	LRT Station platforms, LRT Station parking lots, Park N' Ride Terminals Lots and walkways.	100% contracted

Table 10: Services Provided by Contractors

## Quality Control / Assurance

Administration regularly reviews the services provided by contractors. This includes staff inspecting routes for deficiencies to be rectified after initial clearance, or when receiving reports of areas where ice and snow had not been fully cleared. Internal lists of 'Hot Spot' locations are also visited to evaluate known, repeat issues.

In Roads, contractors are required to take before and after pictures of each location, and email updates are provided every 3 hours to the Traffic Management Centre. Any service requests that are received related to quality of SNIC are assigned to Roads inspectors to investigate.

Parks utilizes technology to supplement the quality review, and to effectively track progress:

- Work is tracked via iPad GPS into GIS systems (Workforce, Collector & ArcGIS Online)
- Foremen monitor SNIC App to track contractor and Park staff progress on each route
- Detailed review of operation data conducted by Pathways Data Analyst to resolve queries, insurance issues etc. Determines if there have been delays in mobilization, or if progress along routes were slower than anticipated

Administration also conducts contractor evaluations with Supply at the end of each winter season.

## Priority Bus Zone program

In addition to the 2018 investments to improve SNIC for pedestrians, \$2 million had been allocated to Calgary Transit annually since 2015 to focus on clearing bus pads and bare pavement bus stops with large windrow accumulation. These locations included bus stops with high numbers of transit ramp deployments (to assist citizens with mobility challenges), including hospitals, senior homes, and locations where mobility-challenged individuals frequently visit. Snow clearing would begin during the snow event and continue until all the identified locations were clear following the snow event. Calgary Transit and Calgary Neighbourhoods work together to provide a list of priority locations. During the 2020/2021 SNIC season, The City provided service to 1089 bus stop locations.

## Engagement through the Advisory Committee for Accessibility

In 2020 and 2021, Roads engaged The City of Calgary's Advisory Committee for Accessibility (ACA) to discuss the 2018 investments made to expand SNIC services for the pedestrian environment, and to identify areas of ongoing concern. The members of ACA represent cross-disability individuals with lived-experience. This committee's role is to advise and recommend solutions to Council on accessibility and disability matters.

ACA feedback has shown there has been a marked improvement in how people navigate downtown because of the resources provided to SNIC in the last couple of years. It assists with navigation from the LRT along 7<sup>th</sup> Avenue to locations in the downtown where people work, attend school, play and have medical appointments. The clearing of windrows has been ideal for people using mobility devices, guide dogs and white canes. Pathway clearing has also been improved.

### ACA Recommendations to Council

While improvements to accessibility have been experienced, challenges do remain. ACA recommends that priorities for SNIC services need to be re-evaluated and certain gaps should be addressed by Council in an updated SNIC policy and plan. This should include:

- Clearing windrows away from all bus stops
- Clearing the portion of public sidewalks that cross laneways/aprons
  - Consider either private or City resources for clearing these areas
- Clearing curb ramps & access to crosswalks that have windrows
- Develop a priority system for clearing windrows and using a grader gate on plows
- Engineered walkway snow clearing needs to be addressed and responsibility assigned
- Communications: Each time there is a snow event there must be a social media campaign to outline to homeowners & business owners what their responsibilities are for snow clearing.

### Feedback from ACA members

Administration asked the following questions to help facilitate discussion and feedback on the expanded SNIC services:

- Has there been a noticeable improvement in pedestrian accessibility following The City's changes to snow clearing processes in 2018?
- Has the implementation of a fine structure created a change in perception among your client groups?

- Are there any other improvements you would like to see implemented in The City's Pedestrian Snow Clearing? What are some of the challenges your clients face?

Administration has presented the member feedback below, using their original responses and commentary.

**Expanded SNIC service:**

- Improvement. Generally, yes, along walking / biking trails and on sidewalks owned by The City and along residence and commercial sidewalks.
- Yes. In addition to improved crosswalk entry point clearing, I would like to see "greenbelt" sidewalks cleared by the city. Perhaps community associations would have a role in managing this. These asphalt pathways are difficult to clear, and I don't think it should be the sole responsibility of the adjacent homeowner. Those residents already have front sidewalks to clear, too. These shared asphalt greenbelt pathways between houses are a community responsibility. A few houses from me, there is an icy pathway that is very hard to keep clear despite residents' good intention and effort. Also, worth noting is that many residents in my area rely on these pathways to be safe for them to be able to access Calgary Transit routes. (Me included.)
- No, not a noticeable improvement. On the positive, park pathways such as Glenmore Reservoir are still cleared promptly and the community of runners / walkers in my area is very grateful. However, in the Kingsland / Haysboro area where I live, there are still ice and snow covered crosswalk entrances and in some cases a snowbank blocking entry to the crosswalk. While many people can hop over, this can be prohibitive to kids and seniors to get around.
- Calgary's Snow Removal Strategy is Inadequate. This most recent large snowfall, now over 3 weeks old, highlights the shortcomings of the City's snow removal strategy, especially as when seen from the perspective of accessibility. The strategy does not effectively support the concept of "Clear Path of Travel", particularly for pedestrian mobility.

**Fines**

- Good concept. I think this is the best motivator available to encourage people to shovel.
- Residents have noticed that some homeowners in the community have improved their snow clearing on their sidewalks since the introduction of the fine structure
- Enforcement is promoted as more "educational and improving awareness" Only people living under a rock in the city are unaware of their civic and moral obligation to clear their sidewalk.

- Generally, residents are NOT keen to report neighbours behaviours / lack of compliance due to potential conflicts.

#### **Common Concern - Communications:**

- There are better and more effective channels for “educational and improving awareness”
- Communicating to the public as to ‘why’ snow & ice clearing is so important, as well as having a clear path of travel in all seasons of the year is vital.
- When the new snow clearing policy was being developed – I criticized the lack of funds for EDUCATION. People generally WANT to do the right thing and since snow clearing will NEVER EVER be “perfect” education on shovelling and negotiating windrows and other difficult terrain would serve the community well.
- Communicate ON HOW to clear your sidewalk effectively WITHOUT hurting your back – the principal reason/fear that some are unable to do their duty.

#### **Other Public Comments:**

- A number of residents shared that they had fallen in December due to icy conditions and had been injured. This results in residents feeling isolated and experiencing challenges in accessing health appointments, grocery stores and other amenities. Even having residents come to a meeting to discuss snow removal was not possible for many residents as residents did not feel like they could safely make their way to the community space in the building next door.
- Residents spoke of the challenges with the curb cuts at crosswalks in the community. Residents felt that they are not regularly cleared and that snow/ice builds up, making it difficult for those in wheelchairs to use.
- When snowplows clear snow on the street they form ridges along the sidewalks or in the crosswalks making it difficult for wheelchairs to safely maneuver.
- Prioritization: Areas that have high density senior or physically - challenged residents should be prioritized
- To be time efficient graders have to keep on going even when they plow ridges on to bus stops, wheelchair ramps etc. COORDINATION of sweepers behind them to undo their damage should be considered in high need areas.
- Every year the Acadia Pool seems to have a different snow clearing service. For the last five years or maybe more, I've had to contact 311 and the pool staff to get the WHOLE sidewalk and crosswalk cleared. The sidewalk from the Lord Beaverbrook fence to the #10 South bus stop near the pool is usually cleared early in the morning after a fresh snow. These bus stops are used by people with four-wheel walkers and other neighbours with limited mobility. If the crosswalk is not kept clear on both sides, people cross between the lane and the #10 North bus stop without using the new light. A pedestrian would be blamed if injured when not walking between the white lines of the marked crosswalk. I often wear a safety vest when walking to/from the Lutheran Church after dark.

- Road graders and dump trucks with blades are not flexible enough to lift the scrapers for crosswalks, bus stops and front driveways. Clearing roads is a priority BUT road snow is often piled along previously cleared sidewalks like Bonaventure Drive between 94<sup>th</sup> Ave and the back driveway to Co-op grocery store.
- One of my friends from Kerby meetings and private phone calls has been trying to arrange for help with snow clearing since June 2019. She is in a NW community without Calgary relatives or nearby friends. It is not as easy to arrange for help as page 46 of Kerby Seniors Directory of Services 2020 indicates even if a low-income senior has health problems. She is supposed to have snow cleared starting with the first snow after February 1, 2020.
- Snow clearing workers don't seem to realize that clean sidewalks and bus stops need to be CONTINUOUS. I often walk to Acadia meetings after dark and need to go around black ice on the boulevard.
- Neighbours are not all healthy "mountain goats" able to climb over ridges left by power equipment left by graders and sidewalk equipment. I have all I can manage to keep my corner as clear as possible including the section in front of community mailbox."
- I drive more than I walk in the winter largely because walking in my community continues to be treacherous at times. I have NOT noticed significant improvement although my viewpoint is limited to Acadia
- In alignment with the City's pedestrian mobility strategy, "*Clear Path of Travel*" tells us that individuals, regardless of ability, should be able to safely and independently move thru the City. However, today's reality is that, although 99% of a given sidewalk may be clear, five meters of uncleared snow significantly and adversely impacts the ability of all pedestrians, and in particular, a user with a mobility aid (i.e.: a walker, white cane, scooter, support cane, wheelchair), from travel.

Below are a few examples of ongoing failures of "Clear Path of Travel", even though 3+ weeks have elapsed since the last significant snowfall:

- Intersection of back alleys with sidewalks. No one is responsible for clearing this segment of sidewalk, and so it is typically left uncleared. When combined with the melt-freeze cycles, and the side-slope of the sidewalk, the result is quite hazardous.
- Reactive approach to enforcement. It appears that a property owner's failure to clear snow in accordance with the City's existing bylaw is only dealt with on a reactive basis. Three weeks on, it is now plainly clear who has not cleared their snow. A call to 311 does not solve the immediate issue in any timely way.
- Road crossings. Crossing the street currently requires overcoming deep ruts and snowbanks; difficult at best for able-body persons; often impossible for users of mobility aids.

Anyone traveling about these days will easily notice how these, and other snow-related issues, are causing problems for everyone, and in particular, for persons with mobility challenges.

We need to implement tactics to address these problems and thereby improve pedestrian mobility. Everyone will benefit. Possible tactics that do not cost the City anything can include:

- Public awareness and education. This can include awareness of responsibilities under existing bylaws as well as exhorting citizens to “go beyond”.
- Doing a video on the impacts of people with different disabilities when snow and ice aren’t cleared using ACA members. Plan for it to across multiple communications channels next Fall/Winter, including captioning and sign language on the video.
- Proactive enforcement of existing bylaws. As part of Bylaw Officers’ daily outings, observation of noncompliance can be brought to the property owners’ attention. It is likely that just one such reminder will instill a long-term benefit. Subsequent failure to act will of course have negative consequences.
- Bylaw changes to assign enhanced responsibilities to property owners. Assign responsibility for clearing the sidewalk, where intersected by a back alley, jointly and equally to both adjacent property owners.

We have made some progress recently with SNIC; we now must solve the remaining issues.



# Options for Additional SNIC Investment for Pedestrian Spaces

In the feedback provided on the SNIC service enhancements, the Advisory Committee on Accessibility provided several recommendations for Council to consider (Attachment 2). Administration has provided the following cost estimates of those recommendations for information (Table 1), should Council wish to explore any additional SNIC service levels to improve the safety and accessibility of winter travel for pedestrians in the future.

SNIC Investment Options for Pedestrian Spaces	Cost Range
Complete all Bus Zones within 24 hours	\$4.5-6.5 million (operating) \$5-7 million (capital)
City provide SNIC service for high priority engineered walkways within 24 hours	\$3-4 million (operating) \$3 million (capital)
City provide SNIC service for <u>all</u> engineered walkways within 24 hours	\$6-8 million (operating) \$4.5 million (capital)
City to clear laneway apron crossings within seven days based on a priority system	\$12-15 million (operating)
Plow windrows away from all wheelchair ramps	\$13-16 million (operating)

Table 1: SNIC Investment Options for Pedestrian Spaces

The following descriptions of Engineered Walkways and Laneway Aprons are from the 2018 Council report TT2018-0467 Improving Accessibility and Reducing Injuries through Snow and Ice Control:

## Engineered walkways

Engineered walkways are thoroughfares that run between private properties to connect streets, pathways, lanes, and parks to each other. Typically, these thoroughfares have an asphalt surface and have a barrier placed at the ends (bollard or bedstead) to prevent traffic from accessing them. There are 2,200 public engineered walkways within the city with a total length of 98.7 km. Almost all engineered walkways are paved with asphalt (93.7 per cent).

These walkways are used to provide pedestrian mobility through neighbourhoods and to provide convenient year-round connectivity to transit, schools, recreation and shopping centres. However, during the winter season, most of these walkways remain un-shovelled, which makes them difficult to travel through. While the walkway performs the same function as a sidewalk, the adjacent property owners are not required to keep this space clear of snow and ice. Section 67 of the Street Bylaw only requires the removal of snow and ice from public sidewalks or pathways that run parallel to and directly adjacent to a street.

Engineered walkways are not currently part of The City's SNIC inventory list. Currently, the Roads business unit addresses snow and ice concerns on the walkways on a request basis only. Snow and ice are not removed. Instead, sand and salt are applied to provide traction and a hard-packed snow condition is maintained.



The issue of maintaining and clearing engineered walkways is one of the actions recommended within the 2016 Pedestrian Strategy that was approved by Council. Action 31 from the strategy states:

*" Undertake an assessment of engineered walkways, develop a management plan, amend the bylaw to address public concerns, and identify funding requirements to upgrade and maintain the walkways city wide."*

#### **Options to Consider**

Since the status quo does not advance the goals set in the Pedestrian Strategy, three other options were considered for snow and ice control on engineered walkways:

##### *Adjacent property owner responsibility*

Through a bylaw amendment, make adjacent property owners/occupants responsible for snow and ice clearing on these walkways. The same timeframes and standards for sidewalks would apply.

There are practical challenges to this approach that would need to be addressed. The language of the bylaw would have to explicitly determine how the space is to be cleared by each property owner – divide pathway in half lengthwise, or at a midpoint, or by alternating years (owner on north or east side responsible on odd-numbered years, and the other owner for even-numbered years). This piece is critical and would need to be clearly communicated with all parties, as non-compliance would be met with corrective action costs, and possibly fines.

The space itself is usually fenced or hedged in with little space to store snow on either side of the walkway. This means the snow would have to be removed out of the walkway, through the existing barriers, to the street. There are also locations where the private properties that border the

engineered walkways have no practical access to them (no side gates or lanes) and would have to be identified as an exception.

#### *High-priority approach*

The locations of engineered walkways were compared to the High Priority Network of sidewalks and pathways that was developed for this report. Proximity to school sites was chosen as the primary area to focus on, to help promote walking to school during the winter. Using the 200 m buffer zone around the schools, approximately 50 per cent of the total inventory of engineered walkways were captured (49.7 km).

The option would be for The City to provide SNIC service for these priority walkways, within 24 hours after the snow stops falling. This would require an initial investment of \$3 million to upgrade all end treatments to removable bollards for machines to access the walkways, and an annual increase in operating budget of \$3 million to \$4 million. It is assumed that this work will be performed by contractor.

The remaining 50 per cent of walkways would either be relegated to the status quo, where no SNIC service would be legally required, or make the adjacent property owners responsible for SNIC through a bylaw amendment.

#### *Full Service*

The final option would be for The City to provide snow and ice control for all engineered walkways based on a priority system and completed within seven days after snow stops. This would require an initial investment of approximately \$4.5 million to upgrade all end treatments to removable bollards for machines to access walkways, and an annual increase in operating budget of \$6 million to \$8 million. It is assumed that this work will be performed by contractor.

### **Sidewalk Crossings of Laneways (Aprons)**

The Street Bylaw delegates responsibility to remove snow and ice from sidewalks and pathways that are at the front of or along the side to the adjacent property owner/occupant. Sidewalk crossings of laneways, also known as Laneway Aprons, are sloped concrete sections that provide vehicular entry into lanes and alleys. These crossings are not in front of or along the side to the adjacent property owner. Therefore, the snow and ice control responsibility of these crossings reside with The City. Currently, The City does not provide SNIC services to these vehicle crossings. There are an estimated 13,000 laneway aprons in Calgary.

As the status quo is understood, and does not advance the goals set in the Pedestrian Strategy, two other options were considered for snow and ice control on sidewalk crossings of laneways:

1. Bylaw amendment: Provide additional clarification to make adjacent property owners/occupants responsible for clearing these sidewalk spaces within 24 hours.
2. City service: The City to provide snow and ice control on sidewalk crossings of laneways within 7-days of snow deposit. Estimated annual costs would be \$12 million to \$15 million.