

## SIDEWALK MAINTENANCE RENEWAL PROCESS

### RECOMMENDATION

That the April 25, 2022, City Operations report CO01036, be received for information.

#### Report Purpose

##### Information only.

Committee is being informed of the current sidewalk maintenance processes and the framework used to develop the new proposed Sidewalk Maintenance Strategy.

### Previous Council/Committee Action

At the January 17, 2022, Community and Public Services Committee meeting, the following motion was passed:

That Administration:

- return to Committee with options for a sidewalk maintenance renewal process separate from Neighbourhood Renewal including options for different materials that can be used for sidewalk repair renewal from an accessibility and climate change perspective, and
- bring forward a prioritization and an annual inspection process for especially high-needs areas (For instance, sidewalk repairs and accessibility issues for senior and accessible-housing centres).

### Executive Summary

- This report provides an overview of the proposed Sidewalk Maintenance Strategy framework. It specifically outlines the methodology used to define this supplemental program, which will be dedicated to repairing existing sidewalks; that have a high prioritization score but do not align with the timing of neighbourhood renewal and roadway rehabilitation and reconstruction programs. This also includes:
  - An assessment of the current sidewalk conditions, 311 related sidewalk locations and the current maintenance strategy.

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- A description of the prioritization scoring that will be applied to all existing sidewalks and 311 requests.
- A series of maps to conceptualize what the supplemental strategy could look like, by layering demand, social vulnerability, condition, and future capital work to establish potential priority for repair.

## REPORT

### Sidewalk Maintenance Strategy

At the January 17, 2022, Community and Public Services Committee meeting, Administration provided an overview of its current sidewalk maintenance processes and associated accessibility issues. Administration also introduced the concept of developing a Sidewalk Maintenance Strategy that would take a more proactive approach to maintaining and repairing existing sidewalks by considering the equity needs of residents and important pedestrian destinations in the City. This proposed Sidewalk Maintenance Strategy would be a supplemental program to the Neighbourhood Renewal, road renewal and Sidewalk Maintenance Repair programs. The goal of this new program is to define a high priority sidewalk network that prioritizes the most vital accessibility corridors.

### Sidewalk Maintenance Strategy Project Phases

To achieve the development of the program, it will be developed through three phases, as shown in Attachment 1.

- **Phase One (Q1 2022):** involved the development of the methodology to prioritize repairs to the sidewalk network used to establish the framework. It outlines the proposed sidewalk maintenance process that is separate from existing capital renewal programs; such as Neighbourhood Renewal and Goods Movement (Arterial) Renewal. This included stakeholder conversations to shape and validate specific aspects of the strategy. Conceptual budget requirements were developed for inclusion in the proposed framework.
- **Phase Two (Q2 2022):** Refine the budget implications for the proposed strategy, for inclusion in the 2023-2026 Budget deliberations. This will include further stakeholder conversations.
- **Phase Three (Q3 and Q4 2022):** Focused public engagement will be conducted to refine the strategy and validate the analysis completed, with a focus on defining the high-priority sidewalk maintenance network. Budget requirements will be further refined through this phase. Final budget requirements will be presented in January 2023 with adjustments being brought forward in spring 2023, if directed by Council.

### Current Sidewalk Renewal & Repair Practices

Edmonton currently has three primary sidewalk renewal and repair practices: two are renewal practices funded through the capital budget and the other is a maintenance repair practice funded within the existing operating budget. The capital renewal strategies that address sidewalk renewal needs include the Neighbourhood Renewal program through the rehabilitation and

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reconstruction of local, collector and neighbourhood wide projects, and the Goods Movement (Arterial) Renewal program, through arterial roadway rehabilitation and reconstruction projects.

From a maintenance perspective, the City investigates 311 requests and completes localized repairs to address safety and accessibility issues including trip hazards, water ponding issues and other defects. The maintenance team replaces short sections of sidewalks and uses a variety of repair methods to address safety and accessibility issues until full sidewalk replacement takes place.

While current renewal and repair practices are addressing many of the City's sidewalk deficiencies, opportunities exist to improve high priority sidewalks in poor condition that are not scheduled for reconstruction in the near future. Opportunities also exist to incorporate prioritization scoring to incoming 311 requests, ensuring a consistent methodology is utilized, allowing maintenance activities to consider priority accessibility needs proactively.

### **Proposed Sidewalk Maintenance Strategy Framework**

The new Sidewalk Maintenance Strategy will incorporate the five steps or levels of analysis identified in Attachment 2. These steps review the condition of the sidewalks, the requests for sidewalk repairs, how important specific sidewalks are based on their proximity to certain locations, how socially vulnerable the area is where the sidewalk is located and the locations that are not being reconstructed in the near future. These steps are described in more detail below.

#### **1. Sidewalk Conditions - Locate Worst Condition Sidewalks**

The City annually collects detailed distress data. On arterial roadways information is collected every two years and on collector and residential roadways every four years, ensuring that at the very least, any given sidewalk in Edmonton is inspected at least every four years. Attachment 3 provides a map with the current sidewalk conditions with red representing the worst conditions (F) and green representing the best (A). Attachment 3 also provides a table with the current distribution of sidewalk conditions with over half (58 per cent), in excellent condition (A) and 10 per cent in fair and poor condition (D & F).

#### **2. 311 Notifications Requests**

311 notifications play an important role in the indication of sidewalk accessibility as they provide direct feedback from Edmontonians. 311 notifications can be subjective, as Edmontonians may have different perspectives on acceptable standards of sidewalk conditions. Attachment 4 shows a heat map (grey zones) of locations that had the highest number of sidewalk notifications, with the corresponding sidewalk conditions. While there are areas of high correlation between sidewalks in poor condition and a high number of requests, there are also a number of 311 notifications where the sidewalk conditions are good and sidewalks in poor condition that do not have a high number of requests.

Areas with poor sidewalk conditions and a low number of 311 notifications are of particular concern, as Administration's ultimate goal is to proactively repair sidewalks which are in poor condition, and not depend on service requests to dictate where repairs are done. In 2021, about 55 per cent of 311 notifications related to sidewalks were on Very Good/Good (A/B) condition sidewalks, while 19 per cent of sidewalk notifications were on Poor/Very Poor (D/F) condition

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sidewalks. This gap in the correlation of the 311 reporting and the condition of the sidewalk indicates that the 311 data may not be a true representation of a sidewalk's condition. There may be opportunities to direct that limited resources are used where they are needed the most.

### **3. Pedestrian/Sidewalk Importance Index**

An important element in developing a sidewalk maintenance strategy is to incorporate important pedestrian destinations to ensure the sidewalks which are vital to access goods and services are accessible and in good condition. Administration created a Pedestrian/Sidewalk Importance Index to identify the most important pedestrian destinations within Edmonton. This was done by developing a tier system of priority, by assigning weights and buffer distances around key destinations such as schools, senior centers and hospitals. This approach was based on similar studies done in other municipalities, where the tiers were assigned to each location in order to create a scoring framework that prioritizes the sidewalks closest to these vital pedestrian destinations.

The highest scored sidewalks are near schools, senior centres and hospitals. A distance of 160 metres was used to represent an approximate sidewalk block and has been used as a buffer by other municipalities in similar studies. It is important to note that creating buffer distances that are too large will result in too many sidewalks being prioritized and defeat the purpose of identifying the most vital sidewalks to maintain.

Attachment 5 provides the scoring methodology for all the locations included in the developed Pedestrian/Sidewalk Importance Index, a map with the destinations and buffer distances from the table applied, and a map showing the sidewalks with the highest and lowest importance scores based on the Index.

### **4. Social Vulnerability Index**

Administration utilized a social vulnerability (SV) index which used 2016 Federal Census data and considers nine elements of social need: education, employment, government transfer payments, home ownership, immigration, income, language, lone parent and mobility. This index serves as a starting point with public engagement activities. By putting these nine elements together, an index and maps were created which identified areas of highest sidewalk needs. Attachment 6 provides a map of the most socially vulnerable areas in Edmonton using the nine indices noted above.

#### Overall High Priority Sidewalk Index

To create an overall High Priority Sidewalk Index and achieve the goal of helping both high use areas and high need areas, Administration combined the Pedestrian/Sidewalk Importance Index with the Social Vulnerability Index. These scores were appended to sidewalks to identify the pedestrian accessibility corridors which have the highest priority (Attachment 7).

### **5. Future Sidewalk Renewal Work**

After gaining a clear understanding of sidewalk conditions and developing a High Priority Sidewalk Index, the next step was to see how many of these sidewalks were scheduled to be

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renewed in future projects. Attachment 8 shows all the sidewalks in black, which have been prioritized for renewal through the Neighbourhood Renewal Program, the Goods Movement (Arterial) Renewal Program, and other local and collector reconstruction projects between 2022 and 2026; this would include the prioritized capital work that came as an amendment to the Neighbourhood Renewal Program Policy C595 for capital investment in Business Improvement Areas (BIA's).

Removing this future work from the High Priority Sidewalk Index leaves the sidewalk network shown in Attachment 9 under Map A. Out of these remaining high priority sidewalks, those in fair/poor condition will qualify for repair under a new proactive maintenance strategy. Map B in Attachment 9 shows these remaining sidewalks. For clarity, these maps highlight the initial output of the conceptual framework completed to date. Further work over the coming months, including engagement with the public, will enable refinement of the locations and prioritization.

Additional opportunities for future work, as it relates to development and redevelopment, will also be assessed as part of phase two and three.

### **Sidewalk Maintenance Strategy Process**

Supplementing the existing repair and renewal strategies with a new proactive strategy focusing on ensuring the highest priority sidewalks are repaired would improve accessibility in Edmonton. As indicated in Attachment 9, the quantity of remaining sidewalks potentially qualifying for the Sidewalk Maintenance Strategy is estimated to be 78.3 kilometres and require an estimated \$20 million to repair, based on current costing.

Administration is planning to return to Community and Public Services Committee in June 2022 with a report providing options to implement this new strategy, including preliminary budget requirements. The final budget requirement will be presented in January 2023, which would include the final recommendations for future sidewalk repair investments. Any additional budget adjustments would then be brought forward in 2023 spring Supplemental Operating and Capital Budget Adjustments following the completion of the project.

### **Supporting Accessibility and Climate Change**

Sidewalks are exposed to the effects of climate change such as extreme heat and increased freeze-thaw cycles. As a testament to this, in 2021 extreme heat caused sidewalks to buckle in at least 82 locations throughout the City. Administration is being proactive in addressing the effects of climate change on sidewalks as described below:

- Approximately 30 years ago, the City updated the design standards for sidewalks to include the use of rebar. The City also improved the standards related to the construction of the base that supports concrete sidewalks. These changes serve to improve the long-term performance and reduce the severity of cracks in the City's concrete sidewalks.
- Administration works with industry partners to explore and implement new technologies and materials. For example, Administration is currently working to incorporate the use of Portland Limestone Cement (PLC) into the Complete Streets Design and Construction Standards. Using PLC in place of standard Portland Cement (PC) can significantly reduce

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the carbon footprint associated with the production of concrete, helping the City to achieve its carbon reduction goals.

- Administration is also piloting the use of rubberized sidewalks which provide a softer landing surface preventing injury and minimize disruption to root trees.

## **BUDGET/FINANCIAL IMPLICATIONS**

A conceptual cost estimate for the proposed Sidewalk Maintenance Strategy is at least \$20 million. This was calculated considering the total area of sidewalks in C, D & F (Fair/Poor/Very Poor) condition that are not scheduled for capital renewal over the next four year budget cycle, and applying a square metre replacement rate. The estimated cost will mainly address the current gap between the reactive sidewalk maintenance work and the proactive capital work delivered through the Neighbourhood Renewal and Goods Movement (Arterial) Renewal programs. Through phases two and three, the budget estimate will be further refined; with implementation options, either through a one time cost or a phased approach, will be brought forward to Council for direction.

## **LEGAL IMPLICATIONS**

Repair and maintenance can be financed using an annual special tax in accordance with sections 382 to 387 of the *Municipal Government Act*. However, the annual special tax bylaw for such maintenance and repair work cannot be passed unless the estimated cost of the specified service is included in the City's budget as a specific line item estimated expenditure.

If a sidewalk requires reconstruction, a local improvement levy can be used to finance such capital reconstruction work in accordance with the requirements under sections 391 to 406 of the *Municipal Government Act* and City Policies. A sidewalk reconstruction local improvement levy can be amortized over the period of 20 years. The City's Policy C619 Local Improvement - Surface speaks to when a local improvement can be utilized and the minimum lengths that should be considered, typically one block and not less than 100 metres.

## **COMMUNITY INSIGHT**

Administration reached out to stakeholders, including business associations, community organizations and organizations focused on mobility, to present project information, get feedback on the strategy approach, and identify any considerations that may help in its further development. One-on-one engagement sessions were conducted with Paths for People, the Seniors Association of Greater Edmonton (SAGE), the Edmonton Federation of Community Leagues, the Downtown Business Association and the Old Strathcona Business Association.

Due to COVID-19 public health restrictions, in-person gatherings and face-to-face stakeholder meetings were prohibited. Therefore, five stakeholder engagement sessions were held virtually in March 2022 to introduce the framework and validate its methodology by gathering initial input. At the sessions, details were shared about current sidewalk maintenance practices including sidewalk conditions and 311 notification locations. Topics discussed also included the methodology used to create a prioritization scoring index for every City sidewalk that considers equity needs and

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important pedestrian destinations, and how the index would be applied to develop a new sidewalk maintenance program. These sessions were designed to encourage discussion and allowed multiple opportunities for stakeholders to ask questions.

The project team gained valuable feedback from these stakeholder meetings, which will be taken into consideration during the next stages of the project. The feedback from those meetings is documented in the 'Public Engagement - Report Back' document, found in Attachment 10.

Administration will conduct further public and stakeholder engagement in later phases of the project to help validate the analysis completed to date, and identify specific locations to prioritize, considering social vulnerable/equity needs and proximity to important destinations.

### **GBA+**

The City's sidewalk maintenance strategy will use a GBA+ lens, by looking at qualitative and quantitative data and information to identify inequalities and barriers that affect Edmontonians' risk of being impacted by sidewalk accessibility concerns. This includes the application of the Social Vulnerability Index. This work will support the equitable safety commitments laid out in the Safe Mobility Strategy 2021-2025, which is designed to achieve Vision Zero through safe and livable streets by 2032. By considering diverse inputs, including technical studies, City policies and Edmontonians' lived experience, sidewalk maintenance can play a critical role in contributing to Vision Zero, protecting vulnerable road users and addressing unintentional systemic service delivery inequity.

## **ATTACHMENTS**

1. Sidewalk Maintenance Strategy Timelines
2. Proposed Sidewalk Maintenance Strategy Framework Overview
3. Sidewalk Condition Map and Distribution of Conditions Across Grades
4. Sidewalks 311 Requests
5. Pedestrian/Sidewalk Importance Index
6. Social Vulnerability Index Criteria and Sidewalks in the Most Socially Vulnerable Areas
7. High Priority Sidewalk Index
8. High Priority Index and Sidewalks Planned for Renewal (2023-2026)
9. Remaining High Priority Sidewalks and Identified Repairs
10. Sidewalk Maintenance Strategy Public Engagement - Report Back