

Safe Sidewalks Update

Date	March 17, 2021
To	Operations and Community Services Committee
From	Citizen Services
Service Area	Roadways & Transportation
Item No.	OCS21-10

RECOMMENDATION

The Operations and Community Services Committee recommends that City Council:

1. Remove item MN19-9 from the List of Outstanding Items for the Public Works and Infrastructure Committee.
2. Remove item MN20-13 from the List of Outstanding Items for City Council.
3. Receive and file this report at its meeting on March 31, 2021.

ISSUE

This report responds to the Motion *MN19-9*, whereas report *PWI19-18* was considered at the December 12, 2019 meeting of the Public Works and Infrastructure Committee requesting information about how Administration is managing sidewalk safety and improving walkability and accessibility of sidewalks for pedestrians, including:

- Sidewalk condition and classification
- Sidewalk maintenance prioritization and types of maintenance repairs
- New initiatives for temporary sidewalk repair methods

A referral motion was adopted that Administration return with a report including an update on a sidewalk priority system and recommendations for improving sidewalk accessibility for consideration during a future budget process.

In addition, at the August 26, 2020 City Council meeting, *MN20-13* requested that Administration report back on options that will outline the resources necessary to shorten or

eliminate the wait list for remediating sidewalk deficiencies along with MN19-9.

IMPACTS

Accessibility Impact

Under the City of Regina's (City) Concrete Distress Program, sidewalk accessibility and safety are advanced by implementing pedestrian accessibility ramps where feasible and repairing sidewalk deficiencies that pose the greatest risk to the public.

This is consistent with the *Official Community Plan (OCP)*, specifically:

- *Section D5, Goal 1-Land Use and Built Environment, "Enable the development of complete neighbourhoods."*

Administration submitted Report ACC21-2 to the January 11, 2021 meeting of Accessibility Advisory Committee to have an open dialogue for the following:

1. Prioritization of sidewalks and deficiency repairs throughout the city
2. Temporary maintenance initiatives for sidewalks during the winter season
3. Repair timelines for deficiency repairs

Feedback received from The Accessibility Advisory Committee can be found in Appendix A.

Policy/Strategic Impacts

The strategy for providing safe sidewalks and addressing concrete deficiencies, as outlined in this report, is consistent with the *Design Regina: The Official Community Plan (OCP)*, specifically:

- *Section D3, Goal 1 - Sustainable Transportation Choices "5.1 Establish all-season design and maintenance priorities for roads, sidewalks and pathways to ensure the transportation network provides safe travel, access and mobility."*
- *Section D3, Goal 5 - Active Transportation "5.27 Develop a citywide pedestrian strategy to provide a continuous high-quality, connected, safe, and universally accessible walking experience."*
- *Section D4, Goal 1 - Safe and Efficient Infrastructure "6.1 Design, construct and operate infrastructure to comply with relevant legislative and regulatory requirements."*
- *Section D5, Goal 1 – Complete Neighbourhoods, "7.1.7 Streets, pedestrian paths and bike paths that contribute to a network of fully connected, safe and accessible routes to all destinations"*
- *Section D5, Goal 2 - City Centre, "7.7.1 Investing in an attractive, safe public realm, including pedestrian-friendly and lively streets, and inviting, versatile multi-season public spaces."*

The strategy outlined in this report, is also consistent with the *Transportation Master Plan (TMP)* specifically:

- *Goal 18: Streets throughout the city will be accessible and walkable.*

Administration's requirements regarding the repair and maintenance of sidewalks and other concrete assets specified in *Section 306(1) of The Cities Act* where these assets must be

kept in a “*reasonable state of repair*”. This requirement, as defined in *Section 306(1.1)*, is met if “*those who use the street, road or other public place can, exercising ordinary care, do so with safety*”.

The *Concrete Inspection and Maintenance Policy* was developed in 2004 to provide the framework under which sidewalks would be monitored and deficiencies addressed in order to fulfill the requirements of *The Cities Act*.

Environment Impacts

The City of Regina has a community goal of achieving net zero emissions and sourcing of net zero renewable energy by 2050. In support of this, City Council has asked Administration to provide energy and greenhouse gas implications of recommendations so that they can evaluate the climate impacts of their decisions. A broad range of initiatives are necessary to achieve our sustainability goals. Promoting and improving access to active transportation options helps encourage people to use ways of getting around other than a personal vehicle. It is difficult to quantify the reduction in energy consumption or greenhouse gas emissions related to this recommendation. However, improving active transportation options can draw down personal GHG emissions footprints by as much as 4 tonnes CO₂e per year if those options lead to individuals using active modes of transportation.

Other Impacts

There are financial impacts contained within this report to consider during the future budget deliberations. These impacts have not been analyzed fully as this is an informational report.

There are no other considerations under this report.

OTHER OPTIONS

As this is an informational report, there are no recommendations contained within this report.

Several options to enhance sidewalk safety and accessibility are provided within this report for information. Administration could be directed to review any of these options further as part of the 2022 budget deliberations. These include:

1. Improve the level of service provided to residents by the Concrete Distress Program. Two options are summarized in *Table 3: Options to Improve Level of Service for CDP with Additional Funding* in this report.
2. Use of cold-mix asphalt material for temporary repairs for cuts in the sidewalk during the winter until permanent repairs can be made when temperatures permit. Discussed in further detail in *Options for Sidewalk Repairs* section of this report.

COMMUNICATIONS

Information about the City's sidewalk and pedestrian ramp repair strategy is provided to residents through one-on-one communications when requested. Information related to sidewalk improvements that are part of large road renewal projects is available on the City's

website.

DISCUSSION

The City is responsible for monitoring and maintaining approximately 1,422 kilometres of sidewalks. The sidewalk network also contains 7,425 pedestrian ramps, based on the most recent pedestrian ramp survey data. The total replacement cost of the City’s sidewalk network is approximately \$296 million.

Administration completes annual inspections of the sidewalk network to determine the condition based on factors such as cracking, trip hazards, drainage conditions, etc. Table 1 below shows the overall sidewalk condition ratings based on the most recent condition survey.

Table 1: Overall Sidewalk Condition Summary

Condition	Per cent	Length (kilometres)
Excellent (A)	15	215
Good (B)	33	464
Fair (C)	36	507
Poor (D)	16	222

The concrete sidewalk network health is managed through roadway improvement projects and through the *Concrete Inspection Policy (2004)* and the *Concrete Maintenance Policy (2004)* (Policies). The Policies provide guidelines for how sidewalk deficiencies are identified, rated during the inspection, and prioritized for maintenance repairs. Administration is planning to review and update the Policies for Council’s approval in 2022.

Sidewalk Classification and Prioritization

Under the Policies, sidewalks in the city are classified as either Group A or Group B. This classification is based on a sidewalk’s vicinity to commercial or high-density residential areas and several other factors that create more usage and helps to identify sidewalks that have, or have the potential for, higher usage. The criteria for this classification is discussed further in Appendix B. A map showing Group A sidewalks is shown in Appendix C.

The following table provides the length of Group A and Group B sidewalks as well as a brief description of the criteria used to determine under which group each sidewalk falls.

Table 2: Group A/B Sidewalks

Category	Length (Kilometres)	Prioritization Criteria
Group A	551	High user volume, zoning designation (high density residential, commercial, institutional), adjacent to schools, churches, hospitals, shopping centres, senior citizens complexes (with more than 20 unit)
Group B	871	Normal usage, all other sidewalks in the City not classified as Group A

Administration will review the criteria used in the classification of sidewalks and prioritization of repairs during the planned Policies update in 2022. Potential data sources will be examined to determine if additional criteria could be introduced to improve of the sidewalk classification including but not limited to:

- Proximity to transit stops, parks, community centres
- Traffic speeds and/or volumes
- Public concerns/requests
- Connections for primary pedestrian routes or to pathway systems
- Transit ridership data

Concrete Distress Program (CDP)

The Concrete Distress Program (CDP) was developed to satisfy the requirements of the *Concrete Inspection Policy* and the *Concrete Maintenance Policy* with the purpose of addressing the sidewalk deficiencies to improve safety as well as the overall sidewalk condition. Through the CDP, deficiencies are identified and prioritized for repair once identified.

1. Identification of Sidewalk Deficiencies

In addition to the annual sidewalk survey, sidewalk deficiencies are also reviewed and inspected as residents report them. Deficiencies reported by residents are inspected within two weeks from when they are reported between April 1 and September 30, as weather permits. Deficiencies reported outside of this window are slated for inspection at the start of the next inspection season. Locations that pose a large safety concern will be inspected outside of the regular inspection window and temporarily controlled with barricades or other devices until a more permanent fix can be implemented.

The information gathered during the inspection of a deficiency is used to determine the method of repair as well as the prioritization each repair within the database.

2. Sidewalk Maintenance Prioritization

The prioritization of sidewalk repairs considers the following:

a. Severity

Administration follows a "worst-first" prioritization strategy for repairing sidewalk deficiencies. The strategy recognizes that the more severe the rating a deficiency receives, the more risk it poses to the public. By addressing the most severe deficiencies first, the overall risk to the City and the public is decreased to a larger amount compared to addressing the less severe deficiencies first. Deficiencies are assigned severity ratings are from 1 to 10, where 1 is the worst.

b. Sidewalk Usage

The prioritization also considers the Group A/B classification discussed previously to identify sidewalks that have, or have the potential for, higher user volumes. The risk of injury is greater on a Group A sidewalk due to the higher usage.

To balance the requirement to address the worst deficiencies first while ensuring the repair crews are functioning efficiently, maintenance crews systematically move through the community addressing deficiencies on Group A sidewalks rated 1 through 4 and Group B sidewalks rated 1 or 2 (critical deficiency locations). These deficiencies are the primary focus for the maintenance repairs to improve sidewalk safety and walkability to the greatest extent.

Administration has committed to painting deficiencies that meet a minimum criteria in 2021. This will help minimize the chance of injury to pedestrians at these locations by drawing user's attention to these marked areas. The minimum criteria is still being finalized in preparation for the 2021 inspection season but is anticipated that it will align closely with the criteria for identifying critical deficiency locations.

3. Current Status of CDP

The CDP receives approximately \$3.7 million annually for the repair of concrete deficiencies. Under this program, there are 1,458 concrete distresses currently recorded in the deficiency database, of which, 632 are critical deficiency locations. Many of those identified as critical deficiency locations are not being repaired within the inspection season that they are identified with the currently allotted \$3.7 million for deficiency repairs, due to the backlog of deficiencies that exists.

4. Options to Improve Level of Service for CDP

Due to adverse weather and existing backlog of unrepaired number of deficiency sidewalks to be reinstated is still at a higher than acceptable level. Repair of sidewalk cuts created during the repair of underground infrastructure by the Concrete Cuts Program is coordinated extensively with the CDP. This is due to the significant overlap in the type of work completed under both programs to improve the sidewalk Levels of Service. Administration has enhanced service levels under Group A sidewalks area within existing budgets in the following ways, including:

- Restructure and coordination of internal repair crews to shorten the repair timelines following excavation from 18 days 6 days since 2018
- Coordinating utility cut reinstatement and concrete distress repairs on Group A sidewalks rated either 1 or 2 by the end of June each year, with the remainder of the planned repairs being completed by season's end
- Procuring additional contracted support to assist in eliminating the backlog
- Same day sidewalk and road repair coordination with internal underground utility groups on arterial and collector roads

To eliminate the backlog of critical deficiencies and improve the level of service of the CDP, two options were analyzed. The following table provides proposed two options with the associated one-time increase of funding for improving the condition of the sidewalk network. With both options, only critical repairs requiring more extensive rehabilitation under one of the infrastructure renewal programs would remain in the backlog.

Table 3: Options to Improve Level of Service for CDP with Additional Funding

Option	Cost* (\$ million)	Description
1	2.3	Address the current backlog of concrete deficiencies that have received a rating of 1-4 for Group A sidewalks and 1-2 for Group B sidewalks.
2	5.1	Address the backlog of all deficiencies rated 1-4 regardless of the sidewalk classification (Group A and Group B).

*In additional to the currently allotted \$3.7 million for concrete deficiency repairs.

Options for Sidewalk Repairs

Administration has limited repair options available to address deficiencies in the winter/cold temperatures. Permanent repairs using concrete or hot-mix asphalt are impractical due to the increased cost and resources required to complete this work outside of the regular construction season. Therefore, temporary repairs are used in the winter to make these locations safe until more permanent repairs can be completed when temperature permits. The most used method in Regina for temporary repair in the winter is granular fill (gravel). This helps to reduce trip hazards resulting from removed sidewalk panels, but the finished surface is more irregular/uneven compared to concrete. Gravel can also be worn away with usage requiring additional maintenance and upkeep.

An option identified through the municipality survey was the use of cold-mix asphalt material placed on top of the gravel fill to enhance accessibility of temporary repairs of sidewalk cuts during the winter months. The costs associated with these products could range from an additional \$400,000 - \$530,000 to the water utility annually depending on the product as well as the number and size of the sidewalk cuts.

Sidewalk Improvements in Coordination with Other Programs

In addition to repairing prioritized deficiencies under the CDP on a localized basis, Administration also uses several existing operational and capital programs to address deficiencies and improve the condition of the sidewalks throughout the city.

When a road is selected for renewal under one of the road infrastructure renewal programs, deficiencies in the concrete assets are identified and the appropriate treatment is selected. Upgrades to sidewalks including the addition of pedestrian ramps at intersections are reviewed during the design phase for projects selected through the renewal programs. Sidewalk upgrades are also included in underground infrastructure improvement projects. Treatment may vary from localized repairs of sidewalks to full removal and replacement. Treatments for sidewalk deficiencies typically utilized within the road renewal programs are

discussed in Appendix D.

Road and concrete upgrades are completed in coordination with underground infrastructure repairs. These repairs often include exposing the existing infrastructure which may be below an existing sidewalk. Depending on the amount of concrete removed, it is often more efficient to completely remove and replace concrete which allows for all deficiencies and drainage issues to be addressed.

The following table shows the programs that contribute to sidewalk safety improvements throughout the city.

Table 4: City Programs Improving Sidewalk Safety and Walkability Annually

Program Name	Program Description	Year	Accomplishments
Residential Road Renewal Program	Prioritizes preventative maintenance, rehabilitation and reconstruction of residential roads and sidewalks.	2019	15.2 kilometres of sidewalks renewed/replaced.
		2020	13.2 kilometres of sidewalks renewed/replaced.
Street Infrastructure Renewal Program	Selects preventative maintenance and rehabilitation of the City's major road network and associated sidewalks.	2019	7.3 kilometres of sidewalks renewed/replaced.
		2020	5.4 kilometres of sidewalks renewed/replaced.
Concrete Cuts Program	Completes the repairs of sidewalks and other concrete assets that were cut and removed to complete repairs underneath those assets.	2019	40 contracted cuts, 740 internal repaired cuts
		2020	150 contracted cuts, 712 internal repaired cuts
Concrete Distress Program	Completes localized sidewalk deficiency repairs to improve safety as well as the overall sidewalk condition by addressing the most critical first	2019	496 maintenance repairs, 569 square meters of trip hazard shaving
		2020	286 maintenance repairs, 569 square metres of trip hazard shaving
Pedestrian Connectivity Program*	Provide sidewalks, multi-use pathways and pedestrian connections near transit stops, focusing on important points that connect the pedestrian network where they did not previously exist	2020	90 metres of new sidewalks

*Developed in 2020

Survey of Other Municipalities

Administration has completed a review of information provided online and through

conversation with staff from several municipalities in Canada regarding the prioritization and maintenance repairs of concrete distresses. The purpose of this survey was to review how they become aware of and prioritize concrete deficiencies, review their toolbox of maintenance treatments available for concrete deficiencies, and how sidewalk utility cuts are temporary repaired in the winter.

For more detailed information on this review, see Appendix E.

DECISION HISTORY

On June 24, 2019, City Council directed Administration to report to the Public Works and Infrastructure Committee in Q3 2019 with information related to costs of timely sidewalk replacement and short-term mitigation efforts for walkability after sidewalk demolition (*MN19-9*).

On December 12, 2019, the Public Works and Infrastructure Committee requested a further report in Q2 of 2020 that includes information on a sidewalk priority system and improvements to sidewalk accessibility for consideration during the 2021 budget process (*PW19-18*). The timelines were extended and deferred to Q2 2021 and a 2022 budget process due to strategic planning and priority discussions.

On August 26, 2020, City Council adopted *MN20-13* and requested options that will outline the resources necessary to shorten or eliminate the wait list for remediating sidewalk repairs, and that the information be included in the report prepared in response to item *MN19-9*.

On January 11, 2021, Administration brought report *ACC21-2* to the Accessibility Advisory Committee with the purpose of gathering feedback for this report regarding enhancements on the criteria in prioritization of sidewalks, sidewalk accessibility in the winter months regarding repairs and maintenance and the sidewalk repair timelines.

Respectfully Submitted,



Chris Warren, Director, Roadways & Transportation 2/28/2021

Respectfully Submitted,



Kim Onra, Executive Director, Citizen Services 3/11/2021

Prepared by: Nigora Yulyakshieva, Manager, Roadways Preservation
Jared Hagen, Senior Engineer, Roadways Preservation

ATTACHMENTS

Appendix A - Feedback from Accessibility Advisory Committee
Appendix B - Sidewalk Classification
Appendix C - Group A Sidewalk Classification Map
Appendix D - Treatments Available for Concrete Improvements
Appendix E - Jurisdictional Review for Sidewalk Maintenance