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## Sidewalk Condition and Plan

### Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016, be forwarded to City Council for information.

### Topic and Purpose

The purpose of this report is to provide information on the current condition of the City of Saskatoon's (City's) sidewalk network and describe the current treatment methods that are delivered by the preservation and maintenance programs.

### Report Highlights

1. Saskatoon has a sidewalk inventory of 1,524 km of sidewalk with an estimated replacement value of \$722M.
2. Saskatoon's sidewalks are generally in "Satisfactory" condition based on current inspection data and the calculated Sidewalk Condition Index.
3. The Sidewalk Preservation Program is implemented on the sidewalks adjacent to the Roadway Surfacing Program. An estimated \$4.9M per year is required to allow for an average sidewalk intervention treatment cycle of 20 years using the current treatment approach. This funding is available within the current funding plan, due largely to lower than anticipated roadway resurfacing contract costs.
4. The Sidewalk Maintenance Plan has a budget of \$1.03M and addresses safety and maintenance issues throughout the remainder of the city. The 2016 plan is to address sidewalks with the poorest condition and highest pedestrian potential.

### Strategic Goals

This report supports the Strategic Goals of Asset and Financial Sustainability and Moving Around. Actively preserving and maintaining the City's sidewalk network allows for mobility of all users, provides for a sustainable asset condition solution and supports pedestrians moving freely throughout the City.

### Background

In previous reports, the Administration had reported that funding Level B would require an annual funding amount of \$2.7 Million. Since that time, a comprehensive sidewalk condition evaluation has been completed, and extensive contract work has been completed on sidewalks adjacent to roadway resurfacing projects.

### Report

#### Inventory

The City's sidewalk network consists of a combination of combined curb and sidewalk, separate sidewalks and walkways. The network is separated into neighbourhood and primary categories consisting of the following equivalent lineal kilometers and valuation:

Walk Network		
Network	Eq. Lin. Km	Valuation (M)
Neighbourhood	1,012	\$502
Primary	512	\$220
Total	1,524	\$722

### Current Condition

In 2014, the Asset Preservation Group of the Major Projects division revised the method in which sidewalk condition data was collected in order to develop a system that would allow both the Sidewalk Preservation Program and the Sidewalk Maintenance Program to be planned with the same condition data. Approximately 74% of the network was inspected in 2014 and 2015. Areas that were not inspected included newer neighbourhoods where the infrastructure remains under warranty, and those areas which are still being addressed by the Developer Sidewalk Levy.

A Sidewalk Condition Index was developed with a potential index rating of 0-100. Each distinct defect on a sidewalk panel triggers a deduct value to that panel. Overall, the average Sidewalk Condition Index for the entire City sidewalk network is 84.1 out of 100, in which is classed as a “Satisfactory” condition state. On a segment level (typically one city block), approximately 3% of the entire sidewalk network is rated in a poor to failed condition. The City has over one million sidewalk panels (approximately 1.5 metre lengths) in its network. Of those, less than 10% of the individual panels are in poor to failed condition.

Sidewalk inspection data shows that sidewalks are generally in satisfactory condition and that failed locations tend to be localized, with individual sidewalk panels requiring treatment rather than longer sidewalk lengths. The maintenance and replacement associated with sidewalks currently in “Fair” to “Failed” condition states is estimated at \$80M. More detailed information on condition can be found in Attachment 1.

The City Sidewalk Preservation and Maintenance programs are planned and managed by the Transportation & Utilities Department. The Preservation Program is planned by the Major Projects division and construction is delivered by the Construction and Design division. The maintenance program is managed by the Public Works division. The two programs are integrated in a collaborative manner by utilizing the same condition data and through a high level of direct communication between all groups involved.

### Planned Preservation Practices and Prioritization

The Sidewalk Preservation Plan focuses on repairing sidewalks adjacent to roadways when they are resurfaced, which is the most cost-effective way to deliver this work. Therefore, the annually programmed work areas for the Sidewalk Preservation Program are aligned to the three-year road plan, which is published on the City’s website. Since the road program covers approximately 5% of the road network per year, equating to each road receiving preservation treatments once every 20 years, this allows the Sidewalk Preservation Program to have the same average cycle for return treatments.

Larger segments of severely deteriorated sidewalk that are in high pedestrian potential areas and outside of the roadway surface treatment program are also reviewed and collaborated between divisions to implement the best solution for repair or maintenance.

The planned 2016 preservation treatments performed adjacent to the roadway program consist of the following work:

- Sidewalk Replacement - sidewalk replacement is performed on panels that are severely deteriorated and meet replacement criteria. Estimated 2016 work is 10,500 metres of sidewalk replacement at an estimated cost of \$4.78M.
- Trip ledge cutting – trip ledge cutting is performed on sidewalks that don't meet the replacement criteria and have displacements between 10 millimetres and 40 millimetres in height. Estimated 2016 work is 4,785 metres of trip ledge cutting at an estimated cost of \$0.29M.
- Crack Filling – sidewalk crack filling is performed on sidewalk panels that don't meet the replacement criteria and have visible cracking between 5 millimetres and 30 millimetres in width. Crack filling is possible on panels with minimal deformation and panels with one or fewer cracks in each direction. Estimated 2016 work is 7,750 metres of crack filling at an estimated cost of \$0.24M.

A total of \$5.31M of preservation work is planned adjacent to the road program in 2016. Attachment 2, provides a description of the treatment selection criteria utilized by field staff to ensure consistent decisions are made during construction.

To achieve preservation treatment of the entire network an average of once every 20-years, a yearly budget of \$4.9M per year is required for the Sidewalk Preservation Program. This amount will be included in the Administration's proposed 2017 budget, which will be subject to review and approval during budget deliberations.

This funding level can be achieved with the final planned 2017 dedicated levy to the Roadway Reserve. Although this cost is higher than the original planned preservation investment for sidewalks, favourable roadway tender prices mean that for the same total annual investment, the City can achieve Level B funding for both sidewalks and roadways.

### Planned Maintenance Practices and Prioritization

Attachment 3, outlines the planned Sidewalk Maintenance Program.

Public Works will be addressing maintenance through the Identify, Plan, Schedule, Execute, and Follow-Up maintenance process. In order to optimize efficiency, maintenance activities on sidewalks are conducted before replacements. This strategy allows for sidewalk panels (or sections) for which their condition has changed since inspection to be added to the replacement list.

The Public Works Sidewalk Maintenance Program will start in late June and will continue until mid-August; at which time the crews switch from the maintenance

program to sidewalk replacements, which includes those sidewalks identified as being in the worst condition. This includes sidewalks that are required to be replaced due to underground utility work, and those that are identified as below acceptable condition by customers through the Customer Service Centre.

The 2016 Public Works plan includes maintenance of over 6,000 sidewalk panels with an assessment Sidewalk Condition Index lower than 10% and are in higher pedestrian potential locations. The total budget for this program is \$1.03M. Public Works will not address sidewalk panels that are on the three-year Road Preservation Program, except to address serious safety concerns.

In 2015, approximately 2.3 km of sidewalks were addressed by asphalt overlays for safety concerns at a total cost of \$54,000. Unless otherwise directed by City Council, the Administration will continue to use Asphalt Overlays to treat sidewalks that require treatment.

In summary, the planned maintenance program will allow Saskatoon's sidewalks to be prioritized and maintained for safety until such time as the preservation program can be implemented in all areas. The current planned preservation program will allow each road and sidewalk in the City to receive an intervention treatment on an average 20-year cycle. The Administration will continue to report on condition and progress towards program objectives on a yearly basis.

### **Options to the Recommendation**

The City could discontinue the use of asphalt overlays that are used each year as a safety measure on severely deteriorated sidewalks. In 2015, approximately 2.3 km of sidewalks were addressed for safety concerns at an estimated cost of \$54,000. In order to discontinue asphalt overlays, an additional \$1.1M of annual funding per year would be required.

### **Communication Plan**

Residents and businesses adjacent to a sidewalk being repaired or replaced receive construction notices.

The Sidewalks webpage (under "Moving Around") outlines the sidewalk preservation and replacement criteria, contact information for citizens to report hazards relating to sidewalks, answers to frequently asked questions, and an explanation of the difference between damaged sidewalks and utility cuts. The page also contains images depicting damage to a sidewalk that requires repair and damage to a sidewalk requiring replacement.

### **Financial Implications**

The report has no financial implication as the required funding has been allocated for the 2017 budget cycle through the remaining dedicated tax levy increment. Growth and inflation will be included on an annual basis.

### **Environmental Implications**

The activities associated with the sidewalk preservation and maintenance program require the use of energy, equipment and materials, and the resulting generation of GHG emissions. However, effective delivery of the program will maximize the functional lifespan and allow for a reasonable replacement plan for these assets. The overall impact on greenhouse gas emissions is not known at this time.

### **Other Considerations/Implications**

There are no options, public and/or stakeholder involvement, policy, privacy, or CPTED implications or considerations.

### **Due Date for Follow-up and/or Project Completion**

The Administration will report yearly on the sidewalk condition and plan, and will update the Standing Policy Committee on Transportation on the current state of funding as the plan progresses.

### **Public Notice**

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

### **Attachments**

1. 2015 State of Sidewalks – Surface Infrastructure Asset Management
2. 2016 Sidewalk Preservation Repair/Replacement Criteria
3. Sidewalk Maintenance Program

### **Report Approval**

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Department

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