
Roadway/Sidewalk Preservation Carry-over and Project Planning Improvements

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated March 16, 2018, be received as information.

Topic and Purpose

The purpose of this report is to provide information on roadway/sidewalk preservation project carry-over into future construction seasons, and to describe the project planning that has currently been implemented to minimize annual carry-over.

Report Highlights

1. The 2014 Building Better Roads (BBR) initiative was implemented to improve the condition of the roadway and sidewalk network over time.
2. BBR funding has resulted in approximately triple the roadway lane-kilometers being treated, and more than triple the contracts managed each year.
3. There are many variables that can contribute to project carry-over due to the size and scope of the preservation programs.
4. The Administration has currently implemented many strategies to mitigate preservation project carry-over.
5. On average, 89% of roadway and sidewalk preservation projects get completed each year.

Strategic Goal

This report supports the Strategic Goal of Moving Around by ensuring that roads are rehabilitated and continuously maintained in an acceptable condition state.

Background

In 2014, the BBR initiative was implemented. BBR was a result of a civic survey conducted in 2013, identifying roadway conditions in Saskatoon were a top priority for citizens. In order to improve the roadway condition, funding levels needed to be increased since the funding at the time resulted in continuously deteriorating roadways. City Council approved implementation of a roadway levy to increase the base funding over a four-year period. This strategy would provide funding to improve the network condition and reduce the back log slowly over time. The below table illustrates funding levels and planned roadway/sidewalk preservation work since 2011:

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Funding Year	2011	2012	2013	2014	2015	2016	2017
Funding Level	\$4.68M	\$7.30M	\$13.6M	\$24.8M	\$25.6M	31.0M	\$32.1M
Roadways (Ln-Km)	45	51	78	200	220	230	226
Sidewalks (km)	0.71	0.4	0.47	6.0	5.4	10.9	13.7
Number of Contracts	7	8	9	15	14	25	38

Report

Variables Resulting in Annual Carry-over

The increase in funding starting in 2014 created challenges to ensure projects were completed during the current construction season. The primary challenge was reacting to the funding increase with existing contractor capacity and internal project management capacity. However, there are many variables that typically cause project locations to be carried-over each season:

- Project complexity:
 - Multi-divisional projects can require complex design, coordination, and communication processes, requiring additional timeframes in both design and construction phases than typical single scope type projects.
- Project size:
 - Contracts may be tendered in a size that is not applicable to all bidding contractor's capacities.
- Contractor non-performance:
 - The contractor may successfully be awarded more work from more clients than they have capacity to complete.
- Project non-conformance:
 - Whether relating to not adhering to specifications, safety, and/or quality, these variables may result in re-work or labour capacity issues, causing a delay of the overall project.
- Weather conditions:
 - Rain delays and cold weather impacts can impose multi-day delays to projects.
- Unforeseen circumstances:
 - For example, soft spots or saturation to subgrade layers not foreseen due to water infiltration or during construction rain events.

Administration strives to continuously improve by strategizing effective means of tendering, contractor management, and project coordination while ensuring appropriate staffing levels to minimize carry-over. Funding for the carry-over locations remains in place from their original year funding source; therefore, project carry-over does not reduce the planned lane-kilometers for future years.

Mitigation Strategies Implemented

Administration utilizes a number of mitigation strategies to help improve efficiencies in planning and carrying out projects as shown in the following table:

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Mitigation Strategies	Comments
Road network condition assessment	<ul style="list-style-type: none"> • Provides Administration with data to forecast, prioritize, and strategize a treatment program. • Provides the ability to react quickly to changes for a coordinated effort that may cause delays for specific locations.
Sidewalk and curb network condition assessment	<ul style="list-style-type: none"> • Provides Administration with the data to forecast, prioritize, and strategize a treatment program alongside the roadway program, as well as outside the roadway program where there is high pedestrian potential.
Development of coordinated three-year preservation plan	<ul style="list-style-type: none"> • Currently includes roadways, sidewalks, and water and sewer preservation works. • Informs citizens and City Council where preservation work is planned. • Allows other divisions the ability to coordinate and plan their work in conjunction with or outside the planned preservation work timeframes.
Microsurfacing patching preparation	<ul style="list-style-type: none"> • Approximately 50% of the road program lane-kilometers are allocated to microsurfacing. • Administration addresses the patching preparation one year in advance of the microsurface treatments for smoother coordination of the microsurface program.
Tendering similar contracts together with a reasonable scope size	<ul style="list-style-type: none"> • Prevents companies from bidding on larger projects than they have capacity for. • Opens competition up to more contractors of varying capacities.
Utilizing site rental days or milestone allowances	<ul style="list-style-type: none"> • Some contracts can be treated as “filler work” by contractors. • These incentives entice the contractor to complete the contract in a timely manner or face penalties.
Requiring Contractors to submit additional capacity documentation prior to award	<ul style="list-style-type: none"> • Forces the contractor to demonstrate they have adequate capacity to take on additional work, while this strategy is not always successful it increases the probability of completion.
Increasing project staffing levels	<ul style="list-style-type: none"> • Allows project teams with the capacity to actively manage contractors who are struggling to meet the City of Saskatoon’s expectations.
Advancing microsurface sidewalk locations	<ul style="list-style-type: none"> • New for 2018 • Administration will be completing sidewalk preservation work one year in advance of adjacent microsurfacing locations. • Will have a one-year impact on roadway preservation lane-kilometers, however, will enhance coordination and quality of the microsurfacing going forward.

Results of Preservation/Carry-over since BBR Inception

The following table represents the planned and completed lane-kilometres of roadway work locations preserved, including sidewalks being addressed, and the percent carry-over of work from each season since inception of the BBR.

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Construction Year	Planned Ln-Km	Completed Ln-Km	% Carry-over
2014	200	183.5	8%
2015	220	211.9	4%
2016	230	202.6	12%
*2017	226	179.7	20%
Average:			11%

*2017 preservation carry-over was increased due to a microsurfacing contract carryover. Work was not completed during optimal temperature timeframes and was pushed forward to 2018. If the microsurfacing contract was completed, carry-over would have been 10%, showing similar percentages to previous years.

Since the BBR's inception, an average of 89% of the current year's preservation work gets completed each construction season. While the Administration's goal is to complete all locations, completion tracking has shown an average of 11% of projects are typically carried over. The carry-over projects are completed the following construction year. Administration continues to strive to mitigate the variables to reduce the potential for construction carry-over.

Financial Implications

There are no additional costs associated with contract carry-over work, the unit prices are set from the original contract. In the event that the City has delayed the contractor from completing their work, there may be additional costs as negotiated through the original contract.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

No follow-up is required.

Public Notice

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

Report Approval

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Reviewed by: Rob Frank, Acting Director of Asset Preservation
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Approved by: Angela Gardiner, Acting General Manager, Transportation & Utilities Department

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