

### Maintenance of Centre Medians

#### ISSUE

Median maintenance is important for the overall beauty and environmental health of the city. The purpose of this report is to provide an analysis of the issues and options available to improve median restoration and maintenance service levels, while delivering an improved process and the most efficient use of resources.

#### BACKGROUND

At the Regular Business Meeting of City Council on July 23, 2018, the following Notice of Motion put forward by Councillor C. Block was carried:

"That Administration report back on options to improve maintenance of centre medians."

#### Current Status

The current appearance of medians in the city varies by location. Appendix 1 provides the definition and a pictogram of medians and boulevards, shows examples of deterioration of medians, and outlines current expectations around front boulevard maintenance.

Median deterioration is due in part to the severity of exposure to difficult environmental conditions and impacts of construction and utility work repairs. Rainfall is a significant factor in the appearance of medians, as the vast majority of medians are not irrigated. Some of the common conditions found within median areas include:

- Uneven median surface;
- Patches of dirt where no grass is established/growing;
- Damaged vegetation; and/or
- Increased amounts of weeds.

In addition, some medians in new neighbourhoods can be difficult to maintain once maintenance responsibility is transferred to the City, due to their unique attributes and features.

#### City of Saskatoon's Current Approach

Various divisions within the City of Saskatoon (City) play a role in the care of medians. Current median inventory includes:

- 18.3 acres (7.4 hectares) of medians with grass only;
- 40.0 acres (16.2 hectares) of medians with grass and trees;
- 13.8 acres (5.6 hectares) of medians with trees only; and
- 38.8 acres (15.7 hectares) of medians that are concrete only.

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Medians are identified as informal spaces in the Green Infrastructure Strategy Green Network (see graph in Appendix 2). Current level of maintenance service completed on medians includes:

- Mowing of medians 4-5 times per season and shrub maintenance 4 times per season, as per the approved Parks' Service Levels. These service levels are currently being met and are occasionally exceeded.
- It is important to note that front boulevards are not mowed or maintained by Parks Division; and while it is not defined or mandated by City bylaw or policy, it has been an accepted expectation that property owners maintain the boulevards adjacent to their property.
- Sweeping of medians is conducted annually at an approximate cost of \$620,000; with approximately half of this cost for grassed medians and half for hard surfaced medians.
- Roadways, Fleet and Support Division does not perform median restoration and repairs; however, the medians are swept, debris is removed, and ruts are filled each spring.
- Median restoration following utility repairs and construction projects, whereby all contractors and City crews are required to restore the median area disrupted by the work, to the condition in which it was found prior to construction, utilizing the Parks Landscape Specifications.

There are several challenges involved with median maintenance, including:

- Medians are not irrigated, which has a significant impact on median appearance in drought conditions and is the main limiting factor in grass establishment.
- In order to establish grass growth and provide regular mowing maintenance, staff are required to access the medians. This is difficult for medians located on arterial roadways, which creates safety concerns for staff. As a result, in order to access these medians, additional resources are required. This may involve closing lanes of traffic to accommodate a safe work zone.
- Medians are used to store snow during the winter season, which contributes to their deterioration. The City continues to receive increased complaints regarding median and boulevard restoration in areas where frequent snow removal efforts occur. This is because of the harsh environment as well as snow clearing efforts (i.e. damage due to grader blades) that can damage the medians.
- The expanded use of magnesium chloride as a winter snow and ice melt for roads has an adverse impact on vegetation. Parks Division has noticed increased grass mortality and weed encroachment on the edges of the median over the last 3-4 years; likely due to the increased use of magnesium chloride. The use of magnesium chloride is considered a best practice across North America; other alternatives are not effective in our climate. Reducing or eliminating magnesium chloride will erode public safety and result in an increase in the application of salt, which will also cause damage to the medians.

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- Median repair and restoration efforts completed following construction and utility work can require crews to return to the same location two to three times. There are several reasons why grass may not establish, some of which include:
  - Grass did not establish following the placement of seed due to poor weather conditions/no irrigation, contractor/city crew inexperience, and/or heavy shade;
  - Grass was disturbed/damaged by snow removal efforts; or
  - Grass was damaged as a result of increased traffic (whether by vehicle or by people walking).
- There is currently no effective strategy to complete median maintenance and restoration to a defined and consistent level of service. Only those medians disturbed by construction receive median restoration work. Other medians do not receive additional maintenance and restoration beyond the yearly mowing completed.

To help address some of the challenges with median maintenance and appearance, over the past year, the Administration has:

- Increased collaboration and communication between groups involved in median maintenance;
- Began a review and analysis of current landscaping costs for construction projects;
- Began a review and analysis of construction and parks specifications for median restoration; and
- Parks and Construction & Design Divisions jointly funded one position to assist with landscaping items during construction.

### **OPTIONS**

This section outlines options for improving median maintenance. All options include a recommendation that improved standards and grass establishment requirements for contractors and City crews, as outlined in Appendix 3, be implemented.

Capital funding for all options is proposed to be allocated from existing Capital Project 0832 – Center Median Rehabilitation; approximately \$193,000 available.

This project was originally intended to fund redevelopment of centre medians along major arterial streets; however, this was put on hold due to Bus Rapid Transit planning and uncertainty regarding the effectiveness of investing in arterial medians. In light of recent questions, inquiries and concerns about median conditions and the use of magnesium chloride, there is a need to allocate these dollars to develop a strategy for overall improved outcomes.

It is important to note that all of the options propose to utilize the available capital funding; however, longer-term funding for median and/or boulevard improvements may be required, depending on the option selected.

**Option 1 – Status Quo with Improved Standards and Streamlined Operations**

**Resourcing:** Existing Capital Project 0832

**Estimated Cost:** \$25,000 per year

This option maintains current service levels for median maintenance and continues to implement additional improvement initiatives as discussed above, with the objective of improving median maintenance through improved and clarified standards as outlined in Appendix 3. The estimated cost is for additional inspections by Parks and Construction & Design staff, which will be charged to the capital project outlined above.

**Advantages:**

- Provides short-term impact and ease of implementation;
- Strengthens communications and expectations for those working on medians and inspections; and
- Leaves funding in Capital Project 0832 (to a maximum of 8 years before the capital funding is depleted).

**Disadvantages**

- Does not establish a long-term strategy for managing median and boulevard assets;
- This option does not guarantee that a significant improvement will be noted in the state of median conditions; and
- Over the long-term, this option does not address the root issue of non-irrigated medians in drought years, especially if the climate will increase in variability with extreme wet and dry conditions.

**Option 2 – Improved State – Improved Standards, Streamlined Operations, and Two-Year Median Maintenance and Watering Pilot Program**

**Resourcing:** Existing Capital Project 0832

**Estimated Cost:** \$180,000 over two years

This option increases direct maintenance activities and watering for deteriorated medians, with the overarching objective of improving the state of selected grassed medians for a two-year period. Following the pilot, an assessment of the overall success will be completed; if the enhanced service level is continued, additional funding will be required. Specifically, this option proposes the following components:

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<b>Option 2 Details</b>	
<b>Proposed Component</b>	<b>Description</b>
Improved Standards and Strengthened Inspections	As outlined in Appendix 3. Cost is for additional inspections and remediation by Parks and Construction & Design staff.  Estimated total cost for two seasons: \$50,000
Expanded Crew for Median Maintenance	Additional temporary staff dedicated to median maintenance work, to allow additional fine landscaping, seeding, sodding, and hydromulching, for the 2020 and 2021 seasons. Estimated cost: \$25,000 for four additional staff per season; \$25,000 for seeding, sodding, and/or hydromulching per season. Costs are dependent on weather and level of median deterioration.  Estimated total cost for two seasons: \$100,000
Rehabilitation Watering	Roadways has the ability to provide an existing water truck outside of regular use during the summer seasons to provide additional watering for select medians that were recently rehabilitated and facing drought conditions.  Estimated total cost for ten water treatments over two seasons: \$30,000
Retain Moderate Level of Snow Cover on Medians	As a pilot for 2020 and 2021, that a moderate level of snow cover (approximately 1 foot) be retained on select roads with deteriorated medians, including Victoria Avenue, Main Street, 29 <sup>th</sup> Street, and Preston Avenue. The objective of this component is to prevent accidental median damage from snow removal and to dilute the amount of magnesium chloride that reaches the soil. This initiative would include an education campaign (PSAs, social media) to inform residents of why additional snow is being stored on medians.  Minimal additional cost.

**Advantages:**

- This option provides short-term improvements to the status quo;
- Results and performance will be measured through tracking and data collection, resulting in a direct correlation between spend and improvements in median maintenance; and
- This option makes use of existing resources and equipment where possible.

**Disadvantages:**

- Does not establish a long-term strategy for managing median and boulevard assets;

- Over the long-term, this option does not address the root issue of non-irrigated medians in drought years, especially if the climate will increase in variability with extreme wet and dry conditions;
- This option does not guarantee that a significant improvement will be noted in terms of the state of median conditions; and
- This option leads to an increase in the use of fossil fuels.

### **Option 3 – Improved Standards, Streamlined Operations, and Development of a Median and Boulevard Asset Management Strategy**

**Resourcing:** Existing Capital for Development; Additional Capital Funding would be required for Implementation

**Estimated Cost:** \$125,000; \$25,000 for strengthened inspections and \$100,000 for Strategy development

This option involves the creation of an asset management strategy to outline the long-term direction of medians/boulevards, and to develop a formal maintenance cycle. In addition, a strategy would identify what types of alternatives to grass would be acceptable, based on public engagement. For example, pollinator strips, white clover, naturalized grass, or river rock are potential alternatives (examples and estimated installation costs of other surface treatments are outlined in Appendix 4). Development of a strategy will also research best practices in other municipalities and utilize public and stakeholder input to answer questions such as:

- Should the City begin to move away from grassed medians, and why or why not? What type of naturalized medians are acceptable, if any?
- What is an appropriate service level for median rehabilitation?
- Should the City rehabilitate median curbing, topsoil, and grass over specific cycles, similar to the current 20-year rehabilitation cycle followed for roads and sidewalks?
- In the future, what type of surface treatment is preferred given the advantages and disadvantages of each?
- What level of resources should be spent on converting existing medians?
- Examine changing trends and resulting effects on maintenance of boulevards adjacent to private property, such as fewer households owning lawnmowers.

To maximize value for expenditure, it is proposed that this strategy is developed in-house with a dedicated temporary staff position (approximately one year). The strategy would be scheduled for completion in advance of the 2021 growing season. An example of a similar policy is from Melbourne, Australia (see Appendix 5). The Asset Management Strategy being proposed would include this type of policy, but also include costs and maintenance cycle based on the recommended direction.

### Advantages:

- This option incorporates public and stakeholder input into a long-term direction and vision for medians and boulevards;
- A potential transition away from grassed medians can result in reduced issues and maintenance expenditure over the long-term, depending on the surfacing option chosen;
- Some residents already question why a specified cycle is not followed for median maintenance and upgrades – this option would clarify overall direction and importance of this;
- The City's Triple Bottom Line Approach, Sustainability, Greenhouse Gas Emissions reductions, and Green Infrastructure Strategy objectives can be integrated into this option; and
- Overall understanding of service levels and satisfaction with the appearances of medians and boulevards should increase over time with development of a strategy.

### Disadvantages:

- During development of the strategy, there is no direct investment in additional median maintenance and watering;
- This option will require additional funding to implement. The magnitude of the additional funding will be dependent on the outcome of the strategy, which would be reported on at a future date;
- In the short-term, the overall state of median appearance may continue to be a concern; and
- Options 1 or 2 may provide the desired results for a lower cost and a reduced timeframe.

### **Option 4 – Improved Standards, involving Streamlined Operations, One-year Median Maintenance and Watering Pilot, and Development of a Median and Boulevard Asset Management Strategy**

**Resourcing:** Existing Capital for Development; Additional Capital Funding for Implementation

**Estimated Cost:** \$190,000: \$90,000 for one-year pilot and \$100,000 for Strategy development

This option is similar to Option 3, however also includes a modified, one-year maintenance and watering pilot project during the development of the Strategy.

### Advantages:

- Including a one-year pilot and improved standards during the development of a Strategy will allow for short-term improvements; and
- All advantages from Option 3.

**Disadvantages:**

- The \$90,000 for a one-year pilot may not align with the eventual recommendations and implementation items from a strategy; these funds would not be available for strategy implementation; and
- All disadvantages from Option 3.

**RECOMMENDATION**

That the Standing Policy Committee on Transportation recommend to City Council: That Option 3 – Improved Standards, Streamlined Operations, and Development of a Median and Boulevard Asset Management Strategy, be approved.

**RATIONALE**

Medians are very difficult areas to grow grass as they are not irrigated, are exposed to harsh environmental conditions and absorb significant amounts of magnesium chloride. Option 3 — Improved Standards, Streamlined Operations, and Development of a Median and Boulevard Asset Management Strategy is recommended because:

- This option considers the longer-term life cycle of the cost of grassed medians for informal green spaces. A strategy would determine if the City should begin the process of converting medians away from grassed surfaces, as well as, defining acceptable future standards for medians in new neighbourhoods;
- This option is most in line with sustainability goals and the Green Infrastructure Strategy;
- Public and stakeholder input is essential on the preferred surface treatment and service level for medians and boulevards; and
- This option will outline all of the advantages, benefits, and long-term maintenance costs of different surface treatment options.

**ADDITIONAL IMPLICATIONS/CONSIDERATIONS**

The recommended option will have implications on longer-term strategy for medians, and by extension, boulevards. Additional financial implications will also be discussed further in the final strategy report.

In addition, improvements to median maintenance process will result in reduced citizen complaints, saving time and cost for residents and the Administration.

If Capital Project 0832 is reallocated for the options outlined above, additional funds may be required for Center Median Rehabilitation in the future.

**COMMUNICATION ACTIVITIES**

Additional communication will be required depending on which option is chosen. Development of an Asset Management Strategy will involve extensive internal engagement. Development of a strategy that potentially includes a long-term transition away from grassed medians will involve various methods and opportunities for public

input and consultation with construction and utility industries, for which an engagement plan will be created.

### APPENDICES

1. Definitions and Current State of Medians and Boulevards within the City of Saskatoon
2. Current Median Inventory Map and Percentage of Green Space
3. Improved Median Standards and Restoration Requirements
4. Median Surfacing Options and Costs
5. Median/Landscape Boulevard Treatment Policy – Melbourne, Australia

#### Report Approval

Written by: Konrad Andre, Performance Improvement Coordinator, Parks  
Brittany Hadley, Customer Service Manager, Construction & Design

Reviewed by: Darren Crilly, Director of Parks  
Matt Jurkiewicz, Interim Director of Construction & Design  
Rob Frank, Interim Director of Major Projects & Asset Preservation  
Goran Saric, Director of Roadways  
Twyla Yobb, Environmental Protection Manager

Approved by: Lynne Lacroix, General Manager, Community Services  
Terry Schmidt, General Manager, Transportation & Construction