

Using New Technology for Urban Street Trees - Amendments to Tree Policy and Long Term Reinvestment Strategy

Recommendation:

1. That Administration provide a report by the Second Quarter of 2017 on proposed amendments to update the Corporate Tree Management Policy
2. That Administration provide a report by the Second Quarter of 2017 on a draft Reinvestment Strategy for urban street trees with regard to the use of new technologies to improve soil volumes and growing conditions, as outlined in the September 27, 2016, City Operations report CR_3884

Report Summary

This report outlines options for amendments to the Corporate Tree Management Policy currently being considered by Administration as well as the development of a Reinvestment Strategy to facilitate the use of new technologies for Urban Street Trees within the City of Edmonton.

Previous Council/Committee Action

At the September 19, 2016, Agenda Review Committee meeting, this report was rerouted to the September 28, 2016, Urban Planning Committee meeting.

At the July 6/7, 2016, Executive Committee meeting, the following motion was passed:

That Administration provide a report with the following:

1. Amendments to update Council's tree policy.
2. An examination of its long-term reinvestment strategy with regards to the use of new technologies to improve soil volumes and/or growing conditions for urban street trees.

Report

Background

Trees have long been a part of the Urban Streetscape in Edmonton. Changes in construction practices over the last half century have seen growing conditions for some decline of these trees. As roads were improved to accommodate the increased traffic of a growing city, the volumes of uncompacted soil available to the trees planted alongside these roads decreased. Improvements in road construction resulted in better built roads, but these conditions proved difficult for trees to root and thrive in the adjacent compacted boulevards. Costs resulting from these practices were borne by the City's

Forestry Operations Unit in the form of increased pruning, maintenance, and replacement post construction.

As trees are now being viewed as an integrated part of the roadway infrastructure as opposed to a secondary addition, the City has been keen to adopt soil improvement technologies to ensure sustainable healthy trees after construction. Due to the high cost of these technologies, establishing and/or retaining trees for a construction project must be budgeted for specifically.

The City's Corporate Tree Management Policy requires equitable compensation for City owned trees removed or damaged during construction. As these costs can be upwards of \$40,000 per tree, project teams are encouraged to retain trees wherever possible. Unfortunately, current tree protection guidelines and enforcement are not adequate in all situations and many retained trees eventually fail several years after construction due to stresses of reduced soil volume, or other construction related stresses not easily measurable at the time of project completion. Trees that have been retained under the Corporate Tree Management Policy, yet later fail, must be removed and replaced by the City's Forestry Operations.

With the Urban Forest being an important resource that provides direct and tangible environmental, ecological, economic and social benefits to Edmontonians, amendments to the Corporate Tree Management Policy and a reinvestment Strategy for Urban Street Trees is required to ensure the City meets its goals for sustainable and healthy urban forest. Administration has identified the opportunity to amend the Corporate Tree Management Policy and to develop an investment strategy (similar in approach to the Neighbourhood and Arterial renewal programs) to provide a sustainable approach to maintaining and increasing the City's Urban Tree Canopy.

Options

The following options are being considered:

1. Changes to Policy

Council's Corporate Tree Management Policy C456A was last amended on March 24, 2010. The following updates are being considered to bring the policy in line with changes in urban forest best management practices and associated new technologies.

- Amend the Corporate Tree Management Policy to reflect best management practices for retaining and replacing trees in hardscape environments with respect to minimum soil volume recommendations as indicated in the City's Design and Construction Standards, Volume 5.
- Amend the Corporate Tree Management Policy to recognize that each situation is unique and may call for actions to preserve or remove the tree depending on the circumstance.

- Amend the tree protection, preservation and replacement guidelines pursuant to the Corporate Tree Management Policy to reflect current best management practices, and properly cited in the Policy
- Update the Corporate Tree Management Policy to reflect the current organizational structure of the City, new titles of branches, departments, personnel, and programs.

The Corporate Tree Management Policy provides direction to Administration to collect compensation for damages to City owned trees. As the negative health impacts of inadequate tree protection, or intrusions into tree protection zones is often not evident or measurable at the time of construction, the current Corporate Tree Management Policy is not always an adequate tool for enforcing proper tree protection. A temporary construction use permit is being developed along with technical standards with the aim to prevent damage to City owned trees and to hold those accountable for any damages.

2. Development of a Reinvestment Strategy

Similar to the City's Neighbourhood and Arterial Renewal programs, Administration recognizes the need for a longer term reinvestment strategy for urban street trees to ensure the sustainability of the urban forest given the pressures of development and growth within the City. The following are steps that would be taken in pursuit of such a strategy:

- An asset review is recommended to determine the quantity of sites, number of trees in each site, as well as the current conditions of trees on these sites and environmental conditions. From this, parameters and targets could be set and used to develop a sustainable reinvestment strategy.
- This reinvestment strategy would focus on identifying sites where the greatest return on investment could be achieved based on the asset review.
- The focus of this strategy would include the downtown core, urban hardscape environments, such as the Business Revitalization Zones and major transportation corridors where road widening and narrow medians that separate service roads has resulted in insufficient volumes of uncompacted soils for trees to grow.
- Opportunities to align a tree reinvestment strategy with the existing neighbourhood renewal and/or arterial road investment strategies will be identified, along with alignment to the City of Edmonton, Design and Construction Standards Volume 5 requirements for minimal soil volumes. External expertise will be retained to conduct the asset review, analyses of existing resources and current investment models; conditions, life-cycle costing, and options for a reinvestment strategy.

In order to provide a sustained urban street tree reinvestment program, long term capital funding will be required. Funding will be required for both the development and implementation of the strategy. Funding models and mechanisms will be explored and

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options presented, including those similar to existing City reinvestment strategies such as the Arterial road and Neighbourhood Renewal.

Engagement

Any amendment to the Corporate Tree Management Policy will require review and consultation with our business partners in Integrated Infrastructure Services and Sustainable Development as well as external parties such as the Urban Development Institute for Alberta.

Conclusion

Administration is recommending an update to the Corporate Tree Management Policy and an asset review of trees within the urban hardscape environment. Both the Investment Strategy and Amendments to the Corporate Tree Management Policy will be delivered to Executive Committee by the end of Second Quarter, 2017.

Risk Assessment

| Risk Element | Risk Description | Likelihood | Impact | Risk Score | Current Mitigations | Potential Future Mitigations |
|--------------------------------------|--|------------|--------|------------|---|--|
| Financial | Unable to secure adequate funding for implementation of the strategy | 3 | 3 | 9 - medium | Several funding models will be investigated based on those in place for existing and successful investment strategies | Incorporate strategy into an existing infrastructure renewal strategy with an existing funding model |
| Project Management: scope and delays | Changes to the scope of the policy update or investment strategy could delay the delivery of finished product to Committee | 3 | 2 | 6 - low | The scope has been established in this report. Timelines have been established early. | Adjust time- lines to ensure policy updates and/or strategy is supported by rigorous analysis |
| Political | Changes to policy could have impacts on other Council supported programs (e.g. longer timelines, increase costs). | 3 | 1 | 3 - low | A thorough consultation with Business Partners to identify challenges, and address these during development of policy updates or strategy formation | Develop engagement and communication strategy to foster community support for policy changes |

Policy

City of Edmonton - Corporate Tree Management Policy C456A:

City of Edmonton - Urban Forest Management Plan

- Strategic Action 1.2: Institute best management practices for establishing trees and work to enhance design specifications and develop practices
- Strategic Action 2.6: Promote the long-term establishment and health of trees on local roadways, buffers, school ground and natural areas

The Way We Green, Edmonton's Environmental Master Plan:

- Strategic Action 3.1.3: Encourages renewal and densification of mature neighbourhoods by ensuring superior living experiences that include: beauty everywhere, high quality public spaces, natural spaces and biodiversity, design features that help mitigate climatic effects
- Objective 3.6: The City protects, preserves, and enhances its urban forests

The Way We Grow, Edmonton's Municipal Development Plan:

- Policy 7.4.1.3 Maintain a healthy urban forest by continuing to invest in and expand the City's tree inventory, and adopt a "no net loss" approach to the replacement of public trees.

Corporate Outcomes

This report contributes to the corporate outcomes "The City of Edmonton has sustainable and accessible infrastructure", "The City of Edmonton has a resilient financial position" and the "Edmonton is an environmentally sustainable and resilient city" by proposing changes to policy and the development of a urban street tree reinvestment strategy to facilitate the environmental and financial sustainability of the City's urban forest.

Public Consultation

In October of 2010, Banister Research & Consulting Inc. was contracted by the City of Edmonton to conduct three focus groups to discuss the importance of trees to Edmontonians, including the fiscal management of the urban forest. After being told that the cost per person of forest management was \$8.62, the vast majority of residents involved in these focus groups agreed they would be willing to pay more to improve the service they received.

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Budget/Financial Implications

Currently there are no direct financial implications. In the short term, should the development of reinvestment strategy be pursued, appropriate funding for a project manager and/or consultant would be required and funded from existing operating budget(s). If an urban street tree reinvestment program is established in the future, long term capital and operating funding would be required.

Metrics, Targets and Outcomes

| | |
|-----------------|---|
| Metrics | <ul style="list-style-type: none">• Number of tree replacements per year in hardscape environments = 200/year out of 2500 trees.• Number of trees in hardscape environments with improvement technologies vs. number of trees without = 925 vs 2727• Number of trees in hardscape environments with DBH in excess of 15 cm = 971• Total percent canopy cover within the downtown core = 5 % <p>Additional metrics will be considered as the Policy revisions are drafted and reinvestment strategy developed. More specifically, a variety of growth and health measurements as they relate to soil improvement technologies would be collected in order to create a baseline and verify performance of the project/program.</p> |
| Targets | <ul style="list-style-type: none">• Current Urban Forest Management Plan canopy cover target is 20% <p>Additional targets will be developed along with the revised Policy and Reinvestment Strategy.</p> |
| Outcomes | <p>The outcome of this policy revision and the development of a reinvestment strategy is to protect and finance healthy mature trees in urban hardscape environments. A graduated increase in the average life expectancy of trees in Urban Hardscapes is anticipated.</p> |

Justification of Recommendation

The Corporate Tree Management Policy C456A requires amendments to bring it in line with current best management practices for urban forestry, particularly in respect to soil improvement technologies which have become in use in the City since the Policy's last amendments.

A fully developed long term reinvestment strategy is needed to implement a prioritized and equitable program for the use of soil improvement technologies in the establishment and retention of urban street trees.

Others Reviewing this Report

- R. Smyth, Deputy City Manager, Citizen Services
- T. Burge, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services
- R. G. Klassen, Deputy City Manager, Sustainable Development
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services