



City of  
**Peterborough**

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**To:** **Members of the General Committee**

**From:** **Cynthia Fletcher,  
Commissioner of Infrastructure and Planning Services**

**Meeting Date:** **June 8, 2020**

**Subject:** **Report IPSIM20-004  
Urban Forest Canopy Conservation Update**

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## **Purpose**

A report to provide an interim update on the results of the urban forest canopy conservation public consultation and to outline next steps in developing a regulatory framework to protect and enhance the tree canopy of the City's urban forest.

## **Recommendations**

That Council approve the recommendations outlined in Report IPSIM20-004, dated June 8, 2020, of the Commissioner of Infrastructure and Planning Services, as follows:

- a) That Council endorse the following Guiding Principles for developing a regulatory framework to protect and enhance the tree canopy of the City's urban forest;
  - i) Pruning should not be part of a regulatory framework;
  - ii) Prequalification of tree care professionals is part of the regulatory framework;
  - iii) Permits are part of a regulatory framework;
  - iv) Incentives are part of a regulatory framework;
  - v) Penalties should be considered in developing the regulatory framework;
  - vi) A balanced approach to any requirement for replanting trees to replace removal of healthy trees should be considered in developing the regulatory framework;

- vii) Education is a key element of the regulatory framework; and
  - viii) Costs associated with administering and enforcing a Tree Conservation By-law should be covered by fees and tax supported programs.
- b) That the current Tree By-law 19-042 continue in place until the Fall of 2020 pending the results of studies scheduled for Spring/Summer 2020 to inform an updated regulatory framework

## Budget Implications

There are no budget or financial implications in the acceptance of this report.

## Background

### Municipal Responsibilities

Given the many benefits of having trees in an urban setting, there is a legislative requirement for the municipality to protect and enhance the tree canopy of the urban forest.

Subsection 270 (1) of the **Municipal Act, 2001** (Act) (clause 7) requires the municipality to adopt and maintain policies that outline “the manner in which the municipality will protect and enhance the tree canopy and natural vegetation in the municipality”.

As part of developing a framework to achieve this requirement, Council has considered the following previous reports:

- The Urban Forest Strategic Plan (UFSP) via Report USPW11-008 – Urban Forest Strategic Plan for the City of Peterborough, adopted in June 2011;
- The UFSP was updated in June of 2016 (Report USDIR16-007 – Urban Forest Strategic Plan Update). This plan identifies the need to preserve and protect the health of the urban forest and prevent unnecessary damage or removal as outlined in UFSP objectives 5.1, 7.2 and 7.3.; and
- Two by-laws – the Tree Conservation and Woodland Conservation By-laws – were adopted by Council in October of 2017 (Report USDIR17-008 – Introduction of a Tree By-law for the Conservation and Enhancement of the City’s Tree Canopy) as tools to meet the UFSP objectives.

In the report IPSIM19-007 – Revisions to Tree Conservation By-law 17-120 of March 4, 2019, staff proposed revisions to the then existing Tree Conservation By-law 17-120, intended to address concerns raised by the public and in consultation with tree care professionals over the course of 2018.

During the General Committee meeting of March 4, 2019, staff presented a proposed 2019 Tree Conservation By-Law via Report IPSIM19-007 – Revisions to Tree Conservation By-law 17-120. The proposed 2019 By-Law was intended to be less restrictive than the 2017 By-Law. However, Council expressed concerns with the proposed and the existing By-Laws, as being too restrictive and indicated the permitting process has been poorly received. Council members cited specific examples of concern expressed by property owners and the Arborist industry.

While subsection 270 (1) of the **Municipal Act, 2001** (Act) (clause 7) requires the City to adopt and maintain policies that outline “the manner in which the municipality will protect and enhance the tree canopy and natural vegetation in the municipality”, a balance needs to be struck between property owners’ rights and the legislative requirement for the City to protect and enhance the tree canopy.

Staff presented an amended report to Council IPSIM19-007B – Interim Strategy for the Tree Conservation By-law, proposing an interim by-law focused on allowing the City to collect the appropriate information related to the Urban Forest Canopy.

In considering the amended report IPSIM19-007B – Interim Strategy for the Tree Conservation By-law at its meeting of March 25, 2019, Council adopted the following motions:

- a) That the Tree Conservation By-law 17-120 be repealed;
- b) That the interim Tree Conservation By-Law 19-042 (Report IPSIM19-007B – Interim Strategy for the Tree Conservation By-law) be adopted; and
- c) That staff implement the proposed interim strategy as outlined in the new By-law, including community consultation and report back to Council in the fall of 2019.

### **Lessons Learned**

1. Engaging the community and arborists is key to a successful Urban Forest Canopy Management Program. Whether information gathering, determining removals and replanting, the community and arborists are key partners in the preservation of the urban canopy. The guiding principles 2, 6 and 7 are intended to capture the importance of the partnership and ensuring an understanding about the important contribution of trees in our community.
2. While the municipality has a responsibility to preserve and enhance the urban forest canopy, a reasonable and balanced approach is needed. Guiding principles 4, 5 and 6 are intended to address a balanced approach.
3. Clear parameters need to be in place and well communicated to help manage the preservation of the urban forest canopy. Guiding principles 3, 7 and 8 are intended to address this approach.

## **Approach**

A two-stage approach to developing a framework for Urban Canopy Conservation has been prepared

### 1) First stage:

This report is intended to provide Council with the information gathered through the public and stakeholder consultation process and current trends for the urban forest in Peterborough. The report also seeks Council's endorsement of the guiding principles herein that will inform the regulatory framework to protect and enhance the tree canopy of the City's urban forest.

### 2) Second stage:

The second stage will finalize a proposed regulatory framework for Council's consideration at a future meeting. The City has received fulsome feedback from the industry and citizens. While it has taken more time than initially anticipated to finalize a regulatory framework, it is important to invest the time in continuing consultation. A follow up report will be presented to Council outlining the proposed regulatory framework.

## **Other Related Council Reports**

In December 2016, Council adopted the Greater Peterborough Area Climate Change Action Plan (CCAP) (Report CSD16-031 – Adoption of the Climate Change GHG Reduction Targets and Action Plans). The CCAP identifies the need to protect and enhance natural assets (strategy L3). This strategy identifies supporting policies to place restrictions on cutting down trees and / or a tree replacement policy. Most recently, Council received IPSIM 20-003 Climate Change Initiatives Update. The report responds to the September 23, 2019, Council motion declaring a Climate Emergency. The Urban Forest Canopy is a key asset in support of the City's goals related to Climate Change.

## **Public and Stakeholder Consultation**

A stakeholder consultation process on the conservation of the urban forest canopy was carried out by external consultants during November and December of 2019. The consultation process used a multi-faceted engagement process and included:

- Five public meetings
- An online survey
- Stakeholder interviews (in-person or telephone)
- Tree Care Professionals interviews (in-person or telephone).

The stakeholder consultation report was not printed as an appendix to this report, as it is a more than 60 page document. A link to the full document is provided below.

<https://www.peterborough.ca/en/city-services/resources/Documents/Urban-Forestry/Peterborough-Tree-Bylaw---Consultation-Summary-Report.pdf>

The over-arching themes of the consultation process were:

- 1) Public perspectives regarding the value of trees; and
- 2) Approaches to conserve the urban forest canopy

### **Public Perspectives on trees**

The majority of participants indicated that trees are important and there is recognition they provide many benefits to the City including:

- natural beauty / aesthetics
- supporting wildlife
- improving air quality
- providing shade
- mitigating climate change

Trees should be recognized and managed as green infrastructure, as they provide community benefit and should be preserved.

### **Approaches to Conservation**

- A Tree Conservation By-law is a good way for the City to emphasize the importance of trees and their benefits to residents;
- A Tree Conservation By-law is a good method to preserve the City's tree canopy in the face of development pressure and natural stresses; and
- A large percentage of Peterborough's urban forest is located on private property. A Tree Conservation By-law is needed to ensure that the tree canopy located on privately owned land in the City can be tracked for information and conserved where possible.

### **Industry recognized Benefits of Trees in the Urban Forest**

The benefits of trees include carbon dioxide sequestration, shading and cooling, energy savings, control of stormwater runoff, air purification and beautification of many community areas.

The urban forest acts a fundamental means of mitigating climate change while delivering many other essential environmental, economic, health and social benefits.

### **Tree Canopy of the Urban Forest**

The tree canopy of the urban forest is used to measure the extent of the urban forest. It is defined as a two-dimensional component of the total land area, usually expressed as a percentage, and is a recognizable and measurable feature that can be monitored over time. The City visualizes, measures and tracks the tree canopy of the urban forest using “leaf-on” aerial photography.

### **Municipal Tree Canopy Comparisons**

The latest data collected in 2018 showed the tree canopy of the urban forest covered 27.9% of the city (approximately 17.4 square kilometers). Peterborough’s draft Official Plan has a target of 35% by 2041.

Tree canopy ranges from 15 – 30% in other municipalities across southern Ontario that have assessed the extent of their urban forests. The targets set by these municipalities range from 30 – 50% to be achieved between 2025 and 2050.

Each municipality is unique, and the **Municipal Act** is not prescriptive in “the manner in which the municipality will protect and enhance the tree canopy and natural vegetation in the municipality.” Municipalities employ a variety of approaches to achieve their targets that include a combination of urban forest benefits assessments, tree conservation by-laws, application/permit fees, penalties for non-compliance and requiring replacement tree planting for the removal of healthy trees.

### **Urban Forest Trends in Peterborough**

In addition to traditional methods of measuring the tree canopy using aerial photography, staff have supplemented this approach by leveraging newer technologies, such as LiDAR (light detection and ranging). This approach has the potential to calculate the volume of the canopy and is more representative of the extent and function of the forest. The City obtains LiDAR data every two to three years and is scheduled to collect this information this year.

In 2015, the tree canopy of the urban forest in Peterborough was 29.8%, representing approximately 18.6 square kilometers.

In 2018, the tree canopy of the urban forest in Peterborough was 27.9%, representing approximately 17.4 square kilometers. This represents a net loss of 1.9% canopy over the period, which equates to 1.26 square kilometers of trees.

Several factors are contributing to a reduced tree canopy of the urban forest across the City including;

- Emerald Ash Borer, with an estimated loss of approximately 10% of the urban forest tree canopy;
- Private tree removals: large-scale developments, small-scale developments and residential removals; and
- Urban tree mortality driven by factors such as climate extremes (storms, drought, etc.), intensification, tree age profile and declining growth conditions.

A simplified projection of these future trends is summarized in Appendix A.

To mitigate the loss of municipally owned trees caused by emerald ash borer and natural tree mortality the City planted 400 trees in 2019 and has doubled the planned planting for 2020. These plantings are in addition to private plantings and those required as part of new development.

Some of the losses are due to tree removals associated with ongoing development and have provisions for compensation in place through existing site plan approvals.

Further studies are needed to identify the specific nature, causes and location of the canopy losses to quantify the environmental and social impacts ways the trend can be reversed.

This spring/summer, the City will be completing a field survey using internationally accepted methodologies (i-Tree Eco) to quantify the composition, health and benefits of the urban forest. This work will help the City to better manage and develop policies and programs to protect and enhance the tree canopy of the urban forest. It will also allow us to forecast the return on investments in our urban forest.

### **Review of the Interim By-law 19-042**

Between March 26, 2019 and March 3, 2020, the number of notifications to remove trees received by staff under By-law 19-042 is 1,162.

During this period 2,563 trees were included for removal in these notifications, of which 1,695 were deemed healthy and in good condition. This equates to approximately 80,000 square metres of healthy tree canopy that has been removed.

The notification detail includes an indication from the applicant whether they intend to replant another tree. This information showed that slightly less than 13% of removals were intended to be replaced and that the replacement ratio is only indicated at 1:1 independent of tree size.

### **Guiding Principles for Regulatory Framework**

Considering the urban forest trends in Peterborough and the feedback from the public consultation some Guiding Principles emerged, which could influence a potential framework for a future regulation. Below are the key feedback themes:

1. Pruning should not be part of any regulatory process.
2. Prequalification of tree care professionals is part of the regulatory framework. There was recognition that tree care professionals are subject matter experts with respect to the care of trees, however a system of prequalifying this activity in the City has support. Some combination of International Society for Arboriculture (ISA) certification or appropriate education and experience should be considered to establish an accountability standard. Pre-qualified arborists will provide great assistance to the City related to data gathering/verification, education related to the importance of the urban forest canopy and proper tending of trees species.
3. Permits are part of a regulatory framework. There was majority support for permits as a mechanism of regulating the removal of trees from the urban forest. There were varying opinions expressed on such details as minimum sizes, species and tree health and safety that would trigger the requirement for a permit. These details will be refined as part of developing the regulatory framework. There was consensus among all groups that processing applications needs to be timely and efficient, achievable through approaches such as online applications, and contain improved detail in applications. Some type of expedited or self-permitting process should be considered for pre-qualified or licenced tree care professionals, who will assist the City in understanding broader trends of the urban forest canopy in Peterborough.
4. Incentives should be part of the regulatory framework. There was support that tree planting should be incentivized in some way. Incentive programs and sponsorship opportunities will be reviewed as part of developing the framework.
5. Penalties should be considered in developing the regulatory framework. There was support for penalties for the removal of healthy trees without a permit, but also, recognition that an appeals process should be available to resolve disputed decisions.
6. A balanced approach to any requirement for replanting trees to replace removed healthy trees should be considered in developing the regulatory framework. There was understanding of and support for the need for trees to be planted to replace the removed healthy trees. Many people felt the property (i.e., the tree) owner should hold some responsibility for replanting and the need for flexibility for location of replacement planting.
7. Education is a key element of the regulatory framework. Education emerged as a key theme throughout the consultation process as a fundamental tool to demonstrate the need for a tree conservation by-law, promote broad acceptance of a tree conservation by-law and promote the value of the urban forest to the community. Many homeowners appreciate the opportunity to discuss options for tending to the health of trees, proper pruning or removal methods and species selection.

8. Costs associated with administering and enforcing a tree conservation by-law should be covered by fees and tax supported programs. There was general agreement that costs associated with administering and enforcing a tree conservation by-law should be covered by fees and tax supported programs, as trees provide a community benefit beyond the private property where they are located.

The objective for urban forest canopy strategic planning is that there be no net loss of canopy (UFSP 2011, 7.2). Therefore, when a healthy tree is removed, replacement trees are needed to meet this objective. This could be achieved by requiring a replacement tree by the property owner and the City planting additional trees to ensure no net loss of canopy over an acceptable timeframe.

It is impractical and unreasonable to expect immediate canopy replacement via a high replanting ratio, particularly for a large mature tree. A generally accepted timeline for canopy replacement within the industry is 25 years. Replacement ratios are calculated to achieve an equivalent area of canopy for the removed tree, had it been allowed to remain another 25 years. The larger the healthy tree removal, the more replacements are needed to recover lost canopy within the 25-year time frame.

To achieve the City's climate mitigation objectives in addition to its canopy cover targets, a compensatory framework is needed to address the downward trend in canopy cover. Trees are a readily available, relatively inexpensive and effective means of mitigating climate change. However, there are concerns that a 25-year replacement model may be "too little too late" as an effective response to climate change.

### **Summer 2020 Studies**

The current Tree By-law 19-042 is in place until the Fall of 2020 pending the results of studies scheduled for Spring/Summer 2020 to inform an updated regulatory framework. This spring/summer, staff will complete a field survey to quantify the composition, health and benefits of the urban forest.

Other specific items will be more fully reviewed as part of developing an updated framework, such as:

- Size of trees covered by the by-law
- Permitting process and role of qualified tree care professionals
- Fully developing a balanced approach to any requirement for replanting
- Incentives programs
- Penalties
- Education and outreach programs to promote the benefits of the urban forest

- Funding

The proposed regulatory framework and findings from these additional activities will be presented to Council as part of the second stage report in Fall 2020.

## Summary

The consultation process confirms that the community recognizes the importance of trees, their contribution to our well-being and their role in mitigating climate change. Education about the value of trees, the ways they can be managed and what is lost when they are removed needs to be proactively promoted by the City.

The Municipality has a responsibility to protect and enhance the tree canopy of the urban forest and this report outlines the Guiding Principles for a regulatory framework to achieve this objective.

Submitted by,

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Attachments:  
Appendix A: Projection of Urban Forest Trends in Peterborough

Appendix A - Report IPSIM20-004

