

# Service Business Plan



**Service Name** Tree Management

**Service Lead Name** Steve Robinson

**Service Lead Title** Manager of Urban Forestry

## Service Description

A public service to provide maintenance of City-owned trees.

## Strategic Alignment with Vision to Focus Plan

Supporting sustainable infrastructure and a resilient environment

## Service Goals

To grow and maintain a resilient, productive urban forest City-wide that is accessible to the community as a whole.

Achieve excellence in urban forest management by adopting innovative, leading edge approaches.

Share our story with the general public through a comprehensive communication strategy.

## Current State

Customers & Their Expectations	<p>This service is delivered to:</p> <p>Burlington residents, to maximize the long term health and ecological and environmental benefits that trees provide.</p>
Existing Service Delivery	<p>Annual City-wide management of about 70,000 publicly owned trees near roadways and in manicured areas of parks, in line with Council-approved levels of service and good arboriculture practices.</p> <p>Activities include proactive maintenance via pruning, risk assessments and hazard removal, forest planning and health, invasive species / pest management, tree planting, pruning, and stumping.</p> <p>Maintenance of trees on regional roads in Burlington is also provided to Halton Region, in accordance with the Regional Maintenance Agreement, Contractor Maintenance Services.</p> <p>The tree management service is provided through a combination of in-house and managed contracted resources.</p>
Existing Customer Engagement Tools / Methods	<p>Customer engagement methods include website information, telephone, in person, email contact, and forestry booths at special events. Program-specific communications include social media, City website, and door hangers provided to property owners, where appropriate. Facilitating partnerships are important for progression to achieving long term canopy improvement goals.</p>

Is this Service Provincially Legislated?	No N/A
For this Service are there Approved Service Standards?	Yes Public Tree By-law, Pilot Private Tree By-law, and approved Levels of Service.

## Programs

Tree Maintenance	Includes activities such as routine grid and issue specific pruning, tree risk assessments, and removal of dead and dying trees located within the City's road allowance and in parks and wooded areas within target proximity. Storm response for several wind / snow & ice storms per year are typical. Also includes inspection & maintenance of trees in response to resident requests.
Tree Planting	Involves planting new and replacement trees within the City's road allowances and parks, including the removal of tree stumps in preparation for replacement planting. Replacement plantings for removals due to EAB as well as non-ash trees are included. Tree plantings also include partnerships and annual community tree planting events. Presently removal to replacement ratio is 1:1 (not within the same year).
Urban Forest Health and Pest Management	Focuses on assessing and appropriately managing pests, diseases and other issues that may negatively affect the health and sustainability of the City's urban forest using IPM principles. Includes Emerald Ash Borer, gypsy moth, cankerworm and other regional threats. Establishment of an integrated pest management plan with adequate resources is desirable for ongoing assessment of pests like Oak Wilt, Asian Long-horned Beetle, and Hemlock Woolly Adelgid.
Public Tree Bylaw Administration and Enforcement	Administration of the bylaw for all work around City-owned trees that ranges from driveway widening to linear infrastructure renewal projects. Fees are calculated for this work to compensate for tree loss in some scenarios. Orders to comply and Part 3 summons (Provincial Offences Act) are also administered through this program. Establishment of a forest protection branch within the section is required for improved administration of the bylaw.
Private Tree By-law Pilot	Pilot Private Tree By-law for Roseland area has been approved by Council; effective date March 1, 2019. The program is administered via online application forms for residents. Staff meet with applicants and review plans to determine the level of impact. Permit fees and compensation are calculated under this program. Evaluation of City-wide private tree bylaw.
Planting Guidelines	Developing tree planting guidelines that are integrated with other corporate plans such as the Downtown Streetscape Guidelines are underway.

## Recent Continuous Improvement Initiatives

In 2019:

- Successfully administered a Gypsy Moth control program with the application of BTK via helicopter on 100 Ha. Fall monitoring program to be completed.
- Removals of declining ash trees in 2019 of 2,238 street & park trees.
- Removal of high risk trees in the rural north and woodlands to be completed Q3/Q4.
- Increased number of trees planted to 2051, including increased funding for park tree planting.
- Pilot Private Tree By-law approved by Council - launched March 1, 2019
- Leveraged technology including Tree Plotter Work Order Management system to deliver efficiencies in customer service and due diligence records and provide mobile data management for Supervisors and Technicians.

## Environmental Considerations

Urban forests are shared community resources providing collective benefits. Research indicates that trees provide improved air quality; carbon uptake; cooling effect for urban heat islands; shade from UV rays; storm water uptake; wildlife habitat; and psychological well-being benefits for residents. Trees also play a critical role in local climate change adaptation and mitigation. It is critically important to maintain the infrastructure the City has as well as to encourage and increase tree planting City-wide.

## Emerging Opportunities and Anticipated Risks

<p>Emerging Opportunities</p>	<p>Secure additional funding to undertake an Urban Forest Management Strategy to provide data, recommendations, benchmarking, and associated costs guiding long-term management of the city's changing tree canopy, including setting achievable canopy cover targets. Secure funding to initiate a Woodland Management Strategy to provide framework for managing woodlands with action plans &amp; costs for key woodlands at risk, and promote long-term ecological health of natural areas.</p> <p>Re-evaluate the EAB strategy plan periodically including scope of work, action plan &amp; timelines, and budget impacts, to ensure alignment with most current treatments, current tree population health and best management practices.</p> <p>Development of a corporate wide soil volume policy for tree planting operations.</p> <p>Through the evaluation of the Pilot Private Tree Bylaw in Roseland, secure funding and resources to develop a forest protection branch to administer both the public and private tree bylaws City-wide.</p> <p>Review and update tree planting guidelines and tree preservation specifications through the development of a comprehensive Forestry Design Standards and Specifications document that can be applied to construction projects. This document is well-positioned to be integrated into the recently approved downtown streetscape guidelines.</p>
<p>Anticipated Risks</p>	<p>Introductions of invasive threats such as Emerald Ash Borer, Asian Longhorn Beetle, and Oak Wilt pose unpredictable and significant risks, including widespread potential tree losses, which will impact Burlington's urban tree canopy.</p> <p>Climate change is resulting in higher frequency of severe weather in southern Ontario, as has been experienced through the ice storm of December 2013, August 2014 flood, and 2016 drought. Severe windstorm events are increasing.</p> <p>Tree canopy loss will result in negative impacts including loss of shade (increased skin cancer risk); ecological and environmental benefits (stormwater management / carbon sequestration / air quality improvements / energy savings / aesthetic quality / etc). Urban heat island effects will continue to increase, and tree species adaptability is changing.</p>
<p>Enterprise Risk Considerations</p>	<p>Climate Change - Increasing number of severe weather events            Financial Sustainability - Sustainability, Budget, Limited Revenue Tools            Capacity &amp; Volume of Work: Projects, Process Changes, Technology Changes</p>

Service Initiatives	Target Completion
<p>Continue to monitor the Emerald Ash Borer infestation and industry best practices to manage the effects on the City's urban forest, including providing annual action plan reports to Committee each spring. Planned, systematic &amp; cost-effective EAB management program will continue through 2024 to mitigate risks to public and replace impacted trees over the long term to restore tree canopy. In 2019, there will continue to be an increase in the necessary removal and replacement of ash trees. Woodland ash tree decline will necessitate continued progression of removals.</p>	Dec 2024
<p>Continue to monitor annually for the presence of Gypsy Moth in Burlington. If necessary, an appropriate mitigation program will be implemented, which may include Regional partnerships.</p>	Dec 2018
<p>Continue to evaluate the Pilot Private Tree By-law for Roseland, facilitating public engagement and support, with goal to preserve and expand city tree canopy including private lands. Staff report RPF-15-19 to be tabled in Oct, with decision in Dec. 2019.</p>	Dec 2019
<p>Conduct a comprehensive review of policies, guidelines, and specifications as it relates to tree planting and tree preservation within the City.</p>	Oct 2020
<p>Complete an Urban Forest Management Plan and Woodlot Management plan over a 2 year period, including remote sensing for canopy coverage evaluation; i-tree Eco analysis; review of existing plans. The final plan will include a 1, 5, &amp; 20 year horizon with associated implementation recommendations and resource needs.</p>	Jan 2021

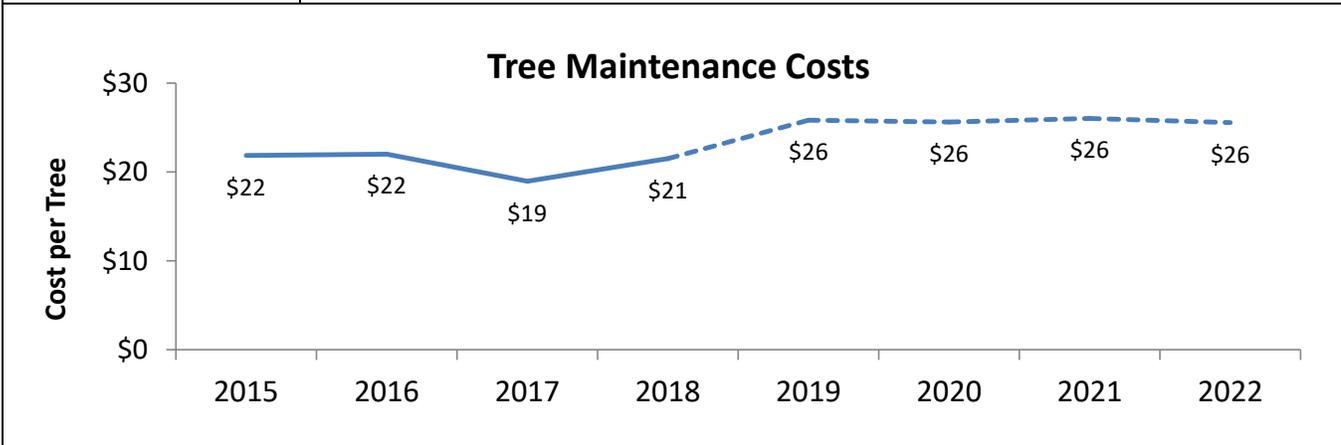
# MEASURING SUCCESS

## How much did we do?

Performance Measurement	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
Number of street & park trees maintained	58,677	55,713	74,454	71,627	70,403	70,684	70,967	72,267
Trees planted (new and replacement trees)	169	1,338	1,150	1,809	2,051	2,051	2,100	2,100

## How well did we do it?

Performance Measurement	Tree Maintenance Costs
Story behind the data	<p>In 2019, the total tree population will be the lowest forecasted over a 10-year period. This is due mainly to the continued removal of ash trees as part of the EAB Management Program coupled with the inability to maintain pace of replacements within an annual timeframe due to budgetary constraints. As early as 2020, replacement numbers will begin to outpace removals and steadily increase until to completion of the program by 2024. An additional 200 trees were able to be installed in 2019 due to an enhancement to the planting budget. Further, an additional 1,300 smaller container grown trees were planted in naturalized areas to help grow the urban canopy. Research indicates that an Urban Forest will incur an annual mortality of approximately 5% of the tree population. For Burlington, that would equate to approximately 3,520 municipal trees that require removal in a given year. In 2019, the City removed less than 2,000 trees inclusive of EAB removals, yielding approximately a 2.5 to 3% mortality. The reduced mortality within the City's urban forest is an indicator of successful proactive maintenance and risk management programs currently employed within the City.</p> <p>Natural Resource Canada indicates that "Tree mortality can emerge abruptly at a regional scale when climate conditions exceed species-specific physiological thresholds or if climate triggers associated outbreaks of insect pests in weakened forests."</p> <p>It is imperative that the Forestry section develop long term strategies to address climate change</p>



<b>Performance Measurement</b>	Progress of the Emerald Ash Borer Management Plan
Story behind the data	This progress plan shows inventoried street and park trees only. Woodland trees are not included in the EAB plan. 2018 Forecast includes updated inventory of area north of Dundas street, which added additional trees. 2017-2019 show peak removals due to ash mortality resulting from EAB. Replacement initiatives will begin to outpace EAB removals by 2020.

