

Discussion Paper: Burlington's Tree Canopy (J. Feilders October 2019)

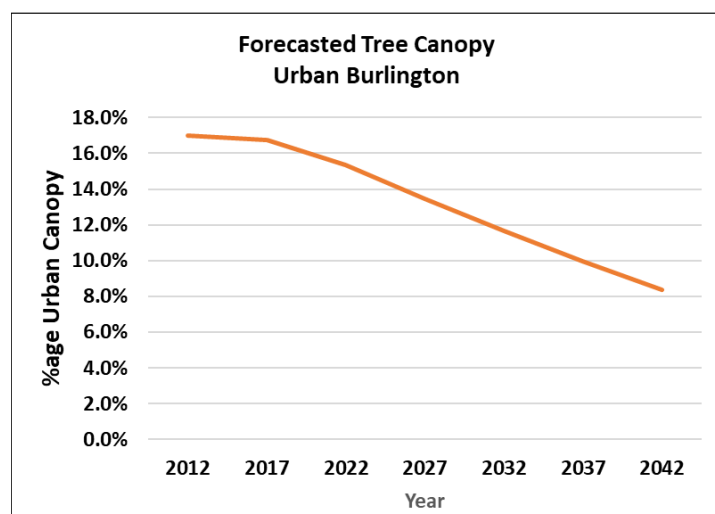
Statement of Problem:

Burlington's existing urban tree canopy is approximately 15%ⁱ, half the minimum 30% recommended by Environment Canada for a healthy environment. Without significant and strategic intervention, our city's canopy level will decline even further.

Tree Canopy Projections:

Despite the magnitude of the tree canopy problem, obtaining definitive data on tree removals, tree loss, replanting and general statistical information about the makeup of the tree canopy presents a further challenge to approaching this problem. The projections provided in this paper are the result of analysis and extrapolation of available information from a variety of sources and should be viewed as having a reasonable margin of error. That said, even making allowances for some degree of inaccuracy in the projections, the severity of the issue argues for the immediate development of a strategy to improve our tree canopy, which this paper will attempt to propose.

Figure 1: Projected Tree Canopy Decline in Burlington to 2042 based on current removal and planting practicesⁱⁱ



Situational Summary: October 2019

A number of citizens, citizen groups and local environmental not-for-profit organization BurlingtonGreen are advocating for a private property tree by-law for Burlington, along the lines of by-laws established by other Ontario municipalities. The objective would be to safeguard trees on property held privately, which represents the majority of Burlington's tree canopy, and thereby reduce tree canopy loss.

There is general agreement among the stakeholder groups – City Council, staff, and tree by-law advocates – that trees have value and provide a tangible return on investment both for property owners and the municipality. This view is supported by a 2014 report by TD Economics, [THE VALUE OF URBAN FORESTS IN CITIES ACROSS CANADA](#), which found that every dollar invested in trees by the major urban centres studied yielded from \$1.35-\$12.70 in benefits returned. Furthermore, the City of Burlington in its own Urban Forest Management Report of 2010 calculated that the value of Burlington's street trees

alone provided a net benefit of \$3.5M.ⁱⁱⁱ Among the benefits noted are trees' carbon sequestration and flood mitigation functions. In light of Burlington's having declared a climate emergency and having committed to developing a climate action plan for the City, these benefits represent a useful tool in the climate mitigation tool box. In addition to the health and aesthetic benefits of trees, their usefulness in combatting climate change means we cannot overlook the development of a tree canopy enhancement strategy as a priority for the City.

However, before drafting and implementing a private property tree by-law, this paper proposes that we take a step back to clarify the problem we are trying to solve and then put forward a comprehensive strategy that could include some form of by-law, but that provides a framework and roadmap for how Burlington can actually solve the real problem: its inadequate and threatened tree canopy. As a working title, I propose **Burlington's Tree Canopy Improvement Strategy**.

Vision:

Our starting point needs to be a vision of what we are trying to accomplish. Simply put, I propose that our working vision statement would be something like: **Burlington will achieve a minimum 30% tree canopy by 2040**. It has been argued by some (including City staff) that we should not set a canopy target until we have completed a tree inventory for Burlington. While I agree on the benefit of having an accurate inventory of our tree canopy, which could be used to better inform an overall urban forest management strategy, I again point to the urgency of the situation. We should set a reasonable canopy target in the short term, in order to kick start some remediation strategies until such time as an inventory can be completed. Then the target can be revisited and adjusted, if necessary, based on the new information.

Key Strategies for Achieving Vision:

This is actually quite simple: we need to do two things to accomplish a 30% canopy:

1. Minimize existing canopy loss
2. Plant more trees

Tree Canopy Loss: Causes

If we analyze the data, we can see that the main causes of historic and projected significant tree loss are not due to new buildings and renovations. Until 2027, due to the diseased Ash trees, the majority of loss will be from non-human causes. This can be expected to continue due to events such as ice storms, wind storms and floods.

The following pie charts provide a visual representation of tree loss causes, based on my analysis:

Figure 2: Projected Tree Losses, All Causes, 2018 to 2027^{iv}

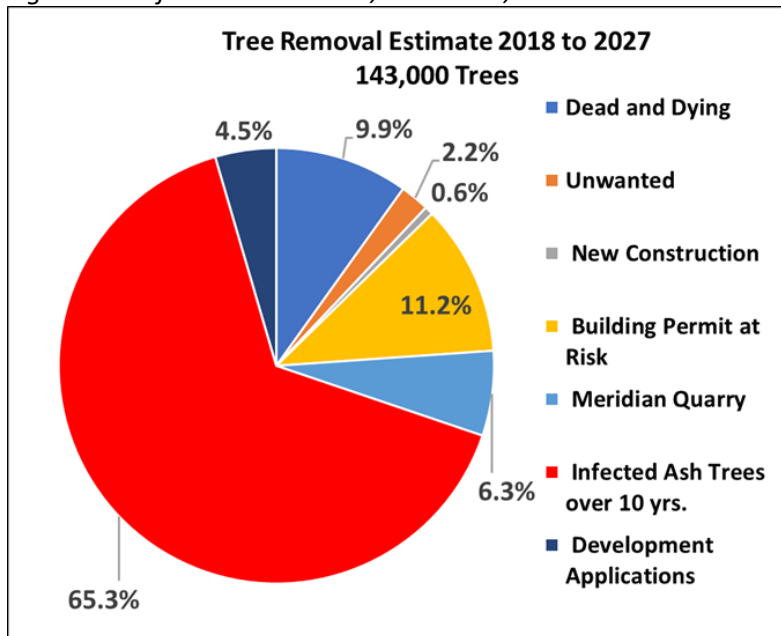
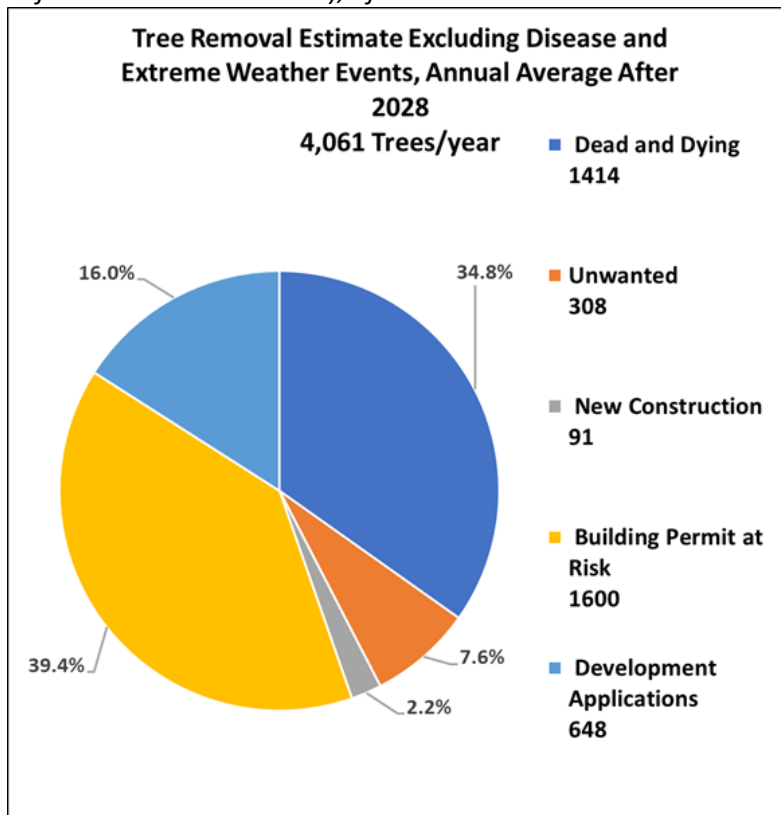


Figure 3: Projected Annual Tree Losses, Limited Causes (excluding unforeseen weather events), after 2028



It should be noted that I am using the City's terms for purposes of this chart. It would be helpful to have a clear definition for terms such as "New Construction"

Solutions:

Based on the above data, it seems clear that we need to identify solutions that:

- Provide a mechanism and funding for tree replacement for trees removed by private property owners in situations that don't fall under the site plan approval process (which provides clear guidelines for tree replacement);
- Provide programs and funding that support new tree plantings on a scale large enough to reach our visionary goal of 30% urban canopy by 2040.

The 80/20 rule tells us that too often we spend 80% of our resources solving 20% of our problems. Our proposal is to focus our resources on the 80% problems/challenges. I would like to see the City's resources allocated in ways that are most effective in increasing our tree canopy. The administration of a private property tree by-law will incur significant administrative costs that could perhaps be better spent on planting new trees. Having said that, I still believe that there may be an opportunity to use a by-law to shape householder attitudes and behaviours regarding tree removals on their own property. This could be achieved in much the way that other by-laws, such as the noise by-law and noxious weed by-law operate, by outlining parameters for citizen behaviour but perhaps requiring less administrative detail to enforce.

I therefore recommend that the following be considered:

1. Development of a tree by-law that protects trees from being destroyed **without replanting sufficient new ones**. The bylaw being proposed currently does not require replacement if cash in lieu is made. Furthermore, the replacement ratios of 1 to 2 and 1 to 3 are not sufficient to grow the canopy. The Site Plan Application Guidelines used for development applications do not accept cash in lieu and require an **equivalent caliper diameter replacement** for trees that are of a "deemed purpose". I therefore suggest amending the by-law to:
 - Make it consistent with Site Plan Application Guidelines as noted above
 - Exempt the following categories only:
 - a formula that allows a fixed number or a percentage of healthy trees for any cause in any 24 month period
 - any diseased/dying trees or those infringing on structures (to be substantiated by an arborist report), in addition to the above exemptions.
 - An honour system of reporting could be considered, by which the homeowner would submit a brief report on tree removals that are exempt from the by-law (this would be used for data collection purposes.) Only removals that are not exempt would require a formal application, fee payable and tree replacement. Since these situations are likely to represent a small number, staffing costs to administer the by-law could be considerably reduced. If tree replacement onsite is impractical, property owners would have the option of funding replacement trees off-site on City-owned property (e.g. parks).
2. Continuing the Site Plan process for developers noted above by denying cash in lieu at the OPA and ZBA stage.
3. Development of a new tree planting program with identified costs and commitment to budget resources to achieve annual planting goals towards the 2040 target. Other municipalities have such programs and have developed partnerships with other organizations to help fund them. The [City of Toronto's Tree Planting Strategy](#) offers several programs to support their goal of reaching a 40% canopy from the current 27%: a Community Planting and Stewardship Grant; a

Greening Partnership Grant; a Neighbourhood Tree Giveaway Program; and a Backyard Tree Planting Program in partnership with Local Enhancement & Appreciation of Forests (LEAF).

4. The formation of a small working group comprised of interested citizens, local environmental organizations, representation from the Sustainable Development Committee, City staff and a member or members of Council tasked with conducting an intensive review of available options for increasing Burlington's tree canopy, and making recommendations to Council within a short time period (e.g. six months). I recommend that Council endorse this group on the basis of clearly defined Terms of Reference, including tangible outcomes and aggressive time lines, so that Council can make any decisions that impact the budget planning process for the next fiscal year.

Conclusion:

I believe the City of Burlington needs to make a decision that tree canopy augmentation is important and requires annual budgetary investment. This means setting an annual tree planting target designed to achieve the goal of 30% canopy by 2040. While I recognize there are some challenges to identifying the number of trees needed in the absence of a current tree inventory, I believe that staff have enough information to make at least a feasible preliminary recommendation and identify associated costs. The Forestry budget should include funds for concurrent collection of data to complete the tree inventory and support for annual planting targets. These strategies, together with others identified by the Climate Action Plan, will help Burlington reach its goal of being a net zero emissions city while making our city a healthier and greener environment for its citizens.

ENDNOTES

ⁱ City of Burlington UFMP 2011 - 2030 (July 2010), Page 6 indicates an urban forest canopy of 17%. We have based our current approximation on this figure and on the assumption that despite city tree replanting to replace removed Emerald Ash Trees due to the Emerald Ash Borer, there continues to be a net loss of canopy due to 1:1 replacement of mature trees by saplings which will not attain equivalent canopy for up to 20 years.

ⁱⁱ The following sources were used to calculate potential future tree loss:

1. Report RPM-08-13: Private Tree Bylaw Feasibility Study: page 5

Local Arborists and Tree Care Company Survey

To gain a better understanding of the extent of tree cutting on private lands, commercial arborists performing tree work in Burlington were interviewed. Information was gathered with respect to the number of private trees removed and the reasons for the removals. A total of 21 tree care companies were contacted. The following are key findings of the survey:

- In 2012, approximately 1,813 trees were removed by all tree care companies combined.
- 78% of trees removed were dead, diseased or dying.
- 17% of trees were removed due to landscaping modifications, poor planting location or damage to property caused by the tree.
- 5% of removals were a result of home improvements (e.g. additions, decks, etc.).

It should be noted that arborists surveyed did not report on development applications or building permit applications>

2. A review of local development applications and site plans: these data sources provide some significant information on both historic and projected tree removals. Two that will have a significant impact are the Eagle Heights subdivision that could remove 40,000 trees and the Meridian Quarry expansion that could destroy another 9,000 trees.

ⁱⁱⁱ City of Burlington UFMP 2011 - 2030 (July 2010), Page 6

^{iv} For Figures 2 and 3, see Note ii, above.