



Staff Report to Council

Planning Department

FILE: 11-5280-01/24

REPORT DATE: February 20, 2024 **MEETING DATE:** February 27, 2024

TO: Mayor and Council

FROM: Michelle Baski, Project Manager – Agriculture and Environment

SUBJECT: Urban Forest Strategy Update

CHIEF ADMINISTRATIVE OFFICER REVIEW/APPROVAL:

RECOMMENDATION(S):

THAT Council:

- A. Receive for information the report titled “Urban Forest Strategy Update” as presented at the February 27, 2024 Council meeting; OR
- B. Other.

PURPOSE

To provide an update on the preparation of the Urban Forest Strategy, and to inform Council on what we have heard through public engagement to date.

- Information Report Decision Report Direction Report

DISCUSSION

Background:

The urban forest includes all trees within the City, both inside and outside of the urban containment boundary. Along with an overall increased resilience to climate change and their intrinsic value, there are numerous social, environmental, and economic benefits to trees that are important to preserve for future generations (see Figure 1).

Benefits of Urban Trees

Research has linked the presence of urban trees to...

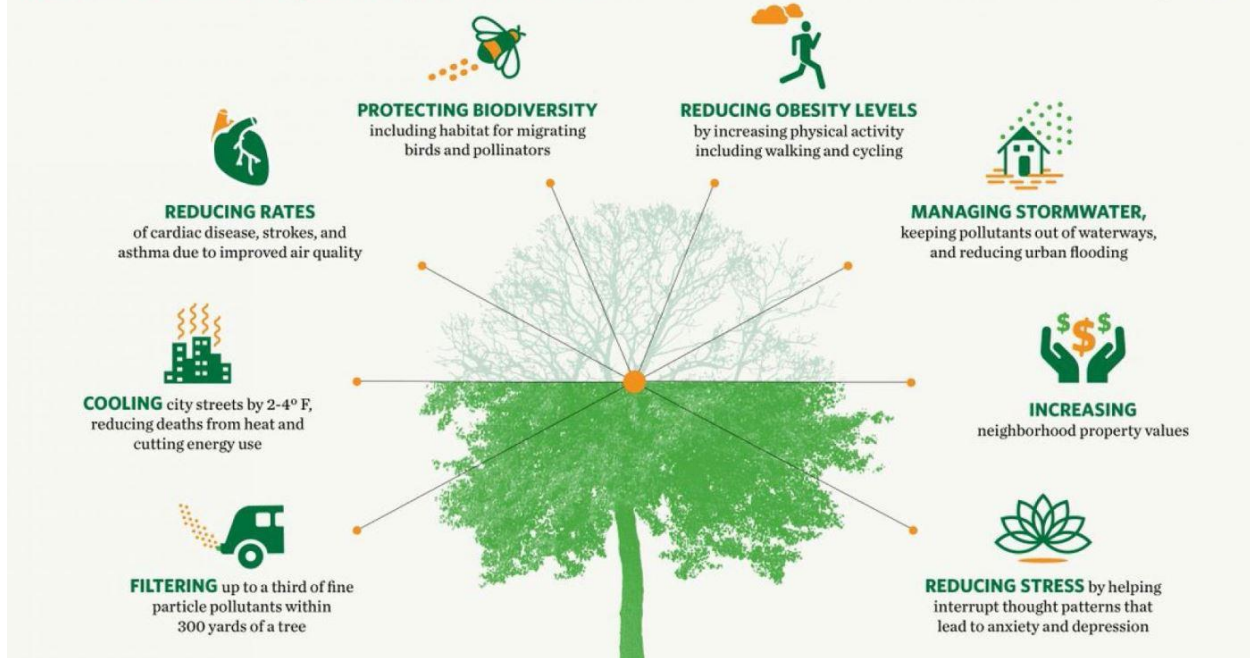


Figure 1: Benefits of Urban Trees

(source: Natural Resources Canada: *The State of Canada's Forests Annual Report 2019*)

A 2014 TD Economics Special Report indicated that for each dollar spent on forestry, Metro Vancouver residents receive at least \$4.59 in benefits each year, through services such as stormwater management, air quality improvement, energy savings, and carbon sequestration (see Attachment A).

The City has retained a consultant, McElhanney, to review the city's urban forest and support the development of an Urban Forest Strategy (UFS) for the long term management of its urban forest. A finding from the work to date is that the urban forest canopy is declining and what remains is challenged by: proximity to development and traffic; lack of space for roots; and increasing impacts from climate change, such as hotter summer temperatures, prolonged drought, and more intense storms. Based on a recent study by Metro Vancouver and preliminary investigation by McElhanney, the City's tree canopy cover within the Urban Containment Boundary (UCB) has decreased from approximately 20% in 2014 to 17% in 2020 (excluding agricultural land; or 15% including agricultural land within the UCB), which is considerably below regional averages (see Figure 2).

Member Jurisdiction	% Tree Canopy Cover	
	Within the member jurisdiction's boundary ¹⁴	Within the UCB
Bowen Island Municipality	94%	Not in UCB
City of Burnaby	34%	34%
City of Coquitlam	62%	40%
City of Delta	15%	20%
City of Langley	20%	20%
City of Maple Ridge	72%	46%
City of New Westminster	16%	15%
City of North Vancouver	25%	25%
City of Pitt Meadows	19%	15%
City of Port Coquitlam	26%	23%
City of Port Moody	67%	53%
City of Richmond	15%	11%
City of Surrey	28%	32%
City of Vancouver	23%	24%
City of White Rock	23%	23%
District of North Vancouver	81%	47%
District of West Vancouver	78%	64%
Electoral Area A	80%	68%
Township of Langley	35%	29%
Tsawwassen First Nation	7%	11%
Village of Anmore	87%	12%
Village of Belcarra	94%	Not in UCB
Village of Lions Bay	83%	82%

Figure 2: Percent Tree Canopy Cover for Metro Vancouver Member Jurisdictions (2014)

(source: Metro Vancouver *Regional Tree Canopy Cover and Impervious Surfaces Report*, 2019)

Currently, the City works with partner organizations to plant additional trees on public lands and has some guidelines in place to support tree protection and replacement through land development. At the same time, the City does not have bylaws in place to protect trees on private property and municipal trees, particularly those in boulevard areas, are generally managed on a case-by-case basis, without a comprehensive plan for the future.

The proposed UFS is intended to:

- Evaluate existing tree canopy cover and establish goals for future canopy coverage;
- Identify areas for potential expansion of tree canopy coverage through planting and redevelopment (e.g. on parks and/or on private property);
- Identify regulatory tools (bylaws, policies, etc.) to address and enhance the health, distribution and preservation of trees in the City; and
- Update and/or create boulevard and City tree policies to manage public trees on City-owned land.

Developing a UFS also aligns with goals contained in the City's Official Community Plan (OCP) for protection of the natural environment and climate change resilience and adaptation.

Relevant Policy, Bylaw or Legislation:

The UFS is strongly supported by the OCP to support initiatives to address air quality and to protect and enhance the urban forest, as illustrated by the following policies:

3.3.1: Initiate and support actions that improve air quality, such as encouraging low- and no-emission transportation options, increasing urban forest cover, and undertaking co-ordinated planning of land-use and public transportation.

3.9.1: Consider adopting an urban forestry strategy to protect, plant, and manage trees in Pitt Meadows to create a diverse, resilient, and beautiful urban forest on public and private lands.

3.9.2: Support the creation and implementation of a tree preservation bylaw.

3.9.3: Sustain and expand the urban forest through sound management strategies that enhance their potential as carbon sinks.

a. Retain and plant trees along boulevards and municipal properties, in parks and open spaces, to expand the urban forest and to help mitigate climate change.

Additional municipal bylaws and policies that can influence the urban forest include:

- Zoning Bylaw;
- Subdivision and Development Servicing Bylaw;
- Environmental Inventory and Management Strategy;
- Integrated Stormwater Management Plan;
- Parks Recreation and Culture Master Plan;
- Tree Preservation Policy on Municipally Owned Land;
- Parks Maintenance Policy; and
- Boulevard Maintenance Bylaw.

Analysis:

Regional Context

Metro Vancouver's *Metro 2050: Regional Growth Strategy*, which was accepted by the City in 2022, has set a goal of 40% tree canopy coverage within its urban containment boundaries by the year 2050. Metro Vancouver's [*Climate 2050 Nature and Ecosystems Roadmap*](#) states that "A canopy cover target of 40% is commonly adopted at the local level in cities around the world, and

this number represents both an aspirational and achievable goal for the Metro Vancouver region. Local variation in geography, environmental conditions and historical development patterns will need to be considered, given that a 40% target is a regional average that will not be feasible for every individual member jurisdiction to meet at the local level.”

Based on 2020 Land Cover Classification data for current tree canopy cover and potential planting areas, Metro Vancouver staff have analyzed potential tree canopy targets for the member jurisdiction’s portion of the UCB. For Pitt Meadows, a 30% tree canopy coverage was identified by the Metro Vancouver analysis as an ambitious target by 2050, although worthy of pursuit given the benefits of a larger tree canopy.

Municipal Context

Many factors influence tree canopy target-setting, including: climate and geography, the pre-development land cover (e.g. grassland vs forest), and constraints such as existing development densities and land use patterns. Targets should also consider future constraints to creating canopy such as anticipated development densities and land use patterns. It should be noted that the urban tree canopy percentage is just one of many criteria to consider; age and species diversity, condition of trees, and equitable distribution across neighbourhoods should also be considered.

McElhanney conducted a visual assessment of the trees within the UCB and found that the City’s urban forest is highly populated by young trees (see Figure 3).

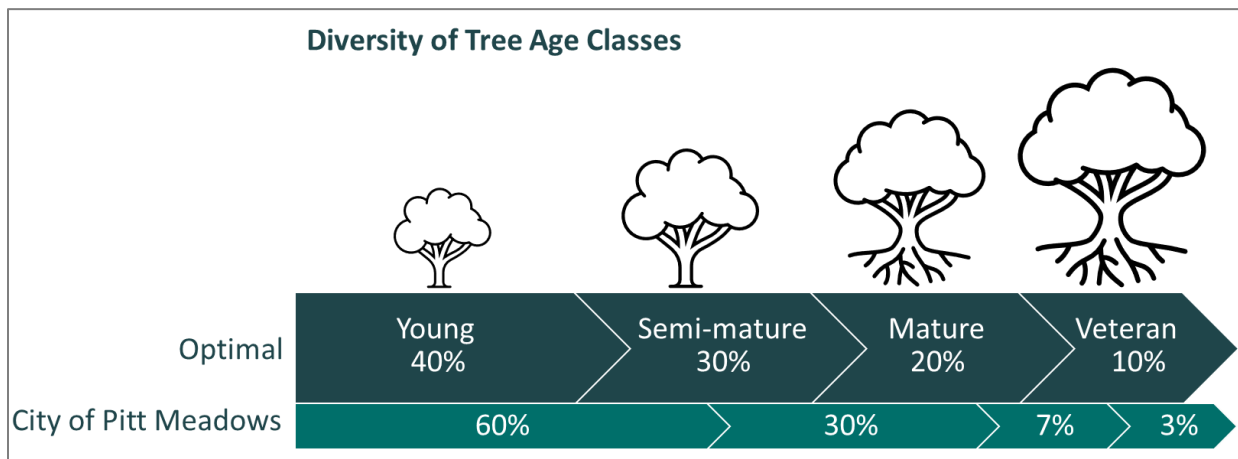


Figure 3: Diversity of Tree Age Classes vs. Optimal Distribution

This proportion of young trees could be attributed to the removal of more mature trees due to redevelopment or conflicts with infrastructure. While young trees have the most potential to provide services in the future as they mature, they provide the least immediate benefits. The City’s tree age distribution is currently skewed toward a young tree population, with its distribution of semi-mature trees at ideal levels. This means the City has a higher proportion of

young trees and not enough mature trees, which can be improved by focusing maintenance efforts on semi-mature trees that have the best chance of surviving into a mature age.

With regards to the distribution of the City’s existing tree canopy coverage (i.e., 17% within the UCB exclusive of ALR land), one third of the land base in the UCB consists of residential lots, with low density lots making up 75% of the residential component, and contributing 6% towards the 17% tree canopy coverage. Medium density residential lots contribute 5%, and high density residential lots contribute 2% of the tree canopy coverage within the UCB.

Potential planting areas were also evaluated through a high-level review of aerial imagery; through this initial assessment, 38% of the land within the UCB (excluding ALR land) has the potential for additional tree planting (see Figure 4). Potential impermeable planting areas would require removal of pavement or other existing built infrastructure.

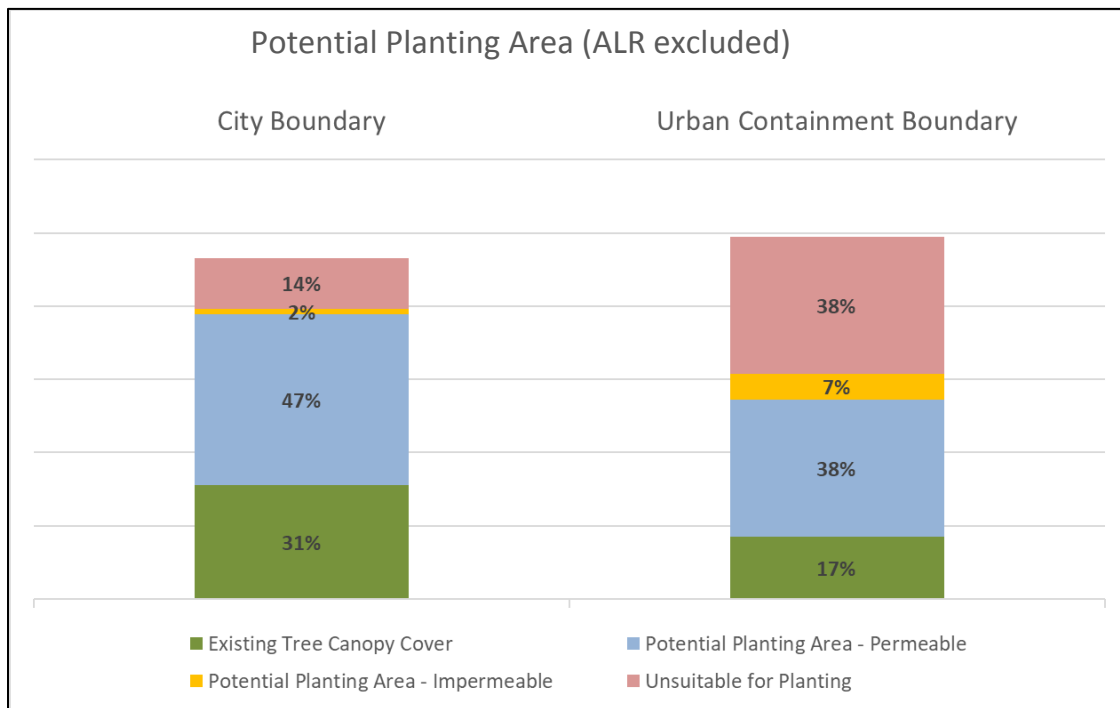


Figure 4: Potential Planting Area

Within the 38% of potential permeable planting area, 2% is Crown land, 4% is public land, and 32% is private land (see Figure 5).

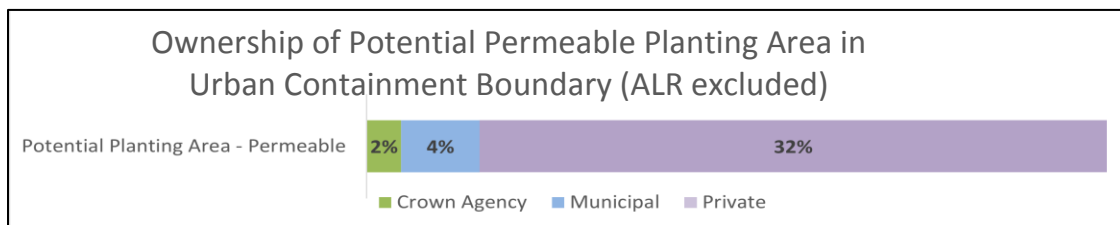


Figure 5: Ownership of Potential Permeable Planting Area

A tree canopy target within the UCB of 30%, as proposed by the Metro Vancouver analysis, appears to be feasible based on the potential permeable planting area. Given the current 17% tree canopy cover within the UCB (excluding ALR land), a 30% target would require a 13% increase in tree canopy cover by 2050. A 13% increase in tree canopy cover equates to approximately 11,500 trees. Out of this 11,500 trees, initial assessments indicate that approximately 40% could be accommodated on public lands (e.g., parks, boulevards, school sites), and 60% would need to be accommodated on private lands.

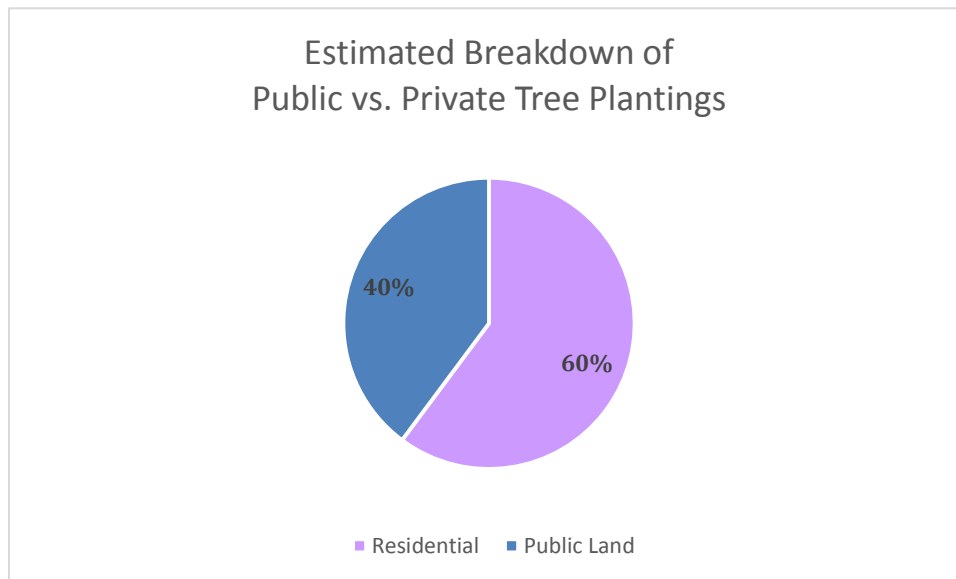


Figure 6: Potential Public vs. Residential Tree Plantings

Therefore, in order to increase the tree canopy cover within the UCB by 13%, an effort will need to be made on both public and private lands.

Emerging Goals and Strategies

To maintain and enhance the City's urban forest, four draft goals have been identified for the Urban Forest Strategy:

1. PROTECT the existing urban forest from further decline.
2. MANAGE the existing urban forest in parks and on publicly-owned lands.
3. GROW the urban forest canopy cover.
4. PARTNER with the community to foster stewardship and ownership over the shared urban forest.

A number of strategies have been identified to achieve these goals, including:

- Developing and adopting a Tree Protection Bylaw;
- Developing a plan for known problem locations where street trees are damaging infrastructure or lifting sidewalks;

- Reviewing and updating ‘recommended tree species lists’ in City bylaws to incorporate species that are more climate resilient;
- Updating the street tree inventory to better manage our assets;
- Educating the community on the importance of the urban forest;
- Partnering with various organizations and communities to increase tree canopy cover on private land; and
- Increasing the tree canopy cover in public spaces.

The goals and strategies are intended to be implemented over the next 10 years, addressing challenges and opportunities facing the City’s urban forest, and making progress towards a 25-year tree canopy target of 30%. In addition to the challenges currently facing the City’s urban forest (described above), recent provincial housing legislation, which is intended to facilitate additional housing development in the UCB, is anticipated to present further challenges to the urban forest. As part of the implementation of the UFS, it will be necessary to monitor impacts resulting from the housing legislation on the urban forest, and potentially reassess the 25-year canopy target.

Public Engagement

In order to help determine the community’s vision for the urban forest in Pitt Meadows, and to provide some education around the benefits that trees provide, public engagement events were held during the months of September to October, 2023. A summary of the findings is attached to this report (see Attachment B). Many residents value the environmental benefits and climate change mitigation effects of trees, but notably, nearly 81% of residents surveyed feel that the tree canopy coverage in Pitt Meadows is inadequate (see Figure 7).

Q7 | Do you feel that the current tree canopy cover in Pitt Meadows is:

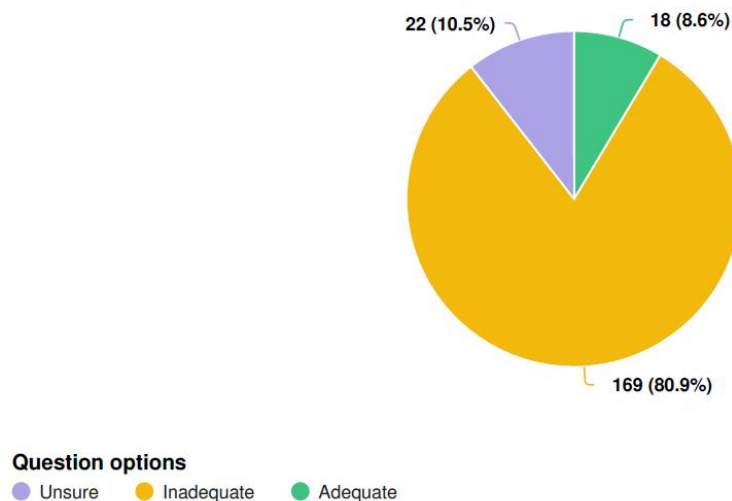


Figure 7: Survey Question on Tree Canopy Cover in Pitt Meadows

Additionally, nearly 95% of residents surveyed would like to see additional green infrastructure throughout the community.

Next Steps

A second round of public engagement with the draft findings and proposed UFS is recommended. Once feedback is received from the community and other interested and affected organizations, staff will return to Council with a draft Urban Forest Strategy for consideration of endorsement.

COUNCIL STRATEGIC PLAN ALIGNMENT

- Principled Governance Balanced Economic Prosperity Infrastructure
 Community Spirit & Wellbeing Corporate Pride Public Safety
 Not Applicable

Natural Environment – Conserve and enhance our natural assets for the benefit of current and future generations.

WORKPLAN IMPLICATIONS

- Already accounted for in department workplan / no adjustments required
 Emergent issue / will require deferral of other priority(ies)
 Other

The work to finalize the UFS is identified in the 2024 Business Plan for the Planning and Development Department.

FINANCIAL IMPLICATIONS

- None Budget Previously Approved Referral to Business Planning
 Other

It is anticipated that the UFS can be completed within existing budget allocations, though additional resources will likely be required to support the implementation of the Strategy (if endorsed by Council). At this stage, it is anticipated that additional staff and financial resources will be required for emerging strategies related to additional planning work, regulatory measures, planting, and maintenance. In terms of tree planting and maintenance, it is noted that the cost of a tree varies over time, with more investment required upfront to realize the benefits in the future. Cost inputs to the urban forest are high when trees are young and again later, when they are in decline. The current cost to install a tree is approximately \$800, with maintenance and watering required for the first five years, and then ongoing minimal maintenance required for the remaining 50 plus years. On average, over a lifespan of 50 years, the cost of a tree is approximately \$135 per year. As noted above in this report, the overall financial benefit of trees has been shown to outweigh the costs (see Attachment A).

Further work and technical analysis is required to better understand the potential resource implications of the UFS. It is anticipated that further details will be provided when the final draft Strategy is presented to Council. Any additional resource needs would also be identified as part of the annual business planning process, for Council’s consideration.

PUBLIC PARTICIPATION

Inform Consult Involve Collaborate Empower

The public has been engaged as part of this project (see Attachment B), and additional opportunities for public feedback are proposed.

KATZIE FIRST NATION CONSIDERATIONS

Referral Yes No Other

The ᑭᑭᑭᑭ (Katzie) First Nation have been invited to participate in the consultation on the UFS and will continue to be updated and invited to participate on the draft strategy.

SIGN-OFFS

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Michelle Baski,
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Reviewed by:

Patrick Ward,
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ATTACHMENTS:

- A. TD Economics Special Report – *The Value of Urban Forests in Cities Across Canada*
- B. Public Engagement Summary Memo