Outline

- OUR URBAN FOREST TODAY
- WHAT CAN WE DO?
- PROTECT
- PLANT
- MANAGE
- NEXT STEPS

Engage
OUR URBAN FOREST TODAY
Every tree in our city, including 140,000 street trees...
300,000 park trees...
and an unknown number of trees on private property...
make up what is known as Vancouver’s “urban forest”
which we mapped for the first time using LIDAR technology.
This allowed us to calculate “canopy cover”, the North American standard for assessing urban forest performance.

Canopy cover is how much ground area is covered by tree leaf canopies as seen from the air.
We now know canopy cover by neighbourhood.
We also found that most of our canopy is on private property.

- Canopy on Private Property (including residential, institutional, commercial and industrial): 62%
- Canopy in Parks: 27%
- Canopy on Streets: 11%
and 18% of our total city area is covered by tree canopy.
Compared to other cities, we seem to be doing ok...

- Vancouver, BC: 18%
- Victoria: 18%
- Vancouver, WA: 18%
- Seattle: 23%
However, our canopy cover has been declining over the past two decades. Why is this of concern?
As our canopy declines, so do the benefits our urban forest provides, such as cleaning the air...

34 metric tonnes of particulate matter (dust, smog, soot) are removed by our urban forest each year.
absorbing carbon dioxide to mitigate climate change

20,000 metric tons of carbon dioxide are absorbed by our urban forest each year
managing rainwater
providing wildlife habitat
access to nature
and healthy community

shade
fruit
stress reduction

3 minutes: time it takes for blood pressure and muscle tension to reduce significantly after seeing trees
and local economy and tourism.
Why is our canopy cover declining?

City-wide Canopy Cover

<table>
<thead>
<tr>
<th>Year</th>
<th>Canopy Cover (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>22.5%</td>
</tr>
<tr>
<td>2006</td>
<td>20%</td>
</tr>
<tr>
<td>2013</td>
<td>18%</td>
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</tbody>
</table>

tree canopy (hectares)
Over the last two decades **23,490** healthy, mature trees were removed on private property (including residential, institutional, commercial and industrial land).
Just over half of these removals were due to development. The rest were removed under Section 4.5* of the Protection of Trees Bylaw.

*Section 4.5 allows property owners to remove one tree per year, regardless of tree health, size or species.
In 2013, 1,805 trees were removed under Section 4.5. That’s about five healthy, mature trees removed every day.
Conflicts and competing interests

- views
- development
- infrastructure conflicts
- sun
- litter & allergies
- pests
PROTECT
PROTECT

GOAL
Stop the decline of our canopy cover

PRINCIPLE
- Protect healthy, mature canopy

ACTION ITEM
1. Amend Section 4 of the Protection of Trees By-law
2. Retain more trees on development sites
3. Create a comprehensive retention framework
STOP THE DECLINE OF OUR CANOPY COVER

GOAL: Stop the decline of our canopy cover
What takes years to develop can be cut down in less than a day
CURRENT SECTION 4.5: property owners are able to remove one tree per year regardless of tree health, size or species.

PROPOSED AMENDMENT: trees can be removed only if they meet the criteria in Section 4.4 of the existing By-law:

- Hazardous
- Dead, diseased or dying
- Within a building envelope
- Close to or interfering with drainage systems, sewer systems or utility wires
- Causing damage to property including roofs and sidewalks.
The City will work with applicants to proactively retain as many healthy, mature trees as possible on development sites.
Create a comprehensive framework to encourage retention of trees and discourage removals, such as a system of payments for canopy loss that cannot be replaced on a site.
PLANT
PLANT

GOALS
Grow our urban forest canopy
Plant 150,000 trees by 2020

PRINCIPLE
- Ensure a balanced approach
- Plant strategically across the city
- Plant the right tree in the right place
- Ensure resiliency to disease and climate change

ACTION ITEM
4. Expand Park Planting Programs
5. Expand Private Property Planting Programs
GOAL

Grow our urban forest canopy

<table>
<thead>
<tr>
<th>Year</th>
<th>Tree Canopy (hectares)</th>
<th>1995</th>
<th>2006</th>
<th>2013</th>
<th>2017</th>
<th>2035</th>
<th>2055</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2250</td>
<td>2500</td>
<td>1800</td>
<td>1800</td>
<td>2000</td>
<td>2200</td>
</tr>
</tbody>
</table>

% of Urban Area

- 22.5% in 1995
- 20% in 2006
- 18% in 2013
- 18% in 2017
- 20% in 2035
- 22% in 2055

PLANT / WHAT CAN WE DO?
GOAL

Plant 150,000 trees by 2020

Trees Planted since 2010
in Parks, Streets and through
Private Property Planting Programs
Ensure a balanced approach

views

development

CANOPY COVER

sun

litter & allergies

pests

utilities and sidewalks

PLANT / WHAT CAN WE DO?
Plant the right tree in the right place

Tree species selection to prevent:

- root conflicts (with underground infrastructure such as sewer lines and surfacing such as sidewalks)
- canopy conflicts (with overhead utility wires and transportation sight lines).
PRINCIPLE

Ensure resiliency to disease and climate change

Ensure resiliency to:
- disease
- effects of climate change such as rising temperatures and more severe storms
Ensure resiliency to disease and climate change

Ensure resiliency through:
- appropriate species selection
- species diversity

Vancouver’s current street tree species

- Maple 24%
- Prunus 28%
  - (cherry and plum)
- Other Species 25%
- Hawthorn 3%
- Beech 3%
- Hornbeam 3%
- Oak 4%
- Linden 5%
- Ash 5%
Factors in deciding WHAT to plant.

- species selection considerations
  - food
  - resiliency
  - growing canopy
  - infrastructure conflicts
  - ornamental beauty
  - competing interests
  - existing conditions

PLANT / WHAT CAN WE DO?
Plant strategically across the city
We need to find ways to plant more trees in parks and private property.

Estimated Planting Capacity:
- Parks: 40%
- Private Property (including residential, institutional, commercial and industrial): 50%
- Streets: 10%
ACTION ITEM 4

Expand Park Planting Programs

Create new forest in parks and golf courses and enhance existing forests.
Expand Private Property Planting Programs

Work with Treekeepers and other community groups to provide planting and stewardship programs, including fruit tree programs.
MANAGE

GOAL
Manage our urban forest as a vital living asset

PRINCIPLE
- Manage the whole lifecycle of the urban forest
- Consider conditions for trees to thrive

ACTION ITEM
6. Update our Street Tree Management Plan
7. Create Street and Park Succession Plans

MANAGE / WHAT CAN WE DO?
**GOAL**

Manage our urban forest as a vital living asset

- View our urban forest as green infrastructure that provides immense benefits.
- Manage for long term tree health to ensure our urban forest continues to provide benefits.
PRINCIPLE

Manage the whole lifecycle of the urban forest

- re-use
- plant
- maintain
- remove
- protect
- celebrate

MANAGE / WHAT CAN WE DO?
PRINCIPLE

Consider ideal conditions for trees to thrive

Space for roots (soil volume), soil quality, water infiltration and space for canopy
Update our Street Tree Management Plan

- **COORDINATION** with Integrated Stormwater Management Plan, Utility Plans and Transportation Plan 2040.

- **HOLISTIC PLANTING STANDARDS** including soil volume.

- **WOOD RE-USE** for alternative fuel sources and artisans.
Create Street and Park Succession Plans

- Succession plans to help grow canopy and ensure resiliency
- Updated Inventory and Tracking System
NEXT STEPS
- Approve immediate By-law amendment to reduce significant canopy loss.

- Hold a city-wide conversation on how we can all help to achieve Strategy goals.

- Return to Council with specific plans:
  - Comprehensive retention framework
  - Updated Street Tree Management Plan
  - Street and Park Succession Plans
Vancouver has a magnificent urban forest that contributes to our environment and to the health of every resident in our city.
The Urban Forest Strategy is a bold first step designed to protect, grow and manage this vital, shared resource for future generations.
ACTION ITEMS:

1. Amend Section 4 of the Protection of Trees By-law
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4. Expand Park Planting Programs
5. Expand Private Property Planting Programs
6. Update our Street Tree Management Plan
7. Create Street and Park Succession Plans