

City of Vancouver

Urban Forest Strategy

APRIL 15, 2014



GREENEST CITY 2020



Outline

OUR URBAN FOREST TODAY

WHAT CAN WE DO ?

PROTECT

PLANT

MANAGE

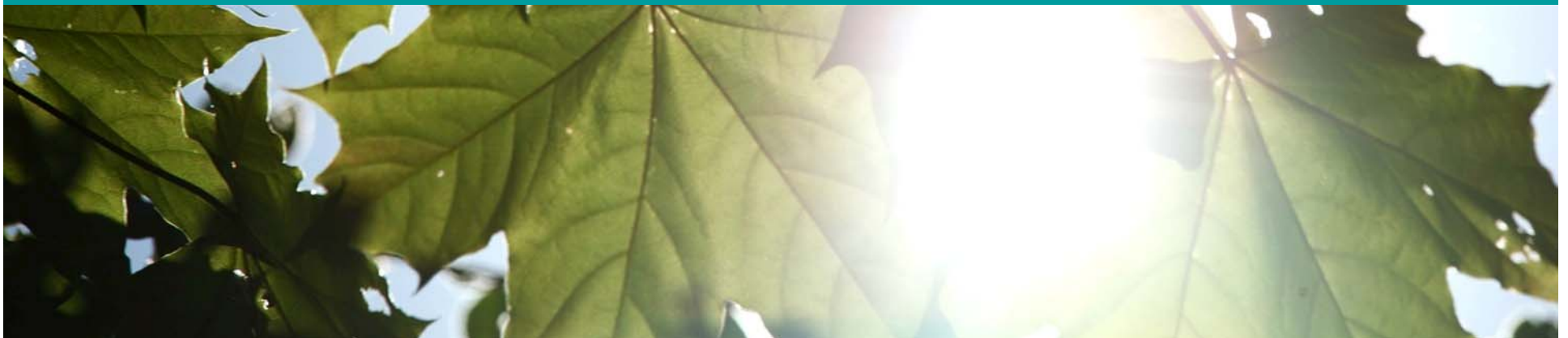
Engage


NEXT STEPS





OUR URBAN FOREST TODAY




A wide, tree-lined street with cars and pedestrians. The street is flanked by large, mature trees with dense green foliage, creating a canopy effect. Several cars are parked along the sides of the road, and a few people are visible walking on the sidewalks. The scene is bright and sunny, with dappled light on the pavement.

Every tree in our city,
including 140,000 street trees...



300,000 park trees...

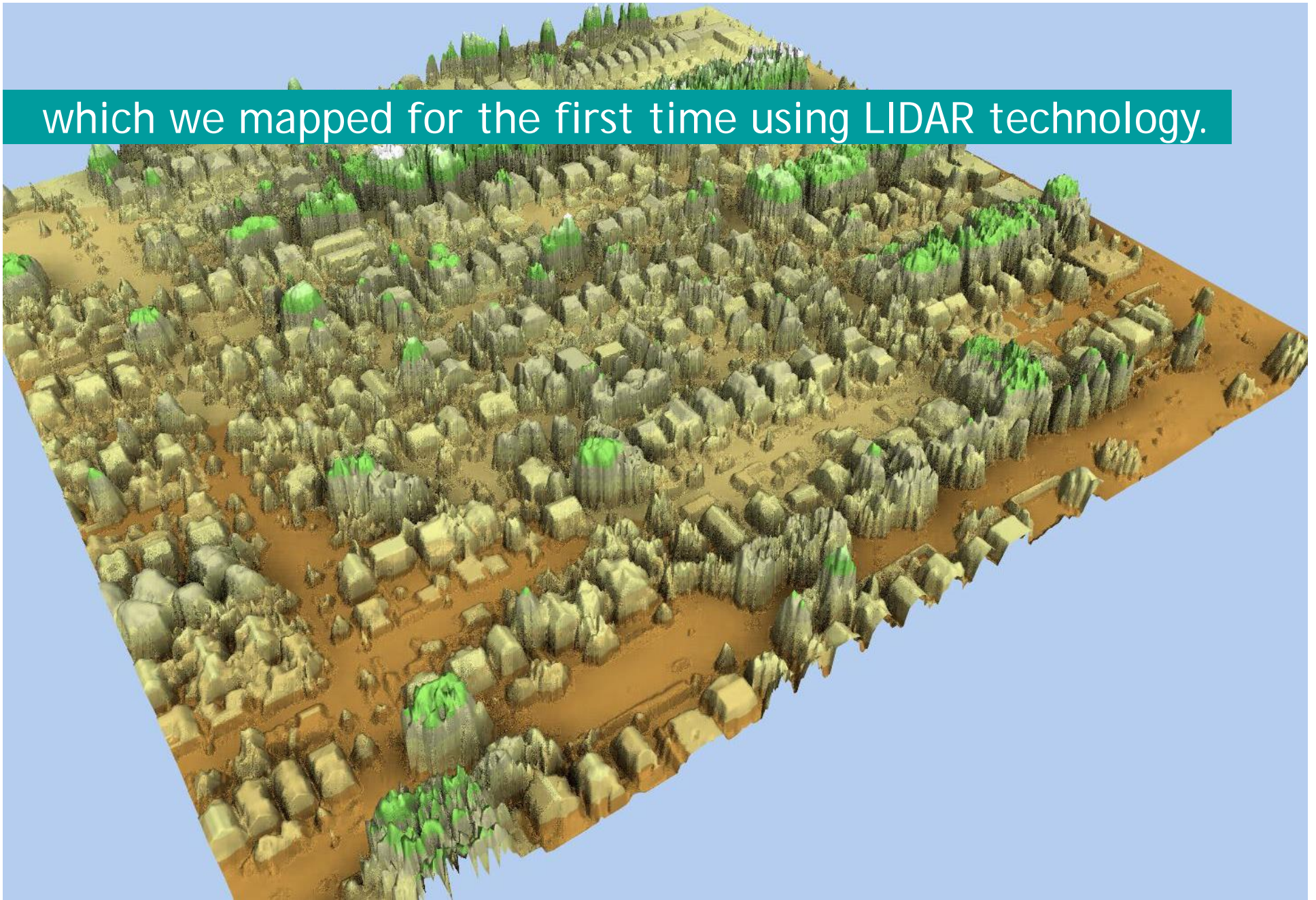
A photograph of a residential backyard. A large, mature tree with a thick trunk and sparse, light-colored blossoms stands in the center. To the right is a single-story white house with a window and a blue door. A wooden fence runs along the back and sides of the yard. The sky is clear and blue.

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.

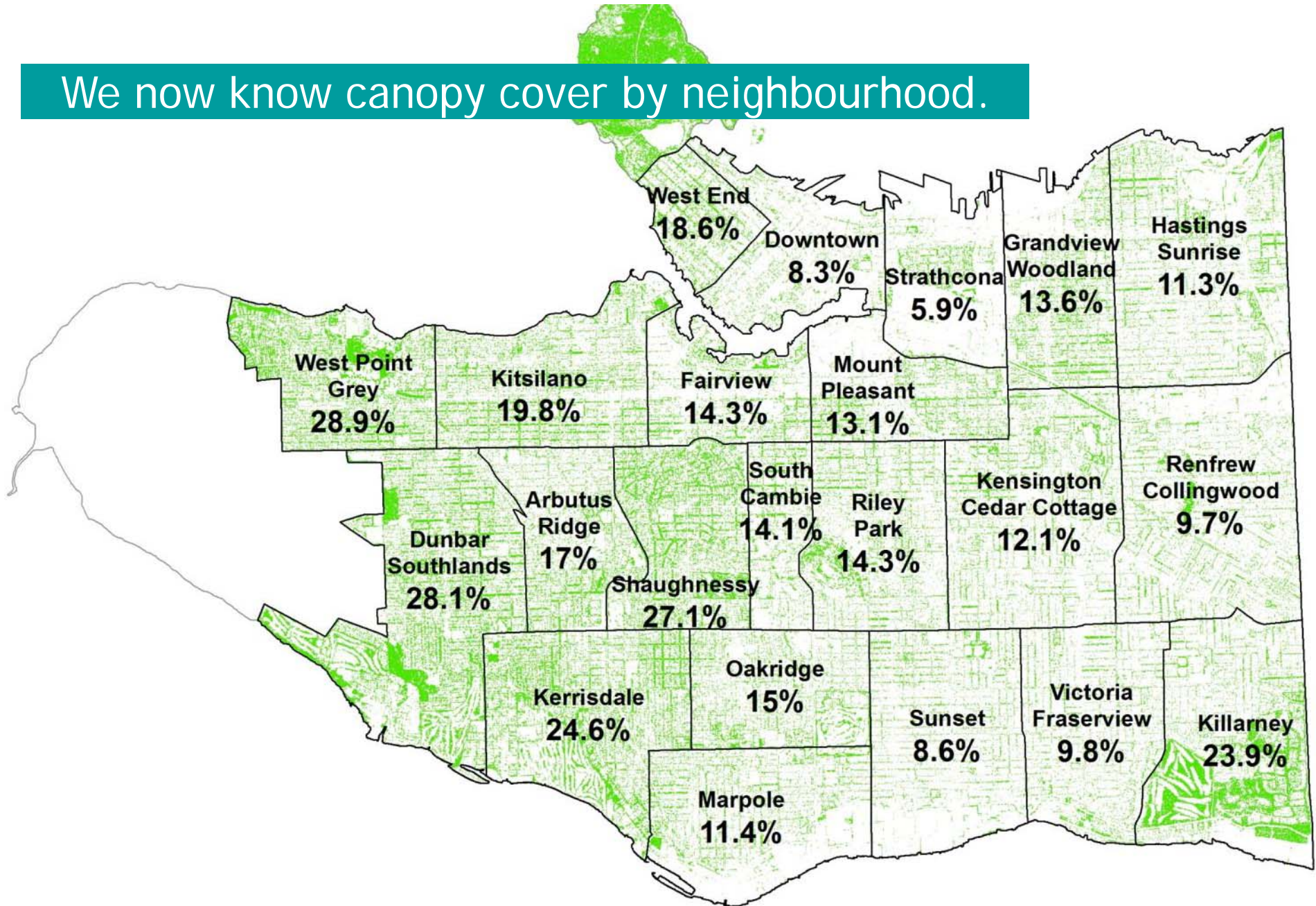


This allowed us to calculate “canopy cover”, the North American standard for assessing urban forest performance.

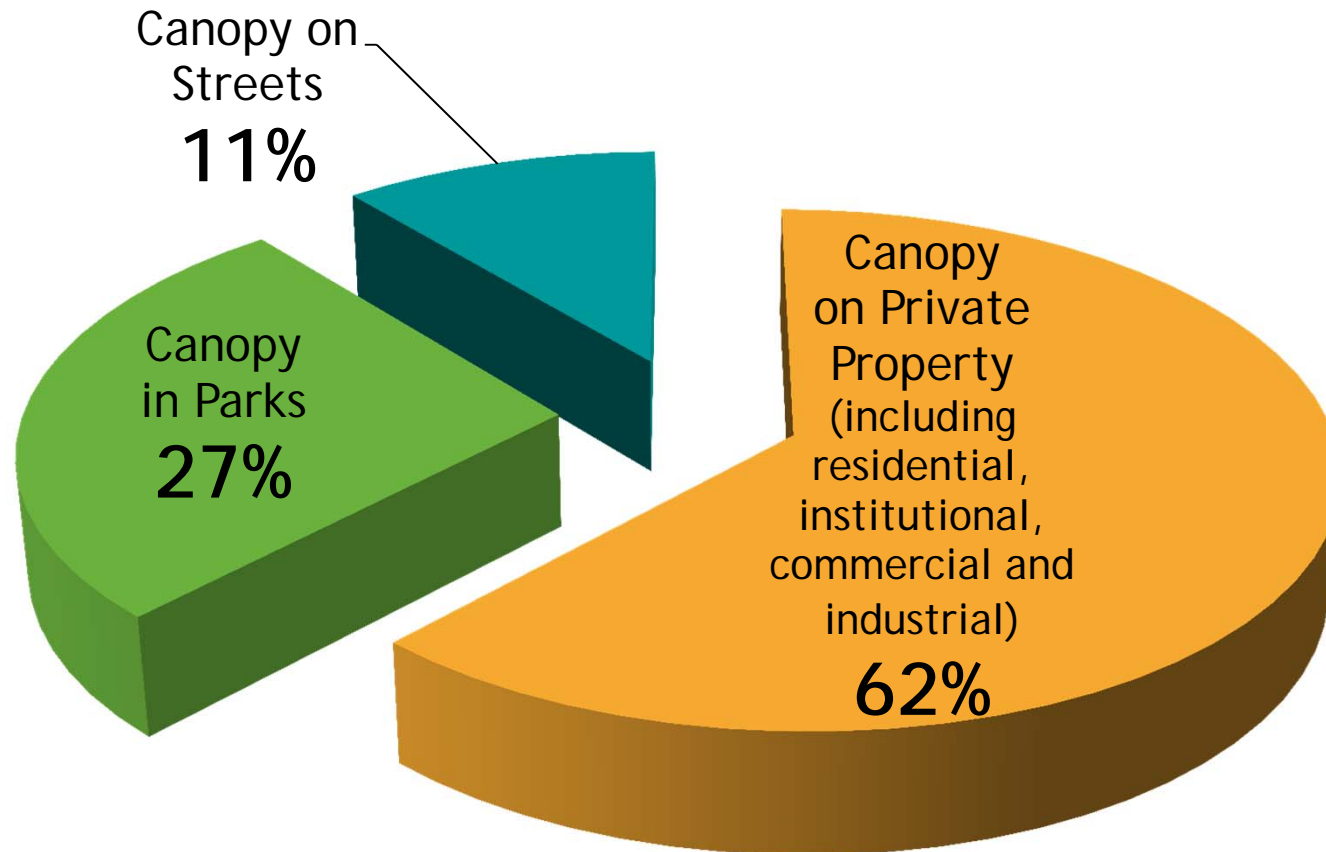


Canopy cover is how much ground area is covered by tree leaf canopies as seen from the air.

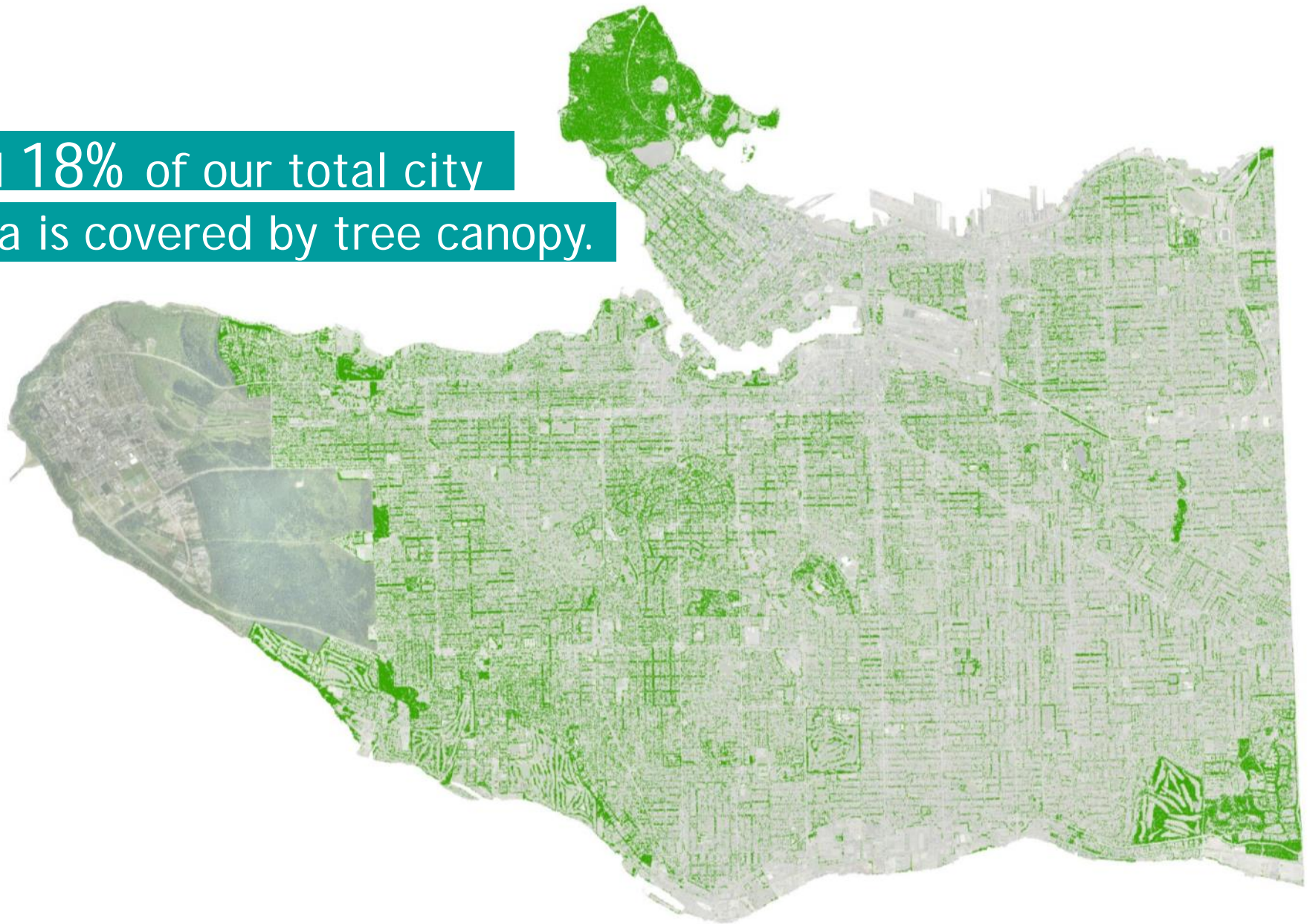
We now know canopy cover by neighbourhood.



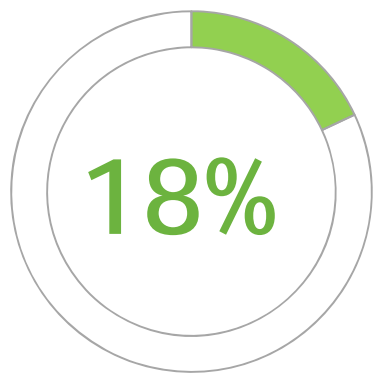
We also found that most of our canopy is on private property.



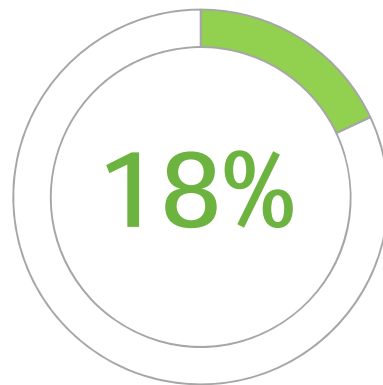
and 18% of our total city area is covered by tree canopy.



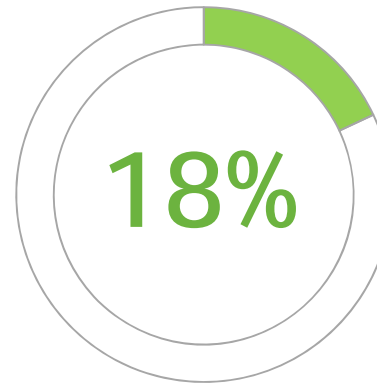
Compared to other cities, we seem to be doing ok...



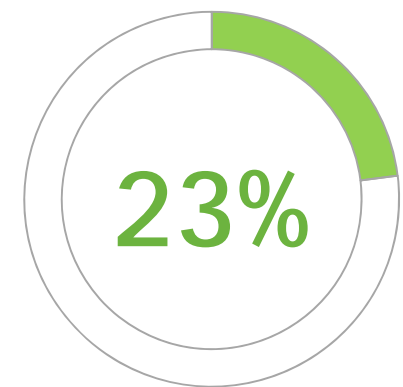
Vancouver, BC



Victoria

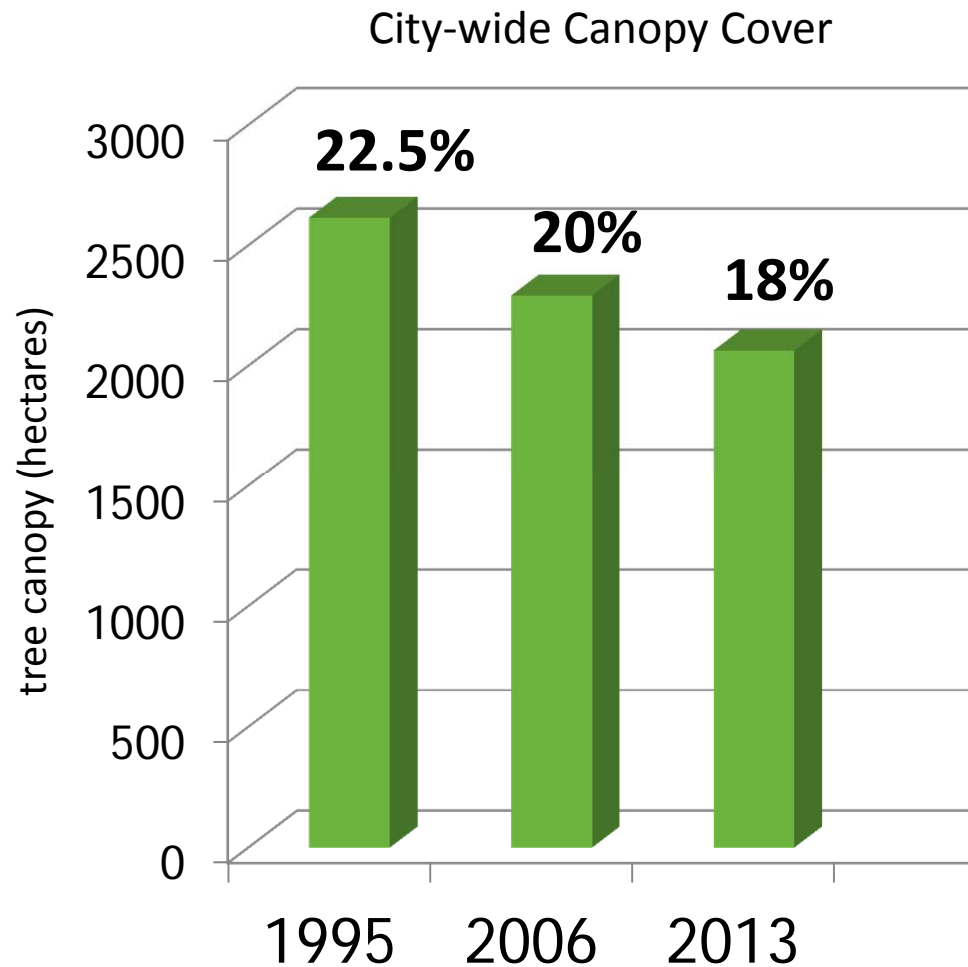


Vancouver, WA



Seattle

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

A close-up photograph of a car's exhaust pipe, showing the metal pipe protruding from the underside of the vehicle. The surrounding area is dark and metallic, with some rust visible on the pipes. The image is used to illustrate the concept of carbon dioxide emissions from vehicles.

absorbing carbon dioxide to mitigate climate change

20,000 metric tons
of carbon dioxide
are absorbed by our
urban forest each year

A close-up photograph of several vibrant green leaves, likely from a maple tree, covered in numerous small, glistening water droplets. The leaves have a serrated edge and prominent veins. The background is a soft, out-of-focus green, suggesting a forest or garden setting. A teal-colored horizontal bar is overlaid on the left side of the image, containing the text 'managing rainwater'.

managing rainwater



providing wildlife habitat



access to nature

and healthy community

shade

fruit

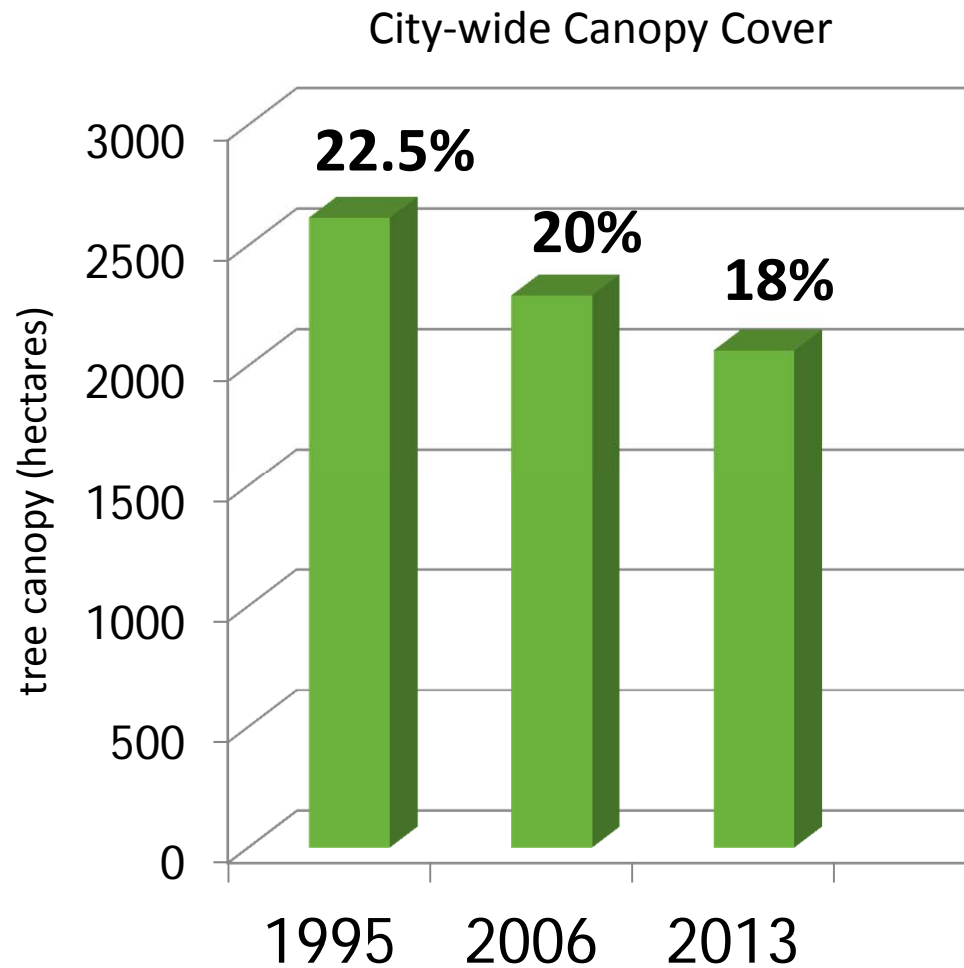
stress reduction


3 minutes: time it takes for blood pressure and muscle tension to reduce significantly after seeing trees

A photograph of a residential street lined with mature cherry blossom trees in full bloom. The trees are densely packed, creating a canopy of pink blossoms over the road. Several cars are visible on the road, including a dark SUV in the foreground. The scene is captured from a low angle, looking down the street. A teal banner is overlaid at the top left.

and local economy and tourism.

Why is our canopy cover declining?



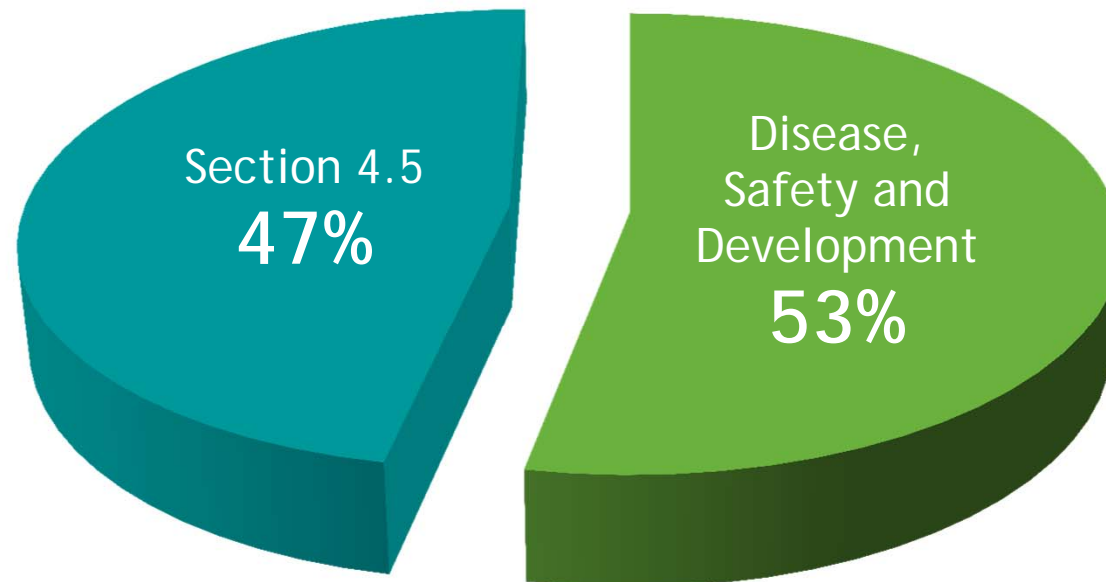


Over the last two decades
23,490 healthy, mature
trees were removed on
private property (including
residential, institutional,
commercial and industrial
land).

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



sun



development



litter & allergies



infrastructure conflicts



pests



WHAT CAN WE DO ?



PROTECT



PLANT



MANAGE





PROTECT

PROTECT

GOAL

Stop the decline of our canopy cover

PRINCIPLE

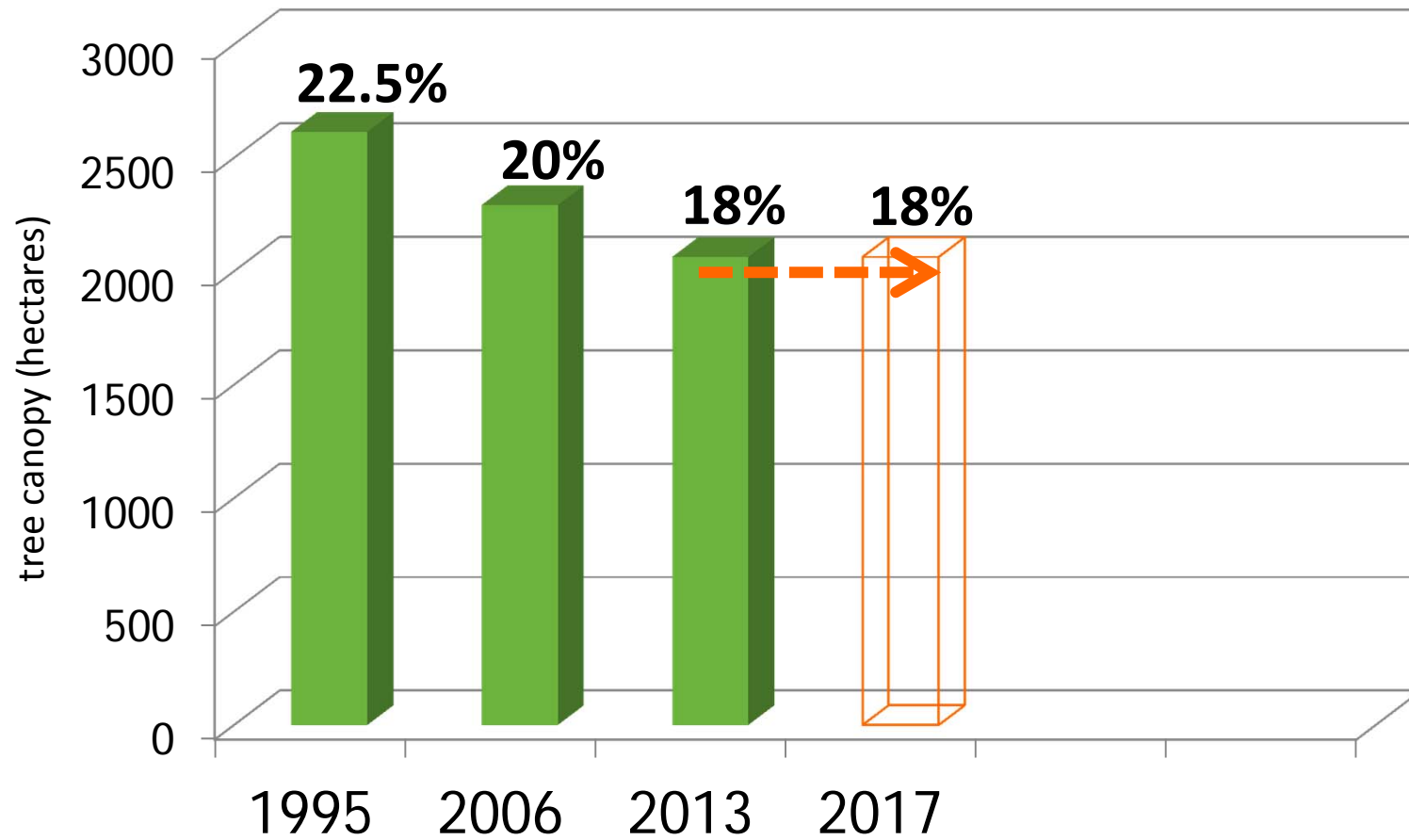
- Protect healthy, mature canopy

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

GOAL

Stop the decline of our canopy cover



PRINCIPLE

Protect healthy, mature canopy

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.

ACTION ITEM 2

Retain more trees on development sites

The City will work with applicants to proactively retain as many healthy, mature trees as possible on development sites.



ACTION ITEM 3

Comprehensive retention framework

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.

A photograph of a young evergreen tree in a field. In the foreground, a red and black shovel handle is stuck in the ground. The ground is covered with green grass and dry, brown leaves. In the background, there are more trees and a mountain range under a blue sky. A green banner with the word "PLANT" is overlaid on the image.

PLANT

PLANT

GOALS

Grow our urban forest canopy

Plant 150,000 trees by 2020

PRINCIPLE

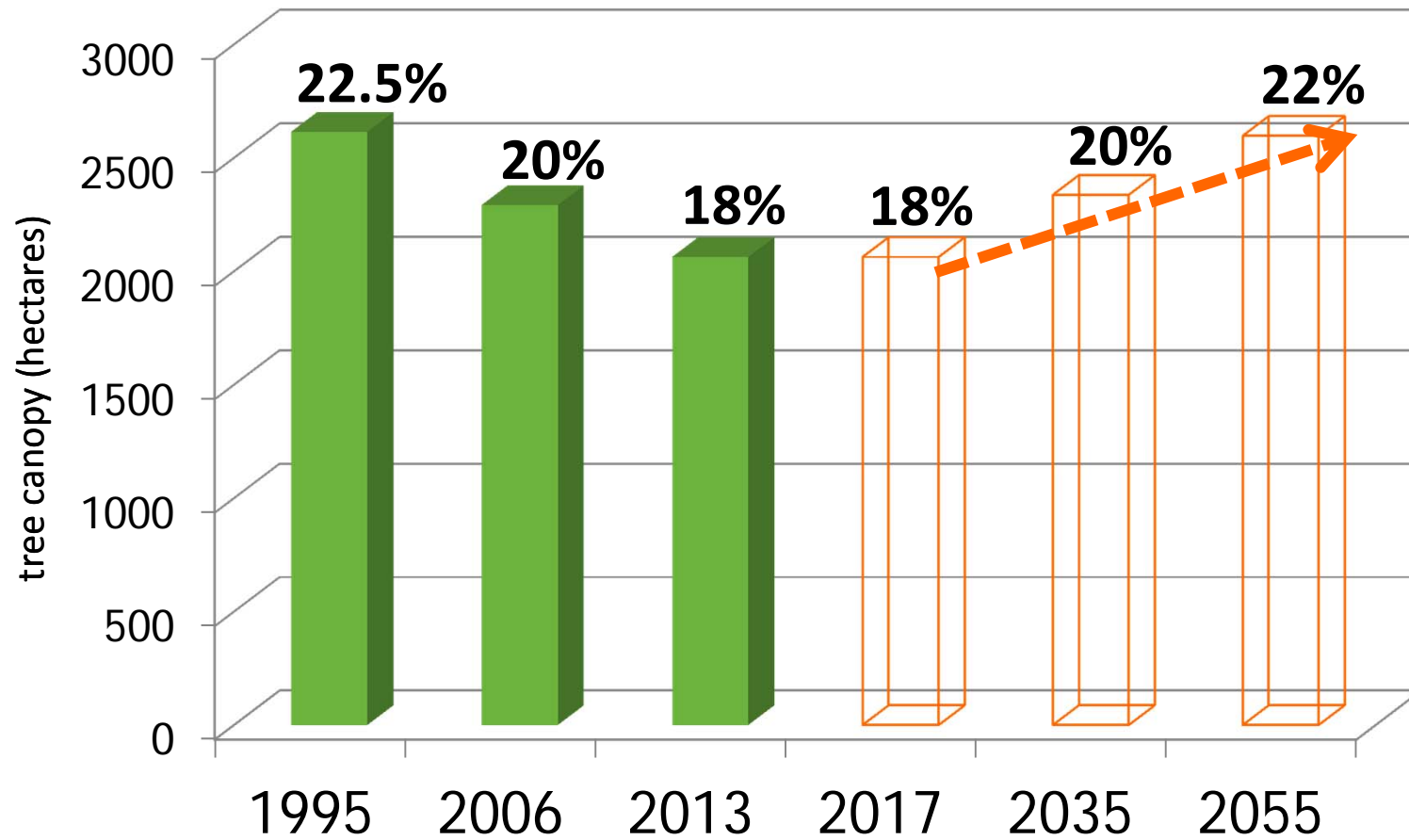
- Ensure a balanced approach
- Plant strategically across the city
- Plant the right tree in the right place
- Ensure resiliency to disease and climate change

ACTION ITEM

4. Expand Park Planting Programs
5. Expand Private Property Planting Programs

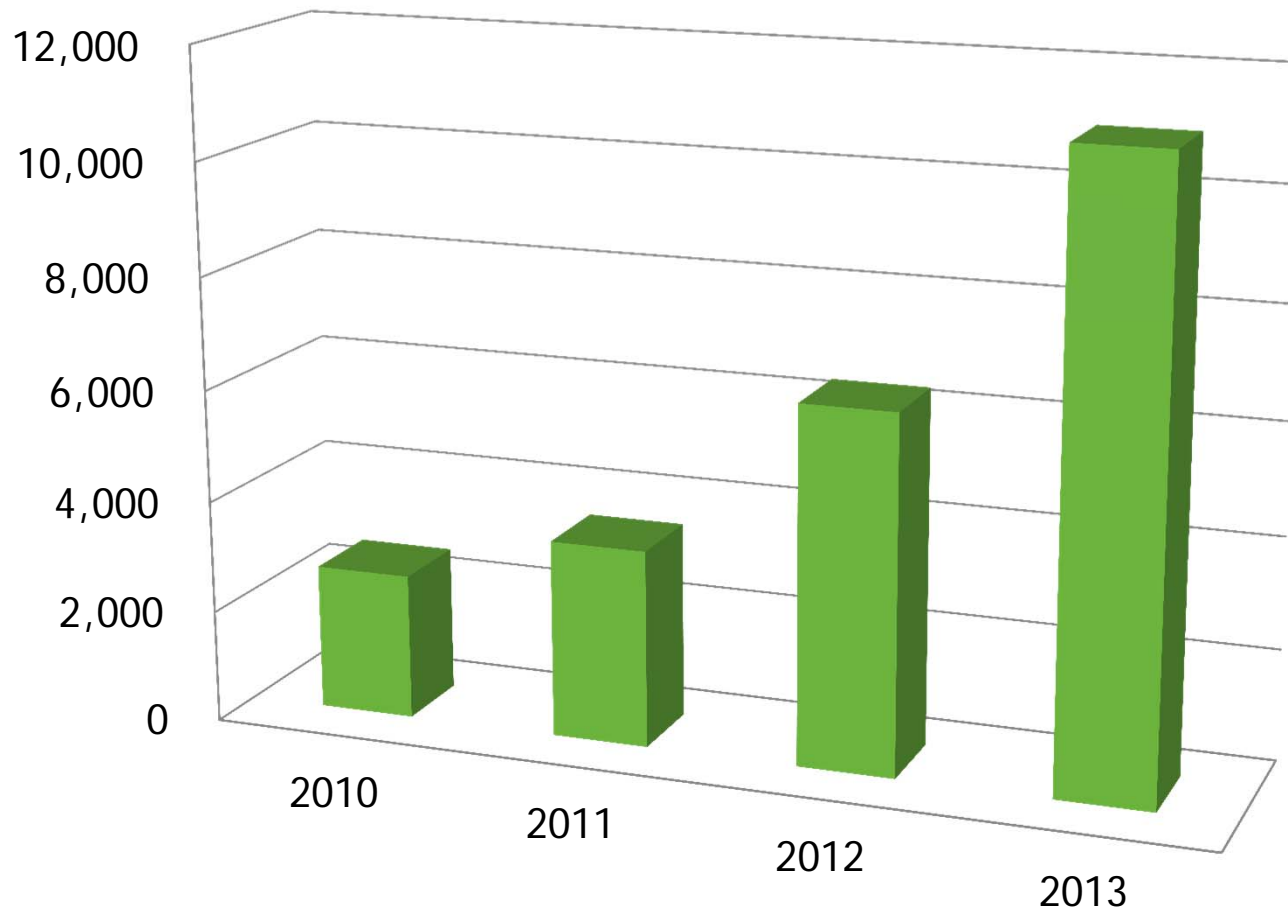
GOAL

Grow our urban forest canopy



GOAL

Plant 150,000 trees by 2020



Trees Planted since 2010
in Parks, Streets and through
Private Property Planting Programs

PRINCIPLE

Ensure a balanced approach



views



sun



development



litter & allergies



utilities and sidewalks



pests

CANOPY COVER



PRINCIPLE

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:

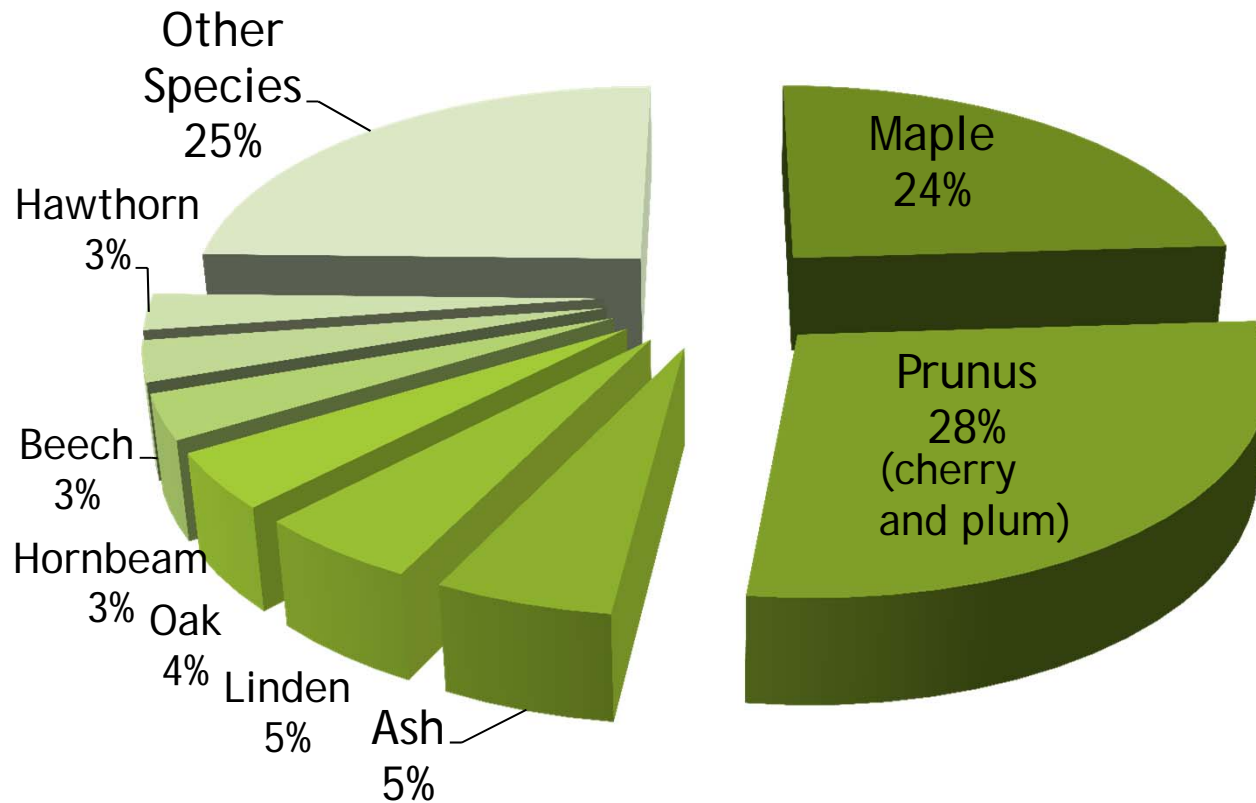
- disease
- effects of climate change such as rising temperatures and more severe storms

PRINCIPLE

Ensure resiliency to disease and climate change

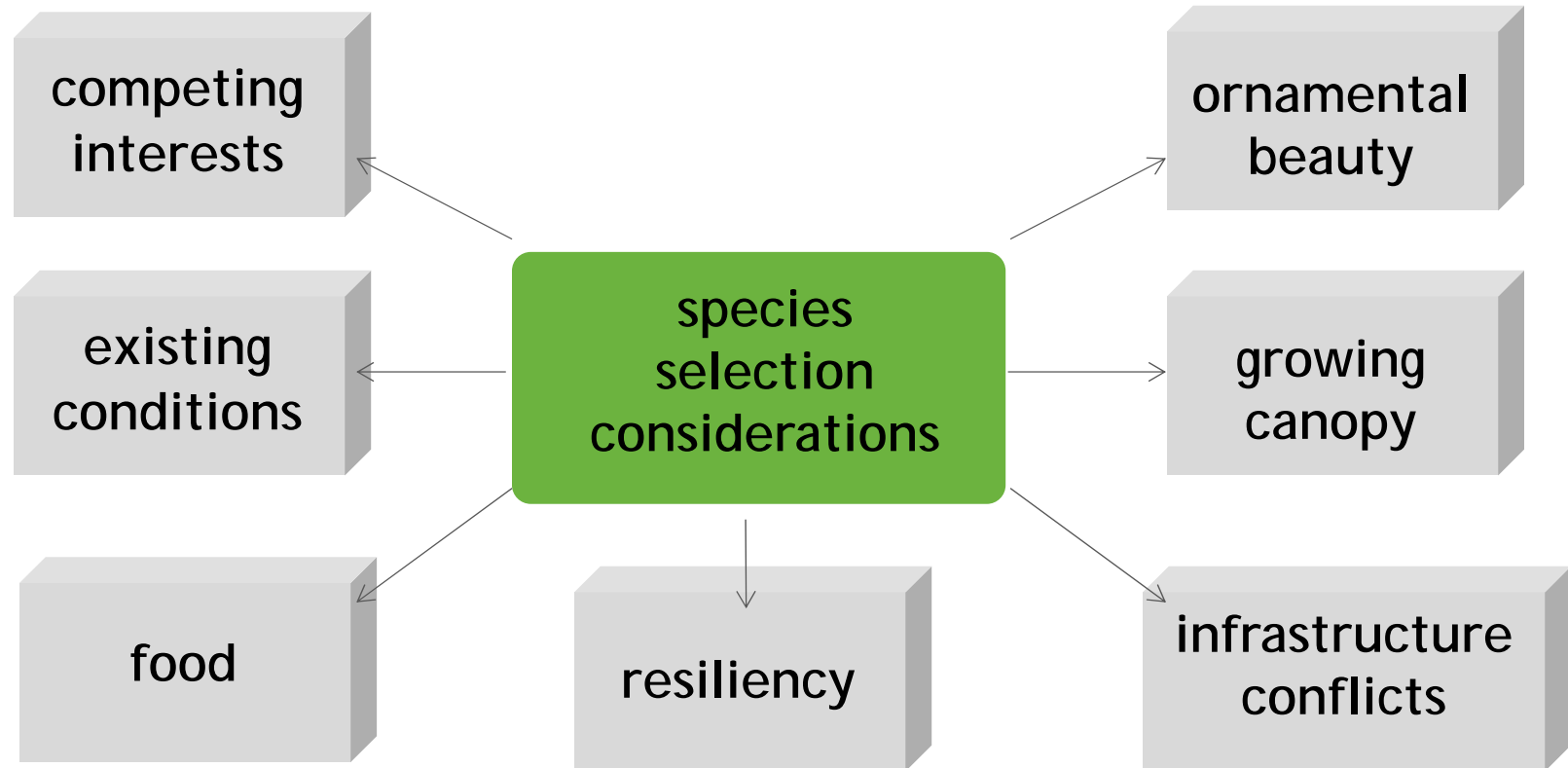
Ensure resiliency through:

- appropriate species selection
- species diversity



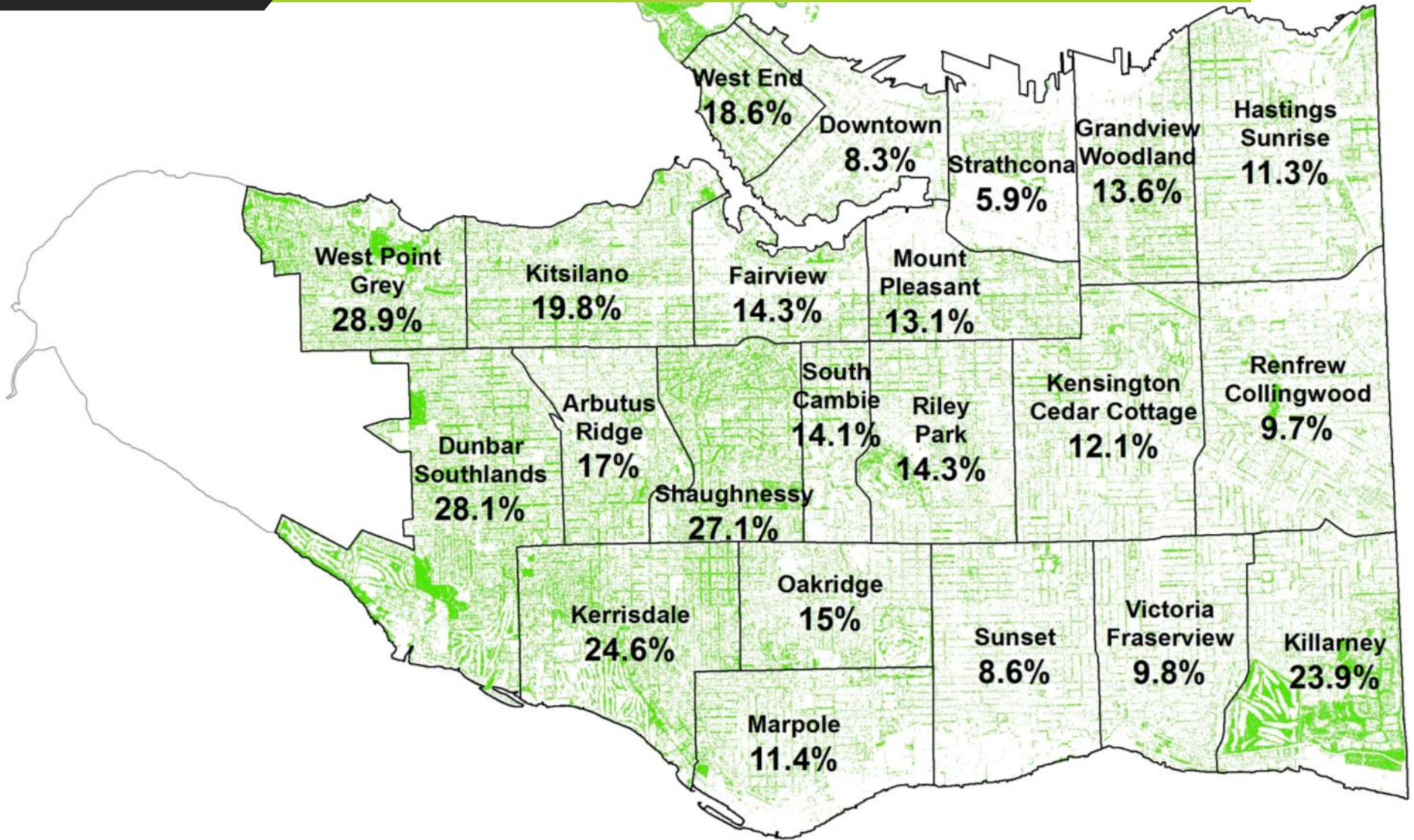
Vancouver's current street tree species

Factors in deciding WHAT to plant.

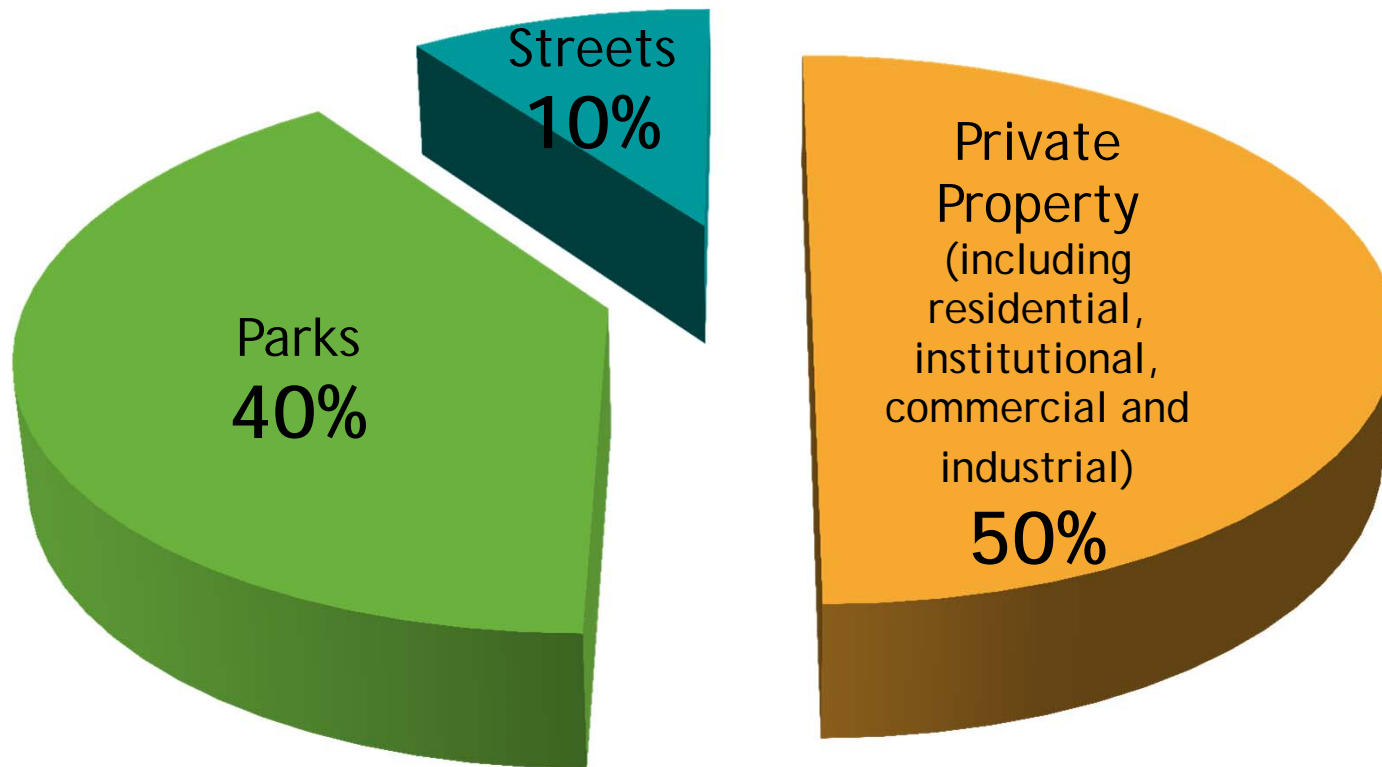


PRINCIPLE

Plant strategically across the city



We need to find ways to plant more trees in parks and private property.

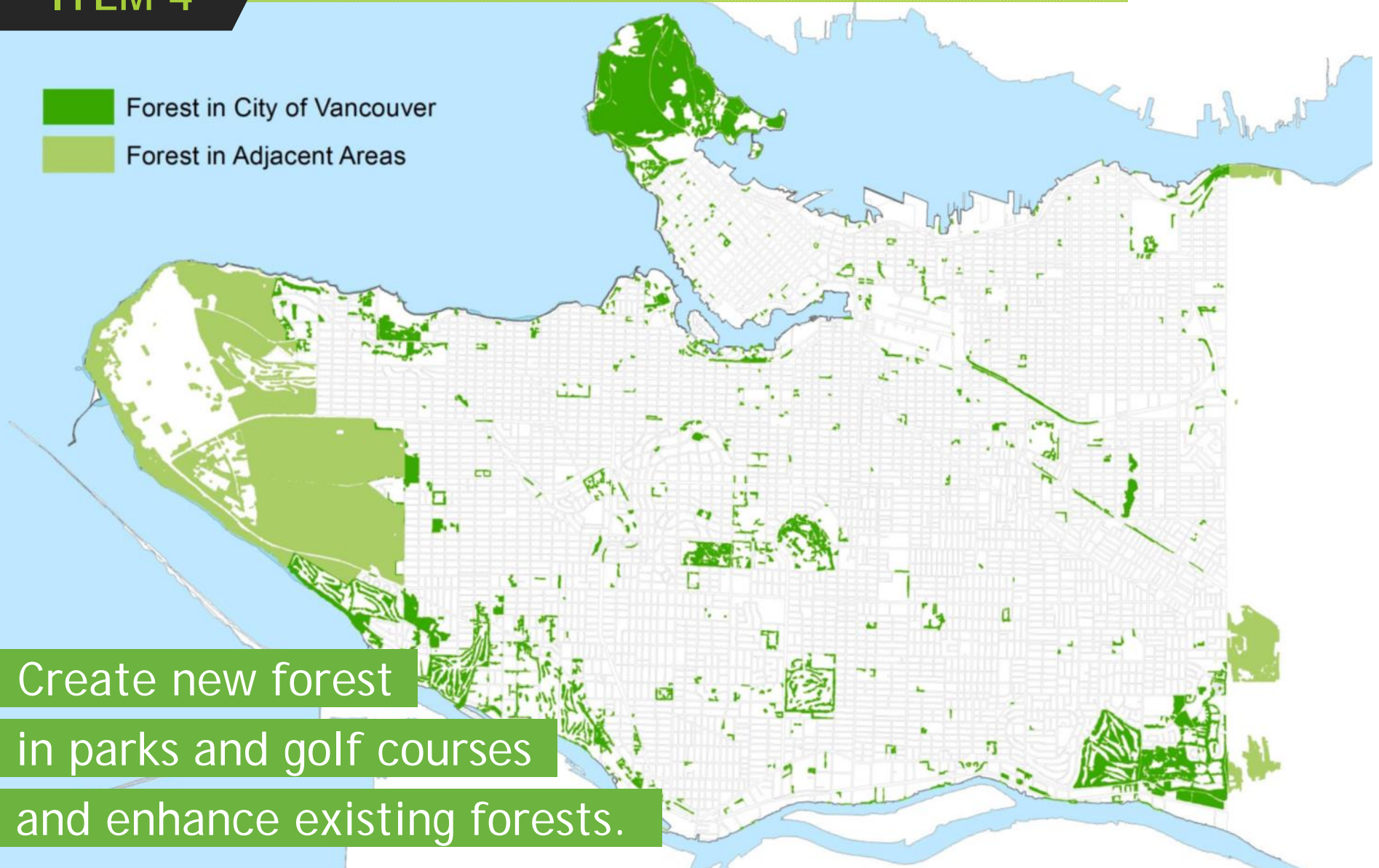


Estimated Planting Capacity

ACTION ITEM 4

Expand Park Planting Programs

- Forest in City of Vancouver
- Forest in Adjacent Areas



Create new forest
in parks and golf courses
and enhance existing forests.

ACTION ITEM 5

Expand Private Property Planting Programs



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



MANAGE

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

GOAL

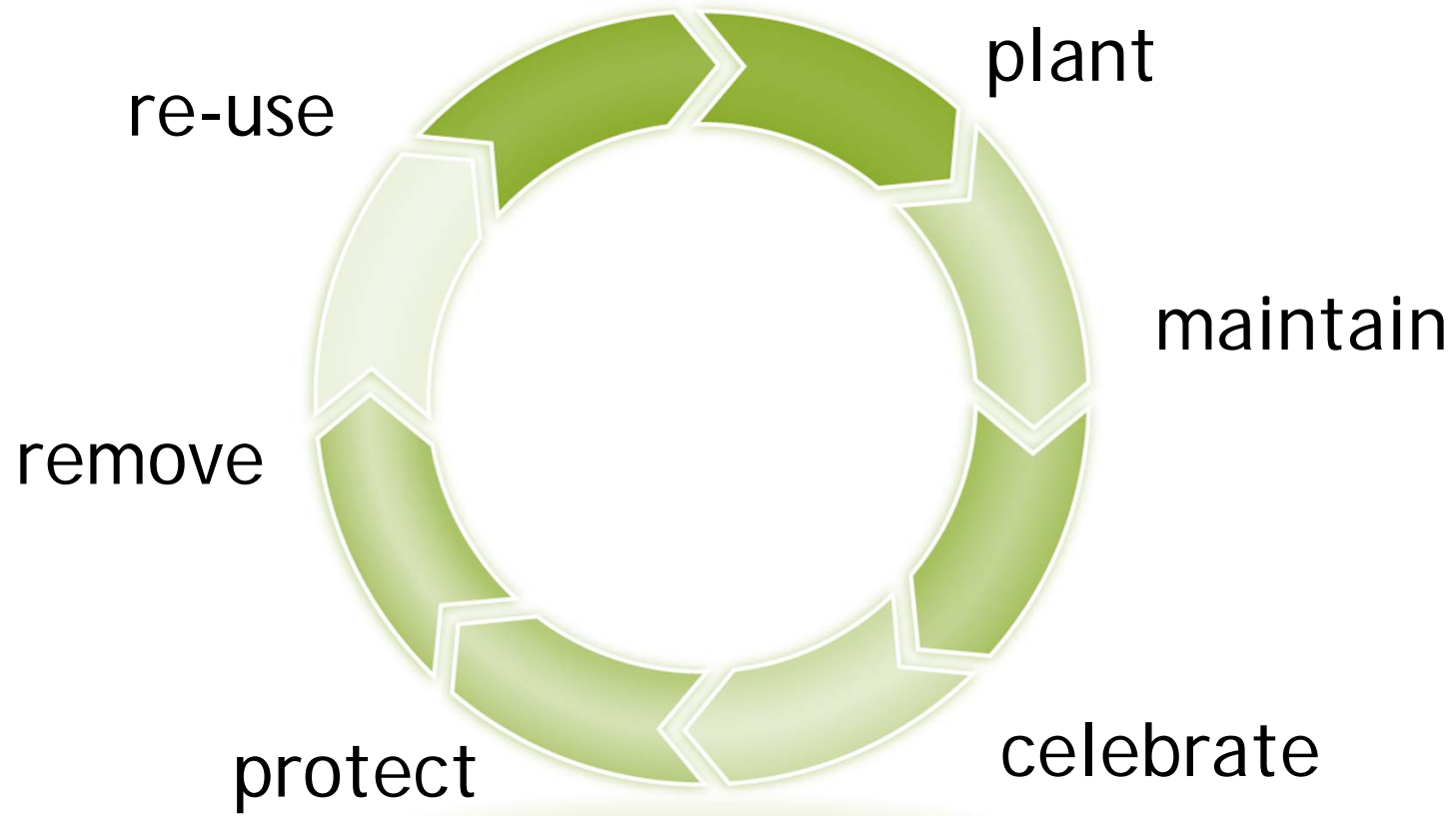
Manage our urban forest as a vital living asset

- 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



PRINCIPLE

Consider ideal conditions for trees to thrive



Space for roots (soil volume), soil quality,
water infiltration and space for canopy

ACTION ITEM 6

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.



ACTION ITEM 7

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
2. Retain more trees on development sites
3. Create a comprehensive retention framework
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