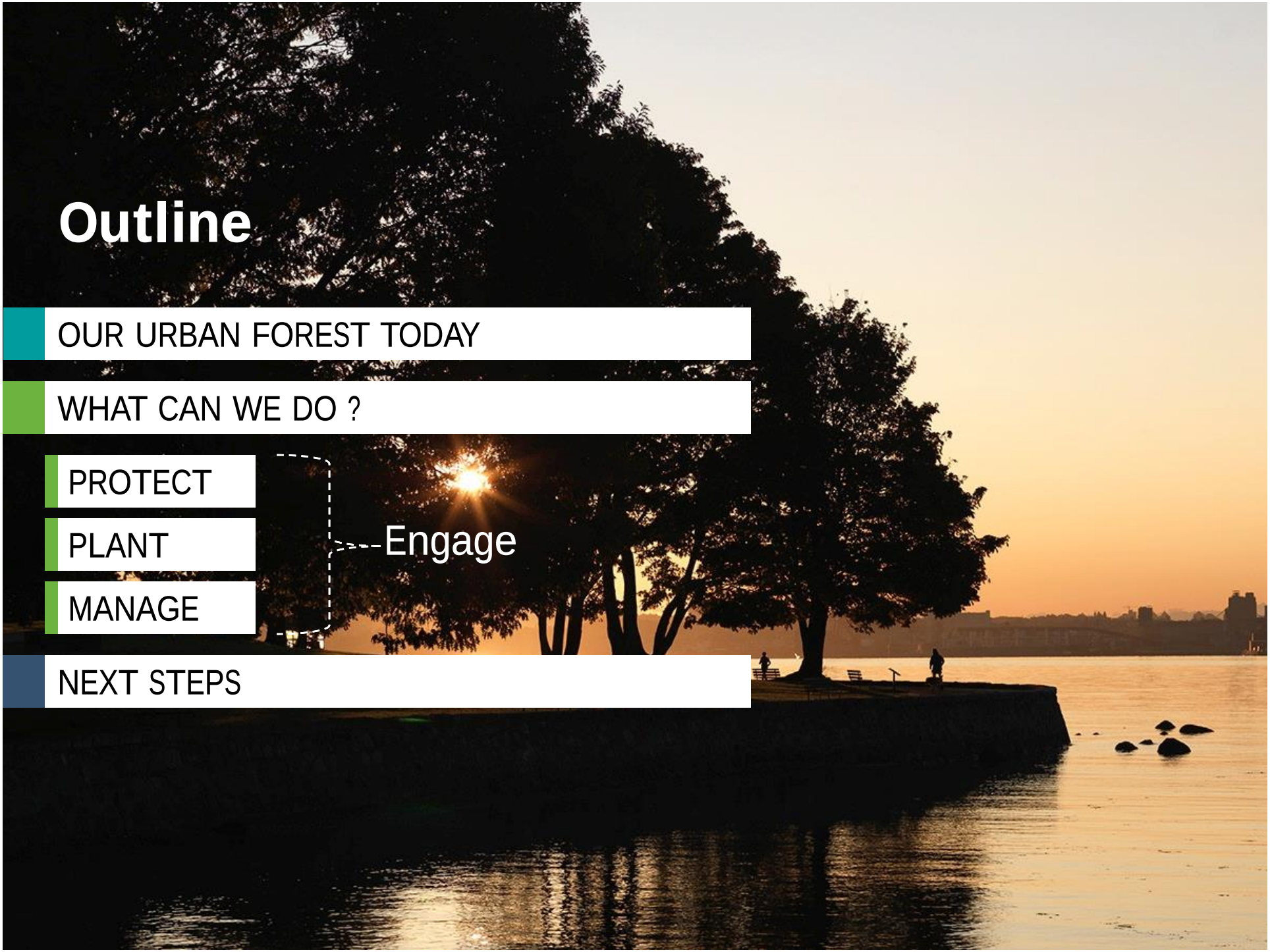
City of Vancouver

Urban Forest Strategy

APRIL 15, 2014

CITY OF VANCOUVER | GREENEST CITY 2020

VANCOUVER BOARD OF PARKS AND RECREATION



Outline

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

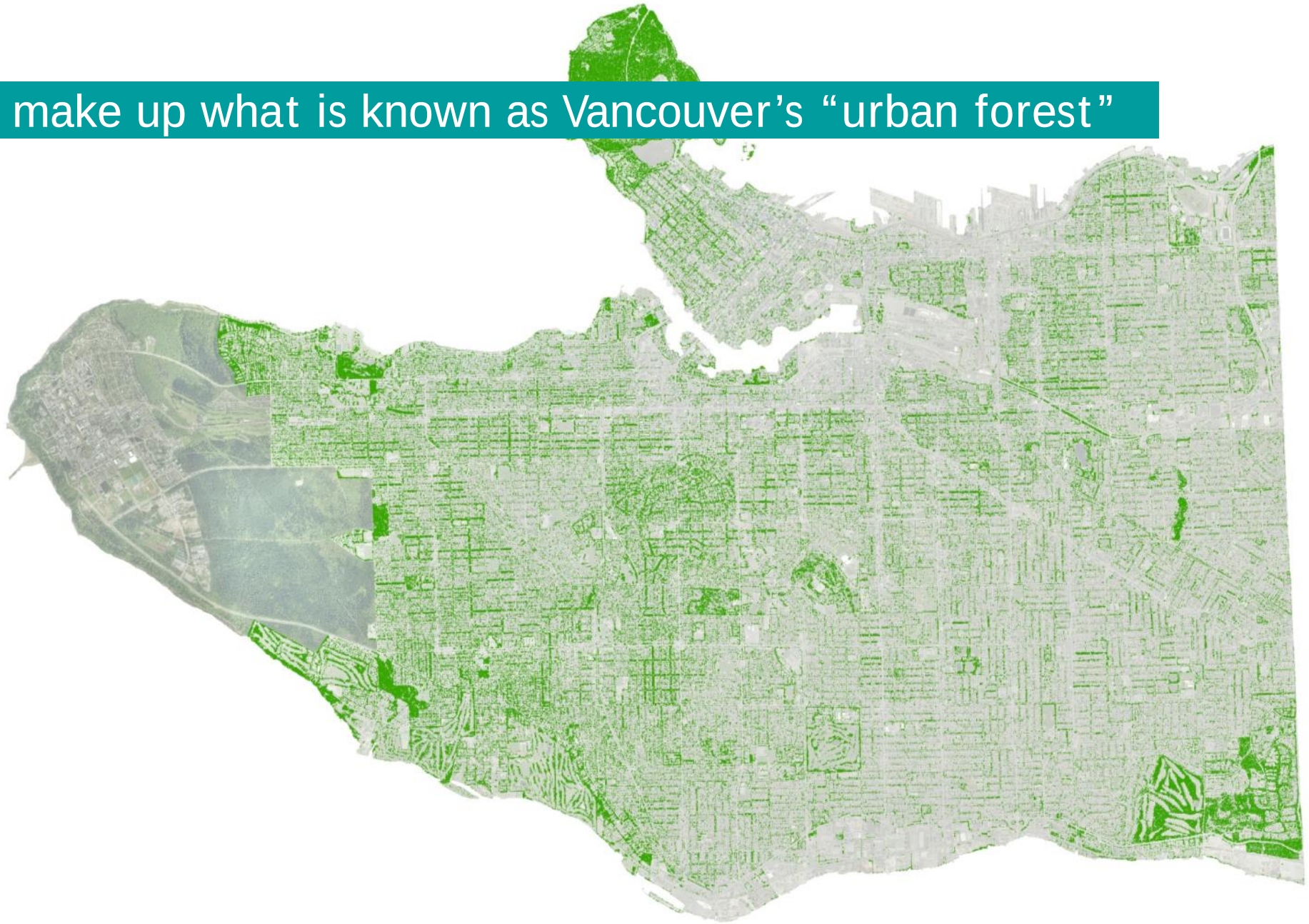
OUR URBAN FOREST TODAY


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

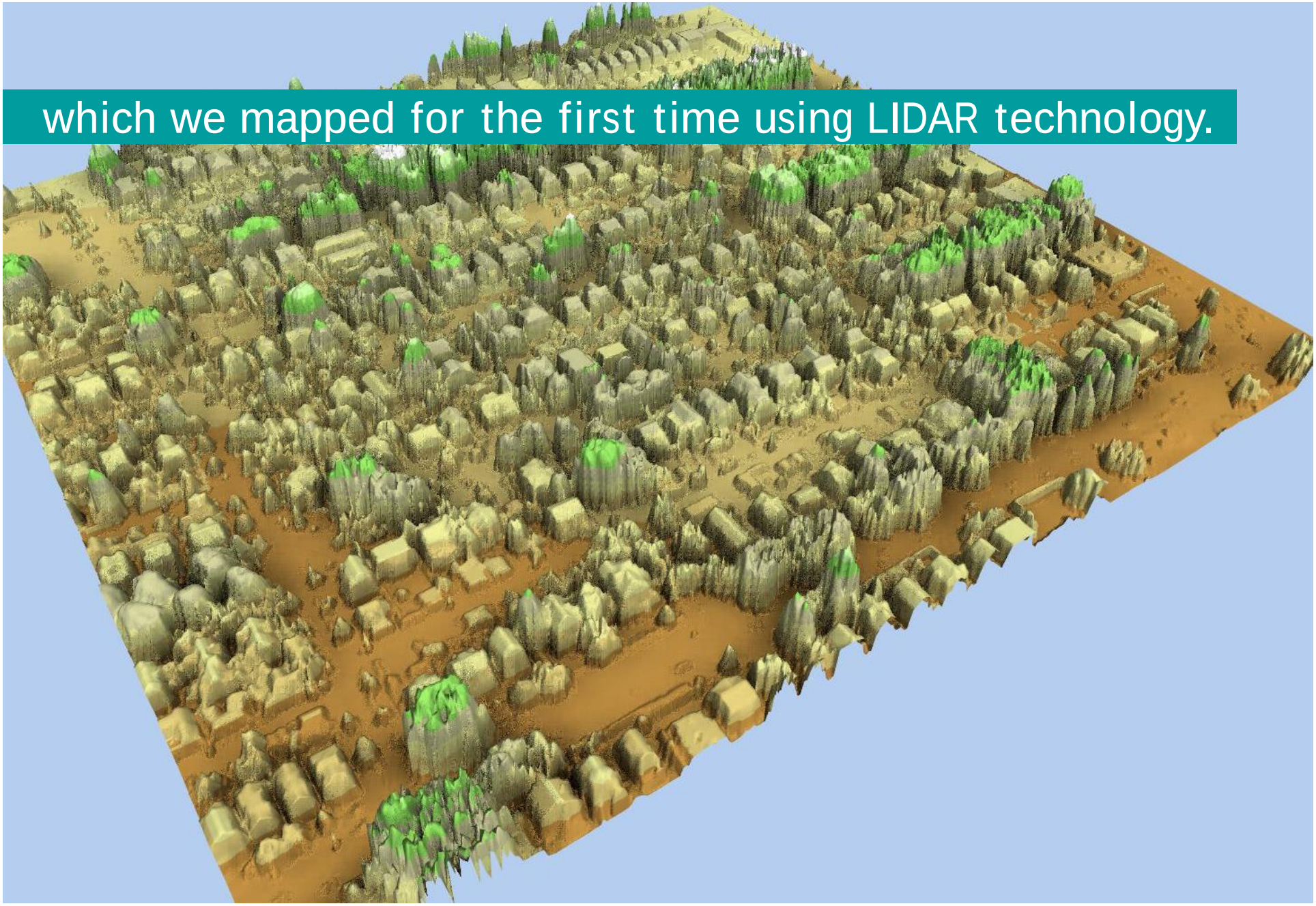

300,000 park trees…


and an unknown number
of trees on private property…

make up what is known as Vancouver's "urban forest"



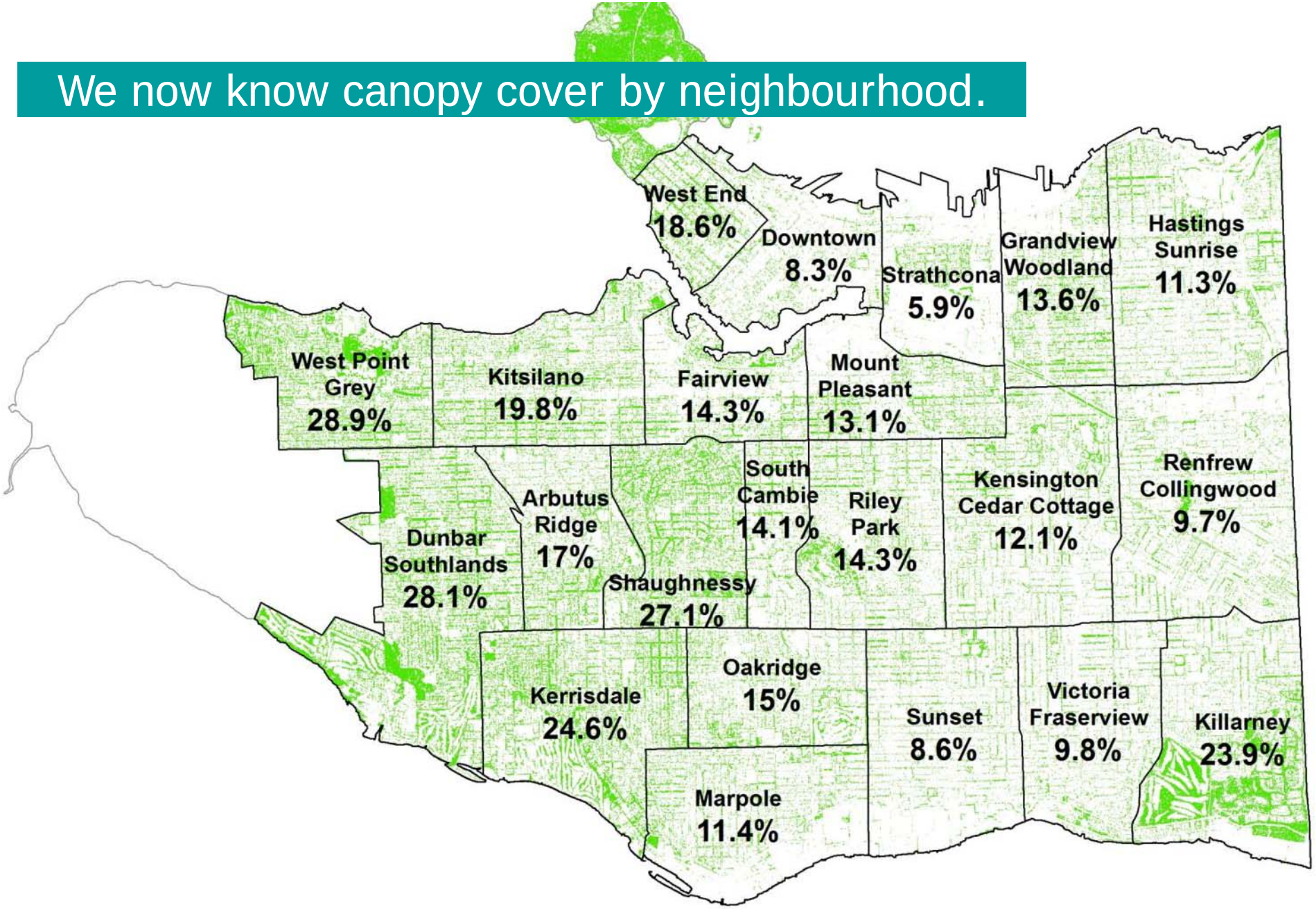
which we mapped for the first time using LIDAR technology.



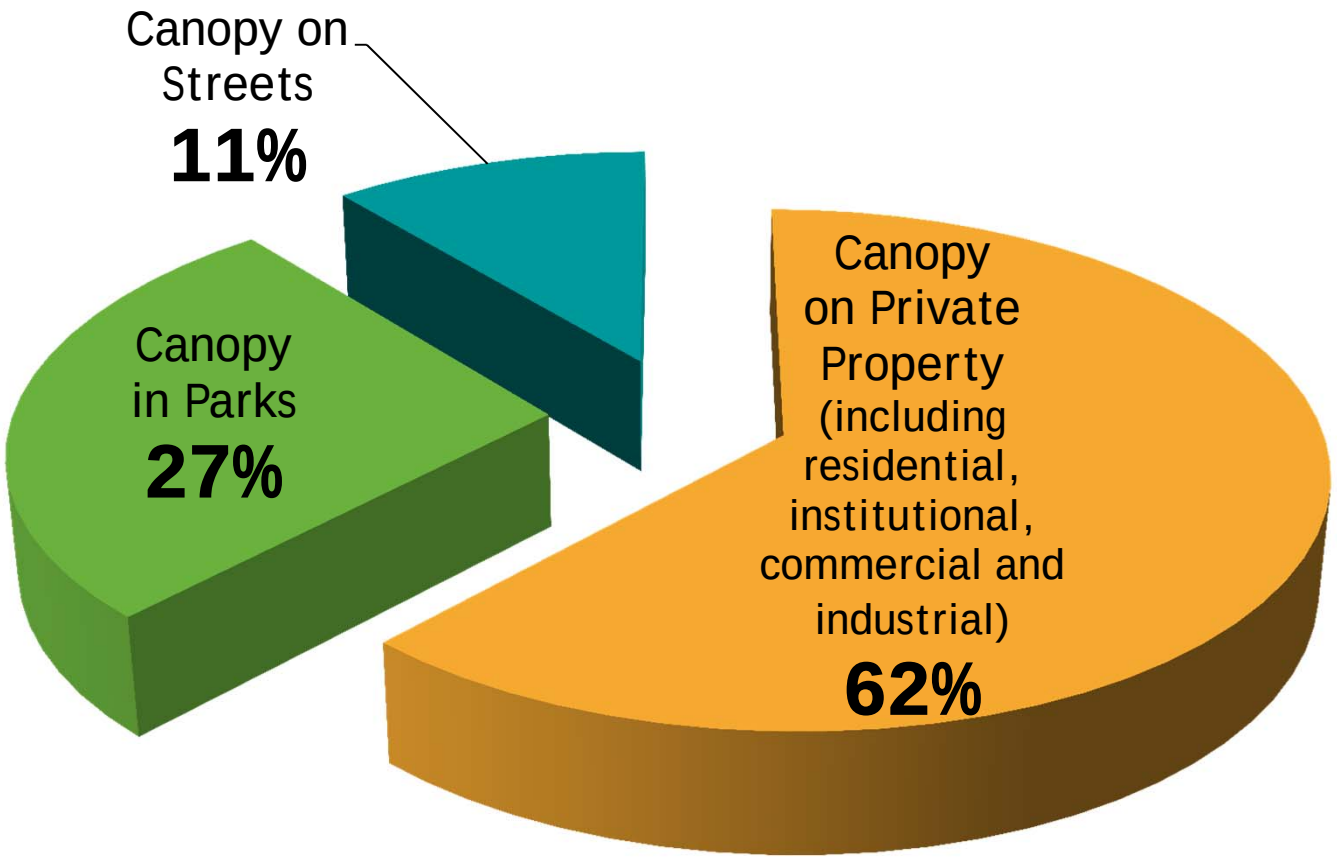
This allowed us to calculate “canopy cover”, the North American standard for assessing urban forest performance.

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

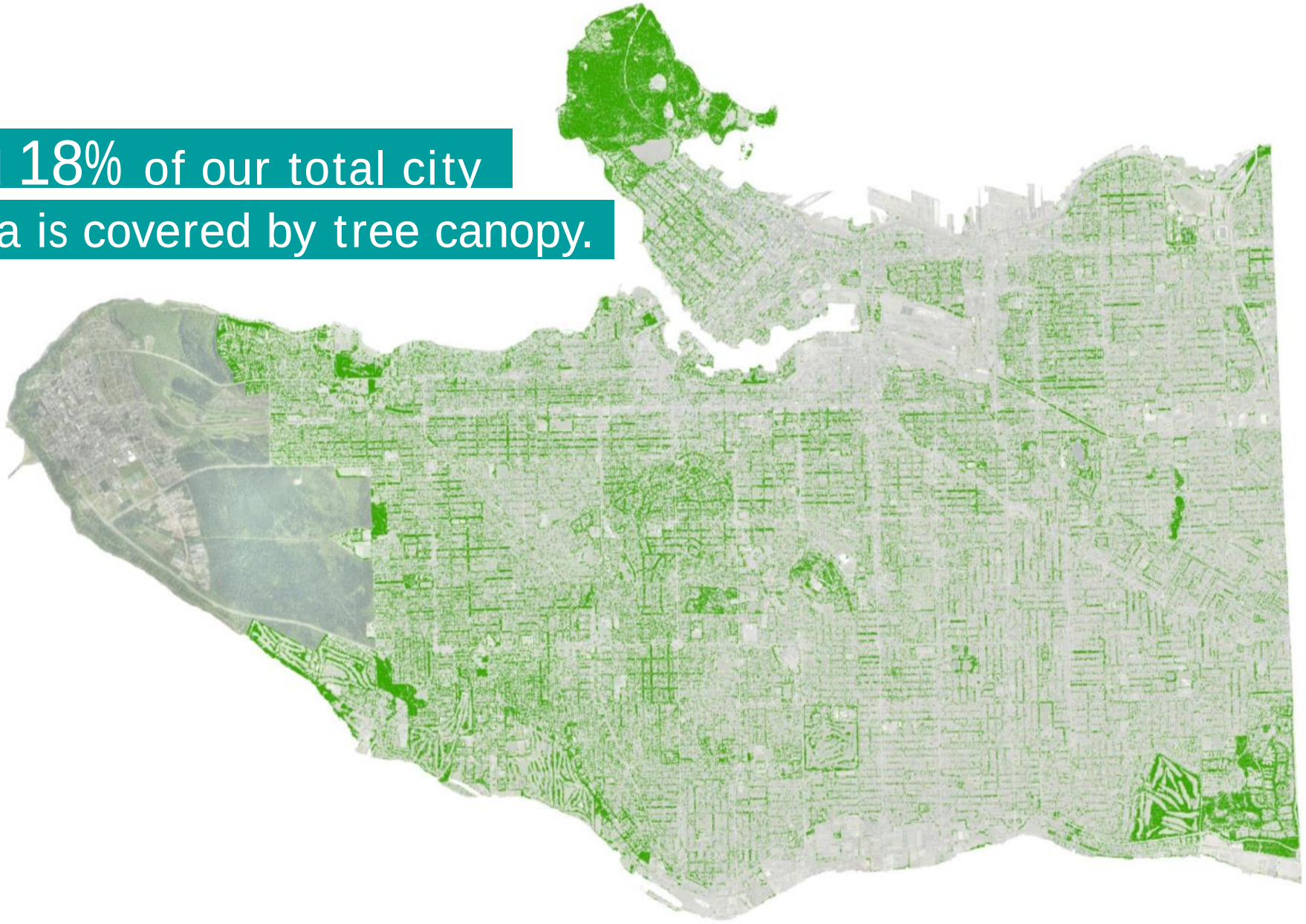
We now know canopy cover by neighbourhood.



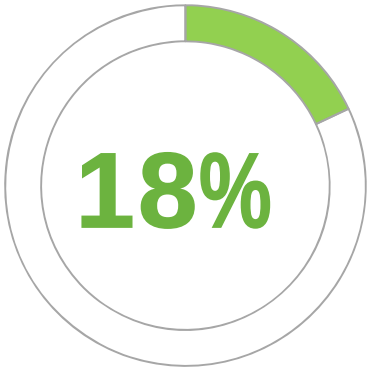
We also found that most of our canopy is on private property.



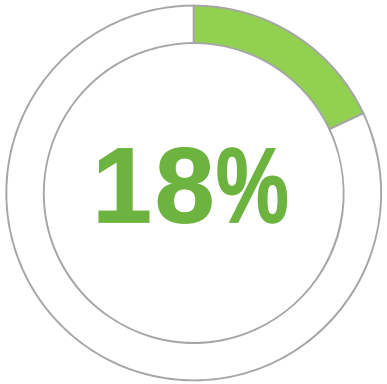
and 18% of our total city area is covered by tree canopy.



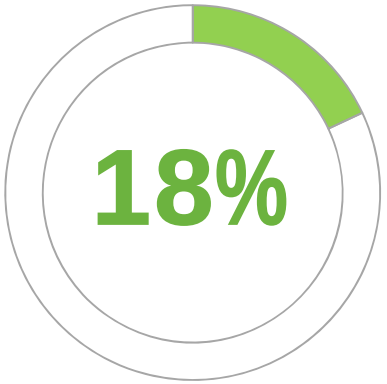
Compared to other cities, we seem to be doing ok…



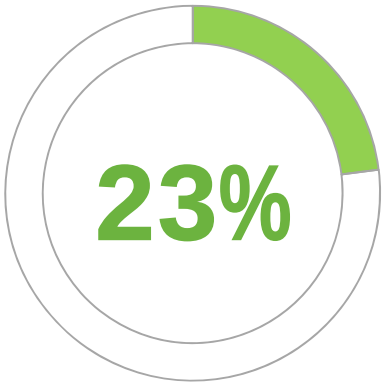
Vancouver, BC



Victoria

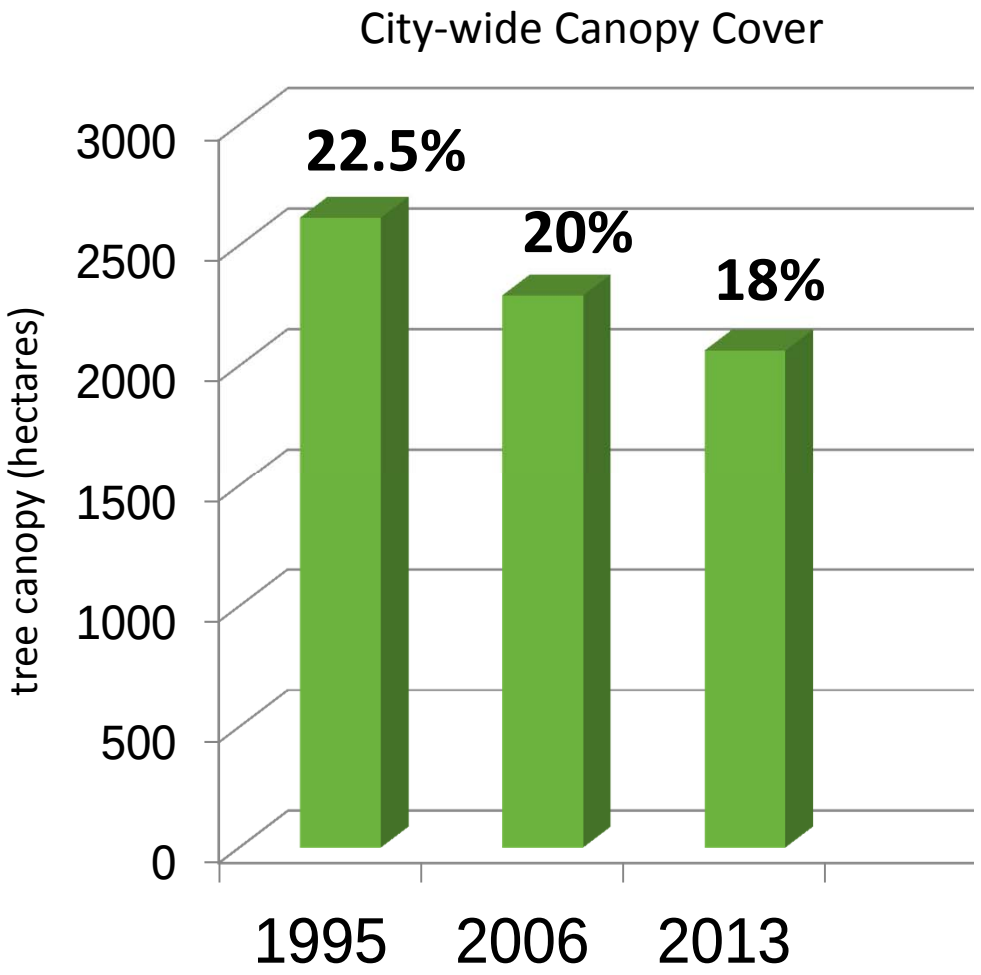


Vancouver, WA



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

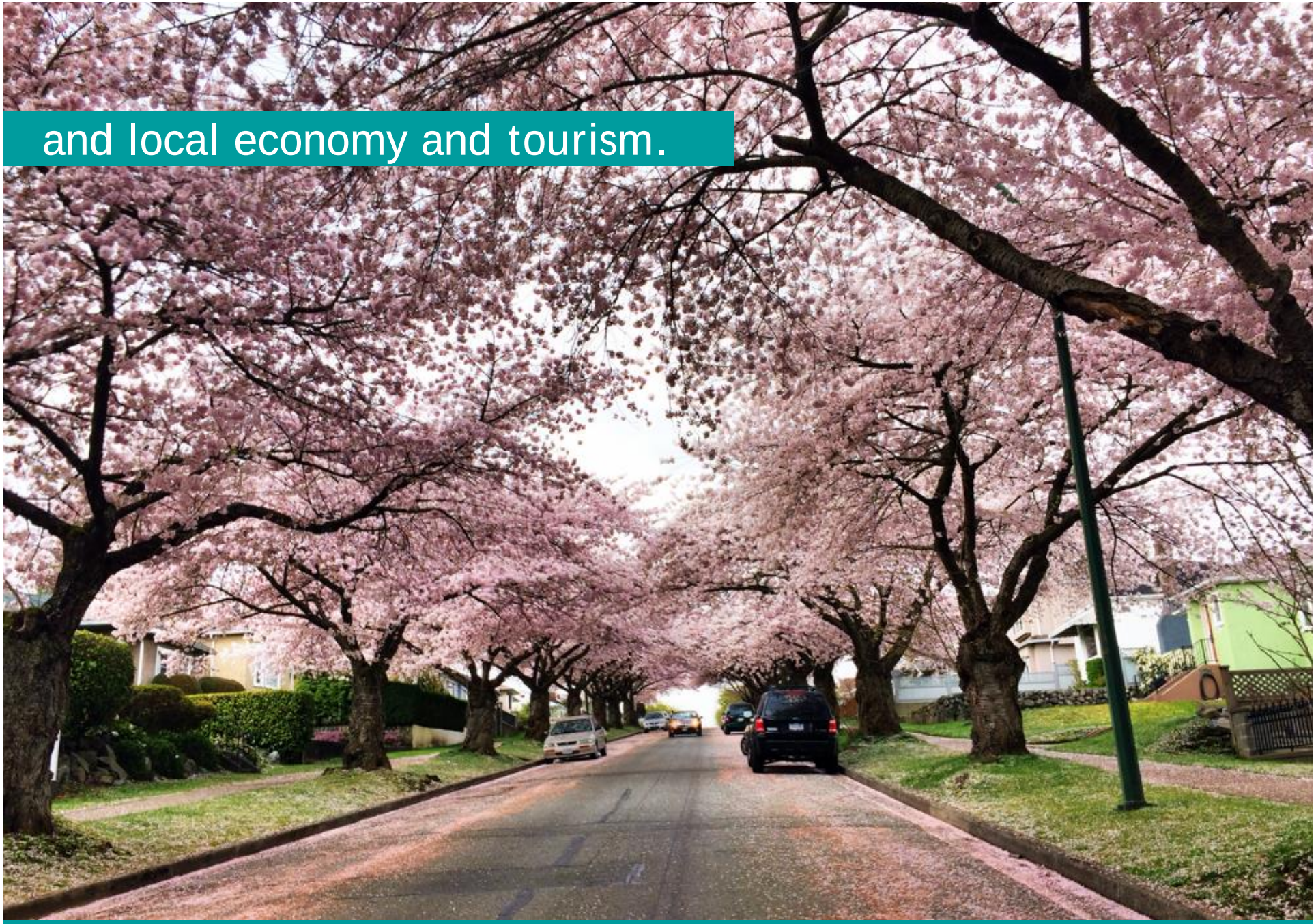

absorbing carbon dioxide to mitigate climate change
20,000 metric tons
of carbon dioxide
are absorbed by our
urban forest each year


managing rainwater

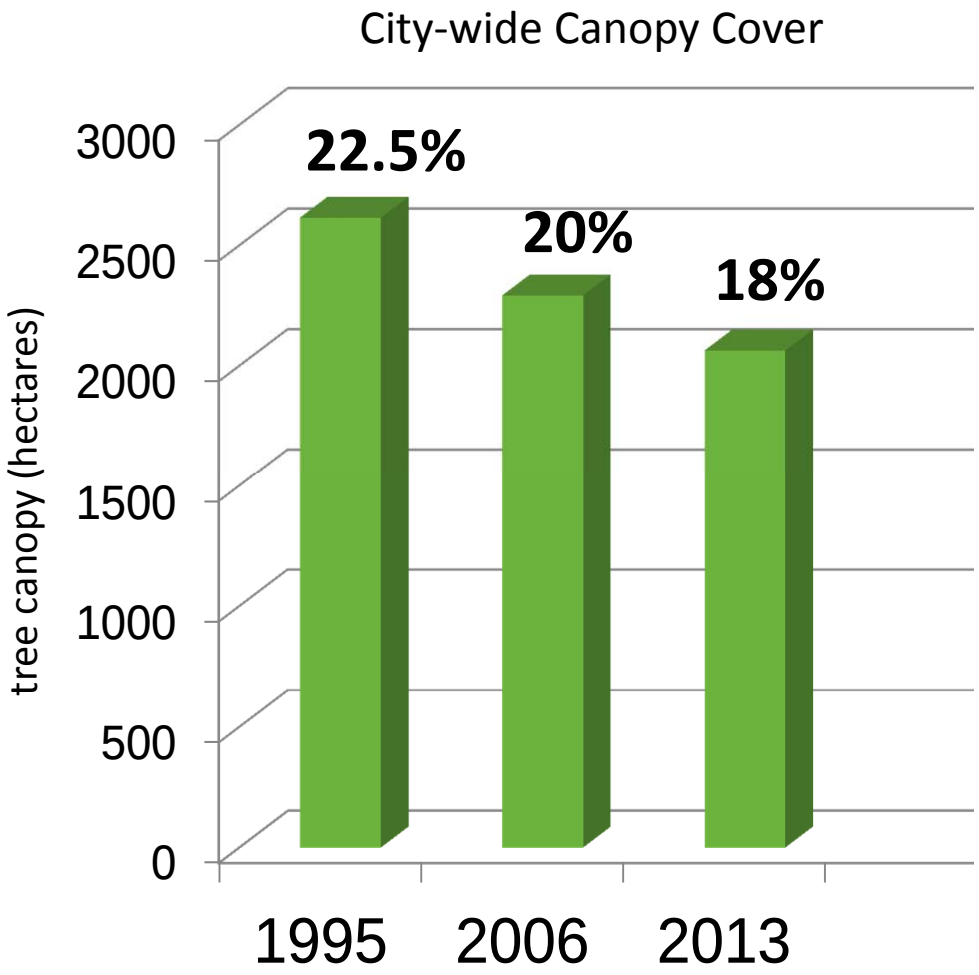

providing wildlife habitat


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.

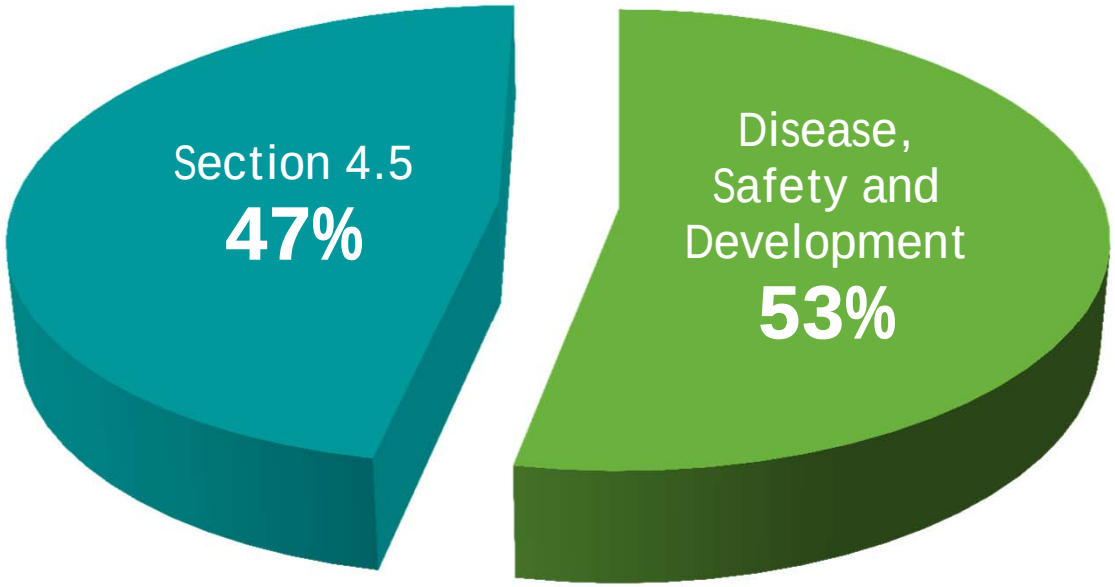


Why is our canopy cover declining?



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

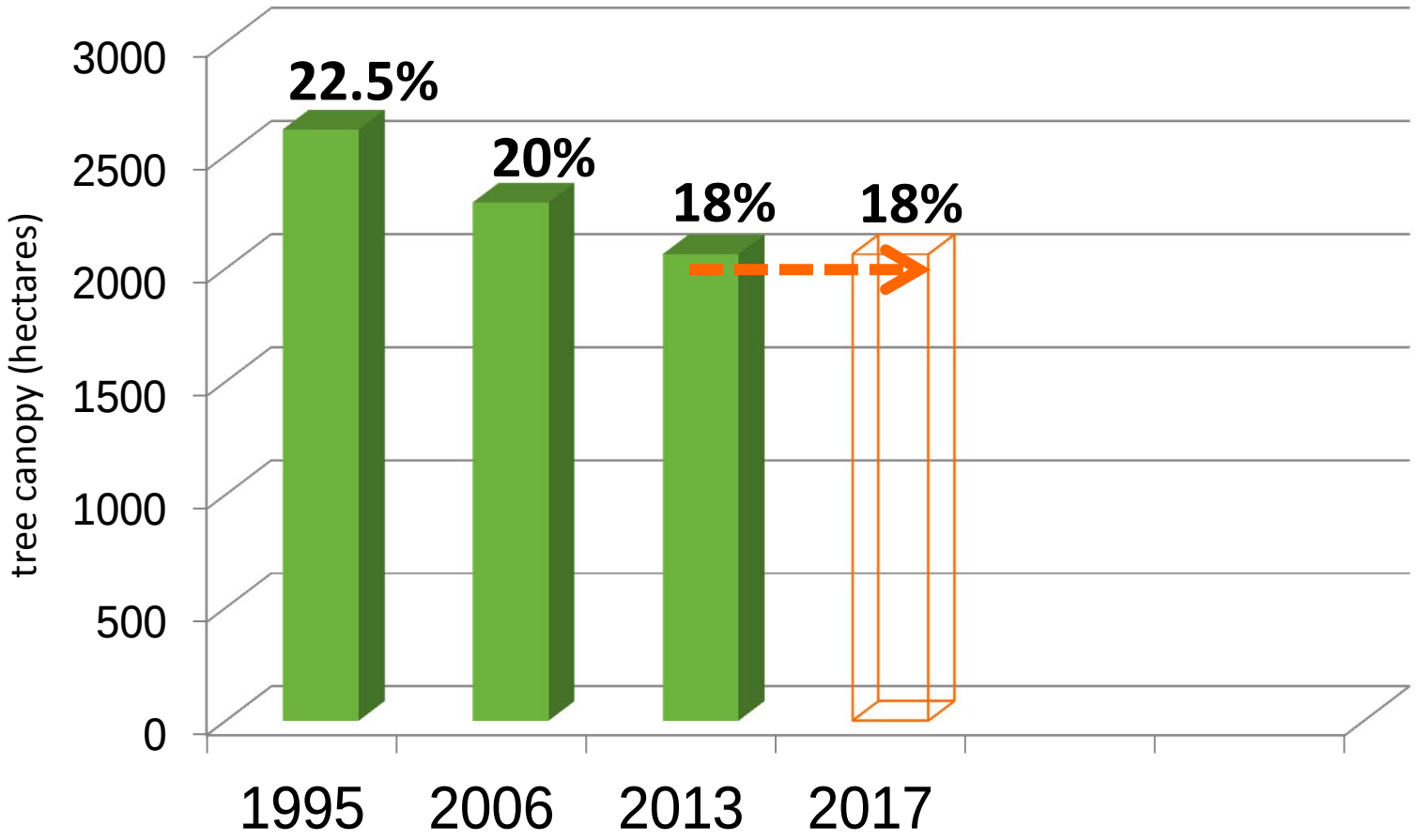
PRINCIPLE

- 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

ACTION ITEM 1

Amend Section 4 of the Protection of Trees By-law

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.


PLANT

PLANT

GOALS

Grow our urban forest canopy

Plant 150,000 trees by 2020

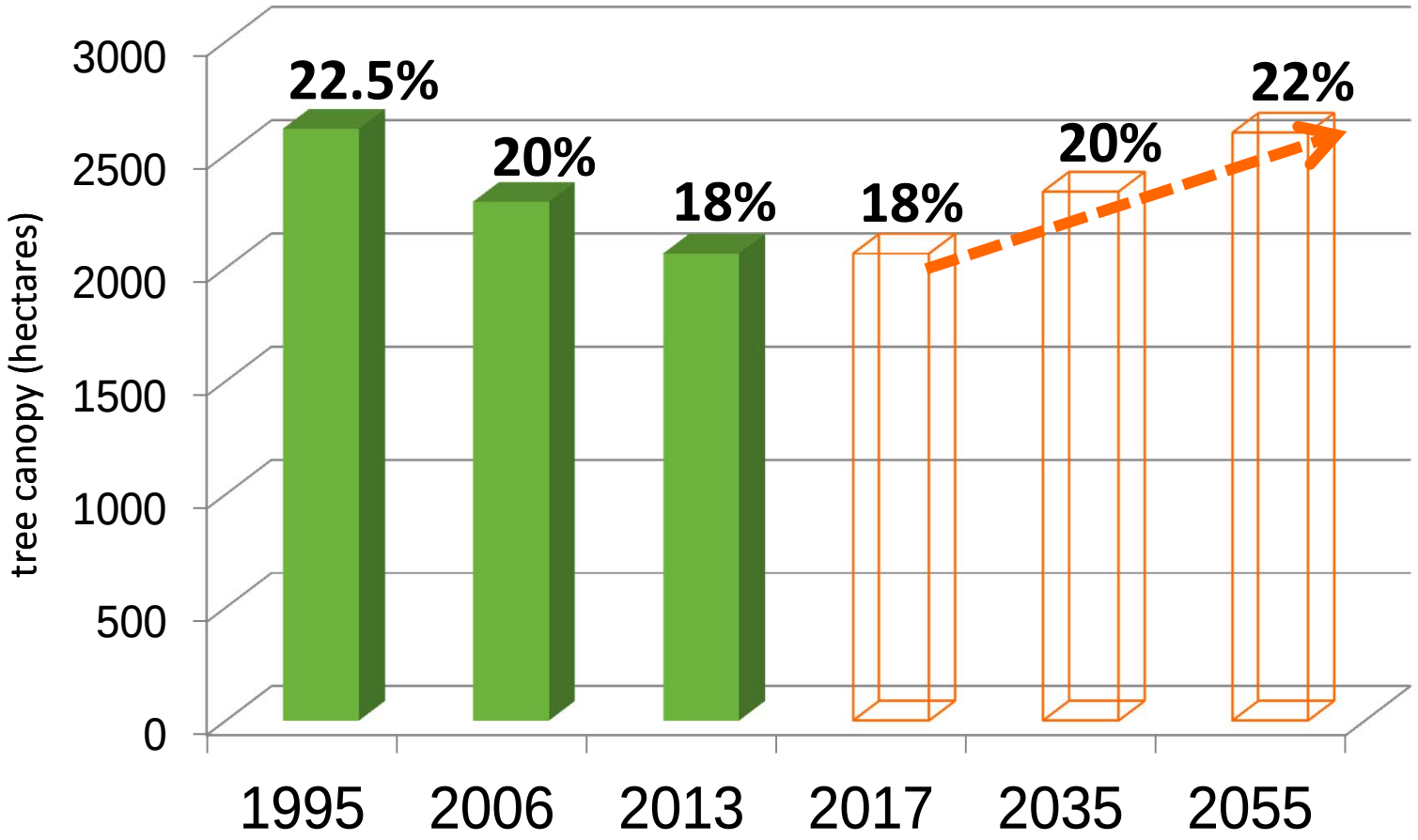
PRINCIPLE

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

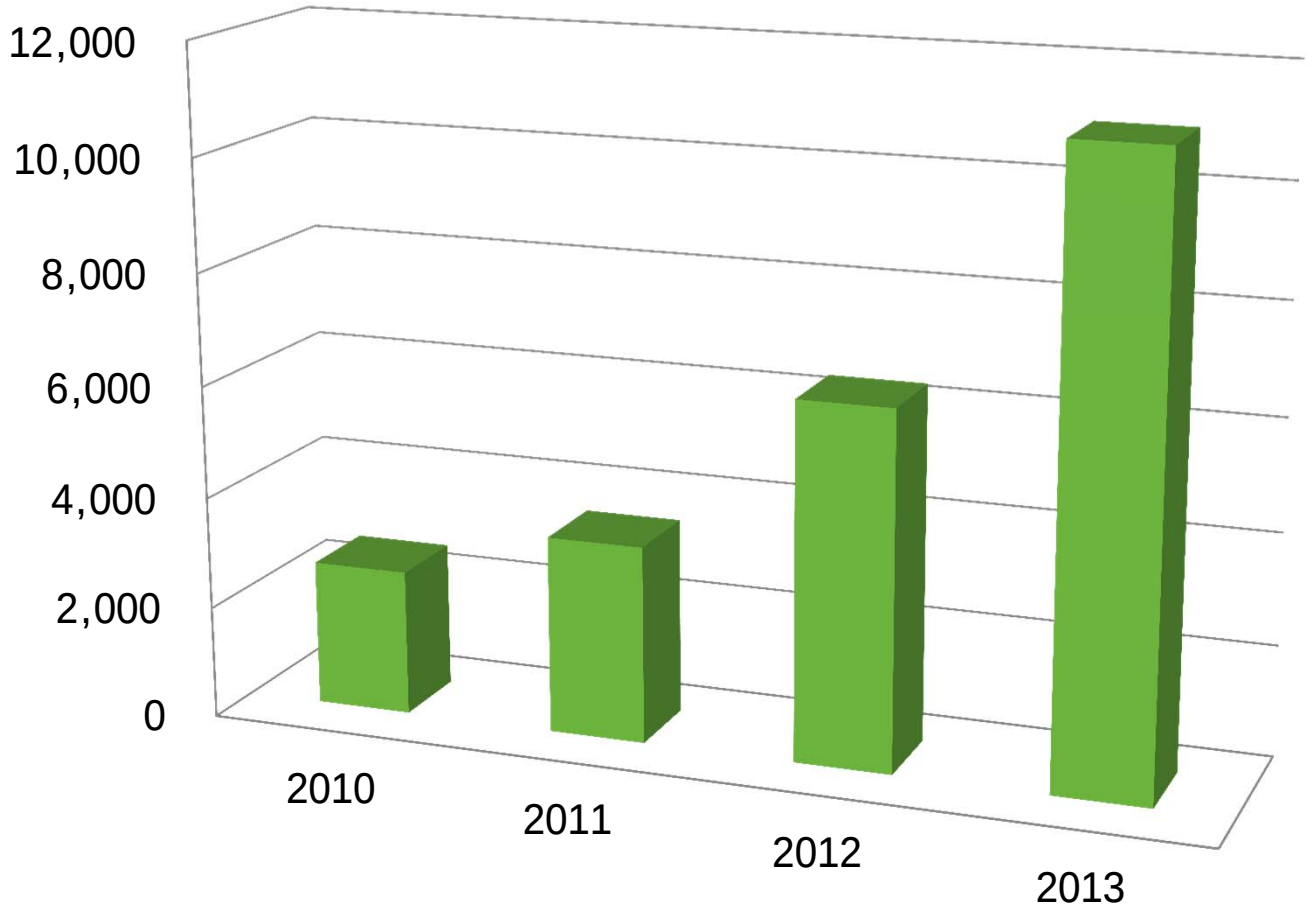
ACTION ITEM

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

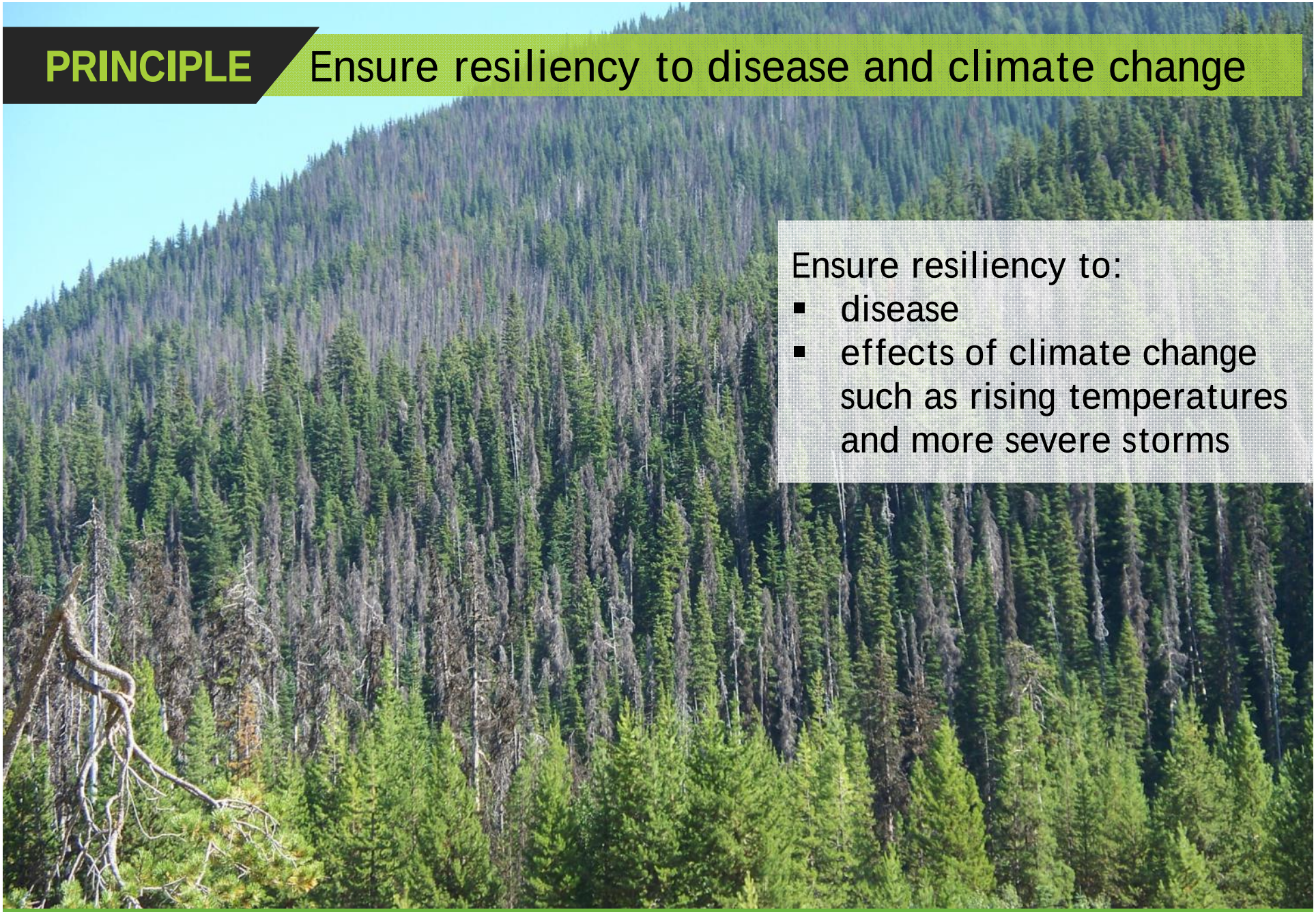
CANOPY COVER

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



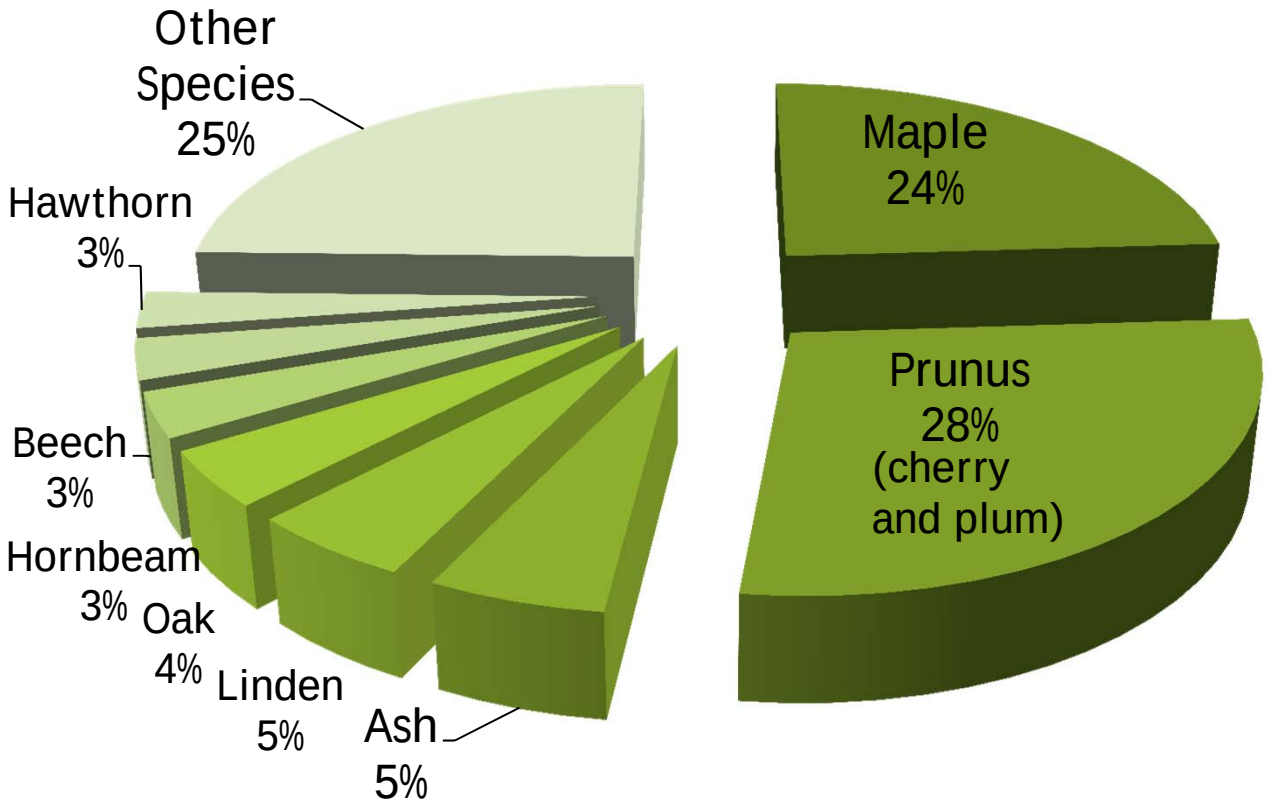
Ensure resiliency to:

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

PRINCIPLE Ensure resiliency to disease and climate change

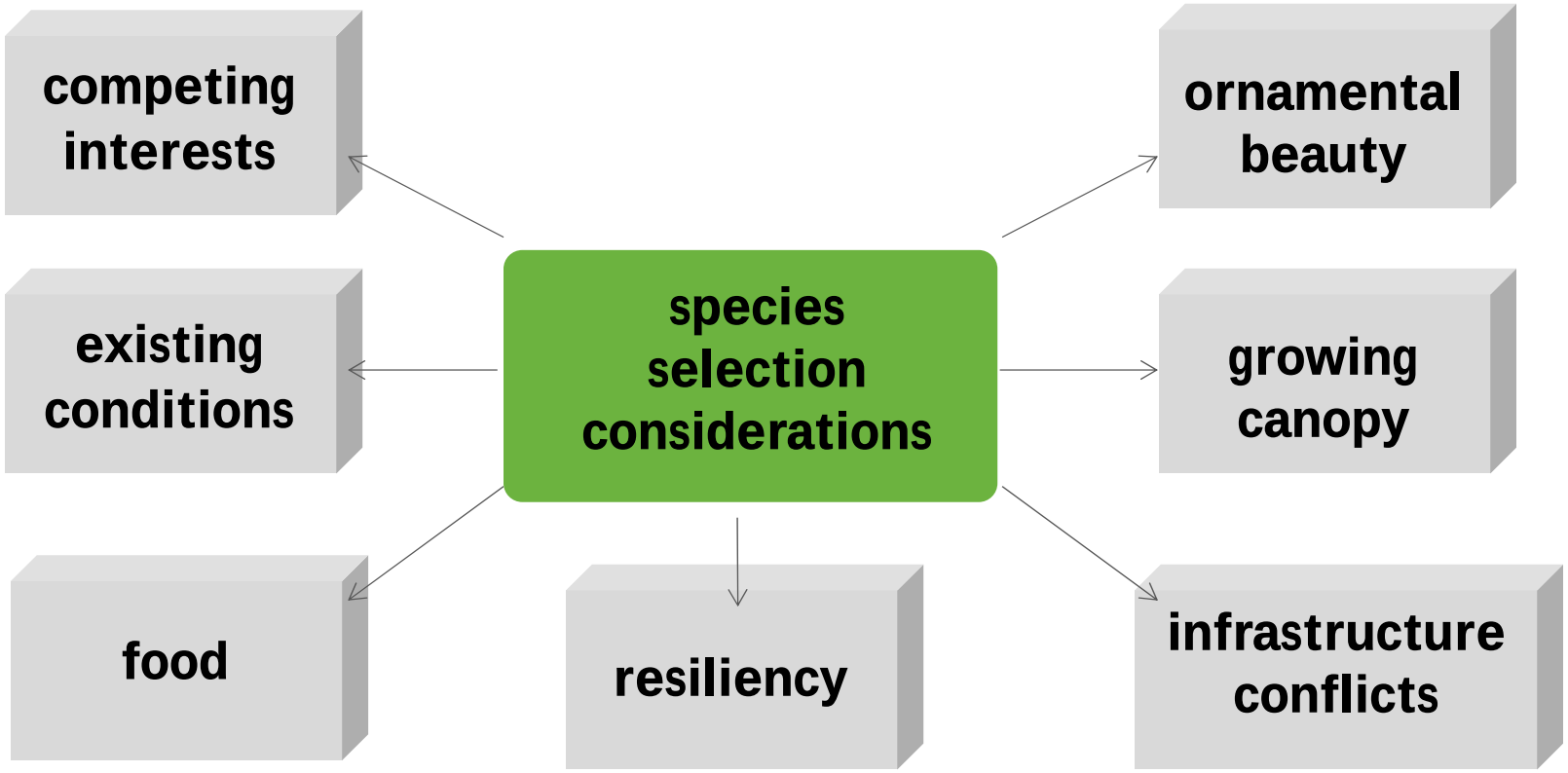
Ensure resiliency through:

- appropriate species selection
- species diversity

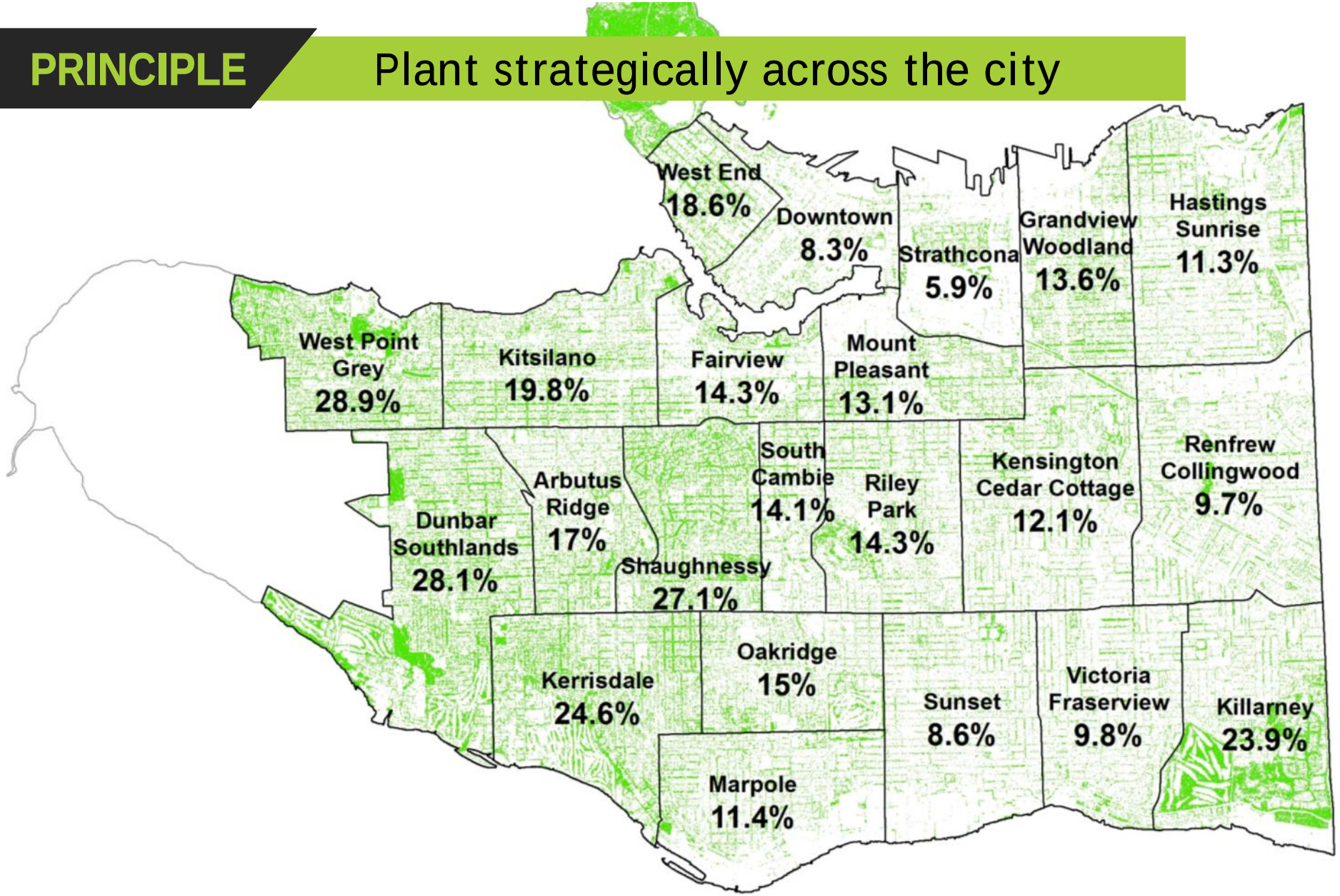


Vancouver's current street tree species

Factors in deciding WHAT to plant.

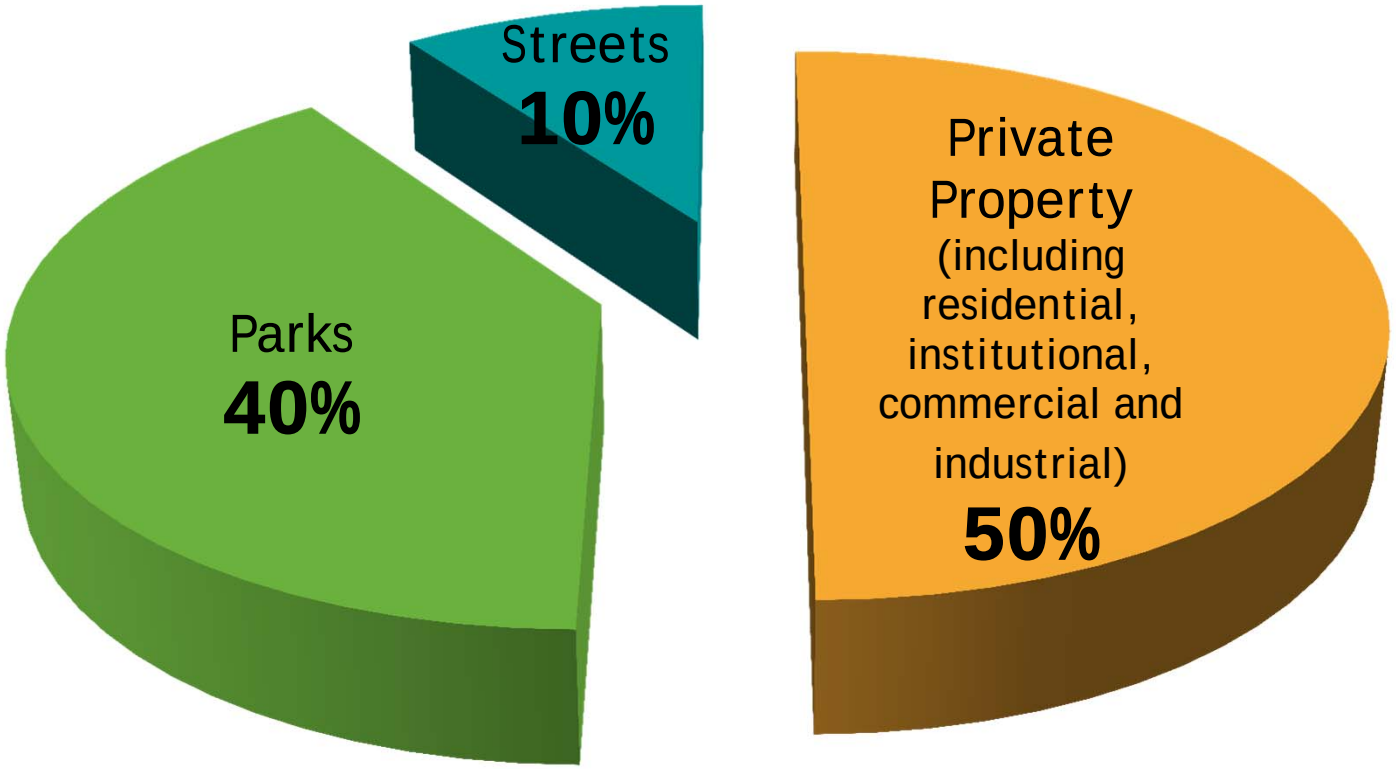


PRINCIPLE Plant strategically across the city



We need to find ways to plant

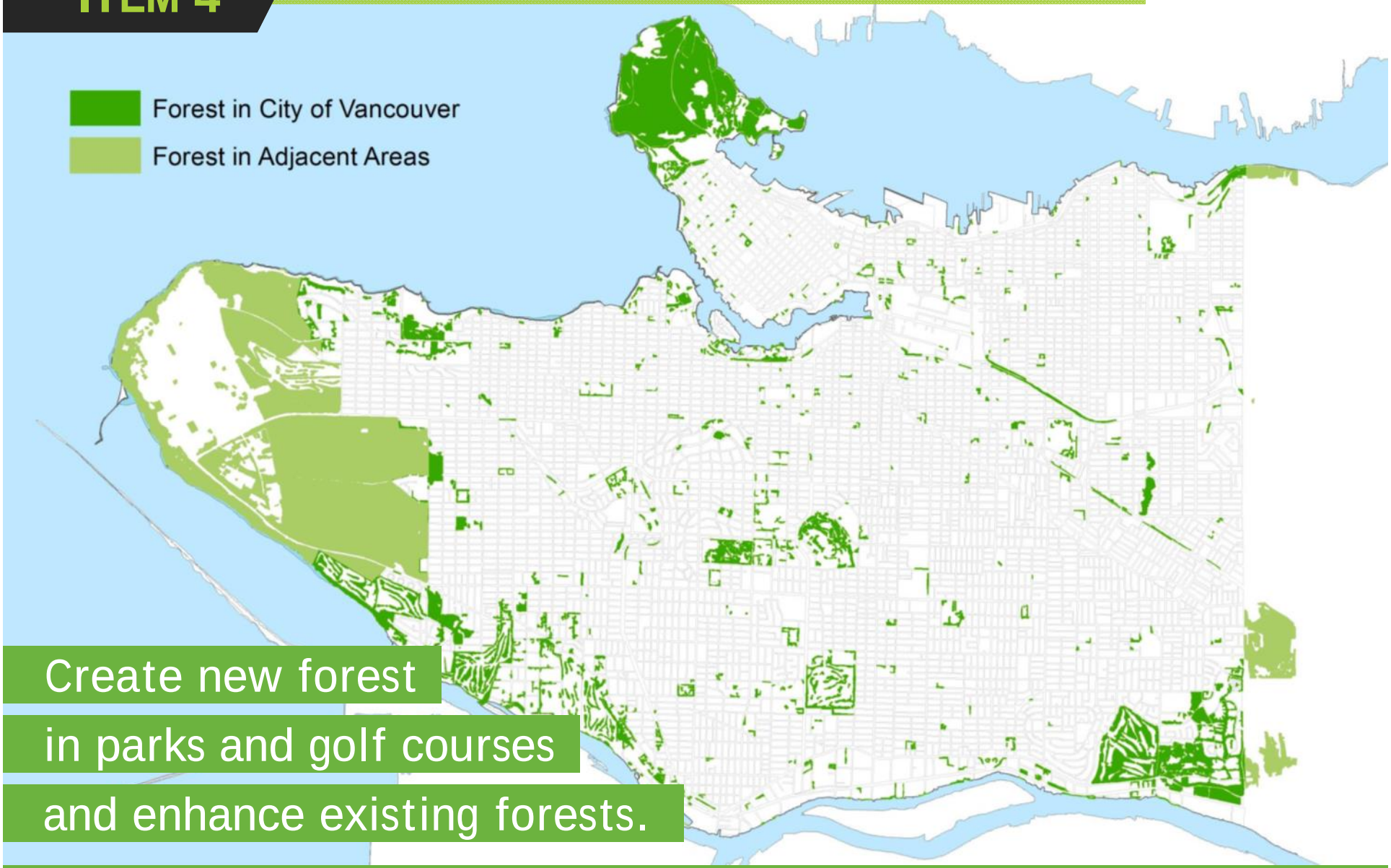
more trees in parks and private property.



Estimated Planting Capacity

ACTION ITEM 4

Expand Park Planting Programs



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

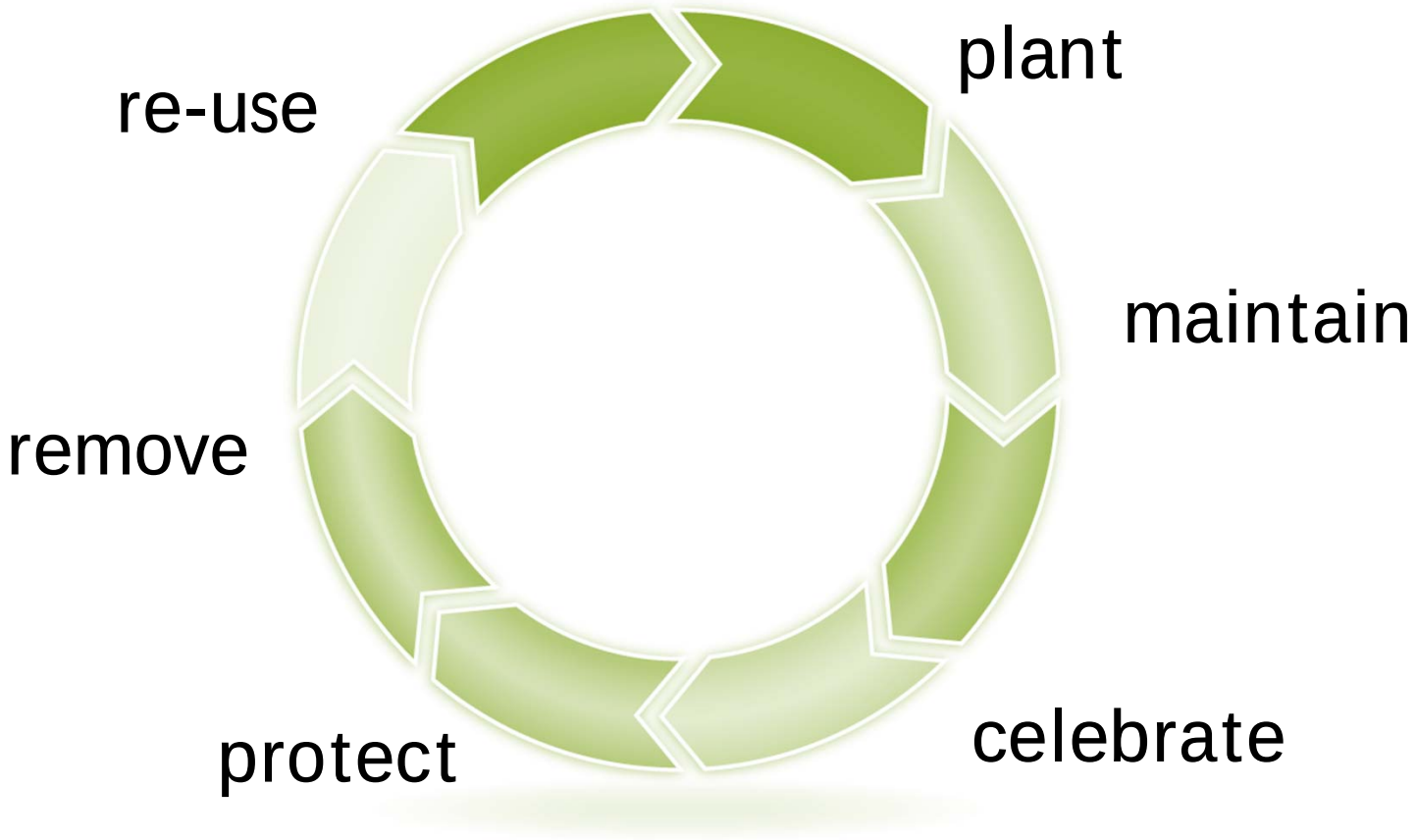
ACTION ITEM

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