

Winnipeg Urban Forest Strategy

Online Presentation
October 2020

Urban Forest Strategy | Project team present today

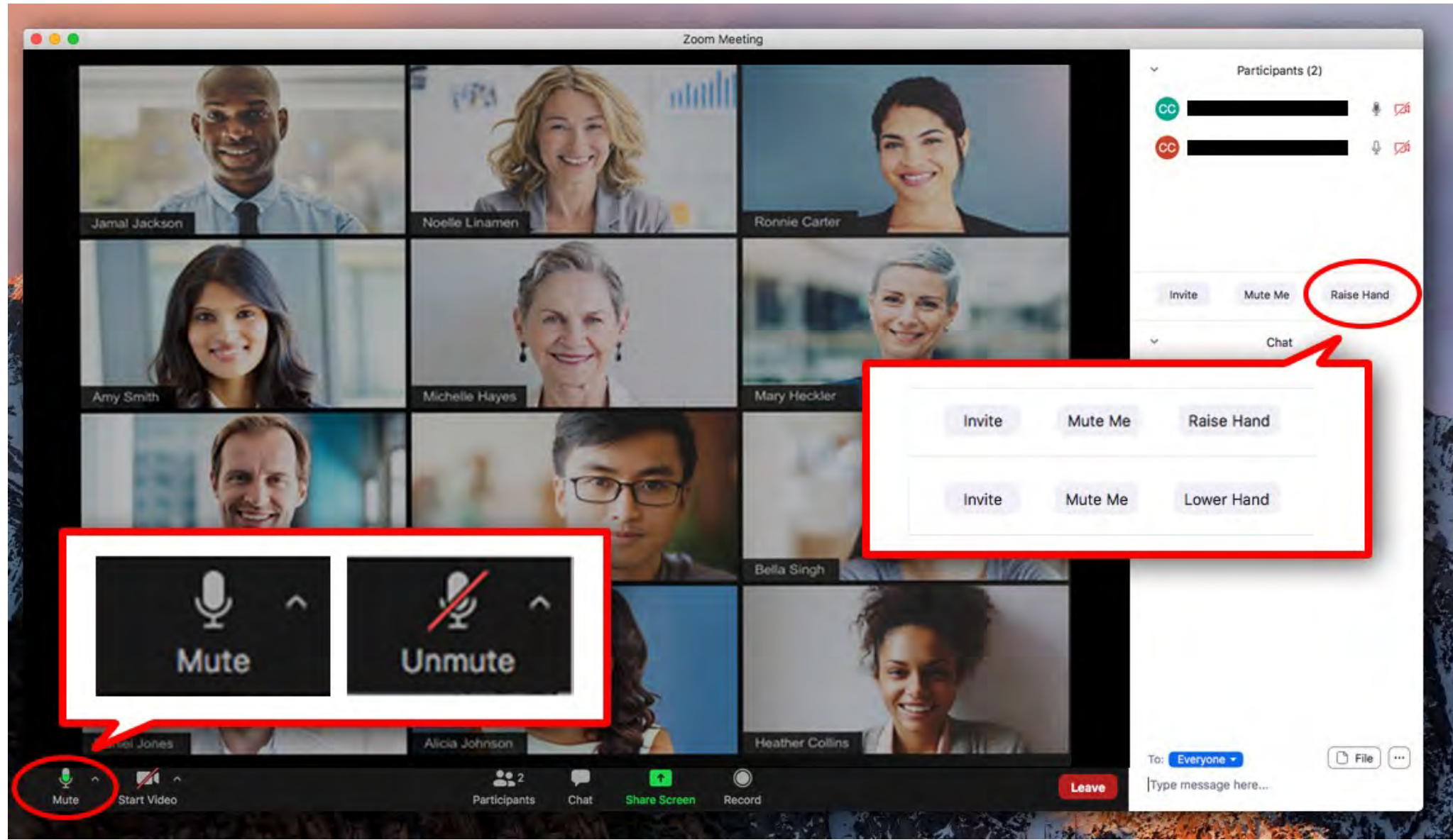
City of Winnipeg

- **Martha Barwinsky**, City Forester
- **Kerienne La France**, Supervisory of Urban Forestry Technical Services
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- **Amelia Needoba**, Principal and Senior Urban Forester
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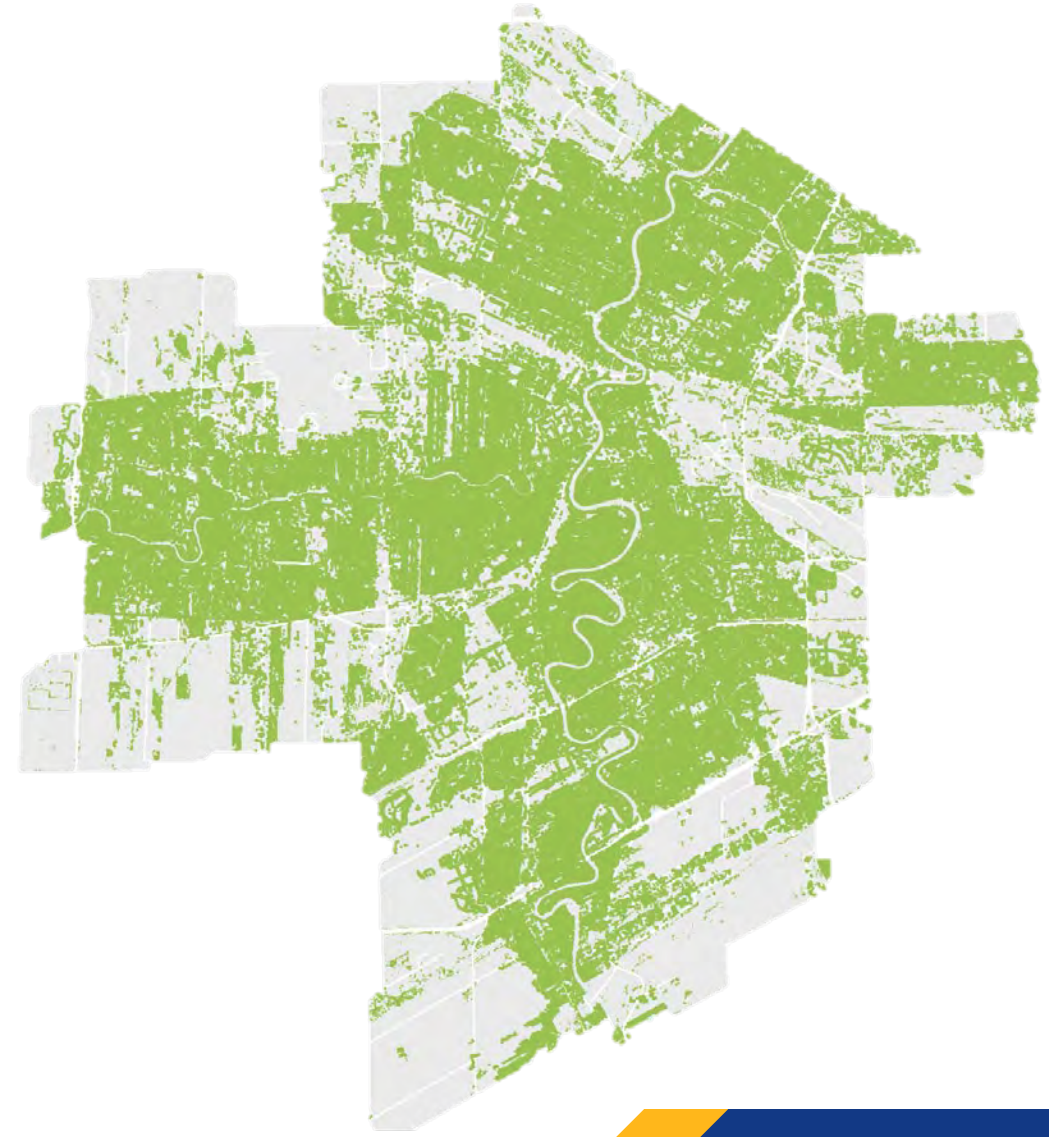
Housekeeping



Plan for today

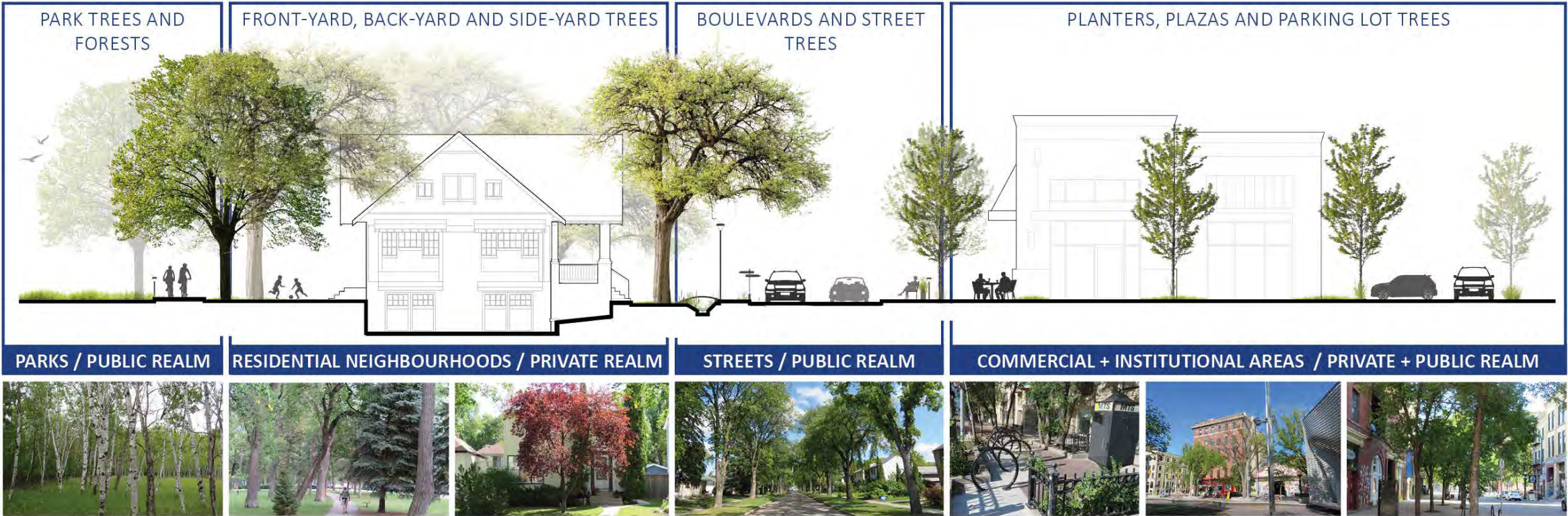
Winnipeg Urban Forest Strategy

- Project introduction & timeline
- Winnipeg's urban forest
- How to participate
- Next steps
- Q&A



What is the urban forest?

Winnipeg’s urban forest includes the vegetation, trees, soil, and associated natural processes in our urban areas. The urban forest is in our parks, on our streets, and in our own backyards.



Urban forestry is the 'art, science and technology of managing trees and forest resources in and around urban community ecosystems for the physiological, sociological, economic, and aesthetic benefits trees provide society'

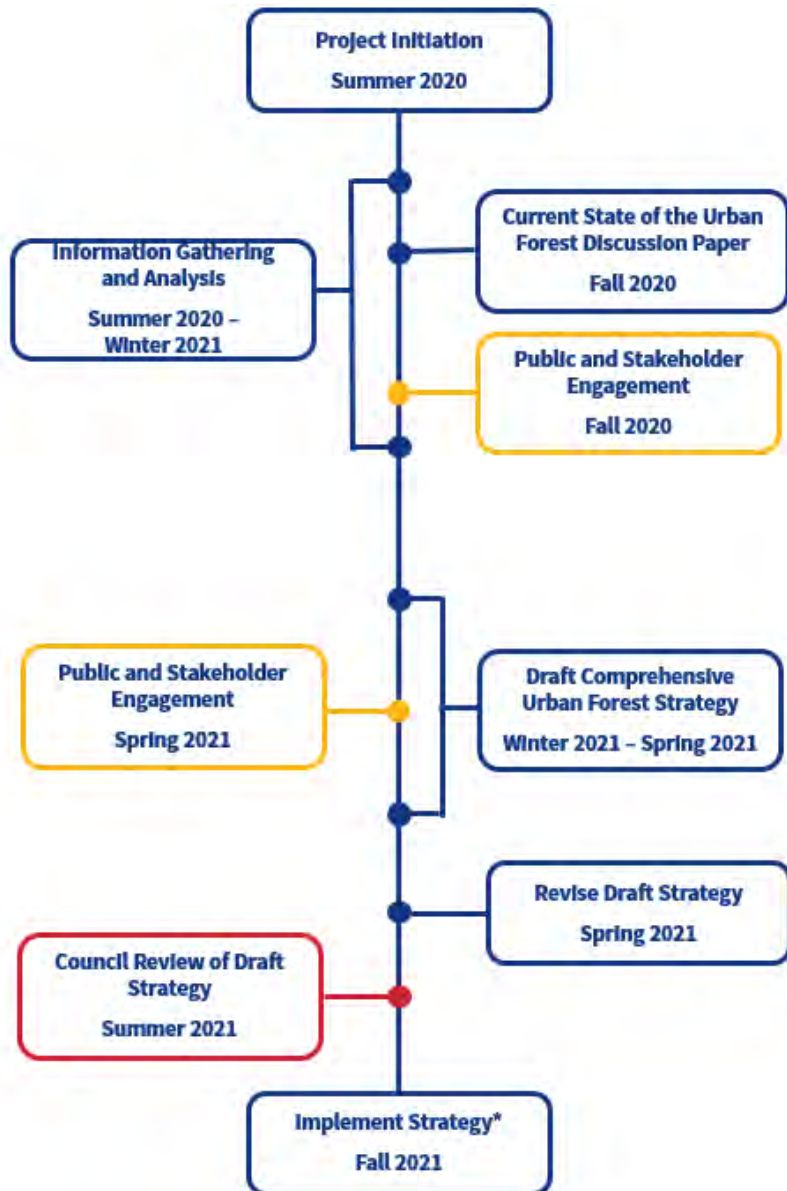
(Helms, 1998)

What is an urban forest strategy?

Winnipeg's Urban Forest Strategy will provide a 20-year vision for our city's tree canopy and develop policy, recommendations, and strategic actions to help protect, preserve, and grow the canopy well into the future. Work is completed in four main steps:



Project timeline



Fall 2020

- Completion of Discussion Paper
- Public Engagement - Round 1

Spring 2021

- Draft Comprehensive Urban Forest Strategy
- Public Engagement – Round 2

Summer 2021

- Council Review of Strategy

WINNIPEG'S URBAN FOREST



Point Douglas area 1875

BROADWAY LOOKING WEST, WINNIPEG, MAN.



Abt 1902

Winnipeg's urban forest legacy

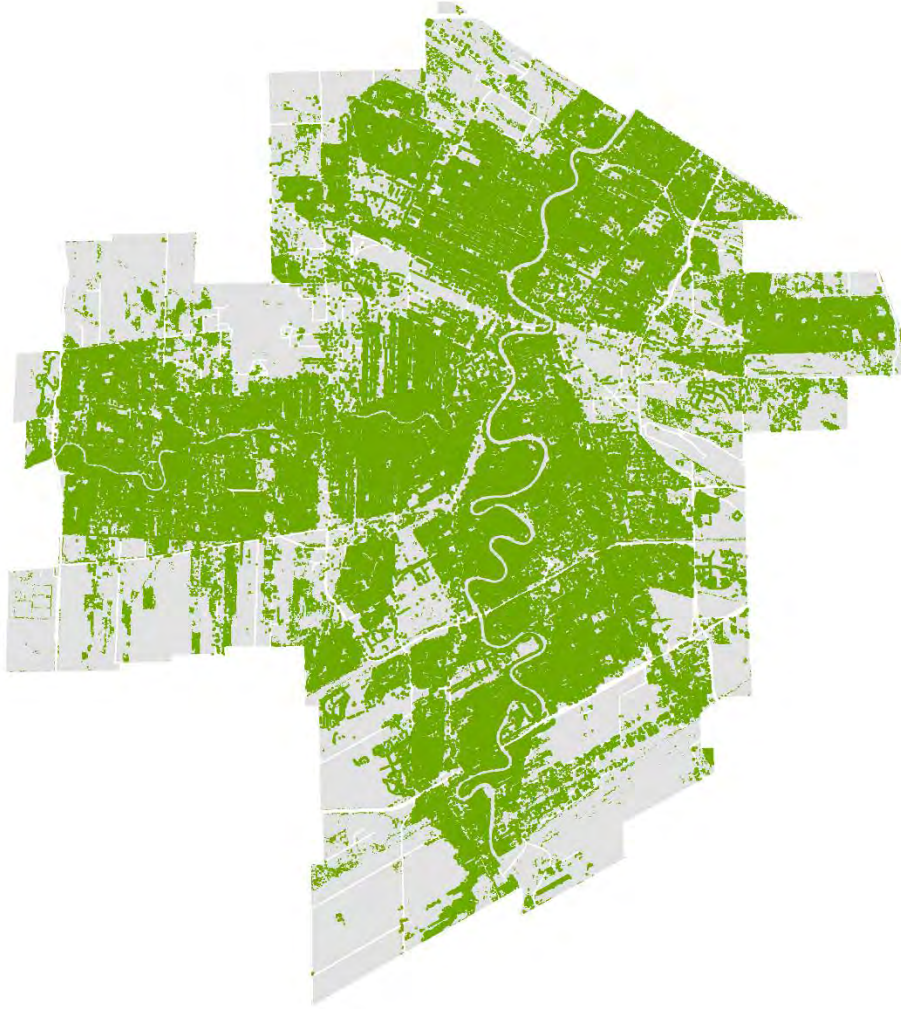


winnipeg.ca/urbanforest

Today

- More than 3 million trees (planted and natural)
- 300,000 inventoried street and park trees
- Most abundant species:
 - Trembling aspen
 - Ash
 - Bur oak
 - American elm
 - Manitoba maple

Winnipeg's urban forest legacy



Today

- Canopy cover estimate underway

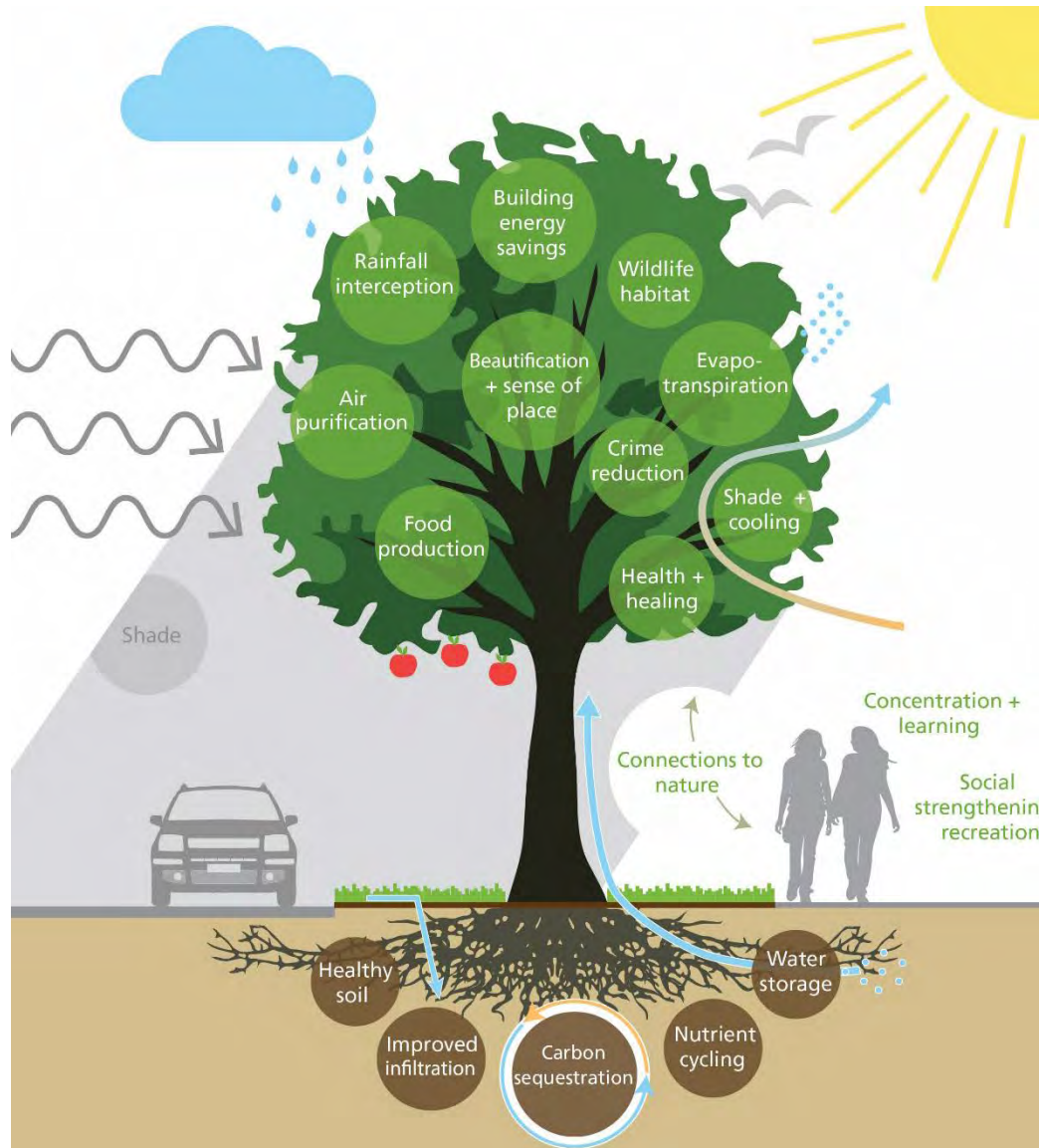
Winnipeg ?%

Edmonton 10%
Reported 2012

Saskatoon 9%
Reported 2017

Calgary 8%
Reported 2015

The value of Winnipeg's urban forest

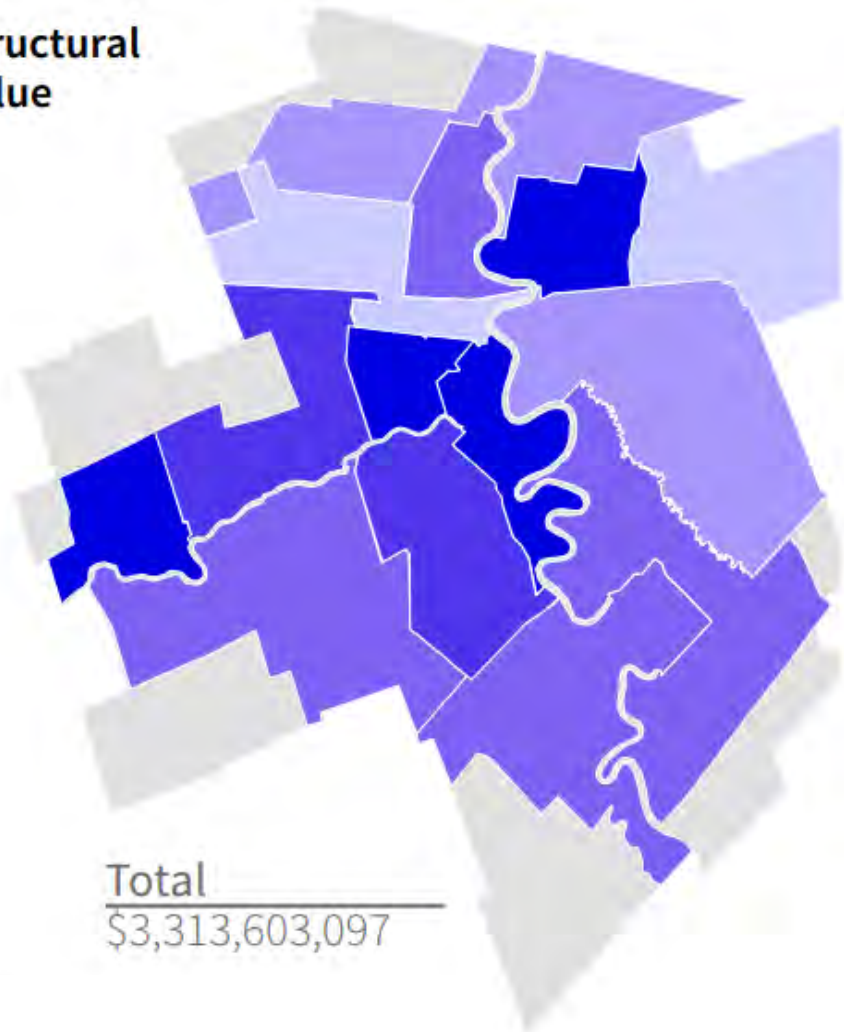


Urban forests provide a wide range of physiological, sociological, economic, and aesthetic benefits to communities

- Many scientific studies on urban forest benefits are summarized on the *Green Cities: Good Health* website (<http://depts.washington.edu/hhwb/>)

The value of Winnipeg's urban forest

Structural
Value



In 2019, Trees Winnipeg and the City of Winnipeg completed an i-Tree Eco study to measure Winnipeg's urban forest benefits. Findings included:

- Structural value of more than \$3 billion
- Building energy savings of \$5.8 million per year
- Carbon storage value of \$39.4 million
- Avoided runoff of 1.2 million cubic metres (480 Olympic swimming pools)

The value of Winnipeg's urban forest



Wolseley Walking Tour – Stop #1

The value of Winnipeg's urban forest to the community is also demonstrated through:

- Activism (e.g., Wolseley elm)
- Volunteerism (e.g., community groups)
- Private land tree planting (e.g., Million Tree Challenge)
- Engagement for the Urban Forest Strategy so far

Early results of the online survey show >87% of respondents have been personally impacted by tree loss and >70% rate the impact as severe

“Beautiful elms that provided shade and shelter for birds and other animals have died due to Dutch Elm disease. I deeply miss the beautiful large trees and hope one day that there will be a tree just as beautiful in its place for the animals and people to enjoy” – Survey respondent

URBAN FOREST CHALLENGES AND OPPORTUNITIES

Key challenges and opportunities

Pests & Diseases



Urbanization & Development



Climate Change



Asset Management



PESTS & DISEASES

Winnipeg's challenges and opportunities | Pests and Disease

Active and emerging pest and disease threats



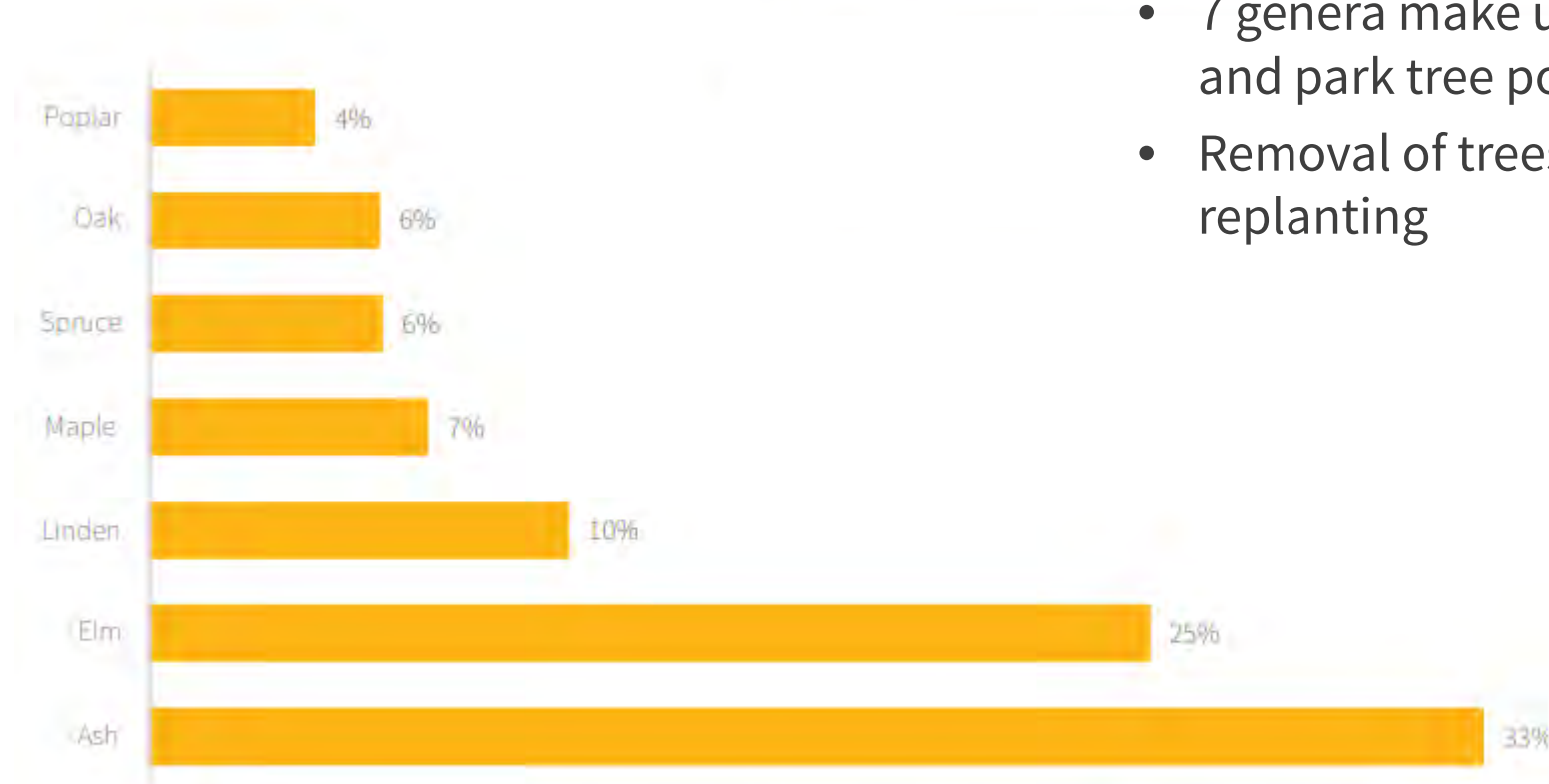
Wolseley Walking Tour – Stop #2

- Dutch elm disease (>6,000 elms removed per year)
- Cottony ash psyllid (>1,000 black ash removed per year)
- Emerald ash borer (detected 2017, anticipating ash population loss)
- Black knot
- Asian long-horn beetle (not present but in US and has broad host range)

Winnipeg's challenges and opportunities | Pests and Disease

Why Winnipeg is vulnerable?

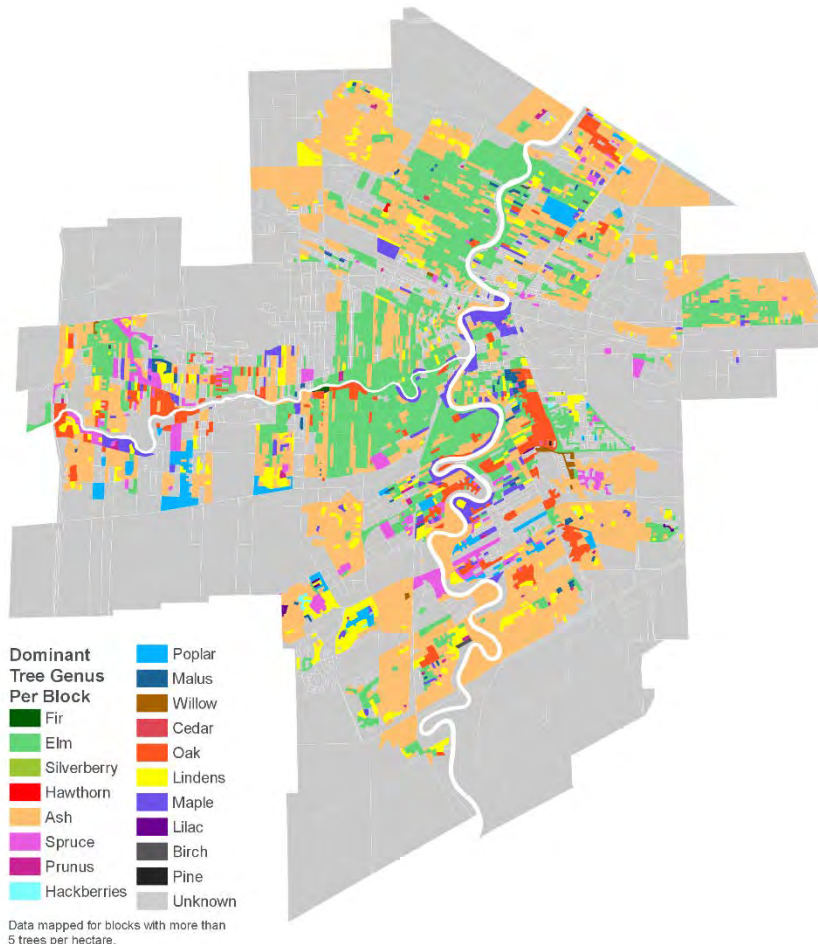
- 7 genera make up 91% of Winnipeg's street and park tree population
- Removal of trees exceeds the rate of replanting



The dominant genera in Winnipeg's urban tree inventory (2020)

Winnipeg's challenges and opportunities | Pests and Disease

Why Winnipeg is vulnerable?



- Ash and American elm make up more than 50% of the City tree inventory
- Ash and American elm are also abundant in natural areas and on private land
- Ash and elm also contribute the most tree canopy and leaf area, which means they produce the most benefits (e.g., carbon storage, rainwater interception) and provide critical natural habitat and biodiversity

Winnipeg's challenges and opportunities | Pests and Disease

What is being done



St. Vital Park Walking Tour – Stop #5

- Dutch Elm Disease (DED) management program for American elms on public and private property
- Emerald Ash Borer (EAB) control program treating ash on public property
- Diversifying tree species planted (ash no longer being planted)
- One million tree challenge – Mayor's initiative
- Community and research partnerships

URBANIZATION & DEVELOPMENT

Winnipeg's challenges and opportunities | Urbanization & development

Urbanization & development impacts



- Urban streetscapes
- Streetscape upgrades
- Infrastructure renewal/conflicts
- Building redevelopment, infill or new construction

Winnipeg's challenges and opportunities | Urbanization & development

Why Winnipeg is vulnerable – urban streetscapes and streetscape upgrades



Winnipeg's challenges and opportunities | Urbanization & development

Why Winnipeg is vulnerable – infrastructure renewal



Winnipeg's challenges and opportunities | Urbanization & development

Why is Winnipeg vulnerable – infrastructure renewal/conflicts



Kildonan Park Walking Tour – Stop #2



St. James Walking Tour – Stop #4

Winnipeg's challenges and opportunities | Urbanization & development

Why is Winnipeg vulnerable – building redevelopment, infill or new construction



Winnipeg's challenges and opportunities | Urbanization & development

What is being done



- Zoning Bylaw requires one tree per frontage in residential areas and credits tree retention in lieu of planting
- Development Agreements require boulevard tree planting
- Tree Planting and Maintenance Specifications require protection of City trees during development
- City Tree Removal Guidelines help to guide when City trees can or cannot be removed
- Guidelines for maintaining City trees provide parameters for who can work on City trees
- Water sensitive urban design strategies to reduce runoff using natural amenities

CLIMATE CHANGE

Winnipeg's challenges and opportunities | Climate change

Active and emerging threats from climate change



Kildonan Park Walking Tour – Stop #3

winnipeg.ca/urbanforest

CHANGES TO...



TEMPERATURES

Much warmer winters, many more hot days



GROWING SEASONS

Frost-free period longer by 40 days. DD10 increases from 1042 to 1725.



PRECIPITATION

Slight increase overall, wetter springs, drier late summers



EXTREME WEATHER

Potential changes in frequency and intensity of extreme weather events.



MOISTURE AVAILABILITY

Increased rates of evaporation and transpiration may create drier conditions during the growing season.

Winnipeg's challenges and opportunities | Climate change

Active and emerging threats from climate change

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Increased rates of evaporation and transpiration may create drier conditions during the growing season.

WILL LIKELY CAUSE...



MORE EXTREME WEATHER EVENTS
Heat, extreme precipitation, flooding, icestorms or other events may happen more often leading to more tree damage.



MORE PESTS AND INVASIVE SPECIES
Pests may reproduce more rapidly and more often. Trees and ecosystems may be more vulnerable to attack and invasion.



DROUGHT STRESS
Less moisture availability may increase drought stress and urban trees may need more water to establish.

Winnipeg's challenges and opportunities | Climate change

Why Winnipeg is vulnerable?



- Species diversification is limited by extreme winter climate (may become less limited)
- Trees already under stress from pests and disease, extreme weather and construction impacts
- Planting rates already behind removal rates
- Maintenance pruning cycles that mitigate structural weaknesses in trees already behind best practices
- Loss of elm, now ash may enable invasive species like buckthorn to invade natural areas

Winnipeg's challenges and opportunities | Climate change

What is being done



- Community and research partnerships
- Diversifying tree species planted
- Native species nursery and riverbank forest restoration (Naturalist Services)
- Climate action plan implementation:
 - Climate-friendly landscaping
 - Improvement of the ecological network regionally
 - Increasing and preserving tree canopy
 - Minimum number of trees in new neighbourhoods

MANAGING CITY TREES AS ASSETS

Winnipeg's challenges and opportunities | Managing City trees as assets

Asset management objectives



Typical asset management objectives:

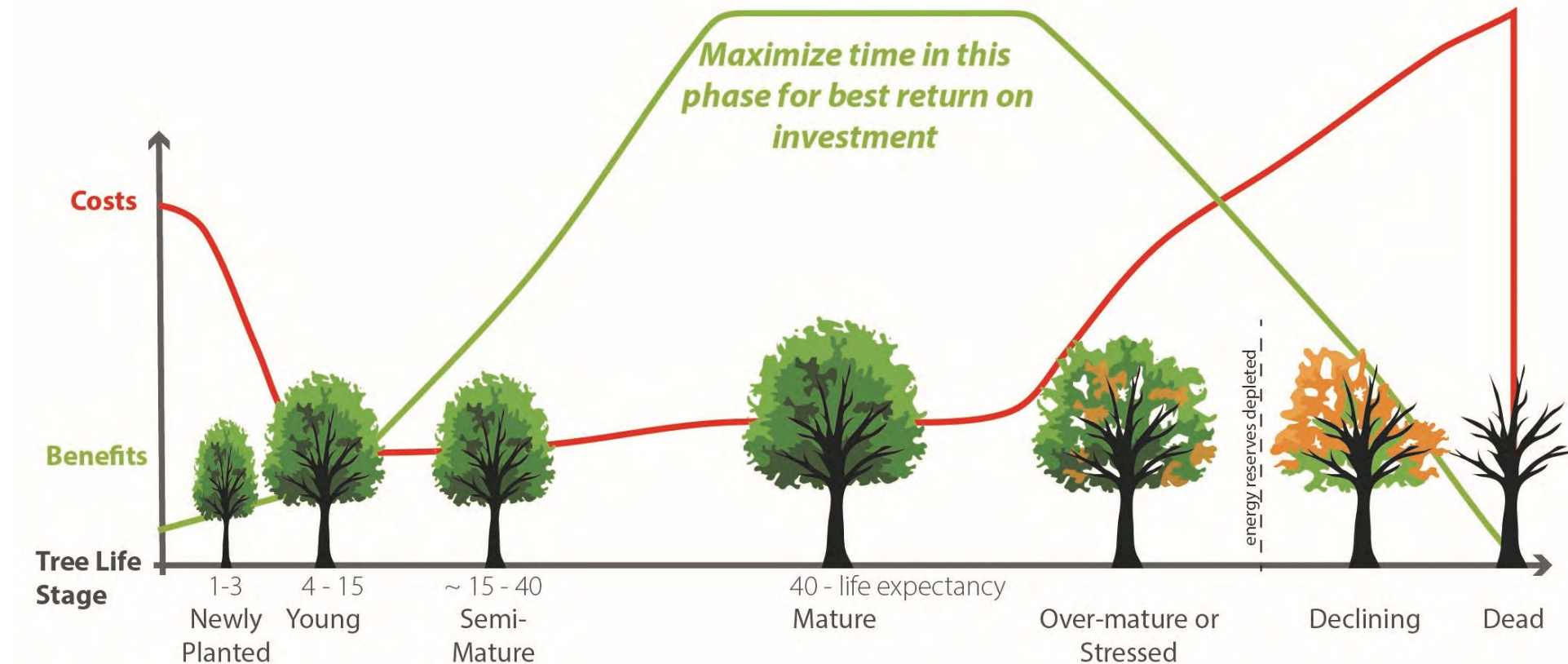
- Maximizing benefits
- Minimizing risk
- For least cost

Asset management involves:

- Inventorying what we have and its condition
- Understanding life cycle costs
- Budgeting for management and replacement of assets over their life cycle

Key challenges and opportunities | Managing City trees as assets

Unlike most assets (e.g., roads, pipes etc.) trees grow in value over time



Winnipeg's challenges and opportunities | Managing City trees as assets

Why is Winnipeg vulnerable?



- Pests and diseases
- Climate hazards
- Construction damage
- Quality of planting environments
- Pruning and planting backlogs
 - Pruning cycle @ 31 years instead of industry best practice of 7 years
 - Planting rates falling behind removals (2019 replacement rate 27%)
 - Assessing planting site vacancy rate (new) and replacement timeline has increased
 - Natural asset value not well understood

Winnipeg's challenges and opportunities | Managing City trees as assets

What is being done



St. James Walking Tour – Stop #5

- Strong inventory data for City trees in urban areas, and for vacant sites
- Some inventory data for natural areas
- Systematic and priority pruning program is guided by tree inventory
- Formal budget for DED program
- EAB control undertaken as resources permit
- Capital budget for urban forest enhancement and reforestation

What will the Urban Forest Strategy do?

- Define the current state of the urban forest
- Review current practices and assess performance relative to sustainable urban forest criteria
- Establish a vision and targets for Winnipeg's future urban forest – preservation, protection and management
- Develop a framework for how to get there

HOW TO PARTICIPATE

How to participate

Visit engage.winnipeg.ca/UrbanForest

Winnipeg Urban Forest Strategy



Introduction

Winnipeggers enjoy and value the city's trees. Now is the time to plan to ensure we continue to enjoy our urban forest for years to come.

The Winnipeg Urban Forest Strategy will provide a 20-year vision for our city's tree canopy and develop policy, recommendations, and strategic actions to help protect, preserve, and grow the canopy well into the future.

It will provide direction for all of Winnipeg's urban forest, which includes vegetation, trees, soil, and associated natural processes across both public and private lands. The urban forest is in our parks, on our streets, and in our own [Continue reading](#)

UPDATES

GET INVOLVED!

TIMELINE

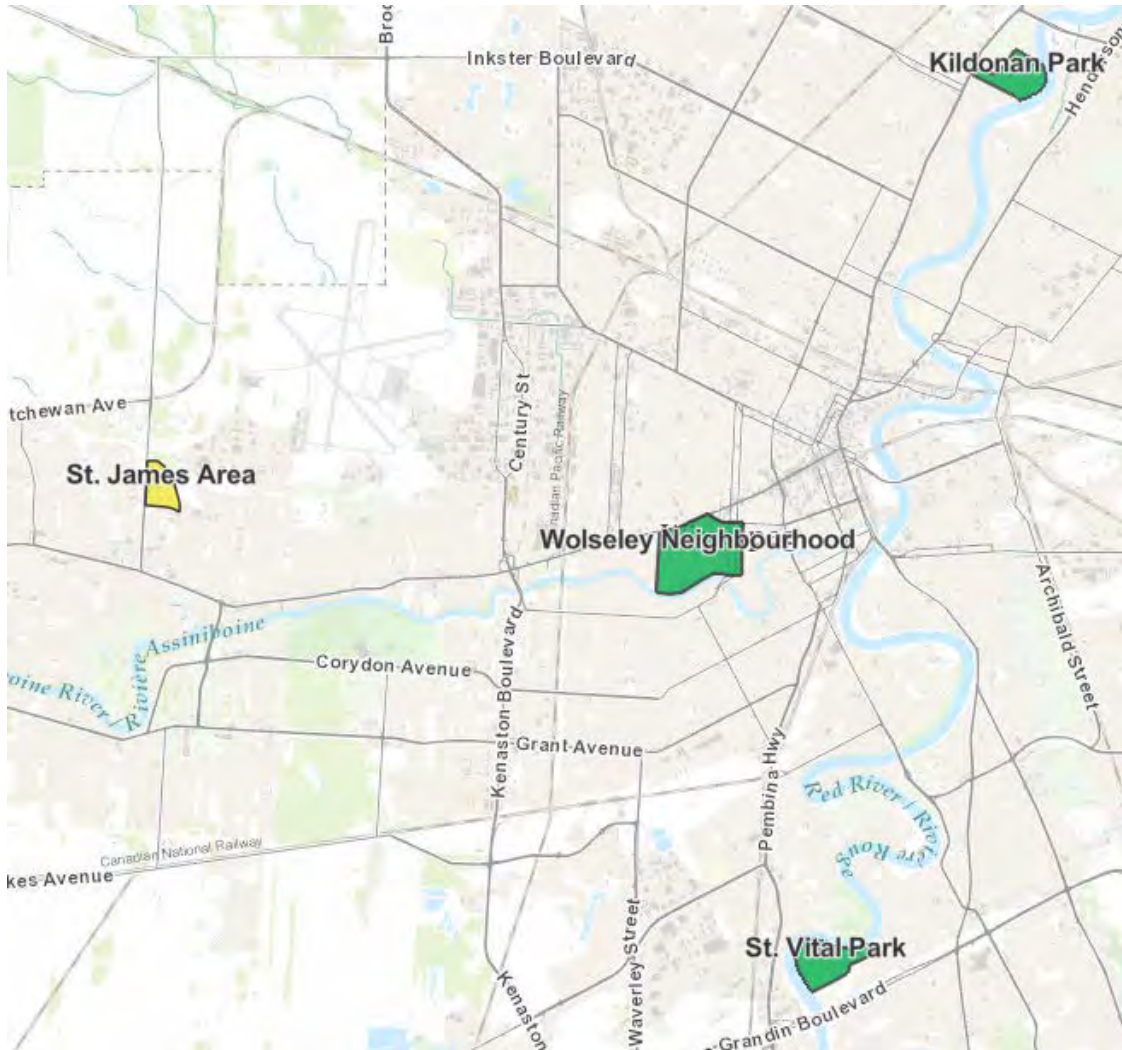
FORUM

FAQ

- Survey
- Forum
- Mapping tool
- Walking tours

How to participate

Take a self-guided walking tour or virtual tour



Four locations to choose from:

1. **St. Vital Park**
2. **Kildonan Park**
3. **St. James Area**
4. **Wolseley Neighbourhood**

Approximately 45 minutes each

How to participate

Take a self-guided walking tour or virtual tour

Wolseley Neighbourhood Walking Tour

About the Area

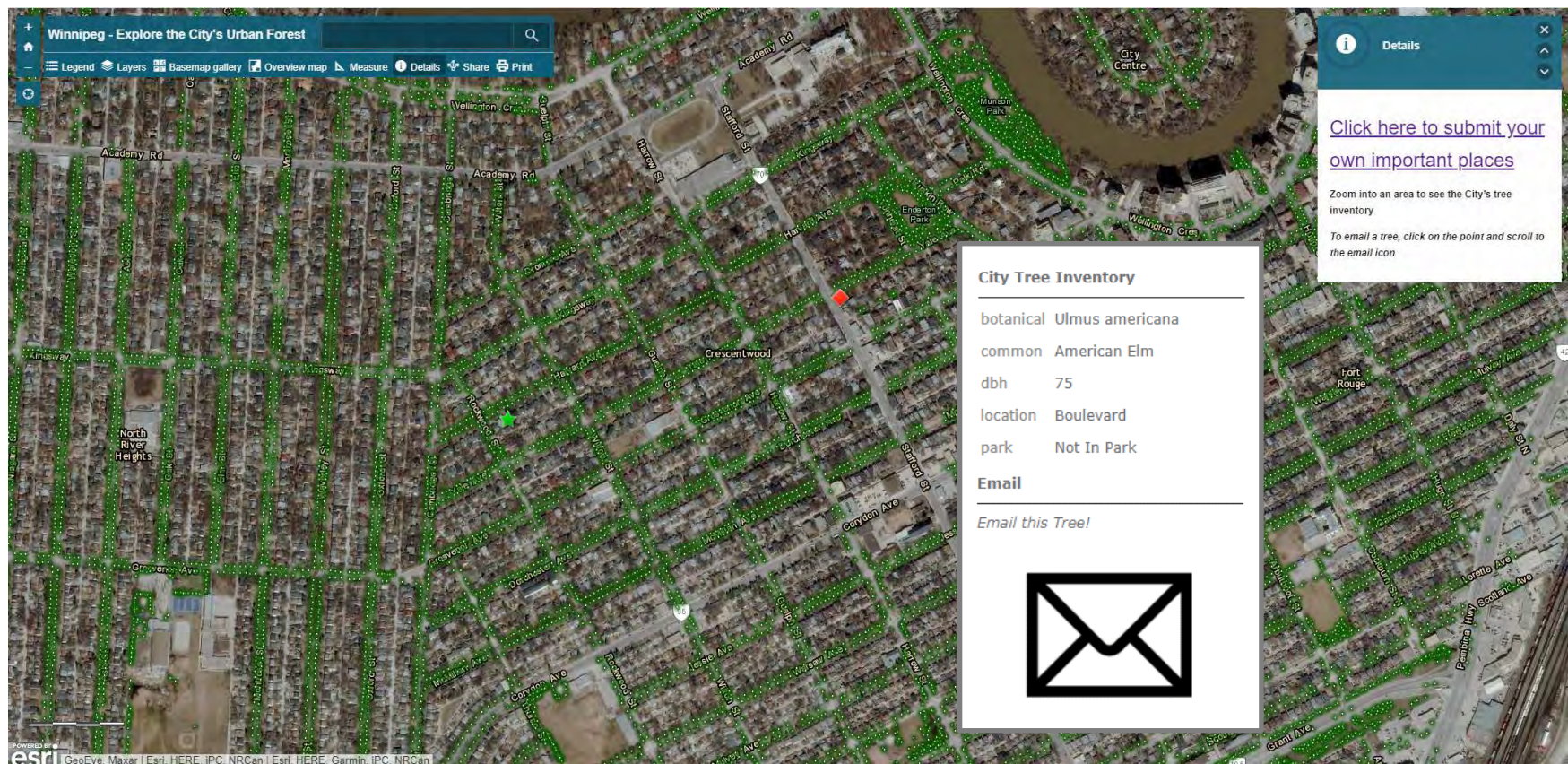
The Wolseley neighbourhood is one of the oldest in the city and was home to the famous Wolseley elm. Some of the first residential tree plantings in the city occurred here. Mature elms form arching, cathedral-like canopies over many streets. The neighbourhood's urban forest is undergoing change as old elms need to be removed due to Dutch elm disease and a new generation of trees is planted to replace them.

Along the Way

While several places have been identified as stops along this tour, you might find other interesting urban forest features

Explore the City mapping tool

Contribute to the mapping tool



NEXT STEPS

Next steps

Please join the conversation at winnipeg.ca/urbanforest



Engagement open until November 1st, 2020

Spring 2021

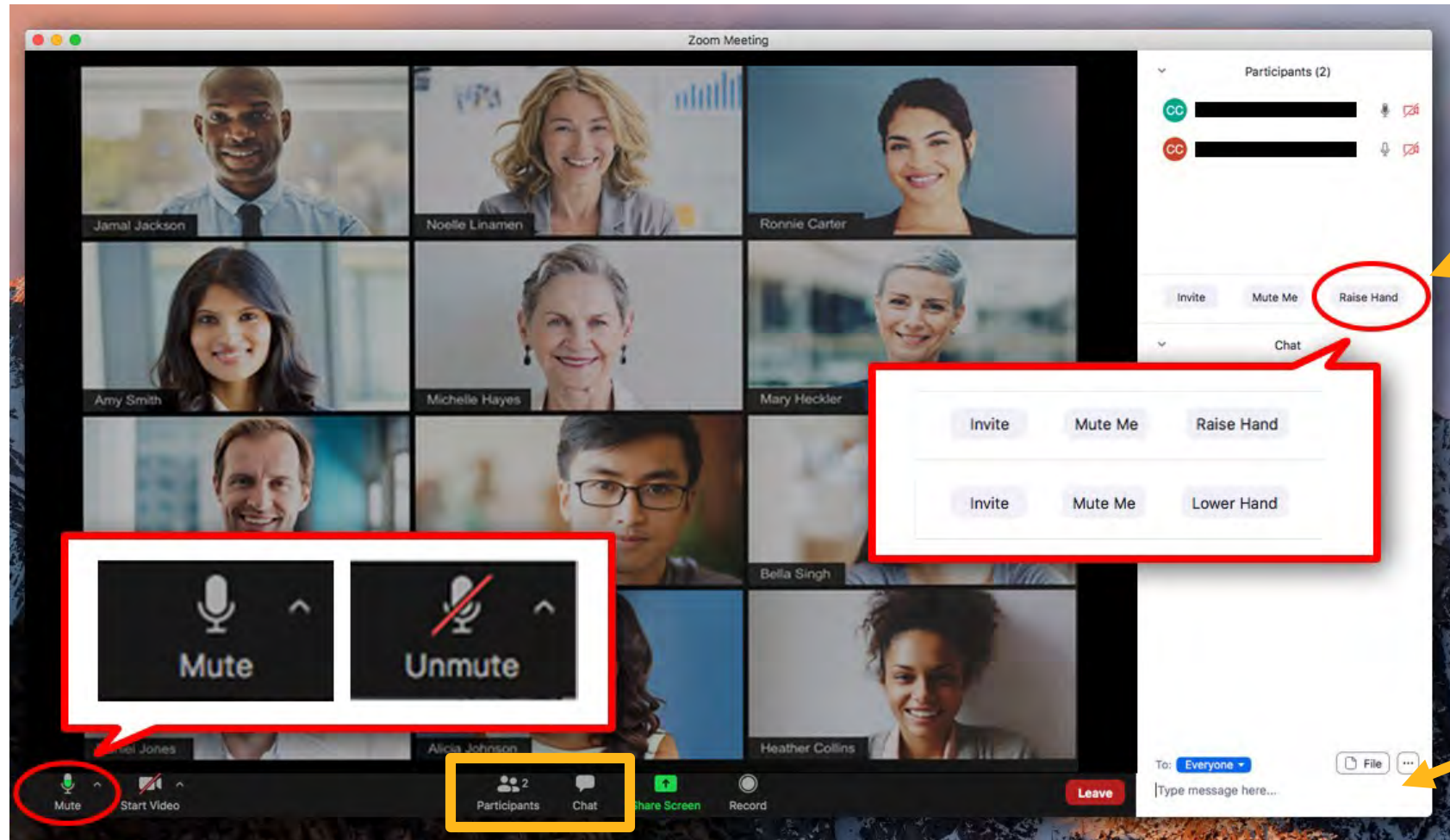
- Draft Comprehensive Urban Forest Strategy
- Public Engagement – Round 2

Summer 2021

- Council Review of Strategy

Questions & Answers

Q&A



About you

Where do you live?



Winnipeg Urban Forest Strategy

Thank you!

winnipeg.ca/urbanforest
urbanforest@winnipeg.ca