

March 6, 2019



# 2019 Urban Forest Management Plan





# Acknowledgements

## **Prepared by:**

Peter Passarelli, Milwaukie Public Works Director and

Andrew Taylor, Milwaukie Tree Board Chair

## **Tree Board:**

Kathleen Brennan-Hunter

Linda Carr

Gina Dake

Ley Garnett

Rebecca Ives

Ann Leenstra

Andrew Craig – Former Milwaukie Tree Board member

Zac Perry – Former Milwaukie Tree Board member

## **City of Milwaukie:**

Ann Ober, City Manager

Alma Flores, Community Development Director

Denny Egner, Planning Director

Julian Lawrence, Milwaukie Natural Resources Coordinator

Natalie Rogers, Climate Action and Sustainability Coordinator

## **City Council**

Mark Gamba, Mayor

Angel Falconer, Council President

Lisa Batey

Wilda Parks

Kathy Hyzy



# Contents

## **Milwaukie's Community Vision**

### **Introduction — 1**

Milwaukie's Tree Board — 1

Role of the Urban Forest Management Plan — 2

The Dogwood City of the West — 4

The benefits of a healthy urban forest— 5

### **Focus areas — 6**

Forest size — 7

Forest health — 12

Age and species diversity — 14

Street tree management — 16

Centralized urban forest management — 18

Outreach and stewardship — 20

### **Action Plan Implementation Guide — 23**



# Milwaukie's Community Vision

In 2040, Milwaukie is a flourishing city that is entirely equitable, delightfully livable, and completely sustainable. It is a safe and welcoming community whose residents enjoy secure and meaningful work, a comprehensive educational system, and affordable housing. A complete network of sidewalks, bike lanes, and paths along with well-maintained streets and a robust transit system connect our neighborhood centers. Art and creativity are woven into the fabric of the city.

Milwaukie's neighborhoods are the centers of daily life, with each containing amenities and community-minded local businesses that meet residents' needs. Our industrial areas are magnets for innovation, and models for environmentally-sensitive manufacturing and high wage jobs. Our residents can easily access the training and education needed to win those jobs.

**Milwaukie nurtures a verdant canopy of beneficial trees, promotes sustainable development, and is a net-zero energy city.** The Willamette River, Johnson Creek, and Kellogg Creek are free flowing, and accessible. Their ecosystems are protected by a robust stormwater treatment system and enhanced by appropriate riparian vegetation. Milwaukie is a resilient community, adaptive to the realities of a changing climate, and prepared for emergencies, such as the Cascadia Event.

Milwaukie's government is transparent and accessible, and is committed to promoting tolerance and inclusion and eliminating disparities. It strongly encourages engagement and participation by all and nurtures a deep sense of community through celebrations and collective action. Residents have the resources necessary to access the help they need. In this great city, we strive to reach our full potential in the areas of education, environmental stewardship, commerce, culture, and recreation; and are proud to call it home.

# Introduction

The City of Milwaukie's Tree Board recognizes the importance of its urban forest as a component of our living environment, requiring proper management similar to our roads, water systems, and other elements of City infrastructure. This value reflected in [Milwaukie's Community Vision and Action Plan](#), includes goals and specific actions promoting a flourishing tree canopy in the city. The Tree Board, in partnership with staff, has created this Urban Forest Management Plan to facilitate discussion and to move towards the achievement of goals outlined in the City Vision and identified in the Climate Action Plan by guiding the future management of Milwaukie's urban forest as the valuable community resource that it is.

## Milwaukie's Tree Board

In 2015, Milwaukie's Parks and Recreation Board (PARB) began the process of amending the City's tree ordinance to achieve Tree City USA designation. In March 2016, City Council adopted Ordinance 2116, which created stricter standards for tree cutting in the public right-of-way and on City-owned properties.

To further guide the management of Milwaukie's urban forest, City Council adopted Ordinance 2141 in February 2017, which amended Chapter 16.32 of the Milwaukie Municipal Code and established [Milwaukie's Tree Board](#). In June 2017, a joint Parks and Recreation Board and Tree Board meeting was held to introduce new Tree Board members to existing PARB members and to discuss future work plans. The joint meeting represented the first official meeting of the Tree Board.



## How to read the Urban Forest Management Plan

The **Introduction** provides an overview of how the plan will be used and Milwaukie's history as a tree city.

Each **focus area section** includes the following components:

- An **overarching goal** for the City, Tree Board and community to work toward
- **Objectives** to guide the community's efforts towards achieving that goal
  - **Framing questions** to evaluate potential actions abilities to reach stated goals
- **Actions** which serve as near-term strategies for moving objectives forward

The **Implementation Guide** appended to this plan summarizes all actions in the plan and key implementation parameters.

## What does that mean?

### Tree canopy

*The layer of leaves, branches and stems of trees that cover the ground when the tree is viewed from above.*

### Urban forest

*A collection of trees that grow within a city or town.*

## Role of the Urban Forest Management Plan

This document is a living and breathing document that will be amended over time to represent the mutual goals of the tree board and council. The Urban Forest Management Plan identifies several goals that aim to maximize the benefits of Milwaukie's urban forest. At present, the document attempts to outline the steps needed to meet the goals discussed with and concurred by the City Council on February 13, 2018. The plan incorporated comments from the Community through a [community engagement process](#) in the late Summer of 2018. The plan will serve as the basis for future work areas for the Tree Board and the City. In the coming months and years, the Tree Board will bring forward individual actions from this plan for review and discussion by Council.

The Tree Board will review this document on an annual basis. Any updates to the plan will be referred to City Council for approval. Annually, the City and Tree Board will report on progress and outcomes related to the Urban Forest Management Plan to City Council. The Tree Board will conduct a full review of the Urban Forest Management Plan every five years.



“Develop a strong tree ordinance that incentivizes tree protection, has equitable tree replacement standards, and provides adequate flexibility for property owners.”

- Priority action  
from Milwaukie's Community Vision

## Urban forest management and equity

Milwaukie's Vision for 2040 is a community that is **“entirely equitable, delightfully livable, and completely sustainable.”** While protecting and fostering a flourishing tree canopy is vital to sustainability and livability, urban forest management is also intrinsically connected to equity.

Trees have been found to play a role in the physical and mental well-being of those around them, most notably in better birth outcomes and their ability to clean the air we breathe. Currently, some parts of the city have more abundant tree canopy than others. The objectives and actions set out in this Urban Forest Management Plan promote an equitable distribution of trees across the community so Milwaukians of all walks of life can enjoy their many benefits, regardless of where they live.

### Equity, housing affordability, and tree protection

The City of Milwaukie's [Housing Affordability Strategy 2018-2023 Action Plan](#) establishes a goal of increasing the amount of housing affordable to people across the income spectrum. The plan identifies land use regulations as a barrier that can make development more expensive and calls for creating an internal culture within the City that is friendly to developers. Tree protection and efforts to increase affordable housing development, however, do not have to be in conflict and in fact can be complementary. For example, trees can potentially decrease home energy costs of heating and cooling by shading structures and serving as windbreaks. Trees can also be a component of affordable development and construction. Certain regulatory barriers pose problems for both trees and development such as parking requirements, reduced parking requirements could lower development costs and preserve trees.

This Urban Forest Management Plan will be implemented in alignment with existing City policies—including those in the Housing Section (Goal 10) of the Comprehensive Plan. Other documents that are action plans and lay the framework for the City Council's priorities include the Housing Affordability Strategy, which calls for more housing development to off-set the costs of housing on community members, and the overall Community Vision. Implementation of the actions in this plan will focus on supporting smarter infrastructure planning and reducing barriers to housing development, while **promoting and increasing equitable access to trees and their benefits.**



# The Dogwood City of the West

Milwaukie has a rich natural history. Prior to modern development, when the people of the Clackamas tribes were its sole inhabitants, this area situated on the Willamette River hosted various forested ecosystems. These included upland Douglas-fir and western hemlock forest; dry slopes of mixed deciduous trees like Oregon white oak and pacific madrone; red alder, bigleaf maple, and western redcedar dominated riparian forest; wetlands of Oregon ash and cottonwoods; and prairie of grasses and shrubs.

In July 1962, the City Council adopted Resolution 25-1962 officially making the dogwood blossom the city flower and “The Dogwood City of the West” the city’s nickname. On May 21, 1985, the City Council Proclaimed May 21 as Dogwood Day and called on all residents to join in making this a day to demonstrate pride in our community.

In 1962, when the Dogwood was officially adopted by the City, it was reported that Milwaukie was home to the oldest and largest Dogwood tree in the world.

In 2016, the City added another great chapter to its natural history when it acquired Elk Rock Island, a 13.6-acre island offering a wealth of high-quality wildlife habitat and a serene escape for people in the Willamette River. That same year Milwaukie also achieved its first Tree City USA and was recognized as at the 2017 Oregon Tree City of the Year. The development of an Urban Forest Management Plan represents a further effort to honor the City’s natural history, reflected in its beautiful tree canopy, by preserving its woodland resources while meeting all the demands we ask of them as a community.



*Dogwood Tree, over One Hundred Years Old*

*The original "Official Dogwood" tree (see photo) which stood at 65 feet tall with a girth of 7 feet, was badly damaged by the Columbus Day storm of 1962 and was cut down. Including the original tree, which was located on Harrison Street near 32nd Avenue at the home of former Mayor Shindler, there have been five "Official Dogwood" trees located on private property throughout the City. As of the 1990s, only one remained standing.*

## What does that mean?

### Riparian forest

*A forested or wooded area adjacent to a body of water, such as a river, stream, creek or lake.*



# The benefits of a healthy urban forest

The City's urban forest serves a wide variety of functions that promote the health, safety, and general welfare of our community. These functions include:

- Conserving energy by providing shade and keeping our homes and streets cooler.
- Improving local and regional air quality by absorbing carbon dioxide, ozone, and particulate matter, as well as producing oxygen.
- Reducing wind speed and directing air flow.
- Reducing noise pollution.
- Providing habitat for wildlife.
- Reducing stormwater run-off.
- Serving as a buffer during flooding events.
- Increasing real property values.
- Enhancing visual and aesthetic qualities that attract visitors and businesses.

<sup>1</sup> <https://www.arboday.org/trees/climatechange/fightHome.cfm>

## What does that mean?

### Stormwater

*Water from precipitation (rain, snow, hail, etc.) that is absorbed into the ground or falls into bodies of water.*

### Floodplain

*An area of land adjacent to streams or rivers which is naturally subject to flooding.*

Some of these functions are of increasing importance because they advance our City's efforts to mitigate and adapt to climate change:

- Through photosynthesis, our urban forest sequesters carbon from the atmosphere and stores it as wood, acting as a carbon sink. An average-size tree can store hundreds of pounds of carbon over its lifetime, and our native evergreens have particularly high carbon storage capacities.
- Neighborhoods well-shaded with street trees can be up to 6 to 10 degrees Fahrenheit cooler than neighborhoods without significant tree coverage, reducing overall energy needs. According to the U.S. Forest Service Center for Urban Forest Research, just three trees properly placed around a house can save residents up to 30% of energy use.<sup>1</sup>
- Regional precipitation will increase in years to come. Trees capture and store rainfall in their canopy, while also creating soil conditions that allow greater infiltration of rainwater, thereby reducing demands on stormwater management systems. Riparian forests and floodplains reduce the impacts of flooding events on our City's infrastructure.










Active management of our urban forest will ensure our community is able to realize the maximum benefits it can provide. As a framework to guide the protection and management of our urban forest, this plan identifies six key focus areas and the corresponding goals that were outlined to Council in February 2018: **forest size; forest health; age and species diversity; street tree management; centralized urban forest management; and outreach and stewardship.**

The following chapter includes six sections corresponding with these focus areas. Each focus area section includes:

- An **overarching goal** for the City, Tree Board and community to work toward
- **Objectives** to guide the community's efforts towards achieving that goal
  - **Framing questions** to evaluate potential actions abilities to reach stated goals
- **Actions** which may serve as near-term strategies for moving objectives forward

The **Implementation Guide** appended to the Urban Forest Management Plan summarizes all actions and key implementation parameters.

Actions may be implemented in a variety of ways. The following icons depict the different types of implementation actions identified for each focus area:

| Icon  | Implementation category                       |
|---|---|
|  | Education and outreach                        |
|  | Financial support and incentives              |
|  | Community events, activities and celebrations |
|  | Training and skills development               |
|  | Tools and resources                           |
|  | Regulatory protections                        |
|  | City processes                                |

## Urban forest management and Milwaukie's Climate Action Plan

In October 2018, the City of Milwaukie adopted its first [Community Climate Action Plan](#). The plan includes dozens of strategies for city departments, Milwaukie residents, businesses and local organizations to take to achieve Milwaukie's climate goal: **becoming a carbon neutral city by 2050.**

The protection, management and growth of our tree canopy is featured prominently in the Climate Action Plan, and community equity goals are addressed through tree-focused actions. Ensuring our urban forest is healthy, abundant and climate resilient is crucial to helping all members of our community mitigate our greenhouse gas emissions and adapt to changing future physical conditions. Land-surface changes such as adding significant vegetation and trees are often the single most effective and most economical step that cities can take to counteract the threats of climate change. Climate Action Plan strategies that are relevant to the Urban Forest Management Plan include:

### City-led strategies

- Work with the Tree Board to develop a tree planting program focused on shielding low income neighborhoods from heat.
- Increase tree canopy to 40% by 2040.

### Household and organizational strategies

- Plant trees around your home or business to provide shade and cooling in summer heat. Select climate adapted trees that don't interfere with power lines.
- Landscape with drought-resistant, native or well-adapted plants. Consider seeking certified backyard habitat status.
- Proactively prune and choose ice-resistant trees to reduce damage from ice storms.

Learn more about the climate change benefits of trees from the [Arbor Day Foundation](#)



## Focus area: Forest size

### Forest size goal:

Foster urban forest growth to achieve 40% canopy coverage by 2040 and sustain that level through time (in alignment with [Milwaukie's Community Climate Action Plan](#)).

### Why this matters

**The functional benefits of our urban forest increase as canopy cover increases.** Canopy cover is the percentage of ground area covered by tree crowns, and it is an effective analogue for measuring the number and size of trees in our community and their collective carbon storage capacity. Evaluating canopy cover over time is necessary to understanding the state of our urban forest. A 2014 LiDAR assessment<sup>2</sup> estimated Milwaukie's tree canopy coverage to be 26%. It also reveals many areas that can accommodate increased canopy coverage within the City. As Milwaukie is a naturally forested area, 40% canopy coverage is an achievable yet ambitious goal that our community can grow into in future years. See Figure 1 for a map of 2014 tree canopy coverage in Milwaukie.

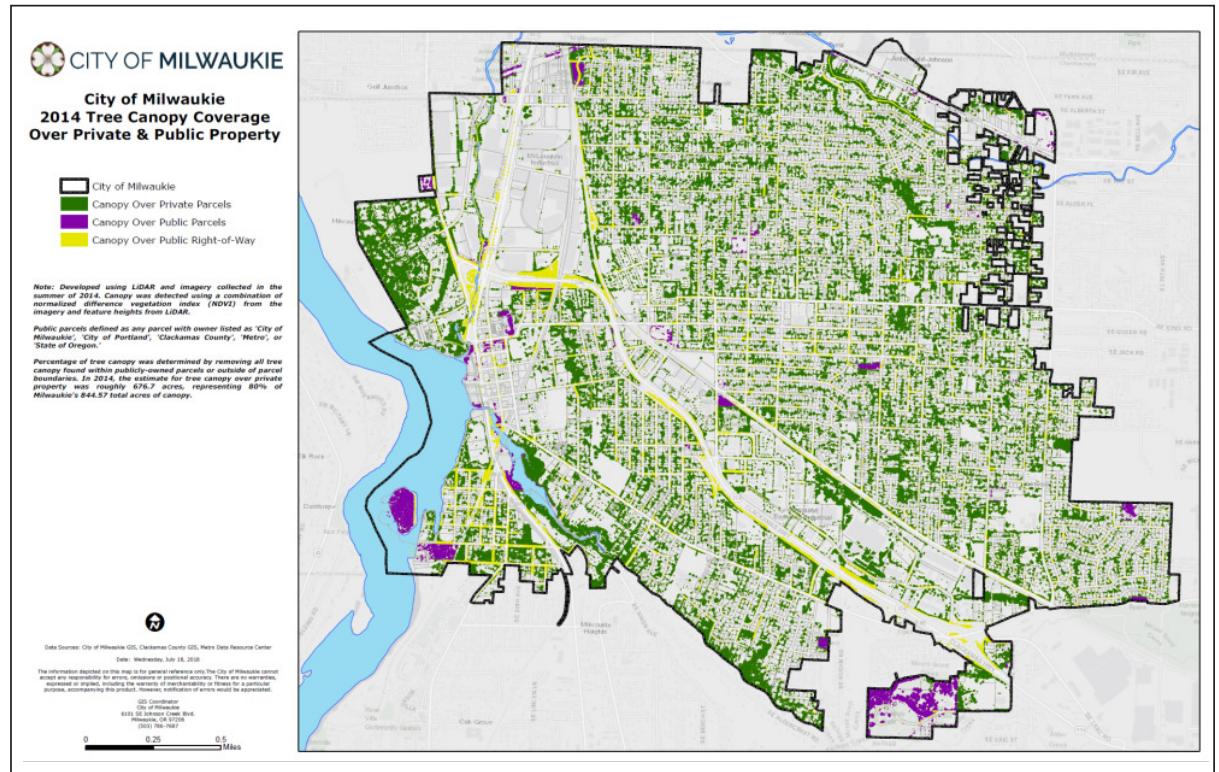


Figure 1: City of Milwaukie 2014 canopy coverage map. Canopy identified by LiDAR assessment on private parcels, public parcels and public right-of-way properties.

<sup>2</sup>LiDAR stands for Light Detection and Ranging and is a remote surveying method that uses light in the form of a pulsed laser. To measure Milwaukie's canopy, the assessment used a combination of normalized difference vegetation index (NDVI) from the radar imagery and feature heights.

**Trees make Milwaukie a special place to live, work and visit.** Our urban forest helps reduce the amount of CO<sub>2</sub> in our atmosphere, conserve energy, provide shade capture stormwater run-off, and curb the impacts of flooding—increasingly important functions as our community plans for climate change.

Table 1: Comparing Milwaukie's canopy coverage and canopy goals to other municipalities

| City         | Initial Canopy Cover | Year Assessed | Canopy Cover Goal | Target Date |
|--------------|----------------------|---------------|-------------------|-------------|
| Milwaukie    | 26.0%                | 2014          | 40%               | 2040        |
| Lake Oswego  | 47.1%                | 2009          |                   |             |
| West Linn    | 38.7%                | 2009          |                   |             |
| Portland     | 29.9%                | 2014          | 33%               | Ongoing     |
| Oregon City  | 27.0%                | 2009          |                   |             |
| Port Angeles | 27.0%                | 2011          | 40%               | Ongoing     |
| Beaverton    | 25.4%                | 2009          |                   |             |
| Tigard       | 25.4%                | 2009          | 40%               | 2047        |
| Seattle      | 23.0%                | 2007          | 30%               | 2037        |
| Tacoma       | 19.0%                | 2010          | 30%               | 2030        |

Regional Urban Forestry Assessment and Evaluation for the Portland-Vancouver Metro Area – Audubon Society Portland and Portland State University, 2009.

Sustainable Urban Forest Guide – United States Forest Service, 2016.

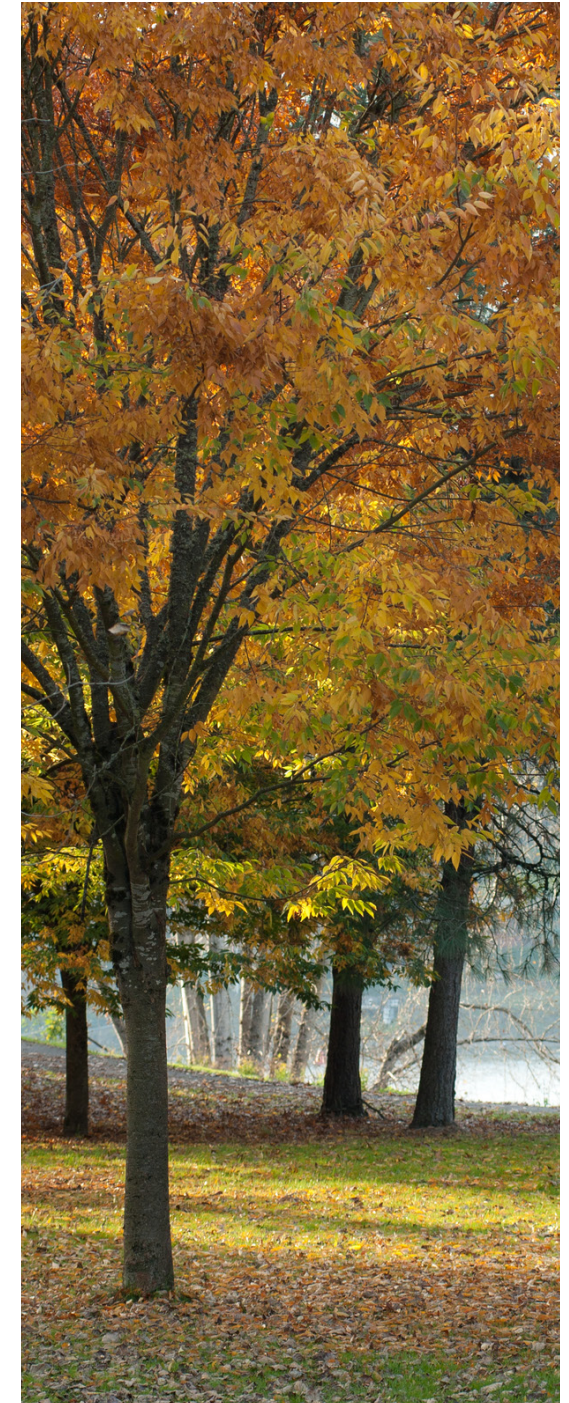
### Regional policies relating to tree removal and preservation on private land in the Portland-Vancouver Metro Area

- 25 out of 30 jurisdictions have some sort of ordinance regulating tree removal or preservation outside regulated natural resource areas (includes Milwaukie due to flag-lot development tree preservation rule).
- 11 jurisdictions require tree removal permit whether development is proposed or not.
- Four jurisdictions have upland tree grove protection regulations related to Oregon Statewide Planning Goal 5.

Note: This excludes regulations involving permits or design standards related to heritage tree programs or tree removal on environmentally sensitive lands or natural hazard areas. This section includes regulations applying to publicly-owned land regulated by a jurisdiction the same as private land.

Note: This information may not be current.

“Regional Urban Forestry Assessment and Evaluation for the Portland-Vancouver Metro Area,” June 2009. Report prepared by Audubon Society of Portland and Portland State University, with funding from Metro.



## Forest size objectives

### 1. Maintain existing tree canopy cover on both public and private property.

*Framing Question: Does the action maintain existing tree canopy cover throughout the City?*

One of the best ways to increase overall canopy coverage is to maintain existing trees so they continue to grow and thrive. Retaining mature trees helps ensure that newly planted and smaller trees survive to become future canopy. Furthermore, a significant portion of the urban forest is located on private property. Maintaining and increasing canopy coverage on both public and private land is crucial to achieving the forest size goal.

### 2. Replant new trees in the place of dead or removed trees whenever possible.

*Framing Question: Does the action assist in increasing the canopy size, even as natural processes occur?*

While individual trees cannot be indefinitely preserved given natural processes, we should preserve the urban forest by replacing lost canopy. Trees preferably should be replanted onsite, but in cases when this is not possible, offsite replanting and mitigation should be encouraged.

### 3. Increase tree plantings in areas with less canopy to make coverage more equitable across the city.

*Framing Question: Does the action lead to an increase in coverage that is disbursed throughout the city, with an eye toward equity?*

Research has correlated tree canopy cover to education level, homeownership, and other socioeconomic measures. However, Milwaukie's urban forest is unevenly distributed, and there are areas of lower canopy cover. Intentional reforestation in these areas can help increase equity throughout our community.

### 4. Make tree planting affordable.

*Framing Question: Will the residents and property owners of the City be able to afford the program?*

Adding more flexibility to tree size planting standards will help create opportunities for people of all incomes to help plant trees and increase our tree canopy, an important part of achieving our forest size goal.

## What does that mean?

### Replanting

Replacing a removed tree with a new, healthy tree.

### 5. Promote sustainable design principles in site development and redevelopment to integrate tree canopy into future built environments.

*Framing Question: Does the action maximize City sustainability goals for site development and the built environment?*







While 40% canopy cover is not practical for all sites across the city, all new development should maximize green infrastructure that is complementary to its primary use and preserve mature trees whenever possible.

Environmentally friendly engineering solutions, natural landscaping practices and techniques, and on-site treatment of run-off with bio-engineering practices reduce the potential for tree removal and support additional tree planting.





Photo credit: Mark Gamba





Forest size actions

| Action   | Action Type  |
|--|--|
| <p><b>Consider an efficient, easy to understand permitting system for tree removal and heavy pruning of public, private and street trees on properties not under development.</b></p> <p>The City may identify potential updates to the permitting processes related to the removal and pruning of street, public, and private trees to advance the forest size objectives. Permitting processes could be administered by the Public Works Department, and guidance for new permitting processes provided in a clear and accessible manner. Removal of healthy mature trees could be dissuaded through a fee system. Mitigation replantings could be required for tree removals whenever practicable. The City could consider self-issuance below certain thresholds to increase efficiency and accessibility to all.</p>  |   |
| <p><b>Consider amendments to provisions of the Milwaukie Municipal Code that address maintenance and planting of trees on public and private land.</b></p> <p>The City may develop canopy coverage standards for different land use areas, such as along streets, parking lots, residential and commercial areas, and parks and open spaces. Planting standards for street trees could reflect the zoning of the adjacent property; planted tree size requirements may require larger trees in high-traffic commercial settings to reduce vandalism risk and allow smaller trees in low-density residential settings. Planting standards could also be developed to minimize risk of future damage to infrastructure, including sidewalks.</p>   |   |
| <p><b>Analyze the potential of a tree planting program to increase canopy coverage to 40% by 2040, prioritizing lower income neighborhoods that do not have adequate canopy coverage.</b></p> <p>Reaching this goal requires the City to programmatically plant trees as it increases its role as a steward of our urban forest. The City could adopt metrics to guide the planting of native, desirable and non-invasive trees along streets and trails, prioritizing disadvantaged neighborhoods and communities with limited canopy coverage and access to trees. The City would coordinate with PARB, the North Clackamas Parks and Recreation District, and other existing and new partners to aid this effort. In such a program, the City would develop new partnerships with non-profit tree planting groups, such as Friends of Trees, to enhance public involvement in planting and maintenance efforts on both public and private properties. All actions should set measurable goals to guide the planting of native, desirable and non-invasive trees along streets and trails.</p> |     |




**Action type key**

-  Education and outreach
-  Tools and resources
-  Financial support and incentives
-  Community events, activities and celebrations
-  Regulatory protections
-  City processes
-  Training and skills development

Forest size actions

| Action  | Action Type  |
|---|--|
| <p><b>Consider conducting a public tree inventory to support the tracking, maintenance, and planting of trees on public land.</b></p> <p>The City could develop an inventory to identify all the public trees within the right-of-way and other public land by location, condition, diameter at breast height, and species; determine the overall composition of the urban forest; and determine the location and number of potential tree planting sites. The City Public Works department would maintain this data using GIS and Asset Management Tools.</p>  |   |
| <p><b>Use repeatable remote sensing protocols for monitoring trends in Milwaukee's urban forest canopy.</b></p> <p>Canopy change occurs slowly, and to detect a change, the same method must be used over a period of time long enough for change to be evident. The City could use the same type and resolution of imagery, minimize and measure error, set thresholds for determining whether change has occurred, define a statistical method for comparing results, and repeat the survey every three to four years.</p>  |   |
| <p><b>Update the Comprehensive Plan to support the tree canopy goals for Milwaukee.</b></p> <p>The City is currently in the process of developing their new Comprehensive Plan. An action could be to include language in the updated Comprehensive Plan that recognizes the importance of our urban forest in sequestering carbon and mitigating the impacts of climate change. The plan would then commit the City to realistic and sustainable tree canopy goals on public property, allow for flexible development patterns that are complementary of housing affordability goals, and ensure future development of private land considers mature tree preservation, with mitigation requirements when standards cannot be met.</p> | <br> |

**Action type key**

-  Education and outreach
-  Tools and resources
-  Financial support and incentives
-  Community events, activities and celebrations
-  Regulatory protections
-  City processes
-  Training and skills development



## Focus area: Forest health

### Forest health goal:

Maintain trees in a healthy condition through good practices.

### Why this matters

**The urban forest's environmental function is at its best when its trees are free from pests, disease, and unnecessary environmental stress.** Improperly maintained and unhealthy trees pose personal injury and property damage risks. Promoting tree health through regular and proper maintenance will ensure that our community is safe and receives the most benefits from its urban forest.

### Forest health objectives

#### 1. Manage Milwaukee's urban forest as a functional ecosystem and integrate climate change into management policies and actions.

*Framing Question: Does the action assist the City in managing Milwaukee's urban forest as a functional ecosystem and integrating climate change consideration into management policies and actions?*

With climate change, the Pacific Northwest will see more extreme wind and rainstorms, as well as more prolonged summer drought and new pests that will stress the urban forest. As our urban forest is a web of interdependent components and processes that function as an environmental system, it needs to be adapted to a changing climate to continue to benefit the Milwaukee community.

#### 2. Encourage community members to use certified professional arborists for tree care work and educate property owners on tree maintenance.

*Framing Question: Does the action increase the likelihood that trees are properly cared for, leading to a longer, healthier life?*

Tree pruning can lead to a higher risk of tree-related injury if done without training or knowledge. The City will educate our community on proper tree maintenance through public outreach and assist in finding tree care resources for our low-income communities.

#### 3. Protect the health of trees on property during development through tree protection plans and an auditing process.

*Framing Question: Does the action assist in protecting the health of trees on developing properties?*

Tree preservation during property development is most effective if those trees are physically protected during construction. Protective measures such as barriers, either set by a certified professional arborist or at a prescribed distance away from the trunk, should be required for trees in construction sites. Regular auditing should be conducted to ensure compliance.

#### 4. Promote proactive tree maintenance by supporting community members with creative resources.










*Framing Question: Does the action promote proactive tree maintenance by community members to include low income?*



As much as possible, expense should not dissuade community members from performing proactive tree maintenance. The City should explore options to encourage proper maintenance of private and street trees where community members are expected to afford tree care. The Public Works department could explore opportunities for landscape material sharing, bulk buying, and other complementary programs to assist community members in maintaining their trees in the best condition with less impact on community member-owned resources. The City should consider options in assisting community members facing hardships and of disadvantaged communities to promote equitable tree maintenance expectations.





Forest health actions

| Action  | Action Type   |
|---|---|
| <p><b>Consider updating or refining tree protection measures and auditing requirements in the Milwaukie Municipal Code for development sites.</b></p> <p>The City could update the code to ensure standards around incorporating tree protection into construction plans are clear and robust. Code updates may also further refine auditing processes to be carried out by City Staff and help facilitate efficient coordination between departments to process and review tree preservation components of construction plans.</p>   |    |
| <p><b>Explore, analyze and develop invasive pest management strategies.</b></p> <p>Formal plans for handling present invasive species threats, such as Tree of Heaven, should include public education and outreach, tree planting, selective tree removals, limited pesticide applications, and collaborative pest monitoring. The City could analyze vulnerabilities to expected threats, such as emerald ash borer, to inform future management needs. Strategies could enable efficient removal of invasive species without a permit.</p>                                 |     |
| <p><b>Explore potential incentives and discounts to encourage proactive tree maintenance.</b></p> <p>The City may explore the possibility of providing rebates related to stormwater fees if best practices for tree care are achieved. Other cities in the region have considered street tree maintenance completed by the adjacent property owner a charitable contribution, which could provide a potential tax benefit. Informational resources could be provided on an accessible platform to promote awareness and usage of current and future available resources.</p> |     |
| <p><b>Evaluate opportunities to provide landscape materials to community members.</b></p> <p>Other regional cities have provided free public wood chip piles, which encourage landscaping that retains moisture and improves tree survival during drought. The City may investigate opportunities to encourage best practices in vegetation management through public facilitation, such as bulk-buying materials and tools. The City could also provide educational materials on low-cost and low-water landscaping for community benefit.</p>                               |    |

|                               |  |   |   |   |
|-------------------------------|--|---|---|---|
| <p><b>Action type key</b></p> |  Education and outreach<br> Regulatory protections |  Tools and resources<br> City processes |  Financial support and incentives<br> Training and skills development |  Community events, activities and celebrations |
|-------------------------------|--|---|---|---|

## Focus area: Age and species diversity

### Age and species diversity goal:

Manage the urban forest for a diversity of ages and species.

### Why this matters

#### **A species-rich, age-diversified urban forest provides continuous canopy coverage through time and a greater resiliency to environmental threats.**

Since trees senesce according to the timeframe associated with their species, large canopy constrictions are a threat to an urban forest of homogenous species and ages. Susceptibility to tree health stressors such as pests, diseases, and a changing climate are often related to biological traits of certain species or age classes.

### Age and species diversity objectives

#### **1. Require new trees to be planted to replace dead trees on a continuous basis.**

*Framing Question: Does the action result in improving urban canopy age diversity?*

The trees that make up our urban forest have finite life spans. For long-term health and resilience, it is important to ensure our urban forest is composed of a variety of tree ages and species. As trees age, the probability of removal increases as the tree grows older and larger. Since tree removals create planting space, they should be considered opportunities to add new trees to our urban forest. Continually planting whenever opportunities are presented, rather than replanting large areas at once, will maintain age diversity. In public spaces, appropriately selected dead trees can remain standing to provide valuable wildlife habitat.

#### **2. In alignment with Milwaukie's Climate Action Plan, strengthen the City's climate resilience through tree planting and maintenance that improves the adaptive capacity of our urban forest.**

*Framing Question: Does the action align with Milwaukie's Climate Action Plan, and strengthen the City's climate resilience through tree planting and maintenance, improving the ability of our urban forest to adapt to the changing climate?*

Planting a diverse mix of pest-tolerant, low-maintenance, long-lived, drought-resistant, and well-adapted trees ensures greater resilience to a changing climate and is a smarter investment for land managers. Well adapted and drought tolerant species also provide landscaping options with less watering and maintenance costs. Areas subject to increased flooding will be planted with water-tolerant species. Pruning trees early and often

encourages development of strong branching structures that are less vulnerable to storm and wind damage.









#### **3. Encourage the propagation of a diversity of native and climate change-suited species to increase forest resiliency.**







*Framing Question: Does the action encourage the diversity of native and climate change-suited species to increase forest resiliency?*

Planting a variety of the native vegetation of this ecoregion ensures the provision of habitat and habitat connectivity for our local wildlife, and preserves the regional identity of our natural environment. However, not all native species are well adapted to future growing conditions. Fortunately, many of our large native conifers will adapt well to a warmer climate and are particularly effective carbon sinks. Consideration of species resiliency in a changing climate should be taken when selecting plantings to ensure habitat and utility is consistent through a changing climate.



## Age and species diversity actions

| Action  | Action Type   |
|---|---|
| <p><b>Consider, identify, and evaluate priority species for our urban forest, establish stricter diameter thresholds for their removal permits through provisions to the Milwaukee Municipal Code, and identify other opportunities to encourage their propagation.</b></p> <p>The City could work to identify the species of greatest importance to our urban forest, considering their native or non-native character, their adaptive capacity to Milwaukee’s growing environment, and other criteria. The City could focus its resources on administering permits to preserve trees of the greatest value.</p> | <br>  |
| <p><b>Consider updating the Street Tree Planting list in the Public Works Standards.</b></p> <p>An updated street tree list should include priority species and other suggested species. The City would remove other species from the Street Tree List if they are not long-lived, not suited to Milwaukee’s future climate, or categorized in an inappropriate planting location.</p>  | <br>  |
| <p><b>Evaluate tree and shrub species which show promise for being adapted to the predicted climate of 2100.</b></p> <p>The Public Works Department, through the Natural Resources Coordinator, would work with partners to identify, acquire, and plant species suitable for our changing climate, which would become the urban forest of the next generation. Species lists should be shared with the community to promote resilient private-land plantings and educate landowners of the potential future maintenance costs of non-adapted and non-resilient plantings.</p>                                    | <br><br> |
| <p><b>Establish and maintain an urban forest nursery.</b></p> <p>The City will provide space, resources and a greenhouse to allow for small-scale propagation of trees for public planting projects and for water quality facilities.</p>   |    |

|                               |  |   |   |   |
|-------------------------------|--|---|---|---|
| <p><b>Action type key</b></p> |  Education and outreach<br> Regulatory protections |  Tools and resources<br> City processes |  Financial support and incentives<br> Training and skills development |  Community events, activities and celebrations |
|-------------------------------|--|---|---|---|



## Focus area: Street tree management

### Street tree management goal:

Manage street trees appropriately to maximize benefits and minimize hazards and conflicts with infrastructure.

### Why this matters

**Appropriately managed street trees greatly enhance the aesthetic value of our community and provide many environmental benefits.** Street trees are a highly visible component of Milwaukie's urban forest. When properly cared for, they will greatly improve the aesthetic quality of our community. Significantly, they also shade pavement to reduce urban heat island impacts. Given their location, they often conflict with other public infrastructure and utilities, requiring special treatment to ensure their proper maintenance.

### Street tree management objectives

#### 1. Manage street trees as necessary green infrastructure.

*Framing Question: Does the action result in street trees being considered as necessary green infrastructure?*

Street trees are public assets; their value appreciates over time as they increase the livability of our community. As such, they should be included in design plans for new rights-of-way whenever feasible. Tree spacing should reflect the canopy spreads of chosen species, and tree canopy continuity should be promoted. Maintenance of street trees will remain the responsibility of the adjacent property owner.

#### 2. Track all planting, maintenance, and removals of street and public trees to ensure proper tree care and identify conflicts with public infrastructure improvement projects.

*Framing Question: Does the action provide a method to capture critical information of existing and proposed trees to ensure they are properly managed as an asset?*

Permits for tree planting and basic maintenance should be inexpensive, easily accessible, and self-issued after a review period. The Engineering Department will review permit applications to identify any conflicts with existing and future public projects.

#### 3. Proactively plan for mature tree preservation and new tree planting in all public infrastructure improvement projects, with a sensitivity to planting location.

*Framing Question: Does the action assist in proactively planning for mature tree preservation and new tree planting in all public infrastructure improvement projects, with a sensitivity to planting location?*

Tree preservation and planting standards for public infrastructure improvements should efficiently determine where improvements must accommodate existing trees, where the City could remove trees, and where the City must plant mitigation trees.

#### 4. Increase public clarity around street tree management responsibilities and processes.

*Framing Question: Does the action improve public understanding of roles and responsibilities concerning street tree management?*

Tree Board outreach thus far has suggested that current processes for street tree maintenance are not known by all community members. The City should conduct public outreach that clarifies these processes when implementing future tree code updates and other changes to urban forest management policies. The City should also ensure related resources and educational materials are readily available for community use.







### What does that mean?








#### Mitigation trees

Trees planted to reduce the impact of any trees that must be removed.



## Street tree management actions

| Action  | Action Type  |
|---|--|
| <p><b>Consider the expansion of ordinance provisions related to street and public tree care permitting.</b></p> <p>Existing tree ordinance provisions could be expanded to preserve street trees and may require replanting that adequately replaces lost canopy. Removals of large, safe, and healthy street trees could require a fee to discourage canopy reduction.</p>   | <br> |
| <p><b>Evaluate separation of street and public tree care permitting from encroachment permitting.</b></p> <p>The Engineering Division would examine tree care permits for sources of future conflicts with public improvement projects before sending them for administration and approval by the Public Works Department.</p>  | <br> |
| <p><b>Consider development of standards for mature tree preservation and tree planting densities for all public infrastructure improvements, to be implemented through provisions to the Milwaukie Municipal Code.</b></p> <p>The City, with guidance from the Tree Board, could develop minimum tree preservation standards for public development projects, with an emphasis on accommodating existing mature trees. New trees would be planted at densities appropriate to the surrounding infrastructure. The City would use creative solutions, such as bump-outs, chicanes, and on-street parking modifications to achieve these standards.</p> | <br> |

|                               |  |   |   |   |
|-------------------------------|--|---|---|---|
| <p><b>Action type key</b></p> |  Education and outreach<br> Regulatory protections |  Tools and resources<br> City processes |  Financial support and incentives<br> Training and skills development |  Community events, activities and celebrations |
|-------------------------------|--|---|---|---|



## Focus area: Centralized urban forest management

### Centralized urban forest management goal:

Identify efficiencies and coordination opportunities in the City's role as manager of the urban forest.

### Why this matters

**By clearly delegating responsibilities regarding urban forest management, the City can eliminate inefficiencies and work overlap among multiple departments.** Enhanced interdepartmental coordination will facilitate the effective implementation of the tree ordinance and Urban Forest Management Plan, saving time and resources.

### Centralized urban forest management objectives

#### 1. Improve efficiency of urban forest management by consolidating responsibilities within the Public Works Department.

*Framing Question: Does the action improve efficiency of urban forest management?*

Under the current administration, the Public Works Director will oversee the urban forest management program, while the Natural Resources Coordinator will manage activities requiring arborist training, such as administering the permitting process for tree removals and pruning. If moved, the program should remain centralized under a single department or manager.

#### 2. Secure on-going funding for future urban forestry work by the City.

*Framing Question: Does the action help secure on-going funding for future urban forestry work by the City?*

Trees save energy, improve air and water quality, and carry important social benefits. City trees also enhance property values, lower energy bills, defer street maintenance costs, increase commercial activity, and reduce healthcare costs. Securing on-going funding to support urban forestry work is an investment in these benefits and contributions to the community.

#### 3. Incorporate tree preservation, protection, and planting goals into the development review process.

*Framing Question: Does the action evaluate tree preservation, protection, and planting goals during the development review process?*

To ensure objectives around tree canopy preservation and growth are included in long-term City plans and to better align efforts between land use, infrastructure, and natural

resource planning, the Planning Department's review process should interact with the Public Works Department in clearly defined ways. Examples of potential collaboration opportunities include coordinated reviews of development proposals, incorporation of climate action and housing affordability goals, review of construction management plans, and tree protection auditing during construction.

#### 4. Facilitate efficient resolution of conflicts between trees and public infrastructure between City departments.

*Framing Question: Does the action facilitate resolving of conflicts between trees and public infrastructure between City departments?*

Permits for tree removals and plantings will be coordinated with the Engineering Division to avoid current and future conflicts with public infrastructure. The City should seek out opportunities for technical arborists to provide input into public infrastructure projects.




#### 5. Plant the right trees in the right places to avoid conflicts with other public infrastructure.








*Framing Question: Does the action ensure that the right tree is planted in the right place?*

Costly repairs to infrastructure and street tree removals can be avoided by planting street trees in areas where conflicts with other city infrastructure are minimized. Some places are only suited to smaller trees. On the other hand, where no conflicts should arise, larger trees should be planted to maximize the available space. The City Planning, Public Works and Engineering Departments should work together to avoid conflicts between trees and infrastructure.



### Centralized urban forest management actions

| Action   | Action Type   |
|--|---|
| <p><b>Centralize the responsibilities of the urban forest management under one Department. Public Works Department could serve as the managers of the urban forest through Milwaukie Municipal Code provisions.</b></p> <p>Under this Administration the Public Works Department would expand its scope as managers of our community’s urban forest. New duties could include administration of permitting of tree removals and pruning, managing a tree planting program, monitoring our urban forest composition through a tree inventory and remote sensing, and conducting outreach and education. The Public Works Department would consult with the Department’s Natural Resource Coordinator for technical expertise.</p> |  |
| <p><b>Evaluate options to create a coordinated process for the City’s Planning Department and Public Works Department for administering tree preservation and protection standards on development projects.</b></p> <p>Developers may be required to prepare a plan as part of the permit process to satisfy tree preservation standards, protection measures, and canopy requirements for site development. The City would continue to develop work processes that promote interdepartmental collaboration and efficiency.</p>  |  |
| <p><b>Explore the creation of a City Tree Fund through a provision to the Milwaukie Municipal Code.</b></p> <p>Fees associated with the tree ordinance could be directed to this fund. The City could use the fund for tree planting, maintenance, and other urban forestry projects within the City.</p>  |  |

|                               |  |   |   |   |
|-------------------------------|--|---|---|---|
| <p><b>Action type key</b></p> |  Education and outreach<br> Regulatory protections |  Tools and resources<br> City processes |  Financial support and incentives<br> Training and skills development |  Community events, activities and celebrations |
|-------------------------------|--|---|---|---|



## Focus area: Outreach and stewardship

### Outreach and stewardship goal:

Foster community support for the local urban forestry program and encourage good tree management on privately-owned properties.

### Why this matters

**Public engagement will make the implementation of a new tree ordinance a success.** Informing the community of proposed changes and incorporating feedback will produce a stronger tree ordinance. Compliance will be improved if community members understand and agree with the management approaches implemented through the ordinance.

### Sound stewardship of our forest resources will promote their growth and health.

The majority of trees in our community are on private property, and their proper management requires more than tree ordinance compliance. Education and public engagement opportunities will enrich our community as well as our urban forest.

### Outreach and stewardship objectives

#### 1. Engage and inform the community around any proposed updates to the tree ordinance or policies to raise awareness of and understanding of the needs and benefits.

*Framing Question: Does the action engage and inform the community of any proposed updates to the tree ordinance or tree related policies?*

Robust, transparent community engagement helps increase trust in the process and develop more sustainable solutions. Proactive information sharing efforts will help generate support and encourage more informed understanding of the City's motivations. Outreach efforts should intentionally aim to include traditionally underrepresented voices and ensure that there is an awareness of tradeoffs.

#### 2. Recognize and protect Milwaukie's most outstanding and historic trees.

*Framing Question: Does the action recognize and protect Milwaukie's most outstanding and historic trees?*

Trees are a valued part of our community identity and make Milwaukie a unique, beautiful place to visit, work in and call home. Preserving trees with iconic and historical value helps preserve our special identity as a tree city and the stories our urban forest tells.

#### 3. Foster an appreciation for trees and our urban forest among community members, developers, and businesses of Milwaukie.

*Framing Question: Does the action help foster an appreciation for trees and our urban forest among the community members, developers, and businesses of Milwaukie?*

Increasing the community-wide understanding of the benefits of trees and the importance of maintaining and growing our urban forest will allow the City to more rapidly achieve its goals and sustain its efforts. If more people understand the holistic nature of tree preservation and maintenance, it is more likely that positive habits and behaviors will catch on and become increasingly part of our community values. Promoting the use of sustainable design principles, practices, and techniques with developers is critical to retaining the value of our community's trees and designing a community that will flourish into the future.

#### 4. Link stormwater management with conservation and growth of our urban forest.

*Framing Question: Does the action help link stormwater management with conservation and growth of our urban forest?*

Restoring streams to a natural state with functional riparian forest buffers improves water quality through erosion avoidance and temperature control, ensures high quality habitat for aquatic life, and helps protect the community from flooding. Partnering with local organizations like the Johnson Creek Watershed Council and the North Clackamas Urban Watershed Council could enhance the impact of stream restoration projects.








#### 5. Maintain Tree City USA designation and strive for a Tree City USA Growth Award.

*Framing Question: Does the action help the City maintain its Tree City USA designation and strive for a Tree City USA Growth Award?*

Tree City USA is a national recognition program sponsored by the Arbor Day Foundation in partnership with the U.S. Forest Service and National Association of State Foresters. Milwaukie has applied for and received this designation since 2016. Expanding beyond this designation, known as a Growth Award, requires demonstrable increased commitment to urban forestry in four categories: Education and Public Relations, Partnerships, Planning and Management, and/or Tree Planting and Maintenance.














**Outreach and stewardship actions**

| Action   | Action Type   |
|--|---|
| <p><b>Evaluate the development of proactive, robust public engagement strategies around all proposed code changes and adjustments and utilize public input to make code update decisions.</b></p> <p>The City could develop strategies and an engagement schedule that ensures comprehensive, proactive public engagement prior to introducing any code changes. All code changes would be informed by public and stakeholder input, including from the development community. Impacts to and mitigation strategies for disadvantaged and traditionally underserved communities should be addressed.</p> | <br>  |
| <p><b>Consider conducting wide-reaching outreach campaigns to ensure Milwaukie community members and stakeholders are aware and know how to receive more information.</b></p> <p>The City, with support of the Tree Board, would lead outreach efforts to help spread the word using user-friendly materials and clear messages to answer people’s questions and drive them to additional resources. The City could pursue translation services for all educational materials to break down language barriers and address education in non-English speaking communities.</p>                             | <br>  |
| <p><b>Ensure outreach efforts are designed to engage traditionally underrepresented community members and evaluate all outreach efforts to understand where additional engagement is needed.</b></p> <p>The City would evaluate outreach methods and results to understand who is and is not being reached with the current method and determine how to bring underrepresented voices into the conversation.</p>   |    |
| <p><b>Consider establishing a Heritage Tree program driven by the Tree Board coordinated with the City’s Design and Landmark Committee and community member volunteers.</b></p> <p>The City, with guidance from the Tree Board, would consider updates to the Milwaukie Municipal Code institutionalizing a Heritage Tree program. A Heritage Tree program gives the opportunity to formally recognize outstanding trees in our community and grant them protection from removals and unqualified maintenance.</p>   | <br> |

**Action type key**

-  Education and outreach
-  Tools and resources
-  Financial support and incentives
-  Community events, activities and celebrations
-  Regulatory protections
-  City processes
-  Training and skills development

## Outreach and stewardship actions












| Action  | Action Type  |
|---|--|
| <p><b>Consider the development of new community outreach and education programs regarding urban forest stewardship, such as invasive and native species and tree care.</b></p> <p>The City could make its annual Arbor Day celebration a platform for promoting environmental stewardship and could seek new opportunities for similar community outreach year round. The City could also explore partnerships with organizations like the Columbia Land Trust and Audubon Society’s Backyard Habitat Certification program to provide technical assistance, incentives, resources and recognition to private property owners. The City could develop and maintain a website with information about its urban forestry programs to make this information publicly accessible.</p> | <br><br><br> |
| <p><b>Encourage Milwaukie community members to plant trees on their property through potential education and resource assistance opportunities.</b></p> <p>The City could facilitate stewardship of trees on private property by providing educational resources and information on avenues to receive materials for tree planting. The Arbor Day event could provide an opportunity to educate community members and provide trees for planting, and similar events could be considered to increase the impact around the City.</p>  | <br><br>  |
| <p><b>Evaluate partnership opportunities with various county, state, federal, and non-governmental agencies and divisions to help advance the goals of the Urban Forest Management Plan.</b></p> <p>The City may consider partnerships with North Clackamas Parks and Recreation District, North Clackamas School District, Oregon Department of Forestry, United States Forest Service, watershed councils and non-profit tree organizations to assist in providing outreach and educational opportunities, including to traditionally underserved, disadvantaged, or non-English speaking communities.</p>  | <br>   |
| <p><b>Consider developer engagement to showcase sustainable design principles.</b></p> <p>The City could explore opportunities for engaging site developers at various junctures to promote development projects that are sensitive to natural resources and incorporate green infrastructure opportunities whenever possible.</p>  | <br>   |

|                               |  |   |   |   |
|-------------------------------|--|---|---|---|
| <p><b>Action type key</b></p> |  Education and outreach<br> Regulatory protections |  Tools and resources<br> City processes |  Financial support and incentives<br> Training and skills development |  Community events, activities and celebrations |
|-------------------------------|--|---|---|---|




















## Action Plan Implementation Guide

## Action Plan Implementation Guide







| Focus area  | Action type   | Action Item   | Staff Resource                    | Board Partners      | Resource Investment | Priority | Action Timeline                 |
|---|---|---|-----------------------------------|---------------------|---------------------|----------|---------------------------------|
|  <p><b>Forest Size</b></p> |    | Consider an efficient, easy to understand permitting system for tree removal and heavy pruning of public, private and street trees on properties not under development.         | Public Works                      | Tree Board          | \$                  | High     | Short-Term                      |
|   |    | Consider amendments to provisions of the Milwaukie Municipal Code that address maintenance and planting of trees on public and private land.                                    | Public Works                      | Tree Board          | \$                  | High     | Short-Term                      |
|   |     | Analyze the potential of a tree planting program to increase canopy coverage to 40% by 2040, prioritizing lower income neighborhoods that do not have adequate canopy coverage. | Public Works                      | Tree Board          | \$\$\$              | High     | Long-Term<br><i>In Process</i>  |
|   |    | Consider conducting a public tree inventory to support the tracking, maintenance, and planting of trees on public land.   | Public Works                      |                     | \$\$\$              | Medium   | Medium-Term                     |
|   |   | Use repeatable remote sensing protocols for monitoring trends in Milwaukie's urban forest canopy.   | Public Works working with Metro   |                     | \$\$                | Low      | Medium-Term                     |
|   |     | Update the Comprehensive Plan to support the tree canopy goals for Milwaukie.   | Planning Department, Public Works | Planning Commission | \$                  | High     | Short-Term<br><i>In Process</i> |












Resource Investment: \$ = Mainly staff time \ Minor program costs; \$\$ = Staff time plus consultants \ Moderate program costs; \$\$\$ = Long-term investment

|                        |  |   |  |   |
|------------------------|--|---|--|---|
| <b>Action type key</b> |  Education and outreach |  Tools and resources |  Financial support and incentives |  Community events, activities and celebrations |
|                        |  Regulatory protections |  City processes      |  Training and skills development  | Ongoing - No defined term length<br>Short Term 0-24mo<br>Medium-Term 24-48mo<br>Long-Term 48mo+                                     |




| Focus area  | Action type  | Action Item   | Staff Resource   | Board Partners                  | Resource Investment | Priority | Action Timeline                |
|---|--|---|--|---------------------------------|---------------------|----------|--------------------------------|
| <br><b>Forest Health</b>             |   | Consider updating or refining tree protection measures and auditing requirements in the Milwaukie Municipal Code for development sites.   | Planning Department, Community Development, Public Works | Tree Board, Planning Commission | \$                  | High     | Short-Term                     |
|   | <br>     | Explore, analyze and develop invasive pest management strategies.   | Public Works   | Tree Board                      | \$                  | Low      | Ongoing<br><i>In Process</i>   |
|   | <br>     | Explore potential incentives and discounts to encourage proactive tree maintenance.   | Public Works, Finance                                    |                                 | \$\$                | Low      | Medium-Term                    |
|   | <br>     | Evaluate opportunities to provide landscape materials to community members.   | Public Works   |                                 | \$                  | Low      | Long-Term                      |
| <br><b>Age and Species Diversity</b> | <br>     | Consider, identify, and evaluate priority species for our urban forest, establish stricter diameter thresholds for their removal permits through provisions to the Milwaukie Municipal Code, and identify other opportunities to encourage their propagation. | Public Works, Natural Resources Coordinator              | Tree Board                      | \$                  | Medium   | Short-Term                     |
|   | <br>  | Consider updating the Street Tree Planting list in the Public Works Standards.  | Public Works, Natural Resources Coordinator, Engineering | Tree Board                      | \$                  | High     | Ongoing<br><i>In Process</i>   |
|   | <br> | Evaluate tree and shrub species which show promise for being adapted to the predicted climate of 2100.  | Public Works, Natural Resources Coordinator              |                                 | \$\$                | Medium   | Long Term<br><i>In Process</i> |
|   |   | Establish and maintain an urban forest nursery.   | Public Works, Natural Resources Coordinator              |                                 | \$\$                | Medium   | Ongoing<br><i>In Process</i>   |
















Resource Investment: \$ = Mainly staff time \ Minor program costs; \$\$ = Staff time plus consultants \ Moderate program costs; \$\$\$ = Long-term investment

|                        |  |   |  |   |
|------------------------|--|---|--|---|
| <b>Action type key</b> |  Education and outreach |  Tools and resources |  Financial support and incentives |  Community events, activities and celebrations |
|                        |  Regulatory protections |  City processes      |  Training and skills development  | Ongoing - No defined term length<br>Short Term 0-24mo<br>Medium-Term 24-48mo<br>Long-Term 48mo+                                     |







| Focus area  | Action type  | Action Item  | Staff Resource                    | Board Partners | Resource Investment | Priority | Action Timeline              |
|---|--|--|-----------------------------------|----------------|---------------------|----------|------------------------------|
| <br><b>Street Tree Management</b>              | <br> | Consider the expansion of tree ordinance provisions related to street and public tree care permitting.   | Public Works, Engineering         | Tree Board     | \$                  | High     | Short-Term                   |
|   | <br> | Evaluate separation of street and public tree care permitting from encroachment permitting.  | Public Works, Engineering         |                | \$                  | Medium   | Short-Term                   |
|   | <br> | Consider development of standards for mature tree preservation and tree planting densities for all public infrastructure improvements, to be implemented through provisions to the Milwaukie Municipal Code. | Public Works, Engineering         | Tree Board     | \$                  | Medium   | Short-Term                   |
| <br><b>Centralized Urban Forest Management</b> |   | Centralize the responsibilities of the urban forest management under one department.   | Public Works                      |                | \$\$                | High     | Ongoing<br><i>In Process</i> |
|   |   | Evaluate options to create a coordinated process for the City's Planning Department and Public Works Department for administering tree preservation and protection standards on development projects.        | Public Works, Planning Department |                | \$                  | High     | Ongoing<br><i>In Process</i> |
|   |   | Explore the creation of a City Tree Fund through a provision to the Milwaukie Municipal Code.  | Public Works, Finance             | Tree Board     | \$, future revenue  | Medium   | Medium-Term                  |




Resource Investment: \$ = Mainly staff time \ Minor program costs; \$\$ = Staff time plus consultants \ Moderate program costs; \$\$\$ = Long-term investment

|                        |  |   |  |   |
|------------------------|--|---|--|---|
| <b>Action type key</b> |  Education and outreach |  Tools and resources |  Financial support and incentives |  Community events, activities and celebrations |
|                        |  Regulatory protections |  City processes      |  Training and skills development  | Ongoing - No defined term length<br>Short Term 0-24mo<br>Medium-Term 24-48mo<br>Long-Term 48mo+                                     |






| Focus area   | Action type  | Action Item  | Staff Resource   | Board Partners                             | Resource Investment | Priority | Action Timeline              |
|--|--|--|--|--|---------------------|----------|------------------------------|
| <br><b>Outreach and Stewardship</b> | <br>   | Evaluate development of proactive, robust public engagement strategies around all proposed code changes and adjustments and utilize public input to make code update decisions.        | Public Works   | Tree Board                                 | \$\$                | Medium   | Ongoing<br><i>In Process</i> |
|  | <br>   | Consider conducting wide-reaching outreach campaigns to ensure Milwaukie community members and stakeholders are aware and know how to receive more information.                        | Public Works, Natural Resources Coordinator, Climate Action and Sustainability Coordinator   | Tree Board                                 | \$                  | High     | Short-Term                   |
|  |   | Ensure outreach efforts are designed to engage traditionally underrepresented community members and evaluate all outreach efforts to understand where additional engagement is needed. | Public Works<br>Natural Resources Coordinator, Climate Action and Sustainability Coordinator | Tree Board                                 | \$\$                | Medium   | Ongoing<br><i>In Process</i> |
|  | <br><br><br> | Consider the development of new community outreach and education programs regarding urban forest stewardship, such as invasive and native species and tree care.                       | Public Works, Natural Resources Coordinator, Climate Action and Sustainability Coordinator   | Tree Board                                 | \$\$                | Medium   | Medium-Term                  |
|  | <br>  | Consider establishing a Heritage Tree program coordinated with the City's Design and Landmark Committee and community member volunteers.   | Public Works   | Tree Board, Design and Landmark Commission | \$                  | Medium   | Medium-Term                  |
|  | <br><br>  | Encourage Milwaukie community members to plant trees on their property through potential education and resource assistance opportunities.  | Public Works, Natural Resources Coordinator, Climate Action and Sustainability Coordinator   | Tree Board                                 | \$\$                | High     | Ongoing<br><i>In Process</i> |

Resource Investment: \$ = Mainly staff time \ Minor program costs; \$\$ = Staff time plus consultants \ Moderate program costs; \$\$\$ = Long-term investment

|                        |  |   |  |   |
|------------------------|--|---|--|---|
| <b>Action type key</b> |  Education and outreach |  Tools and resources |  Financial support and incentives |  Community events, activities and celebrations |
|                        |  Regulatory protections |  City processes      |  Training and skills development  | Ongoing - No defined term length<br>Short Term 0-24mo<br>Medium-Term 24-48mo<br>Long-Term 48mo+                                     |

| Focus area   | Action type   | Action Item  | Staff Resource  | Board Partners | Resource Investment | Priority | Action Timeline              |
|--|---|--|---|----------------|---------------------|----------|------------------------------|
| <br><b>Outreach and Stewardship</b> |  | Evaluate partnership opportunities with various county, state, federal, and non-governmental agencies and divisions to help advance the goals of the Urban Forest Management Plan. | Public Works  | Tree Board     | \$                  | High     | Ongoing<br><i>In Process</i> |
|  |  | Consider developer engagement to showcase sustainable design principles.   | Community Development, Planning, Public Works - Climate Action and Sustainability Coordinator |                | \$\$                | Low      | Long-Term                    |

Resource Investment: \$ = Mainly staff time \ Minor program costs; \$\$ = Staff time plus consultants \ Moderate program costs; \$\$\$ = Long-term investment

|                        |  |   |  |   |
|------------------------|--|---|--|---|
| <b>Action type key</b> |  Education and outreach |  Tools and resources |  Financial support and incentives |  Community events, activities and celebrations |
|                        |  Regulatory protections |  City processes      |  Training and skills development  | Ongoing - No defined term length<br>Short Term 0-24mo<br>Medium-Term 24-48mo<br>Long-Term 48mo+                                     |