

LP21-0004
Urban Forest Management Plan
Planning Commission
Record Index

November 1, 2021 – City Council Work Session

Staff Report and Attachments
Urban Forest Management Plan Presentation

October 13, 2021 Planning Commission Work Session

Staff Report and Attachments
Urban Forest Management Plan Presentation
Meeting Minutes Excerpt

September 8, 2021 – Planning Commission Work Session

Staff Report and Attachments
Urban Forest Management Plan Presentation
Meeting Minutes

July 20, 2020 – City Council Work Session

Staff Report and Attachments
Urban Forest Management Plan Presentation

June 10, 2020 – Planning Commission Work Session

Staff Report and Attachments
Urban Forest Management Plan Presentation
Meeting Minutes

PUBLIC ENGAGEMENT

Virtual public meetings:

- Public Meeting #1 – September 15, 2020
- Public Meeting #2 – November 17, 2020

Surveys:

- Survey #1 – July 19 – September 27, 2020
- Survey #2 – November 17 – December 16, 2020

COMMENTS

Email – S Brown 9.14.2020
Email – B Krieg 9.14.2020
Email – J Constantine 11.8.2021
Letter – S Benson 11.10.2021



CITY COUNCIL MEETING STAFF REPORT

Meeting Date: November 1, 2021		Subject: Urban Forest Management Plan	
		Staff Member: Kerry Rappold, Natural Resources Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Review and provide input on the draft Urban Forest Management Plan.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Goal 7: Protect Wilsonville’s environment and increase access to sustainable lifestyle choices.	<input type="checkbox"/> Adopted Master Plan(s)	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE COUNCIL:

The project team will provide an overview of the draft Urban Forest Management Plan (UFMP) and seek input from the City Council.

EXECUTIVE SUMMARY:

In 2020, the City began the UFMP to guide the City's programs and actions related to the urban forest. Active management of the community's urban forest is becoming more critical as it ages and changes. This will be the City's first comprehensive Urban Forest Management Plan. With the initial timeline for the project, the draft Plan was scheduled for the City Council in early summer, but due to delays associated with incorporating new data from the American Forests Tree Equity Score and an updated street tree inventory that resulted from the winter storm, review of the draft Plan was rescheduled for the fall.

The UFMP provides an integrated approach to preserving, sustaining and regenerating Wilsonville's urban forest into the future. While the UFMP covers the entire City, it has two focus areas: Charbonneau and Town Center. In Charbonneau, the focus was primarily on the red oak population along French Prairie Road, and in Town Center, an inventory was conducted identifying trees that would be good candidates for retention as part of future redevelopment scenarios. Recommendations in the Plan address issues and topics specific to the urban forest in these areas. An important foundational component of the UFMP is the City's street tree inventory completed in 2018. Over 24,000 trees were inventoried and entered into the City's asset management system, Cartegraph. The inventory provided a critical starting point for developing the plan as it relates to the management of publically owned trees.

An interdisciplinary team, comprised of staff from Community Development, Public Works, and Parks and Recreation, have participated with the consultant (PlanIt Geo) in the development of the Plan. The team members have provided their expertise about Wilsonville's urban forest and identified key issues to be addressed within the Plan.

In fall 2020, the public participated in online surveys and virtual meetings, available on *Let's Talk, Wilsonville!*, to discuss the planning process, plan framework, and focus areas. Nearly 100 people took the surveys and participated in the virtual meetings. In addition, more than eighty tree photos were submitted by residents as part of a project photo contest. Ultimately, three prize winners were chosen and their photos are featured prominently in the UFMP document.

In September and October 2021, the project team conducted work sessions with the Planning Commission and incorporated feedback into the draft UFMP. To finalize the development of the Plan prior to the Planning Commission public hearing on November 10, 2021 and the City Council public hearing scheduled for December 6, 2021, the project team seeks Council feedback on the following questions:

- Does anything in the draft Urban Forest Management Plan require edits or modifications?
- Are there any other key elements or considerations that should be included in the draft Urban Forest Management Plan?

EXPECTED RESULTS:

The project team will incorporate input from the Council into the final draft of the Urban Forest Management Plan for the City Council adoption hearing.

TIMELINE:

Based on the work session, the project team will incorporate the Council’s input into the final version of the draft for the December 6, 2021 public hearing before the City Council. In addition, staff will bring forward the recommendation from the Planning Commission public hearing on November 10, 2021.

CURRENT YEAR BUDGET IMPACTS:

The amended FY21/22 budget includes \$15,569 in general funds as part of Project #9165 Urban Forest Management Plan to complete the planned work.

FINANCIAL REVIEW:

Reviewed by: KAK Date: 10/25/2021

LEGAL REVIEW:

Reviewed by: BAJ Date: 10/26/2021

COMMUNITY INVOLVEMENT PROCESS:

Community involvement and public outreach have been a key component of the project. Surveys, virtual open houses and the photo contest have provided a variety of opportunities for the public to engage in the process and provide their input.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

The UFMP identifies actions that support a healthy and regenerative urban forest across Wilsonville’s publically and privately owned lands through the combined efforts of City government, businesses, and residents. It will be important to engage the community in the care of our urban forest and make them a partner in implementing the Plan.

ALTERNATIVES:

N/A

CITY MANAGER COMMENT:

N/A

ATTACHMENTS:

1. Draft Urban Forest Management Plan – October 2021

URBAN FOREST
**MANAGEMENT
PLAN**

WILSONVILLE,
OREGON
OCTOBER | 2021



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URBAN FOREST MANAGEMENT PLAN WILSONVILLE, OREGON



ACKNOWLEDGMENTS

A special “thank you” to community members and all who participated in this planning process. We appreciate your time and input.

City Council

Mayor Julie Fitzgerald
Kristin Akervall, Council President
Charlotte Lehan, Councilor
Joann Linville, Councilor
Ben West, Councilor

Planning Commission

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Jennifer Willard, Vice Chair
Olive Gallagher
Jerry Greenfield
Ronald Heberlein
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Dustin Schull, Parks Supervisor

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A VISION FOR WILSONVILLE'S **URBAN FOREST**

Healthy Trees, Healthy Wilsonville. Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.

WILSONVILLE URBAN FOREST MANAGEMENT PLAN MISSION STATEMENT

The City of Wilsonville, in partnership with the community and urban forestry consultants, completed this Urban Forest Management Plan in 2022. This Plan is a guide to maintain, protect, and enhance Wilsonville's already extensive tree canopy cover resource and the multitude of associated benefits. The Urban Forest Management Plan extends beyond maintenance and operational guidance to include a variety of long-term goals, strategies, and priorities to achieve optimal levels of urban forest management, sustainability, and equity in a comprehensive and systematic manner. Achieving the goals set forth in this Plan requires a shared commitment and partnership between the City and its community to sustain a thriving urban forest providing benefits to Wilsonville's environment, economy, and well-being for future generations.

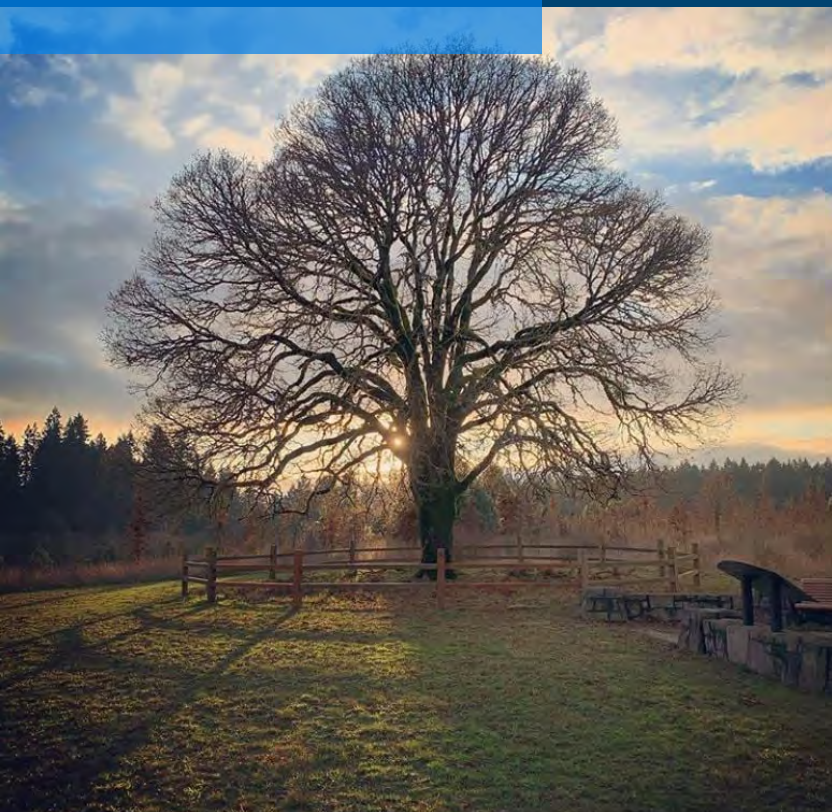


Photo courtesy of Zach Herrmann, winner of the UFMP photo contest, November 2020

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HEALTHY
TREES,
HEALTHY
CITY



WILSONVILLE
OREGON

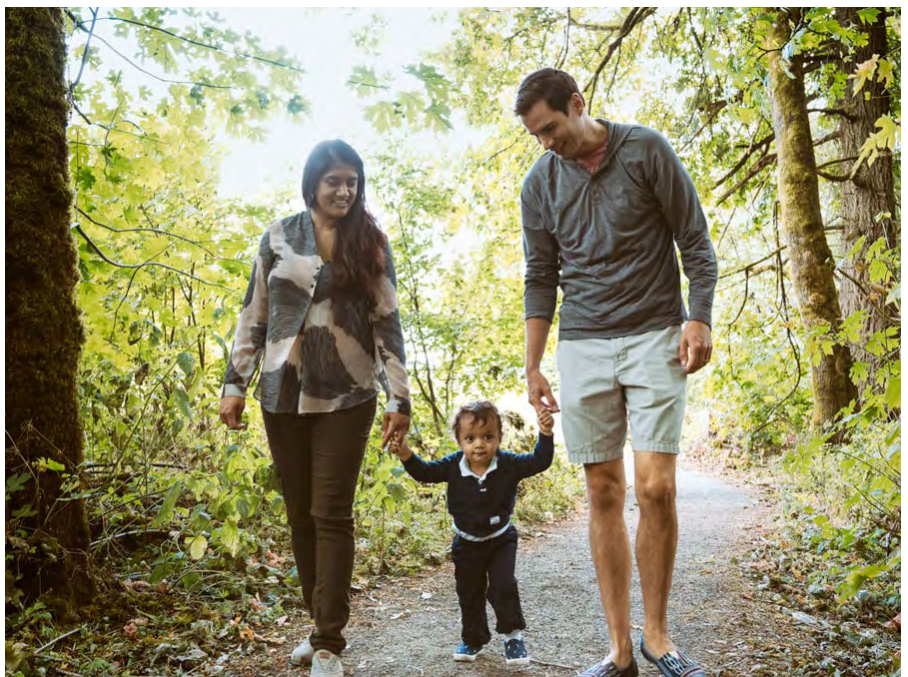


PLANIT GEO™
mapping a greener future

2021
Urban Forest
Management Plan

EXECUTIVE

SUMMARY



HEALTHY TREES, HEALTHY WILSONVILLE

Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.

WILSONVILLE'S URBAN FOREST TODAY

Wilsonville's urban forest is a thriving, constantly evolving blend of native and ornamental (or planted) trees located throughout the community that citizens cherish and which provides a unique sense of place rich with natural beauty defining Wilsonville's identity.

Wilsonville's location in the north Willamette Valley, along the banks of the Willamette River result in a beautiful landscape that blends mature native Oregon white oak specimens that have been incorporated into the fabric of the community with the planted trees that are part of the development of the city over the past 50 years. Together, these elements combine to create the City of Wilsonville's urban forest.

The numerous creeks traversing the City are lined with large stands of native coniferous trees, mostly Douglas-fir, that create unique wildlife habitat, shade creeks and provide picturesque backdrops to many of the community's neighborhoods. The planted trees are a unique mix of species that line streets, enhance parks and shade shopping and employment areas with canopy providing visual interest and seasonal beauty through a diverse mix of species. Many cultivated varieties of oak, maple, ash and linden, amongst others, come together to create the dynamic and evolving urban forest we know and appreciate today.

The City has a vibrant urban forest that continues to be created, modified, and removed primarily by people, and sustaining it will require ongoing human intervention. The goal of this intervention is a sustainable urban forest— an urban forest that optimizes the benefits of trees while meeting established safety and economic goals. Achieving this requires robust management, diverse funding, adequate staffing, effective policies, and maintenance actions consistent with best practices.

The urban forest offers many benefits, some of which are directly identifiable and quantifiable, and others that are experienced. Recognition of the role urban forests play in improving human health and well-being in addition to being critical climate change mitigators continues to increase

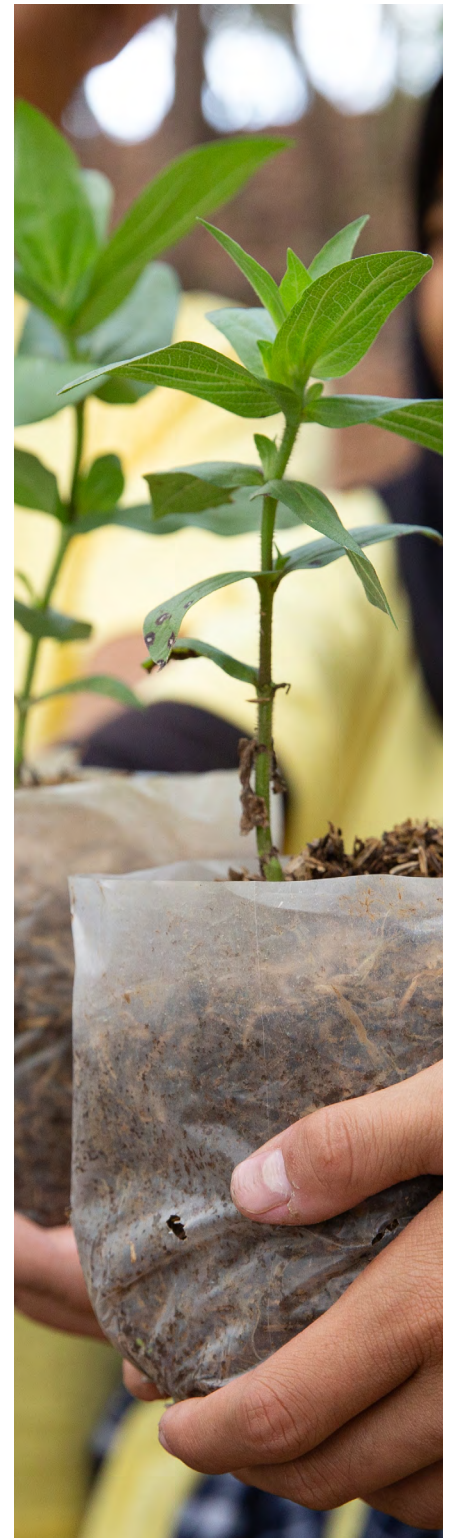
Photo courtesy of "Rene", photo contest contestant, November 2020

An analysis of the total street and public tree population valued the ecosystem services and benefits at an estimated \$35.5 million annually. The trees that have been inventoried in the City (25,950 trees) provide an annual value of over \$1.9 million. Most notably, these inventoried trees prevent over 4.6 million gallons of stormwater runoff annually by intercepting precipitation. The function and structure of the inventoried tree population results in a replacement value of over \$46.4 million as of 2020. The City's legacy of trees continues to grow and caring for this asset is an important part of maintaining a sustainable and vibrant city.

This Urban Forest Management Plan is the City's first of its kind. This Plan will set the stage for future actions and efforts that will ensure the long-term health, management and success of the trees that comprise the urban forest. In the Plan, two specific focus areas were analyzed, the Town Center area and the Charbonneau District. In Town Center, a recently adopted master plan (2020) envisions redevelopment of significant portions of the area. Redevelopment will be dependent on understanding the health and condition of the existing trees so the City can determine what to incorporate into the next generation of projects in the Town Center. In Charbonneau, the focus of the study area is the over 800 mature northern red oaks that line French Prairie Drive. These trees are a defining element of the Chabonneau community and have become very large, presenting challenges with existing infrastructure and improvements. Balancing the needs of this red oak population with the needs of the residents of the Charbonneau community is a focus of the Plan.

Over the past year, the community has experienced extreme weather events that are an indication of global climate change. Massive scale fire events in the area to the south over the summer of 2020 were followed by a devastating ice storm in the winter of 2020 that took a significant toll on the urban forest as a whole. Interns were hired in the summer of 2021 to update the citywide inventory of 2018 to determine what trends could be observed so that adjustments to the management of the City's urban forest could take place.

In August 2021, the interns completed a report about the update to the 2018 Street Tree Inventory. Many trees were destroyed, or damaged beyond recovery, during the winter storm, and the report provides a comprehensive analysis of the tree loss and insight into the characteristics of those trees that suffered damage. Results from the updated Street Tree Inventory provide a unique opportunity to quantify and assess the resilience and vulnerability of Wilsonville's urban forest.





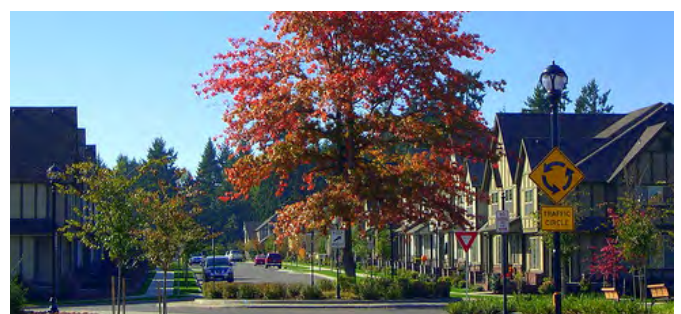
PUBLIC ENGAGEMENT PROCESS

Prior to the development of the City of Wilsonville’s Urban Forest Management Plan, the Program Manager of the City’s Natural Resources Program and supporting staff worked with City departments, partners, and the community to identify the needs of the urban forest. To inform the Plan, a series of meetings and interviews were conducted with 13 City staff representing three departments and six divisions for a comprehensive understanding of urban forest management workflows, strengths, challenges, and priorities. In addition, traditional and non-conventional stakeholder engagement occurred throughout the planning process.

The public engagement sessions consisted of virtual public meetings, two online surveys (~100 participants), news articles, social media posts, content sharing on Let’s Talk, Wilsonville!, and a photo contest where nearly 90 photos from the public were submitted.

Feedback received through these efforts was used to produce a draft Plan with a shared vision for the urban forest. The team then shared draft goals, strategies, and actions with City staff, key stakeholders, and the citizens of Wilsonville to ensure initial input was accurately captured. The team received specific feedback related to managing the urban forest for extreme weather events such as the February 2021 ice storm, consistent and inclusive outreach to all neighborhood groups, and tree preservation and removal guidance in the project’s focus areas of Town Center and Charbonneau.

Action priorities were developed to provide technical guidance for City departments that are relevant, accessible, and tangible to the community.



MANAGING THE URBAN FOREST

The urban forest is comprised of trees across the City landscapes with varying ownership, maintenance responsibility, and authority. The table below provides an overview of the tree types and respective maintenance responsibility.

Table 1. Trees comprising the urban forest and the maintenance responsibility

	Tree Type	Public Trees	Street Trees	Private Trees	Maintenance Responsibility
	Definition	Trees maintained by the City	Trees in the public right-of-way	Private property trees	City (C) or Property Owner (P)
Locations					
Public Parks & Open Space		X	O	O	C
Rights-of-Way		/	X	O	C/P
Public Properties		X	O	O	C
Private Property		O	O	X	C/P (City oversight on development)

X = Yes; O = No; / = Partly or Some

Primarily, the City maintains public trees within public parks and open space, on public properties, and some trees within the public rights-of-way. The City only oversees private trees for development projects. In most cases, private property owners maintain street trees in the public rights-of-way and on private property. Currently, the City has an inventory consisting of street and public trees. This shared responsibility demonstrates the need for coordinated efforts and cooperation guided by the Urban Forest Management Plan.

The City has a diversity of existing policies, programs, regulations, and incentives that are used to manage Wilsonville’s urban forest. Three City departments are engaged in Wilsonville’s urban forest planning effort to provide important expertise, perspective, and resources to this commitment. The management of the City’s public tree population is funded by nearly \$272,000 (2020) and is overseen by experienced and qualified personnel. The City urban forestry team within the Community Development Department, Public Works, and Parks and Recreation departments plants and cares for public and City-owned street trees, provides free trees for residents through partnering organizations, protects and restores forested parklands, manages public park and open space trees on over 1,500 acres, regulates the removal of trees, and promotes stewardship of the urban forest. Interdepartmental coordination is essential for effective management and consistent delivery of urban forestry programs.

Wilsonville’s urban forest is a diverse ecosystem consisting of young and mature trees of varying species, function, and associated benefits.

Figure 1. Maps of trees inventoried in Wilsonville

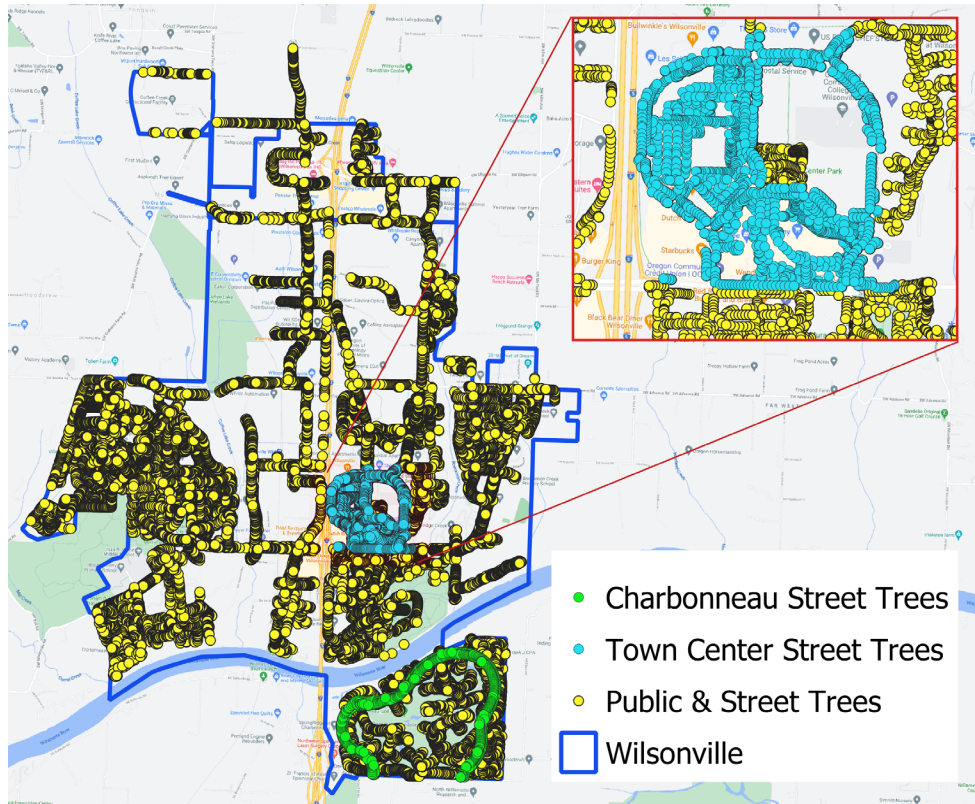
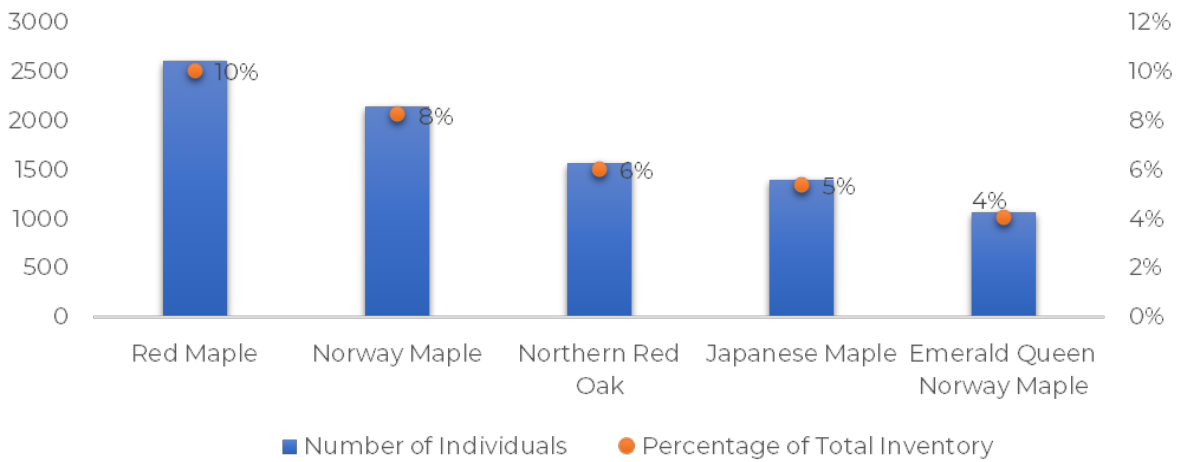


Figure 2. Most common public trees in Wilsonville



PLANNING THE URBAN FOREST

The planning process consisted of two phases; the needs assessment summarized in the Research Summary and the goal and action framework in this Urban Forest Management Plan. The first phase establishes a baseline from which short- and long-term strategies can be developed and monitored over time. The needs of the urban forest and the programs that manage it were evaluated through an audit of existing conditions and operations to establish a baseline from which progress can be measured. This diligent approach to Wilsonville’s urban forest management gauges the City’s readiness and available resources to achieve optimal levels of urban forest management and sustainability. Through this phased approach, a comprehensive understanding was gathered of the urban forest, the programs that manage it, and the community that benefits from and shapes it to inform strategic goals and actions.

The main tenets of this Plan focus on ensuring public safety, increasing operational efficiencies, facilitating short- and long-term sustainable urban forest planning, validating budgets and programs, ensuring equitable distribution of green resources and services, and standardizing methodology for asset management of the urban forest.

The Urban Forest Management Plan adheres to the following guiding principles:

- Recognize that the trees of the urban forest are more than aesthetic enhancements.
- Recognize trees as the backbone of the urban ecosystem and an essential part of the community’s green infrastructure.
- Promote the health and growth of the urban forest by following scientifically established best management practices for tree selection, planting, watering, and pruning.
- Promote a robust urban forest through policies and practices that reduce its vulnerability to known diseases or pest infestations, and future threats, including the anticipated effects of climate change.
- Engage in a continuous process of long-range planning for the growth and maintenance of the urban forest.
- Promote public appreciation of the urban forest through educational outreach programs.
- Support local businesses, institutions, organizations, and individuals in their efforts to grow and maintain the urban forest through community education.
- Proceed in a manner that is inclusive and transparent.



URBAN FOREST MANAGEMENT PLAN GOAL FRAMEWORK

The City's project team consisting of Wilsonville Community Development Department's Natural Resources Program staff and urban forestry consultants developed a set of diverse, comprehensive goals to guide urban forestry work. These goals were informed by an inclusive engagement process with the community and stakeholders undertaken throughout the planning process. The results of these efforts are a series of urban forestry goals to address the resource, the programs, and the people.

Urban Forest Management Plan Vision

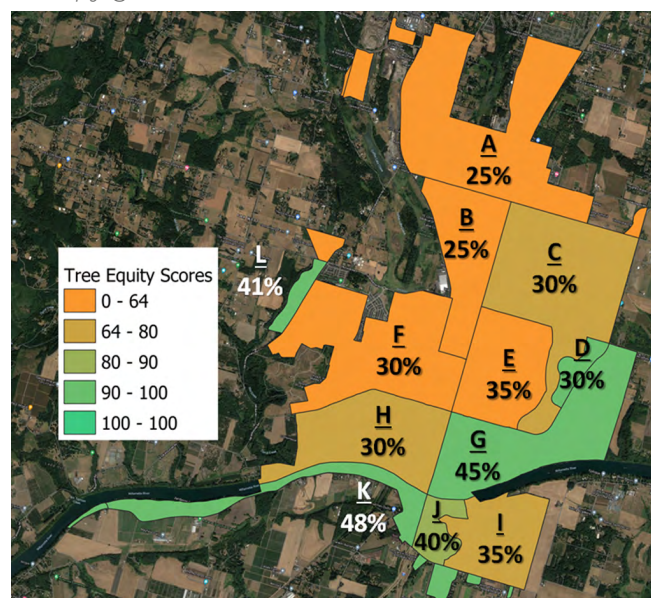
Healthy Trees, Healthy Wilsonville. Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.

Supporting the Vision: Wilsonville's Tree Canopy and Equity Goal

Tree canopy is a valuable component of Wilsonville's urban ecosystem and expanding the urban forest is part of the solution to the City's social, environmental, and economic concerns—it is integral to enhancing public health programs, increasing land values and local tax bases, providing job training and employment opportunities, reducing costs of city services, increasing public safety, improving air quality, offsetting carbon emissions, managing stormwater runoff, and conserving energy. To achieve the vision for the urban forest, the City has established a goal to increase its tree canopy coverage by 6 percent— up from 30 percent currently— over a 25-year timespan or “36 percent by 2046” (“36 by 46”).

To reach this goal, approximately 27,000 new trees need to be planted over the 25-year timeframe while preserving the City's existing urban tree canopy cover. The goal of 36 percent canopy and 27,000 new trees is based on a variety of factors including species diversity, urban forest benefits, maintenance responsibility, and an equitable distribution of tree canopy. In turn, the 27,000 trees will add annual benefits of nearly \$351,000 and improve tree equity across the City, bringing all Census Block Groups to a Tree Equity Score of at least 75 (out of 100) according to the American Forests' Tree Equity Score Tool (TES, TreeEquityScore.org).

Figure 3. Tree Equity Scores for Wilsonville's Census Block Groups were used to establish the City's 36% canopy goal



Urban Forest Management Plan Goals

Supporting the vision and the overarching canopy goal of 36 percent canopy by the year 2046 are a series of urban forestry goals. These strategic goals were derived from the outcomes of the planning effort involving City staff and stakeholder engagement and extensive analyses of the urban forest. The following items are not listed by any particular priority or order.

1

TREE MANAGEMENT POLICY (MP):

The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.

2

CAPACITY, TRAINING, AND AUTHORITY (CT):

Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.

3

ASSESSMENTS AND PLANS (AP):

A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.

4

COMMUNITY ENGAGEMENT (CE):

Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.

5

GREEN ASSET MANAGEMENT (GA):

Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

Strategic actions were developed in each goal area to reach desired outcomes. Tree Management Policy actions address collaboration, strengthening of policies, sustaining canopy and achieving planting targets, and stewardship of the resource. Capacity actions relate to planning, training, and service levels and actions to address the Assessments and Plans goal, which include inventories, assessments, and plans to inform management. Community Engagement actions include a focus on enhancing community engagement through outreach, education, and partnerships. Green Asset Management actions address programs and services to effectively manage the urban forest for the long-term.



Photo courtesy of Susan Reep, UFMP photo contest contestant, November 2020

ACTION AGENDA

The action agenda outlines the steps that the City of Wilsonville and community partners will take to implement the Urban Forest Management Plan over a 25-year planning horizon. The action agenda was informed by the inclusive engagement process consisting of key stakeholders and the public at large. Departmental work plans for Plan implementation will provide additional details on those aspects of the urban forest that each department can manage. For example, the Community Development Department is responsible for ensuring street trees are planted as part of a Capital Improvement Project or a development project and the Public Works Department oversees the replanting and maintenance of City-owned street trees.

City government will continue to perform key ongoing, urban forestry work including:

- Planting trees within Wilsonville and administering the City's tree-related policies to support a Citywide tree canopy goal.
- Developing plans and strategies to manage the urban forest on City of Wilsonville natural landscapes and properties.
- Removing invasive plants from Wilsonville's forested areas.
- Coordinating departmental work and collaborating on urban forestry Citywide efforts.
- Updating initiatives and regulations in support of Wilsonville's urban forest.

The actions provided in the Plan build on the ongoing work and will be the focus of implementation throughout the 25-year horizon. Successful completion of all actions in this Plan will require additional staffing and resources that should be secured using the supporting studies such as the Funding Mechanisms and Existing and Potential Urban Forestry Partners in the appendices.

City departments will continue to support urban forestry efforts with available funding. The action items listed in the Plan could help expedite the recovery of Wilsonville's most vulnerable communities by increasing tree canopy cover and urban forestry services but the urban forestry planning team is aware of the challenging times ahead. As economic recovery takes place following the 2020 pandemic and additional funding becomes available, the urban forestry planning team recommends that new funding be prioritized toward the following efforts:

- Ongoing funding for tree and natural area crews to maintain the urban forest.
- Continuing to perform urban forest assessments to inform management.
- Leverage existing planning, outreach, partners, and engagement efforts in focus areas to achieve common goals.

“

“Urban trees and forests are considered integral to the sustainability of cities as a whole. Yet, sustainable urban forests are not born, they are made. They do not arise at random, but result from a community wide commitment to their creation and management.”

CLARK et al., 1997, *A Model of Urban Forest Sustainability*

HEALTHY TREES, HEALTHY CITY: CALL TO ACTION

Urban forests are an important green infrastructure asset for communities across Oregon. However, the capacity of urban forests to support healthy and resilient cities is constrained and challenged by stressors such as climate change impacts including extreme weather events, urban development pressures, altered soils, exotic tree pests and diseases, and invasive species. Now more than ever there is a critical need to sustain large, healthy, genetically appropriate trees on public and private land through long-term planning and budgeting, inclusive decision-making, and strategic policy development that supports adaptive management. Thus, comprehensive urban forest support must extend well beyond tree planting initiatives.

Management of urban forests is often considered the sole responsibility of municipal governments. In reality, responsibility should also be shared by private citizens, community groups, and other partners. All of these groups have important roles to play. Successful management frameworks must recognize that the urban forest is part of a complex system that includes the built environment, and is influenced by human activities and policies and practices that shape Wilsonville's urban areas. Furthermore, decision-making must be made in the context of future uncertainty associated with climate change. Wilsonville's Urban Forest Management Plan ("Plan") provides the framework and road map for efficient, sustainable, and equitable urban forestry practices.

This coordinated planning effort— led by the City's staff, stakeholders, and consultants— included an updated inventory of public trees in the Town Center and Charbonneau focus areas to inform management, tree maintenance and removal priorities, tree replacement strategies, and policies and procedures for tree preservation. This Plan also provides specific guidance relating to the urban forest and extreme weather events.

In February of 2021, the City experienced a winter storm causing thousands of power outages, hundreds of downed trees and limbs, and property damage. The City and the community quickly jumped to its feet by clearing roads, removing tree debris, and restoring power. From this event, the City's Emergency Management Program strengthened its protocols relating to City trees and this Plan provides additional guidance for the City to be even more prepared and resilient to extreme weather events (see [Appendix I](#)).

In the update to the 2018 Street Tree Inventory, data was gathered about the current condition and status of Wilsonville's street trees. One of the more concerning findings was the number of trees damaged by the ice storm or subsequently removed because of the event, which included 1,100 trees or 4% of the trees inventoried in 2018. Tree species that suffered the most storm damage included paper birch, cherry plum, silver birch, Raywood ash, and scarlet oak.

This planning effort consisted of ongoing community engagement through press releases, public surveys, newsletters, community meetings, photo contests, website content, and social media to educate and gather viewpoints and feedback as it relates to the trees in Wilsonville. From these engagement activities, the vision for the urban forest was identified, key concerns were uncovered, strategies were developed, and a shared commitment to the urban forest resource was fostered.

From this shared commitment between the City and property owners, the vision and goals for Wilsonville's urban forest can be achieved. Reaching and sustaining the urban forest vision will require ongoing monitoring, analysis, and reporting of this Plan to keep urban forest partners involved and focused on accomplishing the actions. The Plan should be a living document that is updated as changes occur to the resource and other planning efforts. As the Plan is updated, it should continue to serve as a road map with strategic priorities and recommended actions to assist the City and stakeholders in their efforts to grow, protect, and sustain a healthy urban forest for all residents and future generations.



URBAN FOREST

MANAGEMENT PLAN

HEALTHY TREES, HEALTHY CITY



EXECUTIVE SUMMARY



INTRODUCTION AND BACKGROUND

The City of Wilsonville, in spearheading this Urban Forest Management Plan (UFMP or Plan), recognizes its trees as one of its most valuable resources and shows that it is dedicated to the preservation, proper maintenance, and continued enhancement of their urban forest. The trees throughout Wilsonville are an asset that bring value and benefits to the community: increased property values, heightened environmental benefits and enhanced quality of life are just a few examples of the benefits that the urban forest provides for all of Wilsonville's community members. Implementation of this Urban Forest Management Plan is an excellent opportunity to strengthen the City's urban forest through proper management of this valuable resource.

As is the case with most urban areas, the trees that make up the urban forest in Wilsonville suffer from the severity of urban life, including pests and diseases, the current and changing climate, air pollution, compacted soils, limited growing spaces, and limited resources. In order to overcome such harsh conditions for the City's trees and reap the benefits of these most valuable assets,

the care of the urban forest must be strategically and efficiently planned and cared for.

This Plan aligns with the City's Comprehensive Plan updated in 2020 by recommending adequate tree management levels, potential increases in staffing and funding, applying input from the community, and recommending changes to tree-related policy. Adequate tree management includes efficient and effective tree care, bolstered tree plantings to maintain age and species diversity in the public tree population, the preservation and enhancement of canopy coverage Citywide to enhance the character and aesthetics of neighborhoods, and exemplary stewardship of the forest from all who live and work in Wilsonville. The Plan must be regarded as both a long-range policy guide and a living document that will respond to changing conditions over its life. It requires a close partnership between policy makers, staff, and the community. Adoption of this Plan enables the City to accomplish these objectives.



Photo Courtesy of Friends of Trees

DEFINING THE URBAN FOREST

“

“Urban forestry can be defined as the art, science, and technology of managing trees and forest resources in and around community ecosystems for the physiological, sociological, economic, and aesthetic benefits trees provide to society.”

HELMS, 1998

Any inhabited area that has trees and vegetation is considered a community forest though more urbanized communities often refer to this resource as an urban forest. Based on Wilsonville's population density, tree population, and the public interaction with and received benefits from trees, Wilsonville's resource is referred interchangeably as an urban and community forest in this Plan. The Plan focuses on the City-owned trees in public rights-of-way, trees in public parks, and street trees maintained by adjacent property owners but also has implications for the trees on private property and attention to these are addressed through community outreach and education efforts.

The concept of urban and community forest management developed in the 1960s out of the death and devastation of the elm tree population throughout the United States due to Dutch Elm disease. The discipline of urban forestry strongly advocates for species and age diversity in a city's tree population so that the elm tree devastation of the 1960s does not happen again. Unfortunately, native and invasive pests and diseases continue to spread.

During the last three decades, urban forestry has evolved as researchers and practitioners learn more about the structure and function of trees and their unique role in providing environmental, economic, and social benefits to urban areas. Urban forestry provides each of these benefits in differing circumstances—as infrastructure, as part of design and development, and as efficient and productive providers of economic development.

Residents traditionally have indicated that they consider the trees in the community a priority. In urban environments, street and park trees are sometimes the only day-to-day interaction with nature that many residents may enjoy. As Wilsonville continues to grow, the urban forest needs a strong advocate. This will happen with the education and support of the City's constituency, staff, and elected officials informed by an approved Urban Forest Management Plan. The urban forest is unique in the array of benefits it provides to the community, and a management plan effectively collects and showcases these values.

While a management plan is useful in helping educate and ensure future viability, it also establishes useful parameters for the daily operations and care of the urban forest. A fresh look at all urban forestry-related policies currently in place brings into focus what is necessary for day- to-day activities to ensure long-term viability and safety of the urban forest.

While a management plan is useful in helping educate and ensure future viability, it also will set up useful parameters for the daily operations and care of the urban forest. A fresh look at all urban forestry-related policies currently in place will bring into focus what is necessary for day- to-day activities to ensure long-term viability and safety of the urban forest.

BENEFITS OF THE URBAN FOREST

The quality of life of the citizens in any community depends on the urban forest, as trees make a vital and affordable contribution to the sense of community, pedestrian-friendly neighborhoods, surface temperatures, and air quality. Wilsonville's Community Development Department and supporting departments are critical to meeting the City's commitment to climate change mitigation and adaptation, carbon sequestration, stormwater reduction, wildlife habitat enhancement, and water conservation. Trees are one of the few infrastructure investments that, if properly maintained, will grow in value over time. The Plan provides an assessment of these benefits and services and the actions necessary to sustain and enhance them.

Note: The following data was derived from the Alliance for Community Trees.



Clean the Air and Breathe Easier

Shade trees reduce pollution and return oxygen to the atmosphere. In addition to carbon dioxide, trees' leaves or needles absorb pollutants, such as ozone, nitrogen dioxide, sulfur dioxide, and some particulate matter.



Save Energy and Lower Energy Costs for Buildings

As natural screens, trees can insulate homes and businesses from extreme temperatures, keep properties cool, and reduce air conditioning utility bills. A 20 percent canopy of deciduous trees over a house results in annual cooling savings of 8 to 18 percent and annual heating savings of 2 to 8 percent. By planting shade trees on sunny exposures, residents and businesses can save up to 50 percent on hot-day energy bills.



Positively Influence Climate to Ensure Sustainability

Trees absorb carbon dioxide and store carbon in wood, which helps to reduce greenhouse gases. Carbon emissions from vehicles, industries, and power plants are a primary contributor to increased air temperatures in metropolitan areas. Trees in the United States store 700 million tons of carbon valued at \$14 billion with an annual carbon sequestration rate of 22.8 million tons per year valued at \$460 million annually.



Reduce the Need for Street Maintenance

Shaded streets last longer and require far less pavement maintenance, reducing long-term costs. Canopy diminishes pavement fatigue, cracking, rutting, and other damage. A study from University of California at Davis found that 20 percent shade cover on a street improves pavement condition by 11 percent, which is a 60 percent savings for resurfacing over 30 years.



Raise Property Values

Trees are sound investments, for businesses and residents alike, and their value increases as they grow. Sustainable landscapes can increase property values up to 37 percent. The value of trees appreciates over time, because the benefits grow as they do. For businesses, trees have added value, including higher revenues. Shoppers seek out leafy promenades that frame storefronts. Research shows that shoppers spend more—between 9 and 12 percent more—on products in tree-lined business districts.



Conserve Water and Soil

A tree's fibrous roots, extending into the soil, are premier pollution filtration and soil erosion prevention systems. Intensely urbanized areas are covered with a large number of impermeable surfaces. In contrast to an impervious hardscape, a healthy urban forest can reduce annual storm water runoff up to 7 percent. Highly efficient trees also utilize or absorb toxic substances such as lead, zinc, copper, and biological contaminants. One study estimated that eliminating the need for additional local stormwater filtration systems would result in savings exceeding \$2 billion.



Cooler Pavement Diminishes Urban Heat Islands

Broad canopy trees lower temperatures by shading buildings, asphalt, and concrete. They deflect radiation from the sun and release moisture into the air. The urban heat island effect is the resulting higher temperature of areas dominated by buildings, roads, and sidewalks. Cities are often 5° to 10°F hotter than undeveloped areas, because hot pavement and buildings have replaced cool vegetated land. In addition, high temperatures increase the volatility of automobile oil and oil within the asphalt itself, releasing the fumes into the atmosphere. Shade trees can reduce asphalt temperatures by as much as 36°F, which diminishes the fumes and improves air quality.



Protect Wildlife and Restore Ecosystems

Planting and protecting trees can provide habitat for hundreds of birds and small animals. Urbanization and the destruction of valuable ecosystems have led to the decline of many species. Adding trees, particularly native trees, provides valuable habitat for wildlife.



Build Safe Communities and Decrease Crime

Police and crime prevention experts agree that trees and landscaping cut the incidence of theft, vandalism, and violence by enhancing neighborhoods. Thriving trees on well-maintained streets indicate pride of ownership. Public housing residents with nearby trees and natural landscapes reported 25 percent fewer acts of domestic aggression and violence. Apartment buildings with high levels of greenery had 52 percent fewer crimes than those without any trees. Buildings with medium amounts of greenery had 42 percent fewer crimes.



Calm Traffic and Make Neighborhoods Safer and Quieter

People drive more slowly and carefully through tree-lined streets, because trees create the illusion of narrower streets. One study found a 46 percent decrease in crash rates across urban arterial and highway sites after landscape improvements were installed. The presence of trees in a suburban landscape reduced the cruising speed of drivers by an average of 3 miles per hour. Faster drivers and slower drivers both drove at decreased speeds in the presence of trees. Trees reduce noise pollution, buffering as much as half of urban noise. By absorbing sounds, a belt of trees 100 feet wide and 50 feet tall can reduce highway noise by 6 to 10 decibels. Buffers composed of trees and shrubs can reduce 50 percent of noise.



Reduce Stress and Improve the Quality of Life

Neighborhoods with generous canopies of trees are uplifting and good for public health. Greater contact with natural environments correlates with lower levels of stress, improving performance. Students' concentration levels go up when they are able to look out onto a green landscape. Studies show that children with attention deficit disorder function better after activities in green settings. A green environment impacts worker productivity. Workers without views of nature from their desks claimed 23 percent more sick days than workers with views of nature. Residents of areas with the highest levels of greenery were 3 times as likely to be physically active and 40 percent less likely to be overweight than residents living in the least green settings.

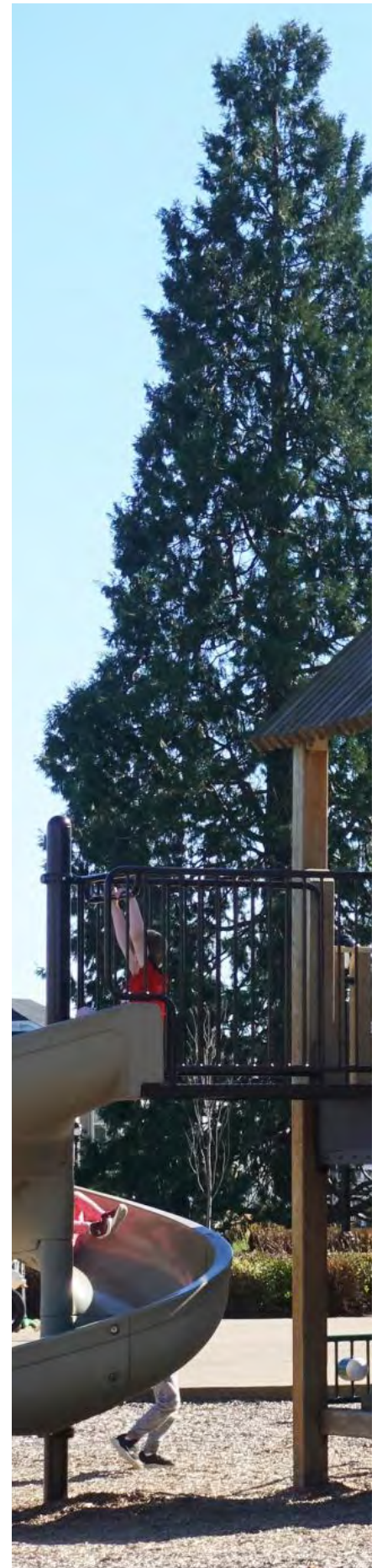
KEY ISSUES FACING URBAN FORESTS

The City of Wilsonville has a unique urban form and character. Its size, layout, and development density influence the landscape and has created a charming and livable city. Wilsonville's citizens show pride in their city, and their neighborhoods are well cared for. The City's climate is ideal for a wide range of plants and street trees and many of the City's streets and landscapes exhibit a unique and rich planting character. Some of the City's historic neighborhoods and its newest developments have a rich urban forest that illustrates Wilsonville's commitment to be a tree-filled city guided by a strategic plan.

Cities around the world, and specifically in the Willamette River Valley face dramatically intensifying extreme weather and climate impacts including drought, frequent storms, flooding, and an increase in sustained high temperatures. In many instances, these impacts are already exceeding the designed capacity of city infrastructure to protect the health and safety of residents, businesses, and neighborhoods, which in turn threatens the fiscal viability of cities and regions. Urban trees can play a significant role in making cities resilient to weather and climate extremes, and in protecting human and ecosystem health and safety. To do so, trees must be consciously selected, planted and managed as the central component of an urban forest where individual trees are managed as part of a greater system with the purpose of improving the urban environment and enhancing benefits.

Yet the ability of urban trees and urban forests to achieve desired benefits is often drastically limited due to poor maintenance and management stemming from insufficient municipal budgets, lacking urban forest management systems and programs, limited training of tree care professionals, and a lack of enforcement of tree-management best practices to support tree health. Consequently, long-term tree health is compromised in many cities, resulting in limiting the beneficial functions of trees, leaving trees more susceptible to pests and disease, and leading to premature tree death. The impact of this is compounded for disadvantaged communities. As stated by Jad Daley, president and CEO of American Forests, "The single greatest threat from climate change to people in cities is extreme heat."

In turn, urban trees face multiple challenges to surviving and thriving. Trees that die years prematurely will not create the root systems and canopies needed to reach their benefit potential and maximize their return on investment. Planting and maintaining an urban forest that exists in concert with other green infrastructure must include management by trained individuals, the use of tree inventory data, an understanding of baseline conditions and forecasted environmental changes, collaboration among departments to mainstream urban forest management, a community with a shared vision for the urban forest, and a roadmap for management provided in a plan.



These issues are exacerbated in lower income communities with limited resources. The City needs a comprehensive plan to preserve and expand the urban forest which results in an equitable distribution of tree canopy, associated benefits, and urban forestry opportunities. The City, its partners, and the community support a plan for the urban forest that sustains the resource and provides benefits to all who live, work, and recreate in the City.

To address these challenges, the Urban Forest Management Plan offers Wilsonville an opportunity to study, evaluate, and plan for improving urban forest management toward the goal of supporting human and ecosystem health and well-being. The urgency of protecting the urban forest has risen sharply as drought, pests, disease, climate impacts and budget cuts lead to rapidly rising tree mortality. To address and reverse tree die-off and the loss of ecosystem benefits, Wilsonville needs a robust system of professional management and resident engagement for the care and expansion of the urban forest.

WILSONVILLE’S URBAN FORESTRY BACKGROUND

Located just south of the Portland metro area and along the banks of the Willamette River, Wilsonville started as a small farming community but has quickly grown to become an important bridge between its urban neighbors to the north and a gateway to the agriculturally rich Willamette Valley to the south. The Willamette Valley region of Oregon is an area known for its natural beauty and agricultural history. As such, the City is focused on preserving the natural environment while supporting sustainability through a range of strategies such as the Comprehensive Plan and this Urban Forest Management Plan, in an effort to grow and improve the health of the urban forest.

Regarding maintenance of the City’s urban forest, it is a shared responsibility between Wilsonville property owners and the Public Works and Parks and Recreation departments to maintain trees on City streets, parks, and maintained facilities. Wilsonville’s Community Development Department, leading this Plan effort, contributes to public health, safety, and quality of life for residents and visitors of the City by managing the urban forest. Management of the urban forest by City departments is mobilized through long-range planning and enforcement of municipal code relating to tree preservation and protection by the Community Development Department. The Public Works and Parks and Recreation departments support long-range urban forest planning by reviewing Capital Improvement Projects and development plans.

Guided by the Tree Preservation and Protection ordinance (Section 4.600), the City is responsible for the care of trees in public spaces and property owners maintain street trees though the urban forest extends beyond these areas. The preservation and growth of the Citywide urban forest canopy across public and private boundaries should be a shared commitment guided by the Urban Forest Management Plan. This Plan is the next step for the urban forestry program as the City continues to grow and evolve.

Existing City plans and efforts impact and influence Wilsonville’s urban forest. The City has been recognized as a Tree City USA community for 23 years and has shown a dedication to maintaining and caring for their urban forest through their planting efforts and the care of its trees.

Table 2. City Staff involved in the planning process

Community Development	Admin	Planning	Natural Resources
Parks & Recreation	Parks Maintenance		
Public Works	Admin	Facilities	Roads & Stormwater

Elements of urban forest management are woven into the framework of City operations and the understanding of the importance of trees in an urban setting was exemplified in this planning effort. A total of 13 City staff representing three departments and six divisions participated in the development of the Urban Forest Management Plan due to their interactions with public trees within their respective programs. Other divisions involved in public tree management though not included in the planning exercises include Engineering, Building, and Parks Planning. Through this effort, City staff contributed ideas, discussed resource needs, identified efficiencies, and formulated strategies relating to their activities involving public trees. By engaging staff involved in the management and care of Wilsonville's trees the Plan was developed to mainstream urban forest management across departments to improve workflows and achieve common goals.



WILSONVILLE'S URBAN FOREST FOCUS AREAS

The two focus areas, Charbonneau and Town Center, were originally developed in the 1970s and 80's, respectively, and provide unique opportunities and challenges when looking at Wilsonville's urban forest. As part of the Urban Forest Management Plan project, an inventory of existing trees was completed by Certified Arborists accredited by the International Society of Arboriculture to plot the location of trees, identify the species, measure the size, assess the condition, note observations, and assign a recommended maintenance task if necessary for all trees in Town Center and along French Prairie Road in Charbonneau. The detailed assessment of these trees provided the information to develop specific actions for these focus areas.

Town Center

Town Center provides a mix of commercial and residential uses and a centrally located park. It is central to the City and serves as the heart and hub of the community at the I-5 juncture. Town Center is primarily local commercial retail and services unlike other similarly-zoned areas in the City. In 2019, the City adopted a new plan for Town Center. The goals in the Town Center plan included environmental stewardship, harmonious design, mixed uses, safe access and connectivity, community gathering places, and economic prosperity. The future vision for this focus area is described in the Town Center Plan which recognizes the creative use of landscaping including trees.



Source: Wilsonville Town Center Plan

The Urban Forest Management Plan provides an opportunity to take a closer look at the urban forest in Town Center and provide recommendations for improving its aesthetics and long-term viability. To inform the Plan, a detailed visual survey was completed for all trees in Town Center that would be suitable candidates for retention as part of redevelopment of the area. To support this effort, additional studies and analyses were completed providing guidance for tree removals, tree replacements, and tree preservation in Town Center as described in [Appendix D](#) and [E](#).

The urban forest management actions specific to Town Center's trees are provided in the [Urban Forest Management for City Focus Areas](#) section though the following provides an overview of recommendations.

- Continue to inventory and monitor all public trees in the focus area.
- Prioritize tree maintenance and removals based on need and available resources.
- Preserve existing trees through sound policies, education, and enforcement. Use [Appendix D](#) to support tree preservation decisions.
- Develop a strategy to replace the trees recommended for removal. Use [Appendix E](#) for tree replacement guidance.
- Plant trees based on the site requirements and desired function and design using the Citywide Recommended Tree List in [Appendix A](#).
- Continue to engage members of the community for input, feedback, and stewardship.
- Plant and preserve the urban forest to sustain the associated benefits that are shared by all in the focus area.

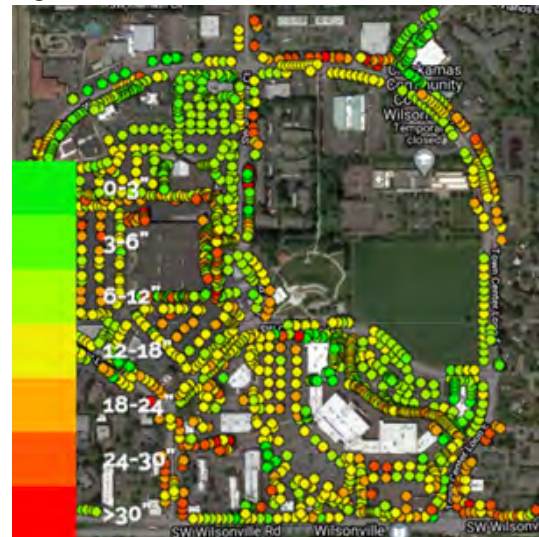
Key Findings for Town Center's Trees

Note: the following data summaries are based on the July 2020 tree inventory. These values and summaries may differ from existing conditions due to the February 2021 storm and other variables. For larger detailed maps, see [Appendix D](#)

Total Trees Inventoried: 1,449

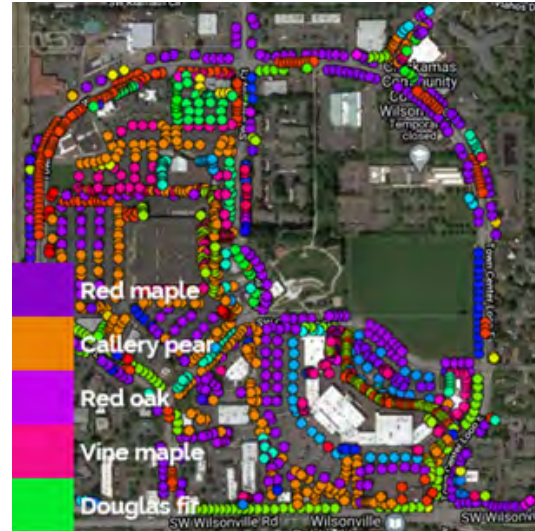
Tree Size Classes	
0-3 inches	7%
3-6 inches	11%
6-12 inches	28%
12-18 inches	34%
18-24 inches	14%
24-30 inches	5%
>30 inches	1%

Figure 4. Size classes of Town Center's inventoried trees



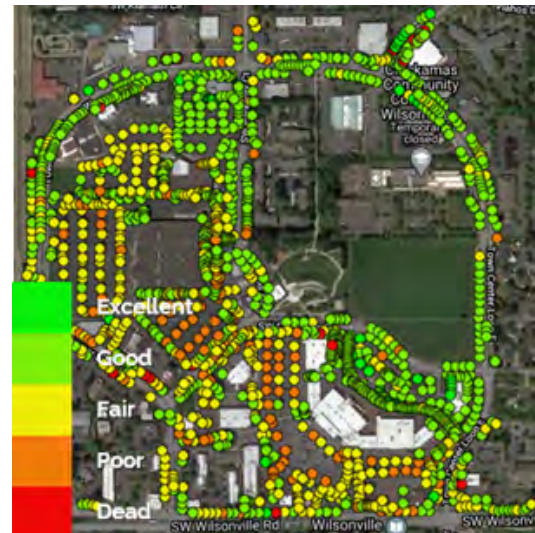
Tree Species (Top 5)	
Red maple	20%
Callery pear	19%
Red oak	11%
Vine maple	6%
Douglas fir	6%

Figure 5. Tree species in Town Center



Tree Condition	
Excellent	3%
Good	55%
Fair	31%
Poor	8%
Dead	2%

Figure 6. Condition of Town Center's trees



Charbonneau

Charbonneau, located south of the Willamette River, is one of Oregon's earliest planned communities. Within Charbonneau there is a small commercial district, 27-hole golf course, and a variety of housing types. The age, condition, and types of street trees in this community are the primary focus, as well as their relationship to the livability and aesthetics of the area.

The goals and actions in this Plan place emphasis along French Prairie Road in Charbonneau, which has over 800 mature northern red oak (*Quercus rubra*) trees in various states of health and beginning to cause damage to infrastructure in the form of decorative walls, sidewalks, paths, and home foundations. These street trees are primarily maintained by the City while other trees within the community are maintained by the HOA and Country Club. In 2014, the Charbonneau Consolidated Improvement Plan identified four utilities



Source: 2014 Charbonneau Consolidated Improvement Plan

in the community that are deficient— sewer, storm, streets, and water. The Plan provides key data and considerations for trees such as trees to preserve and recommended trees for planting as installations and repairs are planned for utilities. Understanding the health and condition of the northern red oaks informs decision-making criteria that can guide the review of tree removal requests. This Plan provides a comprehensive look at these trees, informed by an updated tree inventory, and the best way to manage them over time to avoid problems while maintaining their place in the community. Specific recommendations to address management of Charbonneau's trees are provided in the Plan's actions and supporting appendices.

The urban forest management actions specific to Charbonneau's trees are provided in the [Urban Forest Management for City Focus Areas](#) section though the following provides an overview of recommendations.

- Continue to inventory and monitor all public trees in the focus area.
- Prioritize tree maintenance and removals based on need and available resources.
- Develop a strategy to replace the aging oaks before and after removals. See [Action AP.03](#), [Appendix D](#), and [Appendix E](#) for guidance.
- The City should utilize tree inventory management software such as TreePlotter or the City's Cartegraph system to refine the data and prioritize removals and replacements within Charbonneau. Changes made to the urban forest should be tracked within these programs.
- Plant trees based on the site requirements and desired function and design using the Citywide Recommended Tree List in [Appendix A](#).
- Continue to engage members of the community for input, feedback, and stewardship.
- Plant and preserve the urban forest to sustain the associated benefits that are shared by all in the focus area. All trees along French Prairie Road should be preserved unless they pose a risk— as defined by industry standards and City protocols— that cannot be mitigated without removal. [Appendix C](#), "Trees and Hardscape Conflicts Solutions Workbook" provides guidance on evaluating trees, infrastructure, and the conflict(s) to make a decision that is consistent and transparent.

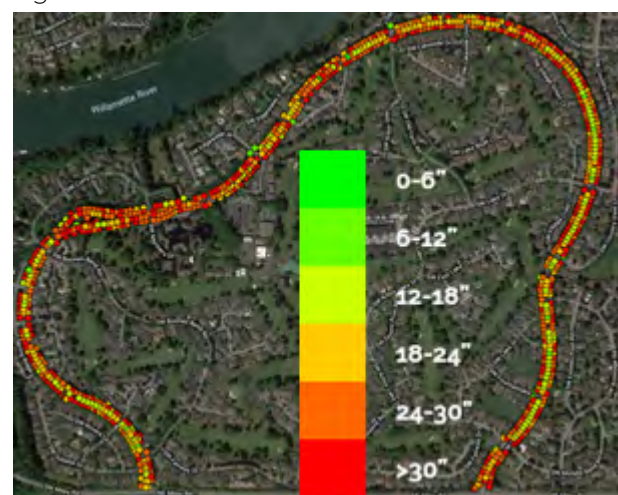
Key Findings for Charbonneau's Trees

Note: the following data summaries are based on the July 2020 tree inventory. These values and summaries may differ from existing conditions due to the February 2021 storm and other variables. For larger detailed maps, see [Appendix D](#).

Total Trees Inventoried: 916

Tree Condition	
Excellent	0.3%
Good	71%
Fair	25%
Poor	2%
Dead	1%

Figure 7. Size classes of Charbonneau's inventoried trees



Tree Species (Top 5)	
Red oak	80%
Pin oak	7%
Scarlet oak	5%
Douglas fir	3%
Hinoki cypress	2%

Figure 8. Tree species in Charbonneau



Tree Size Classes	
0-6 inches	0.3%
6-12 inches	3%
12-18 inches	12%
18-24 inches	22%
24-30 inches	32%
>30 inches	30%

Figure 9. Condition of Charbonneau's trees



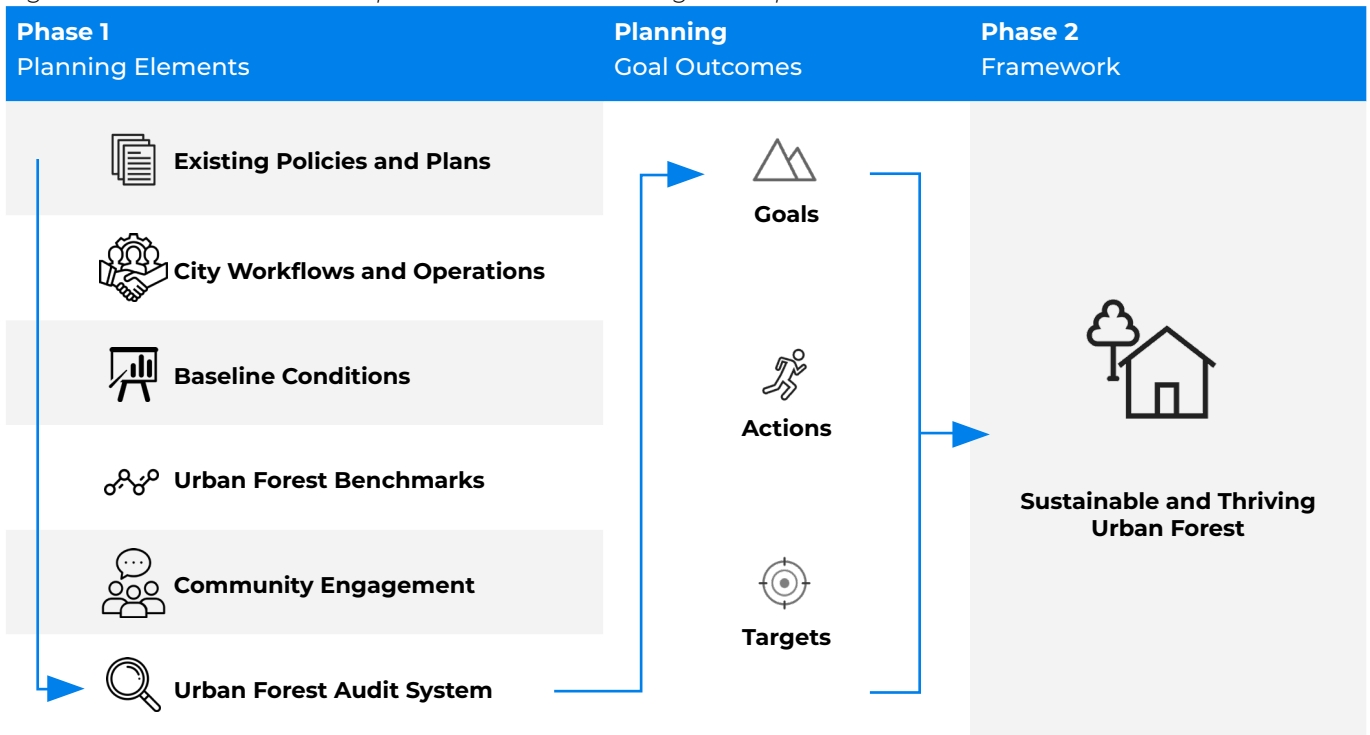
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OVERVIEW OF RESEARCH

Development of the Research Summary

The systematic evaluation of the City of Wilsonville’s urban forest management processes, resources, staffing, structure, and policies was conducted by completing the six planning elements: 1) Existing Policies and Plans, 2) City Workflows and Operations, 3) Baseline Conditions, 4) Urban Forest Benchmarks, 5) Community Engagement, and 6) Urban Forest Audit System. The outcomes from these planning elements were detailed in the **Research Summary to the Urban Forest Management Plan**—a comprehensive summary document that details the baseline assessment from which goals and actions were developed for this **Urban Forest Management Plan**. Additional information regarding the methodology, findings, and interpretations of the planning elements are provided in the Research Summary. The following section provides a high-level overview of these planning elements.

Figure 10. Framework to develop the urban forest management plan



EXISTING POLICIES AND PLANS FINDINGS

The purpose of this element— Existing Policies and Plans— is to gauge the City's commitment and readiness for urban forest sustainability. Evaluating the alignment and efficacy of existing policies and plans ensures a strong connection among the programs that manage the urban forest and the projects and initiatives that support them. Proper alignment of urban forestry program recommendations reduces the risk of wasting resources and enables success of key projects that support urban forestry goals. Plans cannot live in isolation, therefore, cross-examining various plans and documents may bring to light projects or initiatives that are potentially a misplacement of resources and time.

A total of 39 documents and resources were reviewed and indexed as part of the information discovery process and 218 references to urban forestry were identified. These documents included:

Primary Documents

- **Comprehensive Plan:** The City's official policy guide for future development-related decisions. It is general and long-range in nature and provides a picture of how the community wishes to develop over the next 15 to 20 years. The plan discusses the importance of tree protection, scenic value, wildlife corridors, and other aspects of urban forestry.
- **Approved Budget FY 2020-2021:** The budget document is the blueprint for financial and policy decisions implemented during each fiscal year. It also includes the staffing structure, budgets, and activities relating to City departments with a role in urban forest management.
- **City Code:** Chapters 4 and 8 of the Wilsonville City Code address tree preservation, public safety, benefits of the urban forest, tree planting, topping, arborist credentials, and the City Tree Fund, among other items.
- **Town Center Plan:** A plan for modernizing and improving Town Center. The document contains references to the importance of an UFMP in creating a more vibrant Town Center through plantings, increases tree health, and natural design elements.
- **Charbonneau Consolidated Improvement Plan:** This plan provides information regarding important tree issues in Charbonneau, including tree root damage, removals, and ADA compliance.

Supporting Documents

- Council Goals Work Plan
- Stormwater & Surface Water Design and Construction Standards
- Stormwater Master Plan
- Natural Hazard Mitigation Plan
- Parks and Recreation Master Plan
- Integrated Pest Management (IPM) Plan
- Urban Renewal Plan

CITY WORKFLOWS AND OPERATIONS FINDINGS

To gather an understanding of the departments and programs managing and influencing the public trees in Wilsonville, a series of meetings were held in 2020. A total of three different departments or offices were represented at the meetings and a total of 13 City staff members participated. The departments or offices represented include:

1. Community Development (CD)
2. Public Works (PW)
3. Parks and Recreation (PR)

Over the course of these meetings, recurring issues and resource needs were identified. The following provides an overview of these trends that supported the development of this Plan:

Table 3. Summary of the City staff meetings

MEETING THEMES	RECURRING NEEDS
A) Landscape and Maintenance	<ul style="list-style-type: none"> • The programs managing the urban forest could be supported by documentation of ISA Best Management Practices (BMPs) and American National Standards Institute’s (ANSI) Standards along with standard operating procedures (SOP). • To address the sidewalk issues, the grant program for sidewalks could be expanded which would include more frequent and systematic assessments of sidewalks (data available in Cartegraph) along with the guidance for alternative solutions to sidewalk repair/replacement.
B) City Code and Policies	<ul style="list-style-type: none"> • To support the in-house tree maintenance program, a plan to phase out the dying oaks in Charbonneau should be established along with the resources to implement. • Ensure significant trees in Town Center that are worthy of preservation are retained and incorporated into the Town Center Plan. Potential exists for using a tiered priority system based on a combination of factors such as tree size, location (land use, growing space type) species, proximity trees and relative canopy cover, growing space, longevity, function, maintenance regimen, planned development, etc.
C) Planning, Design, and Development	<ul style="list-style-type: none"> • Guidelines relating to the types of replacement tree species, planting goals or benchmarks by park, and watering protocols could improve efficiencies and support Citywide urban forestry efforts. These updates to the program would require additional resources and improved tracking of trees in parks and the associated maintenance and pest/disease monitoring and treatments. • To support a comprehensive tree maintenance program as recommended through industry standards, the Plan could include a budget and staffing case study as well as case studies to evaluate potential tree pruning rotations and costs of deferred maintenance.
D) Data and Information Technology	<ul style="list-style-type: none"> • Improvements could be made by completing an entire inventory of trees in maintained areas, especially where trees abut private property.
E) Community Outreach and Education	<ul style="list-style-type: none"> • The current tree maintenance program is effective but there needs to be some clarifications of responsibility shared with the community. • Similar to trees, the sidewalk repair/replacement responsibility needs to be shared with the community. Information is shared through the sidewalk program but messaging and frequency could improve. Especially as sidewalk issues continue to rise for streets developed in the 1980’s and 1990’s.

BASELINE CONDITIONS FINDINGS

To identify the existing conditions of the urban forest from which goals and actions can be measured, an analysis of existing tree-related datasets was completed as part of the evaluation process. These datasets included the 2018 City-wide tree inventory as well as the 2020 Town Center and Charbonneau focus area inventories.

2018 and 2020 Public Street Tree Inventories

The 2018 and 2020 public street tree survey data was used to assess tree abundance, distribution, composition, size classes, and functional benefit. The urban forestry consultants for this Plan analyzed the datasets to confirm the findings and these findings are summarized below to inform Plan recommendations. An overview of ecosystem services and benefits is provided in the following section. For the complete analysis and summary, see the Research Summary document developed as part of this planning effort.

Table 4. Overview of the 2018 and 2020 public street tree analysis*

25,954	Street trees	9%	Focus area trees
24%	Coniferous	76%	Deciduous
104	Unique genera	313	Unique tree species
29%	Maple (<i>Acer</i>) trees	9%	Oak (<i>Quercus</i>) trees
1,138	Trees with sidewalk damage	3,195	Trees with utility conflicts
48%	Trees in the 0-6"-inch class	2%	Trees in the >30"-inch class
1,446	Public trees in Town Center	916	Public trees in Charbonneau

* An update to the inventory was completed in September 2021 following completion of this Plan's analysis and should be utilized in conjunction with the data provided in the table above.

URBAN FOREST BENCHMARKS FINDINGS

The following summary provides an overview of the urban forest benchmarking results based on the analysis of two datasets; Arbor Day Foundation's 2019 Tree City USA database and the Municipal Tree Care and Management in the United States – a 2014 Urban and Community Forestry Census of Tree Activities by R. Hauer and W. Peterson. For a complete summary of the benchmarking research findings, see the Research Summary document developed as part of this planning effort.

Table 5. Summary of Tree City USA benchmarking research results

2019 Tree City USA - Wilsonville		2019 Tree City USA - Regional	
\$263k	Tree management budget	\$149k	Average budget
\$10.42	Per capita forestry budget	\$7.00	Average per capita budget
\$83k	Tree maintenance budget	\$51k	Average maintenance budget
\$7k	Tree planting/care budget	\$24k	Average planting/care budget
110	Trees pruned	804	Average trees pruned
19	Trees removed	66	Average trees removed
40	Trees planted	836	Average trees planted

Table 6. Summary of the 2014 Community Forestry Census benchmarking research results

2014 Census - Wilsonville		2014 Census - Population Group	
\$263k	Forestry program budget (est.)	\$344k	Average forestry budget
0.14%	Of total budget for forestry	0.63%	Average forestry budget compared to total budget
26k	Estimated public trees	26k	Average count of public trees
\$9.67	Budget per public tree	\$13.31	Average budget per public tree
\$10.42	Budget per capita	\$9.75	Average budget per capita
1.02	Public trees per capita	0.83	Average public trees per capita
3,243	Public trees per staff	5,967	Average public trees per staff
212	Acres of parks and open space	388	Average acres of parks and open space

COMMUNITY ENGAGEMENT FINDINGS

A series of 33 questions directly related to Wilsonville’s existing urban forest, the resources to manage it, and the management activities were drafted to gather community perceptions and viewpoints. The survey was shared online via the City’s communications channels and nearly 100 City residents responded. Following the web surveys, public meetings were conducted online to share the UFMP process, framework, and next steps. Citizen feedback was incorporated into various aspects of recommendations, goals, and observations in the UFMP. Selected questions from the surveys and a brief synopsis of observations are included below. For a comprehensive summary, see the Research Summary document developed as part of this planning effort.

Table 7. Overview of public survey results gathered in August and December 2020

95	Total responses	65%	Feel there should be more canopy coverage
25%	Think urban forest health has declined in the last 10 years	77%	Think the City is doing good to very good when it comes to managing public trees
49%	Said tree maintenance and hazard trees are the most urgent issue	42%	Feel the City is not planting enough trees
42%	Unsure of who manages ROW trees	72%	Support a City-wide Canopy Goal
72%	Concerned about sidewalk damage	72%	Desire more trees in commercial areas
22%	Feel that current tree risk management is poor	50%	Desire community orchards and fruit gleaning
61%	Think pruning is the highest priority for Charbonneau	56%	Think Town Center needs more species diversity
89%	Feel that trees positively impact community physical and mental health	94%	Support a tree protection ordinance

Top Trends in Survey Comments

- Concerns regarding trees and sidewalk damage
- Increased tree plantings and species diversity
- Efforts to reduce tree risk
- Increased pruning and maintenance on large trees in Charbonneau
- Increased planting spaces for trees in Town Center
- Creation of a City-wide canopy goal
- Tree protection during development
- Improve tree species diversity
- Education and training
- Need for a planting plan

Public Photo Contest

In October 2020, a photo contest was announced inviting community members to share urban forestry related photos on the Let's Talk, Wilsonville! website, on social media using hashtags, or through email. A total of 85 photos were received from 15 participants. The top three photos were voted on and used in the cover photos of this Plan. The winners included Sandy Wilson, Steve Harrell, and Zach Herrmann.

News Articles

City Seeks Community Input to Develop Urban Forestry Plan

Wilsonville's urban forest includes all trees, both native and planted, that contribute to our seasonal beauty and livability.

Whether it is a majestic 200-year old Oregon white oak or a young flowering cherry, trees greatly contribute to our sense of place and quality of life. Trees help clean the air, conserve soil and water, reduce heating and cooling costs and bring nature close to home. If maintained, Wilsonville's urban forest is a valuable asset that will continue to add to the health of our community for generations to come.

The City is developing an Urban Forest Management Plan ("Plan") with PlanIT Geo's urban forestry consultants. This Plan is identifying an integrated approach to preserving, sustaining, diversifying, and regenerating Wilsonville's urban forest. Goals and actions

Urban Forestry Mgmt. Plan Survey & Public Meeting Throughout September
[LetsTalkWilsonville.com](https://www.lets-talk-wilsonville.com)

will be developed for urban forest management City-wide, with special focus on Charbonneau and

Town Center.

Through virtual public meetings and online surveys on "Let's Talk, Wilsonville!" the City is listening to community viewpoints. A survey is available at [LetsTalkWilsonville.com](https://www.lets-talk-wilsonville.com) to gauge public opinion on urban forestry topics. On Sept. 15, a virtual community



meeting is being held to provide an interactive forum for community stakeholders to participate directly in the planning process.

Everyone benefits from the proper care and enhancement of Wilsonville's urban forest. With the community, the City is developing a strategic plan to sustain trees, maintain public safety, establish a sustainable and resilient urban forest and strengthen and create new partnerships. A plan is expected for the City Council's consideration by Spring 2021.

For more information, visit [LetsTalkWilsonville.com](https://www.lets-talk-wilsonville.com). If you have questions or comments, contact Kerry Rappold, Natural Resources Program Manager, at 503-570-1570, rappold@ci.wilsonville.or.us.



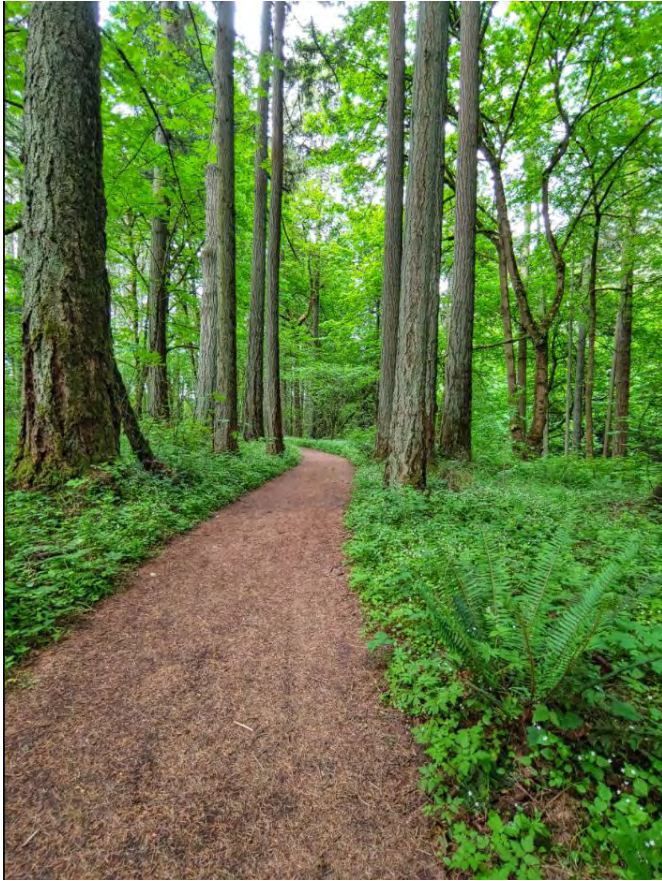
Photo Contest: Celebrate our City's Beautiful Urban Forest ... and Win!

To celebrate Wilsonville's urban forest, submit an original photo that includes a Wilsonville tree. Post your photo on Instagram using the hashtag #Wilsonvilletrees or submit your photo online at [LetsTalkWilsonville.com/ufmp](https://www.lets-talk-wilsonville.com/ufmp) by Oct. 30 at 5 pm.

The Urban Forest Management Plan (UFMP) project team is judging eligible entries and selecting three winning photos by Nov. 13.

Winners will each receive a prize, and their photos may also be included in the City's Urban Forest Management Plan. The contest is free of charge, and entrants can submit multiple photos.

Learn more about the UFMP and see complete contest rules at [LetsTalkWilsonville.com/ufmp](https://www.lets-talk-wilsonville.com/ufmp).



URBAN FOREST AUDIT SYSTEM

To develop this Plan, 39 documents, plans, and resources were gathered and reviewed by applying the U.S. Forest Service's Urban Forest Sustainability and Management Audit's Discovery Matrix. This process enables the development of key criteria and indicators for urban forest management and planning (J. Clark, 1997; A. Kenney, 2011). The matrix within this audit includes a total of 11 urban forest categories, each containing a multitude of supporting elements. All resources were reviewed to identify references to any of these categories and supporting elements. Examples of the elements supporting the Management Policy and Ordinances category include (but not limited to) climate change, no net loss, risk management, canopy goals, tree protection, and human health. Based on the review of resources, a total of 60 resources mention one or more elements within this Management Policy and Ordinances category. There are a total 219 instances where the 39 resources reference the 11 categories and supporting elements. The number of resources referencing elements of urban forest sustainability and management demonstrate Wilsonville's readiness for changes driven by this Plan. Strategies and recommendations in this Plan align and/or complement components of these supporting resources. For a complete list of categories, elements, and supporting resources, see the Research Summary document developed as part of this planning effort.

According to the Urban Forest Sustainability and Management Audit of Wilsonville's urban forest completed in 2020, the City is at a management and sustainability level of 62 percent. This ranking is to be expected of a city in the process of elevating their urban forestry program from a base level to a more advanced and sustainable level. While all areas of urban forestry require improvement under the guidance of an urban forestry program manager, significant improvements could be made in the Funding/Accounting, Inventories, Plans, Risk Management, Disaster Planning, and Green Asset Evaluation categories — all of which are below the City's overall audit score of 62 percent.

Based on the audit of 126 subcategories (11 primary categories), Wilsonville is achieving "Adopted Common Practice" for 53 (41 percent) of these. 49 subcategories (38 percent) are "In Development". Applying the multipliers of 2 for

Adopted Practice and 1 for In Development results in a total score of 157 out of 254 possible points, or 62 percent (detailed in the following table). A complete breakdown of rankings by subcategory/category is available in the Research Summary.

Table 8. Outcomes of the urban forest auditing process for Wilsonville

#	DESCRIPTION	SOC* (% ACHIEVED)	BASE** (% ACHIEVED)	OVERALL RATING	OVERALL (% ACHIEVED)
1	Management Policy, Ordinances	75%	67%	20	71%
2	Professional Capacity and Training	83%	NA	10	63%
3	Funding and Accounting	75%	NA	7	58%
4	Decision, Management Authority	75%	50%	5	63%
5	Inventories	NA	31%	12	46%
6	Urban Forest Management Plans	NA	33%	12	50%
7	Risk Management	67%	50%	11	61%
8	Disaster Planning	NA	50%	6	43%
9	Standards and BMPs***	50%	75%	38	63%
10	Community	50%	NA	25	89%
11	Green Asset Evaluation	NA	NA	11	55%
TOTAL		68%	51%	157	62%

*Standard of Care (SOC) elements represent the minimum group of urban forestry management “best practices” that a municipality should consider for implementation. SOC refers to the degree of prudence and caution required of an individual who is under a duty of care (i.e., legal obligation of the controlling authority, owner, or manager) to minimize risk. Neither state, regional, nor national minimum management components have been established for SOC but these are interim recommendations for consideration. (NA = not applicable)







**Base Practices (BP) elements represent additional urban forest management activities or components that may effectively expand a program beyond the SOC group (see footnote above). These elements are typically precursors to other “non-core” elements in the category. (NA = not applicable)

***Best Management Practices (BMPs)

The information provided in the table above describe the current conditions of Wilsonville’s urban forest, the programs that manage it, and the community framework. As recommended in the Plan’s actions, the City should use this framework to evaluate implementation progress, report successes, and inform changes to Plan actions.

SUMMARY OF FINDINGS

Table 9. Conclusions to the Urban Forestry Program Evaluation planning elements

ELEMENT	CONCLUSION
 <p>1) Existing Policies and Plans</p>	<p>The City has a strong framework of policies and plans that allude to or reference urban forestry, but a strategic Urban Forest Management Plan is needed to connect these elements. The City should implement actions in this Plan to update policies and inform existing and ongoing City plans.</p>
 <p>2) City Workflows and Operations</p>	<p>Multiple City departments support the development of more well-defined roles for ongoing urban forestry operations and management. More cohesive planning and management will improve efficiencies, provide support, and improve the levels of service provided to City residents. Departments currently coordinate tree maintenance in parks and streetscapes effectively within the constraints of resources and rely on residents to care for trees in the Right-of-Way adjacent to their property.</p>
 <p>3) Baseline Conditions</p>	<p>The City has several tree-related datasets to support the Urban Forest Management Plan, but should consider a regular and comprehensive inventory of street trees and trees in maintained areas of parks. The City public tree population would benefit from increased species and age diversity driven by a strategic planting and management as outlined in the Plan.</p>
 <p>4) Urban Forest Benchmarks</p>	<p>The City should evaluate its staffing levels and responsibilities to better manage the public tree population at levels consistent with industry standards and cities of similar population size. The budget for urban forest management should align with the recommended actions in this Plan. Wilsonville should also consider developing a science-based citywide tree canopy goal, a common urban forestry benchmark, from which progress can be measured.</p>
 <p>5) Community Engagement</p>	<p>The City's residents expressed the importance of tree protection during development and infrastructure construction to preserve the environmental, economic, and social benefits provided by trees. Residents support a healthy and resilient urban forest maintained through proper planting, species selection, invasive management, tree maintenance, and stewardship opportunities.</p>
 <p>6) Urban forest Audit System</p>	<p>Overall, the City scored 62 percent based on the U.S. Forest Service's Urban Forest Audit system that evaluates 11 categories of urban forest management and sustainability. A low scoring was anticipated since the City is taking purposeful steps in elevating their urban forest management program. Implementation of actions in this Plan will improve the City's ranking and frequent auditing exercises should be conducted to measure progress and adjust strategies in an adaptive management approach.</p>

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URBAN FOREST MANAGEMENT PLAN FRAMEWORK

Understanding the benefits and functions of the urban forest, the City has developed this Urban Forest Management Plan.

“

“Without a plan, the governments and individuals responsible for taking care of an urban forest will not be effective in meeting the true needs of the trees and the community. A plan establishes a clear set of priorities and objectives related to the goal of maintaining a productive and beneficial community forest.”

AMERICAN PUBLIC WORKS ASSOCIATION, 2007

PLAN PURPOSE

Many city planning and management actions, especially those that occur during redevelopment, have a large impact on the character and condition of the urban forest. A thriving and well-maintained public tree population provides a wide variety of benefits to the community. A healthy urban forest contributes to the economic vitality of Wilsonville, provides environmental stability, and provides a better quality of life. Care for the natural environment by the City, contractors, citizens, and volunteers is necessary to maintain and enhance the quality and benefits of the urban forest to which all residents are entitled.

Wilsonville's Urban Forest Management Plan ("Plan") is a crucial planning effort to build a more sustainable resource, a healthy community, and progression towards carbon neutrality. Tree planting is one of the few tangible actions the City can directly take to address non-source specific pollution in Wilsonville and this management plan supports strategic planning for continued plantings resulting in long-lasting benefits.

When making improvements to the urban forest, efforts should be prioritized to improve environmental justice, equity, access, and levels of service for underserved and vulnerable areas. These considerations may include additional tree plantings for an equitable distribution of urban forest cover and benefits, intensive tree management, diverse outreach approaches, and unique stewardship programs.

This strategic plan for Wilsonville's urban forest strengthens City Code, policies, ordinances, standards, practices, and procedures; analyzes staffing structures and authority; identifies opportunities for sustained and diversified funding; provides guidance for routine and systematic inventories and assessments; identifies tree maintenance efficiencies and planting/canopy goals and priorities; addresses storm, disaster, and risk management needs; and bolsters community outreach, education, and engagement.

To help ensure Wilsonville's urban forest will continue to prosper, the City has developed this long-term Plan to account for the needs of trees in the urban environment with an emphasis on the community focus areas of Charbonneau and Town Center. To develop and maintain desired urban forest resource and program conditions, necessary management actions need to be executed in a timely manner. This Plan provides actions for management to maximize the benefits of the urban forest within the confines of available resources. This Plan assists the City in improving urban forest management practices by:

- Establishing a baseline assessment of the urban forest resource, resources for management, and the community engagement framework.
- Providing analyses of urban forest management criteria resulting in goals and strategic actions to advance the City's levels of service.

- Providing the criteria for achieving goals of sustainable urban forest management in a phased approach based on available resources.
- Serving as a living document by providing the framework and guidance for adaptive management.

The Guiding Principles of the Urban Forest Management Plan

The Urban Forest Management Plan will adhere to the following guiding principles:

- Recognize that the trees of the urban forest are more than aesthetic enhancements.
- Recognize trees as the backbone of the urban ecosystem and an essential part of the community's green infrastructure.
- Promote the health and growth of the urban forest by following scientifically established best management practices for tree selection, planting, watering, and pruning.
- Promote a robust urban forest through policies and practices that reduce its vulnerability to known diseases or pest infestations, and future threats, including the anticipated effects of climate change.
- Engage in a continuous process of long-range planning for the growth and maintenance of the urban forest.
- Promote public appreciation of the urban forest through educational outreach programs.
- Support local businesses, institutions, organizations, and individuals in their efforts to grow and maintain the urban forest through community education.
- Proceed in a manner that is inclusive and transparent.

PLAN APPROACH

The optimal approach to managing an urban forest is to develop an organized, proactive program using information to set goals and measure progress. This information is utilized to establish priorities, plan strategically, draft cost-effective budgets, and ultimately minimize the need for costly, reactive solutions to crises or urgent risk mitigation. Based on the results of the **Research Summary**, incremental steps to achieve these improvements described above were developed that can be applied as the City continues to progress.

To develop Wilsonville's Urban Forest Management Plan, a systematic evaluation was conducted as a baseline assessment to inform the Plan's goals and actions. The goals of the Plan focus on preserving, maintaining, and enhancing the urban forest to ultimately benefit the residents of Wilsonville. The framework for this Plan supports the urban forestry vision:

Healthy Trees, Healthy Wilsonville: Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.



Source: City of Wilsonville Facebook

The Plan provides the goals, actions, and targets for Citywide management of the urban forest resource with an emphasis on the community focus areas of Charbonneau and Town Center. In this section, the Citywide urban forestry goals are presented followed by specific action items for the Charbonneau and Town Center focus areas. These action items are integrated into the Citywide urban forestry actions and also separated into individual summaries for direct implementation to benefit the focus areas.

Goals

Goals supporting the urban forest vision are provided based on strengths and opportunities identified during the development of the Research Summary. Each goal is supported by actions and targets the City and partners will use to attain the goal.

Actions

Actions are Specific, Measurable, Achievable, Relevant, and Time-bound to be implemented to acquire the goals of each planning theme. These actions include recommended timeframes or “target year(s)” beginning upon plan adoption and the lead department or partner(s) for implementation. Each action is rated based on the priority, level of effort and/or resources required, and the efficacy of the action.

Targets





Targets are performance standards and measurable values of specific indicators that enable monitoring of the actions to determine attainment of the actions and goals.

Evaluation

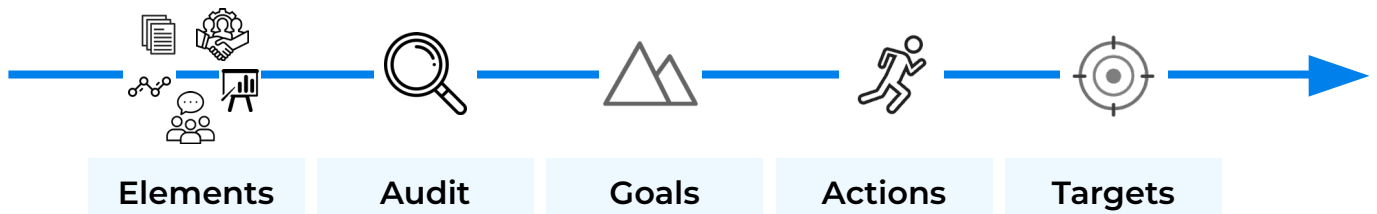
Using the Urban Forest Audit System described in the Research Summary and the Plan targets, implementation progress and success can be evaluated and annually reported. The evaluation using the Audit provides the information necessary for adaptive management.

Co-benefits of Plan Implementation

Each action is accompanied by a graphic depiction of co-benefits, illustrating added value that comes with achieving that action and respective goal. For example, a neighborhood with dense tree canopied streets and landscape may have cooler summer temperatures that lead to fewer heat illnesses reported. Each action impacts four different co-benefits at various levels; the greatest relative level of impact is indicated by the presence of one or more of the following graphics in the Plan’s action tables:

-  *Community* – actions that engage the public.
-  *Equity* – opportunities to satisfy essential needs and achieve full potential.
-  *Human Health* – provides physical benefits to local residents.
-  *Natural Environment* – benefits of air quality, water quality, and habitat.

GOAL AND ACTION FRAMEWORK



Results from the planning elements were used to complete the Urban Forest Audit of Wilsonville’s urban forest and the programs that manage it. The City’s strengths and opportunities were systematically evaluated to inform the Plan’s goals, actions, and evaluation criteria for adaptive management. The goals in the Plan are consistent with the categories in the Urban Forest Audit system.

Table 10. Goals for Wilsonville’s urban forest

GOAL THEME	AUDIT SCORE*	GOAL DESCRIPTION
Tree Management Policy (MP)	67% avg.	The City’s urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville’s urban forest.
Capacity, Training, and Authority (CT)	63% avg.	Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.
Assessments and Plans (AP)	48% avg.	A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.
Community Engagement (CE)	89% avg.	Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.
Green Asset Management (GA)	53% avg.	Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

**Based on the 2021 evaluation of Wilsonville’s urban forestry asset, programs, and community framework. Tree Management Policy includes Management Policy and Ordinances (71%) and Standards and BMPs (63%)— an average of 67%. Capacity, Training, and Authority includes Capacity and Training (63%) and Decision and Management Authority (63%)— an average of 63%. Assessments and Plans includes Inventories (46%) and Urban Forest Management Plans (50%)— an average of 48%. Green Asset Management includes the Risk Management (61%), Disaster Planning (43%), and Green Asset Management (55%) audit categories— an average of 53%*

APPENDICES AND SUPPORTING STUDIES

To guide implementation of the actions in this Urban Forest Management Plan a series of appendices and supporting studies were completed. The need for these resources was uncovered during the planning stages. The research, City staff meetings, tree assessments, and community engagement informed the comprehensive audit system that identified Wilsonville's strengths and opportunities as it relates to the urban forest. It is recommended the City departments utilize these resources to implement actions and integrate them into daily operations and workflows where applicable. These resources include:

Appendix A. Citywide Recommended Tree List: Provides a series of recommended trees for various planting scenarios. The list is organized by tree stature, function, requirements, and climate resiliency. It is intended to be used for strategic replanting of Town Center, Charbonneau, and elsewhere throughout City-managed areas.

Appendix B. Tree Canopy Goal Setting Guidance: Guidance for setting a tree canopy goal for the City was established for the City to review, refine, and adopt. This ground-up approach looks at what is feasible by zoning type or Census Block Groups, the number of trees required, and the associated urban forest benefits and services provided by the trees once established. Canopy goals inform planting strategies, policies, maintenance, and outreach efforts. They provide a baseline and target to guide the urban forestry program and can only be achieved with a shared commitment from the community.

Appendix C. Tree Planting Prioritization Guidance: To support the recommended canopy goal, guidance for prioritizing tree plantings is provided. A series of themes are detailed in maps to demonstrate the approach for prioritization, securing funding and grants, planting, and post-planting care.

Appendix D. Preservation of Trees in Town Center: Based on the tree inventory, tiers of tree preservation were established for the trees in Town Center. Preservation tiers are based on the location, size, health, species, benefits, and other tree attributes that should be supported by policies as Town Center continues to grow and change.

Appendix E. Tree Removals and Replacements in Town Center: Using the inventory data, trees that require removal were assigned a recommended replacement species to sustain the associated benefits and services trees provide to Town Center and the City as a whole. Replacement species are based on tree diversity goals, resiliency to changing climates, site conditions, and other parameters that should be considered when replanting Town Center's urban forest.

Appendix F. Funding Mechanisms: To support the implementation of actions in this Plan, a matrix of funding mechanisms is provided that describe the funding option, requirements, considerations, and limitations. The City should have a diverse portfolio of funding sources to be sustainable and achieve the vision of the urban forest.

Appendix G. Trees and Hardscape Conflicts Solutions Workbook: Existing trees in the landscape share limited space with other City infrastructure. As such, the assets are competing for space which may result in conflicts between trees and hardscape. This workbook provides the decision matrix to assess the tree(s), the site(s), and the conflict(s) in a transparent and consistent manner. In addition, alternative solutions for tree and hardscape conflicts are provided for the City to consider for established trees and future tree plantings.

Appendix H. Existing and Potential Urban Forestry Partners: Achieving and sustaining the vision for the urban forest requires a diverse network of partners implementing programs and activities that share a common goal. In this resource, a series of existing and potential partners and programs are provided for the City to evaluate to establish or strengthen its network of community tree stewards.

Appendix I. Storm and Disaster Management Guidance: The effects of climate change are ever more felt after the 2021 winter storm in Wilsonville. This resource provides guidance on the preparation, response, and recovery efforts relating to storms and extreme weather events.

CITY OF WILSONVILLE URBAN FORESTRY GOALS

Wilsonville’s Tree Canopy and Equity Goal: 36 by 46

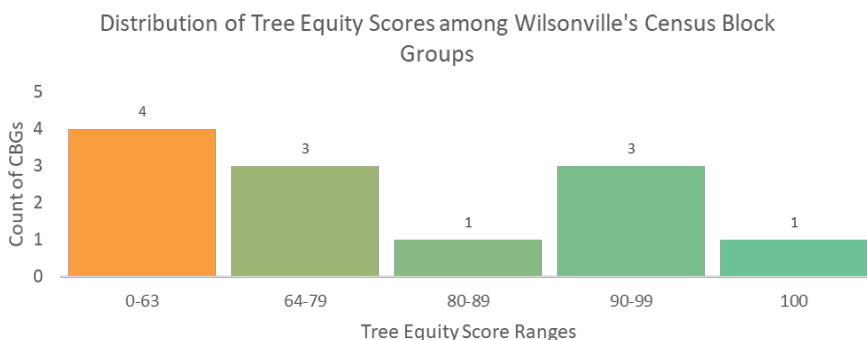
Urbanization creates significant changes in land use and land cover, affecting the structure, pattern, and function of ecosystems. The public is increasingly concerned about how these changes influence daily life and affect the sustainability of “quality of life” for future generations. Improving air quality, cooling urban heat islands, building resiliency against storms, and reducing stormwater runoff are challenges facing the City of Wilsonville. Rapid growth in Wilsonville (29 percent increase from 2010 to 2018, City source), is accelerating these problems. The problems need solutions as the City tries to protect and restore environmental quality while enhancing economic opportunity.

Tree canopy is a valuable component of Wilsonville’s urban ecosystem. Thus, expanding the urban forest is part of the solution to the City’s social, environmental, and economic problems—it is integral to enhancing public health programs, increasing land values and local tax bases, providing job training and employment opportunities, reducing costs of city services, increasing public safety, improving air quality, offsetting carbon emissions, managing stormwater runoff, and conserving energy.

With this understanding, the City evaluated the feasibility of creating a canopy goal. Currently, 30 percent of Wilsonville’s land area is covered by tree canopy when viewed from above. This value provides a baseline metric that forms the foundation of the strategies in the Plan. To achieve the vision for the urban forest, the City has established a goal to increase its tree canopy coverage by 6 percent over a 25-year timespan— “36 by 46”. To reach this goal, approximately 27,000 new trees need to be planted over the 25-year timeframe while preserving the City’s existing urban tree canopy cover. The goal of 36 percent canopy and 27,000 new trees is based on a variety of factors including species diversity, urban forest benefits, and an equitable distribution of tree canopy.

Regarding tree canopy equity, trees are generally sparse in socioeconomically disadvantaged neighborhoods and more prominent in wealthier neighborhoods. Focused on addressing this inequity, the American Forests organization created the Tree Equity Score (TES, TreeEquityScore.org) tool that measures tree equity across 150,000 U.S. neighborhoods and 486 municipalities in urban areas. Each community’s TES indicates whether there are enough trees for everyone to experience the health, economic, and climate benefits that trees provide. The scores are based on how much tree canopy and surface temperature align with income, employment, race, age, and health factors. A 0- to-100-point system makes it easy to understand how a community is doing. With the knowledge the score provides, Wilsonville’s community leaders, tree advocates, and residents alike can address climate change and public health through the lens of social equity, attract new resources, factor the scores into technical decisions, guide implementation of the Urban Forest Management Plan, and track progress toward achieving tree equity. A score of 100 represents tree equity.

The Tree Equity Score for the City of Wilsonville is currently at a score of 77 out of 100. This score is based on a combination of metrics for 12 Census Block Groups (CBG) comprising the City (refer to figure below). As shown in the figure below, only one of the CBGs is attaining tree equity with a score of 100 and three CBGs are just below the optimal score. The majority (four) of CBGs though, are in the 0-63 Tree Equity Score range.



To improve tree equity and the associated benefits of more tree canopy cover, a goal was established for each Census Block Group to have a Tree Equity Score of at least 75. To achieve this, a total of 27,000 new trees need to be planted across the City which would increase the tree canopy cover from 30 percent to 36 percent. The City should be strategic in planting new trees to address the CBGs with the lowest TES while maintaining existing tree canopy cover across Wilsonville.

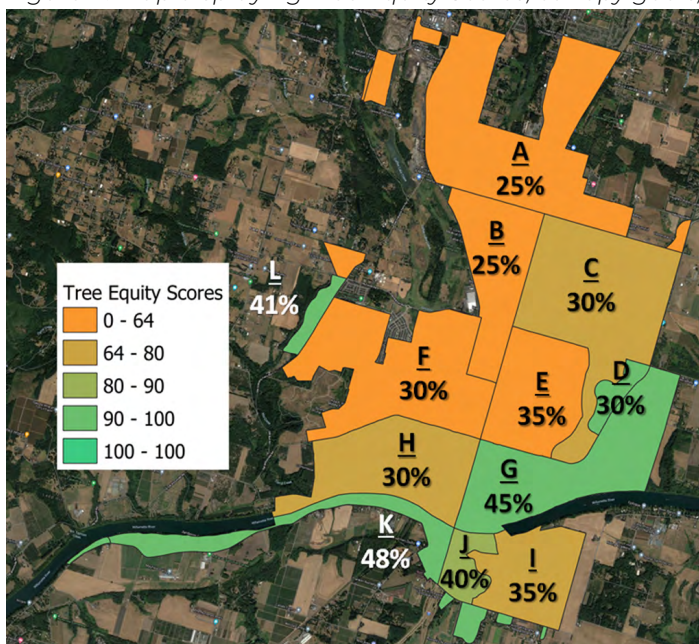
The following provides recommended canopy goals and planting targets for Wilsonville to achieve 36 percent tree canopy cover and improve the Tree Equity Scores for its Census Block Groups.

Table 11. Number of trees to reach the recommended tree canopy goal by Census Block Group and Citywide

#*	Census Block Group	Tree Equity Score	Current Canopy	Canopy Goal	# of Trees	Trees per Year
A	CBG 410670321101	62	17%	25%	6,745	270
B	CBG 410050227071	61	13%	25%	4,559	182
C	CBG 410050244001	77	29%	30%	666	27
D	CBG 410050244002	97	30%	30%	0	0
E	CBG 410050244003	60	24%	35%	3,694	148
F	CBG 410050227072	56	16%	30%	8,732	349
G	CBG 410050227101	96	44%	45%	500	20
H	CBG 410050227082	72	27%	30%	1,148	46
I	CBG 410050228002	74	31%	35%	1,084	43
J	CBG 410050228001	88	38%	40%	167	7
K	CBG 410050228003	99	48%	48%	0	0
L	CBG 410050227081	100	41%	41%	0	0
Citywide		77	30%	36%	27,295	1,092

*See Figure 11 below for a map displaying the reference letters in Table 11 and the canopy goal.

Figure 11. Map displaying Tree Equity Scores, canopy goals, and table reference letters for Census Block Groups



Planting 27,000 trees in the City will result in substantial increases to tree canopy cover and associated environmental, economic, and social benefits. Based on the Tree Equity Score tool, it is estimated these new trees will bring an added annual ecosystem service value of \$350,633 once fully implemented. Planting trees that grow to large-canopied specimens at maturity and are healthy will sequester over 360 tons of carbon, 0.3 tons of carbon monoxide, 0.3 tons of sulfur dioxide, and 5.9 tons of ozone annually— all pollutants contributing to the greenhouse gas effect and changing climate. In addition, the 27,000 trees will reduce particulate matter by 1.7 tons (PM10) and 0.4 tons (PM2.5) annually and prevent the runoff of 15,117,774 gallons of stormwater each year.

Table 12. Summary of ecosystem benefits from planting 27,000 trees and reaching 36 percent canopy cover

Carbon Sequestered 362.0 tons	Carbon Monoxide 0.3 tons	Nitrogen Dioxide 1.0 tons
Sulfur Dioxide 0.3 tons	PM10 Pollution 1.7 tons	PM2.5 Pollution 0.4 tons
Ozone 5.9 tons	Runoff Avoided 15,117,774 gallons	Rain Interception 40,950,102 gallons

It is the responsibility of the City, its partners, and the community to review the recommendations in this report and the Urban Forest Management Plan to formally adopt tree canopy goals and strategies. Additional analyses of possible planting area and potential planting priorities should be conducted to support goal development. In addition, the City should utilize the Recommended Master Tree List, Tree Maintenance Manuals, Tree Ordinance Revision Recommendations, and other studies supporting the Plan and this Report. The TES and canopy goals will be refined, and aligned more closely to the City limits, with the completion of a high-resolution urban tree canopy (UTC) assessment (Action MP.03).

Urban Forest Management Goals

The following series of urban forestry goals to address the resource, the programs, and the people and are not listed by any particular priority or order.

- 1

TREE MANAGEMENT POLICY (MP):
The City’s urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville’s urban forest.
- 2

CAPACITY, TRAINING, AND AUTHORITY (CT):
Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.
- 3

ASSESSMENTS AND PLANS (AP):
A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.
- 4

COMMUNITY ENGAGEMENT (CE):
Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.
- 5

GREEN ASSET MANAGEMENT (GA):
Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

Action and Target Framework

Table 13. Framework and description of urban forestry actions

PRIORITY	EFFORT	ACTION # & ORDER	ACTION DESCRIPTION	CO-BENEFITS**	LEAD* & TARGET YEAR
1-3 ranking of action importance indicated by cell color (3 cells = highest priority)	1-3 ranking of resources required indicated by cell color (3 cells = highest level of effort)	Action number with a reference to the Urban Forest Audit categories. Number to indicate overall order of implementation	Description of the action for the respective goal	Additional benefits to Wilsonville. Up to 3 dots ("●") possible. More dots, greater impact. C=Community, H= Human Health E=Equity N=Natural Environment	Implementer lead and collaborator. Calendar year(s) to implement

Table 14. Example framework of the urban forestry actions

PRIORITY	EFFORT	ACTION # ORDER	TREE MANAGEMENT POLICY (MP) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		MP.01 11	Support canopy goals in Town Center with effective tree preservation policies (i.e., City Code 4.600 - 4.640.20). Use Appendix B-E as guidance.	● ● ● ● C H E N	CD, PW 2021

Table 15. Example framework of the urban forestry action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
An intermediate target leading to final target aligned with action "target year" and desired outcome	An intermediate target leading to final target aligned with action "target year" and desired outcome	Targets in bold font and goal color are the primary target to measure success of implementing the corresponding action

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

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GOAL 1**TREE MANAGEMENT POLICY (MP)**

The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.

URBAN FOREST AUDIT:

Management Policy and Ordinances at 71% Attainment (2021)

Standards and Best Management Practices at 63% Attainment (2021)

STRENGTHS:

Chapter 4.600 of City Code describes the policies and requirements for tree preservation and protection and City Code section 4.176 (Planning and Land Development Ordinance) describes the landscaping standards for development. In addition, the City has the Charbonneau Tree Preservation Program primarily for the care and enhancement of the large oak trees in the neighborhood.

OPPORTUNITIES:

Policies relating to urban forestry can be updated with current industry standards and best practices to support tree preservation Citywide and specifically in Town Center. A high-resolution tree canopy assessment can identify the location and extent of the urban forest resource in terms of canopy cover and the opportunities available for planting more trees. This data can guide policies, planning and development requirements, planting strategies, and baseline assessments.

PURPOSE:

- Support: An urban forestry program implementing actions without the appropriate support from policy and ordinances is at risk of using resources and time inefficiently and may lack the enforcement necessary for permanent improvements. A weak or outdated framework of policy and ordinances for urban forest management jeopardizes the success of key projects that support this Plan.
- Connections: Alignment of policy and ordinances ensures a strong connection among the urban forestry program's high-level strategic goals, and the projects and initiatives that support these goals.
- Holistic: Programs cannot live in isolation. Therefore, cross-examining and aligning various plans, policies, and ordinances brings to light any projects or initiatives that are a misplacement of resources.

TREE MANAGEMENT POLICY (MP) ACTIONS

Table 16. Tree Management Policy actions

PRIORITY	EFFORT	ACTION # ORDER	TREE MANAGEMENT POLICY (MP) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
High	High	MP.01 11	Support canopy goals in Town Center with effective tree preservation policies (i.e., City Code 4.600 - 4.640.20). Use Appendix B-E as guidance.	● ● ● ● ● ● ● ● C H E N	CD, PW 2022
Low	High	MP.02 15	Strengthen storm and disaster preparations, mitigations, recovery strategies, and protocols (see Appendix I), protocols, and mechanisms, including flexibility related to obvious tree removals to shorten the permitting process.	● ● ● ● ● ● ● ● C H E N	CD, PR, PW 2022
High	Medium	MP.03 27	Complete a comprehensive high-resolution urban tree canopy (UTC) assessment using industry recommended protocols to measure progress towards canopy goals and tree equity.	● ● ● ● ● ● ● ● C H E N	CD, PW 2025
Low	High	MP.04 30	Develop a tree manual for planners, developers, homeowners, and tree care companies that includes tree-related policies, guidelines, best practices, and standards.	● ● ● ● ● ● ● ● C H E N	CD 2026

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

TREE MANAGEMENT POLICY (MP) TARGETS

Table 17. Tree Management Policy action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
MP.01: Guidance in Appendix B-E of the UFMP is reviewed and incorporated accordingly (Year 1)	MP.01: Tree preservation policies are enforced in Town Center (Year 1)	MP.01: The City has staffing levels to adequately monitor development projects and enforce tree preservation policies to achieve canopy goals in Town Center (Year 25)
MP.02: Appendix I is reviewed and a strategy is developed (Year 1)	MP.02: A plan or manual detailing storm and disaster preparation, response, and mitigation is updated (Year 2)	MP.02: The plan or manual is actively utilized and reduces costs of storm response. The urban forest is more resilient (Year 25)
MP.03: A decision on in-house or consultant-led tree canopy assessment is determined (Year 3)	MP.03: A budget proposal is prepared if needed (Year 4)	MP.03: An urban tree canopy assessment is completed and canopy goals are established, supported by Master Tree Planting Plans (Year 5)
MP.04: A statement of need and an outline for the tree manual(s) is prepared (Year 4)	MP.04: A decision on in-house or consultant-led manual is determined (Year 5)	MP.04: Tree manual(s) developed to support goals of a healthy and sustainable urban forest (Year 6)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action.

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GOAL 2

CAPACITY, TRAINING, AUTHORITY (CT)

Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.

URBAN FOREST AUDIT:

Capacity and Training at 63% Attainment (2021)

Authority at 63% Attainment (2021)

STRENGTHS:

The Community Development Department and Natural Resources Program along with the Parks and Public Works departments have a robust team of certified, qualified, and trained staff for the management of the urban forest. Supporting this team is the framework established to utilize certified consultants and contractors as needed. City staff maintain certifications and continue to expand skillsets and offer trainings and presentations relating to the City's urban forest.

OPPORTUNITIES:

It is recommended the City consider consolidating programs to reduce inefficiencies and improve cohesive planning and management of the public trees. The City should continue to support in-house and outsourced training as it relates to tree maintenance, safety, risk, and other needs. The City should update Standard Operating Procedures (SOPs) as changes occur such as increasing staffing to support more frequent public tree pruning as recommended by industry standards

PURPOSE:

- Quality: The complexity of urban forests requires adept personnel for its appropriate care, growth, and resiliency. A city with quality staff reduces the variance of quality in service.
- Efficiency: A City with adequate staffing levels who are appropriately trained can meet the needs of the community timely and effectively. Staff with an understanding and training in processes affecting the urban forest can align efforts to achieve common goals.
- Safety: Safe practice of arboriculture and urban forestry is critical for City staff, contractors, and the public to reduce the potential risk of public hazards.
- Service: This Plan evaluates tree maintenance responsibilities in public areas to achieve targets of improved urban forest health.

CAPACITY, TRAINING, AUTHORITY (CT) ACTIONS

Table 18. Capacity, Training, Authority actions

PRIORITY	EFFORT	ACTION # ORDER	CAPACITY, TRAINING, AUTHORITY (CT) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		CT.01 1	Establish an urban forestry working group with regular meetings to monitor progress of implementing actions. Finalize lead implementers.	 C H E N	CD, PR, PW 2022
		CT.02 13	Maintain International Society of Arboriculture (ISA) Certified Arborist certifications and other credentials such as ISA Tree Risk Assessment Qualification (TRAQ).	 C H E N	PW, PR, CD 2022
		CT.03 18	Educate and train City staff to adhere to Best Management Practices, including industry research, science, and technology through various platforms, for the maintenance of all City trees. Provide education to the public for the proper care of trees on private property.	 C H E N	CD, PR, PW 2023

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

CAPACITY, TRAINING, AUTHORITY (CT) TARGETS

Table 19. Capacity, Training, Authority action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
CT.01: Necessary representation and skillsets of members needed is determined, outreach conducted (Year 1)	CT.01: Urban forestry working group established and regular meetings scheduled (Year 1)	CT.01: The UFMP is actively implemented, monitored, reported, and revised by the working group (Year 2-25)
CT.02: A needs assessment identifies necessary training and certifications of all staff (Year 1)	CT.02: Necessary certifications and credentials are maintained (Year 2)	CT.02: All City staff involved in urban forestry activities have the appropriate and recommended training and certifications (Year 25)
CT.03: Training needs are identified (Year 2)	CT.03: City staff are trained on BMPs and public is informed of proper tree care (Year 3)	CT.03: BMPs are implemented for all public trees and less malpractice on private trees occurs (Year 10)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action.

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GOAL 3**ASSESSMENT AND PLANS (AP)**

A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.

URBAN FOREST AUDIT:

Inventories at 46% Attainment (2021)

Urban Forest Management Plans at 50% Attainment (2021)

STRENGTHS:

The City has a comprehensive inventory of public trees along streetscapes and in maintained areas of parks housed in an asset management program. Tree management staff routinely utilize the database for prioritizing and scheduling maintenance and conduct physical assessments of City-owned trees. In addition to assessments, the City has a Parks and Recreation Master Plan, stormwater management plans, Urban Renewal Strategic Plan, plans for City focus areas such as Town Center and Charbonneau, and recognizes trees as vital assets in the Comprehensive Plan.

OPPORTUNITIES:

The City should continue to manage and update the inventory database as changes to the public tree population occur. To support the focus areas of Charbonneau and Town Center, a Master Tree planting Plan would provide the strategies for preserving existing trees and replacing removed trees to maintain and grow a sustainable urban forest. Other related City plans should be updated with information relating to the Urban Forest Management Plan, as necessary, and the Urban Forest Management Plan should be routinely evaluated and adapted as the resource and programs change over time.

PURPOSE:

- Informed Management: An inventory of Wilsonville's valuable assets—public trees—provides the data for informed management and resource decisions.
- Measured: An understanding of the population of trees provides baseline information from which progress and change resulting from this Plan and an urban forestry program can be measured for adaptive management.
- Value: The inventory of public trees provides information that can be used to quantify the ecosystem services and benefits provided to Wilsonville's residents, environment, and economy.
- Inclusivity: The urban forest is comprised of public and private trees spanning a multitude of ecosystems and land uses. Plans for trees across these landscapes ensures all aspects of urban forestry are included in a cohesive, strategic manner.

ASSESSMENTS AND PLANS (AP) ACTIONS

Table 20. Assessment and Plans actions

PRIORITY	EFFORT	ACTION # ORDER	ASSESSMENTS AND PLANS (AP) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		AP.01 4	Maintain an inventory of public trees Citywide and within Focus Areas and update as maintenance and new plantings occur. Monitor tree loss and gain through annual tree removal and planting permit reporting.	● ● ● ● C H E N	PW, CD Annually
		AP.02 16	Utilize Appendix A-E to develop a Master Tree Planting Plan for Town Center, aligned with the local and Citywide canopy goals. Preserve existing trees in Town Center to the extent possible by using guidance provided in Appendix D .	● ● ● ● C H E N	CD, PW 2023
		AP.03 17	Utilize Appendix A-E to develop a Master Tree Planting Plan for Charbonneau's aging oak (Quercus) population, aligned with the local and Citywide canopy goals.	● ● ● ● C H E N	CD, PW 2023
		AP.04 20	Complete an urban forest audit using similar criteria as the 2020 audit completed for the UFMP to evaluate improvements in urban forest management and adapt strategies. As needed, modify existing actions and develop new actions to continue to achieve goals of the UFMP.	● ● ● ● C H E N	CD 2026
		AP.05 26	Utilize Appendix G to develop a Trees and Construction Operations Plan for alternative solutions to conflicts between public trees and infrastructure/construction.	● ● ● ● C H E N	CD, PW 2026
		AP.06 27	Quantify the ecosystem benefits and appropriate appraisal values to conduct a cost-benefit analyses of public trees. This informs maintenance and planting recommendations and raises public awareness of urban forest benefits. For example, explore the cost effectiveness and safe use of utilizing urban forest biomass on City properties.	● ● ● ● C H E N	CD 2028

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

ASSESSMENTS AND PLANS (AP) TARGETS

Table 21. Assessment and Plans action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
AP.01: Tree database updated to reflect changes to the public tree population (Year 1-10)	AP.01: Tree database updated to reflect changes to the public tree population (Year 10)	AP.01: All public trees in a maintained database. Includes sample inventories of all forested public space (Year 25)
AP.02: The Citywide Recommended Tree List in Appendix A is adopted (Year 1)	AP.02: Strategic planning for the preservation of trees in Town Center using Appendix D is completed (Year 2)	AP.02: A Master Tree Planting Plan for Town Center is developed (Year 3)
AP.03: The Citywide Recommended Tree List in Appendix A is adopted (Year 1)	AP.03: Strategic planning for the oaks in Charbonneau is completed using the 2020 inventory and UFMP guidance (Year 2)	AP.03: A Master Tree Planting Plan for Charbonneau's aging oak population is developed (Year 3)
AP.04: An updated urban forest audit is completed (Year 4)	AP.04: UFMP actions and strategies are updated based on the 2023 audit (Year 5)	AP.04: An updated urban forest audit is completed (Year 6)
AP.05: Alternative solutions provided in Appendix C of the UFMP are reviewed (Year 4)	AP.05: Alternative solutions and best practices are approved (Year 5)	AP.05: A Trees and Construction Operations Plan is completed (Year 6)
AP.06: Using the tree database, changes to the public tree population are measured (Year 3-6)	AP.06: The ecosystem benefits and appraisal values of public trees is quantified (Year 7)	AP.06: A cost-benefit analysis is completed informing planting, maintenance, and biomass utilization options (Year 8)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action.

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GOAL 4

COMMUNITY ENGAGEMENT (CE)

Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.

URBAN FOREST AUDIT:

Community at 89% Attainment (2021)

STRENGTHS:

The City has a strong partnership with neighborhood and regional organizations for the planting and care of trees. Urban forestry related information is available on the City's website and the City utilizes an outreach website for keeping residents engaged. The City also has a successful Tree Fund program for homeowner mitigation plantings. Wilsonville has maintained Arbor Day Foundation's Tree City USA status for 22 years (as of June 2020) and received numerous "Growth Awards" for outstanding urban forestry projects. In addition, the City manages a Heritage Tree Program recognizing significant trees throughout Wilsonville.

OPPORTUNITIES:

Existing partnerships should be maintained and opportunities for non-conventional partnerships should be explored for representation of all neighborhoods and demographics in Wilsonville. Urban forestry related events, workshops, and training for the public should be held in coordination with partners as funding allows and the City should strive to diversify and expand the number of volunteers for community tree stewardship. Under the current capacity these efforts are difficult to pursue therefore, the City should explore the feasibility of a volunteer coordinator for urban forestry and other related efforts.

PURPOSE:

- Inclusivity: Residential property contains a large portion of the City's total tree canopy cover. Sustaining Wilsonville's urban forest requires residential collaboration and feedback and fostering long-term relationships to improve outcomes.
- Transparency: Program and funding transparency are essential in building resilient community partnerships.
- Resourcefulness: Public participation and insight provide resourceful and impactful urban forest program growth.
- Community: Active participation in nature-related efforts foster community pride and ownership, and breaks down walls, helping bring communities closer together as they become closer to nature.

COMMUNITY ENGAGEMENT (CE) ACTIONS

Table 22. Community Engagement actions

PRIORITY	EFFORT	ACTION # ORDER	COMMUNITY ENGAGEMENT (CE) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		CE.01 2	Update the City's website and materials based on information from the Plan. On a regular basis, share informative urban forestry and tree-related content to a social media, City website, and other communication platforms. Prioritize citizen service requests and update the City website with frequently asked questions and resources.	● ● ● C H E N	CD 2022
		CE.02 5	As funding permits, conduct annual urban forestry events, or partner-events—especially involving youth and HOAs—relating to tree planting and pruning to increase capacity for the care of public trees led by citizen tree stewards. Prioritize areas with lower urban tree canopy and other considerations such as underserved communities.	● ● ● ● ● ● C H E N	CD, PR Annually
		CE.03 6	Continue to track and annually report urban forestry activities of all partners and continue to maintain Arbor Day Tree City USA designation. Data will support future budget requests.	● ● ● ● ● C H E N	CD, PR, PW Annually
		CE.04 7	Continue to strengthen partnerships with civic groups, volunteers, institutions, neighborhoods, and non-profit organizations. Clarify tree maintenance authority and responsibilities among entities such as Homeowners Associations (HOAs), utilities, and special districts in a Standard Operating Procedure (SOP). Provide resources to private landholders on an as-needed basis.	● ● ● ● ● ● C H E N	CD Annually
		CE.05 8	As funding permits, provide information and educational workshops and materials about the proper tree species for given sites and conditions. Increase public outreach and notification of current and future pest/disease concerns and what they can do to support and sustain the urban tree canopy.	● ● ● ● ● ● C H E N	CD Annually
		CE.06 10	Continue to utilize the City Tree Fund for homeowner mitigation plantings. Increased awareness and support of urban forestry in the City will increase City Tree Fund contributions allowing the City to reevaluate mitigation amount (\$100 currently).	● ● ● ● ● ● C H E N	CD 2022

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

COMMUNITY ENGAGEMENT (CE) TARGETS

Table 23. Community Engagement action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
CE.01: A community outreach strategy is aligned with other City efforts with consistent messaging (Year 1)	CE.01: Information from the UFMP is shared on a multitude of City platforms for the public (Year 1)	CE.01: Citizen service requests are reviewed and the City website is updated with FAQs (Year 1)
CE.02: A list of existing and potential events, partners, and subject matter is prepared (Year 1-25)	CE.02: Regular meetings with City partners are done to align efforts and resources (Year 1-25)	CE.02: Events are held to raise awareness and build a community of stewards aligned with needs identified in surveys and audits (Year 1-25)
CE.03: Appropriate urban forestry activities are tracked and reported and Tree City USA award is received (Year 1-25)	CE.03: Appropriate urban forestry activities are tracked and reported and Tree City USA award is received (Year 1-25)	CE.03: City acquires Arbor Day Foundation’s Growth Awards and Sterling Tree City status and other industry recognition (Year 25)
CE.04: A list of existing and potential partners and programs is managed utilizing Appendix H in the UFMP (Year 1-25)	CE.04: SOPs are reviewed and updated regularly as needed, information for urban and rural forest management available for private landholders (Year 1-25)	CE.04: Partnerships represent all neighborhoods, demographics, and cultures in the City (Year 10)
CE.05: Materials and information to address priority concerns are prepared and shared (Year 1-25)	CE.05: Based on public surveys and tracking, residents of the City actively plant appropriate tree species and monitor for pest/disease concerns (Year 10)	CE.05: The urban forest is more resilient to climate change and tree pests and diseases (Year 25)
CE.06: City Tree Fund is utilized (Year 1)	CE.06: City Tree Fund contributions are reevaluated as demand increases (Year 10)	CE.06: A shared partnership between the City and the community achieves local and Citywide canopy goals (Year 25)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action

COMMUNITY ENGAGEMENT (CE) ACTIONS CONTINUED

Table 22. Community Engagement actions (continued)

PRIORITY	EFFORT	ACTION # ORDER	COMMUNITY ENGAGEMENT (CE) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		CE.07 12	Support and sustain partnerships with local and regional participatory organizations (see Appendix H). Encourage and support horizontal volunteer collaboration between organizations. Increase the number of community volunteers annually.	 C H E N	CD, PR, PW Annually
		CE.08 15	Develop strategies to remove barriers to participation for all community members. Barriers to address include ADA communications compliance, internet availability, language, cultures, location, and transportation. Utilize partnerships with neighborhood organizations (see Appendix H).	 C H E N	CD, PR, PW 2022, Annually
		CE.09 19	Recognize exemplary urban forest stewards and volunteers representing youth, residents, organizations, and business owners. Consider a tree donation or use of the City Tree Fund framework for costs associated with this program.	 C H E N	CD 2023, Annually
		CE.10 23	Conduct biannual community surveys to gauge public viewpoints and receive feedback on implementation of the UFMP, and program success. Survey responses should inform future urban forest decision making.	 C H E N	CD 2024, Bi-Annually
		CE.11 24	Establish non-conventional partnerships that serve single and/or multiple City neighborhoods. At minimum, all neighborhoods should be represented in partnerships.	 C H E N	CD, PR, PW 2025

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

COMMUNITY ENGAGEMENT (CE) TARGETS CONTINUED

Table 23. Community Engagement action targets (continued)

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
CE.07: A list of existing and potential partners and programs is managed utilizing Appendix H in the UFMP. (Year 1-25)	CE.07: Annual increase in the number of volunteers, hours, and diversity (Year 1-25)	CE.07: Annual increase in the number of volunteers, hours, and diversity (Year 1-25)
CE.08: Strategies to remove barriers are developed (Year 2)	CE.08: Annual increase in the number of volunteers, hours, and diversity (Year 3-25)	CE.08: Annual increase in the number of volunteers, hours, and diversity (Year 3-25)
CE.09: The framework for a recognition program is developed (Year 2)	CE.09: The recognition program is launched (Year 3)	CE.09: The recognition program continues to grow with participants from various sectors to support the City’s urban forest (Year 4-25)
CE.10: A strategy for community surveys is prepared (Year 3)	CE.10: A community survey is shared to gather viewpoints and feedback that informs urban forest management (Year 4)	CE.10: Ongoing surveys conducted every 2 years, survey input is appropriately addressed (Year 5-25)
CE.11: A list of existing and potential partners and programs is managed utilizing Appendix H in the UFMP (Year 3)	CE.11: Outreach and meetings with potential partners are conducted (Year 4)	CE.11: Non-conventional partnerships are established that represent all City neighborhoods (Year 5)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action

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GOAL 5

GREEN ASSET MANAGEMENT (GA)

Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

URBAN FOREST AUDIT:

Green Asset Management at 55% Attainment (2021)

Risk Management at 61% Attainment (2021)

Disaster Planning at 43% Attainment (2021)

STRENGTHS:

City departments manage public trees along streetscapes and in parks, implement industry best management practices and standards, and conduct pest management practices as funding allows. Current tree planting regimen considers diversity of species and age. Certain City-owned trees are given fertilizer injections and treated for pests such as aphids.

OPPORTUNITIES:

Most public tree pruning performed by adjacent property owners and is reactionary and seldom proactive. The City should explore costs and staffing requirements to prune City-owned street trees on a recommended rotation to improve tree health, reduce risk, and improve efficiencies. HOAs conducting tree maintenance in their respective neighborhoods can support this evaluation and effort. Consideration for staffing requirements to achieve tree canopy cover goals should also be made. Large oak trees are outgrowing their space or impeding hardscape in areas such as Charbonneau and a strategic replanting strategy should be developed and aligned with canopy goals. Wilsonville should explore strategies to address storm preparation, response, and recovery as it relates to the urban forest and expand its pest management program to maintain a healthy and sustainable urban forest.

PURPOSE:

- Efficiency: Alignment of operations improves workflows, encourages resourcefulness, and reduces conflicts. Routine systematic tree maintenance reduces surges of maintenance and removal demands, identifies issues before they become more expensive, and optimizes available time and resources.
- Safety: Appropriate management of green assets reduces the risk of tree failures as well as person and property damage. Utilizing industry standards and best practices reduces on-the-job incidents to the extent possible.
- Sustainability: Managing urban forests as City assets will support stormwater management, climate resiliency, and human health goals. Appropriate maintenance and planting will support a healthy, long-lived urban tree canopy equitably distributed across a city.
- Proactive: Routine maintenance reduces future costs. Planting the urban forest with the appropriate species also reduces future costs, conflicts, and climate change impacts.

GREEN ASSET MANAGEMENT (GA) ACTIONS

Table 24. Green Asset Management actions

PRIORITY	EFFORT	ACTION # ORDER	GREEN ASSET MANAGEMENT (GA) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		GA.01 3	Use Citywide tree inventory data and best available science for long-term planning and management of existing and future tree pests and diseases impacting the City's urban forest and trees specific to Focus Areas.	 C H E N	CD 2022
		GA.02 9	Prioritize and mitigate risk trees as well as young and large tree maintenance based on updated inventory data and resources. Continue to inform adjacent property owner(s) of tree maintenance or removal responsibilities using established protocols.	 C H E N	CD, PR, PW Annually
		GA.03 22	Develop a more strategic approach to tree species and site selection to ensure their resilience and optimize ecosystem service provision of Wilsonville's urban forest. Use Appendix A as guidance.	 C H E N	CD, PR, PW 2024
		GA.04 23	In conjunction with watershed goals, green stormwater infrastructure plans, and other planning efforts, evaluate staffing resources required to effectively plant and maintain trees aligned with canopy goals and provide post-planting care.	 C H E N	CD, PR, PW 2024

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

GREEN ASSET MANAGEMENT (GA) TARGETS

Table 25. Green Asset Management action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
GA.01: Tree database updated to reflect changes to the public tree population and analyzed for potential risks (Year 1)	GA.01: A plan is in place for managing tree pests and diseases in an integrated approach aligned with the Master Tree Planting Plan resulting from actions AP.02 and AP.03 (Year 10)	GA.01: The urban forest is more resilient to climate change and tree pests and diseases (Year 25)
GA.02: A maintained tree database informs routine and risk tree maintenance (Year 1-25)	GA.02: Tree maintenance responsibility is understood by the public observed in surveys and less service requests (Year 10)	GA.02: The public tree population is actively managed to reduce tree risk and all street trees are pruned on an appropriate rotation (Year 25)
GA.03: The Citywide Recommended Tree List in Appendix A is adopted (Year 1)	GA.03: A maintained tree database informs tree species and locations for planting (Year 3)	GA.03: A Citywide Master Tree Planting Plan is developed in line with Focus Area planting plans (Year 4)
GA.04: City and partner programs and efforts are documented (Year 3)	GA.04: Coordination meetings are held to effectively develop planting targets and canopy goals (Year 4)	GA.04: A shared commitment achieves local and Citywide tree canopy goals with staffing to properly maintain the growing urban forest (Year 25)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action

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URBAN FOREST MANAGEMENT FOR CITY FOCUS AREAS

In addition to the Citywide urban forest management actions, strategic actions were developed for the City’s focus areas of Charbonneau and Town Center. These actions are integrated into the Citywide actions and summarized below for direct implementation to improve the management, sustainability, and community framework of trees in these focus areas.

SPECIFIC ACTIONS FOR THE URBAN FOREST IN CITY FOCUS AREAS

Table 26. Urban forestry actions specific to City Focus Areas

ACTION #*	FOCUS AREA	ACTIONS	TARGET YEARS
MP.01	Town Center	Support canopy goals in Town Center with effective tree preservation policies (i.e., City Code 4.600 - 4.640.20). Use Appendix B-E as guidance.	2021
MP.03	Charbonneau Town Center	Complete a comprehensive high-resolution urban tree canopy (UTC) assessment using industry recommended protocols to measure progress towards canopy goals and tree equity.	2025
MP.04	Charbonneau Town Center	Develop a tree manual for planners, developers, homeowners, and tree care companies that includes tree-related policies, guidelines, best practices, and standards.	2026
AP.01	Charbonneau Town Center	Maintain an inventory of public trees Citywide and within Focus Areas and update as maintenance and new plantings occur. Monitor tree loss and gain through annual tree removal and planting permit reporting.	Annually
AP.02	Town Center	Utilize Appendix A-E to develop a Master Tree Planting Plan for Town Center, aligned with the local and Citywide canopy goals. Preserve existing trees in Town Center to the extent possible by using guidance provided in Appendix D .	2023
AP.03	Charbonneau	Utilize Appendix A-E to develop a Master Tree Planting Plan for Charbonneau’s aging oak (<i>Quercus</i>) population, aligned with the local and Citywide canopy goals.	2023
CE.01	Charbonneau Town Center	Update the City’s website and materials based on information from the Plan. On a regular basis, share informative urban forestry and tree-related content to a social media, City website, and other communication platforms. Prioritize citizen service requests and update the City website with frequently asked questions and resources.	2021
CE.02	Charbonneau Town Center	As funding permits, conduct annual urban forestry events, or partner-events—especially involving youth and HOAs—relating to tree planting and pruning to increase capacity for the care of public trees led by citizen tree stewards. Prioritize areas with lower urban tree canopy and other considerations such as underserved communities.	Annually
CE.03	Charbonneau Town Center	Continue to track and annually report urban forestry activities of all partners and continue to maintain Arbor Day Tree City USA designation. Data will support future budget requests.	Annually
CE.04	Charbonneau Town Center	Continue to strengthen partnerships with civic groups, volunteers, institutions, neighborhoods, and non-profit organizations. Clarify tree maintenance authority and responsibilities among entities such as Homeowners Associations (HOAs), utilities, and special districts in a Standard Operating Procedure (SOP). Provide resources to private landholders on an as-needed basis.	Annually

* MP = Tree Management Policy goal; AP = Assessments and Plans goal; CE = Community Engagement goal; GA = Green Asset Management goal

Acronyms: ADA = Americans with Disabilities Act

Table 26. Urban forestry actions specific to City Focus Areas (continued)

ACTION #*	FOCUS AREA	ACTIONS	TARGET YEARS
CE.05	Charbonneau Town Center	As funding permits, provide information and educational workshops and materials about the proper tree species for given sites and conditions. Increase public outreach and notification of current and future pest/disease concerns and what they can do to support and sustain the urban tree canopy.	Annually
CE.06	Charbonneau Town Center	Continue to utilize the City Tree Fund for homeowner mitigation plantings. Increased awareness and support of urban forestry in the City will increase City Tree Fund contributions allowing the City to reevaluate mitigation amount (\$100 currently).	2021
CE.07	Charbonneau Town Center	Support and sustain partnerships with local and regional participatory organizations (see Appendix H). Encourage and support horizontal volunteer collaboration between organizations. Increase the number of community volunteers annually.	Annually
CE.08	Charbonneau Town Center	Develop strategies to remove barriers to participation for all community members. Barriers to address include ADA communications compliance, internet availability, language, cultures, location, and transportation. Utilize partnerships with neighborhood organizations (see Appendix H).	2022, Annually
CE.09	Charbonneau Town Center	Recognize exemplary urban forest stewards and volunteers representing youth, residents, organizations, and business owners. Consider a tree donation or use of the City Tree Fund framework for costs associated with this program.	2023, Annually
CE.10	Charbonneau Town Center	Conduct biannual community surveys to gauge public viewpoints and receive feedback on implementation of the UFMP, and program success. Survey responses should inform future urban forest decision making.	2024, Bi-Annually
CE.11	Charbonneau Town Center	Establish non-conventional partnerships that serve single and/or multiple City neighborhoods. At minimum, all neighborhoods should be represented in partnerships.	2025
GA.01	Charbonneau Town Center	Use Citywide tree inventory data and best available science for long-term planning and management of existing and future tree pests and diseases impacting the City's urban forest and trees specific to Focus Areas.	2021
GA.02	Charbonneau Town Center	Prioritize and mitigate risk trees as well as young and large tree maintenance based on updated inventory data and resources. Continue to inform adjacent property owner(s) of tree maintenance or removal responsibilities using established protocols.	Annually

* MP = Tree Management Policy goal; AP = Assessments and Plans goal; CE = Community Engagement goal; GA = Green Asset Management goal

Acronyms: ADA = Americans with Disabilities Act

GOAL AND ACTION SUMMARY

Urban trees are regarded as assets similar to other infrastructure investments. Protecting the asset and ensuring a healthy and sustainable urban forest requires sound and deliberate management guided by strategic goals and actions. This Urban Forest Management Plan was developed to establish the protocols, outcomes, and services related to Wilsonville’s urban forest over a long-term 25-year planning horizon. The actions presented in the previous section are ordered by goal theme though the City may find it advantageous to order by priority or other action attribute (see the Goal and Action Framework worksheet as part of the UFMP project). The table below provides the actions in order of priority and the key considerations for implementing the respective action.

Table 27. Summary of urban forest management actions by priority and rationale

	ACTION #	KEY CONSIDERATIONS OR RATIONALE
HIGHEST PRIORITY	MP.01	Effective policies ensure long-term urban forest sustainability.
	MP.03	Equal access to green spaces and an equitable distribution of tree canopy provides social, economic, and environmental benefits.
	CT.01	Coordinating implementation of the UFMP enables success.
	CT.02	Staff training reduces costs and improves production, safety, levels of service, and the urban forest.
	AP.01	Inventories inform maintenance, resource needs, planting, and ecosystem benefits.
	AP.02	A strategic plan for planting can achieve canopy goals, sustainability, and equity.
	AP.03	A strategic plan for planting can achieve canopy goals, sustainability, and equity.
	AP.04	Evaluations enable adaptive management.
	CE.03	A city must demonstrate that it cares about its urban forest.
	CE.04	Partnerships enable efficient achievement of shared goals.
MEDIUM PRIORITY	CT.03	A well-managed urban forest is sustainable, resilient, lower risk, and beneficial.
	CT.04	Effective policies ensure long-term urban forest sustainability.
	AP.05	A plan to address tree and hardscape conflicts resolves issues, is consistent, transparent, and achieves common goals.
	AP.06	An understanding of benefits, services, and value can be conveyed to the public and inform management.
	CE.01	Readily available information raises awareness and increases support to achieve common goals.
	CE.02	A community that participates in stewardship takes ownership and provides support.
	CE.06	The community expresses strong interest in supporting urban forestry goals but may be financially constrained.
	CE.07	Partnerships enable efficient achievement of shared goals.
	CE.08	A community that participates in stewardship takes ownership and provides support.
	CE.09	A city must demonstrate it cares about its urban forest and the individuals caring for it.
	CE.10	Gathering feedback and input from the community informs future strategies, messaging, and resource needs.
	CE.11	Partnerships enable efficient achievement of shared goals.
	GA.01	A well-managed urban forest is sustainable, resilient, lower risk, and beneficial.
	GA.02	A well-managed urban forest is sustainable, resilient, lower risk, and beneficial.
	GA.03	A well-managed urban forest is sustainable, resilient, lower risk, and beneficial.
GA.04	A diverse urban forest is resilient to tree pests and diseases and climate change but must be planted according to tree and site requirements, timing, and desired function.	
GA.05	Partnerships and coordination enable efficient achievement of shared goals.	

Table 27. Summary of urban forest management actions by priority and rationale (continued)

	ACTION #	KEY CONSIDERATIONS OR RATIONALE
LOW PRIORITY	MP.02	A systematic approach to risk assessments and mitigation will reduce risk and improve the urban forest.
	MP.04	A well-managed urban forest is sustainable, resilient, lower risk, and beneficial.
	CE.05	Readily available information raises awareness and increases support to achieve common goals.

IMPLEMENTATION GUIDANCE

The framework of the goals and actions in the Urban Forest Management Plan provides the City of Wilsonville with the means to measure progress and adapt to an everchanging environment and availability of resources. Each of the five goals align with the U.S. Forest Service's Urban Forest Audit System and the actions are intended to guide the City towards improvements in ranking for each of the 126 elements within the 11 categories of urban forest management. As actions are implemented, the City may conduct new iterations of the Urban Forest Audit to gauge success, evaluate progress, and adjust accordingly.

As part of the project, an interactive worksheet of goals, actions, and targets was provided to enable the City's implementers to sort actions by order, priority, effort, goal theme, implementation year, and other action attributes. It is recommended the City establish an urban forestry working group to manage Plan implementation and monitoring. This team should coordinate the implementation of actions with the respective partners or collaborators. For the Plan, actions were provided by goal theme though the City may find it advantageous to view the actions by recommended order, priority, level of effort, or target year.

MONITORING PLAN

This Urban Forest Management Plan will be updated and revised periodically to reflect changes in the urban forest resource structure and function, to incorporate changes in industry standards, to consider community response, and to measure the progress of the urban forest partners in implementing the recommendations and reaching the established goals. This process should be implemented by an Urban Forest Working Group (UFMP Action CT.01) using the Evaluate, Monitor, Report, and Revise methodology.

Knowing how the City of Wilsonville and its partners are doing will require a continual process of evaluation. This section presents examples of how to monitor, analyze, and revise the Plan, which will keep stakeholders informed of the status of the urban forest program. To monitor progress toward implementing the Plan recommendations, an evaluation similar to the U.S. Forest Service's Urban Forest Audit conducted to develop the initial Plan should be completed. This evaluation will identify progress and shortfalls compared to the baseline audit.

In addition, a report card could be created based on outcomes of the audit and distributed to the public every two to three years. This will measure the progress toward implementing the Plan recommendations. The following example provides a suggested reporting structure to measure success toward accomplishing each goal. Other indicators to measure progress may need to be developed to ensure a thorough and accurate evaluation.

Evaluate

The Urban Forest Audit System provides a framework for routine evaluations of the urban forest, the programs that manage it, and the community that shapes and benefits from it. The Research Summary to this Urban Forest Management Plan provides the guidance for completing the audit. It is recommended the City Project Team or the Urban Forest Working Group complete a bi-annual audit to inform any alterations to actions and strategies.

This audit system consists of 11 categories of urban forest management, sustainability, and community. Within the 11 categories are approximately 130 elements. Each element was ranked or scored based on the consultants' evaluations in 2021 for the Urban Forest Management Plan. The City Project team or Urban Forest Working Group should complete an update to this ranking bi-annually to inform Plan reporting, monitoring, and revision as described in the following sections.

Monitor

Measuring accomplishment of the actions will require ongoing analysis. The outcomes of the Urban Forest Audit System in the "Evaluate" section can be used to monitor change over time. These benchmark values should be tracked, and a state of the urban forest report should be prepared and distributed to the public every 5 to 10 years. Analysis may include an updated street tree inventory, i-Tree benefits analyses, or urban tree canopy assessments. The state of the urban forest report should include the benchmark values as reported in the Plan and the Urban Forest Audit System as of 2021, so that the City can measure and compare changes to the urban forest. The report should reflect changes to the audit system that are measured.

Wilsonville's Urban Forest Benchmark Values

Table 28. Wilsonville's urban forest benchmark values

URBAN TREE CANOPY (UTC) COVER (2021)	
UTC	Unknown
Recommended Canopy Goal	To be determined
Total Number of Trees to Plant for Canopy Goal	To be determined
ESTIMATED TREE COUNT	
Total Public Trees Managed	Unknown
Public Trees Inventoried	25,950
Total Public Trees (streets, parks, natural areas)	Unknown
TREE SPECIES DIVERSITY (SPECIES EXCEEDING 10%)	
Public Trees (2020)	Red Maple (10%)
TREE BENEFITS	
Citywide (Public Trees)	2020: \$35.5 million (annual est.)
Inventoried Public Trees (25,950)	2020: \$1.9 million (annual) 2020: \$46.4 million (structural value)
Focus Areas (Town Center & Charbonneau)	2020: \$280,000 (annual)
TREE AND BUDGET DISTRIBUTION (2019)	
Public Trees per Capita	1.02
Budget per Capita	\$10.42
Budget per Public Tree	\$9.67
Total Public (managed) Trees per Staff	3,243 (of inventoried trees)
MANAGEMENT ACTIVITIES (2019)	
City-owned Street Trees Pruned	110
City-owned Street Trees Removed	19
City-owned Street Trees Planted	40
Number of Volunteers and/or Hours	Unknown
Privately maintained Street Trees Pruned/Removed	Unknown/Unknown

Table 28. Wilsonville’s urban forest benchmark values (continued)

URBAN FOREST AUDIT SYSTEM (TOTAL SCORE OF 2021: 62%)	
Management Policy and Ordinances	71%
Professional Capacity and Training	63%
Funding and Accounting	58%
Decision and Mangement Authority	63%
Inventories	46%
Urban Forest management Plans	50%
Risk Management	61%
Disaster Planning	43%
Standards and Best Management Practices	63%
Community	89%
Green Asset Evaluation	55%

REPORT

Based on the evaluation of Plan implementation progress, the City Project Team or Urban Forest Working Group should track, record, and report, as practical or necessary, on the metrics described below that are measures or indicators of success for each goal and supporting actions.

Table 29. Evaluation, monitoring, and reporting techniques to achieve the urban forestry goals

1	<p>TREE MANAGEMENT POLICY (MP):</p> <p>The City’s urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville’s urban forest.</p> <ul style="list-style-type: none"> • List existing and potential partners. • List all City and partner-led planning efforts. • Describe related planning efforts. • List opportunities to align efforts with Town Center and Charbonneau. • List opportunities to align efforts with other neighborhoods. • Establish a Citywide canopy goal and local planting targets. • List recommended changes to City Code, policies, and manuals. • List audit score and actions/targets achieved, ongoing, and not started.
2	<p>CAPACITY, TRAINING, AND AUTHORITY (CT):</p> <p>Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.</p> <ul style="list-style-type: none"> • List the team members assembled to implement and monitor the Plan. • List the existing staff and supporting departments and partners. • Describe existing and needed certifications, qualifications, and training. • Describe changes in levels of service based on citizen service requests. • Report the number of unattended tree maintenance and service requests. • Report the number trees preserved and planted through development.

3

ASSESSMENTS AND PLANS (AP):

A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.

- Report the number of trees inventoried.
- Report the number of public trees planted and removed.
- Report the number of trees assessed for risk.
- Report the progress of the Charbonneau Tree Preservation Program.
- Report the value of the entire urban forest and public tree population.
- List the priority planting areas, canopy goals, and recommended species.
- Report the assessment and planning efforts of partners.
- Describe the high-value conservation and preservation areas.
- List audit score and actions/targets achieved, ongoing, and not started.

4

COMMUNITY ENGAGEMENT (CE):

Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.

- List the existing and potential outreach platforms and initiatives.
- List existing and potential partners.
- Report the number of planting events and trees planted.
- Report the history of Tree City USA and supporting awards.
- Report the number of volunteers, events, and volunteer hours.
- Report the number of private tree plantings as feasible.
- Report the number of trainings, workshops, and attendees.
- Report the results of public surveys.
- Recognize exemplary urban forest stewards.
- List audit score and actions/targets achieved, ongoing, and not started.

5

GREEN ASSET MANAGEMENT (GA):

Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

- Report the number of public trees pruned, removed, and planted.
- Report the number of trees managed for pests and diseases.
- Report the number of trees planted in stormwater management projects.
- Report progress towards canopy goals and tree planting targets.
- Report the volume of woody biomass utilized.
- Report the condition, structure, and diversity of the public trees.
- List audit score and actions/targets achieved, ongoing, and not started.

OTHER

BUDGET AND FUNDING TO SUPPORT UFMP GOALS:

City resources enable comprehensive urban forest management for the preservation and enhancement of tree benefits.

- Report the proportion of public trees to tree management staff.
- Report the proportion of budget to the total public tree population.
- Report the proportion of public trees to the City population.
- Report the number of volunteer hours.
- Report the number of trainings and conferences attended.
- List the unfunded urban forestry needs.
- Report the budget, partner funding, permit revenue, and donations.
- List audit score and actions/targets achieved, ongoing, and not started.

REVISE

Completion of this Plan is the first step towards meeting the vision for Wilsonville’s urban forest. Continual monitoring, analysis, and reporting will help to keep urban forest partners involved and focused on accomplishing the actions. Plans are typically revised every 10 to 15 years; however, the Plan will need formal revision to respond and adapt to changes as they develop. Formal revision of the Plan should coincide with the update of the City’s Comprehensive Plan, Focus Area Plans, Parks and Recreation Master Plan, Urban Renewal Strategic Plan, Town Center Plan, Charbonneau Consolidated Improvement Plan, and other relevant planning efforts. Recommendations and goals of each should be compared. Revisions to the Plan should occur with major events, such as newly discovered pests or diseases, changes in program budget and resources, or significant changes to industry standards or legal codes.

Figure 12. Example of the plan implementation, evaluation, and revision process



CONCLUSION



Photo courtesy of Zach Herrmann, winner of the UFMP photo contest, November 2020

Trees are an integral part of the community and the ecological systems in which they exist. They provide significant economic, social, and ecological benefits, such as carbon sequestration, reduction of urban heat islands, energy savings, reduction of stormwater runoff, improvement of water quality, enhancement of human health and wellness, and increase the value of properties. Planting and maintaining trees help Wilsonville become more sustainable and reduce the negative impacts on the ecosystem from urban development. Trees are as necessary as water, infrastructure, and energy to sustaining healthy communities. The health of the urban forest is directly linked to the health of the region.

The goal framework in Wilsonville's Urban Forest Management Plan is based on outcomes of the audit system and in alignment with existing plans to allow the City to incrementally implement actions, effectively monitor progress, and efficiently adapt in an everchanging environment. Successful implementation of actions in this Plan will bring Wilsonville to a higher level of service that is more equitably distributed across the City resulting in a sustainable and thriving urban forest that benefits all residents and future generations.

Wilsonville's trees, forests, and other natural resources are recognized as integral to sustaining life and health for all City residents. A healthy, thriving, and sustainable urban forest should be a community priority, to be thoughtfully managed and cared for by partnerships between the City and its residents to maximize public safety and benefits that include a thriving ecosystem, vibrant economy, improved human health, and livable communities shared by all who live, work, and play in Wilsonville. James Clark, emphasizes the importance of an Urban Forest Management Plan in *A Model of Urban Forest Sustainability* (1997):

“

“Urban trees and forests are considered integral to the sustainability of cities as a whole. Yet, sustainable urban forests are not born, they are made. They do not arise at random, but result from a community wide commitment to their creation and management.”

CLARK, 1997

As stated in this quote, an effective urban forestry program supported by the City's passion for the natural environment and associated benefits will lead Wilsonville to a more sustainable and thriving urban forest.

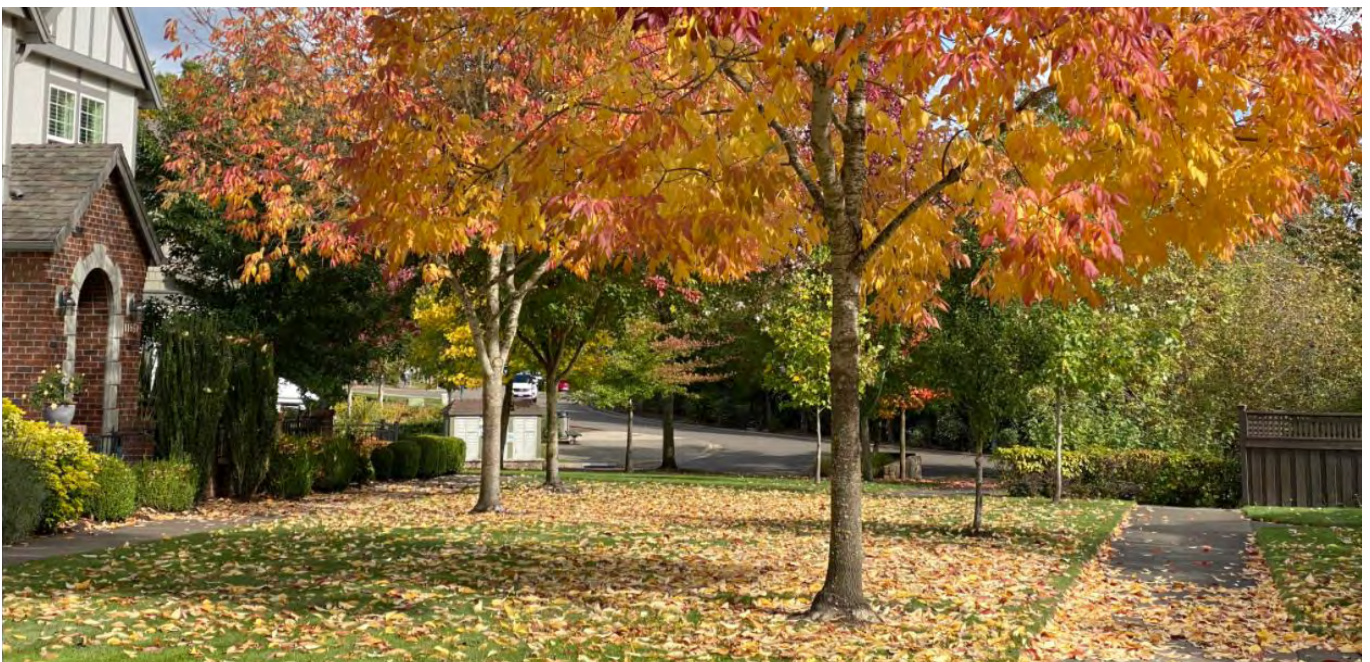


Photo courtesy of Susan Reep, UFMP photo contest contestant, November 2020

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APPENDIX A. CITYWIDE RECOMMENDED TREE LIST

See the Wilsonville, OR Master Street Tree List spreadsheet for further information.

Table 30. Citywide recommended tree list (abbreviated)

Small-Statured Trees

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Cherry	Bird Cherry	<i>Prunus avium</i> 'Lapins' STARKRIMSON SWEET	15 x 15	Flowers, fruit, wildlife	
Crabapple	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	30 x 15	Wildlife, flowers, fall color	Y
Crape Myrtle	Tuscarora Crape Myrtle	<i>Lagerstroemia</i> 'Tuscarora'	20 x 20	Flowers, fall color, unique bark	Y
Crape Myrtle	Muskogee Crape Myrtle	<i>Lagerstroemia</i> 'Muskogee'	20 x 20	Flowers, fall color, unique bark	Y
Crape Myrtle	Natchez Crape Myrtle	<i>Lagerstroemia</i> 'Natchez'	20 x 20	Flowers, fall color, unique bark	Y
Dogwood	Milky Way Dogwood	<i>Cornus kousa</i> 'Milky Way'	20 x 20	Flowers, wildlife	
Dogwood	Venus® Dogwood	<i>Cornus elwinortonii</i> 'KN30-8'	25 x 20	Wildlife, flowers, fall color	
Dogwood	Starlight® Dogwood	<i>Cornus elwinortonii</i> 'KN4-43'	30 x 20	Wildlife, flowers, fall color	
Hawthorn	Lavalle Hawthorn	<i>Crataegus X lavalleei</i>	25 x 20	Wildlife, flowers, fall color	
Madrone	Strawberry Tree	<i>Arbutus unedo</i>	15 x 15	Evergreen, showy fruit	Y
Maple	Paperbark Maple	<i>Acer griseum</i>	30 x 25	unique bark, fall color	
Maple	Cretan Maple	<i>Acer sempervirens</i>	20 x 20	Semi evergreen	
Persian Ironwood	Ruby Vase® Persian Ironwood	<i>Parrotia persica</i> 'Ruby Vase'	35 x 20	Fall color, unique bark	
Redbud	Eastern Redbud	<i>Cercis canadensis</i>	30 x 30	Flowers, fall color	Y
Redbud	Western Redbud	<i>Cercis occidentalis</i>	30 x 30	Flowers, fall color	
Redbud	Merlot Redbud	<i>Cercis canadensis</i> 'Merlot'	15 x 15	Flowers	
Snowbell	Pink Chimes Japanese Snowbell	<i>Styrax japonicus</i> 'Pink Chimes'	25 x 20	Flowers	
Snowbell	Emerald Pagoda Japanese Snowbell	<i>Styrax japonicus</i> 'Emerald Pagoda'	25 x 20	Flowers	
Snowbell	Snow Charm® Japanese Snowbell	<i>Styrax japonicus</i> 'JFS-E'	25 x 20	Flowers	
Snowbell	Bigleaf Snowbell	<i>Styrax obassia</i>	25 x 20	Flowers	

A detailed interactive worksheet is provided as part of the Urban Forest Management Plan project. “Sister Climate City Tree” refers to the analysis of Wilsonville’s changing climate and the tree species that would be suitable based on tree species growing in a climate that will be similar to Wilsonville’s 60 years from 2021. Consider [Appendix I](#) when planting trees for storm resistance.

Medium-Statured Trees

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Beech	Dawyck Purple Beech	<i>Fagus sylvatica</i> 'Dawyck Purple'	50 x 15	Unique foliage, unique bark	
Birch	Dura-Heat® River Birch	<i>Betula nigra</i> 'BNMTF'	45 x 35	Unique bark	
Cascara	Cascara	<i>Frangula purshiana</i>	30 x 25	Native, wildlife, fall color	
Chitalpa	Chitalpa	X Chitalpa tashkentensis 'Pink Dawn'	30 x 30	Flowers	
Cork Tree	His Majesty Cork Tree	<i>Phellodendron amurense</i> 'His Majesty'	40 x 35	Fall color, unique bark	
Cork Tree	Eyestopper® Cork Tree	<i>Phellodendron amurense</i> 'Longenecker'	40 x 35	Fall color, unique bark	
Dogwood	Pacific Dogwood	<i>Cornus nuttallii</i>	40 x 25	Flower, fall color	
Dogwood	Eddie's White Wonder Dogwood	<i>Cornus</i> 'Eddie's White Wonder'	35 x 20	Wildlife, flowers, fall color	
Dogwood	June Snow® Giant Dogwood	<i>Cornus controversa</i> 'June Snow-JFS'	40 x 30	Wildlife, flowers, fall color	
Fringtree	Chinese Fringetree	<i>Chionanthus retusus</i>	20 x 25	Wildlife, flowers, unique bark	Y
Ginkgo biloba	Saratoga Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Saratoga'	35 x 25	Fall color	
Ginkgo biloba	Halka Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Halka'	40 x 35	Fall color	
Ginkgo biloba	Fairmount Ginkgo Biloba	<i>Ginkgo biloba</i> 'Fairmount'	45 x 25	Fall color	
Ginkgo biloba	Shangri-La Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Shangri-La'	45 x 35	Fall color	
Goldenrain Tree	Goldenrain Tree	<i>Koelreuteria paniculata</i>	30 x 25	Flowers, fall color, unique bark	Y
Hardy Rubber Tree	Hardy Rubber Tree	<i>Eucommia ulmoides</i>	40 x 40	Form	
Hophornbeam	American Hophornbeam	<i>Ostrya virginiana</i>	30 x 25	Fall color	
Hornbeam	Emerald Avenue European Hornbeam	<i>Carpinus betulus</i> 'JFS-KW1CB'	40 x 30	Fall color	
Hornbeam	American Hornbeam	<i>Carpinus caroliniana</i>	35 x 35	Fall color, unique bark	
Hornbeam	Palisade® American Hornbeam	<i>Carpinus caroliniana</i> 'CCSQU'	30 x 15	Fall color	

Medium-Statured Trees (continued)

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Hornbeam	Rising Fire American Hornbeam	<i>Carpinus caroliniana</i> 'Uxbridge'	30 x 15	Fall color	
Hornbeam	Firespire® American Hornbeam	<i>Carpinus caroliniana</i> 'J.N. Upright'	30 x 25	Fall color, unique bark	
Hornbeam	Native Flame® American Hornbeam	<i>Carpinus caroliniana</i> 'JFS-KW6'	30 x 25	Fall color, unique bark	
Hornbeam	European Hornbeam	<i>Carpinus betulus</i>	40 x 25	Fall color	Y
Hornbeam	Pyramidal European Hornbeam	<i>Carpinus betulus</i> 'Fastigiata'	40 x 25	Fall color	
Horsechestnut	California Buckeye	<i>Aesculus californica</i>	30 x 40	Flowers	
Japanese Raisintree	Japanese Raisintree	<i>Hovenia dulcis</i>	35 x 25	Wildlife, flowers	
Linden	Summer Sprite® Linden	<i>Tilia cordata</i> 'Halka'	20 x 15	Fall color	Y
Linden	Harvest Gold Littleleaf Linden	<i>Tilia</i> 'Harvest Gold'	35 x 25	Fall color	Y
Linden	Silver Linden	<i>Tilia tomentosa</i> 'Sterling'	45 x 35	Fall color	
Maackia	Amur Maackia	<i>Maackia amurensis</i>	30 x 25	Flowers, fall color, unique bark	
Magnolia	Victoria Southern Magnolia	<i>Magnolia grandiflora</i> 'Victoria'	30 x 20	Evergreen, flowers	Y
Magnolia	Galaxy Magnolia	<i>Magnolia</i> 'Galaxy'	30 x 20	Flowers	Y
Magnolia	Elizabeth Magnolia	<i>Magnolia</i> 'Elizabeth'	30 x 20	Flowers	
Magnolia	Sweetbay Magnolia	<i>Magnolia virginiana</i>	30 x 20	Evergreen, flowers	
Maple	Rocky Mountain Glow Maple	<i>Acer grandidentatum</i> 'Schmidt'	25 x 15	Fall color	
Oak	Bambooleaf Oak	<i>Quercus myrsinifolia</i>	35 x 25	Evergreen, wildlife	
Oak	Silverleaf Oak	<i>Quercus hypoleucoides</i>	50 x 35	Evergreen, wildlife	
Oak	Forest Green® Oak	<i>Quercus frainetto</i> 'Schmidt'	55 x 30	Wildlife	Y
Osage-orange	White Shield Osage-orange	<i>Maclura pomifera</i> 'White Shield'	35 x 35	Fall color	
Persian Ironwood	Vanessa Persian Ironwood	<i>Parrotia persica</i> 'Vanessa'	35 x 20	Fall color, unique bark	
Pine	Limber Pine	<i>Pinus flexilis</i> 'Vanderwolf's Pyramid'	35 x 15	Evergreen	
Redbud	Forest Pansy Redbud	<i>Cercis canadensis</i> 'Forest Pansy'	30 x 35	Flowers, unique foliage	
Silverbell	Carolina Silverbell	<i>Halesia carolina</i>	40 x 35	Flowers, fall color	

Medium-Statured Trees (continued)

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Tree Lilac	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	20 x 15	Flowers, unique bark	Y
Tree Lilac	Summer Charm® Tree Lilac	<i>Syringa pekinensis</i> 'DTR 124'	20 x 20	Flowers, unique bark	
Tree Lilac	China Snow® Tree Lilac	<i>Syringa pekinensis</i> 'Morton'	20 x 20	Flowers, unique bark	
Tree Lilac	Great Wall® Tree Lilac	<i>Syringa pekinensis</i> 'WFH2'	20 x 20	Flowers, unique bark	
Tree Lilac	Beijing Gold® Tree Lilac	<i>Syringa pekinensis</i> 'Zhang Zhiming'	20 x 20	Flowers, unique bark	
Tupelo	Gum Drop® Tupelo	<i>Nyssa sylvatica</i> 'JFS-PN Legacy1'	30 x 20	Fall color	
Tupelo	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	40 x 25	Wildlife, fall color	Y
Tupelo	Wildfire Black Tupelo	<i>Nyssa sylvatica</i> 'Wildfire'	40 x 25	Wildlife, fall color	
Tupelo	Black Tupelo	<i>Nyssa sylvatica</i> 'Firestarter'	40 x 25	Wildlife, fall color	
Tupelo	Red Rage® Black Tupelo	<i>Nyssa sylvatica</i> 'Haymanred'	40 x 25	Wildlife, fall color	
Tupelo	Sheri's Cloud Black Tupelo	<i>Nyssa sylvatica</i> 'Sheri's Cloud'	40 x 25	Wildlife, fall color	
Yellowwood	American Yellowwood	<i>Cladrastis kentukea</i>	40 x 40	Flowers, fall color	
Zelkova	City Sprite® Japanese Zelkova	<i>Zelkova serrata</i> 'JFS-KW1'	25 x 20	Fall color	Y

A detailed interactive worksheet is provided as part of the Urban Forest Management Plan project. "Sister Climate City Tree" refers to the analysis of Wilsonville's changing climate and the tree species that would be suitable based on tree species growing in a climate that will be similar to Wilsonville's 60 years from 2021. Consider [Appendix I](#) when planting trees for storm resistance.

Large-Statured Trees

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Beech	Roble Beech	<i>Nothofagus obliqua</i>	100 x 50	Wildlife	
Beech	Fernleaf Beech	<i>Fagus sylvatica</i> 'Asplenifolia'	60 x 50	Unique leaf	
Beech	Rivers Purple Beech	<i>Fagus sylvatica</i> 'Riversii'	60 x 50	Unique leaf, unique bark	
Beech	Copper Beech	<i>Fagus sylvatica</i> 'Atropurpurea'	60 x 50	Unique leaf	
Beech	Japanese Chinquapin	<i>Castanopsis cuspidata</i>	50 x 30	Wildlife, flowers, evergreen	
Beech	Tricolor Beech	<i>Fagus sylvatica</i> 'Roseomarginata'	40 x 30	Unique foliage, unique bark	
Birch	Heritage® River Birch	<i>Betula nigra</i> 'Heritage'	45 x 35	Unique bark	
Catalpa	Chinese Catalpa	<i>Catalpa ovata</i>	25 x 25	Flowers	
Catalpa	Hybrid Catalpa	<i>Catalpa xerubescens</i> 'Purpurea'	45 x 45	Wildlife, flowers	
Catalpa	Northern Catalpa	<i>Catalpa speciosa</i>	50 x 30	Wildlife, flowers	
Chestnut	Spanish Chestnut	<i>Castanea sativa</i>	70 x 50	Wildlife	
Coastal Redwood	Coast Redwood	<i>Sequoia sempervirens</i>	100 x 30	Evergreen, unique bark	
Cypress	Baker Cypress	<i>Cupressus bakeri</i>	50 x 35	Evergreen, unique bark	
Cypress	Bald Cypress	<i>Taxodium distichum</i>	65 x 30	Fall color	
Cypress	Shawnee Brave® Bald Cypress	<i>Taxodium distichum</i> 'Mickelson'	50 x 20	Fall color	
Dawn Redwood	Dawn Redwood	<i>Metasequoia glyptostroboides</i>	75 x 30	Fall color	
Douglas-Fir	Douglas-Fir	<i>Pseudotsuga menziesii</i>	100 x 30	Native, evergreen, wildlife	
Dove-Tree	Dove-Tree	<i>Davidia involucrata</i>	50 x 30	Fall color	
Elm	Triumph Elm	<i>Ulmus</i> 'Morton Glossy'	55 x 45	Fall color	
Elm	Accolade® Elm	<i>Ulmus</i> 'Morton'	60 x 50	Fall color	Y
Elm	Valley Forge American Elm	<i>Ulmus americana</i> 'Valley Forge'	65 x 55	Fall color	Y
Elm	Jefferson American Elm	<i>Ulmus americana</i> 'Jefferson'	65 x 55	Fall color	
Elm	Princeton American Elm	<i>Ulmus americana</i> 'Princeton'	65 x 55	Fall color	
Elm	Patriot Elm	<i>Ulmus</i> 'Patriot'	50 x 40	Fall color	
Elm	Emerald Sunshine® Elm	<i>Ulmus propinqua</i> 'JFS-Bierbach'	35 x 25	Fall color, unique bark	Y
Elm	Frontier Elm	<i>Ulmus carpinifolia</i> x <i>U. parvifolia</i> 'Frontier'	40 x 30	Fall color, unique bark	Y
False Cedar	Incense Cedar	<i>Calocedrus decurrens</i>	60 x 20	Evergreen	
False Cedar	Sekkan Sugi Japanese Cedar	<i>Cryptomeria japonica</i> 'Sekkan Sugi'	50 x 15	Evergreen	

Large-Statured Trees (continued)

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
False Cedar	Western Redcedar	<i>Thuja plicata</i>	70 x 25	Native, evergreen, wildlife, unique bark	
Filbert	Turkish Filbert	<i>Corylus colurna</i>	50 x 30	Wildlife	
Fir	Grand Fir	<i>Abies grandis</i>	80 x 25	Native, evergreen, wildlife	
Fir	Spanish Fir	<i>Abies pinsapo</i>	50 x 30	Evergreen	
Giant Sequoia	Giant Sequoia	<i>Sequoiadendron giganteum</i>	80 x 50	Evergreen, unique bark	
Ginkgo biloba	Princeton Sentry Ginkgo	<i>Ginkgo biloba</i> 'Princeton Sentry'	50 x 30	Unique leaf, fall color	Y
Ginkgo biloba	Emperor Ginkgo biloba	<i>Ginkgo biloba</i> 'Emperor'	50 x 40	Fall color	
Ginkgo biloba	Presidential Gold® Ginkgo biloba	<i>Ginkgo biloba</i> 'The President'	50 x 40	Fall color	
Ginkgo biloba	Autumn Gold Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Autumn Gold'	45 x 35	Fall color	Y
Ginkgo biloba	Golden Colonade® Ginkgo Biloba	<i>Ginkgo Biloba</i> 'JFS-UGA2'	40 x 25	Fall color	
Ginkgo biloba	Magyar Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Magyar'	45 x 35	Fall color	
Hackberry	Hackberry	<i>Celtis occidentalis</i>	50 x 45	Wildlife, fall color, unique bark	Y
Hemlock	Western Hemlock	<i>Tsuga heterophylla</i>	80 x 30	Native, evergreen	
Honeylocust	Halka® Honeylocust	<i>Gleditsia triacanthos</i> 'Christie'	45 x 40	Fall color	
Honeylocust	Shademaster Honeylocust	<i>Gleditsia triacanthos</i> 'Shademaster'	45 x 40	Fall color	
Honeylocust	Skyline® Honeylocust	<i>Gleditsia triacanthos</i> 'Skycole'	45 x 40	Fall color	
Horsechestnut	Red Horsechestnut	<i>Aesculus x carnea</i>	40 x 35	Flowers, wildlife	Y
Japanese Pagodatree	Japanese Pagodatree	<i>Styphnolobium japonicum</i>	65 x 40	Wildlife, flowers	
Katsura	Katsura	<i>Cercidiphyllum japonicum</i>	50 x 30	Fall color	
Kentucky Coffeetree	Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	60 x 40	Fall color	Y
Kentucky Coffeetree	Espresso™ Kentucky Coffeetree	<i>Gymnocladus dioicus</i> 'Espresso-JFS'	60 x 40	Fall color	Y
Kentucky Coffeetree	True North™ Kentucky Coffeetree	<i>Gymnocladus dioicus</i> 'UMNSynergy'	60 x 40	Fall color	Y
Linden	Greenspire® Littleleaf Linden	<i>Tilia cordata</i> 'PNI 6025'	50 x 40	Fall color	Y
Linden	Redmond American Linden	<i>Tilia americana</i> 'Redmond'	45 x 35	Fall color	Y
London Planetree	Exclamation™ London Planetree	<i>Platanus xacerifolia</i> 'Morton Circle'	55 x 40	Unique bark	

Large-Statured Trees (continued)

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
London Planetree	Bloodgood London Planetree	<i>Platanus x acerifolia</i> 'Bloodgood'	55 x 40	Unique bark	
London Planetree	Columbia London Planetree	<i>Platanus x acerifolia</i> 'Columbia'	55 x 40	Unique bark	
London Planetree	Yarwood London Planetree	<i>Platanus x acerifolia</i> 'Yarwood'	55 x 40	Unique bark	
London Planetree	Liberty London Planetree	<i>Platanus x acerifolia</i> 'Liberty'	55 x 40	Unique bark	
Madrone	Pacific Madrone	<i>Arbutus menziesii</i>	80 x 25	Evergreen, flowers, unique bark	
Magnolia	Cucumber Magnolia	<i>Magnolia acuminata</i>	50 x 40	Flowers, unique leaf	
Maple	Autumn Blaze Maple	<i>Acer x freemanii</i> 'Jeffersred'	55 x 40	Fall color	
Maple	Scarlet Sentinel Maple	<i>Acer rubrum</i> 'Scarsen' <i>Acer x freemanii</i> 'Scarsen'	45 x 25	Fall color	
Maple	Bigleaf Maple	<i>Acer macrophyllum</i>	75 x 75	Fall color	
Maple	October Glory Red Maple	<i>Acer rubrum</i> 'October Glory'	50 x 40	Fall color	Y
Maple	Red Sunset Maple	<i>Acer rubrum</i> 'Franksred' RED SUNSET	50 x 40	Fall color	Y
Maple	Hedge Maple	<i>Acer campestre</i>	35 x 35	Unique leaf	
Maple	Armstrong Red Maple	<i>Acer rubrum</i> 'Armstrong'	70 x 15	Fall color	Y
Maple	Green Column Black Maple	<i>Acer saccharum</i> subsp. <i>nigrum</i> 'Green Column'	70 x 30	Fall color	
Maple	Queen Elizabeth Hedge Maple	<i>Acer campestre</i> 'Evelyn'	35 x 35	Fall color	
Myrtle	Oregon Myrtle	<i>Umbellularia californica</i>	60 x 60	Evergreen, wildlife	
Oak	Blue Oak	<i>Quercus douglasii</i>	70 x 45	Wildlife	
Oak	Coast Live Oak	<i>Quercus agrifolia</i>	80 x 35	Evergreen, wildlife	Y
Oak	Interior Live Oak	<i>Quercus wislizenii</i>	50 x 40	Evergreen, wildlife	
Oak	Cork Oak	<i>Quercus suber</i>	60 x 60	Evergreen, wildlife	Y
Oak	Sawtooth Oak	<i>Quercus acutissima</i>	50 x 40	Wildlife	Y
Oak	Holly Oak	<i>Quercus ilex</i>	50 x 50	Evergreen, wildlife	Y
Oak	California Black Oak	<i>Quercus kelloggii</i>	60 x 45	Wildlife, fall color	
Oak	Willow Oak	<i>Quercus phellos</i>	50 x 40	Wildlife, fall color	
Oak	Bur Oak	<i>Quercus macrocarpa</i>	70 x 45	Wildlife	

Large-Statured Trees (continued)

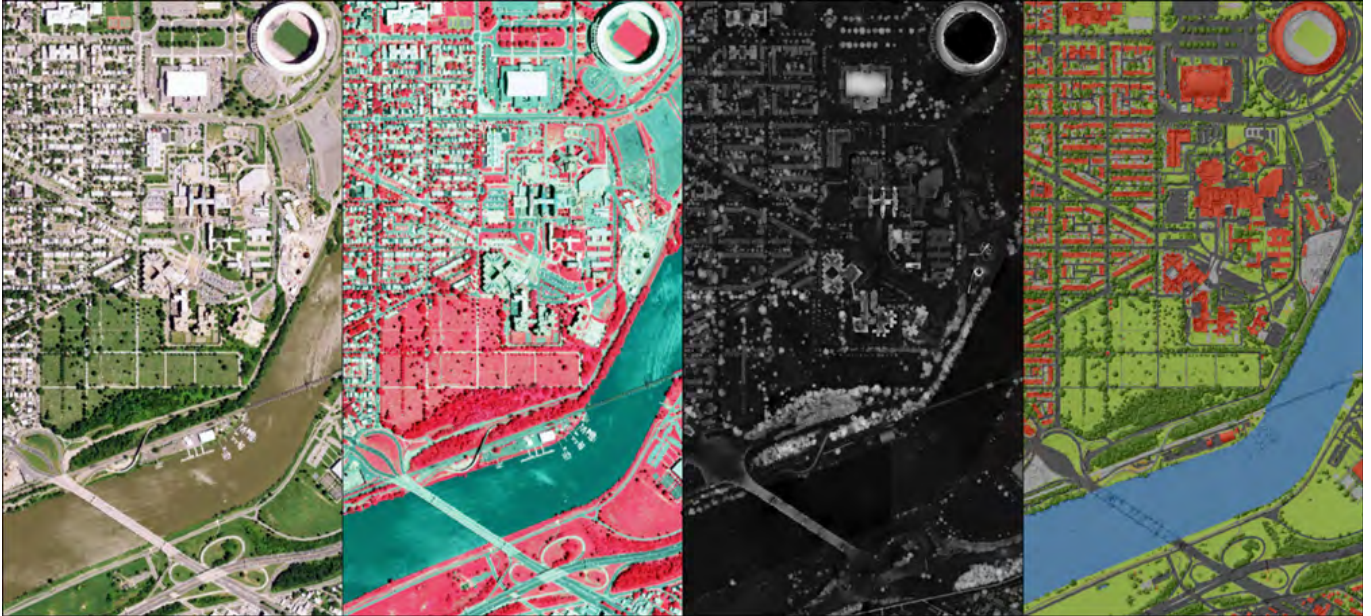
TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Oak	Chinkapin Oak	<i>Quercus muehlenbergii</i>	50 x 45	Wildlife	
Oak	Red Oak	<i>Quercus rubra</i>	50 x 45	Wildlife, fall color	Y
Oak	Shumard Oak	<i>Quercus shumardii</i>	75 x 55	Wildlife, fall color	Y
Oak	Canyon Live Oak	<i>Quercus chrysolepis</i>	55 x 30	Evergreen, wildlife	
Oak	Canby Oak	<i>Quercus canbyi</i>	45 x 40	Evergreen, wildlife	
Oak	Hungarian Oak	<i>Quercus frainetto</i>	100 x 60	Wildlife, fall color	Y
Oak	Valley Oak	<i>Quercus lobata</i>	50 x 40	Wildlife	Y
Oak	Southern Live Oak	<i>Quercus virginiana</i>	70 x 70	Evergreen, wildlife	
Oak	Swamp White Oak	<i>Quercus bicolor</i>	60 x 50	Wildlife	
Oak	Oregon White Oak	<i>Quercus garryana</i>	65 x 45	Native, wildlife	
Oak	Oracle Oak	<i>Quercus ×morehus</i>	50 x 30	Wildlife	
Oak	Monterrey Oak	<i>Quercus polymorpha</i>	55 x 50	Evergreen, wildlife	
Oak	Scarlet Oak	<i>Quercus coccinea</i>	60 x 45	Wildlife, fall color	
Pine	Willamette Valley Ponderosa	<i>Pinus ponderosa x benthamiana</i>	150 x 30	Unique bark, evergreen	
Pine	Deodar Cedar	<i>Cedrus deodara</i>	50 x 40	Evergreen	
Pine	Cedar of Lebanon	<i>Cedrus libani</i>	60 x 60	Evergreen	
Pine	Atlas Cedar	<i>Cedrus atlantica</i>	60 x 40	Evergreen	
Pine	Bosnian Pine	<i>Pinus heldreichii</i> (<i>Pinus leucodermis</i>)	65 x 30	Evergreen, wildlife	
Pistache	Chinese Pistache	<i>Pistachia chinensis</i>	30 x 25	Fall color	Y
Tanoak	Tanoak	<i>Notholithocarpus densiflorus</i>	40 x 30	Evergreen	
Tuliptree	Tuliptree	<i>Liriodendron tulipifera</i>	70 x 40	Fall color	Y
Walnut	English Walnut	<i>Juglans regia</i> 'Carpathian'	50 x 50	Wildlife, unique bark	
Zelkova	Wireless® Japanese Zelkova	<i>Zelkova serrata</i> 'Schmidtlow'	25 x 30	Fall color	Y
Zelkova	Village Green® Japanese Zelkova	<i>Zelkova serrata</i> 'Village Green'	40 x 30	Fall color, unique bark	Y
Zelkova	Green Vase® Japanese Zelkova	<i>Zelkova serrata</i> 'Green Vase'	40 x 30	Fall color, unique bark	Y

A detailed interactive worksheet is provided as part of the Urban Forest Management Plan project. “Sister Climate City Tree” refers to the analysis of Wilsonville’s changing climate and the tree species that would be suitable based on tree species growing in a climate that will be similar to Wilsonville’s 60 years from 2021. Consider [Appendix I](#) when planting trees for storm resistance.

APPENDIX B. TREE CANOPY GOAL SETTING GUIDANCE

It is recommended the City of Wilsonville conduct a high-resolution Tree Canopy Assessment (TCA)—often referred to as an Urban Tree Canopy (UTC) assessment—for a baseline assessment of the Citywide urban forest across all boundaries. This assessment would identify the extent of land cover types such as tree canopy, vegetative plantable space (grass or turf), impervious surfaces (parking lots, driveways, sidewalks), and other desired land cover.

About Urban Tree Canopy Assessments



Like other valued assets, urban trees require proper planning and management to withstand pressures from development, drought, fire, pests/diseases, storms, and pollution. This entails natural resource staff (municipal/private/nonprofit/academia), various plans, and tree protection codes, regulations, or ordinances. Progressive cities like Wilsonville can leverage technologies like i-Tree, multispectral imagery, LiDAR, and Tree Canopy Assessments to fuel their advocacy efforts, develop green infrastructure protection strategies, and inform management and master plans.

Tree canopy assessments provide a top-down view of land cover types across various spatial scales. The City can hire consultants or conduct an assessment in-house using GIS technologies to establish an accurate baseline of tree canopy extent and available planting areas across various geopolitical and planning boundaries, identify locations that would benefit from increased tree plantings to address environmental and health issues, and provide GIS data, decision support tools, and report content including methods, findings, maps, and broad recommendations. The process and outcomes would support land cover and land development strategies that protect and enhance tree canopy, benefiting generations to come.

The City should acquire the deliverables in a number of formats that seamlessly translate into the success of the City's urban forest planning, modeling, and implementation to facilitate ongoing community conversations and support the development of plans, policies, recommendations, and management objectives with the City's many partners.

A canopy cover assessment and analysis for Wilsonville would:

- Establish a known, documented, and accurate baseline of the City's tree canopy on public and private lands using the latest technologies and assessment methodologies.
- Integrate with the City's street and park tree inventory data to describe the urban forest's composition and structure.
- Inform urban forestry, conservation, and green infrastructure planning processes.

Setting Canopy Goals

To guide urban forestry efforts and raise awareness, communities with this data often set tree canopy cover goals based on the existing tree canopy cover amount and the aim to provide an equitable distribution of canopy cover and associated benefits. For Wilsonville, the planning consultants provided the guidance to establish recommended tree canopy goal tiers and a Citywide canopy goal once the UTC is completed. Tree canopy goals can be accomplished by implementing actions in the City's Urban Forest Management Plan through supporting analyses and strategies should be developed from the UTC assessment. [Appendix C](#) provides tree planting prioritization guidance to support implementation of tree canopy goals that Wilsonville establishes. Progress towards these canopy goals should be tracked, measured, and shared to guide urban forest management and maintain community interest and support.

Canopy Goals - Purpose and Approach

Across the U.S. cities are setting goals— some based on careful study of current canopy, community needs, and availability of planting space, other base their goals on the principle that more trees are better than fewer, set ambitious campaign goals, then work to mobilize efforts to meet it. Generally, the U.S. Forest Service recommends canopy cover of 40-60 percent in northwestern communities and in 1997, the American Forests organization established a benchmark of 40 percent after analyzing the tree canopy in dozens of cities from 1992 to 1997 and working closely with the research community. While incredibly valuable and groundbreaking at the time, technology and research have significantly evolved over the past 20 years, leading to a consensus that more nuanced approaches to canopy goal setting are necessary. Supporting this statement, U.S. Forest Service Research Forester Greg McPherson of the Pacific Southwest Research Station adds, "Tree canopy cover targets are difficult to specify broadly because the opportunities to create canopy are highly variable among cities, even within a climatic region or land use class."

- Tree canopy targets are best developed for specific cities and should consider constraints to creating canopy such as:
- Development densities (i.e., dense development patterns with more impervious surfaces have less opportunity for cover);
- Land use patterns (i.e., residential areas may have more opportunity for canopy than commercial areas, but canopy cover tends to be less in residential areas of disadvantaged communities versus wealthy ones);
- Ordinances (i.e., parking lot shade ordinances promote cover over some impervious areas); and
- Climate (i.e., canopy cover in desert cities is often less than tropical cities).

Within those parameters, quantifiable data can be used so a tree canopy goal achieves specific objectives, such as reaching the canopy percentage necessary to reduce urban heat island temperatures to a specific range, or to reduce stormwater runoff by a projected amount. According to a national analysis by U.S. Forest Service researchers, a 40-60 percent urban tree canopy is attainable under ideal conditions in forested states. Twenty percent in grassland cities and 15 percent in desert cities are realistic baseline targets, with higher percentages possible through greater investment and prioritization.

It is important to note, however, that urban tree canopy percentage is just one of many criteria to consider. A robust tree canopy comprised of largely invasive species, for example, is not a healthy urban forest. Age and species diversity, condition of trees and equitable distribution across income levels, to name a few, should also be considered (Leahy, American Forests, 2017).

Citywide and Zoning Type Tree Canopy Goals

The following presents the recommended approach to canopy goal setting though the City and partners should evaluate and refine these for approval by staff and City Council.

For the City of Wilsonville, the development of canopy goals should be driven by tree canopy cover data and findings from the 2021 Urban Forest Management Plan such as benchmarking research, analysis of existing and potential resources, City input, and community feedback.

Using this integrated approach, the City of Wilsonville can establish an ambitious and achievable canopy goal. The City must increase canopy by planting the appropriate number of trees per year based on calculations that can be provided as part of the UTC assessment. These tree plantings should be conducted through shared partnerships between the City, stakeholders, and the residents of Wilsonville. Most likely, the UTC assessment will show the residential property and parklands have the most existing tree canopy as well as the most opportunity (space) for planting new trees. Achieving a canopy goal would provide additional ecosystem services and benefits that can be calculated based on industry research and practices. Considerations when calculating these benefits include:

- A no-net-loss strategy, meaning the number of trees removed on private property or through development are replaced.
- Trees that mature into large canopy-bearing trees are planted wherever feasible.
- Includes City-led, partner, volunteer, and private tree plantings.
- Assumes a potential for young tree mortality post-planting.

The following provides a calculated process for establishing canopy goals for Wilsonville:

The amount of tree canopy cover and available planting space should be analyzed and summarized by an applicable planning geography such as City Zoning Type, Council District, or Focus Area. Using Zoning Type as an example, a percentage of total possible planting area (vegetative and impervious) to be planted should be assigned to each Zoning Type based on the total amount of plantable space, the existing canopy, limitations of the Zoning Type, available resources, and other City needs. This approach realizes the unique opportunities, limitations, extent, resources, and characteristics found among various city zoning classes. Canopy goals and planting targets must not be standardized across the City, they should be specific to the area. This method was applied and summarized in the following table as an example for the City to review and adopt upon completion of an Urban Tree Canopy Assessment.

Table 31. Example of the zoning types and possible planting area to establish canopy goals

ZONING TYPE	TOTAL POSSIBLE PLANTING AREA (%)	% OF TOTAL POSSIBLE PLANTING AREA TO BE PLANTED
Agriculture	42%	6%
City Property	45%	25%
Commercial	38%	33%
Downtown	4%	15%
Industrial	37%	20%
Mixed Use	35%	10%
Parkland	50%	30%
Residential	43%	24%
Right-of-Way	16%	10%

Using software such as PlanIT Geo’s TreePlotter CANOPY software application, GIS, and Microsoft Excel, the number of trees required to achieve the planting target can be calculated based on total land area of the Zoning Type, existing tree canopy percent and acreage, total available planting area, and plantable space target. To calculate total added benefits, the U.S. Forest Service’s i-Tree research and suite of tools can be utilized. The following table summarizes the example results of this recommended approach.

Table 32. Example tree canopy goals and planting targets by Zoning Type

ZONING TYPE	TOTAL POSSIBLE PLANTING AREA (%)	% OF TOTAL POSSIBLE PLANTING AREA TO BE PLANTED	TREE CANOPY GOAL	NO. TREES TO REACH GOAL	ANNUAL ADDED ECOSYSTEM BENEFITS
Agriculture	42%	6%	40%	459	\$5,207
City Property	20%	25%	12%	569	\$6,456
Commercial	39%	33%	18%	5,588	\$63,372
Downtown	4%	15%	6%	14	\$164
Industrial	49%	20%	16%	15,002	\$170,126
Mixed Use	21%	10%	24%	1,263	\$14,324
Parkland	50%	30%	50%	2,626	\$29,775
Residential	43%	24%	32%	5,460	\$61,918
Right-of-Way	36%	20%	30%	3,000	\$34,500
TOTAL				33,981	\$385,842

Once the City has established planting targets and the number of trees required to achieve the targets by Zoning Type or other planning boundary, the total Citywide tree canopy goal will be discovered. This ground up approach establishes feasible canopy goals based on local constraints and opportunities rather than creating a lofty Citywide goal that does not fully understand the planting demands at a local level.

APPENDIX C. TREE PLANTING PRIORITIZATION GUIDANCE

Tree planting is critical to the health and longevity of Wilsonville's urban forest. However, tree planting should be methodically planned with a specific purpose in mind. One of the best ways to do this is to define and adopt an official planting strategy to be included in a planting strategy. The first step in developing a planting strategy is to define the goals. Often times, this goal aligns with a citywide tree canopy cover goal and the timeframe to achieve it.

Key Considerations for a Tree Planting Plan

A planting strategy is crucial to urban forest sustainability and should be based on data, available resources, partnerships, and community input. Some of the more common goals that define a planting strategy include:

- **Equitable Distribution.** With this goal, priority of planting is given to areas determined to be the most in need based on the goal of an even distribution of benefits trees provide to all residents. Beyond equal distribution, an area defined to be "in-need" is determined locally and can be a combination of priorities or focused on one specific priority.
- **Areas of Predicted Future Canopy Loss.** Older neighborhoods with a more established tree canopy can anticipate significant losses in future years. One method to planning future planting efforts is to target these replanting areas now to aid in a less drastic succession of trees over time.
- **Benefits-Based Plantings.** Areas that have a specific issue like poor air or water quality, or a large percentage of older residents sensitive to heat stress, may work to plant trees based on the anticipated benefits in years to come.
- **Regular, Methodical Planting in Concert with Cyclical Tree Care Efforts.** Planting may be most effective if it follows the City's inventory, and pruning and removal cycle of care. Regular methodical planting can also be considered a worthy goal.
- **Species Diversity.** Planting strategies should not only identify where to plant but also what is being planted. Species diversity in Wilsonville is currently an issue, with high levels of oaks and maples. A policy on this issue should be included in the strategy.
- **Partners in Planting.** Wilsonville's planting strategy should also include who is doing the planting. This work can be done by City partners, neighborhood groups, developers, and other interested parties, thus allowing the City to focus on specialized care (pruning, removals, assessments).

Utilizing Urban Tree Canopy Assessment Data for Planting Priorities

Once the City finalizes local and Citywide tree canopy goals, it is recommended to establish priority areas based on a variety of themes and community needs. Themes may include ownership type (public and private), areas of low existing tree canopy, and greatest amount of available planting space while other themes may address air quality, stormwater reduction and water quality. Others may evaluate opportunities to address disadvantaged areas, densely populated regions, and human health factors such as asthma cases, median age, and mental health. In any planting prioritization scenario, the scale may include U.S. Census Bureau Census Blocks, Zoning Type, Focus Areas, and Citywide.

A series of recommended prioritization techniques is provided that should be considered once an Urban Tree Canopy (UTC) assessment is completed.

- Planning areas with the most opportunity. This approach may include areas with less than the average Citywide tree canopy cover and greater than average total possible planting area.

- Census Blocks where trees can mitigate air quality issues. Street and rights-of-way corridors typically have higher concentrations of particulate matter. Trees can be planted along roads to absorb vehicle exhaust and reduce pollution. This approach would analyze areas with the highest percent of road surface area. Higher concentrations of road surfaces may indicate poor air quality.
- Tree planting in Census Blocks to reduce stormwater runoff. Trees can be integrated to help manage stormwater, specifically when targeting impervious surfaces. This approach may utilize data such as available planting area on impervious surfaces and available planting areas within 100 feet of all surface water bodies.
- Tree planting in underserved or disadvantaged Census Blocks. Tree canopy is positively correlated with higher median income. Planting trees in lower income communities can support environmental equity. This approach would utilize Census Bureau data such as the percentage of residents living below the poverty level.
- Tree plantings to offset population density. Larger numbers of people will benefit from the ecosystem services that increased tree canopy coverage can provide.
- Tree plantings to improve human health. Planting trees can be a cost-effective way of improving a city's overall public health. Health reports with information about the reported asthma cases and mental health concerns can be utilized to target tree planting efforts.

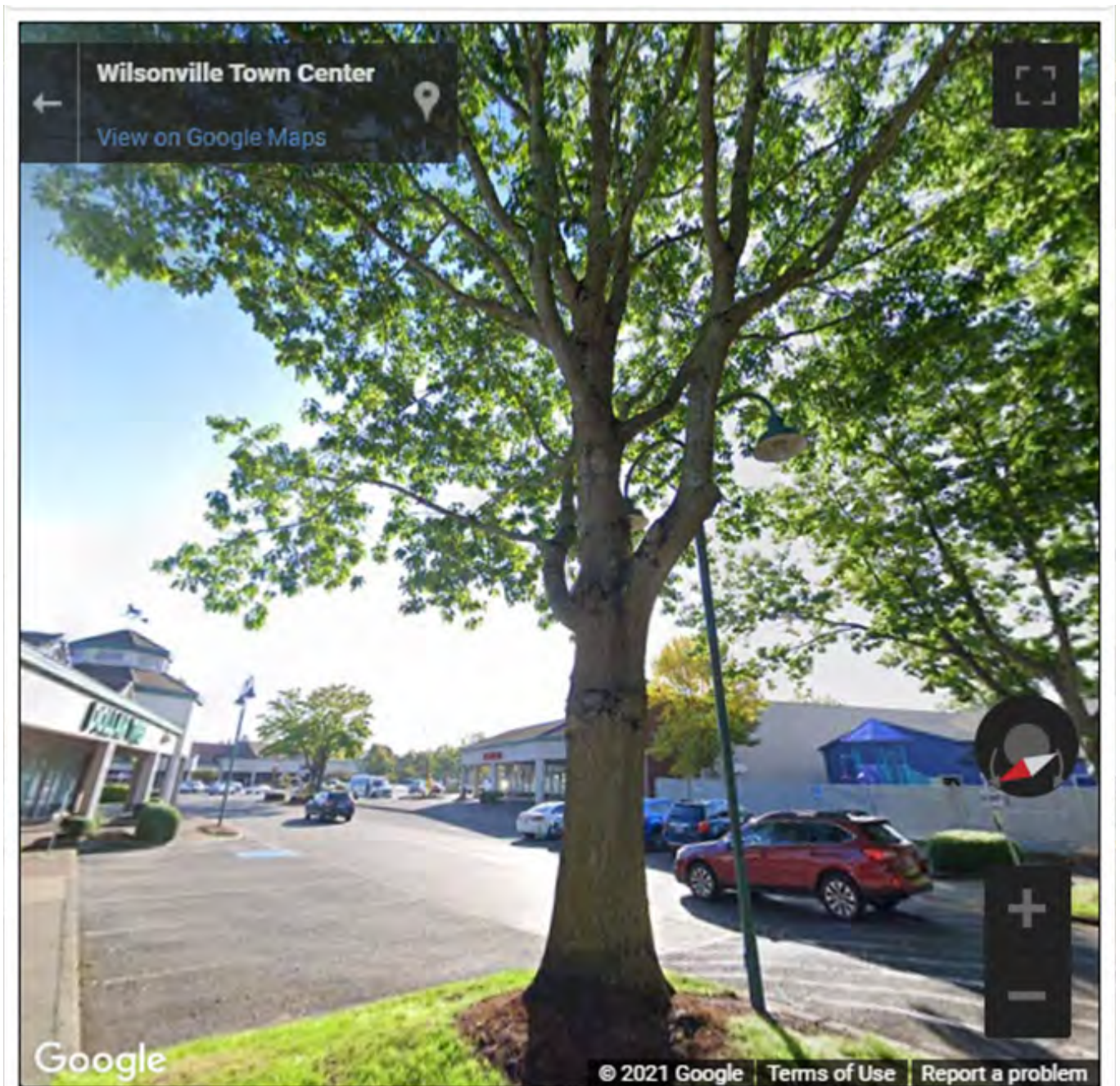
Suggested policies on planting and tree preservation are provided in Wilsonville's Urban Forest Management Plan. These policies include references to aging canopy to emphasize that every tree the City removes must be replaced, and to ensure that annual inventory work includes cataloging future planting sites, and expediting tree planting work as planting funds become available. Further analysis is also recommended to analyze the impact of development (losses, canopy saved, replacement plantings in developments). Results of that analysis will further define an effective planting program.

Larger trees provide more services to the community. They intercept more stormwater, remove more air pollution, provide more energy savings, and sequester more carbon. However, it is important to understand that this increase in services is exponential. For this reason, preservation of large trees should be a higher priority for communities than planting alone. Therefore, Wilsonville should utilize the guidance provided in [Appendix D](#) and [Appendix E](#) regarding tree preservation and replacement for Town Center's trees and apply this methodology Citywide.

Wilsonville's vision for the urban forest should be to maintain and enhance the services trees provide to residents. Therefore, prioritizing care for existing trees (over planting new trees) is critical for a healthy community.

APPENDIX D. PRESERVATION OF TREES IN FOCUS AREAS

To inform the urban forestry goals and strategies specific to Town Center and Charbonneau, a comprehensive inventory of trees was completed by International Society of Arboriculture (ISA) Certified Arborists. Using TreePlotter inventory management software and the City’s desired set of attributes, each tree in Town Center and Charbonneau was inventoried, mapped, and assigned attributes for fields such as: Location (Lat/Long), Address, Land Use, Growing Space, Tree Common Name, Tree Scientific Name, Diameter at Breast Height (measured at 4.5 feet above grade), Height, Condition, Observations, Maintenance Need, and Date Added.



Example of a tree recommended for preservation in Town Center (tier 1)

Figure 13. Map displaying the size classes of trees inventoried in Town Center

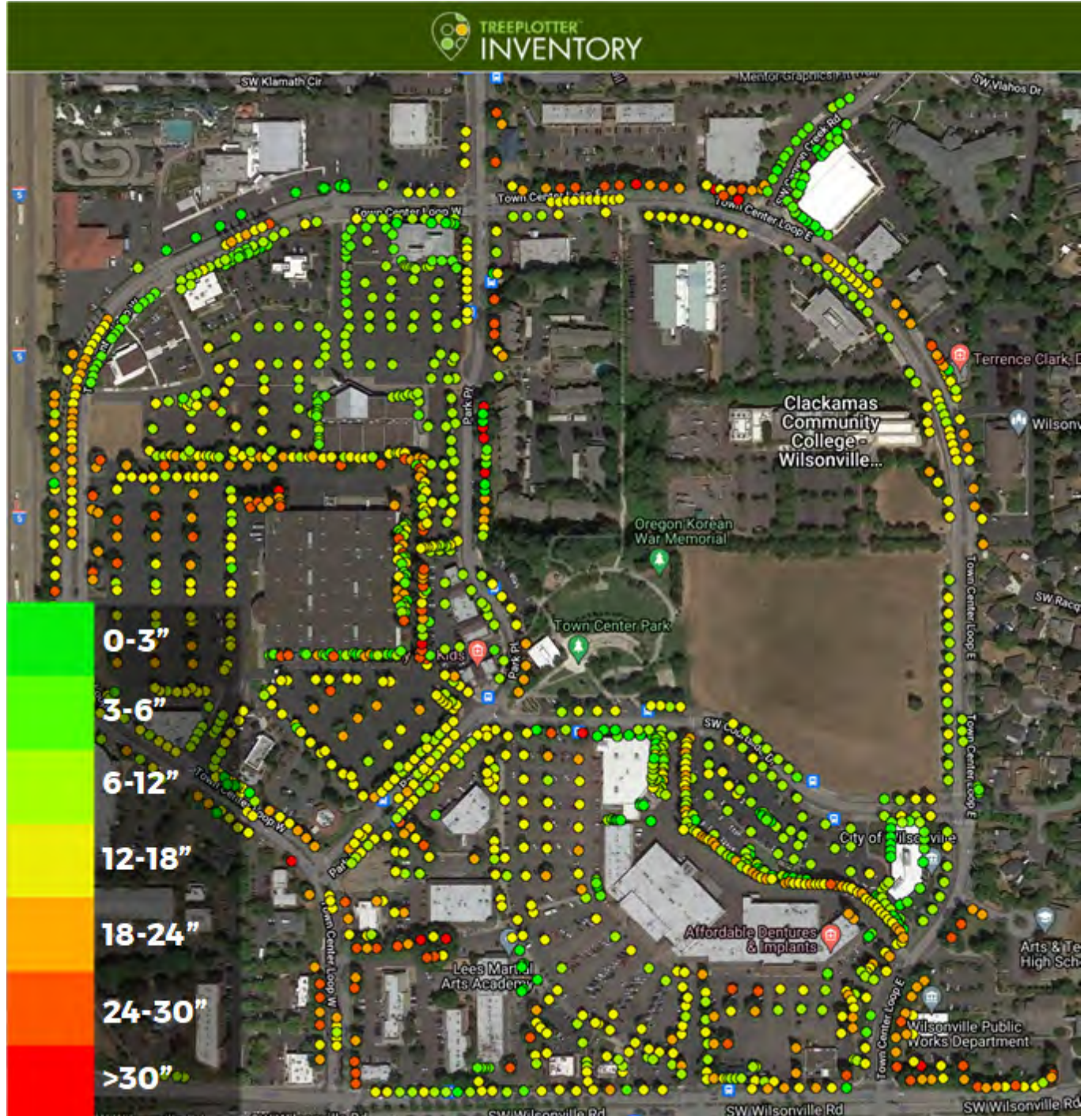


Figure 14. Map displaying the most common tree species inventoried in Town Center

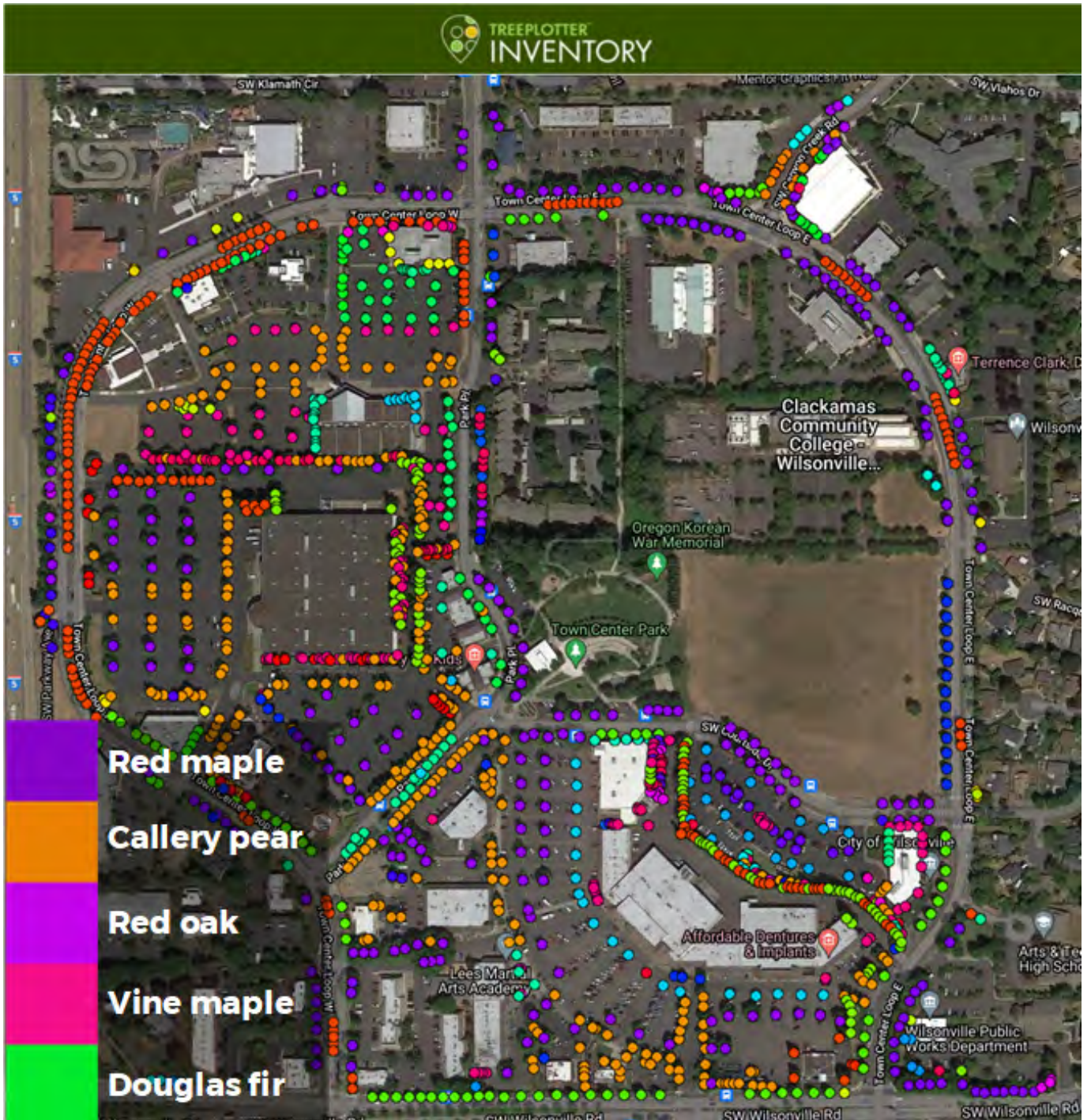


Figure 15. Map displaying the condition of trees inventoried in Town Center

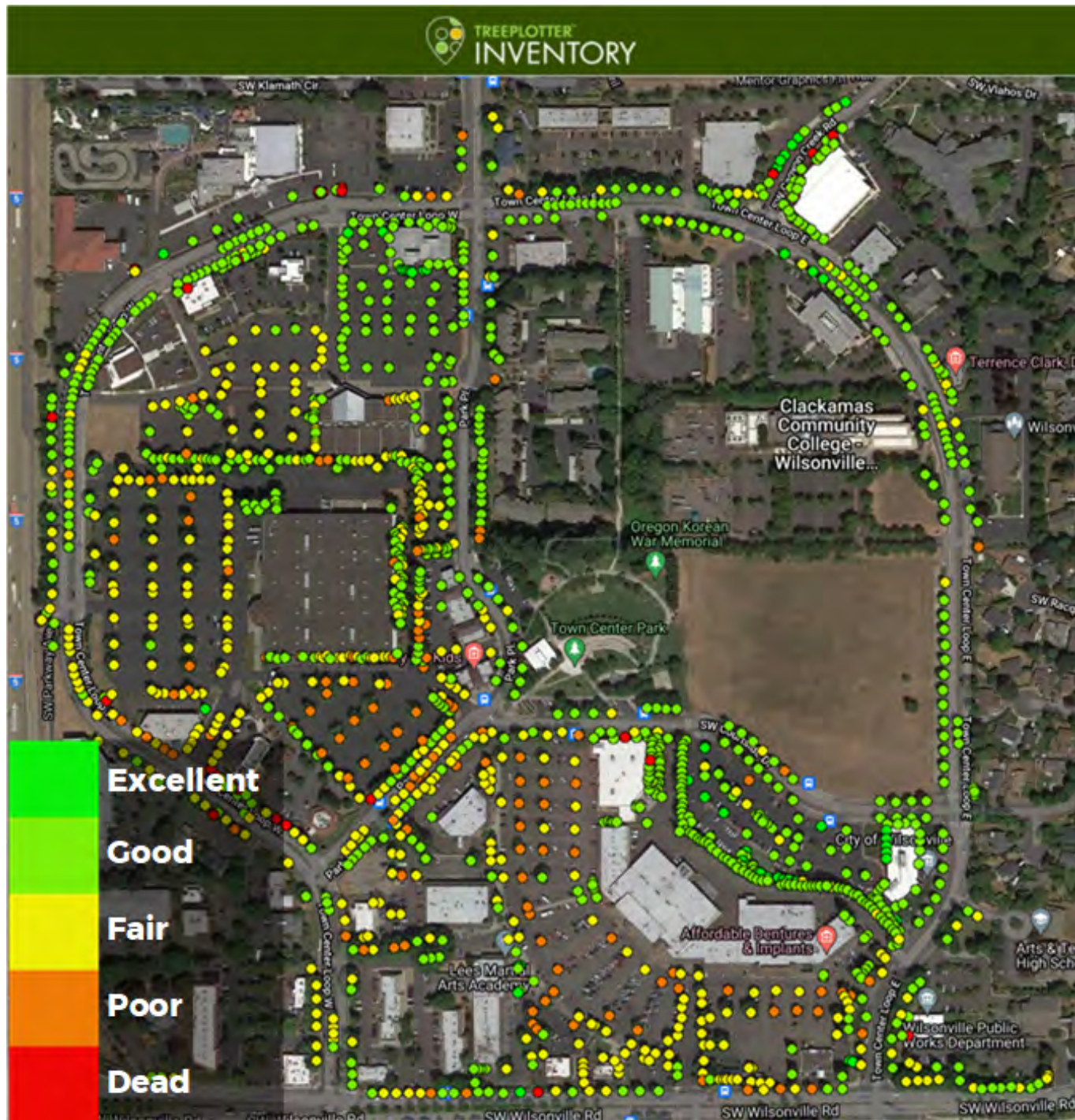


Figure 17. Map displaying the most common tree species inventoried in Charbonneau

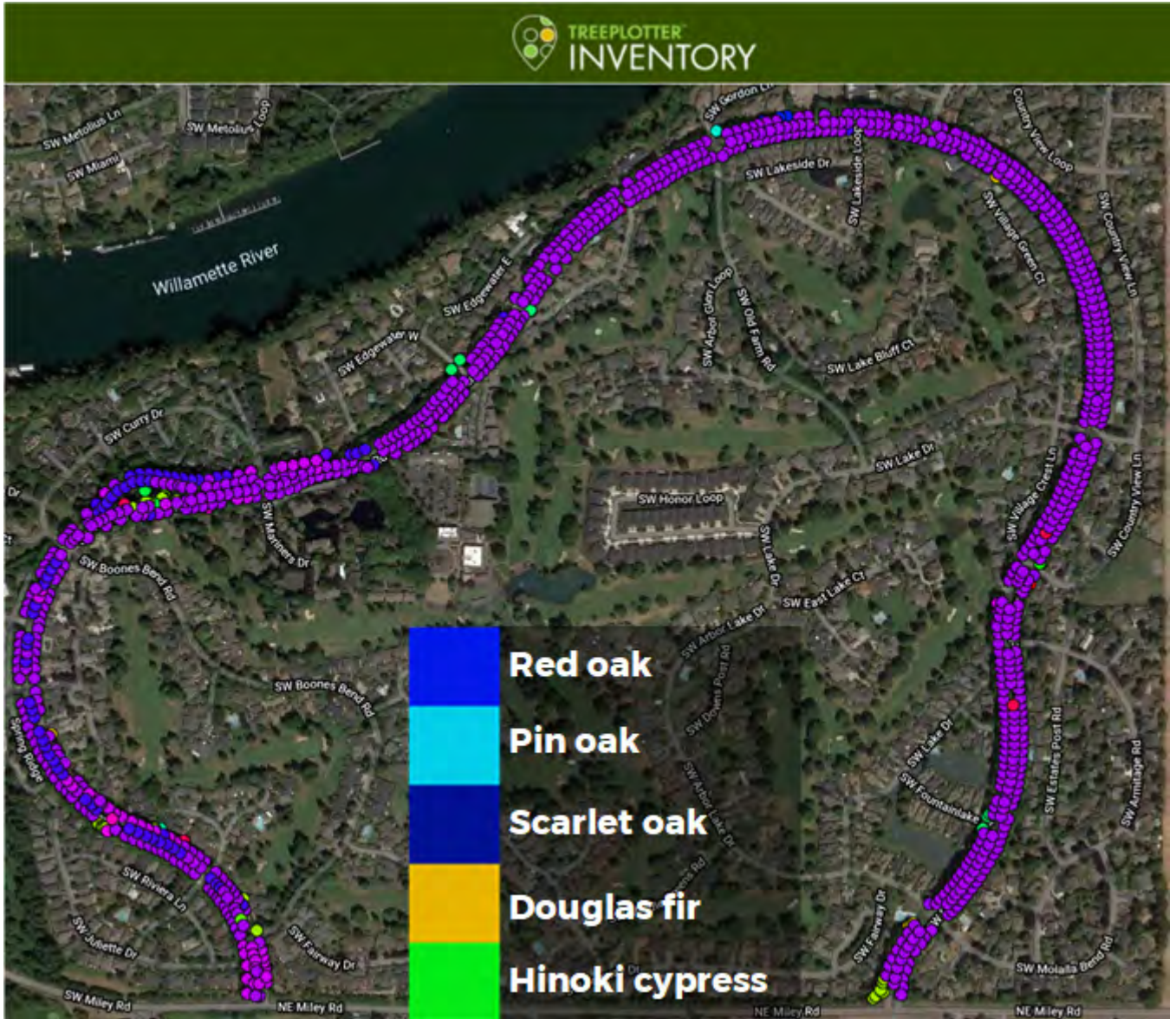
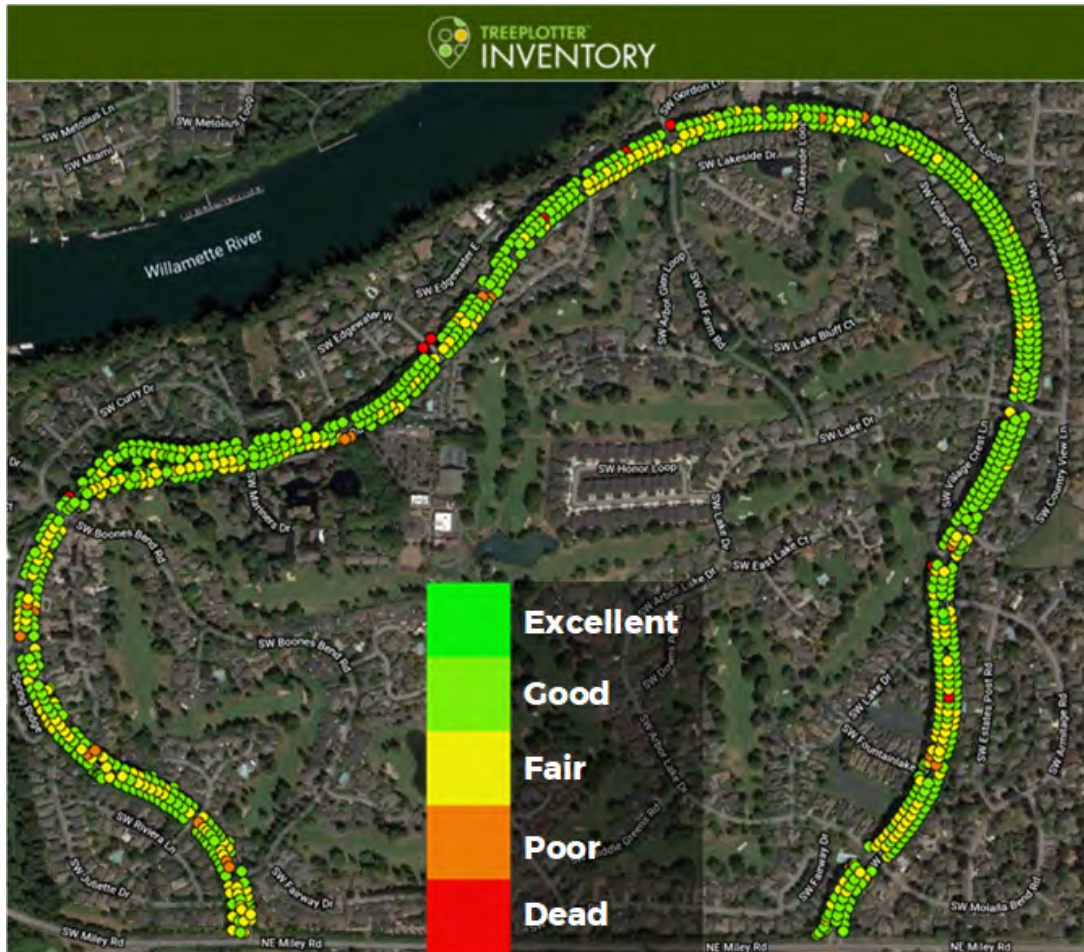


Figure 18. Map displaying the condition of trees inventoried in Charbonneau



Trees for Preservation in Town Center

From the data collected, criteria for tree preservation were established and tiers for preservation were set. Considerations for these tiers included condition, size, location, function, performance, and observations. Based on these considerations, the following tree preservation tiers were established:

Table 33. Tree preservation tiers for Town Center

TIER #	TIER NAME	TIER DESCRIPTION	TREE COUNT
1	Gold: Best Trees	Largest healthy trees	11 trees
2A	Silver (A): Large, Healthy, Spacious Contributing Trees	Large (24-30") healthy trees in large growing space providing more than the average (>\$145 annual ecosystem benefits)	12 trees
2B	Silver (B): Large Contributing Trees	Trees providing more annual benefits than the average (\$145) and 24-30" in DBH	12 trees
2C	Silver (C): Large and Healthy Trees	Trees 24-30" in DBH in good condition	23 trees
3	Bronze: High Performers	Tree species with high Relative Performance Indices (RPI) (Japanese maples, red oaks) in good condition with no concerning observations	19 trees
4	Tin: Healthy Trees	All trees in good condition and no concerning observations	427 trees
TOTAL			504 Trees

Trees to be preserved by tier are provided as a GIS file and as a custom map URL in the City’s TreePlotter application here: <https://pg-cloud.com/WilsonvilleOR/?scenario=TC-All-Tiers-Trees>

The tree preservation tiers established require additional information, studies, and considerations before implementing. Tree preservation cannot be given a broad brush approach. Planned redevelopment in Town Center will have an impact on tree preservation. It is for this reason among others that the preservation of trees was classified into multiple tiers. Tier 1 and Tier 2(A-C) should be given the highest priority due to the size, location, condition, and associated ecosystem benefits of the trees in these tiers. Tier 3 and Tier 4 should be evaluated on a case-by-case basis as these are trees that are recommended for preservation though there is an understanding that other projects, plans, goals, and desired functions exist in the focus areas. Trees in question should be assessed to determine the health, quality, size, life expectancy, and function before deciding on preservation or removal. Tree preservation recommendations are provided in order to sustain and enhance the urban forest while aligning with Citywide goals for more canopy cover and tree equity (see [Appendix B](#)).

Figure 19. Map displaying all recommended trees for preservation in Town Center (2021)

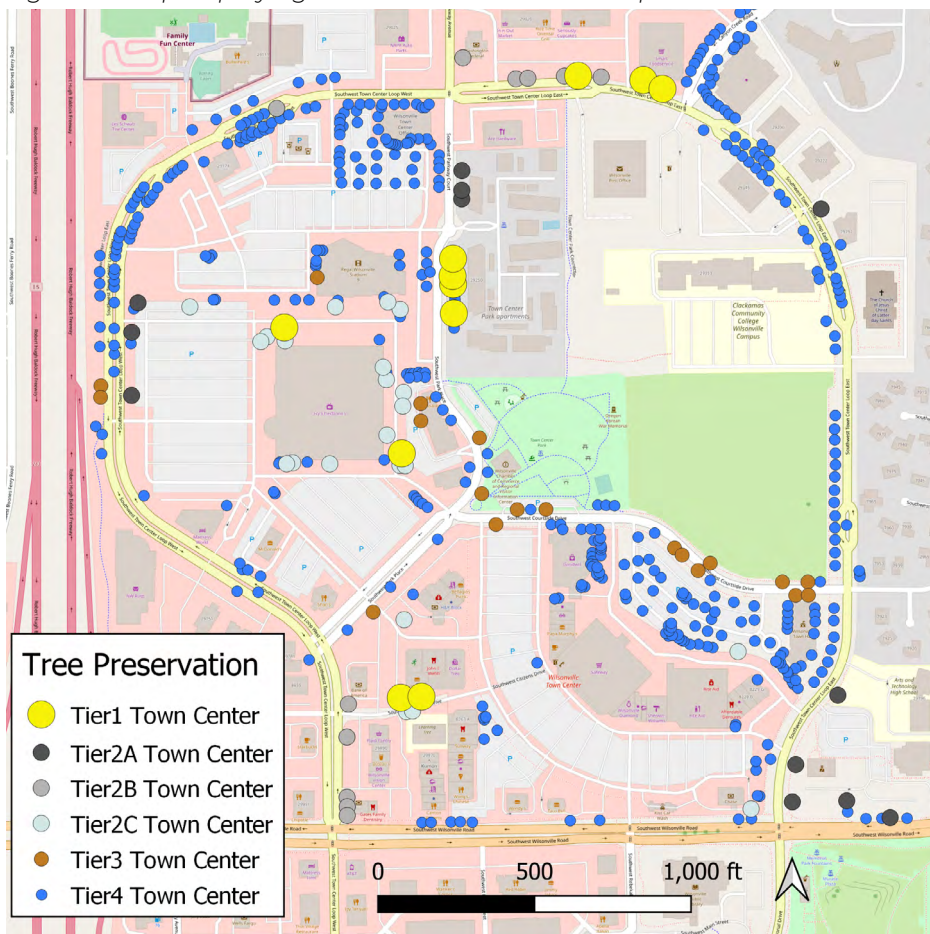


Table 34. Annual ecosystem benefits and services of trees in preservation tiers for Town Center

						
	OVERALL	ENERGY SAVINGS	AIR QUALITY	PROPERTY VALUE	CARBON SERVICES	STORMWATER
	\$45,385	\$2,166	\$689	\$32,988	\$966	\$5,392
Annually		34k kWh	354 lbs	Added value	64k lbs C seq.	500k gallons

Characteristics of the Trees for Preservation in Town Center

Figure 20. Top ten tree species in Town Center tree preservation tiers

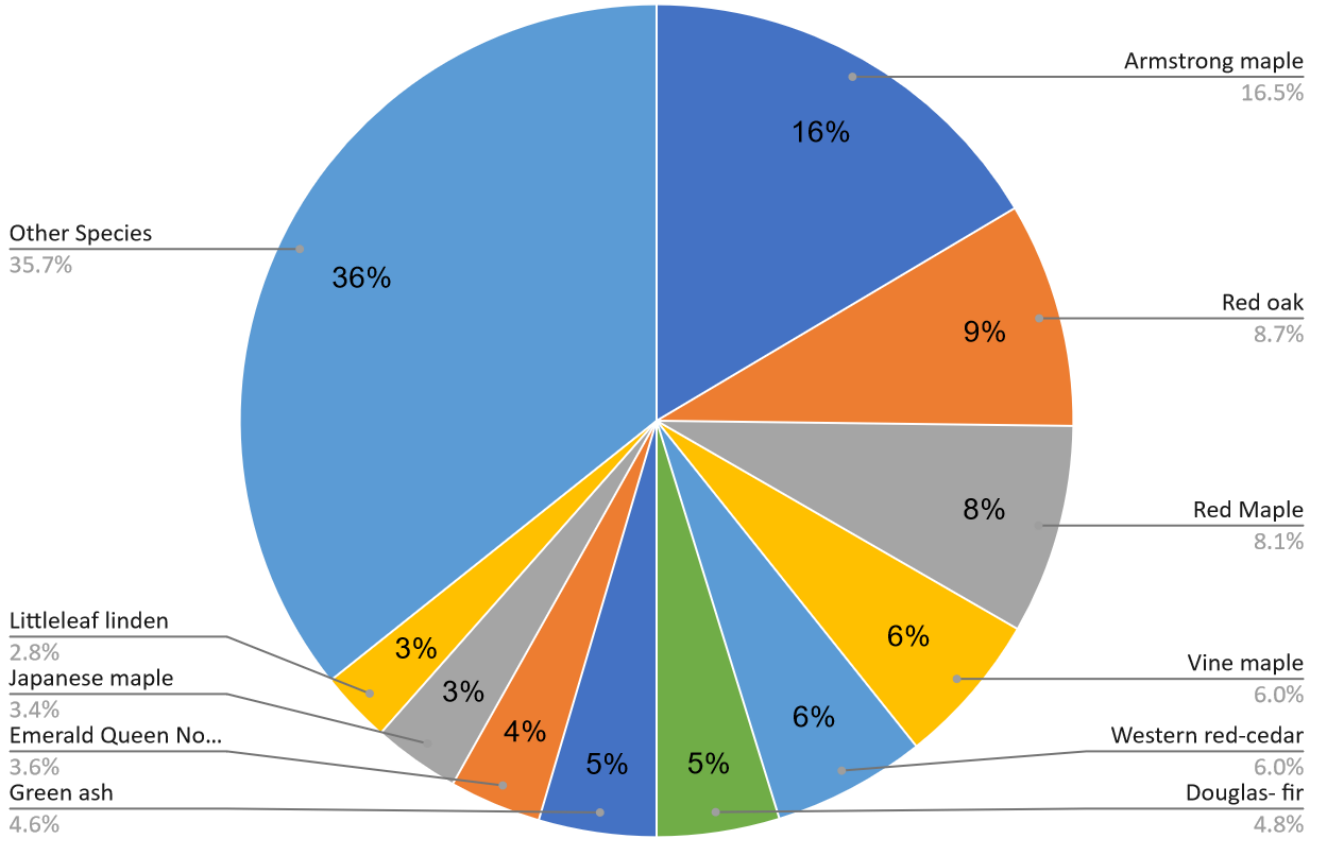
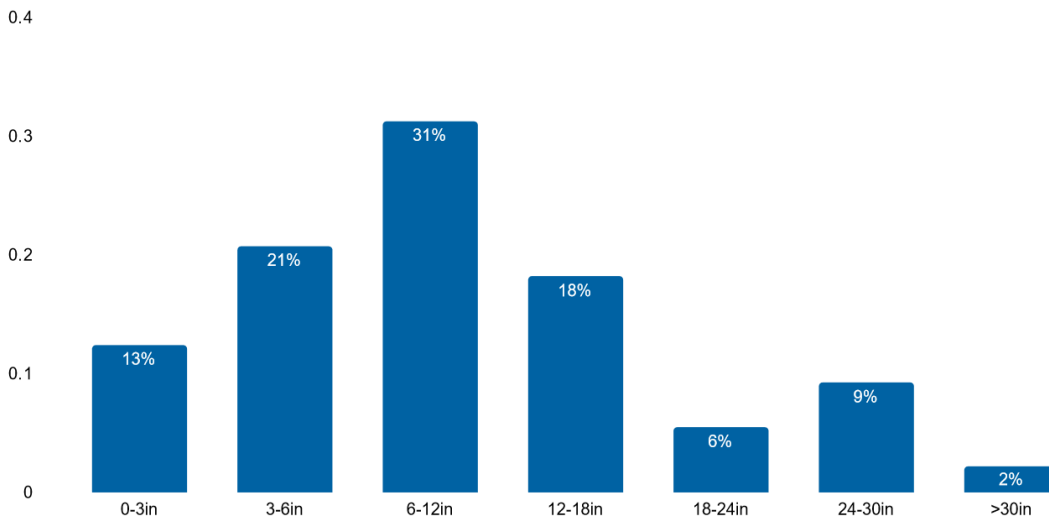


Figure 21. Size classes of Town Center tree preservation trees



Trees for Preservation in Charbonneau

From the data collected, criteria for tree preservation were established and tiers for preservation were set. Considerations for these tiers included condition, size, location, function, performance, and observations. Based on these considerations, the following tree preservation tiers were established:

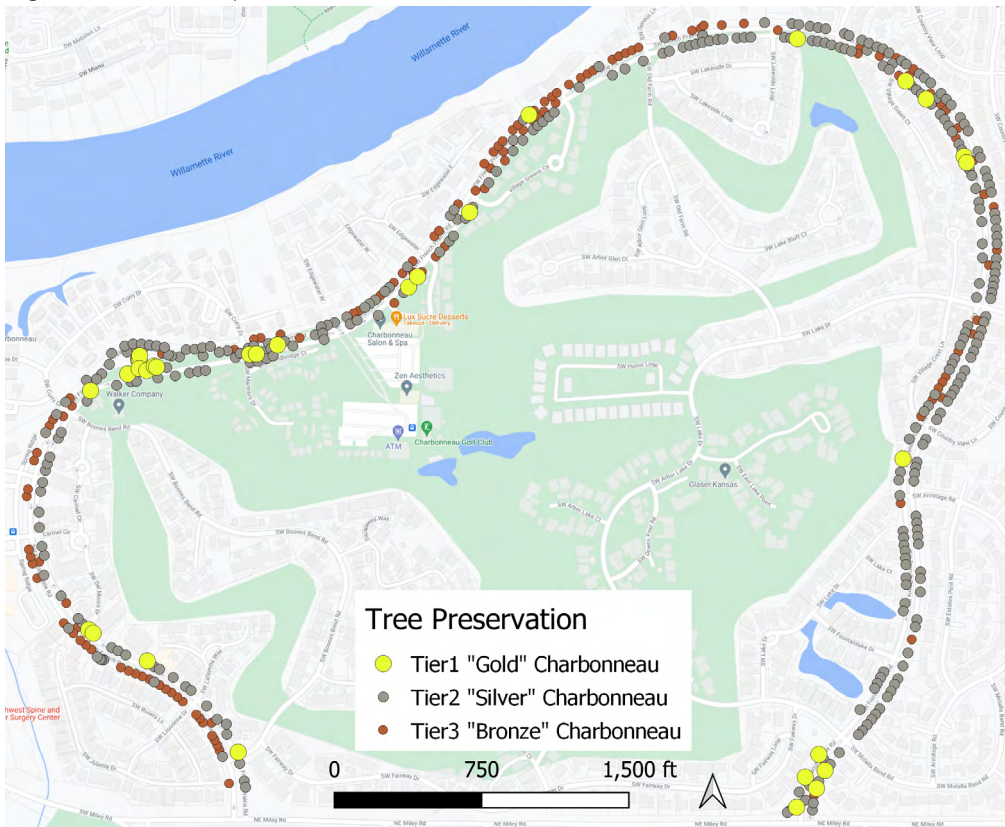
Table 35. Tree preservation tiers for Charbonneau

TIER #	TIER NAME	TIER DESCRIPTION	TREE COUNT
1	Gold: Best Trees	Greater than 24" in good condition with no sidewalk damage	31 trees
2	Silver (A): Large, Healthy, Spacious Contributing Trees	Greater than 24" in good condition	307 trees
3	Bronze: Good Conditioned Trees Conflicting Hardscape	All tree sizes in good condition with sidewalk damage for preservation review	126 trees
TOTAL			464 TREES

Trees to be preserved by tier are provided as a GIS file and as a custom map URL in the City’s TreePlotter application here: <https://pg-cloud.com/WilsonvilleOR/?scenario=Charbonneau-All-Preservation-Tiers>.

The tree preservation tiers established require additional information, studies, and considerations before implementing. Tree preservation cannot be given a broad brush approach therefore, multiple tiers for preservation were created. Tier 1 and Tier 2(A-C) should be given the highest priority due to the size, location, condition, and associated ecosystem benefits of the trees in these tiers. Tier 3 and Tier 4 should be evaluated on a case-by-case basis as these are trees that are recommended for preservation though there is an understanding that other projects, plans, goals, and desired functions exist in the focus areas. Trees in question should be assessed to determine the health, quality, size, life expectancy, and function before deciding on preservation or removal. Tree preservation recommendations are provided in order to sustain and enhance the urban forest while aligning with Citywide goals for more canopy cover and tree equity (see [Appendix B](#)).

Figure 22. Trees for preservation in Charbonneau



Ecosystem Benefits and Services of the Trees to Preserve in Charbonneau

Table 36. Annual ecosystem benefits and services of trees in preservation tiers for Charbonneau



OVERALL	ENERGY SAVINGS	AIR QUALITY	PROPERTY VALUE	CARBON SERVICES	STORMWATER
\$45,385	\$6,237	\$2,797	\$44,255	\$2,260	\$16,848
Annually	98k kWh	1,376 lbs	Added value	129k lbs C seq.	1.6M gallons

Characteristics of the Trees for Preservation in Charbonneau

Figure 23. Count of trees for preservation in Charbonneau by Preservation Tier

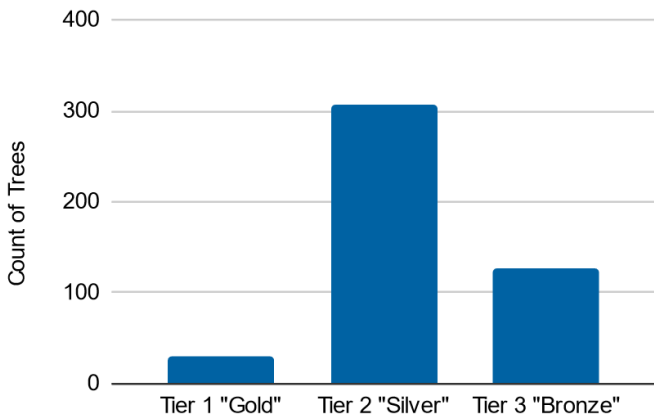


Figure 24. Tree species for preservation in Charbonneau

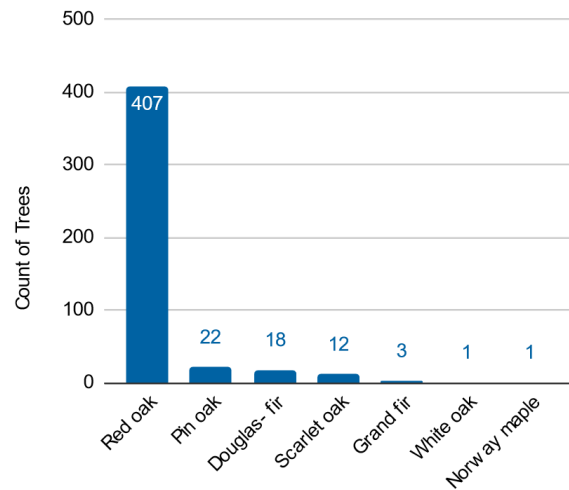


Figure 25. Diameter class of trees recommended for preservation in Charbonneau

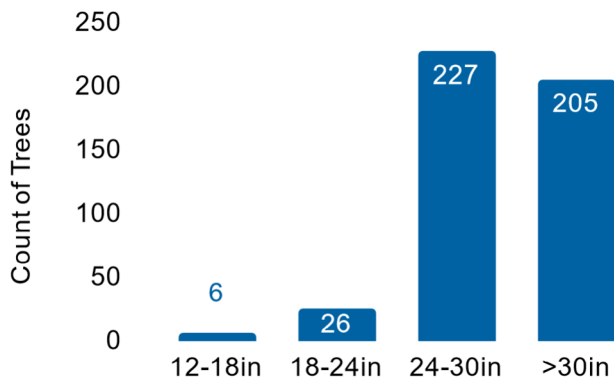
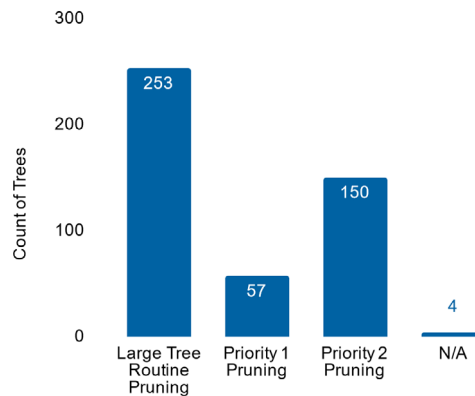


Figure 26. Maintenance needs of trees for preservation in Charbonneau



APPENDIX E. TREE REMOVALS AND REPLACEMENTS IN FOCUS AREAS

Urban trees, especially those in Town Center and Charbonneau, provide benefits and services to the residents, visitors, business owners, and the entire City of Wilsonville. They shade the parking lots, cool the sidewalks, support design, and provide ecological functions that should be sustained as Town Center and Charbonneau grow and change. Strategically replanting the urban forest in Town Center and Charbonneau is just as important as preserving existing trees to ensure these benefits continue to serve the neighborhood for generations.

Overview of Town Center Tree Removals

Based on an analysis of the 2020 tree inventory, there are trees in Town Center that were identified as needing removed. As of the inventory, a total of 9 trees are recommended for Priority 1 Removal and 67 trees for Priority 2 Removal. In addition, 26 inventory points indicated the tree was removed and a stump remains. Including the priority removals and locations with tree stumps, a total of 102 sites have the potential for a new tree to be planted.

To inform the replacement trees for trees removed, an analysis of climate change projections was completed. This process was conducted to ensure the recommended tree replacements are suitable for a changing climate in Wilsonville. The analyses utilized the [Climate Change and Forest Trees in the Pacific Northwest, A Vulnerability Assessment and Recommended Actions for National Forests](#) (USDA Forest Service, Warren Devine, et al., 2012) study and the University of Maryland’s Center for Environmental Science’s [60-year Contemporary Climatic Analogs for 540 North American Urban Areas](#) study to forecast what Wilsonville’s climate will be and identify suitable tree species for replanting.

The following provides a summary of the analyses, findings, and recommendations for replanting in Town Center:

Summary of Trees for Removal in Town Center

To view all trees recommended for removal in Town Center, use the following link <https://pg-cloud.com/WilsonvilleOR/?scenario=TownCenterReplacementTrees>.

Figure 27. Map showing the location of trees for removal in Town Center and the size classes

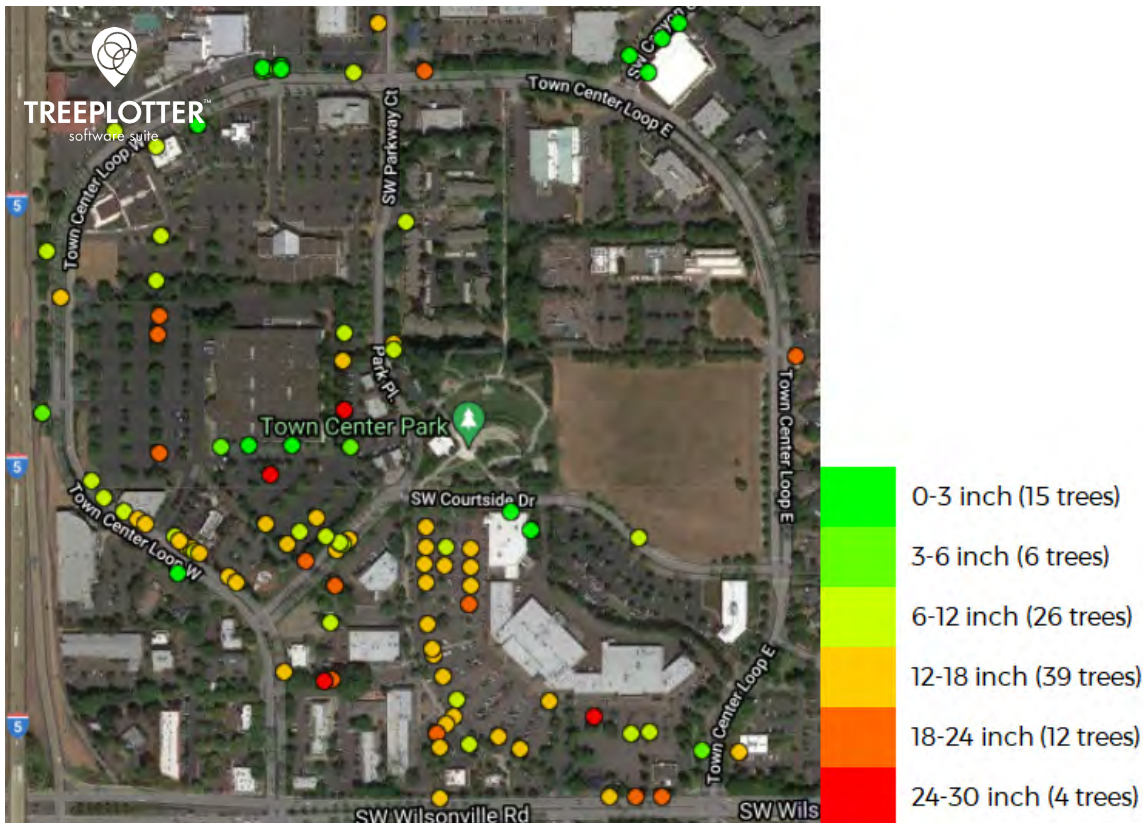


Table 37. Tree species recommended for removal in Town Center

COMMON NAME	COUNT	% OF TOTAL REMOVALS
Red oak	31	30%
Callery pear	18	18%
Emerald Queen Norway maple	12	12%
Kwanzan cherry	5	5%
Japanese cherry spp	4	4%
Dwarf Albert spruce	4	4%
Vine maple	4	4%
Scots pine	3	3%
Red Maple	2	2%
Pacific willow	2	2%
Top 10	85	83%
Other Species	17	17%
TOTAL	102	100%

Table 38. Summary of the status of the replanting sites in Town Center

STATUS	COUNT	% OF TOTAL REMOVALS
Alive	70	69%
Removed	24	24%
Dead	5	5%
Stump	3	3%
TOTAL	102	100%

Figure 28. Condition of trees recommended for removal in Town Center

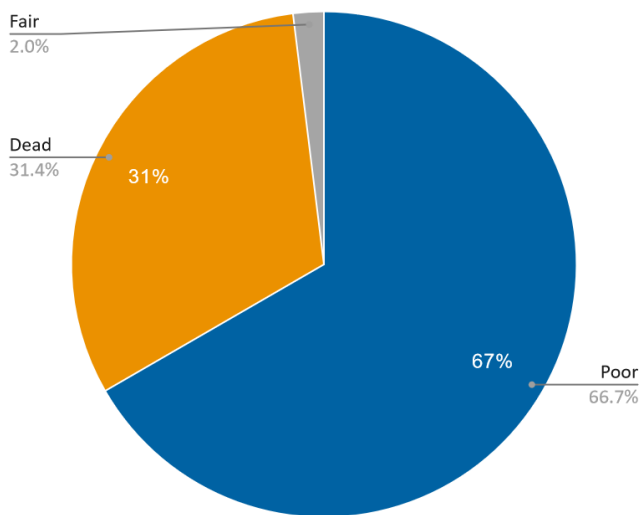
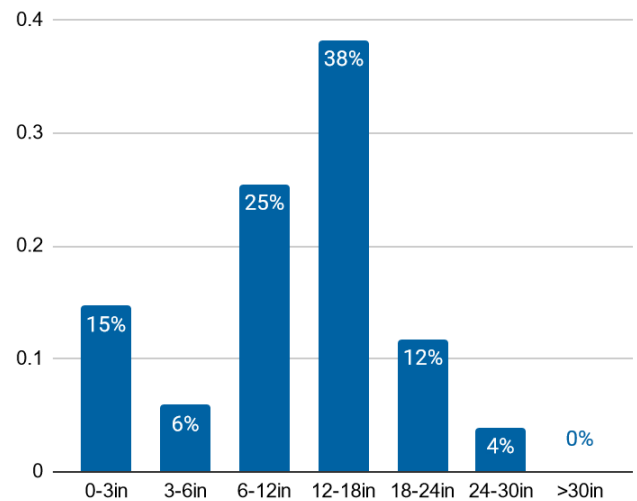


Figure 29. Diameter of recommended tree removals in Town Center



Note, the responsibility to address the trees recommended for removal vary between the City, adjacent property owner, HOA, or other. It is recommended the City evaluate these trees for removal and determine the best approach to address the concerns. For example, the City can prioritize removals for City-owned trees whereas the privately-maintained trees would require outreach and education. In some cities, a cost-share program is utilized where the city and the adjacent property owner share the cost of maintenance or removal of street trees. The recommended removals in focus areas provides the City with information to consider during redevelopment. Trees that are recommended for removal can be omitted from tree preservation consideration. Where feasible, trees should be replanted. View the [Town Center Trees for Removal and Replacement](#) section for consideration.

Overview of Charbonneau Tree Removals

Based on an analysis of the 2020 tree inventory, there are trees in Charbonneau that were identified as needing removed. As of the inventory, a total of 8 trees are recommended for Priority 1 or Priority 2 Removal, 23 trees in poor condition, and 20 trees in poor condition and causing sidewalk damage. Based on these recommendations, a total of 51 sites have the potential for a new tree to be planted.

To inform the replacement trees for trees removed, an analysis of climate change projections was completed. This process was conducted to ensure the recommended tree replacements are suitable for a changing climate in Wilsonville. The analyses utilized the [Climate Change and Forest Trees in the Pacific Northwest, A Vulnerability Assessment and Recommended Actions for National Forests](#) (USDA Forest Service, Warren Devine, et al., 2012) study and the University of Maryland’s Center for Environmental Science’s [60-year Contemporary Climatic Analogs for 540 North American Urban Areas](#) study to forecast what Wilsonville’s climate will be and identify suitable tree species for replanting.

The following provides a summary of the analyses, findings, and recommendations for replanting in Charbonneau:

Summary of Trees for Removal in Charbonneau

To view all trees recommended for removal in Charbonneau, use the following link [https://pg-cloud.com/Wilsonville OR/?scenario=Charbonneau-Tree-Removals](https://pg-cloud.com/Wilsonville/OR/?scenario=Charbonneau-Tree-Removals).

Figure 30. Map showing the location of trees for removal in Charbonneau and the size classes

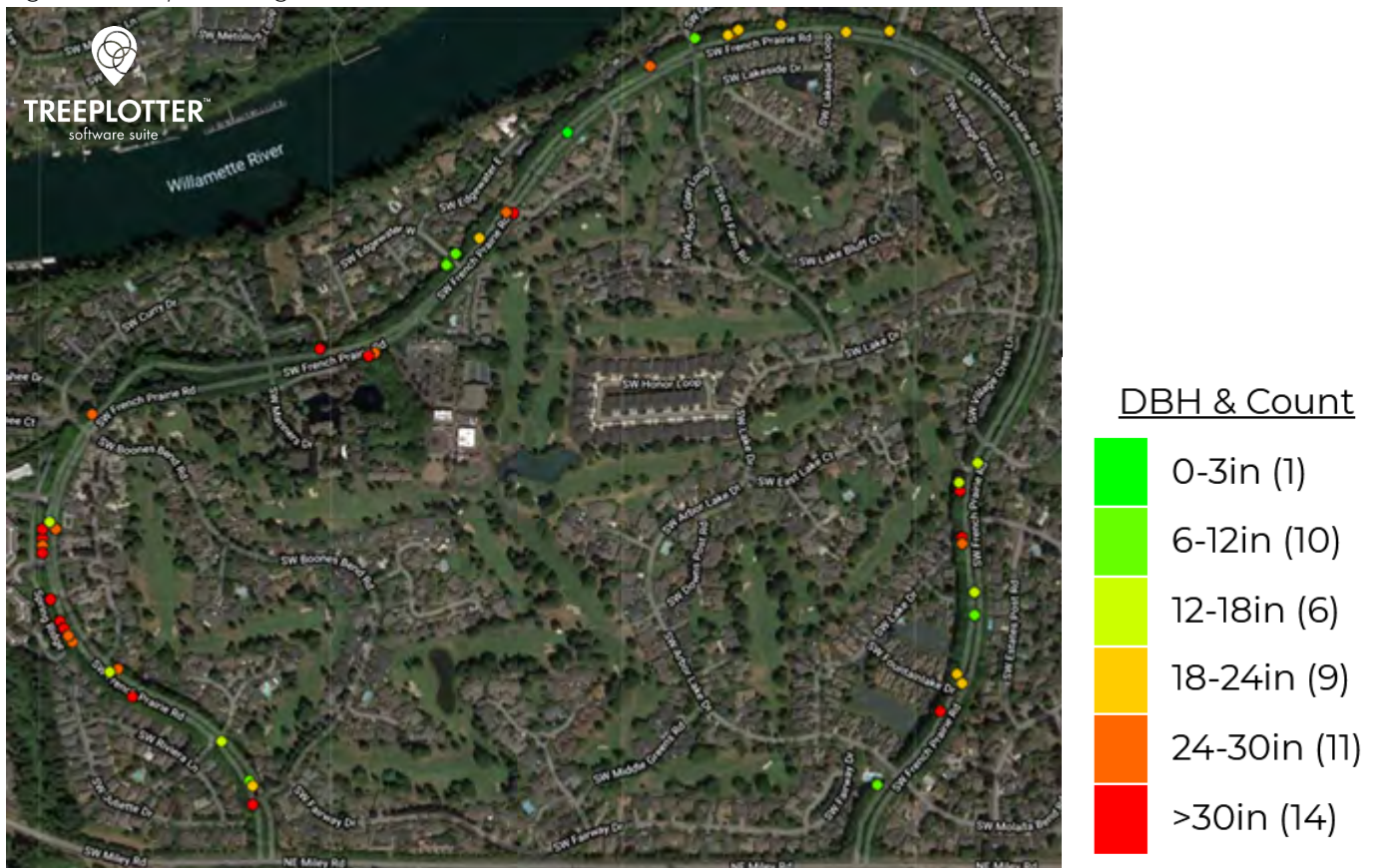


Figure 31. Count of trees by removal category - Charbonneau

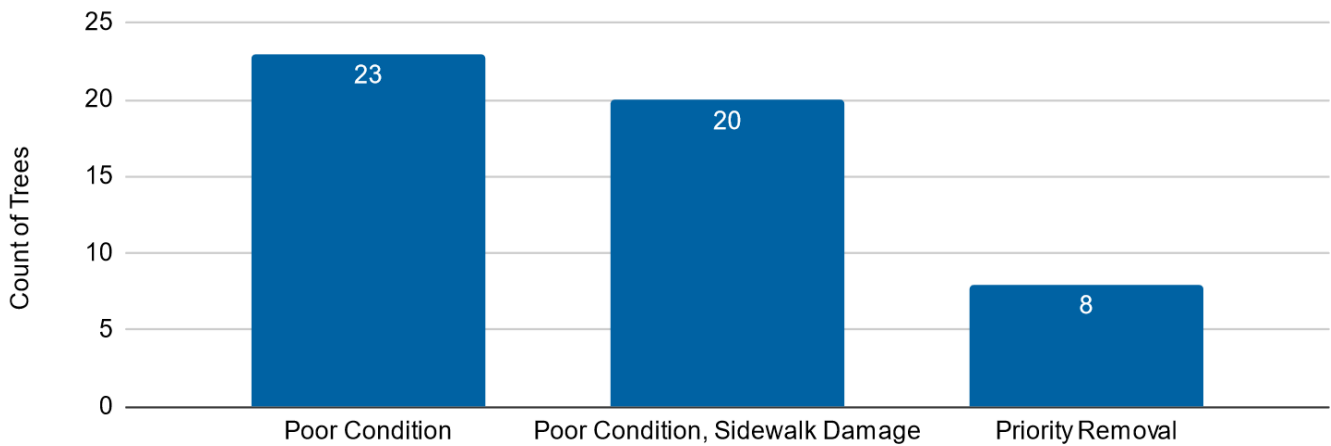
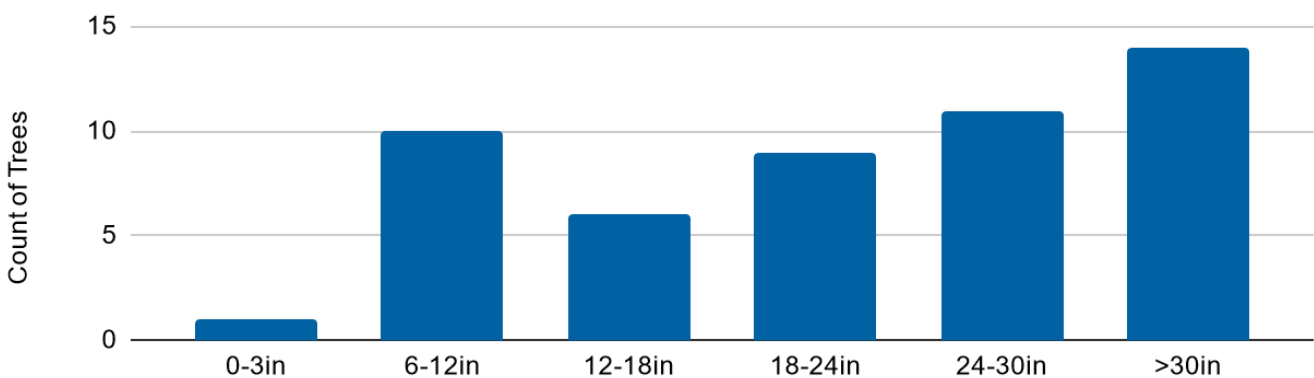


Table 39. Summary of tree species recommended for removal in Charbonneau

COMMON NAME	COUNT	% WITHIN
Red oak	33	65%
Hinoki falsecypress	6	12%
Pin oak	4	8%
Scarlet oak	2	4%
Scots pine	2	4%
Japanese red pine	1	2%
Norway maple	1	2%
Colorado blue spruce	1	2%
English oak	1	2%
TOTAL	51	100%

Figure 32. Diameter class of trees recommended for removal in Charbonneau



Note, the responsibility to address the trees recommended for removal vary between the City, adjacent property owner, HOA, or other. It is recommended the City evaluate these trees for removal and determine the best approach to address the concerns. For example, the City can prioritize removals for City-owned trees whereas the privately-maintained trees would require outreach and education. In some cities, a cost-share program is utilized where the city and the adjacent property owner share the cost of maintenance or removal of street trees. The recommended removals in focus areas provides the City with information to consider during redevelopment. Trees that are recommended for removal can be omitted from tree preservation consideration. Where feasible, trees should be replanted. View the [Charbonneau Trees for Removal and Replacement](#) section for consideration.

Considerations for the Recommended Replacement Tree Species

Recommended Citywide Tree Species List – 2021 Urban Forest Management Plan

[See Appendix A.](#)

City of Wilsonville’s Existing Tree Species List

Table 40. City of Wilsonville’s existing tree species list

GREATER THAN 50’ HEIGHT		UNDER 50’ HEIGHT	
Common Name	Scientific Name	Common Name	Scientific Name
Oregon white oak	<i>Quercus garryana</i>	Red Sunset maple	<i>Acer rubrum</i>
Red oak	<i>Quercus rubra borealis</i>	Pacific dogwood	<i>Cornus nuttallii</i>
Bigleaf maple	<i>Acer macrophyllum</i>	Honeylocust	<i>Gleditsia triacanthos</i>
Green column black maple	<i>Acer nigrum</i>	Bradford pear	<i>Pyrus calleryana 'Bradford'</i>
White ash	<i>Fraxinus americana</i>	Littleleaf linden	<i>Tilia cordata</i>
Marshall seedless green ash	<i>Fraxinus pennsylvanica</i>	Flame ash	<i>Fraxinus oxycarpa</i>
Scarlet oak	<i>Quercus coccinea</i>		
Pin oak	<i>Quercus palustris</i>		
American linden	<i>Tilia americana</i>		

Friends of Trees “Climate Trees for the 21st Century” Study

Table 41. List of recommended trees from Friends of Trees “Climate Trees for the 21st Century” study

TIER 1	
Common Name	Notes
Oregon white oak	Heat and drought tolerant
Silver linden	Heat and drought tolerant
Red horsechestnut	Heat and drought tolerant
European hornbeam	Heat and drought tolerant
Atlas cedar	Require large planting space
Incense cedar	Require large planting space
Giant sequoia	Require large planting space
Deodar cedar	Require large planting space
Valley ponderosa	Require large planting space
Douglas fir	Require large planting space
Sawtooth oak	Heat and drought tolerant, hard to find
Hungarian oak	Heat and drought tolerant, hard to find
Shumards oak	Heat and drought tolerant, hard to find
Burr oak	Heat and drought tolerant, hard to find

Table 41. List of recommended trees from Friends of Trees “Climate Trees for the 21st Century” study (continued)

TIER 2	
Common Name	Notes
California black oak	Western US street trees not on OR tree lists
Canyon live oak	Western US street trees not on OR tree lists
Oregon myrtle	Western US street trees not on OR tree lists
Coast live oak	Western US street trees not on OR tree lists
Interior live oak	Western US street trees not on OR tree lists
Blue oak	Western US street trees not on OR tree lists
Valley oak	Western US street trees not on OR tree lists
Chitalpa	Western US street trees not on OR tree lists
Crapemyrtle	Western US street trees not on OR tree lists
Cork oak	Western US street trees not on OR tree lists
Holly oak	Western US street trees not on OR tree lists
Silverleaf oak	Western US street trees not on OR tree lists
Oracle oak	Western US street trees not on OR tree lists
Cedar of Lebanon	Western US street trees not on OR tree lists
Spanish fir	Western US street trees not on OR tree lists
Chinese pistache	Western US street trees not on OR tree lists
Strawberry tree	Western US street trees not on OR tree lists
Southern live oak	Western US street trees not on OR tree lists
TIER 3	
Common Name	Notes
California buckeye	Heat and drought tolerant, not typical street tree
Madrone	Heat and drought tolerant, not typical street tree
Japanese chinquapin	Heat and drought tolerant, not typical street tree
Cretan maple	Heat and drought tolerant, not typical street tree
Western redbud	Heat and drought tolerant, not typical street tree

To view the study, visit <https://friendsoftrees.org/blog/climate-trees-trees-for-the-21st-century-part-2/>.

City of Wilsonville's Public Works and Planning Tree Species List

Table 42. Wilsonville Public Works and Planning tree species list

Common Name	Botanical Name
Small Street Trees	
Rocky Mtn Glow Maple	<i>Acer grandidentatum</i> 'Schmidt'
Paperbark Maple	<i>Acer griseum</i>
Merlot Redbud	<i>Cercis canadensis</i> 'Merlot'
Milky Way dogwood	<i>Cornus kousa</i> 'Milky Way'
Ruby Vase Persian Ironwood	<i>Parrotia persica</i> 'Ruby Vase'
Cascara	<i>Rhamnus purshiana</i>
Pink Chimes Japanese Snowbell	<i>Styrax japonica</i> 'Pink Chimes'
Medium Street Trees	
Rocky Mtn Glow Maple	<i>Acer grandidentatum</i> 'Schmidt'
Emerald Avenue European Hornbeam	<i>Carpinus betulus</i> 'JFS-KW1CB'
American Hornbeam	<i>Carpinus caroliniana</i>
Forest Pansy Redbud	<i>Cercis canadensis</i> 'Forest Pansy'
Eddies White Wonder dogwood	<i>Corus</i> 'Eddie's White Wonder'
Dawyck Purple Beech	<i>Fagus sylvatica</i> 'Dawyck Purple'
Wildfire Black Tupelo	<i>Nyssa sylvatica</i> 'Wildfire'
American Hophornbeam	<i>Ostrya virginiana</i>
Persian Ironwood	<i>Parrotia persica</i>
Forest Green Oak	<i>Quercus frainetto</i> 'Schmidt'
Silverleaf oak	<i>Quercus hypoleucoides</i>
Summer Sprite Linden	<i>Tilia cordata</i> 'Halka'
Sterling Silver Linden	<i>Tilia tomentosa</i> 'Sterling'
Large Street Trees	
Hedge Maple	<i>Acer campestre</i>
Queen Elizabeth Hedge Maple	<i>Acer campestre</i> 'Evelyn'
Armstrong Red Maple	<i>Acer rubrum</i> 'Armstrong'
October Glory Red Maple	<i>Acer rubrum</i> 'October Glory'
Scarlet Sentinel Maple	<i>Acer rubrum</i> 'Scarsen'
Autumn Blaze Maple	<i>Acer x freemanii</i> 'Jeffersred'
Heritage River Birch	<i>Betula nigra</i> 'Heritage'
Rivers Purple Beech	<i>Fagus sylvatica</i> 'Riversii'
Tricolor Beech	<i>Fagus sylvatica</i> 'Roseomarginata'
Autumn Gold Ginkgo	<i>Ginkgo biloba</i> 'Autumn Gold'
Golden Colonnade Ginkgo	<i>Ginkgo biloba</i> 'JFS-UGA2'
Magyar Ginkgo	<i>Ginkgo biloba</i> 'Magyar'
Princeton Sentry Ginkgo	<i>Ginkgo biloba</i> 'Princeton Sentry'
Kentucky coffeetree	<i>Gymnocladus dioicus</i>
Espresso Kentucky Coffeetree	<i>Gymnocladus dioicus</i> 'Espresso'
Exclamation London Plane Tree	<i>Platanus x acerifolia</i> 'Exclamation'

Table 42. Wilsonville Public Works and Planning tree species list (continued)

Common Name	Botanical Name
Large Street Trees	
Swamp White Oak	<i>Quercus bicolor</i>
Scarlet Oak	<i>Quercus coccinea</i>
Burr Oak	<i>Quercus macrocarpa</i>
Willow Oak	<i>Quercus phellos</i>
Jefferson Elm	<i>Ulmus americana</i> 'Jefferson'
Frontier Elm	<i>Ulmus carpinifolia</i> x <i>U. parvifolia</i> 'Frontier'
Triumph Elm	<i>Ulmus</i> 'Morton Glossy'
Green Vase Zelkova	<i>Zelkova serrata</i> 'Green Vase'
Village Green zelkova	<i>Zelkova serrata</i> 'Village Green'

Town Center Trees for Removal and Replacement

Table 43. List of trees for removal in Town Center and the recommended replacement species

ID	STATUS	EXISTING TREE COMMON NAME	PROPOSED REPLACEMENT (COMMON NAME)	PROPOSED REPLACEMENT (SCIENTIFIC NAME)	ALTERNATIVE (COMMON NAME)
939	Stump	Lodgepole pine (east OR)	Willamette Valley Ponderosa	<i>Pinus ponderosa</i> x <i>benthamiana</i>	Scarlet Oak
986	Alive	Red Maple	Hungarian Oak	<i>Quercus frainetto</i>	Oregon White Oak
1050	Alive	Emerald Queen Norway maple	Hackberry	<i>Celtis occidentalis</i>	Honeylocust
1076	Removed	balsam poplar	European Hornbeam	<i>Carpinus betulus</i>	Green Column Black Maple
1086	Removed	Callery pear	Dura-Heat® River Birch	<i>Betula nigra</i> 'BNMTF'	Oregon White Oak
1093	Removed	western red-cedar	Hackberry	<i>Celtis occidentalis</i>	Honeylocust
1097	Removed	black tupelo	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Green Column Black Maple
1122	Alive	red oak	European Hornbeam	<i>Carpinus betulus</i>	Green Column Black Maple
1169	Alive	red oak	Red Oak	<i>Quercus rubra</i>	Oregon White Oak
1177	Stump	Japanese stewartia	Autumn Gold Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Autumn Gold'	Green Column Black Maple
1220	Alive	Japanese cherry spp	Lavalle Hawthorn	<i>Crataegus X lavalleei</i>	Pacific Dogwood
1221	Alive	Japanese cherry spp	Lavalle Hawthorn	<i>Crataegus X lavalleei</i>	Pacific Dogwood
1222	Alive	Japanese cherry spp	Strawberry Tree	<i>Arbutus unedo</i>	Bird Cherry
1224	Alive	Japanese cherry spp	Strawberry Tree	<i>Arbutus unedo</i>	Bird Cherry
1227	Removed	Callery pear	Oregon White Oak	<i>Quercus garryana</i>	Red Oak
1266	Alive	Emerald Queen Norway maple	Ruby Vase® Persian Ironwood	<i>Parrotia persica</i> 'Inge'	Honeylocust
1268	Alive	Emerald Queen Norway maple	Vanessa Persian Ironwood	<i>Parrotia persica</i> 'Vanessa'	Honeylocust

Table 43. List of trees for removal in Town Center and the recommended replacement species (continued)

ID	STATUS	EXISTING TREE COMMON NAME	PROPOSED REPLACEMENT (COMMON NAME)	PROPOSED REPLACEMENT (SCIENTIFIC NAME)	ALTERNATIVE (COMMON NAME)
1270	Alive	Emerald Queen Norway maple	Pyramidal European Hornbeam	<i>Carpinus betulus</i> 'Fastigiata'	Honeylocust
1278	Removed	Emerald Queen Norway maple	Sawtooth Oak	<i>Quercus acutissima</i>	Red Oak
1299	Alive	Emerald Queen Norway maple	Katsura	<i>Cercidiphyllum japonicum</i>	Honeylocust
1335	Dead	Emerald Queen Norway maple	Turkish Filbert	<i>Corylus colurna</i>	Honeylocust
1336	Dead	Emerald Queen Norway maple	Turkish Filbert	<i>Corylus colurna</i>	Honeylocust
1340	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1341	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1342	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1343	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1344	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1345	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1347	Removed	Callery pear	Emerald Pagoda Japanese Snowbell	<i>Styrax japonicus</i> 'Emerald Pagoda'	Pacific Dogwood
1355	Removed	Oregon ash	Harvest Gold Littleleaf Linden	<i>Tilia</i> 'Harvest Gold'	Red Sunset Maple
1365	Alive	Emerald Queen Norway maple	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Honeylocust
1367	Alive	Emerald Queen Norway maple	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Honeylocust
1369	Alive	Emerald Queen Norway maple	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Honeylocust
1370	Alive	Emerald Queen Norway maple	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Honeylocust
1372	Dead	Colorado blue spruce	Douglas Fir	<i>Pseudotsuga menziesii</i>	Willamette Valley Ponderosa
1382	Removed	European mountain-ash	Oregon White Oak	<i>Quercus garryana</i>	Bur Oak
1398	Dead	domestic apple	None	None	None
1422	Alive	Armstrong maple	Green Column Black Maple	<i>Acer saccharum sub. nigrum</i> 'Green Column'	Firespire® American Hornbeam
1430	Removed	cherry (ornamental)	Strawberry Tree	<i>Arbutus unedo</i>	Lavalle Hawthorn
1455	Alive	purple-leaf plum	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	Bird Cherry
1463	Alive	Pacific willow	Bur Oak	<i>Quercus macrocarpa</i>	Red Oak
1465	Alive	Pacific willow	Bur Oak	<i>Quercus macrocarpa</i>	Red Oak
1494	Removed	Scots pine	Willamette Valley Ponderosa	<i>Pinus ponderosa x benthamiana</i>	Limber Pine

Table 43. List of trees for removal in Town Center and the recommended replacement species (continued)

ID	STATUS	EXISTING TREE COMMON NAME	PROPOSED REPLACEMENT (COMMON NAME)	PROPOSED REPLACEMENT (SCIENTIFIC NAME)	ALTERNATIVE (COMMON NAME)
1505	Stump	paper birch	Green Column Black Maple	<i>Acer saccharum sub. nigrum</i> 'Green Column'	Firespire® American Hornbeam
1515	Removed	Red Maple	None	None	None
1516	Removed	Scots pine	None	None	None
1517	Removed	Scots pine	None	None	None
1518	Removed	dwarf Albert spruce	Natchez Crape Myrtle	<i>Lagerstroemia</i> 'Natchez'	Pacific Dogwood
1519	Removed	dwarf Albert spruce	None	None	None
1520	Removed	dwarf Albert spruce	None	None	None
1521	Removed	dwarf Albert spruce	Muskogee Crape Myrtle	<i>Lagerstroemia</i> 'Muskogee'	Pacific Dogwood
1525	Alive	red oak	Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	Honeylocust
1532	Alive	red oak	Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	Honeylocust
1534	Alive	red oak	Hackberry	<i>Celtis occidentalis</i>	Honeylocust
1537	Alive	red oak	Hackberry	<i>Celtis occidentalis</i>	Honeylocust
1549	Alive	Callery pear	Interior Live Oak	<i>Quercus wislizenii</i>	Honeylocust
1551	Alive	red oak	Interior Live Oak	<i>Quercus wislizenii</i>	Honeylocust
1553	Alive	red oak	Interior Live Oak	<i>Quercus wislizenii</i>	Red Oak
1556	Alive	Callery pear	Oregon White Oak	<i>Quercus garryana</i>	Scarlet Oak
1557	Alive	Norway maple	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Green Column Black Maple
1580	Alive	Kwanzan cherry	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	Bird Cherry
1582	Alive	red oak	Interior Live Oak	<i>Quercus wislizenii</i>	Scarlet Oak
1589	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
1596	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
1649	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Scarlet Oak
1652	Alive	red oak	Canby Oak	<i>Quercus canbyi</i>	Scarlet Oak
1664	Alive	red oak	Canby Oak	<i>Quercus canbyi</i>	Honeylocust
1679	Alive	red oak	Canby Oak	<i>Quercus canbyi</i>	Honeylocust
1681	Alive	red oak	Canby Oak	<i>Quercus canbyi</i>	Honeylocust
1767	Alive	Callery pear	Chinese Pistache	<i>Pistachia chinensis</i>	Pacific Dogwood
1775	Alive	Callery pear	Chinese Pistache	<i>Pistachia chinensis</i>	Pacific Dogwood
1776	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Honeylocust
1778	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Honeylocust
1779	Alive	Callery pear	Chinese Pistache	<i>Pistachia chinensis</i>	Pacific Dogwood
1810	Alive	red oak	Red Oak	<i>Quercus rubra</i>	Scarlet Oak
1822	Alive	vine maple	Cretan Maple	<i>Acer sempervirens</i>	Pacific Dogwood
1831	Alive	vine maple	Muskogee Crape Myrtle	<i>Lagerstroemia</i> 'Muskogee'	Pacific Dogwood
1850	Alive	vine maple	Muskogee Crape Myrtle	<i>Lagerstroemia</i> 'Muskogee'	Pacific Dogwood

Table 43. List of trees for removal in Town Center and the recommended replacement species (continued)

ID	STATUS	EXISTING TREE COMMON NAME	PROPOSED REPLACEMENT (COMMON NAME)	PROPOSED REPLACEMENT (SCIENTIFIC NAME)	ALTERNATIVE (COMMON NAME)
1882	Alive	Callery pear	Oregon White Oak	<i>Quercus garryana</i>	Redmond American Linden
1893	Alive	Callery pear	Oregon White Oak	<i>Quercus garryana</i>	Redmond American Linden
1906	Alive	Douglas- fir	Douglas Fir	<i>Pseudotsuga menziesii</i>	Oregon White Oak
1931	Alive	Callery pear	Canyon Live Oak	<i>Quercus chrysolepis</i>	Oregon White Oak
2040	Alive	thornless honeylocust	None	None	None
2077	Alive	Callery pear	Deodar Cedar	<i>Cedrus deodara</i>	Honeylocust
2084	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
2086	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
2087	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
2089	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
2093	Alive	Kwanzan cherry	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	Bird Cherry
2094	Alive	Kwanzan cherry	Strawberry Tree	<i>Arbutus unedo</i>	Pacific Dogwood
2109	Alive	Kwanzan cherry	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	Bird Cherry
2111	Alive	Kwanzan cherry	Strawberry Tree	<i>Arbutus unedo</i>	Pacific Dogwood
2119	Alive	red oak	Pyramidal European Hornbeam	<i>Carpinus betulus</i> 'Fastigiata'	Honeylocust
2121	Alive	red oak	Pyramidal European Hornbeam	<i>Carpinus betulus</i> 'Fastigiata'	Honeylocust
2125	Alive	red oak	Amur Maackia	<i>Maackia amurensis</i>	Honeylocust
2127	Alive	red oak	Amur Maackia	<i>Maackia amurensis</i>	Honeylocust
2128	Alive	red oak	Oregon White Oak	<i>Quercus garryana</i>	Red Oak
2129	Alive	red oak	Amur Maackia	<i>Maackia amurensis</i>	Honeylocust
2140	Alive	pin oak	Amur Maackia	<i>Maackia amurensis</i>	Honeylocust
2149	Alive	red oak	Oregon White Oak	<i>Quercus garryana</i>	Red Oak
2151	Alive	red oak	Oregon White Oak	<i>Quercus garryana</i>	Red Oak
2202	Dead	vine maple	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	Pacific Dogwood

Table 44. Count of recommended replacement trees in Town Center by species

ID	COUNT
California Black Oak	9
Oregon White Oak	8
None	7
Afterburner® Black Tupelo	6
Ivory Silk Japanese Tree Lilac	6
Strawberry Tree	5
Tschonoskii Crabapple	5
Amur Maackia	4
Canby Oak	4
Hackberry	4
Interior Live Oak	4
Chinese Pistache	3
Muskogee Crape Myrtle	3
Pyramidal European Hornbeam	3
Bur Oak	2
Douglas Fir	2
European Hornbeam	2
Green Column Black Maple	2
Kentucky Coffeetree	2
Lavalle Hawthorn	2
Red Oak	2
Turkish Filbert	2
Willamette Valley Ponderosa	2
Autumn Gold Ginkgo Biloba	1
Canyon Live Oak	1
Cretan Maple	1
Deodar Cedar	1
Dura-Heat® River Birch	1
Emerald Pagoda Japanese Snowbell	1
Harvest Gold Littleleaf Linden	1
Hungarian Oak	1
Katsura	1
Natchez Crape Myrtle	1
Ruby Vase® Persian Ironwood	1
Sawtooth Oak	1
Vanessa Persian Ironwood	1
TOTAL	102

Charbonneau Trees for Removal and Replacement

Table 45. List of trees for removal in Charbonneau and the recommended replacement species

ID	STATUS	EXISTING TREE COMMON NAME	DBH RANGE	CAUSE FOR REMOVAL	PROPOSED REPLACEMENT (COMMON NAME)
8	Removed	Colorado blue spruce	6-12in	Poor Condition	Dawn redwood
11	Alive	Scots pine	>30in	Priority Removal	Dawn redwood
12	Removed	Scots pine	12-18in	Poor Condition	Dawn redwood
16	Alive	Norway maple	18-24in	Poor Condition, Sidewalk Damage	Autumn Blaze maple
53	Removed	Japanese red pine	6-12in	Poor Condition	Willamette Valley ponderosa
63	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
64	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
65	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
66	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
68	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
69	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
96	Alive	red oak	>30in	Priority Removal	Oregon white oak
100	Alive	red oak	18-24in	Poor Condition	Valley oak
118	Alive	red oak	24-30in	Poor Condition, Sidewalk Damage	Hungarian oak
119	Alive	red oak	>30in	Poor Condition, Sidewalk Damage	Shumard oak
349	Alive	red oak	>30in	Poor Condition	Bur oak
383	Alive	red oak	18-24in	Priority Removal	Chinkapin oak
394	Alive	red oak	18-24in	Poor Condition, Sidewalk Damage	Swamp white oak
398	Alive	red oak	24-30in	Poor Condition, Sidewalk Damage	Monterrey oak
399	Alive	red oak	18-24in	Poor Condition, Sidewalk Damage	Southern live oak
408	Removed	red oak	24-30in	Poor Condition, Sidewalk Damage	Canby oak
435	Alive	red oak	18-24in	Poor Condition, Sidewalk Damage	Coast live oak
459	Alive	red oak	18-24in	Poor Condition	Chinese pistache
469	Removed	red oak	6-12in	Poor Condition	Wireless Japanese zelkova
472	Alive	red oak	12-18in	Priority Removal	Kentucky coffeetree
484	Alive	red oak	12-18in	Poor Condition	Kentucky coffeetree
551	Alive	red oak	18-24in	Poor Condition	Kentucky coffeetree
586	Removed	red oak	0-3in	Poor Condition	Bigleaf maple
597	Alive	red oak	24-30in	Priority Removal	Shademaster honeylocust
640	Alive	scarlet oak	>30in	Poor Condition, Sidewalk Damage	Oregon white oak
676	Removed	red oak	24-30in	Poor Condition	Valley oak
688	Alive	red oak	>30in	Poor Condition, Sidewalk Damage	Hungarian oak
689	Alive	red oak	>30in	Poor Condition, Sidewalk Damage	Shumard oak

Table 45. List of trees for removal in Charbonneau and the recommended replacement species (continued)

ID	STATUS	EXISTING TREE COMMON NAME	DBH RANGE	CAUSE FOR REMOVAL	PROPOSED REPLACEMENT (COMMON NAME)
690	Alive	red oak	24-30in	Poor Condition, Sidewalk Damage	Bur oak
691	Alive	red oak	>30in	Poor Condition, Sidewalk Damage	Chinkapin oak
701	Alive	red oak	24-30in	Poor Condition, Sidewalk Damage	Coast live oak
736	Alive	red oak	24-30in	Poor Condition	Oregon white oak
759	Alive	scarlet oak	>30in	Poor Condition, Sidewalk Damage	Valley oak
795	Alive	red oak	>30in	Poor Condition, Sidewalk Damage	Hungarian oak
807	Alive	pin oak	12-18in	Priority Removal	Shumard oak
814	Alive	English oak	6-12in	Priority Removal	Bur oak
815	Alive	red oak	18-24in	Priority Removal	Chinkapin oak
838	Alive	pin oak	12-18in	Poor Condition	Swamp white oak
856	Alive	pin oak	12-18in	Poor Condition	Monterrey oak
912	Alive	pin oak	24-30in	Poor Condition	Southern live oak
913	Alive	red oak	>30in	Poor Condition	Canby oak
914	Alive	red oak	24-30in	Poor Condition	Coast live oak

Table 46. Recommended replacement tree species for removals in Charbonneau

ID	COUNT
Deodar cedar	6
Bur oak	3
Canby oak	3
Chinkapin oak	3
Coast live oak	3
Dawn redwood	3
Hungarian oak	3
Kentucky coffeetree	3
Monterrey oak	3
Oregon white oak	3
Shumard oak	3
Southern live oak	3
Swamp white oak	3
Valley oak	3
Autumn Blaze maple	1
Bigleaf maple	1
Chinese pistache	1
Shademaster honeylocust	1
Willamette Valley ponderosa	1
Wireless Japanese zelkova	1
TOTAL	51

APPENDIX F. FUNDING MECHANISMS

Table 47. Financing options for Wilsonville’s urban forest management programs

FINANCING OPTIONS	ATTRIBUTES	PROCESS	OPPORTUNITIES	CHALLENGES
FEASIBLE OPTIONS				
Special Assessment Districts	Special assessment for landscaping, open space improvements, acquisition, and maintenance.	City agency / property owners initiate via petition, City agency administers; based on benefits calculated in engineer’s report; >50% of property owners in proposed district must approve via (mail) ballot.	Citywide district possible for all street trees; individual districts more feasible in areas with many trees, high maintenance needs, and/or political support.	Typically funds more than just street trees.
Parcel Tax	Assessment levied independent of property value, can be equal amount per parcel or dependent on lot size.	2/3 of voters (not just property owners) must approve via election ballot.	Tax can be directly related to program costs; maintenance taxes deductible for property owners.	2/3 voter approval; potential competition from other services (e.g., schools); flat tax distributes cost inequitably.
General Obligation (GO) Bond	Low-interest loan for capital projects; repaid by levying tax revenue.	2/3 voter approval required.	Frequently used tool in municipal government.	Funding provided for set period; maintenance ineligible for funding.
Stormwater Utility	Urban forests mitigate storm-water runoff. A portion of the stormwater management fee can be earmarked for urban forestry.	A stormwater fee that is collected from every developed property parcel in the City to support the stormwater management program.	Additional funding to urban forestry and incentive to property owners to plant trees as a Best Management Practice.	Establishing a stormwater utility. Planting trees needs to be in a “Stormwater Utility Fee Credit Manual.”
Partnerships	Non-profits, corporate partners, grant funding; for tree planting and establishment.	Various, depends on City’s processes.	Decrease costs, increase capacity, develop a tree steward organization and program.	Union resistance, sustainable funding stream required.

Table 47. Financing options for Wilsonville’s urban forest management programs (continued)

FINANCING OPTIONS	ATTRIBUTES	PROCESS	OPPORTUNITIES	CHALLENGES
ADDITIONAL OPTIONS				
Pest Control Fee	A fee for forestry related services such as pest control and replanting.	A forestry fee specific to pest control added to the public service utility billing as a levy.	Opportunity to offset costs of managing and recovering from tree pests and diseases.	Increased fee may require voter approval. The City must analyze pest control costs to establish the appropriate fee amount.
Tree Work and Land Development Permit Fees	An increase in fees for registered tree care companies, the Tree Work Permit Application, and development fees.	City assesses the actual costs of managing permits, reviews and inspections and applies an applicable fee. Updates to City ordinances may be required.	Additional fees may be directly applied to urban forest management.	Increasing the fees may require election ballots and/or updates to City ordinances.
General Fund	City’s primary funding pool for wide range of municipal services.	Annual budget via City’s legislative process.	History of funding for tree planting and establishment.	Not a guaranteed source or amount of funding; funds at risk if budget shortfalls arise.
Carbon Offsets	A cap-and-trade program in Wilsonville would create a cap on greenhouse gas emissions trading options.	OR Climate Action Plan advocate for a state Carbon Investment Fund program. The City should be involved in designing project (i.e., tree planting) requirements and tracking.	Oregon’s cap and trade system provide economic incentive to drive more “natural climate solutions.”	A large quantity of trees must be planted to qualify as a carbon offset and the trees must be properly managed to ensure long-term survival and carbon storage.
Parking Benefit District (PBD)	Revenue from parking meters for range of right-of-way improvements and maintenance.	Enacted via local ordinance specifying boundaries, rates, use of funds; City administers with input from advisory committee.	No ballot approval required; visitors bear burden over residents; revenue can be expended beyond district boundaries.	Adjustments will need to be made based to the agency overseeing excess meter revenue; typically funds more than trees.

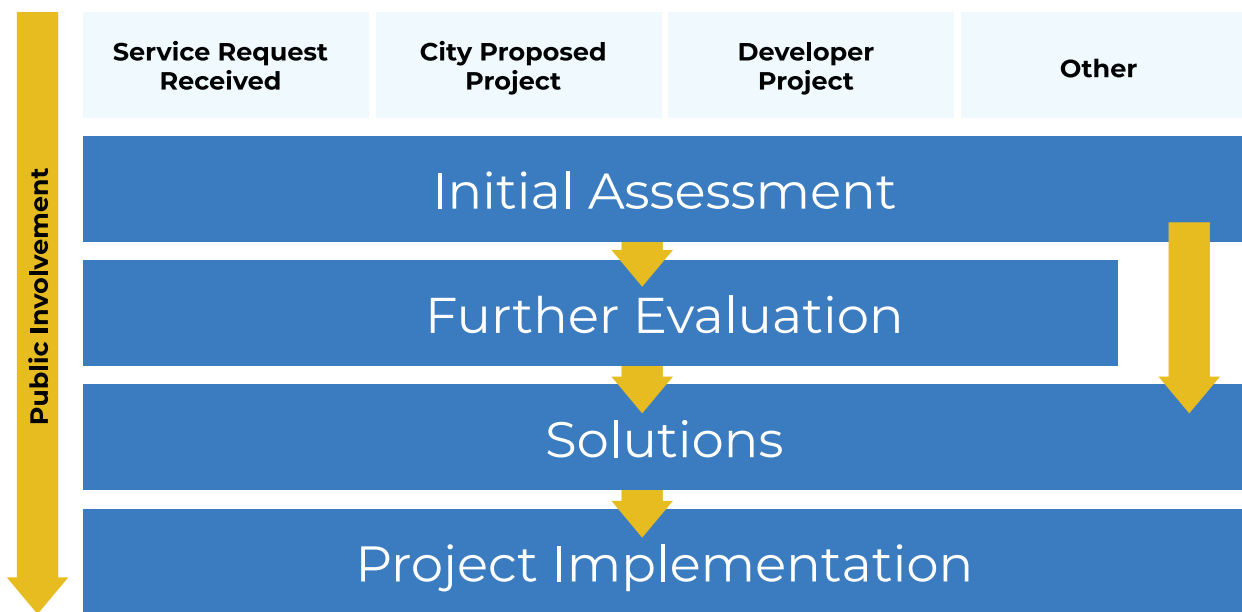
APPENDIX G. TREES AND HARDSCAPE CONFLICTS SOLUTIONS WORKBOOK

Decision Matrix

The development of Wilsonville’s Urban Forest Management Plan identified the need to clarify the decision process to address tree and sidewalk or construction conflicts. A clear decision matrix can help to reduce inter- and inner-department uncertainty and establish or adhere to consistency and fairness. The City’s departments have standard operating procedures and checklists for evaluating conflicts at a project site, but these traditionally have not been available to the public. To make the decision process around the retention or removal of trees more transparent and consistent, a clarified process, decision matrix, and solution toolkit should be developed to highlight the key decision points.

Proposed Decision Matrix for Tree and Construction/Sidewalk Conflicts

Figure 33. Proposed decision matrix for tree and construction conflicts



Initial Assessment

The following applies to tree removals, tree removal permit applications, and proposed projects.

The initial assessment of trees, sidewalks (or other infrastructure), and site at the location of concern provides consistency and predictability by collecting the appropriate information. It is recommended to have urban forestry staff involved in the initial assessment process and/or a City staff member with an International Society of Arboriculture Certified Arborist accreditation.

- **Tree Preservation Potential.** What is the tree quality or health, and is it worth preserving? Is the tree part of the City’s Significant Tree Program (if applicable)?
- **Tree Mitigation Exploration.** If the request to remove the tree is a result of infrastructure damage and the tree exhibits poor health or vigor, can the tree’s health or vigor be mitigated by any means other than removal?
- **Public Safety Risk.** Is the tree a potential hazard that cannot be mitigated by any means other than removal? This includes any tree or tree part that poses a high risk of damage to persons or property located in public places. Use the International Society of Arboriculture’s tree risk evaluation standards.
- **Initial Assessment Timing.** It is recommended that the initial assessment be conducted within 3-4 weeks of receiving a permit application for removal. If the assessment is required due to a proposed project, the assessment should occur no later than 30% design or equivalent of design effort (e.g., during the Environmental Assessment period).

- Tracking. Continue tracking street tree removal permit applications in the City's asset management software or similar program.
- For an example Initial Assessment Checklist, see the Example Initial Assessment Checklist further below.

Initial Tree Decision

If the tree removal permit application was made due to the condition of the tree or other reason not relating to the damage or impediment of infrastructure such as sidewalk, the City Forester or representative may conduct the initial tree decision. If infrastructure is part of the assessment and/or the tree removal request was initiated for a proposed project, the City Engineer or appropriate staff should also be part of the initial tree decision. The appropriate staff will visit the tree and/or proposed project location and assess the tree (and sidewalk, if applicable) conditions. The following actions will result from the assessment:

- Remove Tree. The tree removal permit application was made not as a result of the tree impacting or damaging infrastructure and the tree is identified as unhealthy or unsafe with no remediation possible.
 - Remove the tree and consider the "no net loss" policy of replacing the tree. Some cities implement a 2:1 replacement to removal ratio. The replacement policy should be based on City Code, the Zoning Ordinance, and City guidelines. Replacement of trees can occur on site, same street, or City-approved location. A fee in-lieu should also be considered as an option as described in City Code.
 - Removal of the tree should be prioritized based on other work orders, the risk assessment of the tree, and other factors.
 - For street trees, the removal permit application, decision, work order, tree information, and tree removal information should be tracked in the City's asset management software or similar program.
- Retain Tree. Based on the assessment, the tree is not in decline or the issues can be remediated. Alternatively, if the tree in question is part of a Significant or Heritage Tree Program, the tree may be preserved depending on the tree condition and presence of hazards or risks as described in the City policies and manuals.
 - Document the decision, inform the property owner or project developer.
 - Conduct the remediation activity to the tree if needed.
 - Prioritize and track this information in City's asset management or similar program.
 - Conduct follow-ups with the property owner and monitor the tree if necessary.
- Remove Tree and Replace Sidewalk. The permit application or proposed project identifies a tree that is causing sidewalk conflicts and the tree has been deemed unhealthy and no remediation is possible. The City should reference City Code as to what is defined as unhealthy or hazardous. Note, both tree removal and sidewalk repair are the responsibility of the adjacent property owner.
 - Remove the tree and consider the "no net loss" policy of replacing the tree. Some cities implement a 2:1 replacement to removal ratio. The requirement to replace the tree will be the City and City Forester's discretion. The replacement policy should be based on City Code, the Zoning Ordinance, and the City guidelines. Replacement of trees can occur on site, same street, or City-approved location. A fee in-lieu should also be considered as an option as described in City Code.
 - If a City-owned tree, removal of the tree should be prioritized based on other work orders, the risk assessment of the tree, and other factors.
 - For street trees, the permit application, decision, work order, tree information, and tree removal information should be tracked in the City's asset management program, tree inventory software, or similar.
 - Adjacent property owner replaces the sidewalk using appropriate design standards and materials and consider designing according to standards that will protect any replacement trees and provide ample soil volume and root space for the new or existing trees.
- Retain Tree and Maintain Sidewalk. A tree in question is in conflict with infrastructure and the assessment determined that the tree is to be retained and the infrastructure (i.e., sidewalk) is to be corrected (by the adjacent property owner). The sidewalk will be of standard width and a tree pit of standard width (at minimum) can be installed or retained.
 - Coordinate with the adjacent property owner the timing and approach for maintaining the sidewalk. Some cities offer incentives or funding to support sidewalk maintenance when the issue causing the sidewalk

damage has been identified to be caused by a street tree. Be sure to inform the property owner of alternative sidewalk amendments such as width reduction, alternative materials, among other solutions.

- If any root pruning is needed to amend the sidewalk, urban forestry staff and/or a Certified Arborist hired by the property owner or a certified consultant/contractor hired by the City should evaluate to determine the appropriate root pruning, branch pruning, soil amendments, and other maintenance required.
- Documentation in City asset management program or similar software as stated before is recommended.
- Evaluate Tree and/or Sidewalk Further. During the initial tree decision, it is not appropriate for extensive explorations of pavement, soils, or tree root systems. There are limitations to the initial assessment and decision. The purpose of the initial assessment is to identify where these future actions are required so that the appropriate schedule and funding can be determined.
 - Documentation in City asset management program or similar software as stated before is recommended.

Further Evaluation

The team conducting further evaluation may include an arborist, landscape architect, engineer, or other professionals with expertise relevant to the project details and situation. In addition to collecting information about the trees and infrastructure (i.e., sidewalk) the following additional items may be considered:

Level of impact, future risks, cost/benefit, anticipated sidewalk maintenance if the tree is kept, public/environmental benefit, community values, policy guidance, neighborhood context, historic districts, planned construction, funding forecasts.

Solutions

The following best practices and approaches are provided as examples. The City should review and update these as new or improved practices and materials emerge.

- If Tree Removed, Obtain Valuation. If the tree must be removed, the City should provide guidelines to replace the removed tree. Guidelines should be based on City Code, the Zoning Ordinance, and the City guidelines. Ideally, the tree would be replaced at the same location if the site is suitable for trees in the first place. If not possible, the City should have a procedure in place for the relocation of replacement trees.
- If Tree is Retained, Determine Management Approach. Since the initial assessment offered the opportunity to closely examine the tree and the site, future management approaches and decisions should be discussed and documented. These include future tree replacement species for when the tree does over mature and decline or conduct corrective actions to provide clearance for pedestrians, vehicles, utilities, and signs.
- Identify Potential Sidewalk Solutions. The Alternative Solutions Toolkit Overview section provides information and resources regarding sidewalk solution options. Information gathered during the initial assessment and subsequent site visits will support the selection of options that should be presented to the property owner, developer, or City staff to ensure goals of sidewalk repair and tree preservation are kept.
- Identify Opportunities to Improve Conditions for New Trees. When trees are planted by the City, the appropriate tree species for the location should be determined and the City should adhere to best practices in site and tree pit preparation to provide enough soil volume to support tree root growth and minimize future pavement damage by roots. If a tree is being planted at or near where the tree removal request was made, an evaluation of why the request was made should be considered. This may include such things as inadequate soil volume, insufficient growing space, tree leaf litter, messy fruit, poor structure, allergies, screening of shade-intolerant garden or landscape vegetation, or a combination of factors.

Project Implementation

Whether the sidewalk repair is occurring at a location where the tree is retained or removed, the sidewalk must adhere to the Americans with Disabilities Act (ADA) requirements and City standards and is the responsibility of the adjacent property owner. Tree repaving projects, curb and gutter repairs, and other Capital Projects should also adhere to this evaluation process. Policy in Wilsonville describes City staff's responsibility for maintenance, removal or remediation of City-owned trees or in the case of a public safety hazard. Most trees in the right-of-way are the responsibility of the adjacent property owners. Regarding tree maintenance, mitigation, or removal of City-owned trees, the City should involve the public by:

- Providing a public notice prior to the initial tree assessment.
- Share the results of the initial assessment.
- Share the solution decision.

Example Initial Assessment Checklist for Tree Conflicts

This resource can be adapted for the City of Wilsonville to make decisions regarding tree removals and tree and hardscape (i.e., sidewalks) conflicts.

INITIAL ASSESSMENT CHECKLIST

[CITY LOGO]

[City of #####] Trees and Sidewalks Operations Plan
Initial Street Tree and Sidewalk Assessment Checklist

DATE

Prepared By:

The purpose of this document is to outline **INITIAL ASSESSMENT** for locations where sidewalk work is located within the dripline of an existing street tree.

<i>Project Location/Address</i>	
<i>Tree Species/Diameter</i>	
<i>Street Classification/Type</i>	
<i>Tree Asset Inventory ID</i>	
<i>Sidewalk Segment #</i>	
<i>Is this assessment along a corridor project?</i>	

An [ENGINEER] and [ARBORIST] will look at the site and assess the condition of the sidewalk and the tree.

If the tree has the following characteristics, it should be removed/replaced pursuant to SMC 15.43.030 (C): The City's policy is to retain and preserve street trees whenever possible. Accordingly, street tree removal shall not be permitted unless the Director determines that a street tree:

1. Is a hazardous tree;
2. Poses a public safety hazard;
3. Is in such a condition of poor health or poor vigor that removal is justified; or
4. Cannot be successfully retained, due to public or private construction or development conflicts.

Initial Assessment

1. Is the tree healthy and worthy of preservation?

- Yes
- No

Describe: _____

2. Poor Health – Is this tree in a condition of poor health or poor vigor that cannot be mitigated by any means other than removal?

- Yes
- No

Describe: _____

3. Hazardous Tree— Defined in [CITY CODE CITATION] any tree or tree part that poses a high risk of damage to persons using, or property located in the public place, as determined by the [AUTHORITY] according to the tree hazard evaluation standards established by the International Society of Arboriculture.

- Yes
- No

Describe: _____

4. Minimum Standards—Is there enough space for a [6 foot wide sidewalk and a 5 foot wide] planting strip?

Yes

No

Describe: _____

5. Public Safety Hazard—Does the tree present a public safety hazard that cannot be mitigated by any means other than removal?

- Does the tree location obstruct the visibility for pedestrians, cyclists, and/or cars at an intersection?
- Is the tree impacting a curb ramp such that it no longer meets City of [CITY] ADA requirements?
- Is the tree potentially impacting private property?

Yes

No

Use this space to draw a sketch of the location. Identify existing clearances from nearby infrastructure.

Recommendation for this tree:

- Remove Tree / Replace Sidewalk**

A tree is identified to be removed if it is not healthy or if it is hazardous as identified in the Street Tree Ordinance.

- Keep Tree and Maintain Sidewalk**

A tree will be kept and the sidewalk will be maintained if a sidewalk of standard width and a tree pit of standard width (at a minimum) can be installed or retained around a healthy tree.

- Evaluate Sidewalk and/or Tree Further**

[DEPARTMENT] views trees and sidewalks as important public infrastructure assets. [DEPARTMENT] intends to keep healthy trees and have accessible sidewalks. If standard widths cannot be met then [DEPARTMENT] will take the time and resources to evaluate if alternative approaches (such as sidewalk width reduction, alternative sidewalk materials, adjustments to the tree pit and/or tree root pruning) can be used to retain a tree and provide an accessible sidewalk at problem locations.

NEXT STEPS

If Tree is REMOVED –Replace the removed tree with the minimum 2:1 replacement ratio. Identify if the replacement trees can be located in the same location or on the same street as the removed tree. If not, replacements should be planted as close to the removal as geographically feasible. Identify the estimated cost to remove the tree(s), repair the sidewalk, and plant replacement trees.

If Tree is KEPT –Estimate the cost of the sidewalk repair that would achieve the desired lifecycle for the repair. Estimate sidewalk and tree maintenance needs/costs and any maintenance to the tree that is being retained (e.g., root pruning, branch pruning, soil amendments).

If EVALUATE Further – Use Tree and Sidewalk Evaluation Form (IN DEVELOPMENT) and/or the tree risk assessment should follow ISA TRAQ guidelines:
<http://www.isa-arbor.com/education/onlineresources/basicreeriskassessmentform.aspx>

Arborist	Engineer
Title	Title
Date	Date

Alternative Solutions Toolkit Overview

MATERIAL

PAVING AND OTHER SURFACE MATERIALS

These materials can be used to create a walkable surface or to delineate space for people and/or the tree.

DESIGN

INFRASTRUCTURE-BASED DESIGN SOLUTIONS

These design considerations can be employed to support a tree and/or sidewalk.

ROOT

ROOTZONE-BASED MATERIALS

These tools can support tree health and guide tree growth below ground.

TREE

TREE-BASED SOLUTIONS

These solutions are focused on tree selection and tree maintenance.

Table 48. Description of possible alternative solutions for tree and construction conflicts.

TOOL TYPE	TOOLS	PRO-ACTIVE	RESPON-SIVE	COST	EXPECTED USEFUL LIFE MONTH/YEAR/DECADE/CENTURY			
Material	Paving and Other Surface Materials							
	Asphalt	P	R	\$\$\$	M	Y	D	C
	Expansion Joints	P	R	\$	M	Y	D	C
	Pavers	P	R	\$\$-\$\$\$	M	Y	D	C
	Pervious Concrete	P	R	\$\$\$-\$\$\$\$	M	Y	D	C
	Reinforced or Thicker Slab	P	R	\$\$-\$\$\$	M	Y	D	C
	Rockery / Wall	P	R	\$\$-\$\$\$\$	M	Y	D	C
	Beveling	P	R	\$\$	M	Y	D	C
	Porous Asphalt	P	R	\$\$-\$\$\$	M	Y	D	C
	Shims	P	R	\$	M	Y	D	C
	Tree Guards and Tree Rails	P	R	\$\$-\$\$\$	M	Y	D	C
	Decomposed Granite	P	R	\$\$-\$\$\$	M	Y	D	C
	Mudjacking (Concrete Leveling)	P	R	\$\$-\$\$\$\$	M	Y	D	C
Design	Infrastructure-Based Design Solutions							
	Monolithic Sidewalk	P	R	\$\$\$	M	Y	D	C
	Pavement Thickness	P	R	\$\$\$	M	Y	D	C
	Tree Pit Sizing	P	R	\$	M	Y	D	C
	Bridging	P	R	\$\$\$\$	M	Y	D	C
	Curb Bulbs	P	R	\$\$\$-\$\$\$\$	M	Y	D	C
	Curb Realignment	P	R	\$\$\$-\$\$\$\$	M	Y	D	C
	Curving or Offset Sidewalk	P	R	\$\$-\$\$\$	M	Y	D	C
	Easement	P	R	\$\$-\$\$\$	M	Y	D	C
	Suspended Pavement Systems	P	R	\$\$\$-\$\$\$\$	M	Y	D	C
	Lowered Sites	P	R	\$\$\$-\$\$\$\$	M	Y	D	C
Soil Volume	P	R	\$\$-\$\$\$	M	Y	D	C	

TOOL TYPE	TOOLS	PRO-ACTIVE	RESPON-SIVE	COST	EXPECTED USEFUL LIFE MONTH/YEAR/DECADE/CENTURY			
Root	Rootzone-Based Materials							
	Mulch	P	R	\$	M	Y	D	C
	Root Barriers	P	R	\$	M	Y	D	C
	Continuous Trenches	P	R	\$\$\$	M	Y	D	C
	Foam Underlay	P	R	\$\$-\$	M	Y	D	C
	Modified Gravel Layer	P	R	\$	M	Y	D	C
	Root Paths	P	R	\$\$-\$	M	Y	D	C
	Soil Modification	P	R	\$\$-\$	M	Y	D	C
	Steel Plates	P	R	\$\$-\$-\$	M	Y	D	C
	Structural Soils	P	R	\$\$-\$-\$-\$	M	Y	D	C
Subsurface Aeration / Irrigation	P	R	\$	M	Y	D	C	
Tree	Tree-Based Solutions							
	City Forestry Street Tree List	P	R	\$	M	Y	D	C
	Corrective Pruning	P	R	\$\$-\$	M	Y	D	C
	Root Pruning	P	R	\$\$-\$	M	Y	D	C

***General cost notes:**

- Sidewalk material costs, when given in linear feet, assume 6-foot sidewalk width
- Costs are planning-level costs and will vary for actual construction
- Costs do not include design, permitting, or other “soft” costs
- Costs not included in tool costs but which would be necessary with use of some solutions include:
 - Drainage structure and connection
 - Curb ramps

Figure 34. Example of alternative solutions for tree and construction conflicts



Decomposed Granite



Mudjacking



Bridging



Bulbouts



Curb Realignment



Easement



Suspended Pavement



Root Barriers



Foam Underlay



Mod. Gravel Layer



Structural Soils



Root Paths



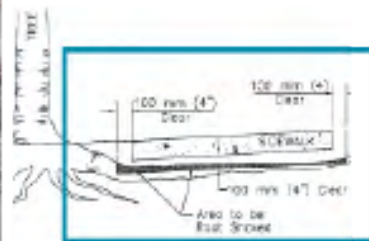
Corrective Pruning



Root Pruning



Root Shaving



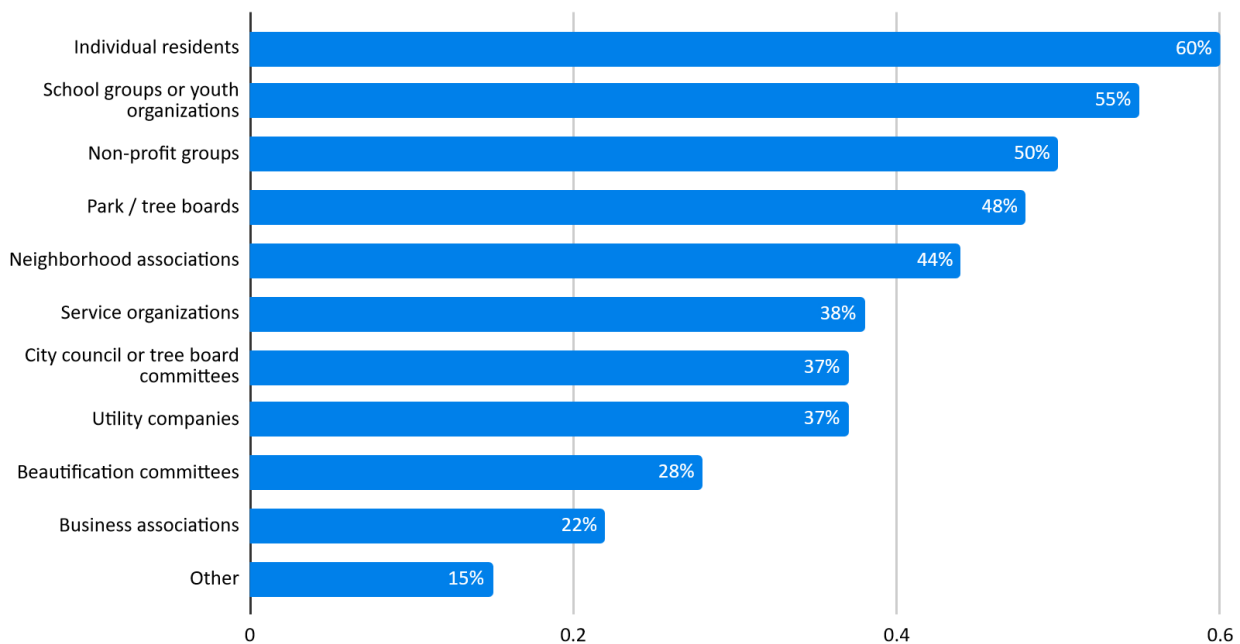
Source of Material Examples & Images:



APPENDIX H. EXISTING AND POTENTIAL URBAN FORESTRY PARTNERS

To manage a sustainable and thriving urban forest a network of supporting partnerships is necessary. With the diverse land ownership types, the extent of social and environmental pressures, and the wide variety of available funds and other resources, planting and the care of urban forests is extremely challenging. Success is increasingly reliant on different interest groups sharing a common ambition, working together in partnership, and leveraging their respective strengths. Urban forestry needs to be delivered at a strategic scale if it is to provide a full range of environmental, social, and economic benefits to the residents of Wilsonville. Therefore, there needs to be an effective and integrated working relationship across public, private, voluntary, and community sectors-with contributions of land, skills, and finance from the widest possible range of partners. This section provides an overview of the importance of partnerships from which the City can utilize as it strives to achieve the goals of the Urban Forest Management Plan.

Figure 35. Groups that support tree care or management based on a survey of 317 communities (Hauer et al. 2014)



The City of Wilsonville may evaluate its current partnership network and the groups listed in the figure above to identify areas for improvement. As shown in the figure, a large portion of urban forestry support comes from the individual residents though there are many unique city organizations to also consider. The City should utilize its existing network of partners to strengthen existing partnerships and identify new opportunities. Using the outcomes of the Urban Forest Management Plan and the goals for community engagement within it will provide the City's urban forestry program and partners with the tools, data, and information necessary to secure these partnerships. The following list is meant to serve as a starting point for consideration of traditional and non-traditional partners in urban forestry. As part of the Urban Forest Management Plan project, a document listing the groups by category is provided. The following list provides the overview of sectors that should be more closely reviewed with the supporting document to identify potential partners and areas where partnerships could be strengthened.

- Nonprofits/NGOs
- Wilsonville Area Organizations/Clubs
- Businesses
- Schools
- Government Organizations – County
- Government Organizations - State
- Government Organizations - Federal
- Healthcare
- Native American Tribes

APPENDIX I. STORM AND DISASTER MANAGEMENT GUIDANCE

Resources

<https://www.fs.usda.gov/naspf/sites/default/files/naspf/pdf/sotuf.pdf>

<https://www.fs.usda.gov/ccrc/topics/urban-forests>

https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/public_works/page/1101/wilsonville_addendum.pdf

<https://drive.google.com/drive/u/3/folders/1fyFSmr3LwYO1Q8wxU1A1ASNuJttDj5RC>

http://www.gicinc.org/storm_mit.htm

Guidance

Preparation – Planning and Warning Activities

1. Install and utilize early warning systems such as the National Weather Service, local news stations, local police and fire departments
2. Maintain the current disaster response plan, verify the following components are included:
 - A. Identify individual/departmental roles
 - 1) Establish an official Tree Care Manager (both for management of the urban forest resource and as the point of contact for storm mitigation efforts)
 - 2) Build a storm mitigation team
 - 3) As assigned in the City's EOP and Debris Management Plans, the Public Works Director or similar is the disaster control supervisor.
 - a) Has overall direction for storm clean-up efforts
 - b) Makes decisions relating to storm clean-up efforts and advises on the need for outside assistance (contractors, other Public Works divisions)
 - c) Is responsible for decisions relative to abandoning other divisional responsibilities in favor of storm damage clean-up efforts
 - d) Works with City Communications Director for alerting media as to the progress and problems associated with the storm
 - e) Coordinates with Natural Resources Director to prioritize response efforts
 - B. Contacts for additional support
 - 1) National level tree service firms
 - 2) Smaller, local tree service firms
 - 3) Utility specialists
3. Create a more resilient urban forest
 - A. Regular tree risk assessments
 - 1) ISA Level 1 or 2 – annually

- a) Dedicated line-item budget for assessments
 - 2) Systematic risk-reduction removals/pruning
 - b) Lightning protection systems for high-value/significant trees
 - 3) Post-storm event level 1 assessments
- B. Planting considerations for storm damage resistance
- 1) Ice Storm Susceptibility of Common Tree Species (see [Table 50](#) for susceptibility ratings of trees within the City's Recommended Tree List, [Appendix A](#))
 - a) Susceptible: Siberian elm, American elm, honeylocust, common hackberry, Bradford pear, American linden, black cherry, black locust, silver maple, pin oak, green ash
 - b) Intermediate: White ash, red maple, northern red oak, yellow poplar, sycamore, eastern white pine, sugar maple
 - c) Resistant: Yellow birch, shagbark hickory, hawthorn, horsechestnut, American hophornbeam, spruce, eastern hemlock, arborvitae, baldcypress, Norway maple, catalpa, ginkgo, sweetgum, white oak, swamp white oak, littleleaf linden, silver linden, Kentucky coffeetree, black walnut, ironwood, beech
 - d) Species that retain foliage into the fall (more susceptible to autumnal ice storms): European white birch, sweetgum, magnolia variety (*Magnolia x soulangiana*), scarlet oak, pin oak, English oak, weeping willow
 - e) Species that leaf out early (susceptible to early spring ice storms): Boxelder, yellow poplar, European mountain ash, Siberian elm
- C. Climate change considerations
- 1) Warmer winter temperatures
 - 2) Increased pest/disease due to more favorable conditions
 - 3) Increased winter precipitation
 - a) More snow and ice loading
 - b) Flooding
 - 4) Decreased summer precipitation
 - a) Drought stress
 - 5) More frequent and intense extreme weather events
 - 6) Mitigation
 - a) Reducing greenhouse gas emissions
 - Allocate resources to trees that mitigate emissions
 - Large hardwoods
 - Maintaining tree canopy
 - b) Promote energy efficiency
 - Strategically planting trees around buildings
 - Increase stormwater infiltration
 - Using wood vs steel in construction projects

7) Adaptation

- a) Planting a diverse mix of pest-tolerant, well-adapted, low-maintenance, long-lived, and drought-resistant trees ensures greater resilience
 - Species type
 - Species to avoid
- b) Planting small groves of especially water-tolerant species in areas receiving peak volumes of stormwater runoff reduces flooding and pollutant transport
- c) Establishing and adhering to regular maintenance cycles
 - Pruning young trees properly promotes strong branch attachments that are less vulnerable
- d) Distribute urban forest benefits equitably
 - Underserved populations will be disproportionately impacted by climate change – focusing on these demographic areas with urban forest solutions can help

Response – Immediate Activities during and after Natural Disasters

1. Storm damage response: IT IS RECOMMENDED THE CITY OF WILSONVILLE REFER TO THE EMERGENCY OPERATIONS PLAN, NATURAL HAZARDS MITIGATION PLAN, AND THE DEBRIS MANAGEMENT PLAN FOR STORM RESPONSE GUIDANCE. THE FOLLOWING PROVIDES GENERAL INFORMATION FOR THE CITY TO CONSIDER WHEN UPDATING THE AFOREMENTIONED PLANS.

A. Funding

- 1) Sources of assistance
 - a) State forestry/natural resources
 - b) Federal disaster relief
 - c) USDA Forest Service

B. Emergency plans and contracts

- 1) Tree damage response. CITY OF WILSONVILLE ONLY RESPONDS TO STREET TREES WITHIN THE PUBLIC RIGHTS-OF-WAY AND TREES WITHIN CITY-OWNED PROPERTY. CITY CANNOT ASSESS, CLEAR, FELL, OR REMOVE TREES ON PRIVATE PROPERTY AFTER AN EVENT.
 - a) Priority streets/corridors for first response
 - CLASS I: First, all life-threatening situations within street rights-of-way and City-owned property should be given priority. The City Fire and Police Department request technical assistance for City staff to address the concern(s) under their supervision and directions. Supervisors should make an on-site visit to determine the severity of the damage in the event of multiple hazardous situations. Crews should remedy the situation to a point where it is no longer life threatening before proceeding to the next location. Final clean up should wait until all life threatening situations are resolved and all streets have been cleared.
 - CLASS II: Second, all major City-owned property damage instances should be remedied to a point where the crisis is abated. Supervisors should personally inspect and determine the priority of the tree management program responses. Again, final clean up at those sites should wait until all streets and specialized areas are cleaned up.

- CLASS III: Third, preferential streets (considered to be all main thoroughfares) should be cleared of fallen trees and debris. State and county highway departments may be called to clear U.S., state and county routes. Because the specialized forestry skills required to abate life threatening and property damage situations would be utilized immediately, the street clearance work (in case of widespread and severe damage) may not be undertaken by tree management program personnel until sometime well after the storm has passed. In this situation, the tree manager should recommend to the Public Works Director that other public works crews be considered to assist in street clearance work. Immediate supervision of these supplementary crews would be under the direction of their respective divisions.

2) Cleanup

a) Debris disposal

- The Public Works develops a budget for normal disposal costs associated with yearly tree maintenance tasks. Major tree debris disposal will require additional funding which may be authorized by the City Manager.

b) Damage Assessment

- The Department of Public Works should immediately issue a press release detailing the magnitude of the storm and the expected clean up time. Provide direction to the Community as to how to properly handle / dispose of their debris.
- A critical tool to assist any emergency response is a current tree inventory of all publicly owned trees. Using the inventory, the City can determine the actual damage to the urban forest. Accurate damage (in dollars) can be assessed and submitted for potential reimbursements. Specific costs can be developed for the repair of the urban forest (pruning, removal, cabling, and rodding).

3) Use i-Tree storm for predictions

4) FEMA contacts/expectations

- C. Participate in the USDA Forest Service's Urban Forest Strike Team training curriculum.

Recovery – Activities to Regain or Improve upon Pre-disaster Conditions

1. Tree planting

- A. Align with a tree planting strategy that provides guidance on priority areas, tree species selection, post-planting care, and routine maintenance.
- B. Align planting with urban tree canopy goals
- C. Utilize the Citywide Recommended Tree List ([Appendix A](#)) and [Table 50](#).

2. Tree care

- A. Conduct young tree training to prevent future maintenance issues, improve structural integrity, and reduce future costs
- B. Conduct routine programmed pruning of established trees in the public tree population to reduce the risk of storm damage
- C. Inventory, assess, and monitor trees to prioritize maintenance and for information useful in prioritizing storm response

D. Implement plant health care for trees affected by pests and diseases. Implement an Integrated Pest Management program for prevention, treatment, and recovery due to pests and diseases

3. Training

- A. Provide or support tree maintenance, planting, and risk assessment training for City staff and community partners
- B. Stay current on research relating to storm disaster prevention, response, and recovery

4. Celebrations

- A. Continue to build support for the urban forest through events and programs such as the Arbor Day celebration, Tree City USA recognition, recognition programs for community tree stewards, memorial tree programs, and the Heritage Tree Program

Implementing and Adapting the 2021 Winter Storm Tree Response Plan

In response to the 2021 winter storm event, the City established and implemented the Winter Storm Tree Response Plan. The following actions were provided by the City and should be updated with the guidance provided in the previous section.

Figure 36. Overview of Wilsonville's 2021 winter storm tree response plan



Table 49. Actions to support Wilsonville's storm tree response plan

ASSESSMENT/DATABASE		
STATUS	ACTION	LEAD*
X	Gather preliminary impressions of impact to street trees, assets on public property, Significant Resource Overlay Zone (SROZ).	CD, PWD, PRD
	Hire two interns to update asset management database (Cartegraph) - focus on street trees, then assets on public property.	PWD
	Update asset management database (Cartegraph) - Data sources: physical assessment, permit applications, community requests for debris pick-up, calls to PW and PRD for hazardous removal, etc.	CD, PWD, PRD
	Assess impact to SROZ, residential lots with SROZ, Homeowners Associations (HOAs) with SROZ and natural areas.	CD/NR
	Reconnect with and involve HOAs in assessment effort.	CD
	Determine level of impact (compare initial inventory to assessment data).	CD, PWD, PRD
	Categorize trees (removed, needs removal, needs further assessment, needs pruning, no action needed).	CD, PWD, PRD
	Use emergency arborist contracts to assess trees in "needs further assessment" category; move to other categories.	CD, PWD, PRD
	Update UFMP with new inventory data.	CD/NR
PERMIT/MITIGATION PROCESSING		
STATUS	ACTION	LEAD*
	Continue processing submitted permits and emergency tree forms.	CD
	Continue advising residents/owners on best course of action.	CD
REPLANTING EVENTS		
STATUS	ACTION	LEAD*
	Partner with Friends of Trees (FOT) for replanting; Neighborhood Trees Program for street trees; possibly Greenspaces Program in parks/open spaces/natural areas.	CD, PW, PRD
	Plan and execute two replanting days with FOT; first wave of replacement = those who sign-up, are willing, in permit process (100 trees per day, replant 200 trees. Cost = \$285 per tree— owner pays \$35, City pays \$250— \$50,000 total paid by PWD and Tree Fund).	CD, PW, PRD
	Use "best tree, best location" replanting method; be aware of potential utility conflicts.	
	Assess effect of replanting effort - compare new plantings with updated inventory.	CD, PW, PRD
	Identify areas still needing replanting - hardest hit, low level replanting, etc.	CD, PW, PRD
	Assess need for future planting events.	CD, PW, PRD

Table 49. Actions to support Wilsonville’s storm tree response plan (continued)

OUTREACH/EDUCATION		
STATUS	ACTION	LEAD*
	Share information about best practices for damage assessment, salvage, proper pruning, tree first aid in BFM, on website, etc.	CD, ADM
	Share best practices information with HOAs.	CD, ADM
	Based on asset management update, reach out to owners of "needs removal" trees to initiate emergency removal process.	CD
	Share information about replanting program and best practices.	CD, ADM
	Consider direct mailing of information on best practices.	CD, ADM
	Reconnect with HOAs to assist in replanting.	CD
	Connect with commercial property owners to provide information about permitting and mitigation best practices.	CD

LONG-TERM REFORESTATION		
STATUS	ACTION	LEAD*
	Identify long-term reforestation plan	CD, PW, PR

RESOURCE LINKS		
How to Make Trees Storm Resistant (TCUSA Bulletin No. 75)		
Tree First Aid After A Storm (ODF)		
Can These Trees Be Saved? (ODF)		
An Oregon Homeowner's Guide to Tree Care		
Wilsonville Street Tree List (most recent revision, Appendix A , and Table 50)		

*Lead = City Departments or Divisions: CD = Community Development; PW = Public Works Department; PR = Parks and Recreation Department; ADM = Administrative

Table 50. Trees in the City’s Recommended Tree Species List ([Appendix A](#)) and storm susceptibility*

COMMON NAME	SCIENTIFIC NAME	STORM SUSCEPTIBILITY
Dawyck Purple Beech	<i>Fagus sylvatica</i> 'Dawyck Purple'	Resistant
Roble Beech	<i>Nothofagus obliqua</i>	Resistant
Fernleaf Beech	<i>Fagus sylvatica</i> 'Asplenifolia'	Resistant
Rivers Purple Beech	<i>Fagus sylvatica</i> 'Riversii'	Resistant
Copper Beech	<i>Fagus sylvatica</i> 'Atropurpurea'	Resistant
Japanese Chinquapin	<i>Castanopsis cuspidata</i>	Resistant
Tricolor Beech	<i>Fagus sylvatica</i> 'Roseomarginata'	Resistant
Chinese Catalpa	<i>Catalpa ovata</i>	Resistant
Hybrid Catalpa	<i>Catalpa xerubescens</i> 'Purpurea'	Resistant
Northern Catalpa	<i>Catalpa speciosa</i>	Resistant
Natchez Crape Myrtle	<i>Lagerstroemia</i> 'Natchez'	Resistant
Bald Cypress	<i>Taxodium distichum</i>	Resistant

Table 50. Trees in the City's Recommended Tree Species List ([Appendix A](#)) and storm susceptibility* (continued)

COMMON NAME	SCIENTIFIC NAME	STORM SUSCEPTIBILITY
Shawnee Brave® Bald Cypress	<i>Taxodium distichum</i> 'Mickelson'	Resistant
Saratoga Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Saratoga'	Resistant
Halka Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Halka'	Resistant
Fairmount Ginkgo Biloba	<i>Ginkgo biloba</i> 'Fairmount'	Resistant
Shangri-La Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Shangri-La'	Resistant
Princeton Sentry Ginkgo	<i>Ginkgo biloba</i> 'Princeton Sentry'	Resistant
Emperor Ginkgo biloba	<i>Ginkgo biloba</i> 'Emperor'	Resistant
Presidential Gold® Ginkgo biloba	<i>Ginkgo biloba</i> 'The President'	Resistant
Autumn Gold Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Autumn Gold'	Resistant
Golden Colonade® Ginkgo Biloba	<i>Ginkgo Biloba</i> 'JFS-UGA2'	Resistant
Magyar Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Magyar'	Resistant
Lavalle Hawthorn	<i>Crataegus X lavalleeii</i>	Resistant
Western Hemlock	<i>Tsuga heterophylla</i>	Resistant
American Hophornbeam	<i>Ostrya virginiana</i>	Resistant
California Buckeye	<i>Aesculus californica</i>	Resistant
Red Horsechestnut	<i>Aesculus x carnea</i>	Resistant
Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	Resistant
Espresso™ Kentucky Coffeetree	<i>Gymnocladus dioicus</i> 'Espresso-JFS'	Resistant
True North™ Kentucky Coffee-tree	<i>Gymnocladus dioicus</i> 'UMNSynergy'	Resistant
Harvest Gold Littleleaf Linden	<i>Tilia</i> 'Harvest Gold'	Resistant
Silver Linden	<i>Tilia tomentosa</i> 'Sterling'	Resistant
Greenspire® Littleleaf Linden	<i>Tilia cordata</i> 'PNI 6025'	Resistant
Coast Live Oak	<i>Quercus agrifolia</i>	Resistant
Interior Live Oak	<i>Quercus wislizenii</i>	Resistant
Holly Oak	<i>Quercus ilex</i>	Resistant
California Black Oak	<i>Quercus kelloggii</i>	Resistant
Bur Oak	<i>Quercus macrocarpa</i>	Resistant
Canyon Live Oak	<i>Quercus chrysolepis</i>	Resistant
Southern Live Oak	<i>Quercus virginiana</i>	Resistant
Swamp White Oak	<i>Quercus bicolor</i>	Resistant
Oregon White Oak	<i>Quercus garryana</i>	Resistant
Gum Drop® Tupelo	<i>Nyssa sylvatica</i> 'JFS-PN Legacy1'	Resistant
Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Resistant
Wildfire Black Tupelo	<i>Nyssa sylvatica</i> 'Wildfire'	Resistant
Black Tupelo	<i>Nyssa sylvatica</i> 'Firestarter'	Resistant

Table 50. Trees in the City's Recommended Tree Species List ([Appendix A](#)) and storm susceptibility* (continued)

COMMON NAME	SCIENTIFIC NAME	STORM SUSCEPTIBILITY
Red Rage® Black Tupelo	<i>Nyssa sylvatica</i> 'Haymanred'	Resistant
Sheri's Cloud Black Tupelo	<i>Nyssa sylvatica</i> 'Sheri's Cloud'	Resistant
English Walnut	<i>Juglans regia</i> 'Carpathian'	Resistant
Tuscarora Crape Myrtle	<i>Lagerstroemia</i> 'Tuscarora'	Intermediate
Muskogee Crape Myrtle	<i>Lagerstroemia</i> 'Muskogee'	Intermediate
Exclamation™ London Plane-tree	<i>Platanus xacerifolia</i> 'Morton Circle'	Intermediate
Bloodgood London Planetree	<i>Platanus x acerifolia</i> 'Bloodgood'	Intermediate
Columbia London Planetree	<i>Platanus x acerifolia</i> 'Columbia'	Intermediate
Yarwood London Planetree	<i>Platanus x acerifolia</i> 'Yarwood'	Intermediate
Liberty London Planetree	<i>Platanus x acerifolia</i> 'Liberty'	Intermediate
October Glory Red Maple	<i>Acer rubrum</i> 'October Glory'	Intermediate
Red Sunset Maple	<i>Acer rubrum</i> 'Franksred' REDSUNSET	Intermediate
Armstrong Red Maple	<i>Acer rubrum</i> 'Armstrong'	Intermediate
Bambooleaf Oak	<i>Quercus myrsinifolia</i>	Intermediate
Silverleaf Oak	<i>Quercus hypoleucoides</i>	Intermediate
Forest Green® Oak	<i>Quercus frainetto</i> 'Schmidt'	Intermediate
Blue Oak	<i>Quercus douglasii</i>	Intermediate
Cork Oak	<i>Quercus suber</i>	Intermediate
Sawtooth Oak	<i>Quercus acutissima</i>	Intermediate
Willow Oak	<i>Quercus phellos</i>	Intermediate
Chinkapin Oak	<i>Quercus muehlenbergii</i>	Intermediate
Red Oak	<i>Quercus rubra</i>	Intermediate
Shumard Oak	<i>Quercus shumardii</i>	Intermediate
Canby Oak	<i>Quercus canbyi</i>	Intermediate
Hungarian Oak	<i>Quercus frainetto</i>	Intermediate
Valley Oak	<i>Quercus lobata</i>	Intermediate
Oracle Oak	<i>Quercus xmorehus</i>	Intermediate
Monterrey Oak	<i>Quercus polymorpha</i>	Intermediate
City Sprite® Japanese Zelkova	<i>Zelkova serrata</i> 'JFS-KW1'	Intermediate
Wireless® Japanese Zelkova	<i>Zelkova serrata</i> 'Schmidtlow'	Intermediate
Village Green® Japanese Zelkova	<i>Zelkova serrata</i> 'Village Green'	Intermediate
Green Vase® Japanese Zelkova	<i>Zelkova serrata</i> 'Green Vase'	Intermediate
Scarlet Oak	<i>Quercus coccinea</i>	Intermediate, Late Fall Foliage
Tuliptree	<i>Liriodendron tulipifera</i>	Intermediate, Early Spring Foliage

Table 50. Trees in the City's Recommended Tree Species List ([Appendix A](#)) and storm susceptibility* (continued)

COMMON NAME	SCIENTIFIC NAME	STORM SUSCEPTIBILITY
Valley Forge American Elm	<i>Ulmus americana</i> 'Valley Forge'	Susceptible
Jefferson American Elm	<i>Ulmus americana</i> 'Jefferson'	Susceptible
Princeton American Elm	<i>Ulmus americana</i> 'Princeton'	Susceptible
Hackberry	<i>Celtis occidentalis</i>	Susceptible
Halka® Honeylocust	<i>Gleditsia triacanthos</i> 'Christie'	Susceptible
Shademaster Honeylocust	<i>Gleditsia triacanthos</i> 'Shademaster'	Susceptible
Skyline® Honeylocust	<i>Gleditsia triacanthos</i> 'Skycole'	Susceptible
Redmond American Linden	<i>Tilia americana</i> 'Redmond'	Susceptible
Willamette Valley Ponderosa	<i>Pinus ponderosa</i> x <i>benthamiana</i>	Susceptible

* Storm Susceptibility ratings are based on USDA Forest Service and University of FL Institute of Food and Agricultural Sciences research. Rating does not guarantee susceptibility or resistance to any listed species.



URBAN FOREST
MANAGEMENT PLAN
WILSONVILLE, OREGON

OCTOBER 2021

HEALTHY TREES, HEALTHY CITY



*Back cover photo courtesy of Sandy Wilson, winner of the UFMP photo contest,
November 2020*



WILSONVILLE'S URBAN FOREST MANAGEMENT PLAN



A PRESENTATION OF THE UFMP TO WILSONVILLE CITY COUNCIL



NOVEMBER 1, 2021



WELCOME & INTROS



Chris Peiffer, Project Manager
PlanIT Geo



Kerry Rappold, Natural Resources Manager
City of Wilsonville



May 2020 – December 2021

- ✓ May 2020 Project Kickoff
- ✓ Jul 2020 Tree Inventory
- ✓ Aug 2020 Research & Discovery
- ✓ Sept 2020 Survey & Meeting #1
- ✓ Oct 2020 City Staff Workshop
- ✓ Nov 2020 Survey & Meeting #2
- ✓ Jan – Mar 2021 Plan Drafting
- ✓ Sept 2021 PC Presentation
- ✓ Oct 13, 2021 Draft Plan with PC
- Nov 1, 2021 Council Work Session
- Nov 2021 Plan Adoption with PC
- Dec 2021 Plan Adoption with Council

AGENDA



Project Overview



Plan Highlights



Urban Forest Vision & Goals



Actions to Support Goals



Summary & Next Steps



Open Discussion



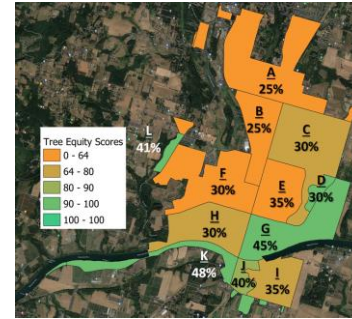
OVERVIEW OF PLANNING APPROACH



UFMP HIGHLIGHTS

Urban Forest Analysis

- Updated Tree Inventory
- Inventory Analysis
- Ecosystem Services and Benefits
- Tree Equity Analysis
- Focus Areas
- Benchmarking Research
- Urban Forest Audit
- Research Summary



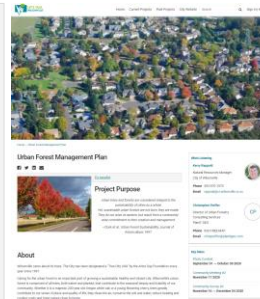
Urban Forest Management

- Staff Interviews
- Focus Area Tree Preservation
- Focus Area Tree Removals
- Storm Prep and Response
- Recommended Tree List
- Canopy Goal Setting
- Tree Planting Prioritization
- Funding Mechanisms
- Trees and Hardscape Solutions



Community Engagement

- Two Online Surveys
- Two Public Meetings
- Photo Contest
- Let's Talk, Wilsonville!
- Boones Ferry Messenger
- Existing and Potential Partners



UFMP HIGHLIGHTS

Goal and Action Framework

- 25-Year Horizon
- Urban Forest Vision
- Tree Canopy and Equity Goal
- Management, Staffing, Assessments
- Plans, Engagement, Tree Management
- Evaluation and Monitoring Plan



- 1 TREE MANAGEMENT POLICY (MP):**
The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.
- 2 CAPACITY, TRAINING, AND AUTHORITY (CT):**
Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.
- 3 ASSESSMENTS AND PLANS (AP):**
A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.
- 4 COMMUNITY ENGAGEMENT (CE):**
Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.
- 5 GREEN ASSET MANAGEMENT (GA):**
Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

PRIORITY	EFFORT	ACTION # ORDER	TREE MANAGEMENT POLICY (MP) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR	ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
High	High	MP.01 11	Support canopy goals in Town Center with effective tree preservation policies (i.e., City Code 4.600 - 4.640.20). Use Appendix B-E as guidance.	● ● ● ● C H E N	CD, PW 2022	MP.01: Guidance in Appendix B-E of the UFMP is reviewed and incorporated accordingly (Year 1)	MP.01: Tree preservation policies are enforced in Town Center (Year 1)	MP.01: The City has staffing levels to adequately monitor development projects and enforce tree preservation policies to achieve canopy goals in Town Center (Year 25)
Low	High	MP.02 15	Strengthen storm and disaster preparations, mitigations, recovery strategies, and protocols (see Appendix I), protocols, and mechanisms, including flexibility related to obvious tree removals to shorten the permitting process.	● ● ● ● C H E N	CD, PR, PW 2022	MP.02: Appendix I is reviewed and a strategy is developed (Year 1)	MP.02: A plan or manual detailing storm and disaster preparation, response, and mitigation is updated (Year 2)	MP.02: The plan or manual is actively utilized and reduces costs of storm response. The urban forest is more resilient (Year 25)
High	Low	MP.03 27	Complete a comprehensive high-resolution urban tree canopy (UTC) assessment using industry recommended protocols to measure progress towards canopy goals and tree equity.	● ● ● ● C H E N	CD, PW 2025	MP.03: A decision on in-house or consultant-led tree canopy assessment is determined (Year 3)	MP.03: A budget proposal is prepared if needed (Year 4)	MP.03: An urban tree canopy assessment is completed and canopy goals are established, supported by Master Tree Planting Plans (Year 5)
Low	High	MP.04 30	Develop a tree manual for planners, developers, homeowners, and tree care companies that includes tree-related policies, guidelines, best practices, and standards.	● ● ● ● C H E N	CD 2026	MP.04: A statement of need and an outline for the tree manual(s) is prepared (Year 4)	MP.04: A decision on in-house or consultant-led manual is determined (Year 5)	MP.04: Tree manual(s) developed to support goals of a healthy and sustainable urban forest (Year 6)

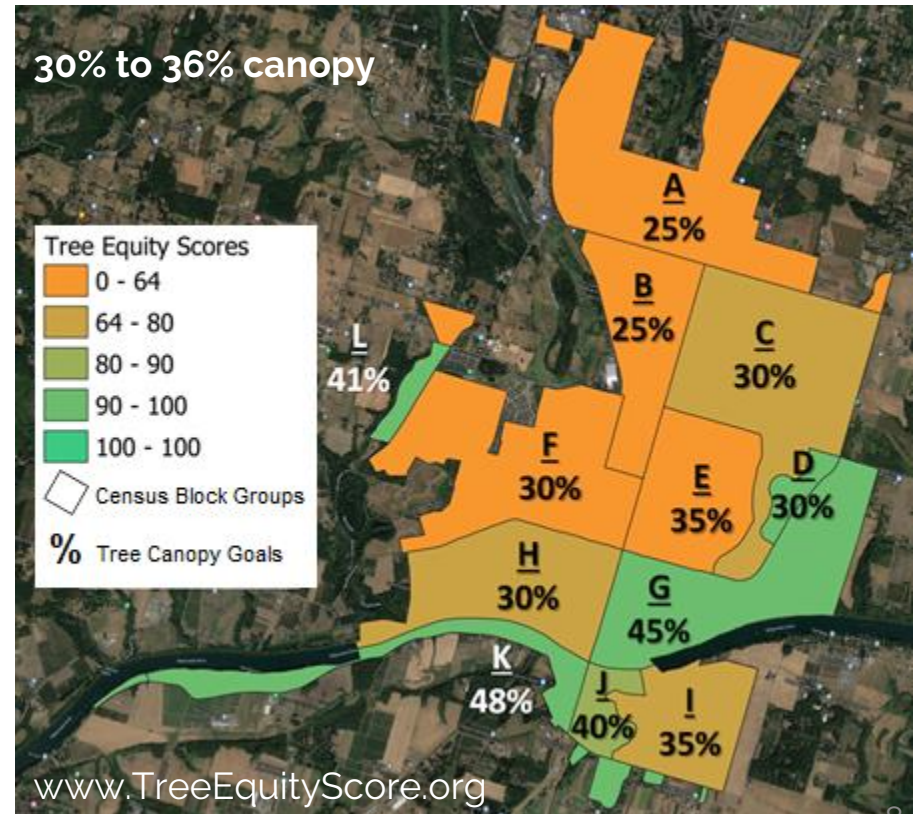
URBAN FOREST VISION



“36 by 46”

36% tree cover by 2046

- ✓ 6% increase
- ✓ 27k new trees
- ✓ All CBGs at 75 or higher tree equity
- ✓ Preserve existing canopy
- ✓ City-community
- ✓ Derived from TreeEquityScore.org



URBAN FOREST GOALS



AUDIT CATEGORY/GOAL THEME	GOAL DESCRIPTION
Tree Management Policy (MP)	The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.
Capacity, Training, and Authority (CT)	Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.
Assessments and Plans (AP)	A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.
Community Engagement (CE)	Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.
Green Asset Management (GA)	Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Tree Management Policy (MP)

Support **canopy goals** in Town Center with effective tree **preservation** policies...

Strengthen **storm** and **disaster** preparations, mitigations, recovery **strategies**, and protocols (see Appendix J).

Complete a...canopy (**UTC**) **assessment**...to measure progress towards canopy goals and tree equity.

Develop a **tree manual** for planners, developers, homeowners, and tree care companies that includes tree-related policies, guidelines, best practices, and standards.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Capacity, Training, and Authority (CT)

Establish an **urban forestry working group**...to monitor progress of implementing actions...

Maintain International Society of Arboriculture (**ISA**) **Certified Arborist certifications** and other credentials...

Educate and **train** City **staff** to adhere to **BMPs**...Provide **public education** for the proper care of trees on private property and trees adjacent to their property in the right-of-way.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Assessments and Plans (AP)

Maintain an **inventory** of **public trees** Citywide and within Focus Areas...

Master Tree Planting Plan for Town Center... Preserve existing trees in Town Center...

Master Tree Planting Plan for Charbonneau's aging oak (Quercus) population...

Complete an urban forest **audit**...modify existing actions and develop new actions...

...develop a **Trees and Construction Operations Plan** for...conflicts between public trees and infrastructure/construction.

Quantify the ecosystem **benefits**...informs maintenance and planting recommendations and raises public awareness of urban forest benefits.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community Engagement (CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

...**events**...especially involving **youth**—relating to tree planting and pruning...Prioritize areas with **lower** urban tree **canopy**...

Continue to...maintain Arbor Day **Tree City USA** designation.

...strengthen **partnerships**...Clarify tree maintenance **authority** and **responsibilities** among entities...

...provide...**workshops**...about the proper tree **species**...current and future pest/disease **concerns**...

...utilize the **City Tree Fund** for homeowner mitigation plantings.

...sustain **partnerships** with **local** and **regional** organizations...

Develop strategies to **remove barriers** to participation for all community members...

Recognize exemplary urban forest **stewards** and volunteers...

Conduct biannual **community surveys**...

Establish **non-conventional** partnerships...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Green Asset Management (GA)

...**long-term planning** and **management** of existing and future tree **pests** and **diseases**...

Prioritize and mitigate **risk** trees...**young** and **large** tree **maintenance**...inform adjacent **property owner(s)** of...**responsibilities**...

...**strategic** approach to tree **species** and **site selection**...

...effectively **plant** and **maintain** trees **aligned** with canopy **goals** and provide **post-planting care**.

Feedback Received from PC in September & October

Tree Canopy and Tree Equity

- Described limitations of Tree Equity Scores (CBGs not Citywide)
- Recommend refining goals based on Citywide UTC Assessment
- Recommend finer scale canopy goals (e.g., neighborhoods)
- Recommend canopy goal setting for public vs. private land

Urban Forest Focus Areas

- Stated other current and future focus areas exist
- Provided additional tree maps

Community Outreach/Education

- Expanded audiences to include HOAs
- Emphasized need for tree manuals for landowners/managers
- Emphasized outreach/education as priority for UFMP success

Changes to Wilsonville's Urban Forest Management Plan

Based on feedback received from the City's Planning Commission on October 13, 2021

See "Updated – Wilsonville OR UFMP – Oct2021" PDF for the following updates:

- Page VIII – Supporting the Vision: Wilsonville's Tree Canopy and Equity Goal, 2nd paragraph:
 - Added the following sentences to the end of the 2nd paragraph:
 - "This Citywide goal to increase tree canopy cover and tree equity is initially based on the amalgamation of Tree Equity Scores for each of the Census Block Groups (CBGs) in Wilsonville. The CBGs in Wilsonville do not encompass the entire City land area. Therefore, this Plan recommends the City conduct further analyses such as a high-resolution Urban Tree Canopy assessment to refine the data and finalize tree canopy and equity goals [Action MP.03]."
- Page 7 – Wilsonville's Urban Forest Focus Areas, end of paragraph:
 - Added the following sentences:
 - "Two focus areas in the City were identified for closer evaluation as part of the planning effort— Town Center and Charbonneau. The City recognizes there are other focus areas and that there may be new focus areas in the future, but Town Center is experiencing redevelopment and Charbonneau has an aging population of oak trees making these areas a priority as part of this Plan."
- Page J – Appendix B. Tree Canopy Goal Setting Guidance, end of 1st paragraph:
 - Added the following sentences:
 - "It is recommended the City analyze these land cover types by neighborhood, ownership type, and land use among other planning boundaries to develop local canopy goals. In addition, the City should coordinate the planning and goal setting with neighborhood organizations and partners to develop the most feasible and supported strategies. These analyses and strategies should be conducted in addition to the Tree Equity Score analysis completed as part of the Urban Forest Management Plan."
- Page K – Setting Canopy Goals
 - Reworded the following sentences in the first paragraph:
 - For Wilsonville, the planning consultants conducted an analysis of tree equity and developed draft canopy goals to raise the Tree Equity Score (TreeEquityScore.org) of all Census Block Groups in Wilsonville to at least a score of 75 out of 100. This section provides the guidance to establish recommended tree canopy goal tiers, refine the Tree Equity Score goal, and adopt a Citywide canopy goal once the UTC assessment is completed."
- Page L – Citywide and Zoning Type Tree Canopy Goals, new paragraph after 1st paragraph
 - Added a new paragraph:
 - "Goals to preserve and increase tree canopy throughout the City should be based on a combination of criteria—most notably, ownership type. Ownership type refers to the public land managed by the City and the private land managed by property owners or other entities. In Wilsonville, the City maintains public trees within public parks and open space, on public properties, and some trees within the public rights-of-way. The City only oversees private trees for development projects. In most cases, private property owners maintain street trees in the public rights-of-way and on private property. The UTC assessment would identify the amount of tree canopy and available planting space by these ownership types. Often times with these studies, it is found that the majority of tree canopy as well as the potential space for new trees exists on residential land. This general trend along with the shared maintenance responsibility

OPEN DISCUSSION





PLANNING COMMISSION STAFF REPORT

Meeting Date: October 13, 2021		Subject: Urban Forest Management Plan	
		Staff Member: Kerry Rappold, Natural Resources Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable	
		Comments: N/A	
Staff Recommendation: Review and provide input on the draft Urban Forest Management Plan.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities Stewardship of the Environment and Natural Resources	<input type="checkbox"/> Adopted Master Plan(s)	<input checked="" type="checkbox"/> Not Applicable	

ISSUE BEFORE COMMISSION: The project team will provide an overview of the draft Urban Forest Management Plan (UFMP) and seek input from the Planning Commission.

EXECUTIVE SUMMARY:

In 2020, the City began the UFMP to guide the City's programs and actions related to the urban forest. Active management of the community's urban forest is becoming more critical as it ages and changes. This will be the City's first comprehensive Urban Forest Management Plan. With the initial timeline for the project, the draft Plan was scheduled for the Planning Commission in late spring, but due to delays in finalizing the draft Plan and the opportunity to incorporate new data from an updated street tree inventory that resulted from the winter storm, the draft Plan was rescheduled for the fall.

The UFMP provides an integrated approach to preserving, sustaining and regenerating Wilsonville's urban forest into the future. While the UFMP covers the entire City, it has two focus areas: Charbonneau and Town Center. In Charbonneau, the focus was primarily on the red oak population along French Prairie Road, and in Town Center, an inventory was conducted identifying trees that would be good candidates for retention as part of future redevelopment scenarios. Recommendations in the Plan address issues and topics specific to the urban forest in these areas. An important foundational component of the UFMP is the City's street tree inventory completed in 2018. Over 24,000 trees were inventoried and entered into the City's asset management system in Cartegraph. The inventory provided a critical starting point for developing the Plan as it relates to the management of publically owned trees.

An interdisciplinary team, comprised of staff from Community Development, Public Works, and Parks and Recreation, have participated with the consultant (PlanIt Geo) and public in the development of the Plan. The team members have provided their expertise about Wilsonville's urban forest and identified key issues to be addressed within the Plan.

In fall of 2020, the public participated in online surveys and virtual meetings, available on Let's Talk, Wilsonville!, to discuss the planning process, Plan framework, and focus areas. Nearly 100 people took the surveys and participated in the virtual meetings. In addition, more than eighty tree photos were submitted by residents as part of a project photo contest. Ultimately, three prize winners were chosen and their photos will be featured prominently in the Plan document.

In September, the project team presented the goals and actions for the UFMP at the Commission meeting and received feedback from the commissioners. At this work session, the project team will highlight the key elements of the UFMP. To finalize the development of the draft Plan prior to the Planning Commission public hearing scheduled for November 10, 2021, the project team seeks feedback on the following questions:

- Does anything in the draft Urban Forest Management Plan require edits or modifications?
- Are there any other key elements or considerations that should be included in the draft Urban Forest Management Plan?

EXPECTED RESULTS:

The project team will incorporate input from the Commission into the final draft of the Urban Forest Management Plan for the adoption hearing.

TIMELINE:

Based on the work session, the project team will incorporate the Commission’s input to present a final version of the draft for the November 10 public hearing before the Planning Commission.

CURRENT YEAR BUDGET IMPACTS:

The approved FY 2020-21 Wilsonville budget included \$18,000 in general funds as part of Project #3006 Charbonneau Street Tree Study and \$38,500 in general funds as part of Project #9165 Urban Forest Management Plan for the planned work. A supplemental budget adjustment was approved to add unspent general funds from FY 2019-20 to the project, which includes an estimated \$22,000 from Project #3006 and \$28,000 from Project #9165. The unspent budget from the previous fiscal year was rolled over into the approved FY 2021-22 Wilsonville budget.

FINANCIAL REVIEW / COMMENTS:

Reviewed by: Date:

LEGAL REVIEW / COMMENT:

Reviewed by: Date:

COMMUNITY INVOLVEMENT PROCESS:

Community involvement and public outreach have been a key component of the project. Surveys, virtual open houses and the photo contest have provided a variety of opportunities for the public to engage in the process and provide their input.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY (businesses, neighborhoods, protected and other groups): The UFMP identifies actions that support a healthy and regenerative urban forest across Wilsonville’s publically and privately owned lands through the combined efforts of City government, businesses, and residents. It will be important to engage the community in the care of our urban forest and make them a partner in implementing the Plan.

ALTERNATIVES:

N/A

CITY MANAGER COMMENT:

ATTACHMENTS:

- A. Draft Urban Forest Management Plan – October 2021



URBAN FOREST
**MANAGEMENT
PLAN**

WILSONVILLE,
OREGON

OCTOBER | 2021



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URBAN FOREST MANAGEMENT PLAN WILSONVILLE, OREGON



ACKNOWLEDGMENTS

A special “thank you” to community members and all who participated in this planning process. We appreciate your time and input.

City Council

Mayor Julie Fitzgerald
Kristin Akervall, Council President
Charlotte Lehan, Councilor
Joann Linville, Councilor
Ben West, Councilor

Planning Commission

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Jennifer Willard, Vice Chair
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A VISION FOR WILSONVILLE'S **URBAN FOREST**

Healthy Trees, Healthy Wilsonville. Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.

WILSONVILLE URBAN FOREST MANAGEMENT PLAN MISSION STATEMENT

The City of Wilsonville, in partnership with the community and urban forestry consultants, completed this Urban Forest Management Plan in 2022. This Plan is a guide to maintain, protect, and enhance Wilsonville's already extensive tree canopy cover resource and the multitude of associated benefits. The Urban Forest Management Plan extends beyond maintenance and operational guidance to include a variety of long-term goals, strategies, and priorities to achieve optimal levels of urban forest management, sustainability, and equity in a comprehensive and systematic manner. Achieving the goals set forth in this Plan requires a shared commitment and partnership between the City and its community to sustain a thriving urban forest providing benefits to Wilsonville's environment, economy, and well-being for future generations.

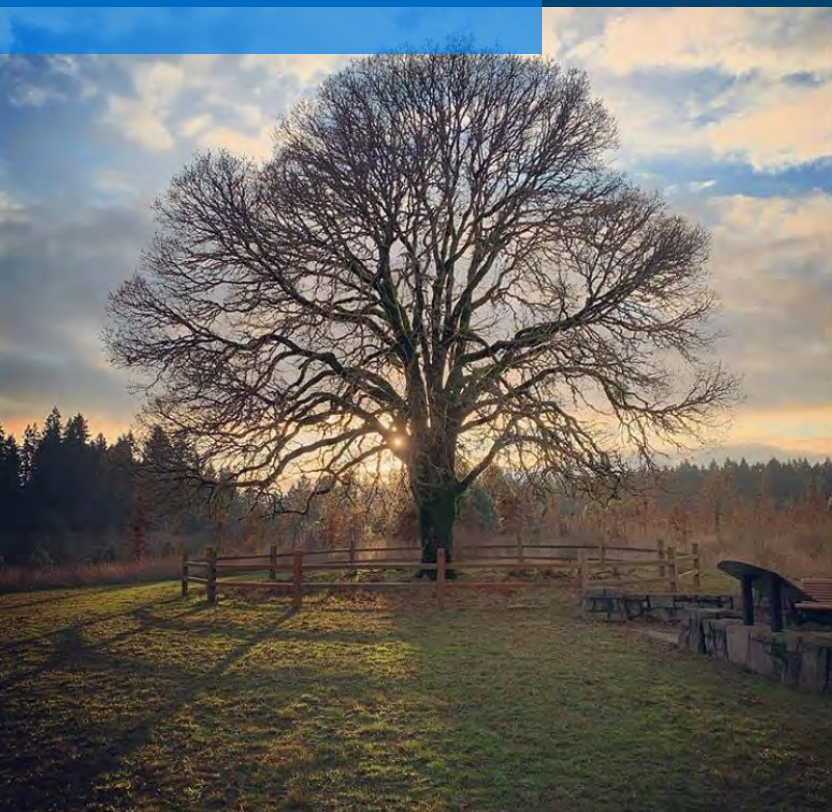


Photo courtesy of Zach Herrmann, winner of the UFMP photo contest, November 2020

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**HEALTHY
TREES,
HEALTHY
CITY**



**WILSONVILLE
OREGON**

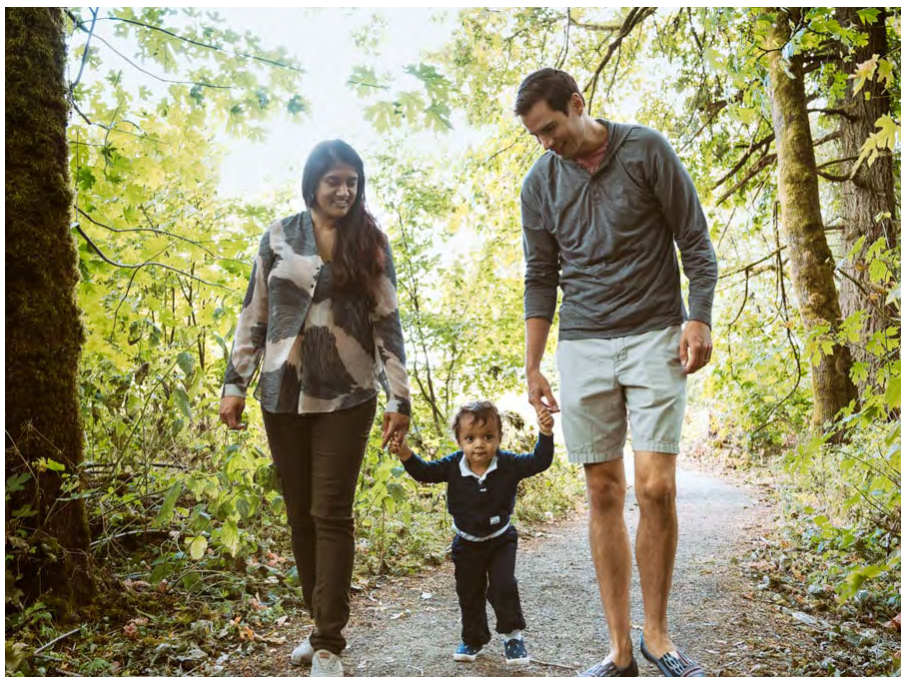


PLANIT GEO™
mapping a greener future

**2021
Urban Forest
Management Plan**

EXECUTIVE

 SUMMARY



HEALTHY TREES, HEALTHY WILSONVILLE

Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.

WILSONVILLE'S URBAN FOREST TODAY

Wilsonville's urban forest is a thriving, constantly evolving blend of native and ornamental (or planted) trees located throughout the community that citizens cherish and which provides a unique sense of place rich with natural beauty defining Wilsonville's identity.

Wilsonville's location in the north Willamette Valley, along the banks of the Willamette River result in a beautiful landscape that blends mature native Oregon white oak specimens that have been incorporated into the fabric of the community with the planted trees that are part of the development of the city over the past 50 years. Together, these elements combine to create the City of Wilsonville's urban forest.

The numerous creeks traversing the City are lined with large stands of native coniferous trees, mostly Douglas-fir, that create unique wildlife habitat, shade creeks and provide picturesque backdrops to many of the community's neighborhoods. The planted trees are a unique mix of species that line streets, enhance parks and shade shopping and employment areas with canopy providing visual interest and seasonal beauty through a diverse mix of species. Many cultivated varieties of oak, maple, ash and linden, amongst others, come together to create the dynamic and evolving urban forest we know and appreciate today.

The City has a vibrant urban forest that continues to be created, modified, and removed primarily by people, and sustaining it will require ongoing human intervention. The goal of this intervention is a sustainable urban forest— an urban forest that optimizes the benefits of trees while meeting established safety and economic goals. Achieving this requires robust management, diverse funding, adequate staffing, effective policies, and maintenance actions consistent with best practices.

The urban forest offers many benefits, some of which are directly identifiable and quantifiable, and others that are experienced. Recognition of the role urban forests play in improving human health and well-being in addition to being critical climate change mitigators continues to increase

Photo courtesy of "Rene", photo contest contestant, November 2020

An analysis of the total street and public tree population valued the ecosystem services and benefits at an estimated \$35.5 million annually. The trees that have been inventoried in the City (25,950 trees) provide an annual value of over \$1.9 million. Most notably, these inventoried trees prevent over 4.6 million gallons of stormwater runoff annually by intercepting precipitation. The function and structure of the inventoried tree population results in a replacement value of over \$46.4 million as of 2020. The City's legacy of trees continues to grow and caring for this asset is an important part of maintaining a sustainable and vibrant city.

This Urban Forest Management Plan is the City's first of its kind. This Plan will set the stage for future actions and efforts that will ensure the long-term health, management and success of the trees that comprise the urban forest. In the Plan, two specific focus areas were analyzed, the Town Center area and the Charbonneau District. In Town Center, a recently adopted master plan (2020) envisions redevelopment of significant portions of the area. Redevelopment will be dependent on understanding the health and condition of the existing trees so the City can determine what to incorporate into the next generation of projects in the Town Center. In Charbonneau, the focus of the study area is the over 800 mature northern red oaks that line French Prairie Drive. These trees are a defining element of the Chabonneau community and have become very large, presenting challenges with existing infrastructure and improvements. Balancing the needs of this red oak population with the needs of the residents of the Charbonneau community is a focus of the Plan.

Over the past year, the community has experienced extreme weather events that are an indication of global climate change. Massive scale fire events in the area to the south over the summer of 2020 were followed by a devastating ice storm in the winter of 2020 that took a significant toll on the urban forest as a whole. Interns were hired in the summer of 2021 to update the citywide inventory of 2018 to determine what trends could be observed so that adjustments to the management of the City's urban forest could take place.

In August 2021, the interns completed a report about the update to the 2018 Street Tree Inventory. Many trees were destroyed, or damaged beyond recovery, during the winter storm, and the report provides a comprehensive analysis of the tree loss and insight into the characteristics of those trees that suffered damage. Results from the updated Street Tree Inventory provide a unique opportunity to quantify and assess the resilience and vulnerability of Wilsonville's urban forest.





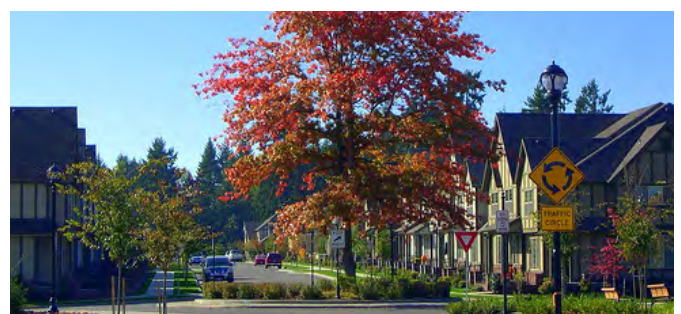
PUBLIC ENGAGEMENT PROCESS

Prior to the development of the City of Wilsonville’s Urban Forest Management Plan, the Program Manager of the City’s Natural Resources Program and supporting staff worked with City departments, partners, and the community to identify the needs of the urban forest. To inform the Plan, a series of meetings and interviews were conducted with 13 City staff representing three departments and six divisions for a comprehensive understanding of urban forest management workflows, strengths, challenges, and priorities. In addition, traditional and non-conventional stakeholder engagement occurred throughout the planning process.

The public engagement sessions consisted of virtual public meetings, two online surveys (~100 participants), news articles, social media posts, content sharing on Let’s Talk, Wilsonville!, and a photo contest where nearly 90 photos from the public were submitted.

Feedback received through these efforts was used to produce a draft Plan with a shared vision for the urban forest. The team then shared draft goals, strategies, and actions with City staff, key stakeholders, and the citizens of Wilsonville to ensure initial input was accurately captured. The team received specific feedback related to managing the urban forest for extreme weather events such as the February 2021 ice storm, consistent and inclusive outreach to all neighborhood groups, and tree preservation and removal guidance in the project’s focus areas of Town Center and Charbonneau.

Action priorities were developed to provide technical guidance for City departments that are relevant, accessible, and tangible to the community.



MANAGING THE URBAN FOREST

The urban forest is comprised of trees across the City landscapes with varying ownership, maintenance responsibility, and authority. The table below provides an overview of the tree types and respective maintenance responsibility.

Table 1. Trees comprising the urban forest and the maintenance responsibility

	Tree Type	Public Trees	Street Trees	Private Trees	Maintenance Responsibility
	Definition	Trees maintained by the City	Trees in the public right-of-way	Private property trees	City (C) or Property Owner (P)
Locations					
Public Parks & Open Space		X	O	O	C
Rights-of-Way		/	X	O	C/P
Public Properties		X	O	O	C
Private Property		O	O	X	C/P (City oversight on development)

X = Yes; O = No; / = Partly or Some

Primarily, the City maintains public trees within public parks and open space, on public properties, and some trees within the public rights-of-way. The City only oversees private trees for development projects. In most cases, private property owners maintain street trees in the public rights-of-way and on private property. Currently, the City has an inventory consisting of street and public trees. This shared responsibility demonstrates the need for coordinated efforts and cooperation guided by the Urban Forest Management Plan.

The City has a diversity of existing policies, programs, regulations, and incentives that are used to manage Wilsonville’s urban forest. Three City departments are engaged in Wilsonville’s urban forest planning effort to provide important expertise, perspective, and resources to this commitment. The management of the City’s public tree population is funded by nearly \$272,000 (2020) and is overseen by experienced and qualified personnel. The City urban forestry team within the Community Development Department, Public Works, and Parks and Recreation departments plants and cares for public and City-owned street trees, provides free trees for residents through partnering organizations, protects and restores forested parklands, manages public park and open space trees on over 1,500 acres, regulates the removal of trees, and promotes stewardship of the urban forest. Interdepartmental coordination is essential for effective management and consistent delivery of urban forestry programs.

Wilsonville’s urban forest is a diverse ecosystem consisting of young and mature trees of varying species, function, and associated benefits.

Figure 1. Maps of trees inventoried in Wilsonville

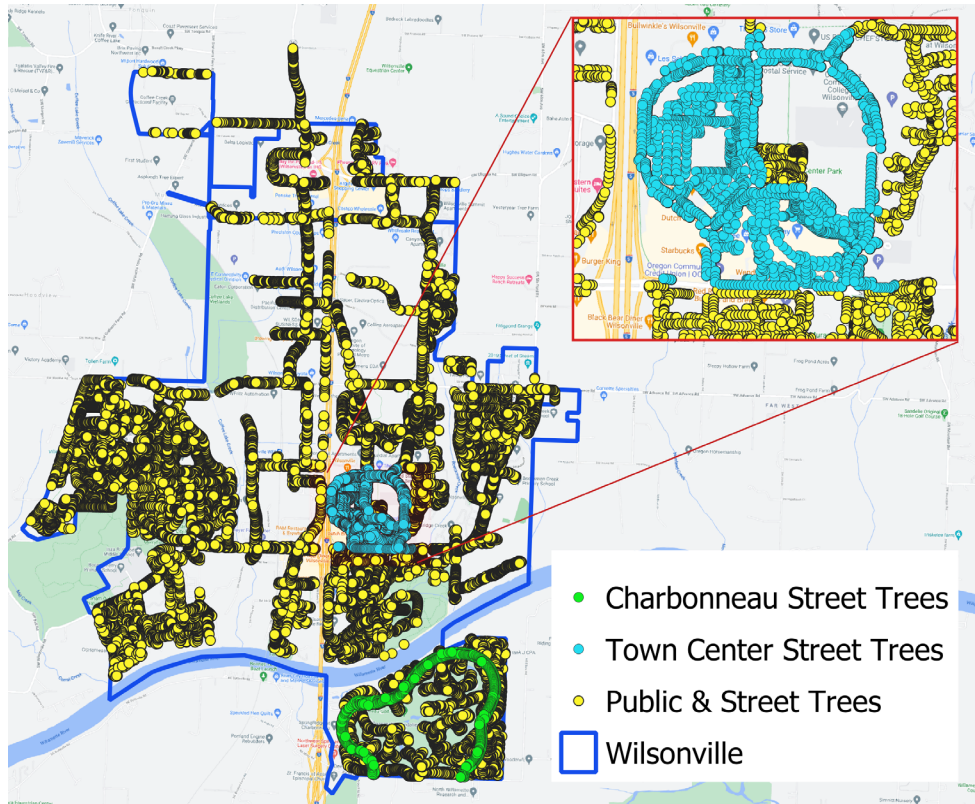
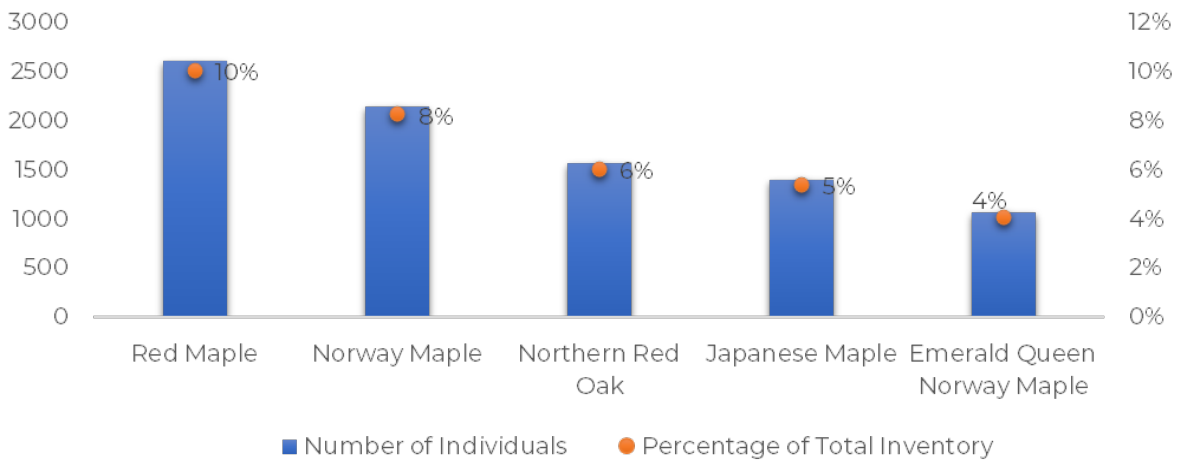


Figure 2. Most common public trees in Wilsonville



PLANNING THE URBAN FOREST

The planning process consisted of two phases; the needs assessment summarized in the Research Summary and the goal and action framework in this Urban Forest Management Plan. The first phase establishes a baseline from which short- and long-term strategies can be developed and monitored over time. The needs of the urban forest and the programs that manage it were evaluated through an audit of existing conditions and operations to establish a baseline from which progress can be measured. This diligent approach to Wilsonville's urban forest management gauges the City's readiness and available resources to achieve optimal levels of urban forest management and sustainability. Through this phased approach, a comprehensive understanding was gathered of the urban forest, the programs that manage it, and the community that benefits from and shapes it to inform strategic goals and actions.

The main tenets of this Plan focus on ensuring public safety, increasing operational efficiencies, facilitating short- and long-term sustainable urban forest planning, validating budgets and programs, ensuring equitable distribution of green resources and services, and standardizing methodology for asset management of the urban forest.

The Urban Forest Management Plan adheres to the following guiding principles:

- Recognize that the trees of the urban forest are more than aesthetic enhancements.
- Recognize trees as the backbone of the urban ecosystem and an essential part of the community's green infrastructure.
- Promote the health and growth of the urban forest by following scientifically established best management practices for tree selection, planting, watering, and pruning.
- Promote a robust urban forest through policies and practices that reduce its vulnerability to known diseases or pest infestations, and future threats, including the anticipated effects of climate change.
- Engage in a continuous process of long-range planning for the growth and maintenance of the urban forest.
- Promote public appreciation of the urban forest through educational outreach programs.
- Support local businesses, institutions, organizations, and individuals in their efforts to grow and maintain the urban forest through community education.
- Proceed in a manner that is inclusive and transparent.



URBAN FOREST MANAGEMENT PLAN GOAL FRAMEWORK

The City's project team consisting of Wilsonville Community Development Department's Natural Resources Program staff and urban forestry consultants developed a set of diverse, comprehensive goals to guide urban forestry work. These goals were informed by an inclusive engagement process with the community and stakeholders undertaken throughout the planning process. The results of these efforts are a series of urban forestry goals to address the resource, the programs, and the people.

Urban Forest Management Plan Vision

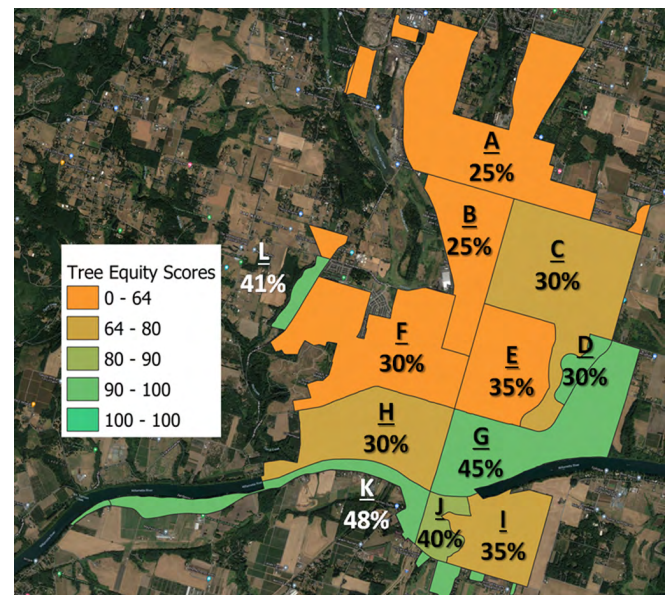
Healthy Trees, Healthy Wilsonville. Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.

Supporting the Vision: Wilsonville's Tree Canopy and Equity Goal

Tree canopy is a valuable component of Wilsonville's urban ecosystem and expanding the urban forest is part of the solution to the City's social, environmental, and economic concerns—it is integral to enhancing public health programs, increasing land values and local tax bases, providing job training and employment opportunities, reducing costs of city services, increasing public safety, improving air quality, offsetting carbon emissions, managing stormwater runoff, and conserving energy. To achieve the vision for the urban forest, the City has established a goal to increase its tree canopy coverage by 6 percent— up from 30 percent currently— over a 25-year timespan or “36 percent by 2046” (“36 by 46”).

To reach this goal, approximately 27,000 new trees need to be planted over the 25-year timeframe while preserving the City's existing urban tree canopy cover. The goal of 36 percent canopy and 27,000 new trees is based on a variety of factors including species diversity, urban forest benefits, maintenance responsibility, and an equitable distribution of tree canopy. In turn, the 27,000 trees will add annual benefits of nearly \$351,000 and improve tree equity across the City, bringing all Census Block Groups to a Tree Equity Score of at least 75 (out of 100) according to the American Forests' Tree Equity Score Tool (TES, TreeEquityScore.org).

Figure 3. Tree Equity Scores for Wilsonville's Census Block Groups were used to establish the City's 36% canopy goal



Urban Forest Management Plan Goals

Supporting the vision and the overarching canopy goal of 36 percent canopy by the year 2046 are a series of urban forestry goals. These strategic goals were derived from the outcomes of the planning effort involving City staff and stakeholder engagement and extensive analyses of the urban forest. The following items are not listed by any particular priority or order.

1

TREE MANAGEMENT POLICY (MP):

The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.

2

CAPACITY, TRAINING, AND AUTHORITY (CT):

Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.

3

ASSESSMENTS AND PLANS (AP):

A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.

4

COMMUNITY ENGAGEMENT (CE):

Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.

5

GREEN ASSET MANAGEMENT (GA):

Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

Strategic actions were developed in each goal area to reach desired outcomes. Tree Management Policy actions address collaboration, strengthening of policies, sustaining canopy and achieving planting targets, and stewardship of the resource. Capacity actions relate to planning, training, and service levels and actions to address the Assessments and Plans goal, which include inventories, assessments, and plans to inform management. Community Engagement actions include a focus on enhancing community engagement through outreach, education, and partnerships. Green Asset Management actions address programs and services to effectively manage the urban forest for the long-term.



Photo courtesy of Susan Reep, UFMP photo contest contestant, November 2020

ACTION AGENDA

The action agenda outlines the steps that the City of Wilsonville and community partners will take to implement the Urban Forest Management Plan over a 25-year planning horizon. The action agenda was informed by the inclusive engagement process consisting of key stakeholders and the public at large. Departmental work plans for Plan implementation will provide additional details on those aspects of the urban forest that each department can manage. For example, the Community Development Department is responsible for ensuring street trees are planted as part of a Capital Improvement Project or a development project and the Public Works Department oversees the replanting and maintenance of City-owned street trees.

City government will continue to perform key ongoing, urban forestry work including:

- Planting trees within Wilsonville and administering the City's tree-related policies to support a Citywide tree canopy goal.
- Developing plans and strategies to manage the urban forest on City of Wilsonville natural landscapes and properties.
- Removing invasive plants from Wilsonville's forested areas.
- Coordinating departmental work and collaborating on urban forestry Citywide efforts.
- Updating initiatives and regulations in support of Wilsonville's urban forest.

The actions provided in the Plan build on the ongoing work and will be the focus of implementation throughout the 25-year horizon. Successful completion of all actions in this Plan will require additional staffing and resources that should be secured using the supporting studies such as the Funding Mechanisms and Existing and Potential Urban Forestry Partners in the appendices.

City departments will continue to support urban forestry efforts with available funding. The action items listed in the Plan could help expedite the recovery of Wilsonville's most vulnerable communities by increasing tree canopy cover and urban forestry services but the urban forestry planning team is aware of the challenging times ahead. As economic recovery takes place following the 2020 pandemic and additional funding becomes available, the urban forestry planning team recommends that new funding be prioritized toward the following efforts:

- Ongoing funding for tree and natural area crews to maintain the urban forest.
- Continuing to perform urban forest assessments to inform management.
- Leverage existing planning, outreach, partners, and engagement efforts in focus areas to achieve common goals.

“

“Urban trees and forests are considered integral to the sustainability of cities as a whole. Yet, sustainable urban forests are not born, they are made. They do not arise at random, but result from a community wide commitment to their creation and management.”

CLARK et al., 1997, *A Model of Urban Forest Sustainability*

HEALTHY TREES, HEALTHY CITY: CALL TO ACTION

Urban forests are an important green infrastructure asset for communities across Oregon. However, the capacity of urban forests to support healthy and resilient cities is constrained and challenged by stressors such as climate change impacts including extreme weather events, urban development pressures, altered soils, exotic tree pests and diseases, and invasive species. Now more than ever there is a critical need to sustain large, healthy, genetically appropriate trees on public and private land through long-term planning and budgeting, inclusive decision-making, and strategic policy development that supports adaptive management. Thus, comprehensive urban forest support must extend well beyond tree planting initiatives.

Management of urban forests is often considered the sole responsibility of municipal governments. In reality, responsibility should also be shared by private citizens, community groups, and other partners. All of these groups have important roles to play. Successful management frameworks must recognize that the urban forest is part of a complex system that includes the built environment, and is influenced by human activities and policies and practices that shape Wilsonville's urban areas. Furthermore, decision-making must be made in the context of future uncertainty associated with climate change. Wilsonville's Urban Forest Management Plan ("Plan") provides the framework and road map for efficient, sustainable, and equitable urban forestry practices.

This coordinated planning effort— led by the City's staff, stakeholders, and consultants— included an updated inventory of public trees in the Town Center and Charbonneau focus areas to inform management, tree maintenance and removal priorities, tree replacement strategies, and policies and procedures for tree preservation. This Plan also provides specific guidance relating to the urban forest and extreme weather events.

In February of 2021, the City experienced a winter storm causing thousands of power outages, hundreds of downed trees and limbs, and property damage. The City and the community quickly jumped to its feet by clearing roads, removing tree debris, and restoring power. From this event, the City's Emergency Management Program strengthened its protocols relating to City trees and this Plan provides additional guidance for the City to be even more prepared and resilient to extreme weather events (see [Appendix I](#)).

In the update to the 2018 Street Tree Inventory, data was gathered about the current condition and status of Wilsonville's street trees. One of the more concerning findings was the number of trees damaged by the ice storm or subsequently removed because of the event, which included 1,100 trees or 4% of the trees inventoried in 2018. Tree species that suffered the most storm damage included paper birch, cherry plum, silver birch, Raywood ash, and scarlet oak.

This planning effort consisted of ongoing community engagement through press releases, public surveys, newsletters, community meetings, photo contests, website content, and social media to educate and gather viewpoints and feedback as it relates to the trees in Wilsonville. From these engagement activities, the vision for the urban forest was identified, key concerns were uncovered, strategies were developed, and a shared commitment to the urban forest resource was fostered.

From this shared commitment between the City and property owners, the vision and goals for Wilsonville's urban forest can be achieved. Reaching and sustaining the urban forest vision will require ongoing monitoring, analysis, and reporting of this Plan to keep urban forest partners involved and focused on accomplishing the actions. The Plan should be a living document that is updated as changes occur to the resource and other planning efforts. As the Plan is updated, it should continue to serve as a road map with strategic priorities and recommended actions to assist the City and stakeholders in their efforts to grow, protect, and sustain a healthy urban forest for all residents and future generations.



URBAN FOREST

MANAGEMENT PLAN

HEALTHY TREES, HEALTHY CITY



EXECUTIVE SUMMARY



INTRODUCTION AND BACKGROUND

The City of Wilsonville, in spearheading this Urban Forest Management Plan (UFMP or Plan), recognizes its trees as one of its most valuable resources and shows that it is dedicated to the preservation, proper maintenance, and continued enhancement of their urban forest. The trees throughout Wilsonville are an asset that bring value and benefits to the community: increased property values, heightened environmental benefits and enhanced quality of life are just a few examples of the benefits that the urban forest provides for all of Wilsonville's community members. Implementation of this Urban Forest Management Plan is an excellent opportunity to strengthen the City's urban forest through proper management of this valuable resource.

As is the case with most urban areas, the trees that make up the urban forest in Wilsonville suffer from the severity of urban life, including pests and diseases, the current and changing climate, air pollution, compacted soils, limited growing spaces, and limited resources. In order to overcome such harsh conditions for the City's trees and reap the benefits of these most valuable assets,

the care of the urban forest must be strategically and efficiently planned and cared for.

This Plan aligns with the City's Comprehensive Plan updated in 2020 by recommending adequate tree management levels, potential increases in staffing and funding, applying input from the community, and recommending changes to tree-related policy. Adequate tree management includes efficient and effective tree care, bolstered tree plantings to maintain age and species diversity in the public tree population, the preservation and enhancement of canopy coverage Citywide to enhance the character and aesthetics of neighborhoods, and exemplary stewardship of the forest from all who live and work in Wilsonville. The Plan must be regarded as both a long-range policy guide and a living document that will respond to changing conditions over its life. It requires a close partnership between policy makers, staff, and the community. Adoption of this Plan enables the City to accomplish these objectives.



Photo Courtesy of Friends of Trees

DEFINING THE URBAN FOREST

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“Urban forestry can be defined as the art, science, and technology of managing trees and forest resources in and around community ecosystems for the physiological, sociological, economic, and aesthetic benefits trees provide to society.”

HELMS, 1998

Any inhabited area that has trees and vegetation is considered a community forest though more urbanized communities often refer to this resource as an urban forest. Based on Wilsonville's population density, tree population, and the public interaction with and received benefits from trees, Wilsonville's resource is referred interchangeably as an urban and community forest in this Plan. The Plan focuses on the City-owned trees in public rights-of-way, trees in public parks, and street trees maintained by adjacent property owners but also has implications for the trees on private property and attention to these are addressed through community outreach and education efforts.

The concept of urban and community forest management developed in the 1960s out of the death and devastation of the elm tree population throughout the United States due to Dutch Elm disease. The discipline of urban forestry strongly advocates for species and age diversity in a city's tree population so that the elm tree devastation of the 1960s does not happen again. Unfortunately, native and invasive pests and diseases continue to spread.

During the last three decades, urban forestry has evolved as researchers and practitioners learn more about the structure and function of trees and their unique role in providing environmental, economic, and social benefits to urban areas. Urban forestry provides each of these benefits in differing circumstances—as infrastructure, as part of design and development, and as efficient and productive providers of economic development.

Residents traditionally have indicated that they consider the trees in the community a priority. In urban environments, street and park trees are sometimes the only day-to-day interaction with nature that many residents may enjoy. As Wilsonville continues to grow, the urban forest needs a strong advocate. This will happen with the education and support of the City's constituency, staff, and elected officials informed by an approved Urban Forest Management Plan. The urban forest is unique in the array of benefits it provides to the community, and a management plan effectively collects and showcases these values.

While a management plan is useful in helping educate and ensure future viability, it also establishes useful parameters for the daily operations and care of the urban forest. A fresh look at all urban forestry-related policies currently in place brings into focus what is necessary for day- to-day activities to ensure long-term viability and safety of the urban forest.

While a management plan is useful in helping educate and ensure future viability, it also will set up useful parameters for the daily operations and care of the urban forest. A fresh look at all urban forestry-related policies currently in place will bring into focus what is necessary for day- to-day activities to ensure long-term viability and safety of the urban forest.

BENEFITS OF THE URBAN FOREST

The quality of life of the citizens in any community depends on the urban forest, as trees make a vital and affordable contribution to the sense of community, pedestrian-friendly neighborhoods, surface temperatures, and air quality. Wilsonville's Community Development Department and supporting departments are critical to meeting the City's commitment to climate change mitigation and adaptation, carbon sequestration, stormwater reduction, wildlife habitat enhancement, and water conservation. Trees are one of the few infrastructure investments that, if properly maintained, will grow in value over time. The Plan provides an assessment of these benefits and services and the actions necessary to sustain and enhance them.

Note: The following data was derived from the Alliance for Community Trees.



Clean the Air and Breathe Easier

Shade trees reduce pollution and return oxygen to the atmosphere. In addition to carbon dioxide, trees' leaves or needles absorb pollutants, such as ozone, nitrogen dioxide, sulfur dioxide, and some particulate matter.



Save Energy and Lower Energy Costs for Buildings

As natural screens, trees can insulate homes and businesses from extreme temperatures, keep properties cool, and reduce air conditioning utility bills. A 20 percent canopy of deciduous trees over a house results in annual cooling savings of 8 to 18 percent and annual heating savings of 2 to 8 percent. By planting shade trees on sunny exposures, residents and businesses can save up to 50 percent on hot-day energy bills.



Positively Influence Climate to Ensure Sustainability

Trees absorb carbon dioxide and store carbon in wood, which helps to reduce greenhouse gases. Carbon emissions from vehicles, industries, and power plants are a primary contributor to increased air temperatures in metropolitan areas. Trees in the United States store 700 million tons of carbon valued at \$14 billion with an annual carbon sequestration rate of 22.8 million tons per year valued at \$460 million annually.



Reduce the Need for Street Maintenance

Shaded streets last longer and require far less pavement maintenance, reducing long-term costs. Canopy diminishes pavement fatigue, cracking, rutting, and other damage. A study from University of California at Davis found that 20 percent shade cover on a street improves pavement condition by 11 percent, which is a 60 percent savings for resurfacing over 30 years.



Raise Property Values

Trees are sound investments, for businesses and residents alike, and their value increases as they grow. Sustainable landscapes can increase property values up to 37 percent. The value of trees appreciates over time, because the benefits grow as they do. For businesses, trees have added value, including higher revenues. Shoppers seek out leafy promenades that frame storefronts. Research shows that shoppers spend more—between 9 and 12 percent more—on products in tree-lined business districts.



Conserve Water and Soil

A tree's fibrous roots, extending into the soil, are premier pollution filtration and soil erosion prevention systems. Intensely urbanized areas are covered with a large number of impermeable surfaces. In contrast to an impervious hardscape, a healthy urban forest can reduce annual storm water runoff up to 7 percent. Highly efficient trees also utilize or absorb toxic substances such as lead, zinc, copper, and biological contaminants. One study estimated that eliminating the need for additional local stormwater filtration systems would result in savings exceeding \$2 billion.



Cooler Pavement Diminishes Urban Heat Islands

Broad canopy trees lower temperatures by shading buildings, asphalt, and concrete. They deflect radiation from the sun and release moisture into the air. The urban heat island effect is the resulting higher temperature of areas dominated by buildings, roads, and sidewalks. Cities are often 5° to 10°F hotter than undeveloped areas, because hot pavement and buildings have replaced cool vegetated land. In addition, high temperatures increase the volatility of automobile oil and oil within the asphalt itself, releasing the fumes into the atmosphere. Shade trees can reduce asphalt temperatures by as much as 36°F, which diminishes the fumes and improves air quality.



Protect Wildlife and Restore Ecosystems

Planting and protecting trees can provide habitat for hundreds of birds and small animals. Urbanization and the destruction of valuable ecosystems have led to the decline of many species. Adding trees, particularly native trees, provides valuable habitat for wildlife.



Build Safe Communities and Decrease Crime

Police and crime prevention experts agree that trees and landscaping cut the incidence of theft, vandalism, and violence by enhancing neighborhoods. Thriving trees on well-maintained streets indicate pride of ownership. Public housing residents with nearby trees and natural landscapes reported 25 percent fewer acts of domestic aggression and violence. Apartment buildings with high levels of greenery had 52 percent fewer crimes than those without any trees. Buildings with medium amounts of greenery had 42 percent fewer crimes.



Calm Traffic and Make Neighborhoods Safer and Quieter

People drive more slowly and carefully through tree-lined streets, because trees create the illusion of narrower streets. One study found a 46 percent decrease in crash rates across urban arterial and highway sites after landscape improvements were installed. The presence of trees in a suburban landscape reduced the cruising speed of drivers by an average of 3 miles per hour. Faster drivers and slower drivers both drove at decreased speeds in the presence of trees. Trees reduce noise pollution, buffering as much as half of urban noise. By absorbing sounds, a belt of trees 100 feet wide and 50 feet tall can reduce highway noise by 6 to 10 decibels. Buffers composed of trees and shrubs can reduce 50 percent of noise.



Reduce Stress and Improve the Quality of Life

Neighborhoods with generous canopies of trees are uplifting and good for public health. Greater contact with natural environments correlates with lower levels of stress, improving performance. Students' concentration levels go up when they are able to look out onto a green landscape. Studies show that children with attention deficit disorder function better after activities in green settings. A green environment impacts worker productivity. Workers without views of nature from their desks claimed 23 percent more sick days than workers with views of nature. Residents of areas with the highest levels of greenery were 3 times as likely to be physically active and 40 percent less likely to be overweight than residents living in the least green settings.

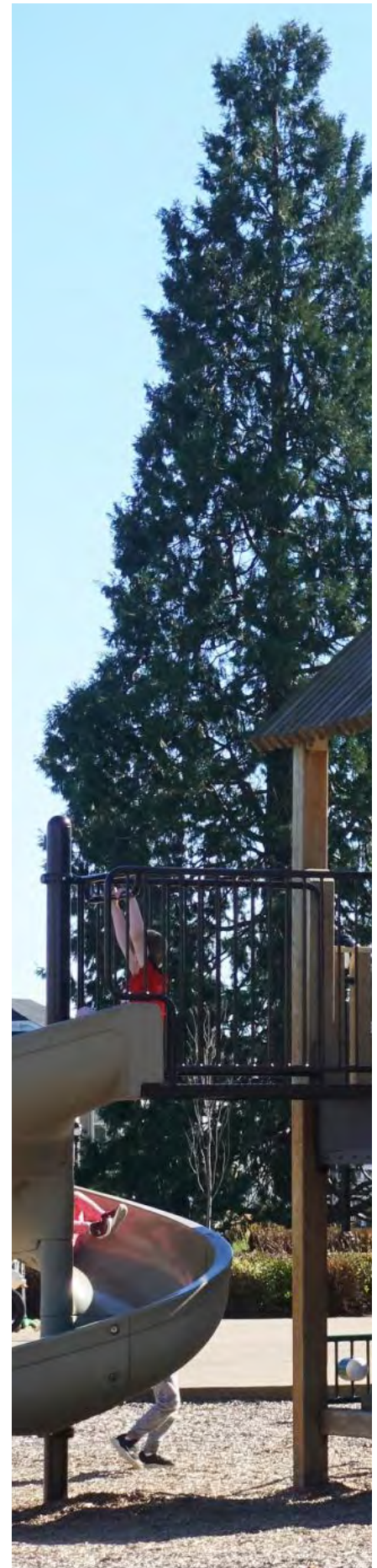
KEY ISSUES FACING URBAN FORESTS

The City of Wilsonville has a unique urban form and character. Its size, layout, and development density influence the landscape and has created a charming and livable city. Wilsonville's citizens show pride in their city, and their neighborhoods are well cared for. The City's climate is ideal for a wide range of plants and street trees and many of the City's streets and landscapes exhibit a unique and rich planting character. Some of the City's historic neighborhoods and its newest developments have a rich urban forest that illustrates Wilsonville's commitment to be a tree-filled city guided by a strategic plan.

Cities around the world, and specifically in the Willamette River Valley face dramatically intensifying extreme weather and climate impacts including drought, frequent storms, flooding, and an increase in sustained high temperatures. In many instances, these impacts are already exceeding the designed capacity of city infrastructure to protect the health and safety of residents, businesses, and neighborhoods, which in turn threatens the fiscal viability of cities and regions. Urban trees can play a significant role in making cities resilient to weather and climate extremes, and in protecting human and ecosystem health and safety. To do so, trees must be consciously selected, planted and managed as the central component of an urban forest where individual trees are managed as part of a greater system with the purpose of improving the urban environment and enhancing benefits.

Yet the ability of urban trees and urban forests to achieve desired benefits is often drastically limited due to poor maintenance and management stemming from insufficient municipal budgets, lacking urban forest management systems and programs, limited training of tree care professionals, and a lack of enforcement of tree-management best practices to support tree health. Consequently, long-term tree health is compromised in many cities, resulting in limiting the beneficial functions of trees, leaving trees more susceptible to pests and disease, and leading to premature tree death. The impact of this is compounded for disadvantaged communities. As stated by Jad Daley, president and CEO of American Forests, "The single greatest threat from climate change to people in cities is extreme heat."

In turn, urban trees face multiple challenges to surviving and thriving. Trees that die years prematurely will not create the root systems and canopies needed to reach their benefit potential and maximize their return on investment. Planting and maintaining an urban forest that exists in concert with other green infrastructure must include management by trained individuals, the use of tree inventory data, an understanding of baseline conditions and forecasted environmental changes, collaboration among departments to mainstream urban forest management, a community with a shared vision for the urban forest, and a roadmap for management provided in a plan.



These issues are exacerbated in lower income communities with limited resources. The City needs a comprehensive plan to preserve and expand the urban forest which results in an equitable distribution of tree canopy, associated benefits, and urban forestry opportunities. The City, its partners, and the community support a plan for the urban forest that sustains the resource and provides benefits to all who live, work, and recreate in the City.

To address these challenges, the Urban Forest Management Plan offers Wilsonville an opportunity to study, evaluate, and plan for improving urban forest management toward the goal of supporting human and ecosystem health and well-being. The urgency of protecting the urban forest has risen sharply as drought, pests, disease, climate impacts and budget cuts lead to rapidly rising tree mortality. To address and reverse tree die-off and the loss of ecosystem benefits, Wilsonville needs a robust system of professional management and resident engagement for the care and expansion of the urban forest.

WILSONVILLE’S URBAN FORESTRY BACKGROUND

Located just south of the Portland metro area and along the banks of the Willamette River, Wilsonville started as a small farming community but has quickly grown to become an important bridge between its urban neighbors to the north and a gateway to the agriculturally rich Willamette Valley to the south. The Willamette Valley region of Oregon is an area known for its natural beauty and agricultural history. As such, the City is focused on preserving the natural environment while supporting sustainability through a range of strategies such as the Comprehensive Plan and this Urban Forest Management Plan, in an effort to grow and improve the health of the urban forest.

Regarding maintenance of the City’s urban forest, it is a shared responsibility between Wilsonville property owners and the Public Works and Parks and Recreation departments to maintain trees on City streets, parks, and maintained facilities. Wilsonville’s Community Development Department, leading this Plan effort, contributes to public health, safety, and quality of life for residents and visitors of the City by managing the urban forest. Management of the urban forest by City departments is mobilized through long-range planning and enforcement of municipal code relating to tree preservation and protection by the Community Development Department. The Public Works and Parks and Recreation departments support long-range urban forest planning by reviewing Capital Improvement Projects and development plans.

Guided by the Tree Preservation and Protection ordinance (Section 4.600), the City is responsible for the care of trees in public spaces and property owners maintain street trees though the urban forest extends beyond these areas. The preservation and growth of the Citywide urban forest canopy across public and private boundaries should be a shared commitment guided by the Urban Forest Management Plan. This Plan is the next step for the urban forestry program as the City continues to grow and evolve.

Existing City plans and efforts impact and influence Wilsonville’s urban forest. The City has been recognized as a Tree City USA community for 23 years and has shown a dedication to maintaining and caring for their urban forest through their planting efforts and the care of its trees.

Table 2. City Staff involved in the planning process

Community Development	Admin	Planning	Natural Resources
Parks & Recreation	Parks Maintenance		
Public Works	Admin	Facilities	Roads & Stormwater

Elements of urban forest management are woven into the framework of City operations and the understanding of the importance of trees in an urban setting was exemplified in this planning effort. A total of 13 City staff representing three departments and six divisions participated in the development of the Urban Forest Management Plan due to their interactions with public trees within their respective programs. Other divisions involved in public tree management though not included in the planning exercises include Engineering, Building, and Parks Planning. Through this effort, City staff contributed ideas, discussed resource needs, identified efficiencies, and formulated strategies relating to their activities involving public trees. By engaging staff involved in the management and care of Wilsonville's trees the Plan was developed to mainstream urban forest management across departments to improve workflows and achieve common goals.



WILSONVILLE'S URBAN FOREST FOCUS AREAS

The two focus areas, Charbonneau and Town Center, were originally developed in the 1970s and 80's, respectively, and provide unique opportunities and challenges when looking at Wilsonville's urban forest. As part of the Urban Forest Management Plan project, an inventory of existing trees was completed by Certified Arborists accredited by the International Society of Arboriculture to plot the location of trees, identify the species, measure the size, assess the condition, note observations, and assign a recommended maintenance task if necessary for all trees in Town Center and along French Prairie Road in Charbonneau. The detailed assessment of these trees provided the information to develop specific actions for these focus areas.

Town Center

Town Center provides a mix of commercial and residential uses and a centrally located park. It is central to the City and serves as the heart and hub of the community at the I-5 juncture. Town Center is primarily local commercial retail and services unlike other similarly-zoned areas in the City. In 2019, the City adopted a new plan for Town Center. The goals in the Town Center plan included environmental stewardship, harmonious design, mixed uses, safe access and connectivity, community gathering places, and economic prosperity. The future vision for this focus area is described in the Town Center Plan which recognizes the creative use of landscaping including trees.



Source: Wilsonville Town Center Plan

The Urban Forest Management Plan provides an opportunity to take a closer look at the urban forest in Town Center and provide recommendations for improving its aesthetics and long-term viability. To inform the Plan, a detailed visual survey was completed for all trees in Town Center that would be suitable candidates for retention as part of redevelopment of the area. To support this effort, additional studies and analyses were completed providing guidance for tree removals, tree replacements, and tree preservation in Town Center as described in [Appendix D](#) and [E](#).

The urban forest management actions specific to Town Center’s trees are provided in the [Urban Forest Management for City Focus Areas](#) section though the following provides an overview of recommendations.

- Continue to inventory and monitor all public trees in the focus area.
- Prioritize tree maintenance and removals based on need and available resources.
- Preserve existing trees through sound policies, education, and enforcement. Use [Appendix D](#) to support tree preservation decisions.
- Develop a strategy to replace the trees recommended for removal. Use [Appendix E](#) for tree replacement guidance.
- Plant trees based on the site requirements and desired function and design using the Citywide Recommended Tree List in [Appendix A](#).
- Continue to engage members of the community for input, feedback, and stewardship.
- Plant and preserve the urban forest to sustain the associated benefits that are shared by all in the focus area.

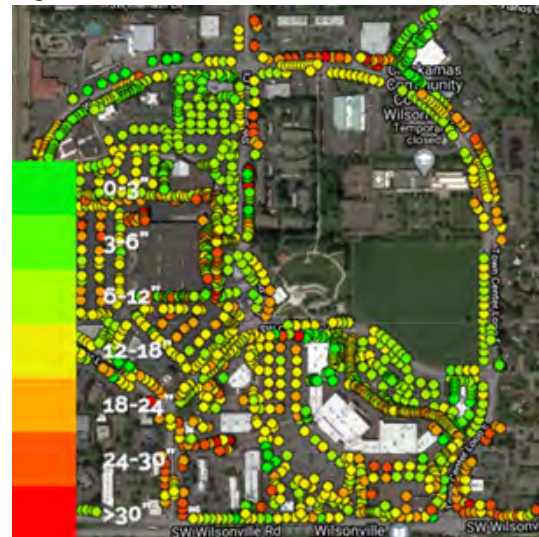
Key Findings for Town Center’s Trees

Note: the following data summaries are based on the July 2020 tree inventory. These values and summaries may differ from existing conditions due to the February 2021 storm and other variables. For larger detailed maps, see [Appendix D](#)

Total Trees Inventoried: 1,449

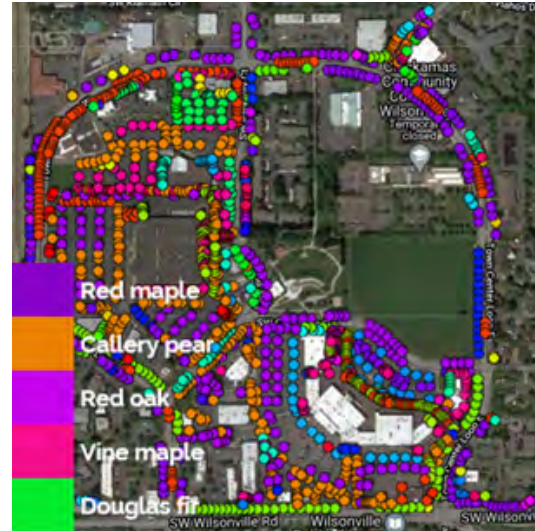
Tree Size Classes	
0-3 inches	7%
3-6 inches	11%
6-12 inches	28%
12-18 inches	34%
18-24 inches	14%
24-30 inches	5%
>30 inches	1%

Figure 4. Size classes of Town Center’s inventoried trees



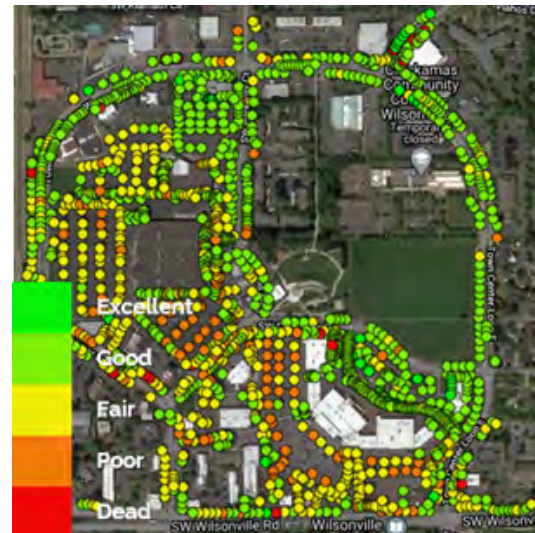
Tree Species (Top 5)	
Red maple	20%
Callery pear	19%
Red oak	11%
Vine maple	6%
Douglas fir	6%

Figure 5. Tree species in Town Center



Tree Condition	
Excellent	3%
Good	55%
Fair	31%
Poor	8%
Dead	2%

Figure 6. Condition of Town Center's trees



Charbonneau

Charbonneau, located south of the Willamette River, is one of Oregon's earliest planned communities. Within Charbonneau there is a small commercial district, 27-hole golf course, and a variety of housing types. The age, condition, and types of street trees in this community are the primary focus, as well as their relationship to the livability and aesthetics of the area.

The goals and actions in this Plan place emphasis along French Prairie Road in Charbonneau, which has over 800 mature northern red oak (*Quercus rubra*) trees in various states of health and beginning to cause damage to infrastructure in the form of decorative walls, sidewalks, paths, and home foundations. These street trees are primarily maintained by the City while other trees within the community are maintained by the HOA and Country Club. In 2014, the Charbonneau Consolidated Improvement Plan identified four utilities



Source: 2014 Charbonneau Consolidated Improvement Plan

in the community that are deficient— sewer, storm, streets, and water. The Plan provides key data and considerations for trees such as trees to preserve and recommended trees for planting as installations and repairs are planned for utilities. Understanding the health and condition of the northern red oaks informs decision-making criteria that can guide the review of tree removal requests. This Plan provides a comprehensive look at these trees, informed by an updated tree inventory, and the best way to manage them over time to avoid problems while maintaining their place in the community. Specific recommendations to address management of Charbonneau's trees are provided in the Plan's actions and supporting appendices.

The urban forest management actions specific to Charbonneau's trees are provided in the [Urban Forest Management for City Focus Areas](#) section though the following provides an overview of recommendations.

- Continue to inventory and monitor all public trees in the focus area.
- Prioritize tree maintenance and removals based on need and available resources.
- Develop a strategy to replace the aging oaks before and after removals. See [Action AP.03](#), [Appendix D](#), and [Appendix E](#) for guidance.
- The City should utilize tree inventory management software such as TreePlotter or the City's Cartograph system to refine the data and prioritize removals and replacements within Charbonneau. Changes made to the urban forest should be tracked within these programs.
- Plant trees based on the site requirements and desired function and design using the Citywide Recommended Tree List in [Appendix A](#).
- Continue to engage members of the community for input, feedback, and stewardship.
- Plant and preserve the urban forest to sustain the associated benefits that are shared by all in the focus area. All trees along French Prairie Road should be preserved unless they pose a risk— as defined by industry standards and City protocols— that cannot be mitigated without removal. [Appendix C](#), "Trees and Hardscape Conflicts Solutions Workbook" provides guidance on evaluating trees, infrastructure, and the conflict(s) to make a decision that is consistent and transparent.

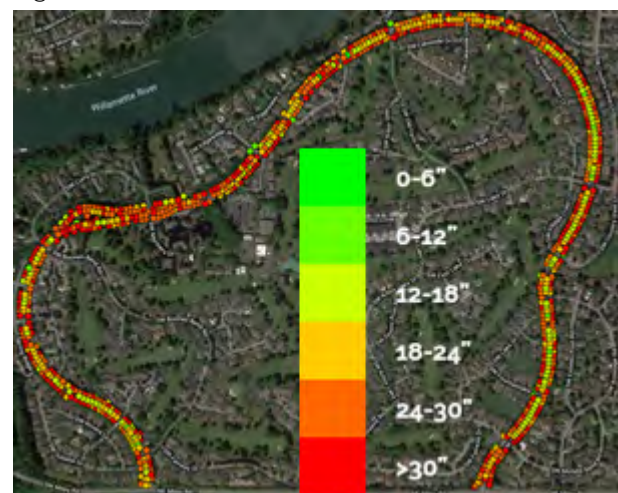
Key Findings for Charbonneau's Trees

Note: the following data summaries are based on the July 2020 tree inventory. These values and summaries may differ from existing conditions due to the February 2021 storm and other variables. For larger detailed maps, see [Appendix D](#).

Total Trees Inventoried: 916

Tree Condition	
Excellent	0.3%
Good	71%
Fair	25%
Poor	2%
Dead	1%

Figure 7. Size classes of Charbonneau's inventoried trees



Tree Species (Top 5)	
Red oak	80%
Pin oak	7%
Scarlet oak	5%
Douglas fir	3%
Hinoki cypress	2%

Figure 8. Tree species in Charbonneau



Tree Size Classes	
0-6 inches	0.3%
6-12 inches	3%
12-18 inches	12%
18-24 inches	22%
24-30 inches	32%
>30 inches	30%

Figure 9. Condition of Charbonneau's trees



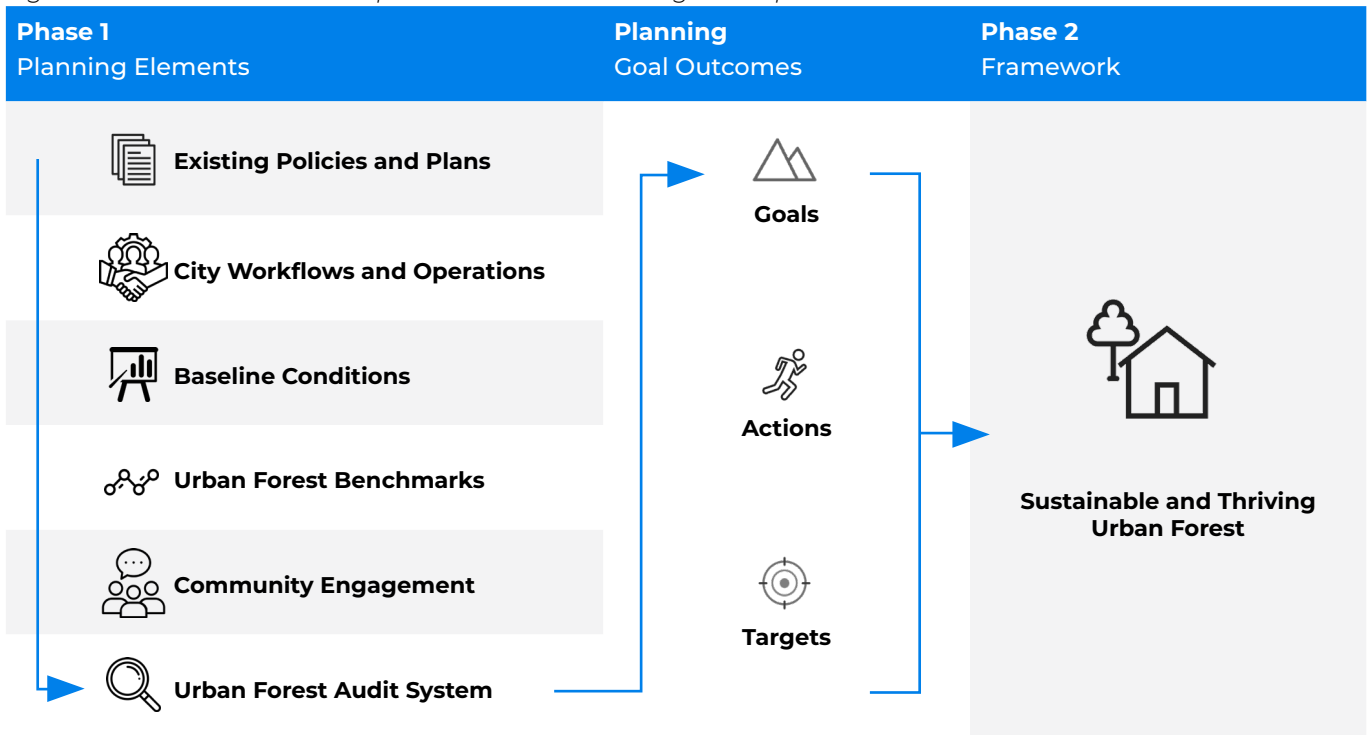
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OVERVIEW OF RESEARCH

Development of the Research Summary

The systematic evaluation of the City of Wilsonville’s urban forest management processes, resources, staffing, structure, and policies was conducted by completing the six planning elements: 1) Existing Policies and Plans, 2) City Workflows and Operations, 3) Baseline Conditions, 4) Urban Forest Benchmarks, 5) Community Engagement, and 6) Urban Forest Audit System. The outcomes from these planning elements were detailed in the **Research Summary to the Urban Forest Management Plan**—a comprehensive summary document that details the baseline assessment from which goals and actions were developed for this **Urban Forest Management Plan**. Additional information regarding the methodology, findings, and interpretations of the planning elements are provided in the Research Summary. The following section provides a high-level overview of these planning elements.

Figure 10. Framework to develop the urban forest management plan



EXISTING POLICIES AND PLANS FINDINGS

The purpose of this element— Existing Policies and Plans— is to gauge the City's commitment and readiness for urban forest sustainability. Evaluating the alignment and efficacy of existing policies and plans ensures a strong connection among the programs that manage the urban forest and the projects and initiatives that support them. Proper alignment of urban forestry program recommendations reduces the risk of wasting resources and enables success of key projects that support urban forestry goals. Plans cannot live in isolation, therefore, cross-examining various plans and documents may bring to light projects or initiatives that are potentially a misplacement of resources and time.

A total of 39 documents and resources were reviewed and indexed as part of the information discovery process and 218 references to urban forestry were identified. These documents included:

Primary Documents

- **Comprehensive Plan:** The City's official policy guide for future development-related decisions. It is general and long-range in nature and provides a picture of how the community wishes to develop over the next 15 to 20 years. The plan discusses the importance of tree protection, scenic value, wildlife corridors, and other aspects of urban forestry.
- **Approved Budget FY 2020-2021:** The budget document is the blueprint for financial and policy decisions implemented during each fiscal year. It also includes the staffing structure, budgets, and activities relating to City departments with a role in urban forest management.
- **City Code:** Chapters 4 and 8 of the Wilsonville City Code address tree preservation, public safety, benefits of the urban forest, tree planting, topping, arborist credentials, and the City Tree Fund, among other items.
- **Town Center Plan:** A plan for modernizing and improving Town Center. The document contains references to the importance of an UFMP in creating a more vibrant Town Center through plantings, increases tree health, and natural design elements.
- **Charbonneau Consolidated Improvement Plan:** This plan provides information regarding important tree issues in Charbonneau, including tree root damage, removals, and ADA compliance.

Supporting Documents

- Council Goals Work Plan
- Stormwater & Surface Water Design and Construction Standards
- Stormwater Master Plan
- Natural Hazard Mitigation Plan
- Parks and Recreation Master Plan
- Integrated Pest Management (IPM) Plan
- Urban Renewal Plan

CITY WORKFLOWS AND OPERATIONS FINDINGS

To gather an understanding of the departments and programs managing and influencing the public trees in Wilsonville, a series of meetings were held in 2020. A total of three different departments or offices were represented at the meetings and a total of 13 City staff members participated. The departments or offices represented include:

1. Community Development (CD)
2. Public Works (PW)
3. Parks and Recreation (PR)

Over the course of these meetings, recurring issues and resource needs were identified. The following provides an overview of these trends that supported the development of this Plan:

Table 3. Summary of the City staff meetings

MEETING THEMES	RECURRING NEEDS
A) Landscape and Maintenance	<ul style="list-style-type: none"> • The programs managing the urban forest could be supported by documentation of ISA Best Management Practices (BMPs) and American National Standards Institute’s (ANSI) Standards along with standard operating procedures (SOP). • To address the sidewalk issues, the grant program for sidewalks could be expanded which would include more frequent and systematic assessments of sidewalks (data available in Cartegraph) along with the guidance for alternative solutions to sidewalk repair/replacement.
B) City Code and Policies	<ul style="list-style-type: none"> • To support the in-house tree maintenance program, a plan to phase out the dying oaks in Charbonneau should be established along with the resources to implement. • Ensure significant trees in Town Center that are worthy of preservation are retained and incorporated into the Town Center Plan. Potential exists for using a tiered priority system based on a combination of factors such as tree size, location (land use, growing space type) species, proximity trees and relative canopy cover, growing space, longevity, function, maintenance regimen, planned development, etc.
C) Planning, Design, and Development	<ul style="list-style-type: none"> • Guidelines relating to the types of replacement tree species, planting goals or benchmarks by park, and watering protocols could improve efficiencies and support Citywide urban forestry efforts. These updates to the program would require additional resources and improved tracking of trees in parks and the associated maintenance and pest/disease monitoring and treatments. • To support a comprehensive tree maintenance program as recommended through industry standards, the Plan could include a budget and staffing case study as well as case studies to evaluate potential tree pruning rotations and costs of deferred maintenance.
D) Data and Information Technology	<ul style="list-style-type: none"> • Improvements could be made by completing an entire inventory of trees in maintained areas, especially where trees abut private property.
E) Community Outreach and Education	<ul style="list-style-type: none"> • The current tree maintenance program is effective but there needs to be some clarifications of responsibility shared with the community. • Similar to trees, the sidewalk repair/replacement responsibility needs to be shared with the community. Information is shared through the sidewalk program but messaging and frequency could improve. Especially as sidewalk issues continue to rise for streets developed in the 1980’s and 1990’s.

BASELINE CONDITIONS FINDINGS

To identify the existing conditions of the urban forest from which goals and actions can be measured, an analysis of existing tree-related datasets was completed as part of the evaluation process. These datasets included the 2018 City-wide tree inventory as well as the 2020 Town Center and Charbonneau focus area inventories.

2018 and 2020 Public Street Tree Inventories

The 2018 and 2020 public street tree survey data was used to assess tree abundance, distribution, composition, size classes, and functional benefit. The urban forestry consultants for this Plan analyzed the datasets to confirm the findings and these findings are summarized below to inform Plan recommendations. An overview of ecosystem services and benefits is provided in the following section. For the complete analysis and summary, see the Research Summary document developed as part of this planning effort.

Table 4. Overview of the 2018 and 2020 public street tree analysis*

25,954	Street trees	9%	Focus area trees
24%	Coniferous	76%	Deciduous
104	Unique genera	313	Unique tree species
29%	Maple (<i>Acer</i>) trees	9%	Oak (<i>Quercus</i>) trees
1,138	Trees with sidewalk damage	3,195	Trees with utility conflicts
48%	Trees in the 0-6"-inch class	2%	Trees in the >30"-inch class
1,446	Public trees in Town Center	916	Public trees in Charbonneau

* An update to the inventory was completed in September 2021 following completion of this Plan's analysis and should be utilized in conjunction with the data provided in the table above.

URBAN FOREST BENCHMARKS FINDINGS

The following summary provides an overview of the urban forest benchmarking results based on the analysis of two datasets; Arbor Day Foundation's 2019 Tree City USA database and the Municipal Tree Care and Management in the United States – a 2014 Urban and Community Forestry Census of Tree Activities by R. Hauer and W. Peterson. For a complete summary of the benchmarking research findings, see the Research Summary document developed as part of this planning effort.

Table 5. Summary of Tree City USA benchmarking research results

2019 Tree City USA - Wilsonville		2019 Tree City USA - Regional	
\$263k	Tree management budget	\$149k	Average budget
\$10.42	Per capita forestry budget	\$7.00	Average per capita budget
\$83k	Tree maintenance budget	\$51k	Average maintenance budget
\$7k	Tree planting/care budget	\$24k	Average planting/care budget
110	Trees pruned	804	Average trees pruned
19	Trees removed	66	Average trees removed
40	Trees planted	836	Average trees planted

Table 6. Summary of the 2014 Community Forestry Census benchmarking research results

2014 Census - Wilsonville		2014 Census - Population Group	
\$263k	Forestry program budget (est.)	\$344k	Average forestry budget
0.14%	Of total budget for forestry	0.63%	Average forestry budget compared to total budget
26k	Estimated public trees	26k	Average count of public trees
\$9.67	Budget per public tree	\$13.31	Average budget per public tree
\$10.42	Budget per capita	\$9.75	Average budget per capita
1.02	Public trees per capita	0.83	Average public trees per capita
3,243	Public trees per staff	5,967	Average public trees per staff
212	Acres of parks and open space	388	Average acres of parks and open space

COMMUNITY ENGAGEMENT FINDINGS

A series of 33 questions directly related to Wilsonville’s existing urban forest, the resources to manage it, and the management activities were drafted to gather community perceptions and viewpoints. The survey was shared online via the City’s communications channels and nearly 100 City residents responded. Following the web surveys, public meetings were conducted online to share the UFMP process, framework, and next steps. Citizen feedback was incorporated into various aspects of recommendations, goals, and observations in the UFMP. Selected questions from the surveys and a brief synopsis of observations are included below. For a comprehensive summary, see the Research Summary document developed as part of this planning effort.

Table 7. Overview of public survey results gathered in August and December 2020

95	Total responses	65%	Feel there should be more canopy coverage
25%	Think urban forest health has declined in the last 10 years	77%	Think the City is doing good to very good when it comes to managing public trees
49%	Said tree maintenance and hazard trees are the most urgent issue	42%	Feel the City is not planting enough trees
42%	Unsure of who manages ROW trees	72%	Support a City-wide Canopy Goal
72%	Concerned about sidewalk damage	72%	Desire more trees in commercial areas
22%	Feel that current tree risk management is poor	50%	Desire community orchards and fruit gleaning
61%	Think pruning is the highest priority for Charbonneau	56%	Think Town Center needs more species diversity
89%	Feel that trees positively impact community physical and mental health	94%	Support a tree protection ordinance

Top Trends in Survey Comments

- Concerns regarding trees and sidewalk damage
- Increased tree plantings and species diversity
- Efforts to reduce tree risk
- Increased pruning and maintenance on large trees in Charbonneau
- Increased planting spaces for trees in Town Center
- Creation of a City-wide canopy goal
- Tree protection during development
- Improve tree species diversity
- Education and training
- Need for a planting plan

Public Photo Contest

In October 2020, a photo contest was announced inviting community members to share urban forestry related photos on the Let's Talk, Wilsonville! website, on social media using hashtags, or through email. A total of 85 photos were received from 15 participants. The top three photos were voted on and used in the cover photos of this Plan. The winners included Sandy Wilson, Steve Harrell, and Zach Herrmann.

News Articles

City Seeks Community Input to Develop Urban Forestry Plan

Wilsonville's urban forest includes all trees, both native and planted, that contribute to our seasonal beauty and livability.

Whether it is a majestic 200-year old Oregon white oak or a young flowering cherry, trees greatly contribute to our sense of place and quality of life. Trees help clean the air, conserve soil and water, reduce heating and cooling costs and bring nature close to home. If maintained, Wilsonville's urban forest is a valuable asset that will continue to add to the health of our community for generations to come.

The City is developing an Urban Forest Management Plan ("Plan") with PlanIT Geo's urban forestry consultants. This Plan is identifying an integrated approach to preserving, sustaining, diversifying, and regenerating Wilsonville's urban forest. Goals and actions

Urban Forestry Mgmt. Plan Survey & Public Meeting Throughout September
[LetsTalkWilsonville.com](https://lets-talk-wilsonville.com)

will be developed for urban forest management City-wide, with special focus on Charbonneau and

Town Center.

Through virtual public meetings and online surveys on "Let's Talk, Wilsonville!" the City is listening to community viewpoints. A survey is available at [LetsTalkWilsonville.com](https://lets-talk-wilsonville.com) to gauge public opinion on urban forestry topics. On Sept. 15, a virtual community



meeting is being held to provide an interactive forum for community stakeholders to participate directly in the planning process.

Everyone benefits from the proper care and enhancement of Wilsonville's urban forest. With the community, the City is developing a strategic plan to sustain trees, maintain public safety, establish a sustainable and resilient urban forest and strengthen and create new partnerships. A plan is expected for the City Council's consideration by Spring 2021.

For more information, visit [LetsTalkWilsonville.com](https://lets-talk-wilsonville.com). If you have questions or comments, contact Kerry Rappold, Natural Resources Program Manager, at 503-570-1570, rappold@ci.wilsonville.or.us.



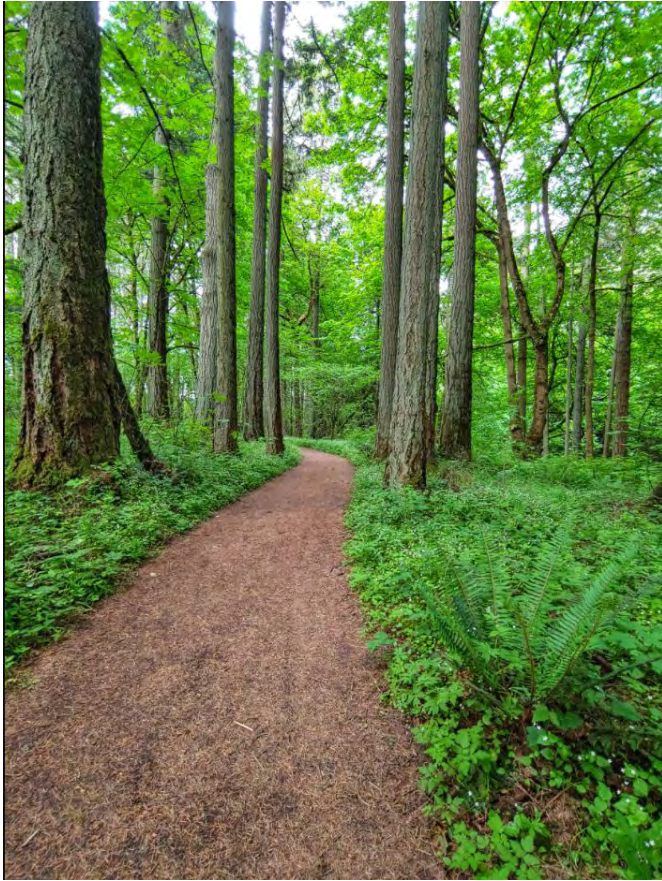
Photo Contest: Celebrate our City's Beautiful Urban Forest ... and Win!

To celebrate Wilsonville's urban forest, submit an original photo that includes a Wilsonville tree. Post your photo on Instagram using the hashtag #Wilsonvilletrees or submit your photo online at [LetsTalkWilsonville.com/ufmp](https://lets-talk-wilsonville.com/ufmp) by Oct. 30 at 5 pm.

The Urban Forest Management Plan (UFMP) project team is judging eligible entries and selecting three winning photos by Nov. 13.

Winners will each receive a prize, and their photos may also be included in the City's Urban Forest Management Plan. The contest is free of charge, and entrants can submit multiple photos.

Learn more about the UFMP and see complete contest rules at [LetsTalkWilsonville.com/ufmp](https://lets-talk-wilsonville.com/ufmp).



URBAN FOREST AUDIT SYSTEM

To develop this Plan, 39 documents, plans, and resources were gathered and reviewed by applying the U.S. Forest Service's Urban Forest Sustainability and Management Audit's Discovery Matrix. This process enables the development of key criteria and indicators for urban forest management and planning (J. Clark, 1997; A. Kenney, 2011). The matrix within this audit includes a total of 11 urban forest categories, each containing a multitude of supporting elements. All resources were reviewed to identify references to any of these categories and supporting elements. Examples of the elements supporting the Management Policy and Ordinances category include (but not limited to) climate change, no net loss, risk management, canopy goals, tree protection, and human health. Based on the review of resources, a total of 60 resources mention one or more elements within this Management Policy and Ordinances category. There are a total 219 instances where the 39 resources reference the 11 categories and supporting elements. The number of resources referencing elements of urban forest sustainability and management demonstrate Wilsonville's readiness for changes driven by this Plan. Strategies and recommendations in this Plan align and/or complement components of these supporting resources. For a complete list of categories, elements, and supporting resources, see the Research Summary document developed as part of this planning effort.

According to the Urban Forest Sustainability and Management Audit of Wilsonville's urban forest completed in 2020, the City is at a management and sustainability level of 62 percent. This ranking is to be expected of a city in the process of elevating their urban forestry program from a base level to a more advanced and sustainable level. While all areas of urban forestry require improvement under the guidance of an urban forestry program manager, significant improvements could be made in the Funding/Accounting, Inventories, Plans, Risk Management, Disaster Planning, and Green Asset Evaluation categories — all of which are below the City's overall audit score of 62 percent.

Based on the audit of 126 subcategories (11 primary categories), Wilsonville is achieving "Adopted Common Practice" for 53 (41 percent) of these. 49 subcategories (38 percent) are "In Development". Applying the multipliers of 2 for

Adopted Practice and 1 for In Development results in a total score of 157 out of 254 possible points, or 62 percent (detailed in the following table). A complete breakdown of rankings by subcategory/category is available in the Research Summary.

Table 8. Outcomes of the urban forest auditing process for Wilsonville

#	DESCRIPTION	SOC* (% ACHIEVED)	BASE** (% ACHIEVED)	OVERALL RATING	OVERALL (% ACHIEVED)
1	Management Policy, Ordinances	75%	67%	20	71%
2	Professional Capacity and Training	83%	NA	10	63%
3	Funding and Accounting	75%	NA	7	58%
4	Decision, Management Authority	75%	50%	5	63%
5	Inventories	NA	31%	12	46%
6	Urban Forest Management Plans	NA	33%	12	50%
7	Risk Management	67%	50%	11	61%
8	Disaster Planning	NA	50%	6	43%
9	Standards and BMPs***	50%	75%	38	63%
10	Community	50%	NA	25	89%
11	Green Asset Evaluation	NA	NA	11	55%
TOTAL		68%	51%	157	62%

*Standard of Care (SOC) elements represent the minimum group of urban forestry management “best practices” that a municipality should consider for implementation. SOC refers to the degree of prudence and caution required of an individual who is under a duty of care (i.e., legal obligation of the controlling authority, owner, or manager) to minimize risk. Neither state, regional, nor national minimum management components have been established for SOC but these are interim recommendations for consideration. (NA = not applicable)







**Base Practices (BP) elements represent additional urban forest management activities or components that may effectively expand a program beyond the SOC group (see footnote above). These elements are typically precursors to other “non-core” elements in the category. (NA = not applicable)

***Best Management Practices (BMPs)

The information provided in the table above describe the current conditions of Wilsonville’s urban forest, the programs that manage it, and the community framework. As recommended in the Plan’s actions, the City should use this framework to evaluate implementation progress, report successes, and inform changes to Plan actions.

SUMMARY OF FINDINGS

Table 9. Conclusions to the Urban Forestry Program Evaluation planning elements

ELEMENT	CONCLUSION
 <p>1) Existing Policies and Plans</p>	<p>The City has a strong framework of policies and plans that allude to or reference urban forestry, but a strategic Urban Forest Management Plan is needed to connect these elements. The City should implement actions in this Plan to update policies and inform existing and ongoing City plans.</p>
 <p>2) City Workflows and Operations</p>	<p>Multiple City departments support the development of more well-defined roles for ongoing urban forestry operations and management. More cohesive planning and management will improve efficiencies, provide support, and improve the levels of service provided to City residents. Departments currently coordinate tree maintenance in parks and streetscapes effectively within the constraints of resources and rely on residents to care for trees in the Right-of-Way adjacent to their property.</p>
 <p>3) Baseline Conditions</p>	<p>The City has several tree-related datasets to support the Urban Forest Management Plan, but should consider a regular and comprehensive inventory of street trees and trees in maintained areas of parks. The City public tree population would benefit from increased species and age diversity driven by a strategic planting and management as outlined in the Plan.</p>
 <p>4) Urban Forest Benchmarks</p>	<p>The City should evaluate its staffing levels and responsibilities to better manage the public tree population at levels consistent with industry standards and cities of similar population size. The budget for urban forest management should align with the recommended actions in this Plan. Wilsonville should also consider developing a science-based citywide tree canopy goal, a common urban forestry benchmark, from which progress can be measured.</p>
 <p>5) Community Engagement</p>	<p>The City's residents expressed the importance of tree protection during development and infrastructure construction to preserve the environmental, economic, and social benefits provided by trees. Residents support a healthy and resilient urban forest maintained through proper planting, species selection, invasive management, tree maintenance, and stewardship opportunities.</p>
 <p>6) Urban forest Audit System</p>	<p>Overall, the City scored 62 percent based on the U.S. Forest Service's Urban Forest Audit system that evaluates 11 categories of urban forest management and sustainability. A low scoring was anticipated since the City is taking purposeful steps in elevating their urban forest management program. Implementation of actions in this Plan will improve the City's ranking and frequent auditing exercises should be conducted to measure progress and adjust strategies in an adaptive management approach.</p>

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URBAN FOREST MANAGEMENT PLAN FRAMEWORK

Understanding the benefits and functions of the urban forest, the City has developed this Urban Forest Management Plan.

“

“Without a plan, the governments and individuals responsible for taking care of an urban forest will not be effective in meeting the true needs of the trees and the community. A plan establishes a clear set of priorities and objectives related to the goal of maintaining a productive and beneficial community forest.”

AMERICAN PUBLIC WORKS ASSOCIATION, 2007

PLAN PURPOSE

Many city planning and management actions, especially those that occur during redevelopment, have a large impact on the character and condition of the urban forest. A thriving and well-maintained public tree population provides a wide variety of benefits to the community. A healthy urban forest contributes to the economic vitality of Wilsonville, provides environmental stability, and provides a better quality of life. Care for the natural environment by the City, contractors, citizens, and volunteers is necessary to maintain and enhance the quality and benefits of the urban forest to which all residents are entitled.

Wilsonville's Urban Forest Management Plan ("Plan") is a crucial planning effort to build a more sustainable resource, a healthy community, and progression towards carbon neutrality. Tree planting is one of the few tangible actions the City can directly take to address non-source specific pollution in Wilsonville and this management plan supports strategic planning for continued plantings resulting in long-lasting benefits.

When making improvements to the urban forest, efforts should be prioritized to improve environmental justice, equity, access, and levels of service for underserved and vulnerable areas. These considerations may include additional tree plantings for an equitable distribution of urban forest cover and benefits, intensive tree management, diverse outreach approaches, and unique stewardship programs.

This strategic plan for Wilsonville's urban forest strengthens City Code, policies, ordinances, standards, practices, and procedures; analyzes staffing structures and authority; identifies opportunities for sustained and diversified funding; provides guidance for routine and systematic inventories and assessments; identifies tree maintenance efficiencies and planting/canopy goals and priorities; addresses storm, disaster, and risk management needs; and bolsters community outreach, education, and engagement.

To help ensure Wilsonville's urban forest will continue to prosper, the City has developed this long-term Plan to account for the needs of trees in the urban environment with an emphasis on the community focus areas of Charbonneau and Town Center. To develop and maintain desired urban forest resource and program conditions, necessary management actions need to be executed in a timely manner. This Plan provides actions for management to maximize the benefits of the urban forest within the confines of available resources. This Plan assists the City in improving urban forest management practices by:

- Establishing a baseline assessment of the urban forest resource, resources for management, and the community engagement framework.
- Providing analyses of urban forest management criteria resulting in goals and strategic actions to advance the City's levels of service.

- Providing the criteria for achieving goals of sustainable urban forest management in a phased approach based on available resources.
- Serving as a living document by providing the framework and guidance for adaptive management.

The Guiding Principles of the Urban Forest Management Plan

The Urban Forest Management Plan will adhere to the following guiding principles:

- Recognize that the trees of the urban forest are more than aesthetic enhancements.
- Recognize trees as the backbone of the urban ecosystem and an essential part of the community's green infrastructure.
- Promote the health and growth of the urban forest by following scientifically established best management practices for tree selection, planting, watering, and pruning.
- Promote a robust urban forest through policies and practices that reduce its vulnerability to known diseases or pest infestations, and future threats, including the anticipated effects of climate change.
- Engage in a continuous process of long-range planning for the growth and maintenance of the urban forest.
- Promote public appreciation of the urban forest through educational outreach programs.
- Support local businesses, institutions, organizations, and individuals in their efforts to grow and maintain the urban forest through community education.
- Proceed in a manner that is inclusive and transparent.

PLAN APPROACH

The optimal approach to managing an urban forest is to develop an organized, proactive program using information to set goals and measure progress. This information is utilized to establish priorities, plan strategically, draft cost-effective budgets, and ultimately minimize the need for costly, reactive solutions to crises or urgent risk mitigation. Based on the results of the **Research Summary**, incremental steps to achieve these improvements described above were developed that can be applied as the City continues to progress.

To develop Wilsonville's Urban Forest Management Plan, a systematic evaluation was conducted as a baseline assessment to inform the Plan's goals and actions. The goals of the Plan focus on preserving, maintaining, and enhancing the urban forest to ultimately benefit the residents of Wilsonville. The framework for this Plan supports the urban forestry vision:

Healthy Trees, Healthy Wilsonville: Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.



Source: City of Wilsonville Facebook

The Plan provides the goals, actions, and targets for Citywide management of the urban forest resource with an emphasis on the community focus areas of Charbonneau and Town Center. In this section, the Citywide urban forestry goals are presented followed by specific action items for the Charbonneau and Town Center focus areas. These action items are integrated into the Citywide urban forestry actions and also separated into individual summaries for direct implementation to benefit the focus areas.

Goals

Goals supporting the urban forest vision are provided based on strengths and opportunities identified during the development of the Research Summary. Each goal is supported by actions and targets the City and partners will use to attain the goal.

Actions

Actions are Specific, Measurable, Achievable, Relevant, and Time-bound to be implemented to acquire the goals of each planning theme. These actions include recommended timeframes or “target year(s)” beginning upon plan adoption and the lead department or partner(s) for implementation. Each action is rated based on the priority, level of effort and/or resources required, and the efficacy of the action.

Targets

Targets are performance standards and measurable values of specific indicators that enable monitoring of the actions to determine attainment of the actions and goals.

Evaluation

Using the Urban Forest Audit System described in the Research Summary and the Plan targets, implementation progress and success can be evaluated and annually reported. The evaluation using the Audit provides the information necessary for adaptive management.

Co-benefits of Plan Implementation

Each action is accompanied by a graphic depiction of co-benefits, illustrating added value that comes with achieving that action and respective goal. For example, a neighborhood with dense tree canopied streets and landscape may have cooler summer temperatures that lead to fewer heat illnesses reported. Each action impacts four different co-benefits at various levels; the greatest relative level of impact is indicated by the presence of one or more of the following graphics in the Plan’s action tables:



Community – actions that engage the public.



Equity – opportunities to satisfy essential needs and achieve full potential.

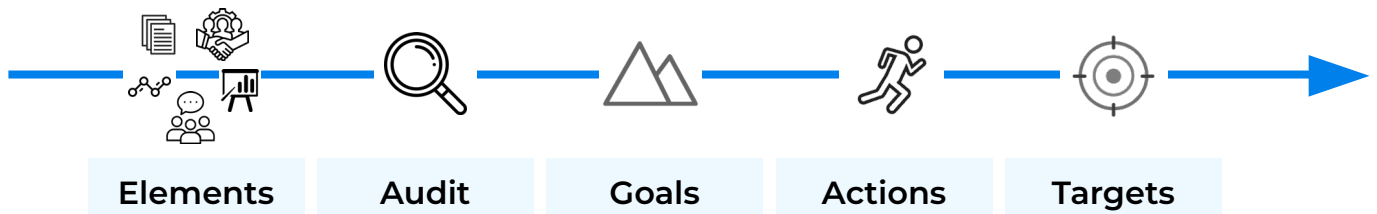


Human Health – provides physical benefits to local residents.



Natural Environment – benefits of air quality, water quality, and habitat.

GOAL AND ACTION FRAMEWORK



Results from the planning elements were used to complete the Urban Forest Audit of Wilsonville’s urban forest and the programs that manage it. The City’s strengths and opportunities were systematically evaluated to inform the Plan’s goals, actions, and evaluation criteria for adaptive management. The goals in the Plan are consistent with the categories in the Urban Forest Audit system.

Table 10. Goals for Wilsonville’s urban forest

GOAL THEME	AUDIT SCORE*	GOAL DESCRIPTION
Tree Management Policy (MP)	67% avg.	The City’s urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville’s urban forest.
Capacity, Training, and Authority (CT)	63% avg.	Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.
Assessments and Plans (AP)	48% avg.	A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.
Community Engagement (CE)	89% avg.	Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.
Green Asset Management (GA)	53% avg.	Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

*Based on the 2021 evaluation of Wilsonville’s urban forestry asset, programs, and community framework. Tree Management Policy includes Management Policy and Ordinances (71%) and Standards and BMPs (63%)— an average of 67%. Capacity, Training, and Authority includes Capacity and Training (63%) and Decision and Management Authority (63%)— an average of 63%. Assessments and Plans includes Inventories (46%) and Urban Forest Management Plans (50%)— an average of 48%. Green Asset Management includes the Risk Management (61%), Disaster Planning (43%), and Green Asset Management (55%) audit categories— an average of 53%

APPENDICES AND SUPPORTING STUDIES

To guide implementation of the actions in this Urban Forest Management Plan a series of appendices and supporting studies were completed. The need for these resources was uncovered during the planning stages. The research, City staff meetings, tree assessments, and community engagement informed the comprehensive audit system that identified Wilsonville's strengths and opportunities as it relates to the urban forest. It is recommended the City departments utilize these resources to implement actions and integrate them into daily operations and workflows where applicable. These resources include:

Appendix A. Citywide Recommended Tree List: Provides a series of recommended trees for various planting scenarios. The list is organized by tree stature, function, requirements, and climate resiliency. It is intended to be used for strategic replanting of Town Center, Charbonneau, and elsewhere throughout City-managed areas.

Appendix B. Tree Canopy Goal Setting Guidance: Guidance for setting a tree canopy goal for the City was established for the City to review, refine, and adopt. This ground-up approach looks at what is feasible by zoning type or Census Block Groups, the number of trees required, and the associated urban forest benefits and services provided by the trees once established. Canopy goals inform planting strategies, policies, maintenance, and outreach efforts. They provide a baseline and target to guide the urban forestry program and can only be achieved with a shared commitment from the community.

Appendix C. Tree Planting Prioritization Guidance: To support the recommended canopy goal, guidance for prioritizing tree plantings is provided. A series of themes are detailed in maps to demonstrate the approach for prioritization, securing funding and grants, planting, and post-planting care.

Appendix D. Preservation of Trees in Town Center: Based on the tree inventory, tiers of tree preservation were established for the trees in Town Center. Preservation tiers are based on the location, size, health, species, benefits, and other tree attributes that should be supported by policies as Town Center continues to grow and change.

Appendix E. Tree Removals and Replacements in Town Center: Using the inventory data, trees that require removal were assigned a recommended replacement species to sustain the associated benefits and services trees provide to Town Center and the City as a whole. Replacement species are based on tree diversity goals, resiliency to changing climates, site conditions, and other parameters that should be considered when replanting Town Center's urban forest.

Appendix F. Funding Mechanisms: To support the implementation of actions in this Plan, a matrix of funding mechanisms is provided that describe the funding option, requirements, considerations, and limitations. The City should have a diverse portfolio of funding sources to be sustainable and achieve the vision of the urban forest.

Appendix G. Trees and Hardscape Conflicts Solutions Workbook: Existing trees in the landscape share limited space with other City infrastructure. As such, the assets are competing for space which may result in conflicts between trees and hardscape. This workbook provides the decision matrix to assess the tree(s), the site(s), and the conflict(s) in a transparent and consistent manner. In addition, alternative solutions for tree and hardscape conflicts are provided for the City to consider for established trees and future tree plantings.

Appendix H. Existing and Potential Urban Forestry Partners: Achieving and sustaining the vision for the urban forest requires a diverse network of partners implementing programs and activities that share a common goal. In this resource, a series of existing and potential partners and programs are provided for the City to evaluate to establish or strengthen its network of community tree stewards.

Appendix I. Storm and Disaster Management Guidance: The effects of climate change are ever more felt after the 2021 winter storm in Wilsonville. This resource provides guidance on the preparation, response, and recovery efforts relating to storms and extreme weather events.

CITY OF WILSONVILLE URBAN FORESTRY GOALS

Wilsonville’s Tree Canopy and Equity Goal: 36 by 46

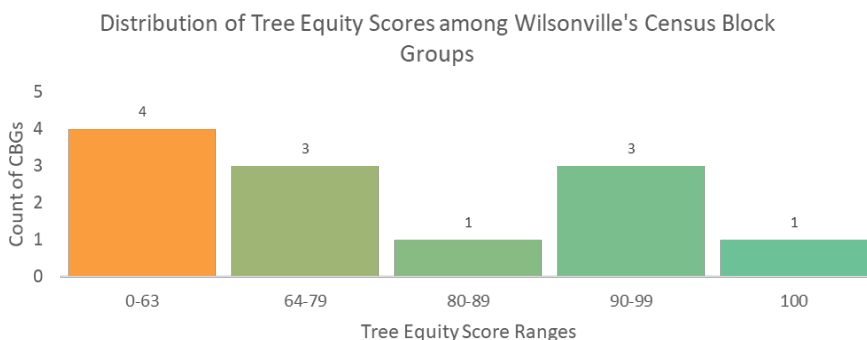
Urbanization creates significant changes in land use and land cover, affecting the structure, pattern, and function of ecosystems. The public is increasingly concerned about how these changes influence daily life and affect the sustainability of “quality of life” for future generations. Improving air quality, cooling urban heat islands, building resiliency against storms, and reducing stormwater runoff are challenges facing the City of Wilsonville. Rapid growth in Wilsonville (29 percent increase from 2010 to 2018, City source), is accelerating these problems. The problems need solutions as the City tries to protect and restore environmental quality while enhancing economic opportunity.

Tree canopy is a valuable component of Wilsonville’s urban ecosystem. Thus, expanding the urban forest is part of the solution to the City’s social, environmental, and economic problems—it is integral to enhancing public health programs, increasing land values and local tax bases, providing job training and employment opportunities, reducing costs of city services, increasing public safety, improving air quality, offsetting carbon emissions, managing stormwater runoff, and conserving energy.

With this understanding, the City evaluated the feasibility of creating a canopy goal. Currently, 30 percent of Wilsonville’s land area is covered by tree canopy when viewed from above. This value provides a baseline metric that forms the foundation of the strategies in the Plan. To achieve the vision for the urban forest, the City has established a goal to increase its tree canopy coverage by 6 percent over a 25-year timespan— “36 by 46”. To reach this goal, approximately 27,000 new trees need to be planted over the 25-year timeframe while preserving the City’s existing urban tree canopy cover. The goal of 36 percent canopy and 27,000 new trees is based on a variety of factors including species diversity, urban forest benefits, and an equitable distribution of tree canopy.

Regarding tree canopy equity, trees are generally sparse in socioeconomically disadvantaged neighborhoods and more prominent in wealthier neighborhoods. Focused on addressing this inequity, the American Forests organization created the Tree Equity Score (TES, TreeEquityScore.org) tool that measures tree equity across 150,000 U.S. neighborhoods and 486 municipalities in urban areas. Each community’s TES indicates whether there are enough trees for everyone to experience the health, economic, and climate benefits that trees provide. The scores are based on how much tree canopy and surface temperature align with income, employment, race, age, and health factors. A 0- to-100-point system makes it easy to understand how a community is doing. With the knowledge the score provides, Wilsonville’s community leaders, tree advocates, and residents alike can address climate change and public health through the lens of social equity, attract new resources, factor the scores into technical decisions, guide implementation of the Urban Forest Management Plan, and track progress toward achieving tree equity. A score of 100 represents tree equity.

The Tree Equity Score for the City of Wilsonville is currently at a score of 77 out of 100. This score is based on a combination of metrics for 12 Census Block Groups (CBG) comprising the City (refer to figure below). As shown in the figure below, only one of the CBGs is attaining tree equity with a score of 100 and three CBGs are just below the optimal score. The majority (four) of CBGs though, are in the 0-63 Tree Equity Score range.



To improve tree equity and the associated benefits of more tree canopy cover, a goal was established for each Census Block Group to have a Tree Equity Score of at least 75. To achieve this, a total of 27,000 new trees need to be planted across the City which would increase the tree canopy cover from 30 percent to 36 percent. The City should be strategic in planting new trees to address the CBGs with the lowest TES while maintaining existing tree canopy cover across Wilsonville.

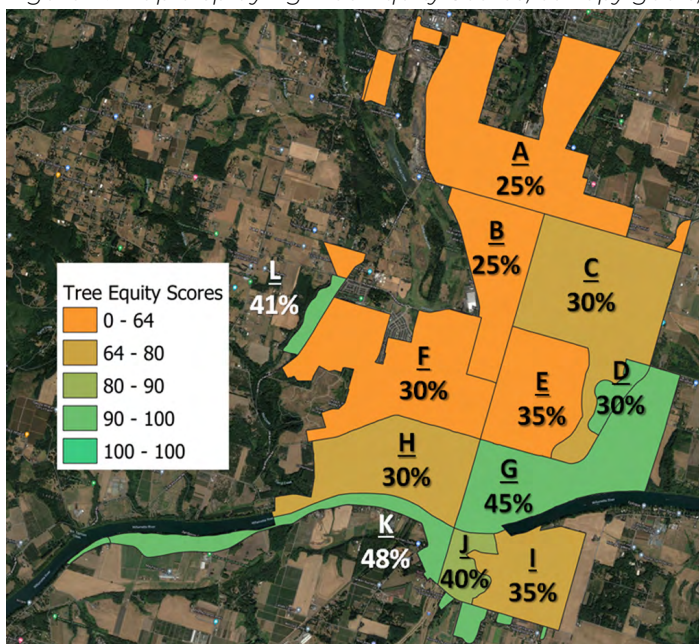
The following provides recommended canopy goals and planting targets for Wilsonville to achieve 36 percent tree canopy cover and improve the Tree Equity Scores for its Census Block Groups.

Table 11. Number of trees to reach the recommended tree canopy goal by Census Block Group and Citywide

#*	Census Block Group	Tree Equity Score	Current Canopy	Canopy Goal	# of Trees	Trees per Year
A	CBG 410670321101	62	17%	25%	6,745	270
B	CBG 410050227071	61	13%	25%	4,559	182
C	CBG 410050244001	77	29%	30%	666	27
D	CBG 410050244002	97	30%	30%	0	0
E	CBG 410050244003	60	24%	35%	3,694	148
F	CBG 410050227072	56	16%	30%	8,732	349
G	CBG 410050227101	96	44%	45%	500	20
H	CBG 410050227082	72	27%	30%	1,148	46
I	CBG 410050228002	74	31%	35%	1,084	43
J	CBG 410050228001	88	38%	40%	167	7
K	CBG 410050228003	99	48%	48%	0	0
L	CBG 410050227081	100	41%	41%	0	0
Citywide		77	30%	36%	27,295	1,092

*See Figure 11 below for a map displaying the reference letters in Table 11 and the canopy goal.

Figure 11. Map displaying Tree Equity Scores, canopy goals, and table reference letters for Census Block Groups



Planting 27,000 trees in the City will result in substantial increases to tree canopy cover and associated environmental, economic, and social benefits. Based on the Tree Equity Score tool, it is estimated these new trees will bring an added annual ecosystem service value of \$350,633 once fully implemented. Planting trees that grow to large-canopied specimens at maturity and are healthy will sequester over 360 tons of carbon, 0.3 tons of carbon monoxide, 0.3 tons of sulfur dioxide, and 5.9 tons of ozone annually— all pollutants contributing to the greenhouse gas effect and changing climate. In addition, the 27,000 trees will reduce particulate matter by 1.7 tons (PM10) and 0.4 tons (PM2.5) annually and prevent the runoff of 15,117,774 gallons of stormwater each year.

Table 12. Summary of ecosystem benefits from planting 27,000 trees and reaching 36 percent canopy cover

Carbon Sequestered 362.0 tons	Carbon Monoxide 0.3 tons	Nitrogen Dioxide 1.0 tons
Sulfur Dioxide 0.3 tons	PM10 Pollution 1.7 tons	PM2.5 Pollution 0.4 tons
Ozone 5.9 tons	Runoff Avoided 15,117,774 gallons	Rain Interception 40,950,102 gallons

It is the responsibility of the City, its partners, and the community to review the recommendations in this report and the Urban Forest Management Plan to formally adopt tree canopy goals and strategies. Additional analyses of possible planting area and potential planting priorities should be conducted to support goal development. In addition, the City should utilize the Recommended Master Tree List, Tree Maintenance Manuals, Tree Ordinance Revision Recommendations, and other studies supporting the Plan and this Report. The TES and canopy goals will be refined, and aligned more closely to the City limits, with the completion of a high-resolution urban tree canopy (UTC) assessment (Action MP.03).

Urban Forest Management Goals

The following series of urban forestry goals to address the resource, the programs, and the people and are not listed by any particular priority or order.

- 1

TREE MANAGEMENT POLICY (MP):
The City’s urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville’s urban forest.
- 2

CAPACITY, TRAINING, AND AUTHORITY (CT):
Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.
- 3

ASSESSMENTS AND PLANS (AP):
A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.
- 4

COMMUNITY ENGAGEMENT (CE):
Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.
- 5

GREEN ASSET MANAGEMENT (GA):
Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

Action and Target Framework

Table 13. Framework and description of urban forestry actions

PRIORITY	EFFORT	ACTION # & ORDER	ACTION DESCRIPTION	CO-BENEFITS**	LEAD* & TARGET YEAR
1-3 ranking of action importance indicated by cell color (3 cells = highest priority)	1-3 ranking of resources required indicated by cell color (3 cells = highest level of effort)	Action number with a reference to the Urban Forest Audit categories. Number to indicate overall order of implementation	Description of the action for the respective goal	Additional benefits to Wilsonville. Up to 3 dots ("●") possible. More dots, greater impact. C=Community, H= Human Health E=Equity N=Natural Environment	Implementer lead and collaborator. Calendar year(s) to implement

Table 14. Example framework of the urban forestry actions

PRIORITY	EFFORT	ACTION # ORDER	TREE MANAGEMENT POLICY (MP) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		MP.01 11	Support canopy goals in Town Center with effective tree preservation policies (i.e., City Code 4.600 - 4.640.20). Use Appendix B-E as guidance.	● ● ● ● C H E N	CD, PW 2021

Table 15. Example framework of the urban forestry action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
An intermediate target leading to final target aligned with action "target year" and desired outcome	An intermediate target leading to final target aligned with action "target year" and desired outcome	Targets in bold font and goal color are the primary target to measure success of implementing the corresponding action

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

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GOAL 1**TREE MANAGEMENT POLICY (MP)**

The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.

URBAN FOREST AUDIT:

Management Policy and Ordinances at 71% Attainment (2021)

Standards and Best Management Practices at 63% Attainment (2021)

STRENGTHS:

Chapter 4.600 of City Code describes the policies and requirements for tree preservation and protection and City Code section 4.176 (Planning and Land Development Ordinance) describes the landscaping standards for development. In addition, the City has the Charbonneau Tree Preservation Program primarily for the care and enhancement of the large oak trees in the neighborhood.

OPPORTUNITIES:

Policies relating to urban forestry can be updated with current industry standards and best practices to support tree preservation Citywide and specifically in Town Center. A high-resolution tree canopy assessment can identify the location and extent of the urban forest resource in terms of canopy cover and the opportunities available for planting more trees. This data can guide policies, planning and development requirements, planting strategies, and baseline assessments.

PURPOSE:

- Support: An urban forestry program implementing actions without the appropriate support from policy and ordinances is at risk of using resources and time inefficiently and may lack the enforcement necessary for permanent improvements. A weak or outdated framework of policy and ordinances for urban forest management jeopardizes the success of key projects that support this Plan.
- Connections: Alignment of policy and ordinances ensures a strong connection among the urban forestry program's high-level strategic goals, and the projects and initiatives that support these goals.
- Holistic: Programs cannot live in isolation. Therefore, cross-examining and aligning various plans, policies, and ordinances brings to light any projects or initiatives that are a misplacement of resources.

TREE MANAGEMENT POLICY (MP) ACTIONS

Table 16. Tree Management Policy actions

PRIORITY	EFFORT	ACTION # ORDER	TREE MANAGEMENT POLICY (MP) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		MP.01 11	Support canopy goals in Town Center with effective tree preservation policies (i.e., City Code 4.600 - 4.640.20). Use Appendix B-E as guidance.	 C H E N	CD, PW 2022
		MP.02 15	Strengthen storm and disaster preparations, mitigations, recovery strategies, and protocols (see Appendix I), protocols, and mechanisms, including flexibility related to obvious tree removals to shorten the permitting process.	 C H E N	CD, PR, PW 2022
		MP.03 27	Complete a comprehensive high-resolution urban tree canopy (UTC) assessment using industry recommended protocols to measure progress towards canopy goals and tree equity.	 C H E N	CD, PW 2025
		MP.04 30	Develop a tree manual for planners, developers, homeowners, and tree care companies that includes tree-related policies, guidelines, best practices, and standards.	 C H E N	CD 2026

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

TREE MANAGEMENT POLICY (MP) TARGETS

Table 17. Tree Management Policy action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
MP.01: Guidance in Appendix B-E of the UFMP is reviewed and incorporated accordingly (Year 1)	MP.01: Tree preservation policies are enforced in Town Center (Year 1)	MP.01: The City has staffing levels to adequately monitor development projects and enforce tree preservation policies to achieve canopy goals in Town Center (Year 25)
MP.02: Appendix I is reviewed and a strategy is developed (Year 1)	MP.02: A plan or manual detailing storm and disaster preparation, response, and mitigation is updated (Year 2)	MP.02: The plan or manual is actively utilized and reduces costs of storm response. The urban forest is more resilient (Year 25)
MP.03: A decision on in-house or consultant-led tree canopy assessment is determined (Year 3)	MP.03: A budget proposal is prepared if needed (Year 4)	MP.03: An urban tree canopy assessment is completed and canopy goals are established, supported by Master Tree Planting Plans (Year 5)
MP.04: A statement of need and an outline for the tree manual(s) is prepared (Year 4)	MP.04: A decision on in-house or consultant-led manual is determined (Year 5)	MP.04: Tree manual(s) developed to support goals of a healthy and sustainable urban forest (Year 6)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action.

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GOAL 2

CAPACITY, TRAINING, AUTHORITY (CT)

Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.

URBAN FOREST AUDIT:

Capacity and Training at 63% Attainment (2021)

Authority at 63% Attainment (2021)

STRENGTHS:

The Community Development Department and Natural Resources Program along with the Parks and Public Works departments have a robust team of certified, qualified, and trained staff for the management of the urban forest. Supporting this team is the framework established to utilize certified consultants and contractors as needed. City staff maintain certifications and continue to expand skillsets and offer trainings and presentations relating to the City's urban forest.

OPPORTUNITIES:

It is recommended the City consider consolidating programs to reduce inefficiencies and improve cohesive planning and management of the public trees. The City should continue to support in-house and outsourced training as it relates to tree maintenance, safety, risk, and other needs. The City should update Standard Operating Procedures (SOPs) as changes occur such as increasing staffing to support more frequent public tree pruning as recommended by industry standards

PURPOSE:

- Quality: The complexity of urban forests requires adept personnel for its appropriate care, growth, and resiliency. A city with quality staff reduces the variance of quality in service.
- Efficiency: A City with adequate staffing levels who are appropriately trained can meet the needs of the community timely and effectively. Staff with an understanding and training in processes affecting the urban forest can align efforts to achieve common goals.
- Safety: Safe practice of arboriculture and urban forestry is critical for City staff, contractors, and the public to reduce the potential risk of public hazards.
- Service: This Plan evaluates tree maintenance responsibilities in public areas to achieve targets of improved urban forest health.

CAPACITY, TRAINING, AUTHORITY (CT) ACTIONS

Table 18. Capacity, Training, Authority actions

PRIORITY	EFFORT	ACTION # ORDER	CAPACITY, TRAINING, AUTHORITY (CT) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		CT.01 1	Establish an urban forestry working group with regular meetings to monitor progress of implementing actions. Finalize lead implementers.	 C H E N	CD, PR, PW 2022
		CT.02 13	Maintain International Society of Arboriculture (ISA) Certified Arborist certifications and other credentials such as ISA Tree Risk Assessment Qualification (TRAQ).	 C H E N	PW, PR, CD 2022
		CT.03 18	Educate and train City staff to adhere to Best Management Practices, including industry research, science, and technology through various platforms, for the maintenance of all City trees. Provide education to the public for the proper care of trees on private property.	 C H E N	CD, PR, PW 2023

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

CAPACITY, TRAINING, AUTHORITY (CT) TARGETS

Table 19. Capacity, Training, Authority action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
CT.01: Necessary representation and skillsets of members needed is determined, outreach conducted (Year 1)	CT.01: Urban forestry working group established and regular meetings scheduled (Year 1)	CT.01: The UFMP is actively implemented, monitored, reported, and revised by the working group (Year 2-25)
CT.02: A needs assessment identifies necessary training and certifications of all staff (Year 1)	CT.02: Necessary certifications and credentials are maintained (Year 2)	CT.02: All City staff involved in urban forestry activities have the appropriate and recommended training and certifications (Year 25)
CT.03: Training needs are identified (Year 2)	CT.03: City staff are trained on BMPs and public is informed of proper tree care (Year 3)	CT.03: BMPs are implemented for all public trees and less malpractice on private trees occurs (Year 10)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action.

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GOAL 3**ASSESSMENT AND PLANS (AP)**

A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.

URBAN FOREST AUDIT:

Inventories at 46% Attainment (2021)

Urban Forest Management Plans at 50% Attainment (2021)

STRENGTHS:

The City has a comprehensive inventory of public trees along streetscapes and in maintained areas of parks housed in an asset management program. Tree management staff routinely utilize the database for prioritizing and scheduling maintenance and conduct physical assessments of City-owned trees. In addition to assessments, the City has a Parks and Recreation Master Plan, stormwater management plans, Urban Renewal Strategic Plan, plans for City focus areas such as Town Center and Charbonneau, and recognizes trees as vital assets in the Comprehensive Plan.

OPPORTUNITIES:

The City should continue to manage and update the inventory database as changes to the public tree population occur. To support the focus areas of Charbonneau and Town Center, a Master Tree planting Plan would provide the strategies for preserving existing trees and replacing removed trees to maintain and grow a sustainable urban forest. Other related City plans should be updated with information relating to the Urban Forest Management Plan, as necessary, and the Urban Forest Management Plan should be routinely evaluated and adapted as the resource and programs change over time.

PURPOSE:

- Informed Management: An inventory of Wilsonville's valuable assets—public trees—provides the data for informed management and resource decisions.
- Measured: An understanding of the population of trees provides baseline information from which progress and change resulting from this Plan and an urban forestry program can be measured for adaptive management.
- Value: The inventory of public trees provides information that can be used to quantify the ecosystem services and benefits provided to Wilsonville's residents, environment, and economy.
- Inclusivity: The urban forest is comprised of public and private trees spanning a multitude of ecosystems and land uses. Plans for trees across these landscapes ensures all aspects of urban forestry are included in a cohesive, strategic manner.

ASSESSMENTS AND PLANS (AP) ACTIONS

Table 20. Assessment and Plans actions

PRIORITY	EFFORT	ACTION # ORDER	ASSESSMENTS AND PLANS (AP) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		AP.01 4	Maintain an inventory of public trees Citywide and within Focus Areas and update as maintenance and new plantings occur. Monitor tree loss and gain through annual tree removal and planting permit reporting.	● ● ● ● C H E N	PW, CD Annually
		AP.02 16	Utilize Appendix A-E to develop a Master Tree Planting Plan for Town Center, aligned with the local and Citywide canopy goals. Preserve existing trees in Town Center to the extent possible by using guidance provided in Appendix D .	● ● ● ● C H E N	CD, PW 2023
		AP.03 17	Utilize Appendix A-E to develop a Master Tree Planting Plan for Charbonneau's aging oak (Quercus) population, aligned with the local and Citywide canopy goals.	● ● ● ● C H E N	CD, PW 2023
		AP.04 20	Complete an urban forest audit using similar criteria as the 2020 audit completed for the UFMP to evaluate improvements in urban forest management and adapt strategies. As needed, modify existing actions and develop new actions to continue to achieve goals of the UFMP.	● ● ● ● C H E N	CD 2026
		AP.05 26	Utilize Appendix G to develop a Trees and Construction Operations Plan for alternative solutions to conflicts between public trees and infrastructure/construction.	● ● ● ● C H E N	CD, PW 2026
		AP.06 27	Quantify the ecosystem benefits and appropriate appraisal values to conduct a cost-benefit analyses of public trees. This informs maintenance and planting recommendations and raises public awareness of urban forest benefits. For example, explore the cost effectiveness and safe use of utilizing urban forest biomass on City properties.	● ● ● ● C H E N	CD 2028

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

ASSESSMENTS AND PLANS (AP) TARGETS

Table 21. Assessment and Plans action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
AP.01: Tree database updated to reflect changes to the public tree population (Year 1-10)	AP.01: Tree database updated to reflect changes to the public tree population (Year 10)	AP.01: All public trees in a maintained database. Includes sample inventories of all forested public space (Year 25)
AP.02: The Citywide Recommended Tree List in Appendix A is adopted (Year 1)	AP.02: Strategic planning for the preservation of trees in Town Center using Appendix D is completed (Year 2)	AP.02: A Master Tree Planting Plan for Town Center is developed (Year 3)
AP.03: The Citywide Recommended Tree List in Appendix A is adopted (Year 1)	AP.03: Strategic planning for the oaks in Charbonneau is completed using the 2020 inventory and UFMP guidance (Year 2)	AP.03: A Master Tree Planting Plan for Charbonneau's aging oak population is developed (Year 3)
AP.04: An updated urban forest audit is completed (Year 4)	AP.04: UFMP actions and strategies are updated based on the 2023 audit (Year 5)	AP.04: An updated urban forest audit is completed (Year 6)
AP.05: Alternative solutions provided in Appendix C of the UFMP are reviewed (Year 4)	AP.05: Alternative solutions and best practices are approved (Year 5)	AP.05: A Trees and Construction Operations Plan is completed (Year 6)
AP.06: Using the tree database, changes to the public tree population are measured (Year 3-6)	AP.06: The ecosystem benefits and appraisal values of public trees is quantified (Year 7)	AP.06: A cost-benefit analysis is completed informing planting, maintenance, and biomass utilization options (Year 8)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action.

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GOAL 4

COMMUNITY ENGAGEMENT (CE)

Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.

URBAN FOREST AUDIT:

Community at 89% Attainment (2021)

STRENGTHS:

The City has a strong partnership with neighborhood and regional organizations for the planting and care of trees. Urban forestry related information is available on the City's website and the City utilizes an outreach website for keeping residents engaged. The City also has a successful Tree Fund program for homeowner mitigation plantings. Wilsonville has maintained Arbor Day Foundation's Tree City USA status for 22 years (as of June 2020) and received numerous "Growth Awards" for outstanding urban forestry projects. In addition, the City manages a Heritage Tree Program recognizing significant trees throughout Wilsonville.

OPPORTUNITIES:

Existing partnerships should be maintained and opportunities for non-conventional partnerships should be explored for representation of all neighborhoods and demographics in Wilsonville. Urban forestry related events, workshops, and training for the public should be held in coordination with partners as funding allows and the City should strive to diversify and expand the number of volunteers for community tree stewardship. Under the current capacity these efforts are difficult to pursue therefore, the City should explore the feasibility of a volunteer coordinator for urban forestry and other related efforts.

PURPOSE:

- Inclusivity: Residential property contains a large portion of the City's total tree canopy cover. Sustaining Wilsonville's urban forest requires residential collaboration and feedback and fostering long-term relationships to improve outcomes.
- Transparency: Program and funding transparency are essential in building resilient community partnerships.
- Resourcefulness: Public participation and insight provide resourceful and impactful urban forest program growth.
- Community: Active participation in nature-related efforts foster community pride and ownership, and breaks down walls, helping bring communities closer together as they become closer to nature.

COMMUNITY ENGAGEMENT (CE) ACTIONS

Table 22. Community Engagement actions

PRIORITY	EFFORT	ACTION # ORDER	COMMUNITY ENGAGEMENT (CE) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		CE.01 2	Update the City's website and materials based on information from the Plan. On a regular basis, share informative urban forestry and tree-related content to a social media, City website, and other communication platforms. Prioritize citizen service requests and update the City website with frequently asked questions and resources.	● ● ● C H E N	CD 2022
		CE.02 5	As funding permits, conduct annual urban forestry events, or partner-events—especially involving youth and HOAs—relating to tree planting and pruning to increase capacity for the care of public trees led by citizen tree stewards. Prioritize areas with lower urban tree canopy and other considerations such as underserved communities.	● ● ● ● ● ● C H E N	CD, PR Annually
		CE.03 6	Continue to track and annually report urban forestry activities of all partners and continue to maintain Arbor Day Tree City USA designation. Data will support future budget requests.	● ● ● ● ● C H E N	CD, PR, PW Annually
		CE.04 7	Continue to strengthen partnerships with civic groups, volunteers, institutions, neighborhoods, and non-profit organizations. Clarify tree maintenance authority and responsibilities among entities such as Homeowners Associations (HOAs), utilities, and special districts in a Standard Operating Procedure (SOP). Provide resources to private landholders on an as-needed basis.	● ● ● ● ● ● C H E N	CD Annually
		CE.05 8	As funding permits, provide information and educational workshops and materials about the proper tree species for given sites and conditions. Increase public outreach and notification of current and future pest/disease concerns and what they can do to support and sustain the urban tree canopy.	● ● ● ● ● ● C H E N	CD Annually
		CE.06 10	Continue to utilize the City Tree Fund for homeowner mitigation plantings. Increased awareness and support of urban forestry in the City will increase City Tree Fund contributions allowing the City to reevaluate mitigation amount (\$100 currently).	● ● ● ● ● ● C H E N	CD 2022

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

COMMUNITY ENGAGEMENT (CE) TARGETS

Table 23. Community Engagement action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
CE.01: A community outreach strategy is aligned with other City efforts with consistent messaging (Year 1)	CE.01: Information from the UFMP is shared on a multitude of City platforms for the public (Year 1)	CE.01: Citizen service requests are reviewed and the City website is updated with FAQs (Year 1)
CE.02: A list of existing and potential events, partners, and subject matter is prepared (Year 1-25)	CE.02: Regular meetings with City partners are done to align efforts and resources (Year 1-25)	CE.02: Events are held to raise awareness and build a community of stewards aligned with needs identified in surveys and audits (Year 1-25)
CE.03: Appropriate urban forestry activities are tracked and reported and Tree City USA award is received (Year 1-25)	CE.03: Appropriate urban forestry activities are tracked and reported and Tree City USA award is received (Year 1-25)	CE.03: City acquires Arbor Day Foundation’s Growth Awards and Sterling Tree City status and other industry recognition (Year 25)
CE.04: A list of existing and potential partners and programs is managed utilizing Appendix H in the UFMP (Year 1-25)	CE.04: SOPs are reviewed and updated regularly as needed, information for urban and rural forest management available for private landholders (Year 1-25)	CE.04: Partnerships represent all neighborhoods, demographics, and cultures in the City (Year 10)
CE.05: Materials and information to address priority concerns are prepared and shared (Year 1-25)	CE.05: Based on public surveys and tracking, residents of the City actively plant appropriate tree species and monitor for pest/disease concerns (Year 10)	CE.05: The urban forest is more resilient to climate change and tree pests and diseases (Year 25)
CE.06: City Tree Fund is utilized (Year 1)	CE.06: City Tree Fund contributions are reevaluated as demand increases (Year 10)	CE.06: A shared partnership between the City and the community achieves local and Citywide canopy goals (Year 25)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action

COMMUNITY ENGAGEMENT (CE) ACTIONS CONTINUED

Table 22. Community Engagement actions (continued)

PRIORITY	EFFORT	ACTION # ORDER	COMMUNITY ENGAGEMENT (CE) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		CE.07 12	Support and sustain partnerships with local and regional participatory organizations (see Appendix H). Encourage and support horizontal volunteer collaboration between organizations. Increase the number of community volunteers annually.	 C H E N	CD, PR, PW Annually
		CE.08 15	Develop strategies to remove barriers to participation for all community members. Barriers to address include ADA communications compliance, internet availability, language, cultures, location, and transportation. Utilize partnerships with neighborhood organizations (see Appendix H).	 C H E N	CD, PR, PW 2022, Annually
		CE.09 19	Recognize exemplary urban forest stewards and volunteers representing youth, residents, organizations, and business owners. Consider a tree donation or use of the City Tree Fund framework for costs associated with this program.	 C H E N	CD 2023, Annually
		CE.10 23	Conduct biannual community surveys to gauge public viewpoints and receive feedback on implementation of the UFMP, and program success. Survey responses should inform future urban forest decision making.	 C H E N	CD 2024, Bi-Annually
		CE.11 24	Establish non-conventional partnerships that serve single and/or multiple City neighborhoods. At minimum, all neighborhoods should be represented in partnerships.	 C H E N	CD, PR, PW 2025

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

COMMUNITY ENGAGEMENT (CE) TARGETS CONTINUED

Table 23. Community Engagement action targets (continued)

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
CE.07: A list of existing and potential partners and programs is managed utilizing Appendix H in the UFMP. (Year 1-25)	CE.07: Annual increase in the number of volunteers, hours, and diversity (Year 1-25)	CE.07: Annual increase in the number of volunteers, hours, and diversity (Year 1-25)
CE.08: Strategies to remove barriers are developed (Year 2)	CE.08: Annual increase in the number of volunteers, hours, and diversity (Year 3-25)	CE.08: Annual increase in the number of volunteers, hours, and diversity (Year 3-25)
CE.09: The framework for a recognition program is developed (Year 2)	CE.09: The recognition program is launched (Year 3)	CE.09: The recognition program continues to grow with participants from various sectors to support the City’s urban forest (Year 4-25)
CE.10: A strategy for community surveys is prepared (Year 3)	CE.10: A community survey is shared to gather viewpoints and feedback that informs urban forest management (Year 4)	CE.10: Ongoing surveys conducted every 2 years, survey input is appropriately addressed (Year 5-25)
CE.11: A list of existing and potential partners and programs is managed utilizing Appendix H in the UFMP (Year 3)	CE.11: Outreach and meetings with potential partners are conducted (Year 4)	CE.11: Non-conventional partnerships are established that represent all City neighborhoods (Year 5)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action

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GOAL 5

GREEN ASSET MANAGEMENT (GA)

Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

URBAN FOREST AUDIT:

Green Asset Management at 55% Attainment (2021)

Risk Management at 61% Attainment (2021)

Disaster Planning at 43% Attainment (2021)

STRENGTHS:

City departments manage public trees along streetscapes and in parks, implement industry best management practices and standards, and conduct pest management practices as funding allows. Current tree planting regimen considers diversity of species and age. Certain City-owned trees are given fertilizer injections and treated for pests such as aphids.

OPPORTUNITIES:

Most public tree pruning performed by adjacent property owners and is reactionary and seldom proactive. The City should explore costs and staffing requirements to prune City-owned street trees on a recommended rotation to improve tree health, reduce risk, and improve efficiencies. HOAs conducting tree maintenance in their respective neighborhoods can support this evaluation and effort. Consideration for staffing requirements to achieve tree canopy cover goals should also be made. Large oak trees are outgrowing their space or impeding hardscape in areas such as Charbonneau and a strategic replanting strategy should be developed and aligned with canopy goals. Wilsonville should explore strategies to address storm preparation, response, and recovery as it relates to the urban forest and expand its pest management program to maintain a healthy and sustainable urban forest.

PURPOSE:

- Efficiency: Alignment of operations improves workflows, encourages resourcefulness, and reduces conflicts. Routine systematic tree maintenance reduces surges of maintenance and removal demands, identifies issues before they become more expensive, and optimizes available time and resources.
- Safety: Appropriate management of green assets reduces the risk of tree failures as well as person and property damage. Utilizing industry standards and best practices reduces on-the-job incidents to the extent possible.
- Sustainability: Managing urban forests as City assets will support stormwater management, climate resiliency, and human health goals. Appropriate maintenance and planting will support a healthy, long-lived urban tree canopy equitably distributed across a city.
- Proactive: Routine maintenance reduces future costs. Planting the urban forest with the appropriate species also reduces future costs, conflicts, and climate change impacts.

GREEN ASSET MANAGEMENT (GA) ACTIONS

Table 24. Green Asset Management actions

PRIORITY	EFFORT	ACTION # ORDER	GREEN ASSET MANAGEMENT (GA) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR
		GA.01 3	Use Citywide tree inventory data and best available science for long-term planning and management of existing and future tree pests and diseases impacting the City’s urban forest and trees specific to Focus Areas.		CD 2022
		GA.02 9	Prioritize and mitigate risk trees as well as young and large tree maintenance based on updated inventory data and resources. Continue to inform adjacent property owner(s) of tree maintenance or removal responsibilities using established protocols.		CD, PR, PW Annually
		GA.03 22	Develop a more strategic approach to tree species and site selection to ensure their resilience and optimize ecosystem service provision of Wilsonville’s urban forest. Use Appendix A as guidance.		CD, PR, PW 2024
		GA.04 23	In conjunction with watershed goals, green stormwater infrastructure plans, and other planning efforts, evaluate staffing resources required to effectively plant and maintain trees aligned with canopy goals and provide post-planting care.		CD, PR, PW 2024

*Lead: CD-Community Development Department; PR- Parks and Recreation Department; PW-Public Works Department

**Co-Benefits: C = Community; E = Equity; H = Human Health; N = Natural Environment

Acronyms: ANSI-American National Standards Institute, BMPs-Best Management Practices, ISA-International Society of Arboriculture, SOP-Standard Operating Procedure, UFMP-Urban Forest Management Plan

GREEN ASSET MANAGEMENT (GA) TARGETS

Table 25. Green Asset Management action targets

ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
GA.01: Tree database updated to reflect changes to the public tree population and analyzed for potential risks (Year 1)	GA.01: A plan is in place for managing tree pests and diseases in an integrated approach aligned with the Master Tree Planting Plan resulting from actions AP.02 and AP.03 (Year 10)	GA.01: The urban forest is more resilient to climate change and tree pests and diseases (Year 25)
GA.02: A maintained tree database informs routine and risk tree maintenance (Year 1-25)	GA.02: Tree maintenance responsibility is understood by the public observed in surveys and less service requests (Year 10)	GA.02: The public tree population is actively managed to reduce tree risk and all street trees are pruned on an appropriate rotation (Year 25)
GA.03: The Citywide Recommended Tree List in Appendix A is adopted (Year 1)	GA.03: A maintained tree database informs tree species and locations for planting (Year 3)	GA.03: A Citywide Master Tree Planting Plan is developed in line with Focus Area planting plans (Year 4)
GA.04: City and partner programs and efforts are documented (Year 3)	GA.04: Coordination meetings are held to effectively develop planting targets and canopy goals (Year 4)	GA.04: A shared commitment achieves local and Citywide tree canopy goals with staffing to properly maintain the growing urban forest (Year 25)

Targets in bold font and colored by goal color are the primary target to measure success of implementing the corresponding action

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URBAN FOREST MANAGEMENT FOR CITY FOCUS AREAS

In addition to the Citywide urban forest management actions, strategic actions were developed for the City’s focus areas of Charbonneau and Town Center. These actions are integrated into the Citywide actions and summarized below for direct implementation to improve the management, sustainability, and community framework of trees in these focus areas.

SPECIFIC ACTIONS FOR THE URBAN FOREST IN CITY FOCUS AREAS

Table 26. Urban forestry actions specific to City Focus Areas

ACTION #*	FOCUS AREA	ACTIONS	TARGET YEARS
MP.01	Town Center	Support canopy goals in Town Center with effective tree preservation policies (i.e., City Code 4.600 - 4.640.20). Use Appendix B-E as guidance.	2021
MP.03	Charbonneau Town Center	Complete a comprehensive high-resolution urban tree canopy (UTC) assessment using industry recommended protocols to measure progress towards canopy goals and tree equity.	2025
MP.04	Charbonneau Town Center	Develop a tree manual for planners, developers, homeowners, and tree care companies that includes tree-related policies, guidelines, best practices, and standards.	2026
AP.01	Charbonneau Town Center	Maintain an inventory of public trees Citywide and within Focus Areas and update as maintenance and new plantings occur. Monitor tree loss and gain through annual tree removal and planting permit reporting.	Annually
AP.02	Town Center	Utilize Appendix A-E to develop a Master Tree Planting Plan for Town Center, aligned with the local and Citywide canopy goals. Preserve existing trees in Town Center to the extent possible by using guidance provided in Appendix D .	2023
AP.03	Charbonneau	Utilize Appendix A-E to develop a Master Tree Planting Plan for Charbonneau’s aging oak (<i>Quercus</i>) population, aligned with the local and Citywide canopy goals.	2023
CE.01	Charbonneau Town Center	Update the City’s website and materials based on information from the Plan. On a regular basis, share informative urban forestry and tree-related content to a social media, City website, and other communication platforms. Prioritize citizen service requests and update the City website with frequently asked questions and resources.	2021
CE.02	Charbonneau Town Center	As funding permits, conduct annual urban forestry events, or partner-events—especially involving youth and HOAs—relating to tree planting and pruning to increase capacity for the care of public trees led by citizen tree stewards. Prioritize areas with lower urban tree canopy and other considerations such as underserved communities.	Annually
CE.03	Charbonneau Town Center	Continue to track and annually report urban forestry activities of all partners and continue to maintain Arbor Day Tree City USA designation. Data will support future budget requests.	Annually
CE.04	Charbonneau Town Center	Continue to strengthen partnerships with civic groups, volunteers, institutions, neighborhoods, and non-profit organizations. Clarify tree maintenance authority and responsibilities among entities such as Homeowners Associations (HOAs), utilities, and special districts in a Standard Operating Procedure (SOP). Provide resources to private landholders on an as-needed basis.	Annually

* MP = Tree Management Policy goal; AP = Assessments and Plans goal; CE = Community Engagement goal; GA = Green Asset Management goal

Acronyms: ADA = Americans with Disabilities Act

Table 26. Urban forestry actions specific to City Focus Areas (continued)

ACTION #*	FOCUS AREA	ACTIONS	TARGET YEARS
CE.05	Charbonneau Town Center	As funding permits, provide information and educational workshops and materials about the proper tree species for given sites and conditions. Increase public outreach and notification of current and future pest/disease concerns and what they can do to support and sustain the urban tree canopy.	Annually
CE.06	Charbonneau Town Center	Continue to utilize the City Tree Fund for homeowner mitigation plantings. Increased awareness and support of urban forestry in the City will increase City Tree Fund contributions allowing the City to reevaluate mitigation amount (\$100 currently).	2021
CE.07	Charbonneau Town Center	Support and sustain partnerships with local and regional participatory organizations (see Appendix H). Encourage and support horizontal volunteer collaboration between organizations. Increase the number of community volunteers annually.	Annually
CE.08	Charbonneau Town Center	Develop strategies to remove barriers to participation for all community members. Barriers to address include ADA communications compliance, internet availability, language, cultures, location, and transportation. Utilize partnerships with neighborhood organizations (see Appendix H).	2022, Annually
CE.09	Charbonneau Town Center	Recognize exemplary urban forest stewards and volunteers representing youth, residents, organizations, and business owners. Consider a tree donation or use of the City Tree Fund framework for costs associated with this program.	2023, Annually
CE.10	Charbonneau Town Center	Conduct biannual community surveys to gauge public viewpoints and receive feedback on implementation of the UFMP, and program success. Survey responses should inform future urban forest decision making.	2024, Bi-Annually
CE.11	Charbonneau Town Center	Establish non-conventional partnerships that serve single and/or multiple City neighborhoods. At minimum, all neighborhoods should be represented in partnerships.	2025
GA.01	Charbonneau Town Center	Use Citywide tree inventory data and best available science for long-term planning and management of existing and future tree pests and diseases impacting the City's urban forest and trees specific to Focus Areas.	2021
GA.02	Charbonneau Town Center	Prioritize and mitigate risk trees as well as young and large tree maintenance based on updated inventory data and resources. Continue to inform adjacent property owner(s) of tree maintenance or removal responsibilities using established protocols.	Annually

* MP = Tree Management Policy goal; AP = Assessments and Plans goal; CE = Community Engagement goal; GA = Green Asset Management goal

Acronyms: ADA = Americans with Disabilities Act

GOAL AND ACTION SUMMARY

Urban trees are regarded as assets similar to other infrastructure investments. Protecting the asset and ensuring a healthy and sustainable urban forest requires sound and deliberate management guided by strategic goals and actions. This Urban Forest Management Plan was developed to establish the protocols, outcomes, and services related to Wilsonville’s urban forest over a long-term 25-year planning horizon. The actions presented in the previous section are ordered by goal theme though the City may find it advantageous to order by priority or other action attribute (see the Goal and Action Framework worksheet as part of the UFMP project). The table below provides the actions in order of priority and the key considerations for implementing the respective action.

Table 27. Summary of urban forest management actions by priority and rationale

	ACTION #	KEY CONSIDERATIONS OR RATIONALE
HIGHEST PRIORITY	MP.01	Effective policies ensure long-term urban forest sustainability.
	MP.03	Equal access to green spaces and an equitable distribution of tree canopy provides social, economic, and environmental benefits.
	CT.01	Coordinating implementation of the UFMP enables success.
	CT.02	Staff training reduces costs and improves production, safety, levels of service, and the urban forest.
	AP.01	Inventories inform maintenance, resource needs, planting, and ecosystem benefits.
	AP.02	A strategic plan for planting can achieve canopy goals, sustainability, and equity.
	AP.03	A strategic plan for planting can achieve canopy goals, sustainability, and equity.
	AP.04	Evaluations enable adaptive management.
	CE.03	A city must demonstrate that it cares about its urban forest.
	CE.04	Partnerships enable efficient achievement of shared goals.
MEDIUM PRIORITY	CT.03	A well-managed urban forest is sustainable, resilient, lower risk, and beneficial.
	CT.04	Effective policies ensure long-term urban forest sustainability.
	AP.05	A plan to address tree and hardscape conflicts resolves issues, is consistent, transparent, and achieves common goals.
	AP.06	An understanding of benefits, services, and value can be conveyed to the public and inform management.
	CE.01	Readily available information raises awareness and increases support to achieve common goals.
	CE.02	A community that participates in stewardship takes ownership and provides support.
	CE.06	The community expresses strong interest in supporting urban forestry goals but may be financially constrained.
	CE.07	Partnerships enable efficient achievement of shared goals.
	CE.08	A community that participates in stewardship takes ownership and provides support.
	CE.09	A city must demonstrate it cares about its urban forest and the individuals caring for it.
	CE.10	Gathering feedback and input from the community informs future strategies, messaging, and resource needs.
	CE.11	Partnerships enable efficient achievement of shared goals.
	GA.01	A well-managed urban forest is sustainable, resilient, lower risk, and beneficial.
	GA.02	A well-managed urban forest is sustainable, resilient, lower risk, and beneficial.
	GA.03	A well-managed urban forest is sustainable, resilient, lower risk, and beneficial.
GA.04	A diverse urban forest is resilient to tree pests and diseases and climate change but must be planted according to tree and site requirements, timing, and desired function.	
GA.05	Partnerships and coordination enable efficient achievement of shared goals.	

Table 27. Summary of urban forest management actions by priority and rationale (continued)

	ACTION #	KEY CONSIDERATIONS OR RATIONALE
LOW PRIORITY	MP.02	A systematic approach to risk assessments and mitigation will reduce risk and improve the urban forest.
	MP.04	A well-managed urban forest is sustainable, resilient, lower risk, and beneficial.
	CE.05	Readily available information raises awareness and increases support to achieve common goals.

IMPLEMENTATION GUIDANCE

The framework of the goals and actions in the Urban Forest Management Plan provides the City of Wilsonville with the means to measure progress and adapt to an everchanging environment and availability of resources. Each of the five goals align with the U.S. Forest Service's Urban Forest Audit System and the actions are intended to guide the City towards improvements in ranking for each of the 126 elements within the 11 categories of urban forest management. As actions are implemented, the City may conduct new iterations of the Urban Forest Audit to gauge success, evaluate progress, and adjust accordingly.

As part of the project, an interactive worksheet of goals, actions, and targets was provided to enable the City's implementers to sort actions by order, priority, effort, goal theme, implementation year, and other action attributes. It is recommended the City establish an urban forestry working group to manage Plan implementation and monitoring. This team should coordinate the implementation of actions with the respective partners or collaborators. For the Plan, actions were provided by goal theme though the City may find it advantageous to view the actions by recommended order, priority, level of effort, or target year.

MONITORING PLAN

This Urban Forest Management Plan will be updated and revised periodically to reflect changes in the urban forest resource structure and function, to incorporate changes in industry standards, to consider community response, and to measure the progress of the urban forest partners in implementing the recommendations and reaching the established goals. This process should be implemented by an Urban Forest Working Group (UFMP Action CT.01) using the Evaluate, Monitor, Report, and Revise methodology.

Knowing how the City of Wilsonville and its partners are doing will require a continual process of evaluation. This section presents examples of how to monitor, analyze, and revise the Plan, which will keep stakeholders informed of the status of the urban forest program. To monitor progress toward implementing the Plan recommendations, an evaluation similar to the U.S. Forest Service's Urban Forest Audit conducted to develop the initial Plan should be completed. This evaluation will identify progress and shortfalls compared to the baseline audit.

In addition, a report card could be created based on outcomes of the audit and distributed to the public every two to three years. This will measure the progress toward implementing the Plan recommendations. The following example provides a suggested reporting structure to measure success toward accomplishing each goal. Other indicators to measure progress may need to be developed to ensure a thorough and accurate evaluation.

Evaluate

The Urban Forest Audit System provides a framework for routine evaluations of the urban forest, the programs that manage it, and the community that shapes and benefits from it. The Research Summary to this Urban Forest Management Plan provides the guidance for completing the audit. It is recommended the City Project Team or the Urban Forest Working Group complete a bi-annual audit to inform any alterations to actions and strategies.

This audit system consists of 11 categories of urban forest management, sustainability, and community. Within the 11 categories are approximately 130 elements. Each element was ranked or scored based on the consultants' evaluations in 2021 for the Urban Forest Management Plan. The City Project team or Urban Forest Working Group should complete an update to this ranking bi-annually to inform Plan reporting, monitoring, and revision as described in the following sections.

Monitor

Measuring accomplishment of the actions will require ongoing analysis. The outcomes of the Urban Forest Audit System in the "Evaluate" section can be used to monitor change over time. These benchmark values should be tracked, and a state of the urban forest report should be prepared and distributed to the public every 5 to 10 years. Analysis may include an updated street tree inventory, i-Tree benefits analyses, or urban tree canopy assessments. The state of the urban forest report should include the benchmark values as reported in the Plan and the Urban Forest Audit System as of 2021, so that the City can measure and compare changes to the urban forest. The report should reflect changes to the audit system that are measured.

Wilsonville's Urban Forest Benchmark Values

Table 28. Wilsonville's urban forest benchmark values

URBAN TREE CANOPY (UTC) COVER (2021)	
UTC	Unknown
Recommended Canopy Goal	To be determined
Total Number of Trees to Plant for Canopy Goal	To be determined
ESTIMATED TREE COUNT	
Total Public Trees Managed	Unknown
Public Trees Inventoried	25,950
Total Public Trees (streets, parks, natural areas)	Unknown
TREE SPECIES DIVERSITY (SPECIES EXCEEDING 10%)	
Public Trees (2020)	Red Maple (10%)
TREE BENEFITS	
Citywide (Public Trees)	2020: \$35.5 million (annual est.)
Inventoried Public Trees (25,950)	2020: \$1.9 million (annual) 2020: \$46.4 million (structural value)
Focus Areas (Town Center & Charbonneau)	2020: \$280,000 (annual)
TREE AND BUDGET DISTRIBUTION (2019)	
Public Trees per Capita	1.02
Budget per Capita	\$10.42
Budget per Public Tree	\$9.67
Total Public (managed) Trees per Staff	3,243 (of inventoried trees)
MANAGEMENT ACTIVITIES (2019)	
City-owned Street Trees Pruned	110
City-owned Street Trees Removed	19
City-owned Street Trees Planted	40
Number of Volunteers and/or Hours	Unknown
Privately maintained Street Trees Pruned/Removed	Unknown/Unknown

Table 28. Wilsonville’s urban forest benchmark values (continued)

URBAN FOREST AUDIT SYSTEM (TOTAL SCORE OF 2021: 62%)	
Management Policy and Ordinances	71%
Professional Capacity and Training	63%
Funding and Accounting	58%
Decision and Mangement Authority	63%
Inventories	46%
Urban Forest management Plans	50%
Risk Management	61%
Disaster Planning	43%
Standards and Best Management Practices	63%
Community	89%
Green Asset Evaluation	55%

REPORT

Based on the evaluation of Plan implementation progress, the City Project Team or Urban Forest Working Group should track, record, and report, as practical or necessary, on the metrics described below that are measures or indicators of success for each goal and supporting actions.

Table 29. Evaluation, monitoring, and reporting techniques to achieve the urban forestry goals

1	<p>TREE MANAGEMENT POLICY (MP):</p> <p>The City’s urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville’s urban forest.</p> <ul style="list-style-type: none"> • List existing and potential partners. • List all City and partner-led planning efforts. • Describe related planning efforts. • List opportunities to align efforts with Town Center and Charbonneau. • List opportunities to align efforts with other neighborhoods. • Establish a Citywide canopy goal and local planting targets. • List recommended changes to City Code, policies, and manuals. • List audit score and actions/targets achieved, ongoing, and not started.
2	<p>CAPACITY, TRAINING, AND AUTHORITY (CT):</p> <p>Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.</p> <ul style="list-style-type: none"> • List the team members assembled to implement and monitor the Plan. • List the existing staff and supporting departments and partners. • Describe existing and needed certifications, qualifications, and training. • Describe changes in levels of service based on citizen service requests. • Report the number of unattended tree maintenance and service requests. • Report the number trees preserved and planted through development.

3

ASSESSMENTS AND PLANS (AP):

A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.

- Report the number of trees inventoried.
- Report the number of public trees planted and removed.
- Report the number of trees assessed for risk.
- Report the progress of the Charbonneau Tree Preservation Program.
- Report the value of the entire urban forest and public tree population.
- List the priority planting areas, canopy goals, and recommended species.
- Report the assessment and planning efforts of partners.
- Describe the high-value conservation and preservation areas.
- List audit score and actions/targets achieved, ongoing, and not started.

4

COMMUNITY ENGAGEMENT (CE):

Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.

- List the existing and potential outreach platforms and initiatives.
- List existing and potential partners.
- Report the number of planting events and trees planted.
- Report the history of Tree City USA and supporting awards.
- Report the number of volunteers, events, and volunteer hours.
- Report the number of private tree plantings as feasible.
- Report the number of trainings, workshops, and attendees.
- Report the results of public surveys.
- Recognize exemplary urban forest stewards.
- List audit score and actions/targets achieved, ongoing, and not started.

5

GREEN ASSET MANAGEMENT (GA):

Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

- Report the number of public trees pruned, removed, and planted.
- Report the number of trees managed for pests and diseases.
- Report the number of trees planted in stormwater management projects.
- Report progress towards canopy goals and tree planting targets.
- Report the volume of woody biomass utilized.
- Report the condition, structure, and diversity of the public trees.
- List audit score and actions/targets achieved, ongoing, and not started.

OTHER

BUDGET AND FUNDING TO SUPPORT UFMP GOALS:

City resources enable comprehensive urban forest management for the preservation and enhancement of tree benefits.

- Report the proportion of public trees to tree management staff.
- Report the proportion of budget to the total public tree population.
- Report the proportion of public trees to the City population.
- Report the number of volunteer hours.
- Report the number of trainings and conferences attended.
- List the unfunded urban forestry needs.
- Report the budget, partner funding, permit revenue, and donations.
- List audit score and actions/targets achieved, ongoing, and not started.

REVISE

Completion of this Plan is the first step towards meeting the vision for Wilsonville’s urban forest. Continual monitoring, analysis, and reporting will help to keep urban forest partners involved and focused on accomplishing the actions. Plans are typically revised every 10 to 15 years; however, the Plan will need formal revision to respond and adapt to changes as they develop. Formal revision of the Plan should coincide with the update of the City’s Comprehensive Plan, Focus Area Plans, Parks and Recreation Master Plan, Urban Renewal Strategic Plan, Town Center Plan, Charbonneau Consolidated Improvement Plan, and other relevant planning efforts. Recommendations and goals of each should be compared. Revisions to the Plan should occur with major events, such as newly discovered pests or diseases, changes in program budget and resources, or significant changes to industry standards or legal codes.

Figure 12. Example of the plan implementation, evaluation, and revision process



CONCLUSION



Photo courtesy of Zach Herrmann, winner of the UFMP photo contest, November 2020

Trees are an integral part of the community and the ecological systems in which they exist. They provide significant economic, social, and ecological benefits, such as carbon sequestration, reduction of urban heat islands, energy savings, reduction of stormwater runoff, improvement of water quality, enhancement of human health and wellness, and increase the value of properties. Planting and maintaining trees help Wilsonville become more sustainable and reduce the negative impacts on the ecosystem from urban development. Trees are as necessary as water, infrastructure, and energy to sustaining healthy communities. The health of the urban forest is directly linked to the health of the region.

The goal framework in Wilsonville's Urban Forest Management Plan is based on outcomes of the audit system and in alignment with existing plans to allow the City to incrementally implement actions, effectively monitor progress, and efficiently adapt in an everchanging environment. Successful implementation of actions in this Plan will bring Wilsonville to a higher level of service that is more equitably distributed across the City resulting in a sustainable and thriving urban forest that benefits all residents and future generations.

Wilsonville's trees, forests, and other natural resources are recognized as integral to sustaining life and health for all City residents. A healthy, thriving, and sustainable urban forest should be a community priority, to be thoughtfully managed and cared for by partnerships between the City and its residents to maximize public safety and benefits that include a thriving ecosystem, vibrant economy, improved human health, and livable communities shared by all who live, work, and play in Wilsonville. James Clark, emphasizes the importance of an Urban Forest Management Plan in *A Model of Urban Forest Sustainability* (1997):

“

“Urban trees and forests are considered integral to the sustainability of cities as a whole. Yet, sustainable urban forests are not born, they are made. They do not arise at random, but result from a community wide commitment to their creation and management.”

CLARK, 1997

As stated in this quote, an effective urban forestry program supported by the City's passion for the natural environment and associated benefits will lead Wilsonville to a more sustainable and thriving urban forest.

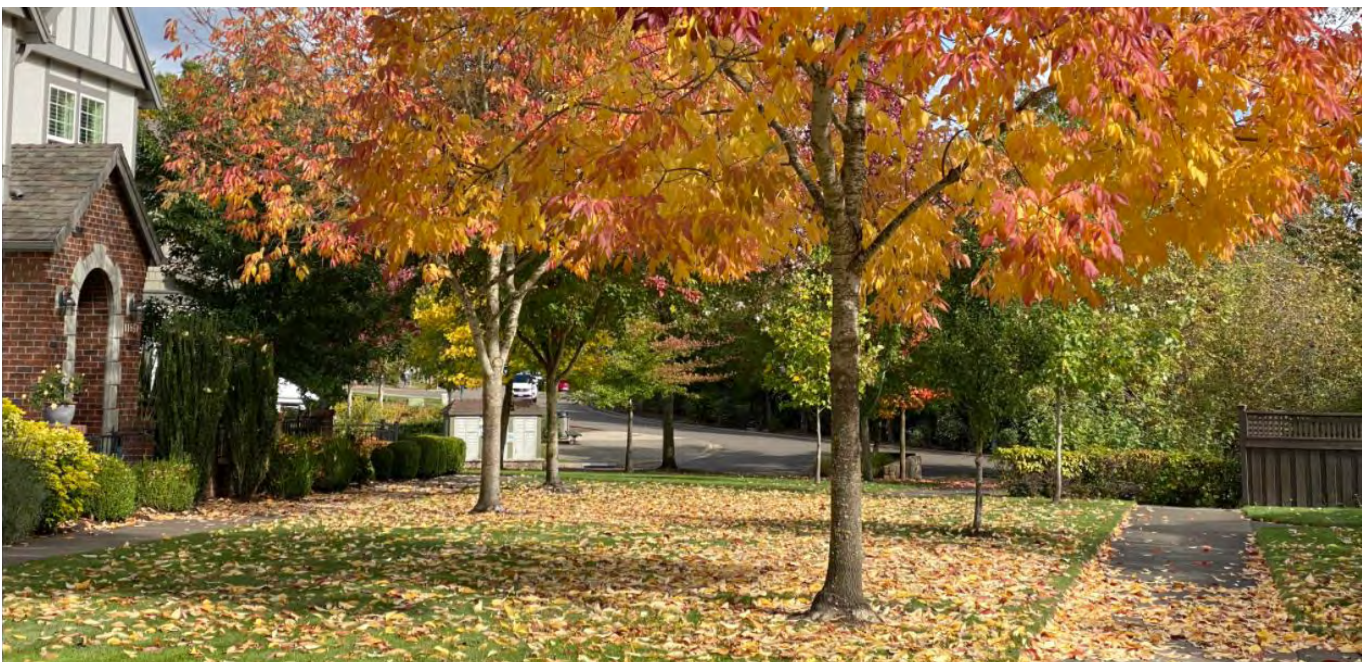


Photo courtesy of Susan Reep, UFMP photo contest contestant, November 2020

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APPENDIX A. CITYWIDE RECOMMENDED TREE LIST

See the Wilsonville, OR Master Street Tree List spreadsheet for further information.

Table 30. Citywide recommended tree list (abbreviated)

Small-Statured Trees

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Cherry	Bird Cherry	<i>Prunus avium</i> 'Lapins' STARKRIMSON SWEET	15 x 15	Flowers, fruit, wildlife	
Crabapple	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	30 x 15	Wildlife, flowers, fall color	Y
Crape Myrtle	Tuscarora Crape Myrtle	<i>Lagerstroemia</i> 'Tuscarora'	20 x 20	Flowers, fall color, unique bark	Y
Crape Myrtle	Muskogee Crape Myrtle	<i>Lagerstroemia</i> 'Muskogee'	20 x 20	Flowers, fall color, unique bark	Y
Crape Myrtle	Natchez Crape Myrtle	<i>Lagerstroemia</i> 'Natchez'	20 x 20	Flowers, fall color, unique bark	Y
Dogwood	Milky Way Dogwood	<i>Cornus kousa</i> 'Milky Way'	20 x 20	Flowers, wildlife	
Dogwood	Venus® Dogwood	<i>Cornus elwinortonii</i> 'KN30-8'	25 x 20	Wildlife, flowers, fall color	
Dogwood	Starlight® Dogwood	<i>Cornus elwinortonii</i> 'KN4-43'	30 x 20	Wildlife, flowers, fall color	
Hawthorn	Lavalle Hawthorn	<i>Crataegus X lavalleei</i>	25 x 20	Wildlife, flowers, fall color	
Madrone	Strawberry Tree	<i>Arbutus unedo</i>	15 x 15	Evergreen, showy fruit	Y
Maple	Paperbark Maple	<i>Acer griseum</i>	30 x 25	unique bark, fall color	
Maple	Cretan Maple	<i>Acer sempervirens</i>	20 x 20	Semi evergreen	
Persian Ironwood	Ruby Vase® Persian Ironwood	<i>Parrotia persica</i> 'Ruby Vase'	35 x 20	Fall color, unique bark	
Redbud	Eastern Redbud	<i>Cercis canadensis</i>	30 x 30	Flowers, fall color	Y
Redbud	Western Redbud	<i>Cercis occidentalis</i>	30 x 30	Flowers, fall color	
Redbud	Merlot Redbud	<i>Cercis canadensis</i> 'Merlot'	15 x 15	Flowers	
Snowbell	Pink Chimes Japanese Snowbell	<i>Styrax japonicus</i> 'Pink Chimes'	25 x 20	Flowers	
Snowbell	Emerald Pagoda Japanese Snowbell	<i>Styrax japonicus</i> 'Emerald Pagoda'	25 x 20	Flowers	
Snowbell	Snow Charm® Japanese Snowbell	<i>Styrax japonicus</i> 'JFS-E'	25 x 20	Flowers	
Snowbell	Bigleaf Snowbell	<i>Styrax obassia</i>	25 x 20	Flowers	

A detailed interactive worksheet is provided as part of the Urban Forest Management Plan project. "Sister Climate City Tree" refers to the analysis of Wilsonville's changing climate and the tree species that would be suitable based on tree species growing in a climate that will be similar to Wilsonville's 60 years from 2021. Consider [Appendix I](#) when planting trees for storm resistance.

Medium-Statured Trees

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Beech	Dawyck Purple Beech	<i>Fagus sylvatica</i> 'Dawyck Purple'	50 x 15	Unique foliage, unique bark	
Birch	Dura-Heat® River Birch	<i>Betula nigra</i> 'BNMTF'	45 x 35	Unique bark	
Cascara	Cascara	<i>Frangula purshiana</i>	30 x 25	Native, wildlife, fall color	
Chitalpa	Chitalpa	X Chitalpa tashkentensis 'Pink Dawn'	30 x 30	Flowers	
Cork Tree	His Majesty Cork Tree	<i>Phellodendron amurense</i> 'His Majesty'	40 x 35	Fall color, unique bark	
Cork Tree	Eyestopper® Cork Tree	<i>Phellodendron amurense</i> 'Longenecker'	40 x 35	Fall color, unique bark	
Dogwood	Pacific Dogwood	<i>Cornus nuttallii</i>	40 x 25	Flower, fall color	
Dogwood	Eddie's White Wonder Dogwood	<i>Cornus</i> 'Eddie's White Wonder'	35 x 20	Wildlife, flowers, fall color	
Dogwood	June Snow® Giant Dogwood	<i>Cornus controversa</i> 'June Snow-JFS'	40 x 30	Wildlife, flowers, fall color	
Fringtree	Chinese Fringetree	<i>Chionanthus retusus</i>	20 x 25	Wildlife, flowers, unique bark	Y
Ginkgo biloba	Saratoga Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Saratoga'	35 x 25	Fall color	
Ginkgo biloba	Halka Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Halka'	40 x 35	Fall color	
Ginkgo biloba	Fairmount Ginkgo Biloba	<i>Ginkgo biloba</i> 'Fairmount'	45 x 25	Fall color	
Ginkgo biloba	Shangri-La Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Shangri-La'	45 x 35	Fall color	
Goldenrain Tree	Goldenrain Tree	<i>Koelreuteria paniculata</i>	30 x 25	Flowers, fall color, unique bark	Y
Hardy Rubber Tree	Hardy Rubber Tree	<i>Eucommia ulmoides</i>	40 x 40	Form	
Hophornbeam	American Hophornbeam	<i>Ostrya virginiana</i>	30 x 25	Fall color	
Hornbeam	Emerald Avenue European Hornbeam	<i>Carpinus betulus</i> 'JFS-KW1CB'	40 x 30	Fall color	
Hornbeam	American Hornbeam	<i>Carpinus caroliniana</i>	35 x 35	Fall color, unique bark	
Hornbeam	Palisade® American Hornbeam	<i>Carpinus caroliniana</i> 'CCSQU'	30 x 15	Fall color	

Medium-Statured Trees (continued)

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Hornbeam	Rising Fire American Hornbeam	<i>Carpinus caroliniana</i> 'Uxbridge'	30 x 15	Fall color	
Hornbeam	Firespire® American Hornbeam	<i>Carpinus caroliniana</i> 'J.N. Upright'	30 x 25	Fall color, unique bark	
Hornbeam	Native Flame® American Hornbeam	<i>Carpinus caroliniana</i> 'JFS-KW6'	30 x 25	Fall color, unique bark	
Hornbeam	European Hornbeam	<i>Carpinus betulus</i>	40 x 25	Fall color	Y
Hornbeam	Pyramidal European Hornbeam	<i>Carpinus betulus</i> 'Fastigiata'	40 x 25	Fall color	
Horsechestnut	California Buckeye	<i>Aesculus californica</i>	30 x 40	Flowers	
Japanese Raisintree	Japanese Raisintree	<i>Hovenia dulcis</i>	35 x 25	Wildlife, flowers	
Linden	Summer Sprite® Linden	<i>Tilia cordata</i> 'Halka'	20 x 15	Fall color	Y
Linden	Harvest Gold Littleleaf Linden	<i>Tilia</i> 'Harvest Gold'	35 x 25	Fall color	Y
Linden	Silver Linden	<i>Tilia tomentosa</i> 'Sterling'	45 x 35	Fall color	
Maackia	Amur Maackia	<i>Maackia amurensis</i>	30 x 25	Flowers, fall color, unique bark	
Magnolia	Victoria Southern Magnolia	<i>Magnolia grandiflora</i> 'Victoria'	30 x 20	Evergreen, flowers	Y
Magnolia	Galaxy Magnolia	<i>Magnolia</i> 'Galaxy'	30 x 20	Flowers	Y
Magnolia	Elizabeth Magnolia	<i>Magnolia</i> 'Elizabeth'	30 x 20	Flowers	
Magnolia	Sweetbay Magnolia	<i>Magnolia virginiana</i>	30 x 20	Evergreen, flowers	
Maple	Rocky Mountain Glow Maple	<i>Acer grandidentatum</i> 'Schmidt'	25 x 15	Fall color	
Oak	Bambooleaf Oak	<i>Quercus myrsinifolia</i>	35 x 25	Evergreen, wildlife	
Oak	Silverleaf Oak	<i>Quercus hypoleucoides</i>	50 x 35	Evergreen, wildlife	
Oak	Forest Green® Oak	<i>Quercus frainetto</i> 'Schmidt'	55 x 30	Wildlife	Y
Osage-orange	White Shield Osage-orange	<i>Maclura pomifera</i> 'White Shield'	35 x 35	Fall color	
Persian Ironwood	Vanessa Persian Ironwood	<i>Parrotia persica</i> 'Vanessa'	35 x 20	Fall color, unique bark	
Pine	Limber Pine	<i>Pinus flexilis</i> 'Vanderwolf's Pyramid'	35 x 15	Evergreen	
Redbud	Forest Pansy Redbud	<i>Cercis canadensis</i> 'Forest Pansy'	30 x 35	Flowers, unique foliage	
Silverbell	Carolina Silverbell	<i>Halesia carolina</i>	40 x 35	Flowers, fall color	

Medium-Statured Trees (continued)

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Tree Lilac	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	20 x 15	Flowers, unique bark	Y
Tree Lilac	Summer Charm® Tree Lilac	<i>Syringa pekinensis</i> 'DTR 124'	20 x 20	Flowers, unique bark	
Tree Lilac	China Snow® Tree Lilac	<i>Syringa pekinensis</i> 'Morton'	20 x 20	Flowers, unique bark	
Tree Lilac	Great Wall® Tree Lilac	<i>Syringa pekinensis</i> 'WFH2'	20 x 20	Flowers, unique bark	
Tree Lilac	Beijing Gold® Tree Lilac	<i>Syringa pekinensis</i> 'Zhang Zhiming'	20 x 20	Flowers, unique bark	
Tupelo	Gum Drop® Tupelo	<i>Nyssa sylvatica</i> 'JFS-PN Legacy1'	30 x 20	Fall color	
Tupelo	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	40 x 25	Wildlife, fall color	Y
Tupelo	Wildfire Black Tupelo	<i>Nyssa sylvatica</i> 'Wildfire'	40 x 25	Wildlife, fall color	
Tupelo	Black Tupelo	<i>Nyssa sylvatica</i> 'Firestarter'	40 x 25	Wildlife, fall color	
Tupelo	Red Rage® Black Tupelo	<i>Nyssa sylvatica</i> 'Haymanred'	40 x 25	Wildlife, fall color	
Tupelo	Sheri's Cloud Black Tupelo	<i>Nyssa sylvatica</i> 'Sheri's Cloud'	40 x 25	Wildlife, fall color	
Yellowwood	American Yellowwood	<i>Cladrastis kentukea</i>	40 x 40	Flowers, fall color	
Zelkova	City Sprite® Japanese Zelkova	<i>Zelkova serrata</i> 'JFS-KW1'	25 x 20	Fall color	Y

A detailed interactive worksheet is provided as part of the Urban Forest Management Plan project. "Sister Climate City Tree" refers to the analysis of Wilsonville's changing climate and the tree species that would be suitable based on tree species growing in a climate that will be similar to Wilsonville's 60 years from 2021. Consider [Appendix I](#) when planting trees for storm resistance.

Large-Statured Trees

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Beech	Roble Beech	<i>Nothofagus obliqua</i>	100 x 50	Wildlife	
Beech	Fernleaf Beech	<i>Fagus sylvatica</i> 'Asplenifolia'	60 x 50	Unique leaf	
Beech	Rivers Purple Beech	<i>Fagus sylvatica</i> 'Riversii'	60 x 50	Unique leaf, unique bark	
Beech	Copper Beech	<i>Fagus sylvatica</i> 'Atropurpurea'	60 x 50	Unique leaf	
Beech	Japanese Chinquapin	<i>Castanopsis cuspidata</i>	50 x 30	Wildlife, flowers, evergreen	
Beech	Tricolor Beech	<i>Fagus sylvatica</i> 'Roseomarginata'	40 x 30	Unique foliage, unique bark	
Birch	Heritage® River Birch	<i>Betula nigra</i> 'Heritage'	45 x 35	Unique bark	
Catalpa	Chinese Catalpa	<i>Catalpa ovata</i>	25 x 25	Flowers	
Catalpa	Hybrid Catalpa	<i>Catalpa xerubescens</i> 'Purpurea'	45 x 45	Wildlife, flowers	
Catalpa	Northern Catalpa	<i>Catalpa speciosa</i>	50 x 30	Wildlife, flowers	
Chestnut	Spanish Chestnut	<i>Castanea sativa</i>	70 x 50	Wildlife	
Coastal Redwood	Coast Redwood	<i>Sequoia sempervirens</i>	100 x 30	Evergreen, unique bark	
Cypress	Baker Cypress	<i>Cupressus bakeri</i>	50 x 35	Evergreen, unique bark	
Cypress	Bald Cypress	<i>Taxodium distichum</i>	65 x 30	Fall color	
Cypress	Shawnee Brave® Bald Cypress	<i>Taxodium distichum</i> 'Mickelson'	50 x 20	Fall color	
Dawn Redwood	Dawn Redwood	<i>Metasequoia glyptostroboides</i>	75 x 30	Fall color	
Douglas-Fir	Douglas-Fir	<i>Pseudotsuga menziesii</i>	100 x 30	Native, evergreen, wildlife	
Dove-Tree	Dove-Tree	<i>Davidia involucrata</i>	50 x 30	Fall color	
Elm	Triumph Elm	<i>Ulmus</i> 'Morton Glossy'	55 x 45	Fall color	
Elm	Accolade® Elm	<i>Ulmus</i> 'Morton'	60 x 50	Fall color	Y
Elm	Valley Forge American Elm	<i>Ulmus americana</i> 'Valley Forge'	65 x 55	Fall color	Y
Elm	Jefferson American Elm	<i>Ulmus americana</i> 'Jefferson'	65 x 55	Fall color	
Elm	Princeton American Elm	<i>Ulmus americana</i> 'Princeton'	65 x 55	Fall color	
Elm	Patriot Elm	<i>Ulmus</i> 'Patriot'	50 x 40	Fall color	
Elm	Emerald Sunshine® Elm	<i>Ulmus propinqua</i> 'JFS-Bierbach'	35 x 25	Fall color, unique bark	Y
Elm	Frontier Elm	<i>Ulmus carpinifolia</i> x <i>U. parvifolia</i> 'Frontier'	40 x 30	Fall color, unique bark	Y
False Cedar	Incense Cedar	<i>Calocedrus decurrens</i>	60 x 20	Evergreen	
False Cedar	Sekkan Sugi Japanese Cedar	<i>Cryptomeria japonica</i> 'Sekkan Sugi'	50 x 15	Evergreen	

Large-Statured Trees (continued)

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
False Cedar	Western Redcedar	<i>Thuja plicata</i>	70 x 25	Native, evergreen, wildlife, unique bark	
Filbert	Turkish Filbert	<i>Corylus colurna</i>	50 x 30	Wildlife	
Fir	Grand Fir	<i>Abies grandis</i>	80 x 25	Native, evergreen, wildlife	
Fir	Spanish Fir	<i>Abies pinsapo</i>	50 x 30	Evergreen	
Giant Sequoia	Giant Sequoia	<i>Sequoiadendron giganteum</i>	80 x 50	Evergreen, unique bark	
Ginkgo biloba	Princeton Sentry Ginkgo	<i>Ginkgo biloba</i> 'Princeton Sentry'	50 x 30	Unique leaf, fall color	Y
Ginkgo biloba	Emperor Ginkgo biloba	<i>Ginkgo biloba</i> 'Emperor'	50 x 40	Fall color	
Ginkgo biloba	Presidential Gold® Ginkgo biloba	<i>Ginkgo biloba</i> 'The President'	50 x 40	Fall color	
Ginkgo biloba	Autumn Gold Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Autumn Gold'	45 x 35	Fall color	Y
Ginkgo biloba	Golden Colonade® Ginkgo Biloba	<i>Ginkgo Biloba</i> 'JFS-UGA2'	40 x 25	Fall color	
Ginkgo biloba	Magyar Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Magyar'	45 x 35	Fall color	
Hackberry	Hackberry	<i>Celtis occidentalis</i>	50 x 45	Wildlife, fall color, unique bark	Y
Hemlock	Western Hemlock	<i>Tsuga heterophylla</i>	80 x 30	Native, evergreen	
Honeylocust	Halka® Honeylocust	<i>Gleditsia triacanthos</i> 'Christie'	45 x 40	Fall color	
Honeylocust	Shademaster Honeylocust	<i>Gleditsia triacanthos</i> 'Shademaster'	45 x 40	Fall color	
Honeylocust	Skyline® Honeylocust	<i>Gleditsia triacanthos</i> 'Skycole'	45 x 40	Fall color	
Horsechestnut	Red Horsechestnut	<i>Aesculus x carnea</i>	40 x 35	Flowers, wildlife	Y
Japanese Pagodatree	Japanese Pagodatree	<i>Styphnolobium japonicum</i>	65 x 40	Wildlife, flowers	
Katsura	Katsura	<i>Cercidiphyllum japonicum</i>	50 x 30	Fall color	
Kentucky Coffeetree	Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	60 x 40	Fall color	Y
Kentucky Coffeetree	Espresso™ Kentucky Coffeetree	<i>Gymnocladus dioicus</i> 'Espresso-JFS'	60 x 40	Fall color	Y
Kentucky Coffeetree	True North™ Kentucky Coffeetree	<i>Gymnocladus dioicus</i> 'UMNSynergy'	60 x 40	Fall color	Y
Linden	Greenspire® Littleleaf Linden	<i>Tilia cordata</i> 'PNI 6025'	50 x 40	Fall color	Y
Linden	Redmond American Linden	<i>Tilia americana</i> 'Redmond'	45 x 35	Fall color	Y
London Planetree	Exclamation™ London Planetree	<i>Platanus xacerifolia</i> 'Morton Circle'	55 x 40	Unique bark	

Large-Statured Trees (continued)

TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
London Planetree	Bloodgood London Planetree	<i>Platanus x acerifolia</i> 'Bloodgood'	55 x 40	Unique bark	
London Planetree	Columbia London Planetree	<i>Platanus x acerifolia</i> 'Columbia'	55 x 40	Unique bark	
London Planetree	Yarwood London Planetree	<i>Platanus x acerifolia</i> 'Yarwood'	55 x 40	Unique bark	
London Planetree	Liberty London Planetree	<i>Platanus x acerifolia</i> 'Liberty'	55 x 40	Unique bark	
Madrone	Pacific Madrone	<i>Arbutus menziesii</i>	80 x 25	Evergreen, flowers, unique bark	
Magnolia	Cucumber Magnolia	<i>Magnolia acuminata</i>	50 x 40	Flowers, unique leaf	
Maple	Autumn Blaze Maple	<i>Acer x freemanii</i> 'Jeffersred'	55 x 40	Fall color	
Maple	Scarlet Sentinel Maple	<i>Acer rubrum</i> 'Scarsen' <i>Acer x freemanii</i> 'Scarsen'	45 x 25	Fall color	
Maple	Bigleaf Maple	<i>Acer macrophyllum</i>	75 x 75	Fall color	
Maple	October Glory Red Maple	<i>Acer rubrum</i> 'October Glory'	50 x 40	Fall color	Y
Maple	Red Sunset Maple	<i>Acer rubrum</i> 'Franksred' RED SUNSET	50 x 40	Fall color	Y
Maple	Hedge Maple	<i>Acer campestre</i>	35 x 35	Unique leaf	
Maple	Armstrong Red Maple	<i>Acer rubrum</i> 'Armstrong'	70 x 15	Fall color	Y
Maple	Green Column Black Maple	<i>Acer saccharum</i> subsp. <i>nigrum</i> 'Green Column'	70 x 30	Fall color	
Maple	Queen Elizabeth Hedge Maple	<i>Acer campestre</i> 'Evelyn'	35 x 35	Fall color	
Myrtle	Oregon Myrtle	<i>Umbellularia californica</i>	60 x 60	Evergreen, wildlife	
Oak	Blue Oak	<i>Quercus douglasii</i>	70 x 45	Wildlife	
Oak	Coast Live Oak	<i>Quercus agrifolia</i>	80 x 35	Evergreen, wildlife	Y
Oak	Interior Live Oak	<i>Quercus wislizenii</i>	50 x 40	Evergreen, wildlife	
Oak	Cork Oak	<i>Quercus suber</i>	60 x 60	Evergreen, wildlife	Y
Oak	Sawtooth Oak	<i>Quercus acutissima</i>	50 x 40	Wildlife	Y
Oak	Holly Oak	<i>Quercus ilex</i>	50 x 50	Evergreen, wildlife	Y
Oak	California Black Oak	<i>Quercus kelloggii</i>	60 x 45	Wildlife, fall color	
Oak	Willow Oak	<i>Quercus phellos</i>	50 x 40	Wildlife, fall color	
Oak	Bur Oak	<i>Quercus macrocarpa</i>	70 x 45	Wildlife	

Large-Statured Trees (continued)

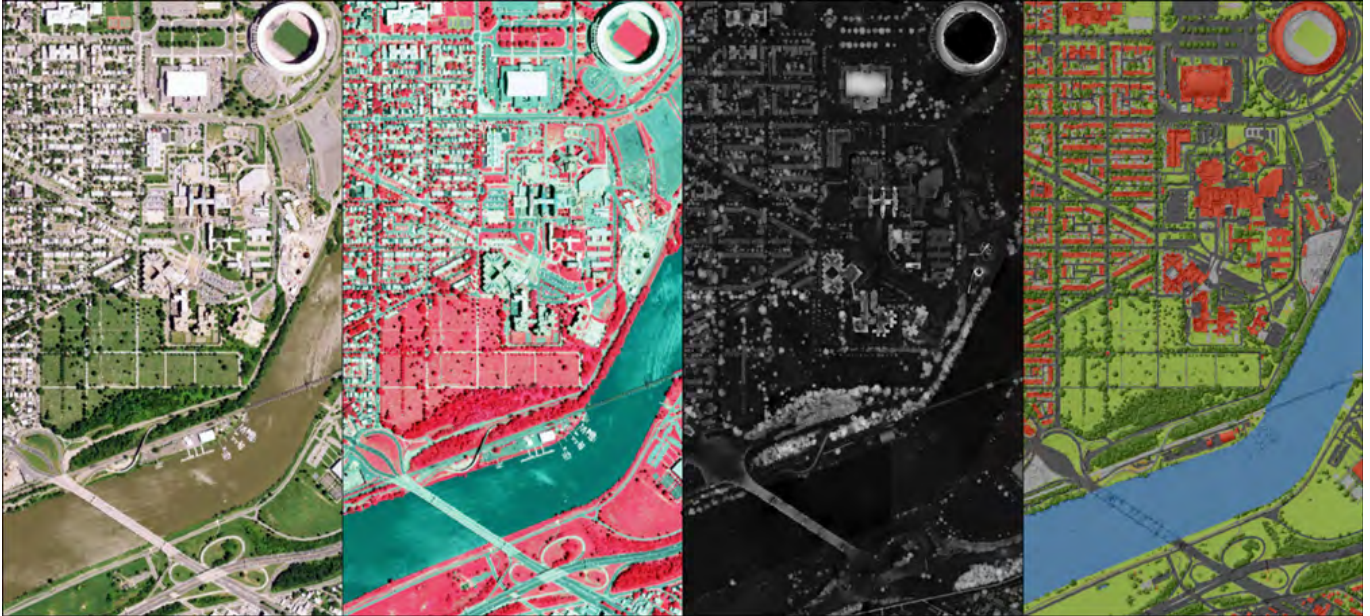
TREE TYPE	COMMON NAME	SCIENTIFIC NAME	HEIGHT X WIDTH (FT)	FEATURES	SISTER CLIMATE CITY TREE?
Oak	Chinkapin Oak	<i>Quercus muehlenbergii</i>	50 x 45	Wildlife	
Oak	Red Oak	<i>Quercus rubra</i>	50 x 45	Wildlife, fall color	Y
Oak	Shumard Oak	<i>Quercus shumardii</i>	75 x 55	Wildlife, fall color	Y
Oak	Canyon Live Oak	<i>Quercus chrysolepis</i>	55 x 30	Evergreen, wildlife	
Oak	Canby Oak	<i>Quercus canbyi</i>	45 x 40	Evergreen, wildlife	
Oak	Hungarian Oak	<i>Quercus frainetto</i>	100 x 60	Wildlife, fall color	Y
Oak	Valley Oak	<i>Quercus lobata</i>	50 x 40	Wildlife	Y
Oak	Southern Live Oak	<i>Quercus virginiana</i>	70 x 70	Evergreen, wildlife	
Oak	Swamp White Oak	<i>Quercus bicolor</i>	60 x 50	Wildlife	
Oak	Oregon White Oak	<i>Quercus garryana</i>	65 x 45	Native, wildlife	
Oak	Oracle Oak	<i>Quercus ×morehus</i>	50 x 30	Wildlife	
Oak	Monterrey Oak	<i>Quercus polymorpha</i>	55 x 50	Evergreen, wildlife	
Oak	Scarlet Oak	<i>Quercus coccinea</i>	60 x 45	Wildlife, fall color	
Pine	Willamette Valley Ponderosa	<i>Pinus ponderosa x benthamiana</i>	150 x 30	Unique bark, evergreen	
Pine	Deodar Cedar	<i>Cedrus deodara</i>	50 x 40	Evergreen	
Pine	Cedar of Lebanon	<i>Cedrus libani</i>	60 x 60	Evergreen	
Pine	Atlas Cedar	<i>Cedrus atlantica</i>	60 x 40	Evergreen	
Pine	Bosnian Pine	<i>Pinus heldreichii (Pinus leucodermis)</i>	65 x 30	Evergreen, wildlife	
Pistache	Chinese Pistache	<i>Pistachia chinensis</i>	30 x 25	Fall color	Y
Tanoak	Tanoak	<i>Notholithocarpus densiflorus</i>	40 x 30	Evergreen	
Tuliptree	Tuliptree	<i>Liriodendron tulipifera</i>	70 x 40	Fall color	Y
Walnut	English Walnut	<i>Juglans regia 'Carpathian'</i>	50 x 50	Wildlife, unique bark	
Zelkova	Wireless® Japanese Zelkova	<i>Zelkova serrata 'Schmidtlow'</i>	25 x 30	Fall color	Y
Zelkova	Village Green® Japanese Zelkova	<i>Zelkova serrata 'Village Green'</i>	40 x 30	Fall color, unique bark	Y
Zelkova	Green Vase® Japanese Zelkova	<i>Zelkova serrata 'Green Vase'</i>	40 x 30	Fall color, unique bark	Y

A detailed interactive worksheet is provided as part of the Urban Forest Management Plan project. “Sister Climate City Tree” refers to the analysis of Wilsonville’s changing climate and the tree species that would be suitable based on tree species growing in a climate that will be similar to Wilsonville’s 60 years from 2021. Consider [Appendix I](#) when planting trees for storm resistance.

APPENDIX B. TREE CANOPY GOAL SETTING GUIDANCE

It is recommended the City of Wilsonville conduct a high-resolution Tree Canopy Assessment (TCA)—often referred to as an Urban Tree Canopy (UTC) assessment—for a baseline assessment of the Citywide urban forest across all boundaries. This assessment would identify the extent of land cover types such as tree canopy, vegetative plantable space (grass or turf), impervious surfaces (parking lots, driveways, sidewalks), and other desired land cover.

About Urban Tree Canopy Assessments



Like other valued assets, urban trees require proper planning and management to withstand pressures from development, drought, fire, pests/diseases, storms, and pollution. This entails natural resource staff (municipal/private/nonprofit/academia), various plans, and tree protection codes, regulations, or ordinances. Progressive cities like Wilsonville can leverage technologies like i-Tree, multispectral imagery, LiDAR, and Tree Canopy Assessments to fuel their advocacy efforts, develop green infrastructure protection strategies, and inform management and master plans.

Tree canopy assessments provide a top-down view of land cover types across various spatial scales. The City can hire consultants or conduct an assessment in-house using GIS technologies to establish an accurate baseline of tree canopy extent and available planting areas across various geopolitical and planning boundaries, identify locations that would benefit from increased tree plantings to address environmental and health issues, and provide GIS data, decision support tools, and report content including methods, findings, maps, and broad recommendations. The process and outcomes would support land cover and land development strategies that protect and enhance tree canopy, benefiting generations to come.

The City should acquire the deliverables in a number of formats that seamlessly translate into the success of the City's urban forest planning, modeling, and implementation to facilitate ongoing community conversations and support the development of plans, policies, recommendations, and management objectives with the City's many partners.

A canopy cover assessment and analysis for Wilsonville would:

- Establish a known, documented, and accurate baseline of the City's tree canopy on public and private lands using the latest technologies and assessment methodologies.
- Integrate with the City's street and park tree inventory data to describe the urban forest's composition and structure.
- Inform urban forestry, conservation, and green infrastructure planning processes.

Setting Canopy Goals

To guide urban forestry efforts and raise awareness, communities with this data often set tree canopy cover goals based on the existing tree canopy cover amount and the aim to provide an equitable distribution of canopy cover and associated benefits. For Wilsonville, the planning consultants provided the guidance to establish recommended tree canopy goal tiers and a Citywide canopy goal once the UTC is completed. Tree canopy goals can be accomplished by implementing actions in the City's Urban Forest Management Plan through supporting analyses and strategies should be developed from the UTC assessment. [Appendix C](#) provides tree planting prioritization guidance to support implementation of tree canopy goals that Wilsonville establishes. Progress towards these canopy goals should be tracked, measured, and shared to guide urban forest management and maintain community interest and support.

Canopy Goals - Purpose and Approach

Across the U.S. cities are setting goals— some based on careful study of current canopy, community needs, and availability of planting space, other base their goals on the principle that more trees are better than fewer, set ambitious campaign goals, then work to mobilize efforts to meet it. Generally, the U.S. Forest Service recommends canopy cover of 40-60 percent in northwestern communities and in 1997, the American Forests organization established a benchmark of 40 percent after analyzing the tree canopy in dozens of cities from 1992 to 1997 and working closely with the research community. While incredibly valuable and groundbreaking at the time, technology and research have significantly evolved over the past 20 years, leading to a consensus that more nuanced approaches to canopy goal setting are necessary. Supporting this statement, U.S. Forest Service Research Forester Greg McPherson of the Pacific Southwest Research Station adds, "Tree canopy cover targets are difficult to specify broadly because the opportunities to create canopy are highly variable among cities, even within a climatic region or land use class."

- Tree canopy targets are best developed for specific cities and should consider constraints to creating canopy such as:
- Development densities (i.e., dense development patterns with more impervious surfaces have less opportunity for cover);
- Land use patterns (i.e., residential areas may have more opportunity for canopy than commercial areas, but canopy cover tends to be less in residential areas of disadvantaged communities versus wealthy ones);
- Ordinances (i.e., parking lot shade ordinances promote cover over some impervious areas); and
- Climate (i.e., canopy cover in desert cities is often less than tropical cities).

Within those parameters, quantifiable data can be used so a tree canopy goal achieves specific objectives, such as reaching the canopy percentage necessary to reduce urban heat island temperatures to a specific range, or to reduce stormwater runoff by a projected amount. According to a national analysis by U.S. Forest Service researchers, a 40-60 percent urban tree canopy is attainable under ideal conditions in forested states. Twenty percent in grassland cities and 15 percent in desert cities are realistic baseline targets, with higher percentages possible through greater investment and prioritization.

It is important to note, however, that urban tree canopy percentage is just one of many criteria to consider. A robust tree canopy comprised of largely invasive species, for example, is not a healthy urban forest. Age and species diversity, condition of trees and equitable distribution across income levels, to name a few, should also be considered (Leahy, American Forests, 2017).

Citywide and Zoning Type Tree Canopy Goals

The following presents the recommended approach to canopy goal setting though the City and partners should evaluate and refine these for approval by staff and City Council.

For the City of Wilsonville, the development of canopy goals should be driven by tree canopy cover data and findings from the 2021 Urban Forest Management Plan such as benchmarking research, analysis of existing and potential resources, City input, and community feedback.

Using this integrated approach, the City of Wilsonville can establish an ambitious and achievable canopy goal. The City must increase canopy by planting the appropriate number of trees per year based on calculations that can be provided as part of the UTC assessment. These tree plantings should be conducted through shared partnerships between the City, stakeholders, and the residents of Wilsonville. Most likely, the UTC assessment will show the residential property and parklands have the most existing tree canopy as well as the most opportunity (space) for planting new trees. Achieving a canopy goal would provide additional ecosystem services and benefits that can be calculated based on industry research and practices. Considerations when calculating these benefits include:

- A no-net-loss strategy, meaning the number of trees removed on private property or through development are replaced.
- Trees that mature into large canopy-bearing trees are planted wherever feasible.
- Includes City-led, partner, volunteer, and private tree plantings.
- Assumes a potential for young tree mortality post-planting.

The following provides a calculated process for establishing canopy goals for Wilsonville:

The amount of tree canopy cover and available planting space should be analyzed and summarized by an applicable planning geography such as City Zoning Type, Council District, or Focus Area. Using Zoning Type as an example, a percentage of total possible planting area (vegetative and impervious) to be planted should be assigned to each Zoning Type based on the total amount of plantable space, the existing canopy, limitations of the Zoning Type, available resources, and other City needs. This approach realizes the unique opportunities, limitations, extent, resources, and characteristics found among various city zoning classes. Canopy goals and planting targets must not be standardized across the City, they should be specific to the area. This method was applied and summarized in the following table as an example for the City to review and adopt upon completion of an Urban Tree Canopy Assessment.

Table 31. Example of the zoning types and possible planting area to establish canopy goals

ZONING TYPE	TOTAL POSSIBLE PLANTING AREA (%)	% OF TOTAL POSSIBLE PLANTING AREA TO BE PLANTED
Agriculture	42%	6%
City Property	45%	25%
Commercial	38%	33%
Downtown	4%	15%
Industrial	37%	20%
Mixed Use	35%	10%
Parkland	50%	30%
Residential	43%	24%
Right-of-Way	16%	10%

Using software such as PlanIT Geo’s TreePlotter CANOPY software application, GIS, and Microsoft Excel, the number of trees required to achieve the planting target can be calculated based on total land area of the Zoning Type, existing tree canopy percent and acreage, total available planting area, and plantable space target. To calculate total added benefits, the U.S. Forest Service’s i-Tree research and suite of tools can be utilized. The following table summarizes the example results of this recommended approach.

Table 32. Example tree canopy goals and planting targets by Zoning Type

ZONING TYPE	TOTAL POSSIBLE PLANTING AREA (%)	% OF TOTAL POSSIBLE PLANTING AREA TO BE PLANTED	TREE CANOPY GOAL	NO. TREES TO REACH GOAL	ANNUAL ADDED ECOSYSTEM BENEFITS
Agriculture	42%	6%	40%	459	\$5,207
City Property	20%	25%	12%	569	\$6,456
Commercial	39%	33%	18%	5,588	\$63,372
Downtown	4%	15%	6%	14	\$164
Industrial	49%	20%	16%	15,002	\$170,126
Mixed Use	21%	10%	24%	1,263	\$14,324
Parkland	50%	30%	50%	2,626	\$29,775
Residential	43%	24%	32%	5,460	\$61,918
Right-of-Way	36%	20%	30%	3,000	\$34,500
TOTAL				33,981	\$385,842

Once the City has established planting targets and the number of trees required to achieve the targets by Zoning Type or other planning boundary, the total Citywide tree canopy goal will be discovered. This ground up approach establishes feasible canopy goals based on local constraints and opportunities rather than creating a lofty Citywide goal that does not fully understand the planting demands at a local level.

APPENDIX C. TREE PLANTING PRIORITIZATION GUIDANCE

Tree planting is critical to the health and longevity of Wilsonville's urban forest. However, tree planting should be methodically planned with a specific purpose in mind. One of the best ways to do this is to define and adopt an official planting strategy to be included in a planting strategy. The first step in developing a planting strategy is to define the goals. Often times, this goal aligns with a citywide tree canopy cover goal and the timeframe to achieve it.

Key Considerations for a Tree Planting Plan

A planting strategy is crucial to urban forest sustainability and should be based on data, available resources, partnerships, and community input. Some of the more common goals that define a planting strategy include:

- **Equitable Distribution.** With this goal, priority of planting is given to areas determined to be the most in need based on the goal of an even distribution of benefits trees provide to all residents. Beyond equal distribution, an area defined to be "in-need" is determined locally and can be a combination of priorities or focused on one specific priority.
- **Areas of Predicted Future Canopy Loss.** Older neighborhoods with a more established tree canopy can anticipate significant losses in future years. One method to planning future planting efforts is to target these replanting areas now to aid in a less drastic succession of trees over time.
- **Benefits-Based Plantings.** Areas that have a specific issue like poor air or water quality, or a large percentage of older residents sensitive to heat stress, may work to plant trees based on the anticipated benefits in years to come.
- **Regular, Methodical Planting in Concert with Cyclical Tree Care Efforts.** Planting may be most effective if it follows the City's inventory, and pruning and removal cycle of care. Regular methodical planting can also be considered a worthy goal.
- **Species Diversity.** Planting strategies should not only identify where to plant but also what is being planted. Species diversity in Wilsonville is currently an issue, with high levels of oaks and maples. A policy on this issue should be included in the strategy.
- **Partners in Planting.** Wilsonville's planting strategy should also include who is doing the planting. This work can be done by City partners, neighborhood groups, developers, and other interested parties, thus allowing the City to focus on specialized care (pruning, removals, assessments).

Utilizing Urban Tree Canopy Assessment Data for Planting Priorities

Once the City finalizes local and Citywide tree canopy goals, it is recommended to establish priority areas based on a variety of themes and community needs. Themes may include ownership type (public and private), areas of low existing tree canopy, and greatest amount of available planting space while other themes may address air quality, stormwater reduction and water quality. Others may evaluate opportunities to address disadvantaged areas, densely populated regions, and human health factors such as asthma cases, median age, and mental health. In any planting prioritization scenario, the scale may include U.S. Census Bureau Census Blocks, Zoning Type, Focus Areas, and Citywide.

A series of recommended prioritization techniques is provided that should be considered once an Urban Tree Canopy (UTC) assessment is completed.

- Planning areas with the most opportunity. This approach may include areas with less than the average Citywide tree canopy cover and greater than average total possible planting area.

- Census Blocks where trees can mitigate air quality issues. Street and rights-of-way corridors typically have higher concentrations of particulate matter. Trees can be planted along roads to absorb vehicle exhaust and reduce pollution. This approach would analyze areas with the highest percent of road surface area. Higher concentrations of road surfaces may indicate poor air quality.
- Tree planting in Census Blocks to reduce stormwater runoff. Trees can be integrated to help manage stormwater, specifically when targeting impervious surfaces. This approach may utilize data such as available planting area on impervious surfaces and available planting areas within 100 feet of all surface water bodies.
- Tree planting in underserved or disadvantaged Census Blocks. Tree canopy is positively correlated with higher median income. Planting trees in lower income communities can support environmental equity. This approach would utilize Census Bureau data such as the percentage of residents living below the poverty level.
- Tree plantings to offset population density. Larger numbers of people will benefit from the ecosystem services that increased tree canopy coverage can provide.
- Tree plantings to improve human health. Planting trees can be a cost-effective way of improving a city's overall public health. Health reports with information about the reported asthma cases and mental health concerns can be utilized to target tree planting efforts.

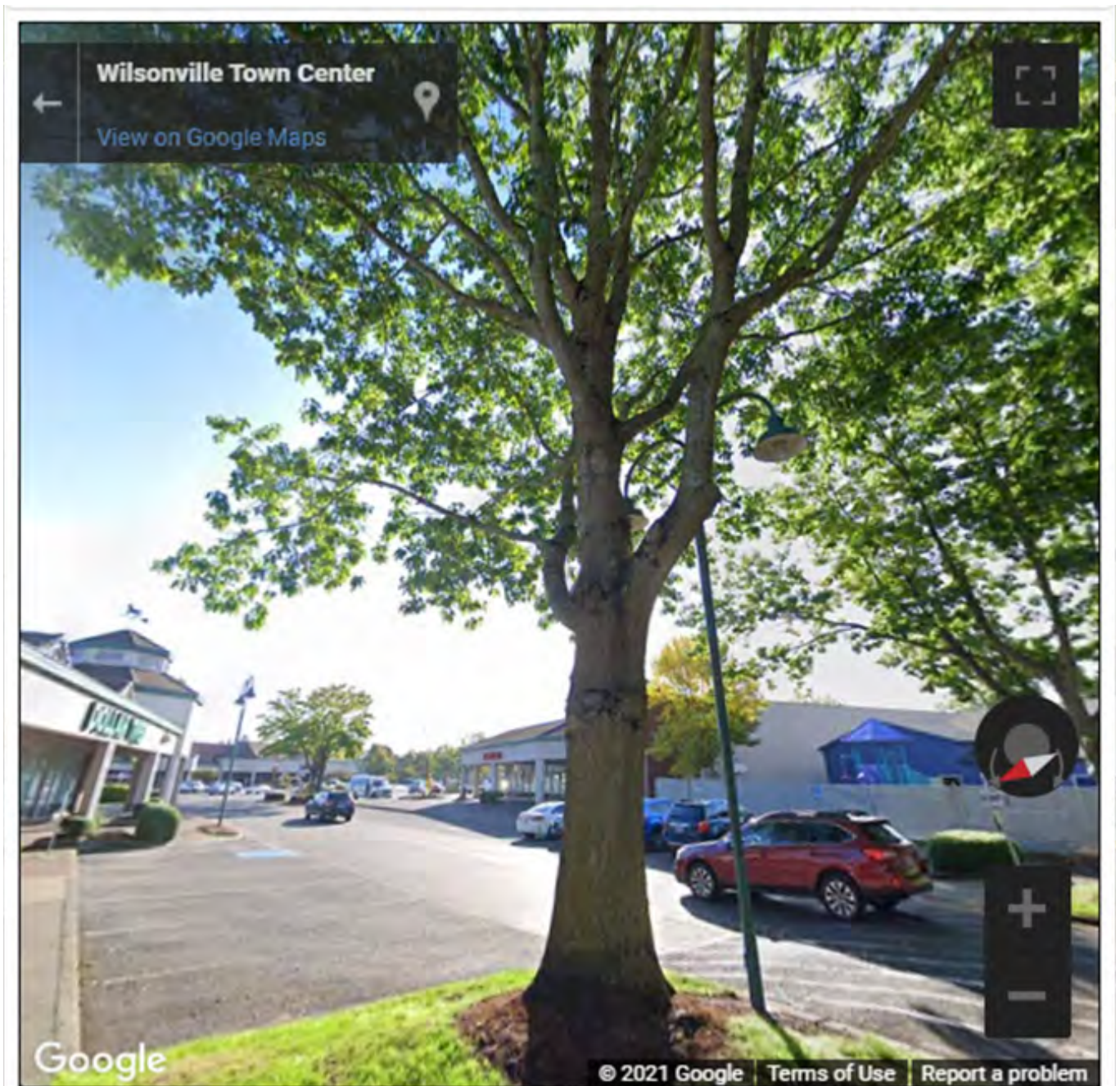
Suggested policies on planting and tree preservation are provided in Wilsonville's Urban Forest Management Plan. These policies include references to aging canopy to emphasize that every tree the City removes must be replaced, and to ensure that annual inventory work includes cataloging future planting sites, and expediting tree planting work as planting funds become available. Further analysis is also recommended to analyze the impact of development (losses, canopy saved, replacement plantings in developments). Results of that analysis will further define an effective planting program.

Larger trees provide more services to the community. They intercept more stormwater, remove more air pollution, provide more energy savings, and sequester more carbon. However, it is important to understand that this increase in services is exponential. For this reason, preservation of large trees should be a higher priority for communities than planting alone. Therefore, Wilsonville should utilize the guidance provided in [Appendix D](#) and [Appendix E](#) regarding tree preservation and replacement for Town Center's trees and apply this methodology Citywide.

Wilsonville's vision for the urban forest should be to maintain and enhance the services trees provide to residents. Therefore, prioritizing care for existing trees (over planting new trees) is critical for a healthy community.

APPENDIX D. PRESERVATION OF TREES IN FOCUS AREAS

To inform the urban forestry goals and strategies specific to Town Center and Charbonneau, a comprehensive inventory of trees was completed by International Society of Arboriculture (ISA) Certified Arborists. Using TreePlotter inventory management software and the City’s desired set of attributes, each tree in Town Center and Charbonneau was inventoried, mapped, and assigned attributes for fields such as: Location (Lat/Long), Address, Land Use, Growing Space, Tree Common Name, Tree Scientific Name, Diameter at Breast Height (measured at 4.5 feet above grade), Height, Condition, Observations, Maintenance Need, and Date Added.



Example of a tree recommended for preservation in Town Center (tier 1)

Figure 13. Map displaying the size classes of trees inventoried in Town Center

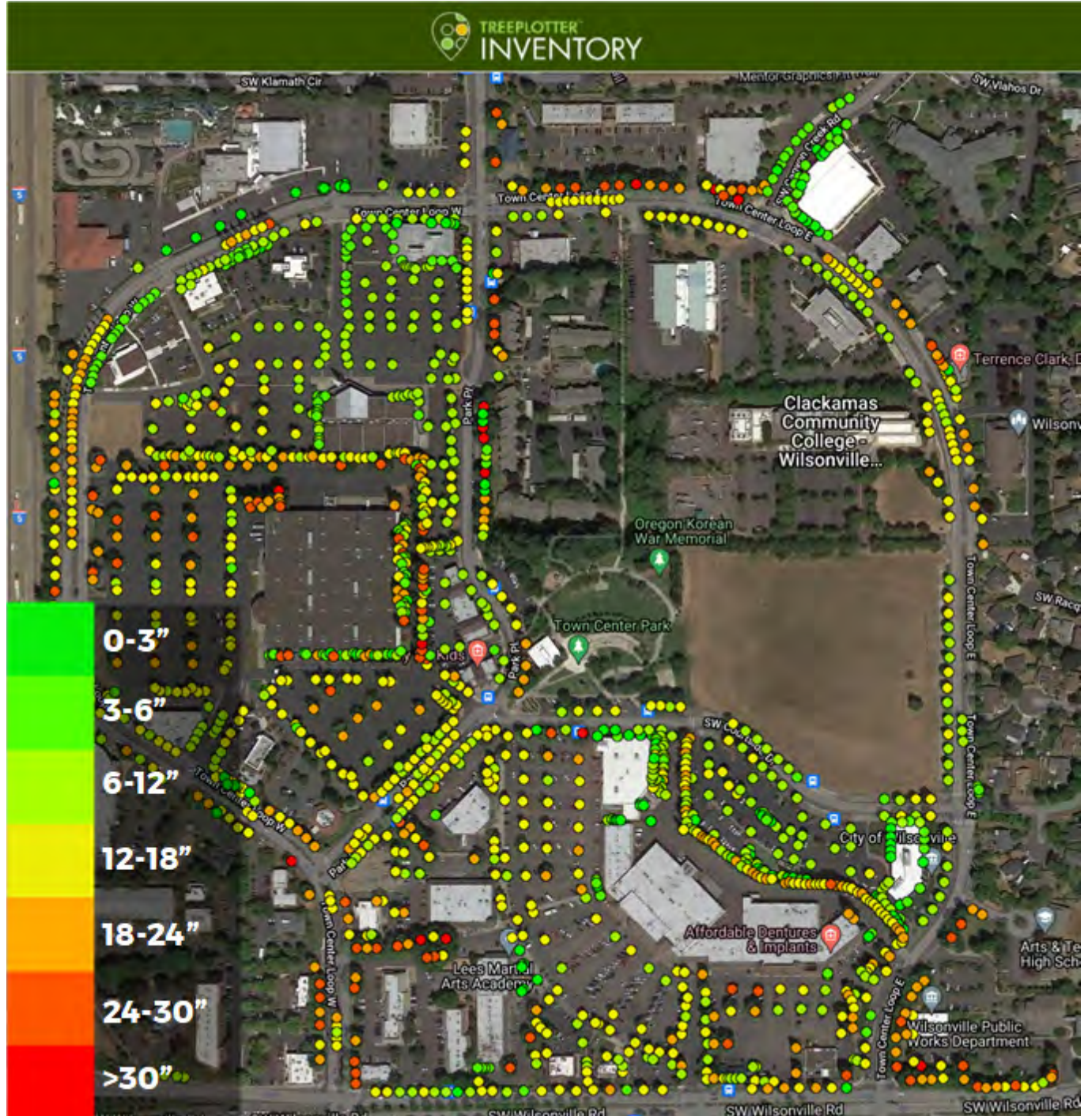


Figure 14. Map displaying the most common tree species inventoried in Town Center

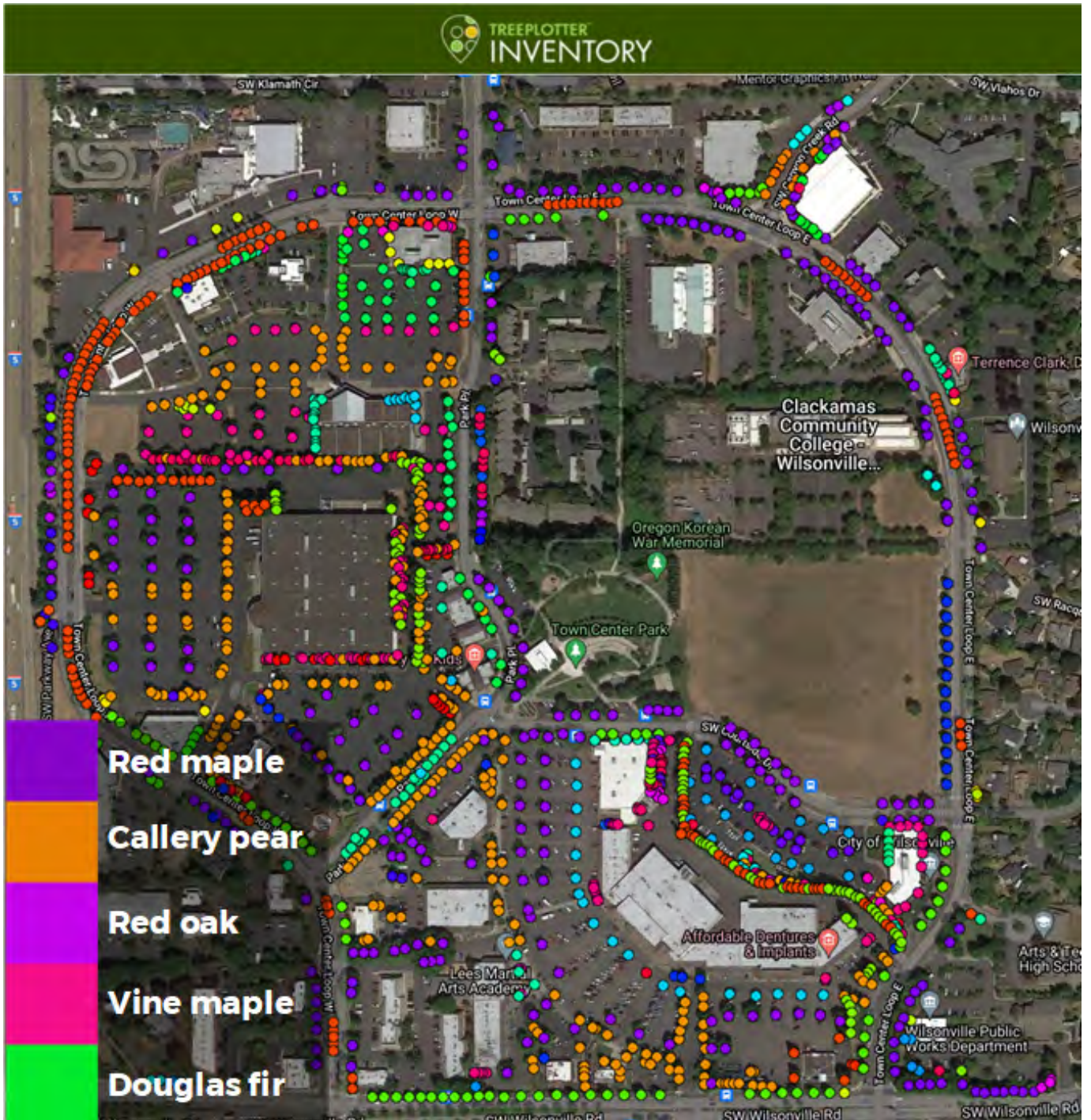


Figure 15. Map displaying the condition of trees inventoried in Town Center

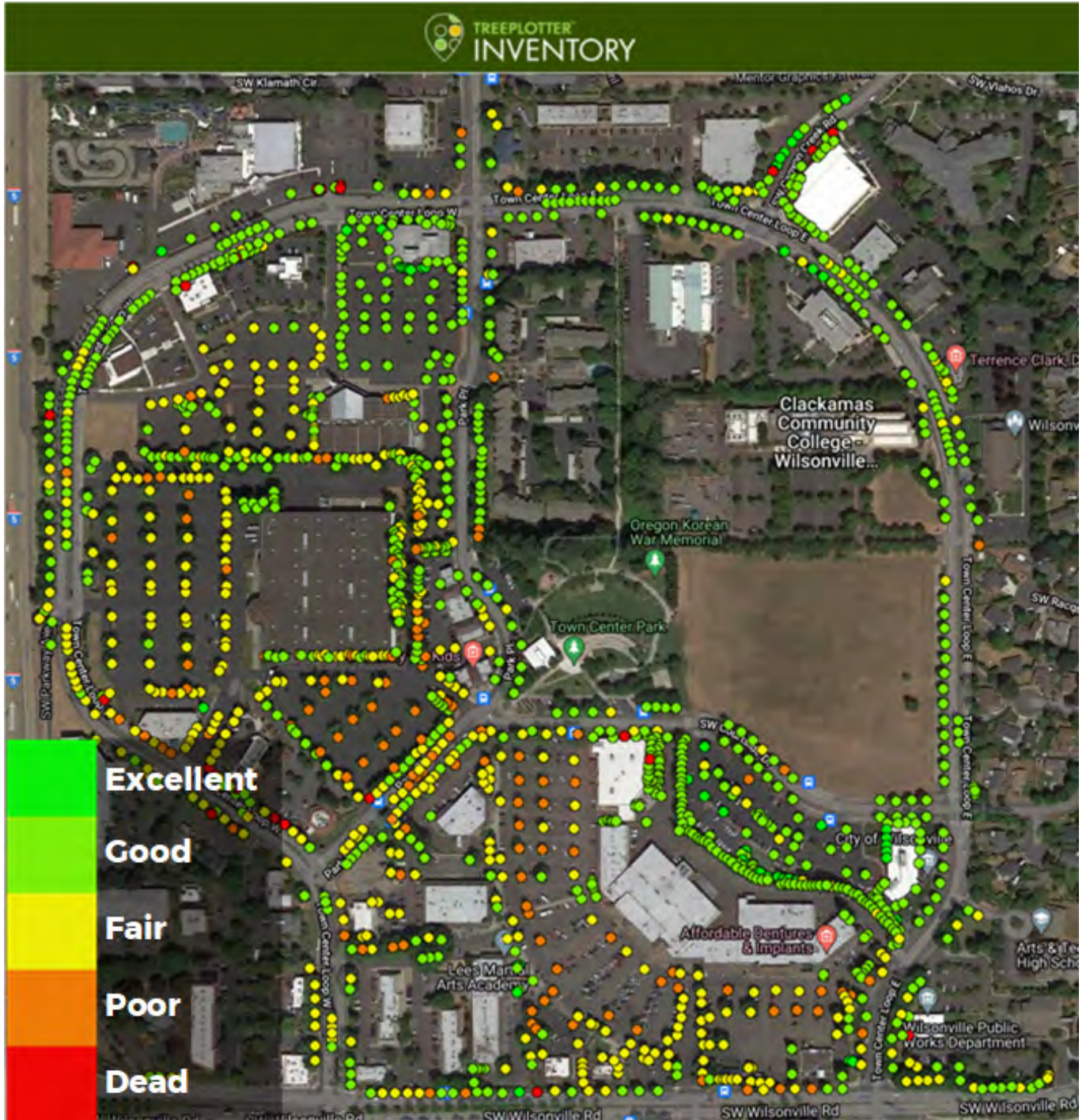
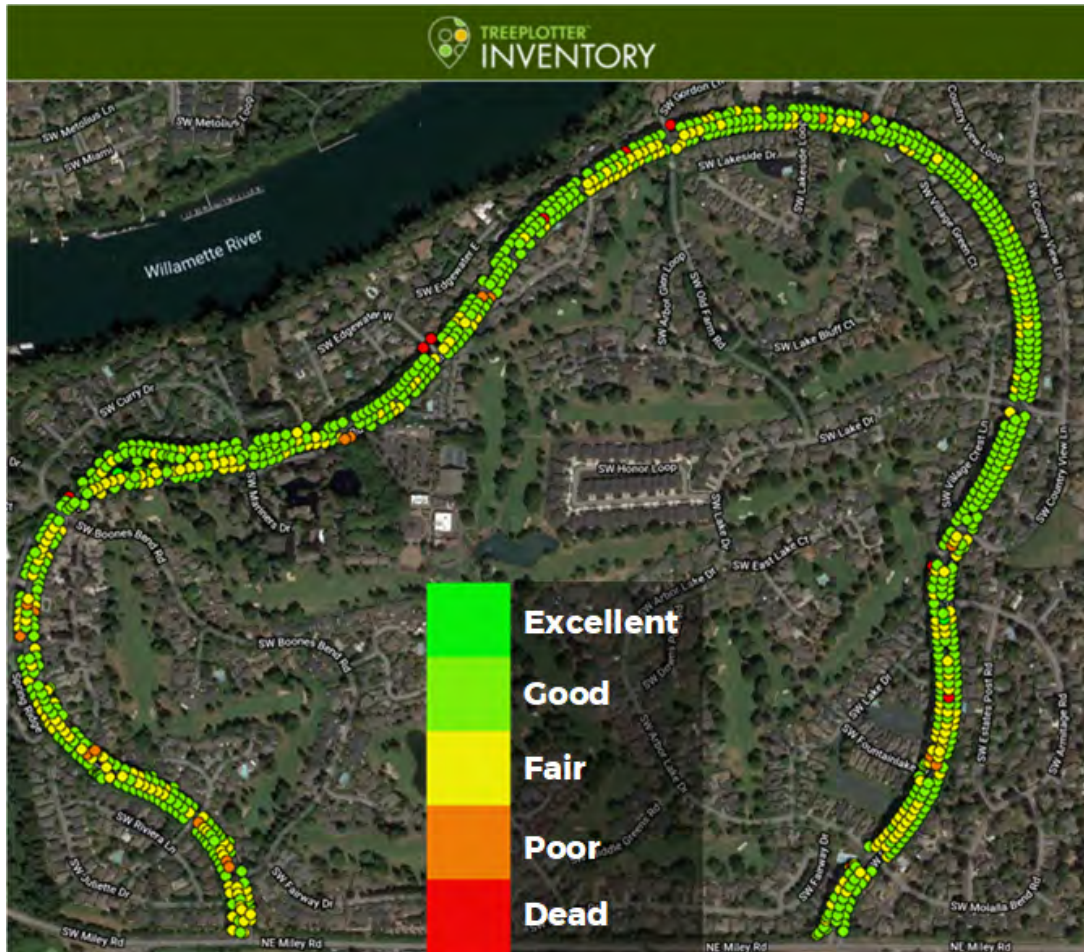


Figure 18. Map displaying the condition of trees inventoried in Charbonneau



Trees for Preservation in Town Center

From the data collected, criteria for tree preservation were established and tiers for preservation were set. Considerations for these tiers included condition, size, location, function, performance, and observations. Based on these considerations, the following tree preservation tiers were established:

Table 33. Tree preservation tiers for Town Center

TIER #	TIER NAME	TIER DESCRIPTION	TREE COUNT
1	Gold: Best Trees	Largest healthy trees	11 trees
2A	Silver (A): Large, Healthy, Spacious Contributing Trees	Large (24-30") healthy trees in large growing space providing more than the average (>\$145 annual ecosystem benefits)	12 trees
2B	Silver (B): Large Contributing Trees	Trees providing more annual benefits than the average (\$145) and 24-30" in DBH	12 trees
2C	Silver (C): Large and Healthy Trees	Trees 24-30" in DBH in good condition	23 trees
3	Bronze: High Performers	Tree species with high Relative Performance Indices (RPI) (Japanese maples, red oaks) in good condition with no concerning observations	19 trees
4	Tin: Healthy Trees	All trees in good condition and no concerning observations	427 trees
TOTAL			504 Trees

Trees to be preserved by tier are provided as a GIS file and as a custom map URL in the City’s TreePlotter application here: <https://pg-cloud.com/WilsonvilleOR/?scenario=TC-All-Tiers-Trees>

The tree preservation tiers established require additional information, studies, and considerations before implementing. Tree preservation cannot be given a broad brush approach. Planned redevelopment in Town Center will have an impact on tree preservation. It is for this reason among others that the preservation of trees was classified into multiple tiers. Tier 1 and Tier 2(A-C) should be given the highest priority due to the size, location, condition, and associated ecosystem benefits of the trees in these tiers. Tier 3 and Tier 4 should be evaluated on a case-by-case basis as these are trees that are recommended for preservation though there is an understanding that other projects, plans, goals, and desired functions exist in the focus areas. Trees in question should be assessed to determine the health, quality, size, life expectancy, and function before deciding on preservation or removal. Tree preservation recommendations are provided in order to sustain and enhance the urban forest while aligning with Citywide goals for more canopy cover and tree equity (see [Appendix B](#)).

Figure 19. Map displaying all recommended trees for preservation in Town Center (2021)

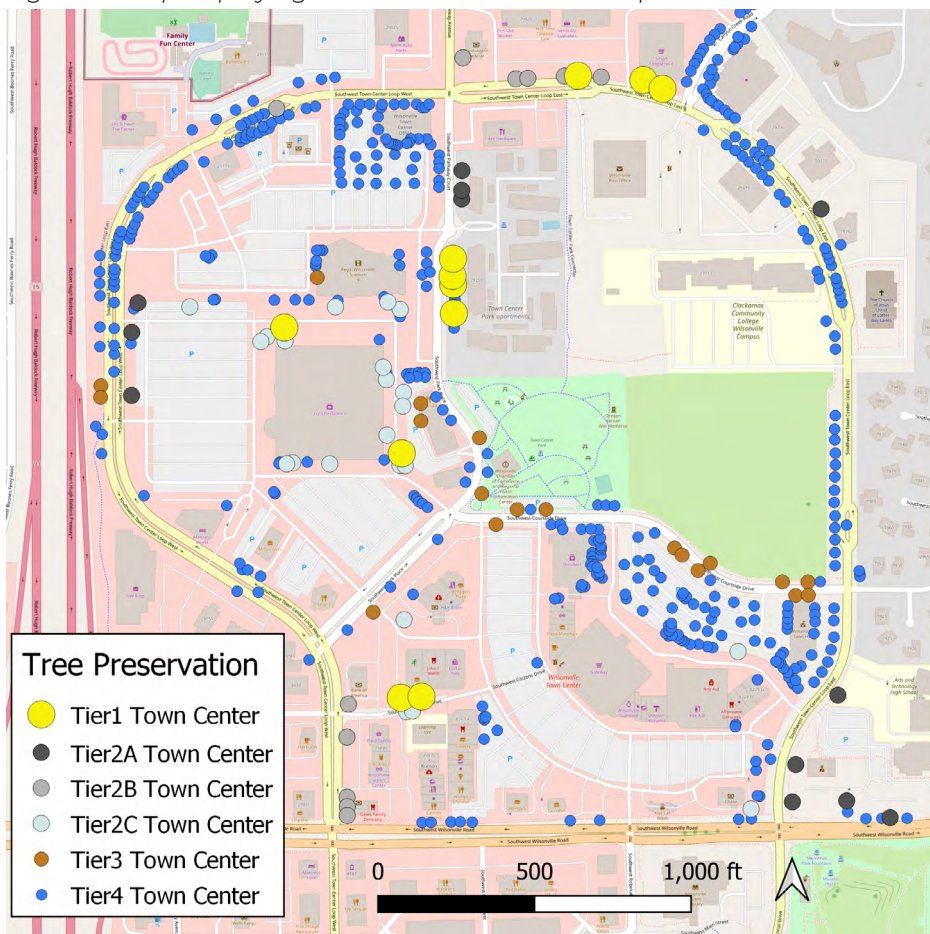


Table 34. Annual ecosystem benefits and services of trees in preservation tiers for Town Center

						
	OVERALL	ENERGY SAVINGS	AIR QUALITY	PROPERTY VALUE	CARBON SERVICES	STORMWATER
	\$45,385	\$2,166	\$689	\$32,988	\$966	\$5,392
Annually		34k kWh	354 lbs	Added value	64k lbs C seq.	500k gallons

Characteristics of the Trees for Preservation in Town Center

Figure 20. Top ten tree species in Town Center tree preservation tiers

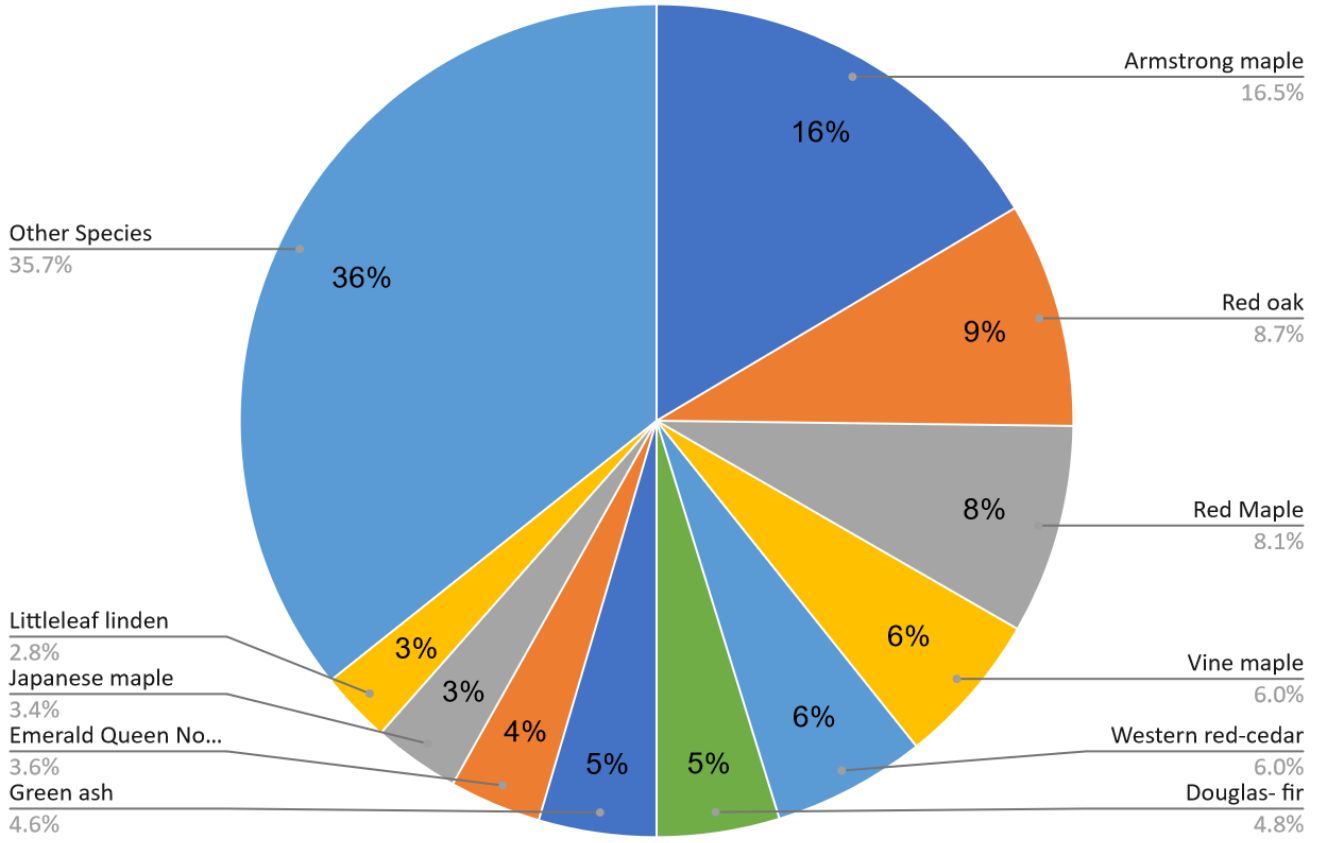
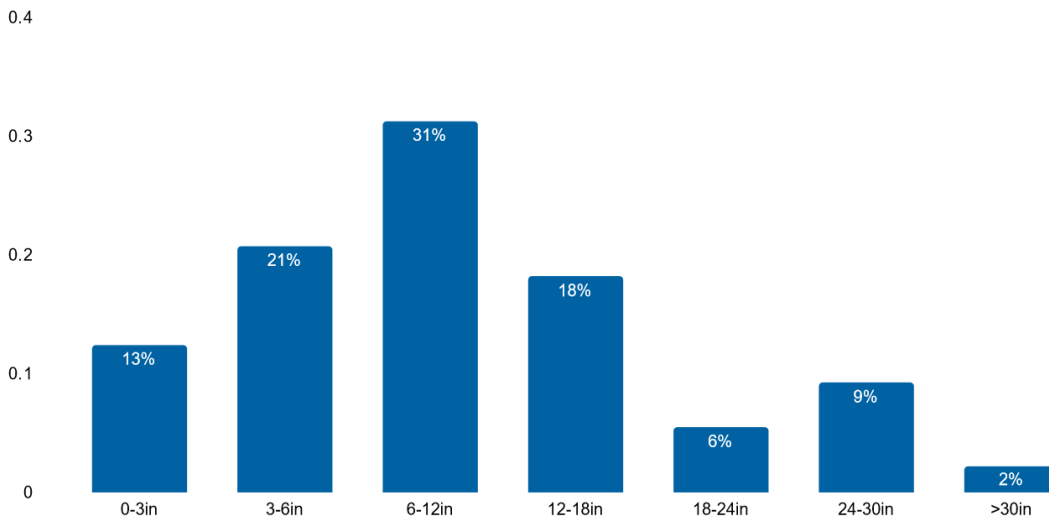


Figure 21. Size classes of Town Center tree preservation trees



Trees for Preservation in Charbonneau

From the data collected, criteria for tree preservation were established and tiers for preservation were set. Considerations for these tiers included condition, size, location, function, performance, and observations. Based on these considerations, the following tree preservation tiers were established:

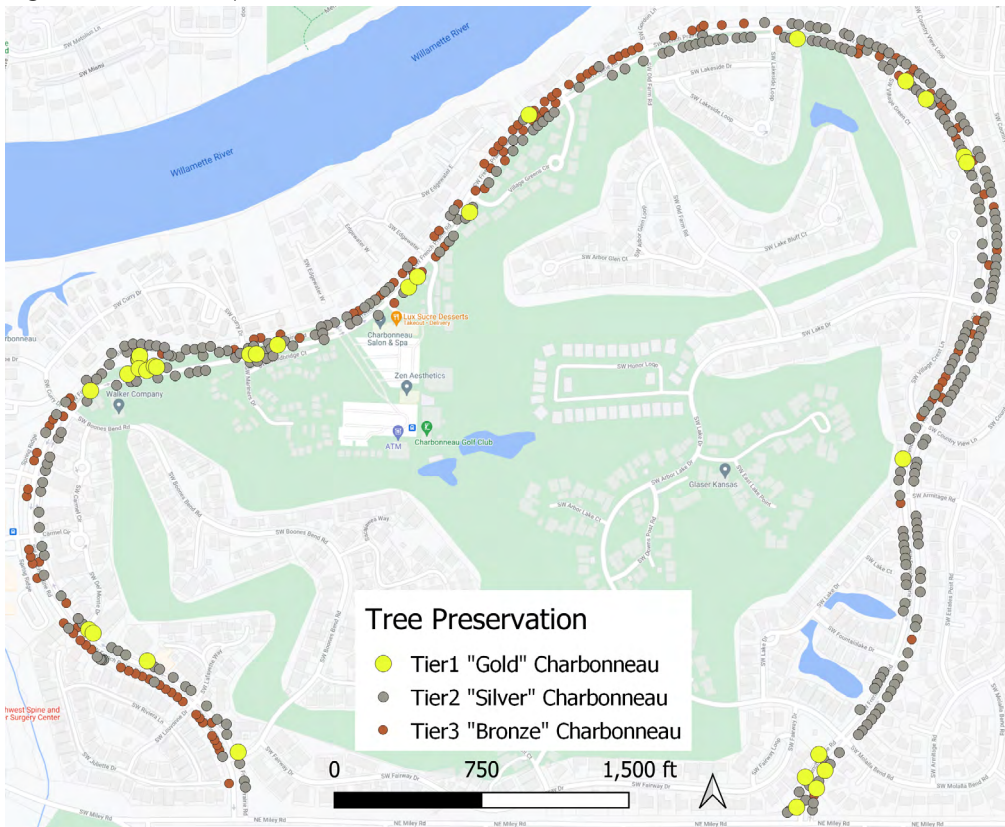
Table 35. Tree preservation tiers for Charbonneau

TIER #	TIER NAME	TIER DESCRIPTION	TREE COUNT
1	Gold: Best Trees	Greater than 24" in good condition with no sidewalk damage	31 trees
2	Silver (A): Large, Healthy, Spacious Contributing Trees	Greater than 24" in good condition	307 trees
3	Bronze: Good Conditioned Trees Conflicting Hardscape	All tree sizes in good condition with sidewalk damage for preservation review	126 trees
TOTAL			464 TREES

Trees to be preserved by tier are provided as a GIS file and as a custom map URL in the City’s TreePlotter application here: <https://pg-cloud.com/WilsonvilleOR/?scenario=Charbonneau-All-Preservation-Tiers>.

The tree preservation tiers established require additional information, studies, and considerations before implementing. Tree preservation cannot be given a broad brush approach therefore, multiple tiers for preservation were created. Tier 1 and Tier 2(A-C) should be given the highest priority due to the size, location, condition, and associated ecosystem benefits of the trees in these tiers. Tier 3 and Tier 4 should be evaluated on a case-by-case basis as these are trees that are recommended for preservation though there is an understanding that other projects, plans, goals, and desired functions exist in the focus areas. Trees in question should be assessed to determine the health, quality, size, life expectancy, and function before deciding on preservation or removal. Tree preservation recommendations are provided in order to sustain and enhance the urban forest while aligning with Citywide goals for more canopy cover and tree equity (see [Appendix B](#)).

Figure 22. Trees for preservation in Charbonneau



Ecosystem Benefits and Services of the Trees to Preserve in Charbonneau

Table 36. Annual ecosystem benefits and services of trees in preservation tiers for Charbonneau



OVERALL	ENERGY SAVINGS	AIR QUALITY	PROPERTY VALUE	CARBON SERVICES	STORMWATER
\$45,385	\$6,237	\$2,797	\$44,255	\$2,260	\$16,848
Annually	98k kWh	1,376 lbs	Added value	129k lbs C seq.	1.6M gallons

Characteristics of the Trees for Preservation in Charbonneau

Figure 23. Count of trees for preservation in Charbonneau by Preservation Tier

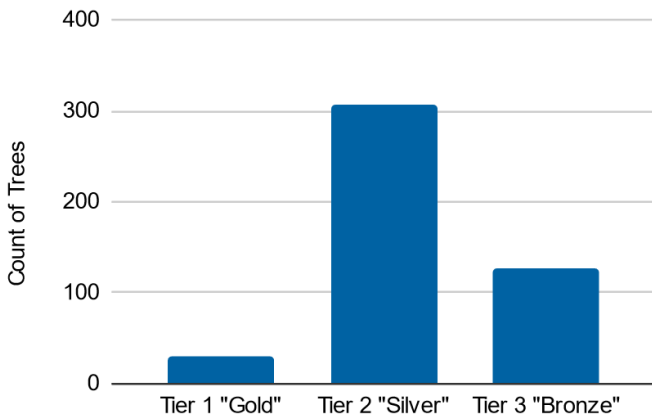


Figure 24. Tree species for preservation in Charbonneau

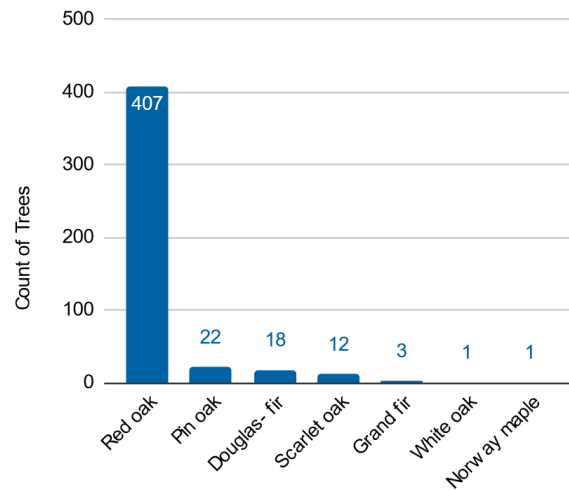


Figure 25. Diameter class of trees recommended for preservation in Charbonneau

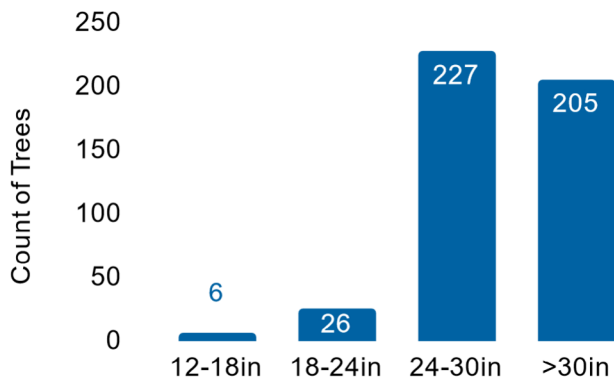
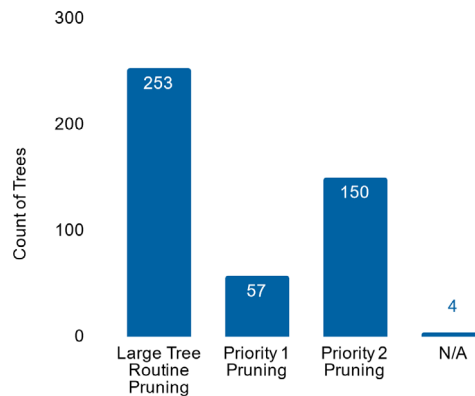


Figure 26. Maintenance needs of trees for preservation in Charbonneau



APPENDIX E. TREE REMOVALS AND REPLACEMENTS IN FOCUS AREAS

Urban trees, especially those in Town Center and Charbonneau, provide benefits and services to the residents, visitors, business owners, and the entire City of Wilsonville. They shade the parking lots, cool the sidewalks, support design, and provide ecological functions that should be sustained as Town Center and Charbonneau grow and change. Strategically replanting the urban forest in Town Center and Charbonneau is just as important as preserving existing trees to ensure these benefits continue to serve the neighborhood for generations.

Overview of Town Center Tree Removals

Based on an analysis of the 2020 tree inventory, there are trees in Town Center that were identified as needing removed. As of the inventory, a total of 9 trees are recommended for Priority 1 Removal and 67 trees for Priority 2 Removal. In addition, 26 inventory points indicated the tree was removed and a stump remains. Including the priority removals and locations with tree stumps, a total of 102 sites have the potential for a new tree to be planted.

To inform the replacement trees for trees removed, an analysis of climate change projections was completed. This process was conducted to ensure the recommended tree replacements are suitable for a changing climate in Wilsonville. The analyses utilized the [Climate Change and Forest Trees in the Pacific Northwest, A Vulnerability Assessment and Recommended Actions for National Forests](#) (USDA Forest Service, Warren Devine, et al., 2012) study and the University of Maryland’s Center for Environmental Science’s [60-year Contemporary Climatic Analogs for 540 North American Urban Areas](#) study to forecast what Wilsonville’s climate will be and identify suitable tree species for replanting.

The following provides a summary of the analyses, findings, and recommendations for replanting in Town Center:

Summary of Trees for Removal in Town Center

To view all trees recommended for removal in Town Center, use the following link <https://pg-cloud.com/WilsonvilleOR/?scenario=TownCenterReplacementTrees>.

Figure 27. Map showing the location of trees for removal in Town Center and the size classes

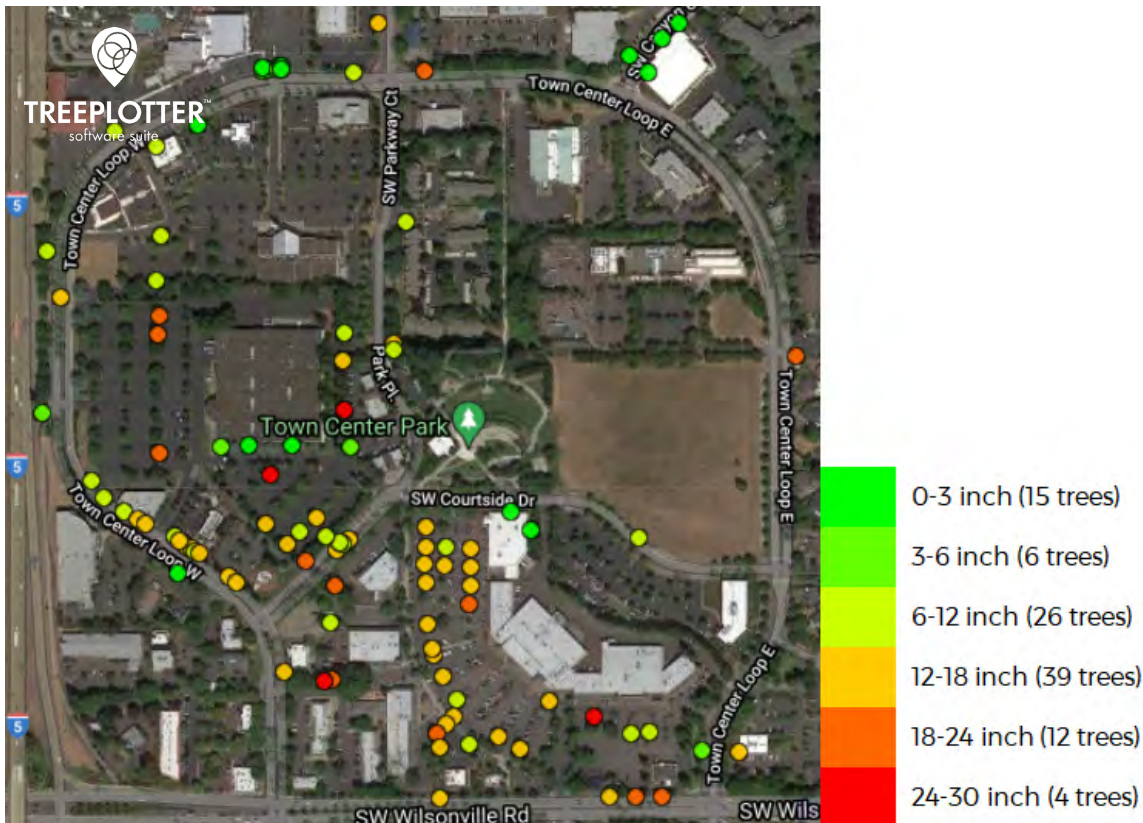


Table 37. Tree species recommended for removal in Town Center

COMMON NAME	COUNT	% OF TOTAL REMOVALS
Red oak	31	30%
Callery pear	18	18%
Emerald Queen Norway maple	12	12%
Kwanzan cherry	5	5%
Japanese cherry spp	4	4%
Dwarf Albert spruce	4	4%
Vine maple	4	4%
Scots pine	3	3%
Red Maple	2	2%
Pacific willow	2	2%
Top 10	85	83%
Other Species	17	17%
TOTAL	102	100%

Table 38. Summary of the status of the replanting sites in Town Center

STATUS	COUNT	% OF TOTAL REMOVALS
Alive	70	69%
Removed	24	24%
Dead	5	5%
Stump	3	3%
TOTAL	102	100%

Figure 28. Condition of trees recommended for removal in Town Center

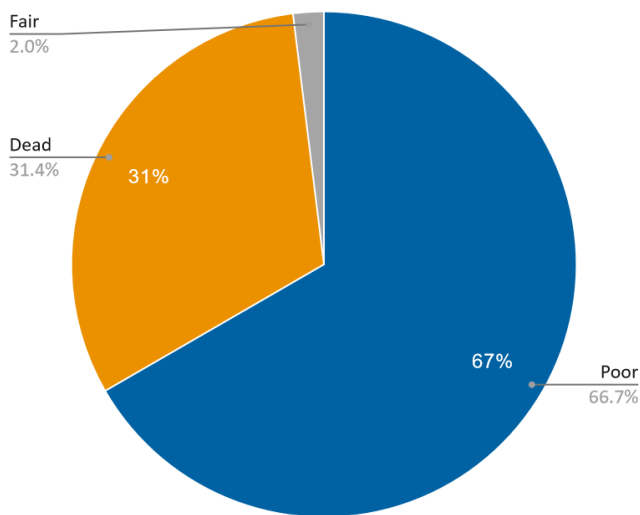
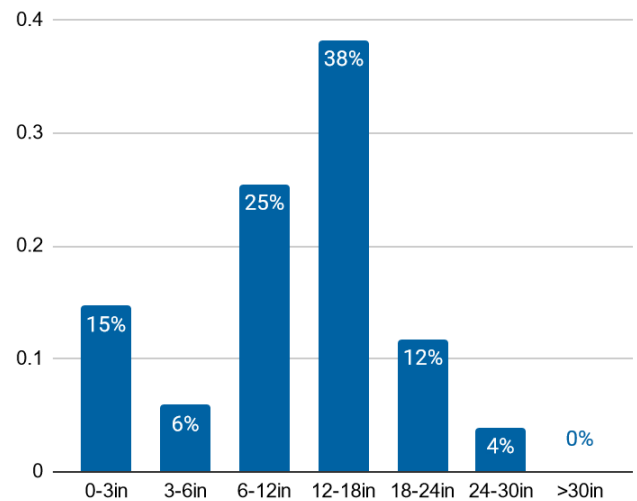


Figure 29. Diameter of recommended tree removals in Town Center



Note, the responsibility to address the trees recommended for removal vary between the City, adjacent property owner, HOA, or other. It is recommended the City evaluate these trees for removal and determine the best approach to address the concerns. For example, the City can prioritize removals for City-owned trees whereas the privately-maintained trees would require outreach and education. In some cities, a cost-share program is utilized where the city and the adjacent property owner share the cost of maintenance or removal of street trees. The recommended removals in focus areas provides the City with information to consider during redevelopment. Trees that are recommended for removal can be omitted from tree preservation consideration. Where feasible, trees should be replanted. View the [Town Center Trees for Removal and Replacement](#) section for consideration.

Overview of Charbonneau Tree Removals

Based on an analysis of the 2020 tree inventory, there are trees in Charbonneau that were identified as needing removed. As of the inventory, a total of 8 trees are recommended for Priority 1 or Priority 2 Removal, 23 trees in poor condition, and 20 trees in poor condition and causing sidewalk damage. Based on these recommendations, a total of 51 sites have the potential for a new tree to be planted.

To inform the replacement trees for trees removed, an analysis of climate change projections was completed. This process was conducted to ensure the recommended tree replacements are suitable for a changing climate in Wilsonville. The analyses utilized the [Climate Change and Forest Trees in the Pacific Northwest, A Vulnerability Assessment and Recommended Actions for National Forests](#) (USDA Forest Service, Warren Devine, et al., 2012) study and the University of Maryland’s Center for Environmental Science’s [60-year Contemporary Climatic Analogs for 540 North American Urban Areas](#) study to forecast what Wilsonville’s climate will be and identify suitable tree species for replanting.

The following provides a summary of the analyses, findings, and recommendations for replanting in Charbonneau:

Summary of Trees for Removal in Charbonneau

To view all trees recommended for removal in Charbonneau, use the following link [https://pg-cloud.com/Wilsonville OR/?scenario=Charbonneau-Tree-Removals](https://pg-cloud.com/Wilsonville/OR/?scenario=Charbonneau-Tree-Removals).

Figure 30. Map showing the location of trees for removal in Charbonneau and the size classes

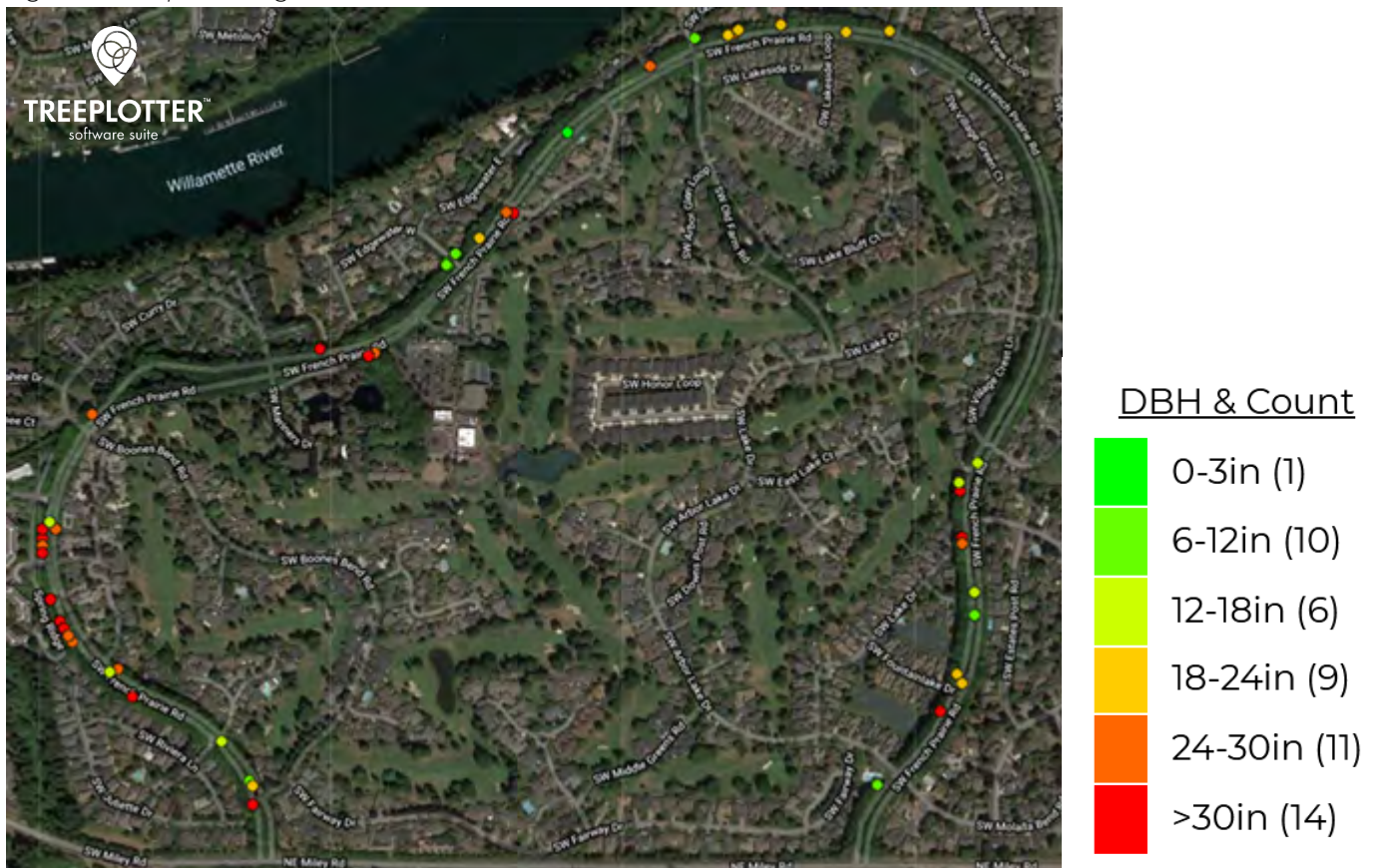


Figure 31. Count of trees by removal category - Charbonneau

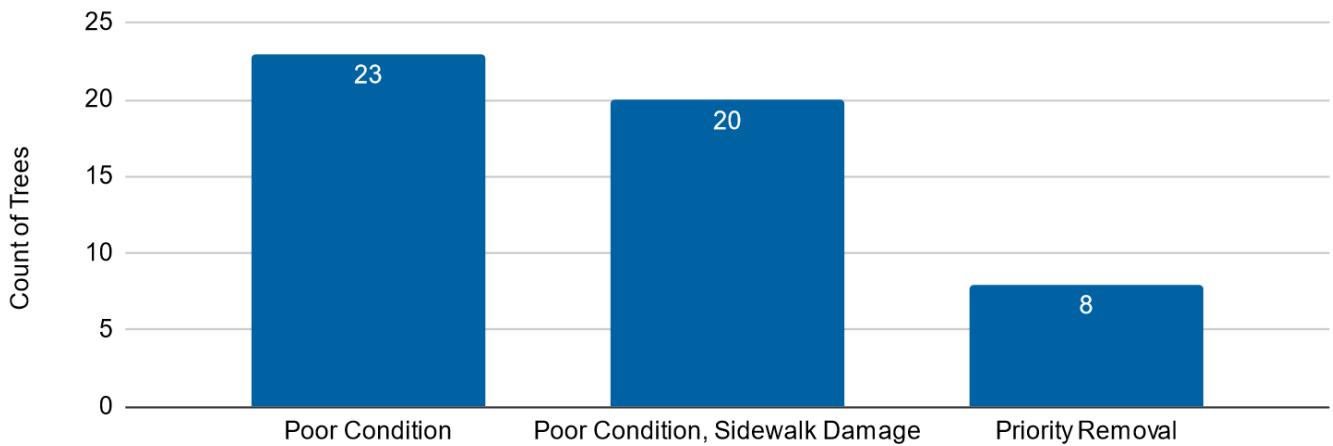
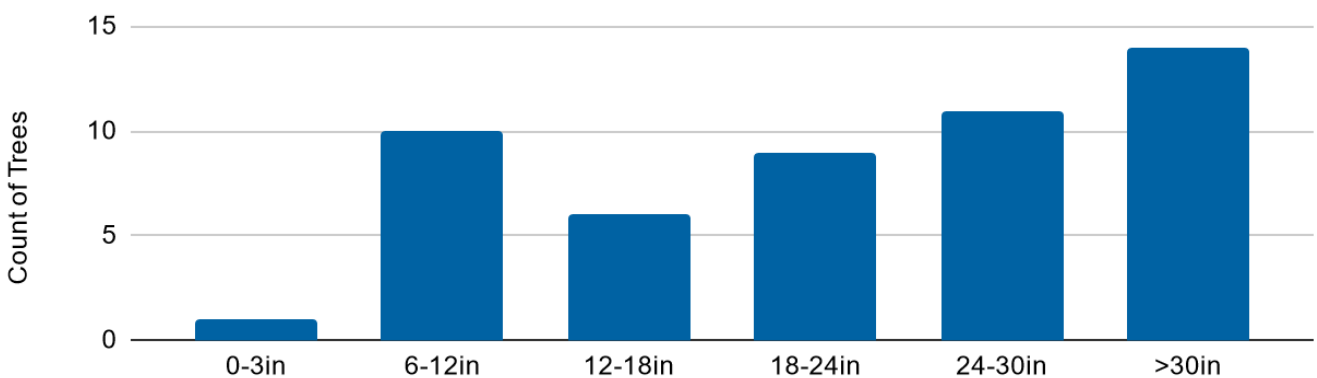


Table 39. Summary of tree species recommended for removal in Charbonneau

COMMON NAME	COUNT	% WITHIN
Red oak	33	65%
Hinoki falsecypress	6	12%
Pin oak	4	8%
Scarlet oak	2	4%
Scots pine	2	4%
Japanese red pine	1	2%
Norway maple	1	2%
Colorado blue spruce	1	2%
English oak	1	2%
TOTAL	51	100%

Figure 32. Diameter class of trees recommended for removal in Charbonneau



Note, the responsibility to address the trees recommended for removal vary between the City, adjacent property owner, HOA, or other. It is recommended the City evaluate these trees for removal and determine the best approach to address the concerns. For example, the City can prioritize removals for City-owned trees whereas the privately-maintained trees would require outreach and education. In some cities, a cost-share program is utilized where the city and the adjacent property owner share the cost of maintenance or removal of street trees. The recommended removals in focus areas provides the City with information to consider during redevelopment. Trees that are recommended for removal can be omitted from tree preservation consideration. Where feasible, trees should be replanted. View the [Charbonneau Trees for Removal and Replacement](#) section for consideration.

Considerations for the Recommended Replacement Tree Species

Recommended Citywide Tree Species List – 2021 Urban Forest Management Plan

[See Appendix A.](#)

City of Wilsonville’s Existing Tree Species List

Table 40. City of Wilsonville’s existing tree species list

GREATER THAN 50’ HEIGHT		UNDER 50’ HEIGHT	
Common Name	Scientific Name	Common Name	Scientific Name
Oregon white oak	<i>Quercus garryana</i>	Red Sunset maple	<i>Acer rubrum</i>
Red oak	<i>Quercus rubra borealis</i>	Pacific dogwood	<i>Cornus nuttallii</i>
Bigleaf maple	<i>Acer macrophyllum</i>	Honeylocust	<i>Gleditsia triacanthos</i>
Green column black maple	<i>Acer nigrum</i>	Bradford pear	<i>Pyrus calleryana 'Bradford'</i>
White ash	<i>Fraxinus americana</i>	Littleleaf linden	<i>Tilia cordata</i>
Marshall seedless green ash	<i>Fraxinus pennsylvanica</i>	Flame ash	<i>Fraxinus oxycarpa</i>
Scarlet oak	<i>Quercus coccinea</i>		
Pin oak	<i>Quercus palustris</i>		
American linden	<i>Tilia americana</i>		

Friends of Trees “Climate Trees for the 21st Century” Study

Table 41. List of recommended trees from Friends of Trees “Climate Trees for the 21st Century” study

TIER 1	
Common Name	Notes
Oregon white oak	Heat and drought tolerant
Silver linden	Heat and drought tolerant
Red horsechestnut	Heat and drought tolerant
European hornbeam	Heat and drought tolerant
Atlas cedar	Require large planting space
Incense cedar	Require large planting space
Giant sequoia	Require large planting space
Deodar cedar	Require large planting space
Valley ponderosa	Require large planting space
Douglas fir	Require large planting space
Sawtooth oak	Heat and drought tolerant, hard to find
Hungarian oak	Heat and drought tolerant, hard to find
Shumards oak	Heat and drought tolerant, hard to find
Burr oak	Heat and drought tolerant, hard to find

Table 41. List of recommended trees from Friends of Trees “Climate Trees for the 21st Century” study (continued)

TIER 2	
Common Name	Notes
California black oak	Western US street trees not on OR tree lists
Canyon live oak	Western US street trees not on OR tree lists
Oregon myrtle	Western US street trees not on OR tree lists
Coast live oak	Western US street trees not on OR tree lists
Interior live oak	Western US street trees not on OR tree lists
Blue oak	Western US street trees not on OR tree lists
Valley oak	Western US street trees not on OR tree lists
Chitalpa	Western US street trees not on OR tree lists
Crapemyrtle	Western US street trees not on OR tree lists
Cork oak	Western US street trees not on OR tree lists
Holly oak	Western US street trees not on OR tree lists
Silverleaf oak	Western US street trees not on OR tree lists
Oracle oak	Western US street trees not on OR tree lists
Cedar of Lebanon	Western US street trees not on OR tree lists
Spanish fir	Western US street trees not on OR tree lists
Chinese pistache	Western US street trees not on OR tree lists
Strawberry tree	Western US street trees not on OR tree lists
Southern live oak	Western US street trees not on OR tree lists
TIER 3	
Common Name	Notes
California buckeye	Heat and drought tolerant, not typical street tree
Madrone	Heat and drought tolerant, not typical street tree
Japanese chinquapin	Heat and drought tolerant, not typical street tree
Cretan maple	Heat and drought tolerant, not typical street tree
Western redbud	Heat and drought tolerant, not typical street tree

To view the study, visit <https://friendsoftrees.org/blog/climate-trees-trees-for-the-21st-century-part-2/>.

City of Wilsonville’s Public Works and Planning Tree Species List

Table 42. Wilsonville Public Works and Planning tree species list

Common Name	Botanical Name
Small Street Trees	
Rocky Mtn Glow Maple	<i>Acer grandidentatum</i> 'Schmidt'
Paperbark Maple	<i>Acer griseum</i>
Merlot Redbud	<i>Cercis canadensis</i> 'Merlot'
Milky Way dogwood	<i>Cornus kousa</i> 'Milky Way'
Ruby Vase Persian Ironwood	<i>Parrotia persica</i> 'Ruby Vase'
Cascara	<i>Rhamnus purshiana</i>
Pink Chimes Japanese Snowbell	<i>Styrax japonica</i> 'Pink Chimes'
Medium Street Trees	
Rocky Mtn Glow Maple	<i>Acer grandidentatum</i> 'Schmidt'
Emerald Avenue European Hornbeam	<i>Carpinus betulus</i> 'JFS-KW1CB'
American Hornbeam	<i>Carpinus caroliniana</i>
Forest Pansy Redbud	<i>Cercis canadensis</i> 'Forest Pansy'
Eddies White Wonder dogwood	<i>Corus</i> 'Eddie's White Wonder'
Dawyck Purple Beech	<i>Fagus sylvatica</i> 'Dawyck Purple'
Wildfire Black Tupelo	<i>Nyssa sylvatica</i> 'Wildfire'
American Hophornbeam	<i>Ostrya virginiana</i>
Persian Ironwood	<i>Parrotia persica</i>
Forest Green Oak	<i>Quercus frainetto</i> 'Schmidt'
Silverleaf oak	<i>Quercus hypoleucoides</i>
Summer Sprite Linden	<i>Tilia cordata</i> 'Halka'
Sterling Silver Linden	<i>Tilia tomentosa</i> 'Sterling'
Large Street Trees	
Hedge Maple	<i>Acer campestre</i>
Queen Elizabeth Hedge Maple	<i>Acer campestre</i> 'Evelyn'
Armstrong Red Maple	<i>Acer rubrum</i> 'Armstrong'
October Glory Red Maple	<i>Acer rubrum</i> 'October Glory'
Scarlet Sentinel Maple	<i>Acer rubrum</i> 'Scarsen'
Autumn Blaze Maple	<i>Acer x freemanii</i> 'Jeffersred'
Heritage River Birch	<i>Betula nigra</i> 'Heritage'
Rivers Purple Beech	<i>Faguas sylvatica</i> 'Riversii'
Tricolor Beech	<i>Fagus sylvatica</i> 'Roseomarginata'
Autumn Gold Ginkgo	<i>Ginkgo biloba</i> 'Autumn Gold'
Golden Colonnade Ginkgo	<i>Ginkgo biloba</i> 'JFS-UGA2'
Magyar Ginkgo	<i>Ginkgo biloba</i> 'Magyar'
Princeton Sentry Ginkgo	<i>Ginkgo biloba</i> 'Princeton Sentry'
Kentucky coffeetree	<i>Gymnocladus dioicus</i>
Espresso Kentucky Coffeetree	<i>Gymnocladus dioicus</i> 'Espresso'
Exclamation London Plane Tree	<i>Platanus x acerifolia</i> 'Exclamation'

Table 42. Wilsonville Public Works and Planning tree species list (continued)

Common Name	Botanical Name
Large Street Trees	
Swamp White Oak	<i>Quercus bicolor</i>
Scarlet Oak	<i>Quercus coccinea</i>
Burr Oak	<i>Quercus macrocarpa</i>
Willow Oak	<i>Quercus phellos</i>
Jefferson Elm	<i>Ulmus americana</i> 'Jefferson'
Frontier Elm	<i>Ulmus carpinifolia</i> x <i>U. parvifolia</i> 'Frontier'
Triumph Elm	<i>Ulmus</i> 'Morton Glossy'
Green Vase Zelkova	<i>Zelkova serrata</i> 'Green Vase'
Village Green zelkova	<i>Zelkova serrata</i> 'Village Green'

Town Center Trees for Removal and Replacement

Table 43. List of trees for removal in Town Center and the recommended replacement species

ID	STATUS	EXISTING TREE COMMON NAME	PROPOSED REPLACEMENT (COMMON NAME)	PROPOSED REPLACEMENT (SCIENTIFIC NAME)	ALTERNATIVE (COMMON NAME)
939	Stump	Lodgepole pine (east OR)	Willamette Valley Ponderosa	<i>Pinus ponderosa</i> x <i>benthamiana</i>	Scarlet Oak
986	Alive	Red Maple	Hungarian Oak	<i>Quercus frainetto</i>	Oregon White Oak
1050	Alive	Emerald Queen Norway maple	Hackberry	<i>Celtis occidentalis</i>	Honeylocust
1076	Removed	balsam poplar	European Hornbeam	<i>Carpinus betulus</i>	Green Column Black Maple
1086	Removed	Callery pear	Dura-Heat® River Birch	<i>Betula nigra</i> 'BNMTF'	Oregon White Oak
1093	Removed	western red-cedar	Hackberry	<i>Celtis occidentalis</i>	Honeylocust
1097	Removed	black tupelo	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Green Column Black Maple
1122	Alive	red oak	European Hornbeam	<i>Carpinus betulus</i>	Green Column Black Maple
1169	Alive	red oak	Red Oak	<i>Quercus rubra</i>	Oregon White Oak
1177	Stump	Japanese stewartia	Autumn Gold Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Autumn Gold'	Green Column Black Maple
1220	Alive	Japanese cherry spp	Lavalle Hawthorn	<i>Crataegus X lavalleei</i>	Pacific Dogwood
1221	Alive	Japanese cherry spp	Lavalle Hawthorn	<i>Crataegus X lavalleei</i>	Pacific Dogwood
1222	Alive	Japanese cherry spp	Strawberry Tree	<i>Arbutus unedo</i>	Bird Cherry
1224	Alive	Japanese cherry spp	Strawberry Tree	<i>Arbutus unedo</i>	Bird Cherry
1227	Removed	Callery pear	Oregon White Oak	<i>Quercus garryana</i>	Red Oak
1266	Alive	Emerald Queen Norway maple	Ruby Vase® Persian Ironwood	<i>Parrotia persica</i> 'Inge'	Honeylocust
1268	Alive	Emerald Queen Norway maple	Vanessa Persian Ironwood	<i>Parrotia persica</i> 'Vanessa'	Honeylocust

Table 43. List of trees for removal in Town Center and the recommended replacement species (continued)

ID	STATUS	EXISTING TREE COMMON NAME	PROPOSED REPLACEMENT (COMMON NAME)	PROPOSED REPLACEMENT (SCIENTIFIC NAME)	ALTERNATIVE (COMMON NAME)
1270	Alive	Emerald Queen Norway maple	Pyramidal European Hornbeam	<i>Carpinus betulus</i> 'Fastigiata'	Honeylocust
1278	Removed	Emerald Queen Norway maple	Sawtooth Oak	<i>Quercus acutissima</i>	Red Oak
1299	Alive	Emerald Queen Norway maple	Katsura	<i>Cercidiphyllum japonicum</i>	Honeylocust
1335	Dead	Emerald Queen Norway maple	Turkish Filbert	<i>Corylus colurna</i>	Honeylocust
1336	Dead	Emerald Queen Norway maple	Turkish Filbert	<i>Corylus colurna</i>	Honeylocust
1340	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1341	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1342	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1343	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1344	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1345	Removed	Callery pear	Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i> 'Ivory Silk'	Bigleaf Maple
1347	Removed	Callery pear	Emerald Pagoda Japanese Snowbell	<i>Styrax japonicus</i> 'Emerald Pagoda'	Pacific Dogwood
1355	Removed	Oregon ash	Harvest Gold Littleleaf Linden	<i>Tilia</i> 'Harvest Gold'	Red Sunset Maple
1365	Alive	Emerald Queen Norway maple	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Honeylocust
1367	Alive	Emerald Queen Norway maple	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Honeylocust
1369	Alive	Emerald Queen Norway maple	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Honeylocust
1370	Alive	Emerald Queen Norway maple	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Honeylocust
1372	Dead	Colorado blue spruce	Douglas Fir	<i>Pseudotsuga menziesii</i>	Willamette Valley Ponderosa
1382	Removed	European mountain-ash	Oregon White Oak	<i>Quercus garryana</i>	Bur Oak
1398	Dead	domestic apple	None	None	None
1422	Alive	Armstrong maple	Green Column Black Maple	<i>Acer saccharum sub. nigrum</i> 'Green Column'	Firespire® American Hornbeam
1430	Removed	cherry (ornamental)	Strawberry Tree	<i>Arbutus unedo</i>	Lavalle Hawthorn
1455	Alive	purple-leaf plum	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	Bird Cherry
1463	Alive	Pacific willow	Bur Oak	<i>Quercus macrocarpa</i>	Red Oak
1465	Alive	Pacific willow	Bur Oak	<i>Quercus macrocarpa</i>	Red Oak
1494	Removed	Scots pine	Willamette Valley Ponderosa	<i>Pinus ponderosa x benthamiana</i>	Limber Pine

Table 43. List of trees for removal in Town Center and the recommended replacement species (continued)

ID	STATUS	EXISTING TREE COMMON NAME	PROPOSED REPLACEMENT (COMMON NAME)	PROPOSED REPLACEMENT (SCIENTIFIC NAME)	ALTERNATIVE (COMMON NAME)
1505	Stump	paper birch	Green Column Black Maple	<i>Acer saccharum sub. nigrum</i> 'Green Column'	Firespire® American Hornbeam
1515	Removed	Red Maple	None	None	None
1516	Removed	Scots pine	None	None	None
1517	Removed	Scots pine	None	None	None
1518	Removed	dwarf Albert spruce	Natchez Crape Myrtle	<i>Lagerstroemia</i> 'Natchez'	Pacific Dogwood
1519	Removed	dwarf Albert spruce	None	None	None
1520	Removed	dwarf Albert spruce	None	None	None
1521	Removed	dwarf Albert spruce	Muskogee Crape Myrtle	<i>Lagerstroemia</i> 'Muskogee'	Pacific Dogwood
1525	Alive	red oak	Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	Honeylocust
1532	Alive	red oak	Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	Honeylocust
1534	Alive	red oak	Hackberry	<i>Celtis occidentalis</i>	Honeylocust
1537	Alive	red oak	Hackberry	<i>Celtis occidentalis</i>	Honeylocust
1549	Alive	Callery pear	Interior Live Oak	<i>Quercus wislizenii</i>	Honeylocust
1551	Alive	red oak	Interior Live Oak	<i>Quercus wislizenii</i>	Honeylocust
1553	Alive	red oak	Interior Live Oak	<i>Quercus wislizenii</i>	Red Oak
1556	Alive	Callery pear	Oregon White Oak	<i>Quercus garryana</i>	Scarlet Oak
1557	Alive	Norway maple	Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Green Column Black Maple
1580	Alive	Kwanzan cherry	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	Bird Cherry
1582	Alive	red oak	Interior Live Oak	<i>Quercus wislizenii</i>	Scarlet Oak
1589	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
1596	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
1649	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Scarlet Oak
1652	Alive	red oak	Canby Oak	<i>Quercus canbyi</i>	Scarlet Oak
1664	Alive	red oak	Canby Oak	<i>Quercus canbyi</i>	Honeylocust
1679	Alive	red oak	Canby Oak	<i>Quercus canbyi</i>	Honeylocust
1681	Alive	red oak	Canby Oak	<i>Quercus canbyi</i>	Honeylocust
1767	Alive	Callery pear	Chinese Pistache	<i>Pistachia chinensis</i>	Pacific Dogwood
1775	Alive	Callery pear	Chinese Pistache	<i>Pistachia chinensis</i>	Pacific Dogwood
1776	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Honeylocust
1778	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Honeylocust
1779	Alive	Callery pear	Chinese Pistache	<i>Pistachia chinensis</i>	Pacific Dogwood
1810	Alive	red oak	Red Oak	<i>Quercus rubra</i>	Scarlet Oak
1822	Alive	vine maple	Cretan Maple	<i>Acer sempervirens</i>	Pacific Dogwood
1831	Alive	vine maple	Muskogee Crape Myrtle	<i>Lagerstroemia</i> 'Muskogee'	Pacific Dogwood
1850	Alive	vine maple	Muskogee Crape Myrtle	<i>Lagerstroemia</i> 'Muskogee'	Pacific Dogwood

Table 43. List of trees for removal in Town Center and the recommended replacement species (continued)

ID	STATUS	EXISTING TREE COMMON NAME	PROPOSED REPLACEMENT (COMMON NAME)	PROPOSED REPLACEMENT (SCIENTIFIC NAME)	ALTERNATIVE (COMMON NAME)
1882	Alive	Callery pear	Oregon White Oak	<i>Quercus garryana</i>	Redmond American Linden
1893	Alive	Callery pear	Oregon White Oak	<i>Quercus garryana</i>	Redmond American Linden
1906	Alive	Douglas- fir	Douglas Fir	<i>Pseudotsuga menziesii</i>	Oregon White Oak
1931	Alive	Callery pear	Canyon Live Oak	<i>Quercus chrysolepis</i>	Oregon White Oak
2040	Alive	thornless honeylocust	None	None	None
2077	Alive	Callery pear	Deodar Cedar	<i>Cedrus deodara</i>	Honeylocust
2084	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
2086	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
2087	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
2089	Alive	red oak	California Black Oak	<i>Quercus kelloggii</i>	Red Oak
2093	Alive	Kwanzan cherry	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	Bird Cherry
2094	Alive	Kwanzan cherry	Strawberry Tree	<i>Arbutus unedo</i>	Pacific Dogwood
2109	Alive	Kwanzan cherry	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	Bird Cherry
2111	Alive	Kwanzan cherry	Strawberry Tree	<i>Arbutus unedo</i>	Pacific Dogwood
2119	Alive	red oak	Pyramidal European Hornbeam	<i>Carpinus betulus</i> 'Fastigiata'	Honeylocust
2121	Alive	red oak	Pyramidal European Hornbeam	<i>Carpinus betulus</i> 'Fastigiata'	Honeylocust
2125	Alive	red oak	Amur Maackia	<i>Maackia amurensis</i>	Honeylocust
2127	Alive	red oak	Amur Maackia	<i>Maackia amurensis</i>	Honeylocust
2128	Alive	red oak	Oregon White Oak	<i>Quercus garryana</i>	Red Oak
2129	Alive	red oak	Amur Maackia	<i>Maackia amurensis</i>	Honeylocust
2140	Alive	pin oak	Amur Maackia	<i>Maackia amurensis</i>	Honeylocust
2149	Alive	red oak	Oregon White Oak	<i>Quercus garryana</i>	Red Oak
2151	Alive	red oak	Oregon White Oak	<i>Quercus garryana</i>	Red Oak
2202	Dead	vine maple	Tschonoskii Crabapple	<i>Malus tschonoskii</i>	Pacific Dogwood

Table 44. Count of recommended replacement trees in Town Center by species

ID	COUNT
California Black Oak	9
Oregon White Oak	8
None	7
Afterburner® Black Tupelo	6
Ivory Silk Japanese Tree Lilac	6
Strawberry Tree	5
Tschonoskii Crabapple	5
Amur Maackia	4
Canby Oak	4
Hackberry	4
Interior Live Oak	4
Chinese Pistache	3
Muskogee Crape Myrtle	3
Pyramidal European Hornbeam	3
Bur Oak	2
Douglas Fir	2
European Hornbeam	2
Green Column Black Maple	2
Kentucky Coffeetree	2
Lavalle Hawthorn	2
Red Oak	2
Turkish Filbert	2
Willamette Valley Ponderosa	2
Autumn Gold Ginkgo Biloba	1
Canyon Live Oak	1
Cretan Maple	1
Deodar Cedar	1
Dura-Heat® River Birch	1
Emerald Pagoda Japanese Snowbell	1
Harvest Gold Littleleaf Linden	1
Hungarian Oak	1
Katsura	1
Natchez Crape Myrtle	1
Ruby Vase® Persian Ironwood	1
Sawtooth Oak	1
Vanessa Persian Ironwood	1
TOTAL	102

Charbonneau Trees for Removal and Replacement

Table 45. List of trees for removal in Charbonneau and the recommended replacement species

ID	STATUS	EXISTING TREE COMMON NAME	DBH RANGE	CAUSE FOR REMOVAL	PROPOSED REPLACEMENT (COMMON NAME)
8	Removed	Colorado blue spruce	6-12in	Poor Condition	Dawn redwood
11	Alive	Scots pine	>30in	Priority Removal	Dawn redwood
12	Removed	Scots pine	12-18in	Poor Condition	Dawn redwood
16	Alive	Norway maple	18-24in	Poor Condition, Sidewalk Damage	Autumn Blaze maple
53	Removed	Japanese red pine	6-12in	Poor Condition	Willamette Valley ponderosa
63	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
64	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
65	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
66	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
68	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
69	Removed	Hinoki falsecypress	6-12in	Poor Condition	Deodar cedar
96	Alive	red oak	>30in	Priority Removal	Oregon white oak
100	Alive	red oak	18-24in	Poor Condition	Valley oak
118	Alive	red oak	24-30in	Poor Condition, Sidewalk Damage	Hungarian oak
119	Alive	red oak	>30in	Poor Condition, Sidewalk Damage	Shumard oak
349	Alive	red oak	>30in	Poor Condition	Bur oak
383	Alive	red oak	18-24in	Priority Removal	Chinkapin oak
394	Alive	red oak	18-24in	Poor Condition, Sidewalk Damage	Swamp white oak
398	Alive	red oak	24-30in	Poor Condition, Sidewalk Damage	Monterrey oak
399	Alive	red oak	18-24in	Poor Condition, Sidewalk Damage	Southern live oak
408	Removed	red oak	24-30in	Poor Condition, Sidewalk Damage	Canby oak
435	Alive	red oak	18-24in	Poor Condition, Sidewalk Damage	Coast live oak
459	Alive	red oak	18-24in	Poor Condition	Chinese pistache
469	Removed	red oak	6-12in	Poor Condition	Wireless Japanese zelkova
472	Alive	red oak	12-18in	Priority Removal	Kentucky coffeetree
484	Alive	red oak	12-18in	Poor Condition	Kentucky coffeetree
551	Alive	red oak	18-24in	Poor Condition	Kentucky coffeetree
586	Removed	red oak	0-3in	Poor Condition	Bigleaf maple
597	Alive	red oak	24-30in	Priority Removal	Shademaster honeylocust
640	Alive	scarlet oak	>30in	Poor Condition, Sidewalk Damage	Oregon white oak
676	Removed	red oak	24-30in	Poor Condition	Valley oak
688	Alive	red oak	>30in	Poor Condition, Sidewalk Damage	Hungarian oak
689	Alive	red oak	>30in	Poor Condition, Sidewalk Damage	Shumard oak

Table 45. List of trees for removal in Charbonneau and the recommended replacement species (continued)

ID	STATUS	EXISTING TREE COMMON NAME	DBH RANGE	CAUSE FOR REMOVAL	PROPOSED REPLACEMENT (COMMON NAME)
690	Alive	red oak	24-30in	Poor Condition, Sidewalk Damage	Bur oak
691	Alive	red oak	>30in	Poor Condition, Sidewalk Damage	Chinkapin oak
701	Alive	red oak	24-30in	Poor Condition, Sidewalk Damage	Coast live oak
736	Alive	red oak	24-30in	Poor Condition	Oregon white oak
759	Alive	scarlet oak	>30in	Poor Condition, Sidewalk Damage	Valley oak
795	Alive	red oak	>30in	Poor Condition, Sidewalk Damage	Hungarian oak
807	Alive	pin oak	12-18in	Priority Removal	Shumard oak
814	Alive	English oak	6-12in	Priority Removal	Bur oak
815	Alive	red oak	18-24in	Priority Removal	Chinkapin oak
838	Alive	pin oak	12-18in	Poor Condition	Swamp white oak
856	Alive	pin oak	12-18in	Poor Condition	Monterrey oak
912	Alive	pin oak	24-30in	Poor Condition	Southern live oak
913	Alive	red oak	>30in	Poor Condition	Canby oak
914	Alive	red oak	24-30in	Poor Condition	Coast live oak

Table 46. Recommended replacement tree species for removals in Charbonneau

ID	COUNT
Deodar cedar	6
Bur oak	3
Canby oak	3
Chinkapin oak	3
Coast live oak	3
Dawn redwood	3
Hungarian oak	3
Kentucky coffeetree	3
Monterrey oak	3
Oregon white oak	3
Shumard oak	3
Southern live oak	3
Swamp white oak	3
Valley oak	3
Autumn Blaze maple	1
Bigleaf maple	1
Chinese pistache	1
Shademaster honeylocust	1
Willamette Valley ponderosa	1
Wireless Japanese zelkova	1
TOTAL	51

APPENDIX F. FUNDING MECHANISMS

Table 47. Financing options for Wilsonville’s urban forest management programs

FINANCING OPTIONS	ATTRIBUTES	PROCESS	OPPORTUNITIES	CHALLENGES
FEASIBLE OPTIONS				
Special Assessment Districts	Special assessment for landscaping, open space improvements, acquisition, and maintenance.	City agency / property owners initiate via petition, City agency administers; based on benefits calculated in engineer’s report; >50% of property owners in proposed district must approve via (mail) ballot.	Citywide district possible for all street trees; individual districts more feasible in areas with many trees, high maintenance needs, and/or political support.	Typically funds more than just street trees.
Parcel Tax	Assessment levied independent of property value, can be equal amount per parcel or dependent on lot size.	2/3 of voters (not just property owners) must approve via election ballot.	Tax can be directly related to program costs; maintenance taxes deductible for property owners.	2/3 voter approval; potential competition from other services (e.g., schools); flat tax distributes cost inequitably.
General Obligation (GO) Bond	Low-interest loan for capital projects; repaid by levying tax revenue.	2/3 voter approval required.	Frequently used tool in municipal government.	Funding provided for set period; maintenance ineligible for funding.
Stormwater Utility	Urban forests mitigate storm-water runoff. A portion of the stormwater management fee can be earmarked for urban forestry.	A stormwater fee that is collected from every developed property parcel in the City to support the stormwater management program.	Additional funding to urban forestry and incentive to property owners to plant trees as a Best Management Practice.	Establishing a stormwater utility. Planting trees needs to be in a “Stormwater Utility Fee Credit Manual.”
Partnerships	Non-profits, corporate partners, grant funding; for tree planting and establishment.	Various, depends on City’s processes.	Decrease costs, increase capacity, develop a tree steward organization and program.	Union resistance, sustainable funding stream required.

Table 47. Financing options for Wilsonville’s urban forest management programs (continued)

FINANCING OPTIONS	ATTRIBUTES	PROCESS	OPPORTUNITIES	CHALLENGES
ADDITIONAL OPTIONS				
Pest Control Fee	A fee for forestry related services such as pest control and replanting.	A forestry fee specific to pest control added to the public service utility billing as a levy.	Opportunity to offset costs of managing and recovering from tree pests and diseases.	Increased fee may require voter approval. The City must analyze pest control costs to establish the appropriate fee amount.
Tree Work and Land Development Permit Fees	An increase in fees for registered tree care companies, the Tree Work Permit Application, and development fees.	City assesses the actual costs of managing permits, reviews and inspections and applies an applicable fee. Updates to City ordinances may be required.	Additional fees may be directly applied to urban forest management.	Increasing the fees may require election ballots and/or updates to City ordinances.
General Fund	City’s primary funding pool for wide range of municipal services.	Annual budget via City’s legislative process.	History of funding for tree planting and establishment.	Not a guaranteed source or amount of funding; funds at risk if budget shortfalls arise.
Carbon Offsets	A cap-and-trade program in Wilsonville would create a cap on greenhouse gas emissions trading options.	OR Climate Action Plan advocate for a state Carbon Investment Fund program. The City should be involved in designing project (i.e., tree planting) requirements and tracking.	Oregon’s cap and trade system provide economic incentive to drive more “natural climate solutions.”	A large quantity of trees must be planted to qualify as a carbon offset and the trees must be properly managed to ensure long-term survival and carbon storage.
Parking Benefit District (PBD)	Revenue from parking meters for range of right-of-way improvements and maintenance.	Enacted via local ordinance specifying boundaries, rates, use of funds; City administers with input from advisory committee.	No ballot approval required; visitors bear burden over residents; revenue can be expended beyond district boundaries.	Adjustments will need to be made based to the agency overseeing excess meter revenue; typically funds more than trees.

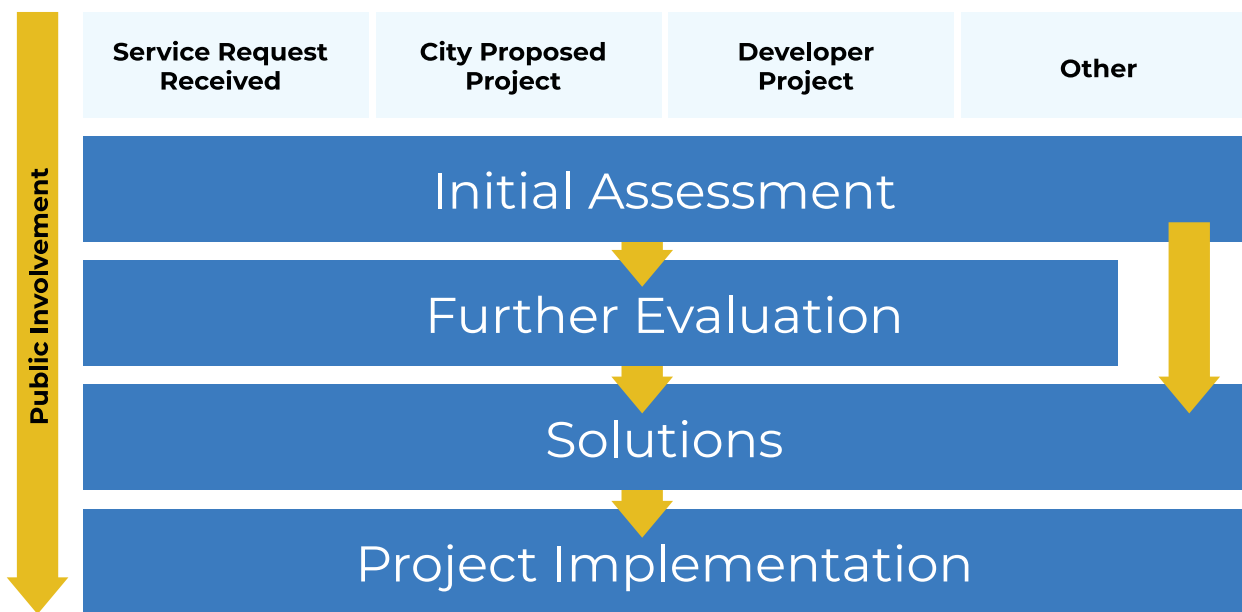
APPENDIX G. TREES AND HARDSCAPE CONFLICTS SOLUTIONS WORKBOOK

Decision Matrix

The development of Wilsonville’s Urban Forest Management Plan identified the need to clarify the decision process to address tree and sidewalk or construction conflicts. A clear decision matrix can help to reduce inter- and inner-department uncertainty and establish or adhere to consistency and fairness. The City’s departments have standard operating procedures and checklists for evaluating conflicts at a project site, but these traditionally have not been available to the public. To make the decision process around the retention or removal of trees more transparent and consistent, a clarified process, decision matrix, and solution toolkit should be developed to highlight the key decision points.

Proposed Decision Matrix for Tree and Construction/Sidewalk Conflicts

Figure 33. Proposed decision matrix for tree and construction conflicts



Initial Assessment

The following applies to tree removals, tree removal permit applications, and proposed projects.

The initial assessment of trees, sidewalks (or other infrastructure), and site at the location of concern provides consistency and predictability by collecting the appropriate information. It is recommended to have urban forestry staff involved in the initial assessment process and/or a City staff member with an International Society of Arboriculture Certified Arborist accreditation.

- **Tree Preservation Potential.** What is the tree quality or health, and is it worth preserving? Is the tree part of the City’s Significant Tree Program (if applicable)?
- **Tree Mitigation Exploration.** If the request to remove the tree is a result of infrastructure damage and the tree exhibits poor health or vigor, can the tree’s health or vigor be mitigated by any means other than removal?
- **Public Safety Risk.** Is the tree a potential hazard that cannot be mitigated by any means other than removal? This includes any tree or tree part that poses a high risk of damage to persons or property located in public places. Use the International Society of Arboriculture’s tree risk evaluation standards.
- **Initial Assessment Timing.** It is recommended that the initial assessment be conducted within 3-4 weeks of receiving a permit application for removal. If the assessment is required due to a proposed project, the assessment should occur no later than 30% design or equivalent of design effort (e.g., during the Environmental Assessment period).

- Tracking. Continue tracking street tree removal permit applications in the City's asset management software or similar program.
- For an example Initial Assessment Checklist, see the Example Initial Assessment Checklist further below.

Initial Tree Decision

If the tree removal permit application was made due to the condition of the tree or other reason not relating to the damage or impediment of infrastructure such as sidewalk, the City Forester or representative may conduct the initial tree decision. If infrastructure is part of the assessment and/or the tree removal request was initiated for a proposed project, the City Engineer or appropriate staff should also be part of the initial tree decision. The appropriate staff will visit the tree and/or proposed project location and assess the tree (and sidewalk, if applicable) conditions. The following actions will result from the assessment:

- Remove Tree. The tree removal permit application was made not as a result of the tree impacting or damaging infrastructure and the tree is identified as unhealthy or unsafe with no remediation possible.
 - Remove the tree and consider the "no net loss" policy of replacing the tree. Some cities implement a 2:1 replacement to removal ratio. The replacement policy should be based on City Code, the Zoning Ordinance, and City guidelines. Replacement of trees can occur on site, same street, or City-approved location. A fee in-lieu should also be considered as an option as described in City Code.
 - Removal of the tree should be prioritized based on other work orders, the risk assessment of the tree, and other factors.
 - For street trees, the removal permit application, decision, work order, tree information, and tree removal information should be tracked in the City's asset management software or similar program.
- Retain Tree. Based on the assessment, the tree is not in decline or the issues can be remediated. Alternatively, if the tree in question is part of a Significant or Heritage Tree Program, the tree may be preserved depending on the tree condition and presence of hazards or risks as described in the City policies and manuals.
 - Document the decision, inform the property owner or project developer.
 - Conduct the remediation activity to the tree if needed.
 - Prioritize and track this information in City's asset management or similar program.
 - Conduct follow-ups with the property owner and monitor the tree if necessary.
- Remove Tree and Replace Sidewalk. The permit application or proposed project identifies a tree that is causing sidewalk conflicts and the tree has been deemed unhealthy and no remediation is possible. The City should reference City Code as to what is defined as unhealthy or hazardous. Note, both tree removal and sidewalk repair are the responsibility of the adjacent property owner.
 - Remove the tree and consider the "no net loss" policy of replacing the tree. Some cities implement a 2:1 replacement to removal ratio. The requirement to replace the tree will be the City and City Forester's discretion. The replacement policy should be based on City Code, the Zoning Ordinance, and the City guidelines. Replacement of trees can occur on site, same street, or City-approved location. A fee in-lieu should also be considered as an option as described in City Code.
 - If a City-owned tree, removal of the tree should be prioritized based on other work orders, the risk assessment of the tree, and other factors.
 - For street trees, the permit application, decision, work order, tree information, and tree removal information should be tracked in the City's asset management program, tree inventory software, or similar.
 - Adjacent property owner replaces the sidewalk using appropriate design standards and materials and consider designing according to standards that will protect any replacement trees and provide ample soil volume and root space for the new or existing trees.
- Retain Tree and Maintain Sidewalk. A tree in question is in conflict with infrastructure and the assessment determined that the tree is to be retained and the infrastructure (i.e., sidewalk) is to be corrected (by the adjacent property owner). The sidewalk will be of standard width and a tree pit of standard width (at minimum) can be installed or retained.
 - Coordinate with the adjacent property owner the timing and approach for maintaining the sidewalk. Some cities offer incentives or funding to support sidewalk maintenance when the issue causing the sidewalk

damage has been identified to be caused by a street tree. Be sure to inform the property owner of alternative sidewalk amendments such as width reduction, alternative materials, among other solutions.

- If any root pruning is needed to amend the sidewalk, urban forestry staff and/or a Certified Arborist hired by the property owner or a certified consultant/contractor hired by the City should evaluate to determine the appropriate root pruning, branch pruning, soil amendments, and other maintenance required.
- Documentation in City asset management program or similar software as stated before is recommended.
- Evaluate Tree and/or Sidewalk Further. During the initial tree decision, it is not appropriate for extensive explorations of pavement, soils, or tree root systems. There are limitations to the initial assessment and decision. The purpose of the initial assessment is to identify where these future actions are required so that the appropriate schedule and funding can be determined.
 - Documentation in City asset management program or similar software as stated before is recommended.

Further Evaluation

The team conducting further evaluation may include an arborist, landscape architect, engineer, or other professionals with expertise relevant to the project details and situation. In addition to collecting information about the trees and infrastructure (i.e., sidewalk) the following additional items may be considered:

Level of impact, future risks, cost/benefit, anticipated sidewalk maintenance if the tree is kept, public/environmental benefit, community values, policy guidance, neighborhood context, historic districts, planned construction, funding forecasts.

Solutions

The following best practices and approaches are provided as examples. The City should review and update these as new or improved practices and materials emerge.

- If Tree Removed, Obtain Valuation. If the tree must be removed, the City should provide guidelines to replace the removed tree. Guidelines should be based on City Code, the Zoning Ordinance, and the City guidelines. Ideally, the tree would be replaced at the same location if the site is suitable for trees in the first place. If not possible, the City should have a procedure in place for the relocation of replacement trees.
- If Tree is Retained, Determine Management Approach. Since the initial assessment offered the opportunity to closely examine the tree and the site, future management approaches and decisions should be discussed and documented. These include future tree replacement species for when the tree does over mature and decline or conduct corrective actions to provide clearance for pedestrians, vehicles, utilities, and signs.
- Identify Potential Sidewalk Solutions. The Alternative Solutions Toolkit Overview section provides information and resources regarding sidewalk solution options. Information gathered during the initial assessment and subsequent site visits will support the selection of options that should be presented to the property owner, developer, or City staff to ensure goals of sidewalk repair and tree preservation are kept.
- Identify Opportunities to Improve Conditions for New Trees. When trees are planted by the City, the appropriate tree species for the location should be determined and the City should adhere to best practices in site and tree pit preparation to provide enough soil volume to support tree root growth and minimize future pavement damage by roots. If a tree is being planted at or near where the tree removal request was made, an evaluation of why the request was made should be considered. This may include such things as inadequate soil volume, insufficient growing space, tree leaf litter, messy fruit, poor structure, allergies, screening of shade-intolerant garden or landscape vegetation, or a combination of factors.

Project Implementation

Whether the sidewalk repair is occurring at a location where the tree is retained or removed, the sidewalk must adhere to the Americans with Disabilities Act (ADA) requirements and City standards and is the responsibility of the adjacent property owner. Tree repaving projects, curb and gutter repairs, and other Capital Projects should also adhere to this evaluation process. Policy in Wilsonville describes City staff's responsibility for maintenance, removal or remediation of City-owned trees or in the case of a public safety hazard. Most trees in the right-of-way are the responsibility of the adjacent property owners. Regarding tree maintenance, mitigation, or removal of City-owned trees, the City should involve the public by:

- Providing a public notice prior to the initial tree assessment.
- Share the results of the initial assessment.
- Share the solution decision.

Example Initial Assessment Checklist for Tree Conflicts

This resource can be adapted for the City of Wilsonville to make decisions regarding tree removals and tree and hardscape (i.e., sidewalks) conflicts.

INITIAL ASSESSMENT CHECKLIST

[CITY LOGO]

[City of #####] Trees and Sidewalks Operations Plan
Initial Street Tree and Sidewalk Assessment Checklist

DATE

Prepared By:

The purpose of this document is to outline **INITIAL ASSESSMENT** for locations where sidewalk work is located within the dripline of an existing street tree.

<i>Project Location/Address</i>	
<i>Tree Species/Diameter</i>	
<i>Street Classification/Type</i>	
<i>Tree Asset Inventory ID</i>	
<i>Sidewalk Segment #</i>	
<i>Is this assessment along a corridor project?</i>	

An [ENGINEER] and [ARBORIST] will look at the site and assess the condition of the sidewalk and the tree.

If the tree has the following characteristics, it should be removed/replaced pursuant to SMC 15.43.030 (C): The City's policy is to retain and preserve street trees whenever possible. Accordingly, street tree removal shall not be permitted unless the Director determines that a street tree:

1. Is a hazardous tree;
2. Poses a public safety hazard;
3. Is in such a condition of poor health or poor vigor that removal is justified; or
4. Cannot be successfully retained, due to public or private construction or development conflicts.

Initial Assessment

1. Is the tree healthy and worthy of preservation?

- Yes
- No

Describe: _____

2. Poor Health – Is this tree in a condition of poor health or poor vigor that cannot be mitigated by any means other than removal?

- Yes
- No

Describe: _____

3. Hazardous Tree— Defined in [CITY CODE CITATION] any tree or tree part that poses a high risk of damage to persons using, or property located in the public place, as determined by the [AUTHORITY] according to the tree hazard evaluation standards established by the International Society of Arboriculture.

- Yes
- No

Describe: _____

4. Minimum Standards—Is there enough space for a [6 foot wide sidewalk and a 5 foot wide] planting strip?

Yes

No

Describe: _____

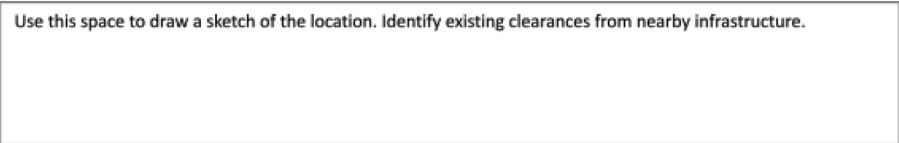
5. Public Safety Hazard—Does the tree present a public safety hazard that cannot be mitigated by any means other than removal?

- Does the tree location obstruct the visibility for pedestrians, cyclists, and/or cars at an intersection?
- Is the tree impacting a curb ramp such that it no longer meets City of [CITY] ADA requirements?
- Is the tree potentially impacting private property?

Yes

No

Use this space to draw a sketch of the location. Identify existing clearances from nearby infrastructure.



Recommendation for this tree:

–Remove Tree / Replace Sidewalk

A tree is identified to be removed if it is not healthy or if it is hazardous as identified in the Street Tree Ordinance.

–Keep Tree and Maintain Sidewalk

A tree will be kept and the sidewalk will be maintained if a sidewalk of standard width and a tree pit of standard width (at a minimum) can be installed or retained around a healthy tree.

–Evaluate Sidewalk and/or Tree Further

[DEPARTMENT] views trees and sidewalks as important public infrastructure assets. [DEPARTMENT] intends to keep healthy trees and have accessible sidewalks. If standard widths cannot be met then [DEPARTMENT] will take the time and resources to evaluate if alternative approaches (such as sidewalk width reduction, alternative sidewalk materials, adjustments to the tree pit and/or tree root pruning) can be used to retain a tree and provide an accessible sidewalk at problem locations.

NEXT STEPS

If Tree is REMOVED –Replace the removed tree with the minimum 2:1 replacement ratio. Identify if the replacement trees can be located in the same location or on the same street as the removed tree. If not, replacements should be planted as close to the removal as geographically feasible. Identify the estimated cost to remove the tree(s), repair the sidewalk, and plant replacement trees.

If Tree is KEPT –Estimate the cost of the sidewalk repair that would achieve the desired lifecycle for the repair. Estimate sidewalk and tree maintenance needs/costs and any maintenance to the tree that is being retained (e.g., root pruning, branch pruning, soil amendments).

If EVALUATE Further – Use Tree and Sidewalk Evaluation Form (IN DEVELOPMENT) and/or the tree risk assessment should follow ISA TRAQ guidelines:
<http://www.isa-arbor.com/education/onlineresources/basicreeriskassessmentform.aspx>

Arborist	Engineer
Title	Title
Date	Date

Alternative Solutions Toolkit Overview

MATERIAL	<p>PAVING AND OTHER SURFACE MATERIALS</p> <p>These materials can be used to create a walkable surface or to delineate space for people and/or the tree.</p>
DESIGN	<p>INFRASTRUCTURE-BASED DESIGN SOLUTIONS</p> <p>These design considerations can be employed to support a tree and/or sidewalk.</p>
ROOT	<p>ROOTZONE-BASED MATERIALS</p> <p>These tools can support tree health and guide tree growth below ground.</p>
TREE	<p>TREE-BASED SOLUTIONS</p> <p>These solutions are focused on tree selection and tree maintenance.</p>

Table 48. Description of possible alternative solutions for tree and construction conflicts.

TOOL TYPE	TOOLS	PRO-ACTIVE	RESPON-SIVE	COST	EXPECTED USEFUL LIFE			
					MONTH/YEAR/DECADE/CENTURY			
Material	Paving and Other Surface Materials							
	Asphalt	P	R	\$\$\$	M	Y	D	C
	Expansion Joints	P	R	\$	M	Y	D	C
	Pavers	P	R	\$\$-\$\$\$	M	Y	D	C
	Pervious Concrete	P	R	\$\$\$-\$\$\$\$	M	Y	D	C
	Reinforced or Thicker Slab	P	R	\$\$-\$\$\$	M	Y	D	C
	Rockery / Wall	P	R	\$\$-\$\$\$\$	M	Y	D	C
	Beveling	P	R	\$\$	M	Y	D	C
	Porous Asphalt	P	R	\$\$-\$\$\$	M	Y	D	C
	Shims	P	R	\$	M	Y	D	C
	Tree Guards and Tree Rails	P	R	\$\$-\$\$\$	M	Y	D	C
	Decomposed Granite	P	R	\$\$-\$\$\$	M	Y	D	C
	Mudjacking (Concrete Leveling)	P	R	\$\$-\$\$\$\$	M	Y	D	C
Design	Infrastructure-Based Design Solutions							
	Monolithic Sidewalk	P	R	\$\$\$	M	Y	D	C
	Pavement Thickness	P	R	\$\$\$	M	Y	D	C
	Tree Pit Sizing	P	R	\$	M	Y	D	C
	Bridging	P	R	\$\$\$\$	M	Y	D	C
	Curb Bulbs	P	R	\$\$\$-\$\$\$\$	M	Y	D	C
	Curb Realignment	P	R	\$\$\$-\$\$\$\$	M	Y	D	C
	Curving or Offset Sidewalk	P	R	\$\$-\$\$\$	M	Y	D	C
	Easement	P	R	\$\$-\$\$\$	M	Y	D	C
	Suspended Pavement Systems	P	R	\$\$\$-\$\$\$\$	M	Y	D	C
	Lowered Sites	P	R	\$\$\$-\$\$\$\$	M	Y	D	C
Soil Volume	P	R	\$\$-\$\$\$	M	Y	D	C	

TOOL TYPE	TOOLS	PRO-ACTIVE	RESPON-SIVE	COST	EXPECTED USEFUL LIFE MONTH/YEAR/DECADE/CENTURY			
Root	Rootzone-Based Materials							
	Mulch	P	R	\$	M	Y	D	C
	Root Barriers	P	R	\$	M	Y	D	C
	Continuous Trenches	P	R	\$\$\$	M	Y	D	C
	Foam Underlay	P	R	\$\$-\$	M	Y	D	C
	Modified Gravel Layer	P	R	\$	M	Y	D	C
	Root Paths	P	R	\$\$-\$	M	Y	D	C
	Soil Modification	P	R	\$\$-\$	M	Y	D	C
	Steel Plates	P	R	\$\$-\$-\$	M	Y	D	C
	Structural Soils	P	R	\$\$-\$-\$-\$	M	Y	D	C
Subsurface Aeration / Irrigation	P	R	\$	M	Y	D	C	
Tree	Tree-Based Solutions							
	City Forestry Street Tree List	P	R	\$	M	Y	D	C
	Corrective Pruning	P	R	\$\$-\$	M	Y	D	C
	Root Pruning	P	R	\$\$-\$	M	Y	D	C

*General cost notes:

- Sidewalk material costs, when given in linear feet, assume 6-foot sidewalk width
- Costs are planning-level costs and will vary for actual construction
- Costs do not include design, permitting, or other “soft” costs
- Costs not included in tool costs but which would be necessary with use of some solutions include:
 - Drainage structure and connection
 - Curb ramps

Figure 34. Example of alternative solutions for tree and construction conflicts



Decomposed Granite



Mudjacking



Bridging



Bulbouts



Curb Realignment



Easement



Suspended Pavement



Root Barriers



Foam Underlay



Mod. Gravel Layer



Structural Soils



Root Paths



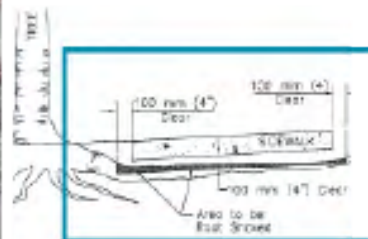
Corrective Pruning



Root Pruning



Root Shaving



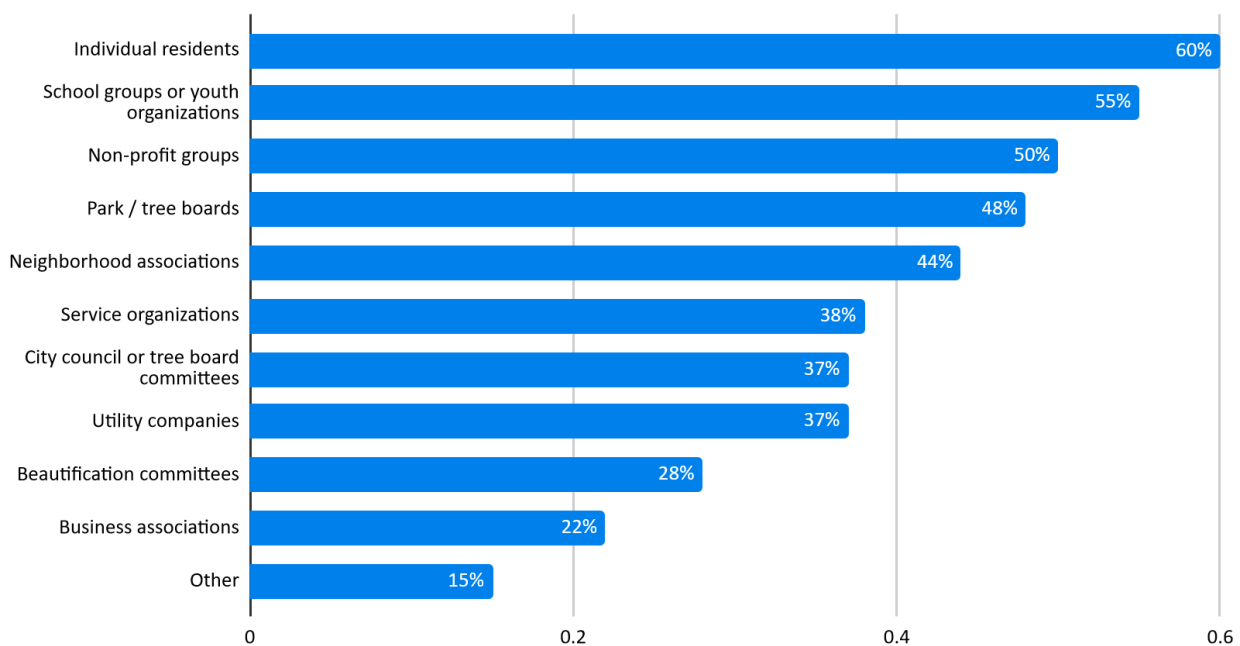
Source of Material Examples & Images:



APPENDIX H. EXISTING AND POTENTIAL URBAN FORESTRY PARTNERS

To manage a sustainable and thriving urban forest a network of supporting partnerships is necessary. With the diverse land ownership types, the extent of social and environmental pressures, and the wide variety of available funds and other resources, planting and the care of urban forests is extremely challenging. Success is increasingly reliant on different interest groups sharing a common ambition, working together in partnership, and leveraging their respective strengths. Urban forestry needs to be delivered at a strategic scale if it is to provide a full range of environmental, social, and economic benefits to the residents of Wilsonville. Therefore, there needs to be an effective and integrated working relationship across public, private, voluntary, and community sectors-with contributions of land, skills, and finance from the widest possible range of partners. This section provides an overview of the importance of partnerships from which the City can utilize as it strives to achieve the goals of the Urban Forest Management Plan.

Figure 35. Groups that support tree care or management based on a survey of 317 communities (Hauer et al. 2014)



The City of Wilsonville may evaluate its current partnership network and the groups listed in the figure above to identify areas for improvement. As shown in the figure, a large portion of urban forestry support comes from the individual residents though there are many unique city organizations to also consider. The City should utilize its existing network of partners to strengthen existing partnerships and identify new opportunities. Using the outcomes of the Urban Forest Management Plan and the goals for community engagement within it will provide the City's urban forestry program and partners with the tools, data, and information necessary to secure these partnerships. The following list is meant to serve as a starting point for consideration of traditional and non-traditional partners in urban forestry. As part of the Urban Forest Management Plan project, a document listing the groups by category is provided. The following list provides the overview of sectors that should be more closely reviewed with the supporting document to identify potential partners and areas where partnerships could be strengthened.

- Nonprofits/NGOs
- Wilsonville Area Organizations/Clubs
- Businesses
- Schools
- Government Organizations – County
- Government Organizations - State
- Government Organizations - Federal
- Healthcare
- Native American Tribes

APPENDIX I. STORM AND DISASTER MANAGEMENT GUIDANCE

Resources

<https://www.fs.usda.gov/naspf/sites/default/files/naspf/pdf/sotuf.pdf>

<https://www.fs.usda.gov/ccrc/topics/urban-forests>

https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/public_works/page/1101/wilsonville_addendum.pdf

<https://drive.google.com/drive/u/3/folders/1fyFSmr3LwYO1Q8wxU1A1ASNuJttDj5RC>

http://www.gicinc.org/storm_mit.htm

Guidance

Preparation – Planning and Warning Activities

1. Install and utilize early warning systems such as the National Weather Service, local news stations, local police and fire departments
2. Maintain the current disaster response plan, verify the following components are included:
 - A. Identify individual/departmental roles
 - 1) Establish an official Tree Care Manager (both for management of the urban forest resource and as the point of contact for storm mitigation efforts)
 - 2) Build a storm mitigation team
 - 3) As assigned in the City's EOP and Debris Management Plans, the Public Works Director or similar is the disaster control supervisor.
 - a) Has overall direction for storm clean-up efforts
 - b) Makes decisions relating to storm clean-up efforts and advises on the need for outside assistance (contractors, other Public Works divisions)
 - c) Is responsible for decisions relative to abandoning other divisional responsibilities in favor of storm damage clean-up efforts
 - d) Works with City Communications Director for alerting media as to the progress and problems associated with the storm
 - e) Coordinates with Natural Resources Director to prioritize response efforts
 - B. Contacts for additional support
 - 1) National level tree service firms
 - 2) Smaller, local tree service firms
 - 3) Utility specialists
3. Create a more resilient urban forest
 - A. Regular tree risk assessments
 - 1) ISA Level 1 or 2 – annually

- a) Dedicated line-item budget for assessments
 - 2) Systematic risk-reduction removals/pruning
 - b) Lightning protection systems for high-value/significant trees
 - 3) Post-storm event level 1 assessments
- B. Planting considerations for storm damage resistance
- 1) Ice Storm Susceptibility of Common Tree Species (see [Table 50](#) for susceptibility ratings of trees within the City's Recommended Tree List, [Appendix A](#))
 - a) Susceptible: Siberian elm, American elm, honeylocust, common hackberry, Bradford pear, American linden, black cherry, black locust, silver maple, pin oak, green ash
 - b) Intermediate: White ash, red maple, northern red oak, yellow poplar, sycamore, eastern white pine, sugar maple
 - c) Resistant: Yellow birch, shagbark hickory, hawthorn, horsechestnut, American hophornbeam, spruce, eastern hemlock, arborvitae, baldcypress, Norway maple, catalpa, ginkgo, sweetgum, white oak, swamp white oak, littleleaf linden, silver linden, Kentucky coffeetree, black walnut, ironwood, beech
 - d) Species that retain foliage into the fall (more susceptible to autumnal ice storms): European white birch, sweetgum, magnolia variety (*Magnolia x soulangiana*), scarlet oak, pin oak, English oak, weeping willow
 - e) Species that leaf out early (susceptible to early spring ice storms): Boxelder, yellow poplar, European mountain ash, Siberian elm
- C. Climate change considerations
- 1) Warmer winter temperatures
 - 2) Increased pest/disease due to more favorable conditions
 - 3) Increased winter precipitation
 - a) More snow and ice loading
 - b) Flooding
 - 4) Decreased summer precipitation
 - a) Drought stress
 - 5) More frequent and intense extreme weather events
 - 6) Mitigation
 - a) Reducing greenhouse gas emissions
 - Allocate resources to trees that mitigate emissions
 - Large hardwoods
 - Maintaining tree canopy
 - b) Promote energy efficiency
 - Strategically planting trees around buildings
 - Increase stormwater infiltration
 - Using wood vs steel in construction projects

7) Adaptation

- a) Planting a diverse mix of pest-tolerant, well-adapted, low-maintenance, long-lived, and drought-resistant trees ensures greater resilience
 - Species type
 - Species to avoid
- b) Planting small groves of especially water-tolerant species in areas receiving peak volumes of stormwater runoff reduces flooding and pollutant transport
- c) Establishing and adhering to regular maintenance cycles
 - Pruning young trees properly promotes strong branch attachments that are less vulnerable
- d) Distribute urban forest benefits equitably
 - Underserved populations will be disproportionately impacted by climate change – focusing on these demographic areas with urban forest solutions can help

Response – Immediate Activities during and after Natural Disasters

1. Storm damage response: IT IS RECOMMENDED THE CITY OF WILSONVILLE REFER TO THE EMERGENCY OPERATIONS PLAN, NATURAL HAZARDS MITIGATION PLAN, AND THE DEBRIS MANAGEMENT PLAN FOR STORM RESPONSE GUIDANCE. THE FOLLOWING PROVIDES GENERAL INFORMATION FOR THE CITY TO CONSIDER WHEN UPDATING THE AFOREMENTIONED PLANS.

A. Funding

- 1) Sources of assistance
 - a) State forestry/natural resources
 - b) Federal disaster relief
 - c) USDA Forest Service

B. Emergency plans and contracts

- 1) Tree damage response. CITY OF WILSONVILLE ONLY RESPONDS TO STREET TREES WITHIN THE PUBLIC RIGHTS-OF-WAY AND TREES WITHIN CITY-OWNED PROPERTY. CITY CANNOT ASSESS, CLEAR, FELL, OR REMOVE TREES ON PRIVATE PROPERTY AFTER AN EVENT.
 - a) Priority streets/corridors for first response
 - CLASS I: First, all life-threatening situations within street rights-of-way and City-owned property should be given priority. The City Fire and Police Department request technical assistance for City staff to address the concern(s) under their supervision and directions. Supervisors should make an on-site visit to determine the severity of the damage in the event of multiple hazardous situations. Crews should remedy the situation to a point where it is no longer life threatening before proceeding to the next location. Final clean up should wait until all life threatening situations are resolved and all streets have been cleared.
 - CLASS II: Second, all major City-owned property damage instances should be remedied to a point where the crisis is abated. Supervisors should personally inspect and determine the priority of the tree management program responses. Again, final clean up at those sites should wait until all streets and specialized areas are cleaned up.

- CLASS III: Third, preferential streets (considered to be all main thoroughfares) should be cleared of fallen trees and debris. State and county highway departments may be called to clear U.S., state and county routes. Because the specialized forestry skills required to abate life threatening and property damage situations would be utilized immediately, the street clearance work (in case of widespread and severe damage) may not be undertaken by tree management program personnel until sometime well after the storm has passed. In this situation, the tree manager should recommend to the Public Works Director that other public works crews be considered to assist in street clearance work. Immediate supervision of these supplementary crews would be under the direction of their respective divisions.

2) Cleanup

a) Debris disposal

- The Public Works develops a budget for normal disposal costs associated with yearly tree maintenance tasks. Major tree debris disposal will require additional funding which may be authorized by the City Manager.

b) Damage Assessment

- The Department of Public Works should immediately issue a press release detailing the magnitude of the storm and the expected clean up time. Provide direction to the Community as to how to properly handle / dispose of their debris.
- A critical tool to assist any emergency response is a current tree inventory of all publicly owned trees. Using the inventory, the City can determine the actual damage to the urban forest. Accurate damage (in dollars) can be assessed and submitted for potential reimbursements. Specific costs can be developed for the repair of the urban forest (pruning, removal, cabling, and rodding).

3) Use i-Tree storm for predictions

4) FEMA contacts/expectations

- C. Participate in the USDA Forest Service's Urban Forest Strike Team training curriculum.

Recovery – Activities to Regain or Improve upon Pre-disaster Conditions

1. Tree planting

- A. Align with a tree planting strategy that provides guidance on priority areas, tree species selection, post-planting care, and routine maintenance.
- B. Align planting with urban tree canopy goals
- C. Utilize the Citywide Recommended Tree List ([Appendix A](#)) and [Table 50](#).

2. Tree care

- A. Conduct young tree training to prevent future maintenance issues, improve structural integrity, and reduce future costs
- B. Conduct routine programmed pruning of established trees in the public tree population to reduce the risk of storm damage
- C. Inventory, assess, and monitor trees to prioritize maintenance and for information useful in prioritizing storm response

D. Implement plant health care for trees affected by pests and diseases. Implement an Integrated Pest Management program for prevention, treatment, and recovery due to pests and diseases

3. Training

- A. Provide or support tree maintenance, planting, and risk assessment training for City staff and community partners
- B. Stay current on research relating to storm disaster prevention, response, and recovery

4. Celebrations

- A. Continue to build support for the urban forest through events and programs such as the Arbor Day celebration, Tree City USA recognition, recognition programs for community tree stewards, memorial tree programs, and the Heritage Tree Program

Implementing and Adapting the 2021 Winter Storm Tree Response Plan

In response to the 2021 winter storm event, the City established and implemented the Winter Storm Tree Response Plan. The following actions were provided by the City and should be updated with the guidance provided in the previous section.

Figure 36. Overview of Wilsonville's 2021 winter storm tree response plan

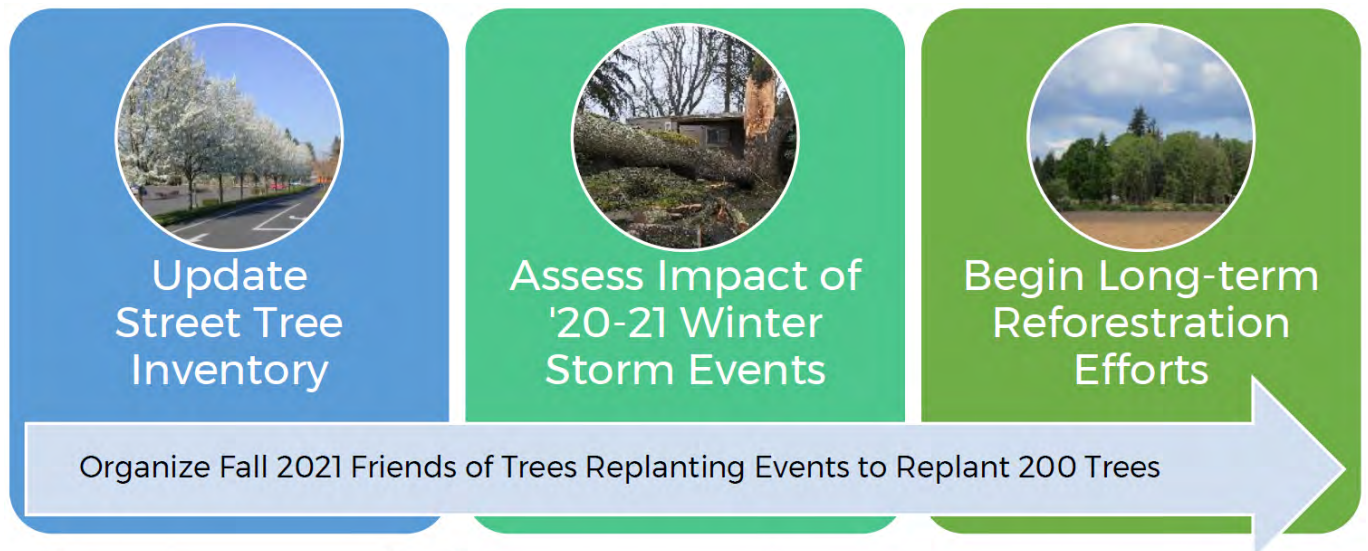


Table 49. Actions to support Wilsonville's storm tree response plan

ASSESSMENT/DATABASE		
STATUS	ACTION	LEAD*
X	Gather preliminary impressions of impact to street trees, assets on public property, Significant Resource Overlay Zone (SROZ).	CD, PWD, PRD
	Hire two interns to update asset management database (Cartegraph) - focus on street trees, then assets on public property.	PWD
	Update asset management database (Cartegraph) - Data sources: physical assessment, permit applications, community requests for debris pick-up, calls to PW and PRD for hazardous removal, etc.	CD, PWD, PRD
	Assess impact to SROZ, residential lots with SROZ, Homeowners Associations (HOAs) with SROZ and natural areas.	CD/NR
	Reconnect with and involve HOAs in assessment effort.	CD
	Determine level of impact (compare initial inventory to assessment data).	CD, PWD, PRD
	Categorize trees (removed, needs removal, needs further assessment, needs pruning, no action needed).	CD, PWD, PRD
	Use emergency arborist contracts to assess trees in "needs further assessment" category; move to other categories.	CD, PWD, PRD
	Update UFMP with new inventory data.	CD/NR
PERMIT/MITIGATION PROCESSING		
STATUS	ACTION	LEAD*
	Continue processing submitted permits and emergency tree forms.	CD
	Continue advising residents/owners on best course of action.	CD
REPLANTING EVENTS		
STATUS	ACTION	LEAD*
	Partner with Friends of Trees (FOT) for replanting; Neighborhood Trees Program for street trees; possibly Greenspaces Program in parks/open spaces/natural areas.	CD, PW, PRD
	Plan and execute two replanting days with FOT; first wave of replacement = those who sign-up, are willing, in permit process (100 trees per day, replant 200 trees. Cost = \$285 per tree— owner pays \$35, City pays \$250— \$50,000 total paid by PWD and Tree Fund).	CD, PW, PRD
	Use "best tree, best location" replanting method; be aware of potential utility conflicts.	
	Assess effect of replanting effort - compare new plantings with updated inventory.	CD, PW, PRD
	Identify areas still needing replanting - hardest hit, low level replanting, etc.	CD, PW, PRD
	Assess need for future planting events.	CD, PW, PRD

Table 49. Actions to support Wilsonville’s storm tree response plan (continued)

OUTREACH/EDUCATION		
STATUS	ACTION	LEAD*
	Share information about best practices for damage assessment, salvage, proper pruning, tree first aid in BFM, on website, etc.	CD, ADM
	Share best practices information with HOAs.	CD, ADM
	Based on asset management update, reach out to owners of "needs removal" trees to initiate emergency removal process.	CD
	Share information about replanting program and best practices.	CD, ADM
	Consider direct mailing of information on best practices.	CD, ADM
	Reconnect with HOAs to assist in replanting.	CD
	Connect with commercial property owners to provide information about permitting and mitigation best practices.	CD

LONG-TERM REFORESTATION		
STATUS	ACTION	LEAD*
	Identify long-term reforestation plan	CD, PW, PR

- RESOURCE LINKS**
- [How to Make Trees Storm Resistant \(TCUSA Bulletin No. 75\)](#)
 - [Tree First Aid After A Storm \(ODF\)](#)
 - [Can These Trees Be Saved? \(ODF\)](#)
 - [An Oregon Homeowner's Guide to Tree Care](#)
 - Wilsonville Street Tree List (most recent revision, [Appendix A](#), and Table 50)

*Lead = City Departments or Divisions: CD = Community Development; PW = Public Works Department; PR = Parks and Recreation Department; ADM = Administrative

Table 50. Trees in the City’s Recommended Tree Species List ([Appendix A](#)) and storm susceptibility*

COMMON NAME	SCIENTIFIC NAME	STORM SUSCEPTIBILITY
Dawyck Purple Beech	<i>Fagus sylvatica</i> 'Dawyck Purple'	Resistant
Roble Beech	<i>Nothofagus obliqua</i>	Resistant
Fernleaf Beech	<i>Fagus sylvatica</i> 'Asplenifolia'	Resistant
Rivers Purple Beech	<i>Fagus sylvatica</i> 'Riversii'	Resistant
Copper Beech	<i>Fagus sylvatica</i> 'Atropurpurea'	Resistant
Japanese Chinquapin	<i>Castanopsis cuspidata</i>	Resistant
Tricolor Beech	<i>Fagus sylvatica</i> 'Roseomarginata'	Resistant
Chinese Catalpa	<i>Catalpa ovata</i>	Resistant
Hybrid Catalpa	<i>Catalpa xerubescens</i> 'Purpurea'	Resistant
Northern Catalpa	<i>Catalpa speciosa</i>	Resistant
Natchez Crape Myrtle	<i>Lagerstroemia</i> 'Natchez'	Resistant
Bald Cypress	<i>Taxodium distichum</i>	Resistant

Table 50. Trees in the City's Recommended Tree Species List ([Appendix A](#)) and storm susceptibility* (continued)

COMMON NAME	SCIENTIFIC NAME	STORM SUSCEPTIBILITY
Shawnee Brave® Bald Cypress	<i>Taxodium distichum</i> 'Mickelson'	Resistant
Saratoga Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Saratoga'	Resistant
Halka Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Halka'	Resistant
Fairmount Ginkgo Biloba	<i>Ginkgo biloba</i> 'Fairmount'	Resistant
Shangri-La Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Shangri-La'	Resistant
Princeton Sentry Ginkgo	<i>Ginkgo biloba</i> 'Princeton Sentry'	Resistant
Emperor Ginkgo biloba	<i>Ginkgo biloba</i> 'Emperor'	Resistant
Presidential Gold® Ginkgo biloba	<i>Ginkgo biloba</i> 'The President'	Resistant
Autumn Gold Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Autumn Gold'	Resistant
Golden Colonade® Ginkgo Biloba	<i>Ginkgo Biloba</i> 'JFS-UGA2'	Resistant
Magyar Ginkgo Biloba	<i>Ginkgo Biloba</i> 'Magyar'	Resistant
Lavalle Hawthorn	<i>Crataegus X lavalleeii</i>	Resistant
Western Hemlock	<i>Tsuga heterophylla</i>	Resistant
American Hophornbeam	<i>Ostrya virginiana</i>	Resistant
California Buckeye	<i>Aesculus californica</i>	Resistant
Red Horsechestnut	<i>Aesculus x carnea</i>	Resistant
Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	Resistant
Espresso™ Kentucky Coffeetree	<i>Gymnocladus dioicus</i> 'Espresso-JFS'	Resistant
True North™ Kentucky Coffee-tree	<i>Gymnocladus dioicus</i> 'UMNSynergy'	Resistant
Harvest Gold Littleleaf Linden	<i>Tilia</i> 'Harvest Gold'	Resistant
Silver Linden	<i>Tilia tomentosa</i> 'Sterling'	Resistant
Greenspire® Littleleaf Linden	<i>Tilia cordata</i> 'PNI 6025'	Resistant
Coast Live Oak	<i>Quercus agrifolia</i>	Resistant
Interior Live Oak	<i>Quercus wislizenii</i>	Resistant
Holly Oak	<i>Quercus ilex</i>	Resistant
California Black Oak	<i>Quercus kelloggii</i>	Resistant
Bur Oak	<i>Quercus macrocarpa</i>	Resistant
Canyon Live Oak	<i>Quercus chrysolepis</i>	Resistant
Southern Live Oak	<i>Quercus virginiana</i>	Resistant
Swamp White Oak	<i>Quercus bicolor</i>	Resistant
Oregon White Oak	<i>Quercus garryana</i>	Resistant
Gum Drop® Tupelo	<i>Nyssa sylvatica</i> 'JFS-PN Legacy1'	Resistant
Afterburner® Black Tupelo	<i>Nyssa sylvatica</i> 'David Odom'	Resistant
Wildfire Black Tupelo	<i>Nyssa sylvatica</i> 'Wildfire'	Resistant
Black Tupelo	<i>Nyssa sylvatica</i> 'Firestarter'	Resistant

Table 50. Trees in the City's Recommended Tree Species List ([Appendix A](#)) and storm susceptibility* (continued)

COMMON NAME	SCIENTIFIC NAME	STORM SUSCEPTIBILITY
Red Rage® Black Tupelo	<i>Nyssa sylvatica</i> 'Haymanred'	Resistant
Sheri's Cloud Black Tupelo	<i>Nyssa sylvatica</i> 'Sheri's Cloud'	Resistant
English Walnut	<i>Juglans regia</i> 'Carpathian'	Resistant
Tuscarora Crape Myrtle	<i>Lagerstroemia</i> 'Tuscarora'	Intermediate
Muskogee Crape Myrtle	<i>Lagerstroemia</i> 'Muskogee'	Intermediate
Exclamation™ London Plane-tree	<i>Platanus xacerifolia</i> 'Morton Circle'	Intermediate
Bloodgood London Planetree	<i>Platanus x acerifolia</i> 'Bloodgood'	Intermediate
Columbia London Planetree	<i>Platanus x acerifolia</i> 'Columbia'	Intermediate
Yarwood London Planetree	<i>Platanus x acerifolia</i> 'Yarwood'	Intermediate
Liberty London Planetree	<i>Platanus x acerifolia</i> 'Liberty'	Intermediate
October Glory Red Maple	<i>Acer rubrum</i> 'October Glory'	Intermediate
Red Sunset Maple	<i>Acer rubrum</i> 'Franksred' REDSUNSET	Intermediate
Armstrong Red Maple	<i>Acer rubrum</i> 'Armstrong'	Intermediate
Bambooleaf Oak	<i>Quercus myrsinifolia</i>	Intermediate
Silverleaf Oak	<i>Quercus hypoleucoides</i>	Intermediate
Forest Green® Oak	<i>Quercus frainetto</i> 'Schmidt'	Intermediate
Blue Oak	<i>Quercus douglasii</i>	Intermediate
Cork Oak	<i>Quercus suber</i>	Intermediate
Sawtooth Oak	<i>Quercus acutissima</i>	Intermediate
Willow Oak	<i>Quercus phellos</i>	Intermediate
Chinkapin Oak	<i>Quercus muehlenbergii</i>	Intermediate
Red Oak	<i>Quercus rubra</i>	Intermediate
Shumard Oak	<i>Quercus shumardii</i>	Intermediate
Canby Oak	<i>Quercus canbyi</i>	Intermediate
Hungarian Oak	<i>Quercus frainetto</i>	Intermediate
Valley Oak	<i>Quercus lobata</i>	Intermediate
Oracle Oak	<i>Quercus xmorehus</i>	Intermediate
Monterrey Oak	<i>Quercus polymorpha</i>	Intermediate
City Sprite® Japanese Zelkova	<i>Zelkova serrata</i> 'JFS-KW1'	Intermediate
Wireless® Japanese Zelkova	<i>Zelkova serrata</i> 'Schmidtlow'	Intermediate
Village Green® Japanese Zelkova	<i>Zelkova serrata</i> 'Village Green'	Intermediate
Green Vase® Japanese Zelkova	<i>Zelkova serrata</i> 'Green Vase'	Intermediate
Scarlet Oak	<i>Quercus coccinea</i>	Intermediate, Late Fall Foliage
Tuliptree	<i>Liriodendron tulipifera</i>	Intermediate, Early Spring Foliage

Table 50. Trees in the City's Recommended Tree Species List ([Appendix A](#)) and storm susceptibility* (continued)

COMMON NAME	SCIENTIFIC NAME	STORM SUSCEPTIBILITY
Valley Forge American Elm	<i>Ulmus americana</i> 'Valley Forge'	Susceptible
Jefferson American Elm	<i>Ulmus americana</i> 'Jefferson'	Susceptible
Princeton American Elm	<i>Ulmus americana</i> 'Princeton'	Susceptible
Hackberry	<i>Celtis occidentalis</i>	Susceptible
Halka® Honeylocust	<i>Gleditsia triacanthos</i> 'Christie'	Susceptible
Shademaster Honeylocust	<i>Gleditsia triacanthos</i> 'Shademaster'	Susceptible
Skyline® Honeylocust	<i>Gleditsia triacanthos</i> 'Skycole'	Susceptible
Redmond American Linden	<i>Tilia americana</i> 'Redmond'	Susceptible
Willamette Valley Ponderosa	<i>Pinus ponderosa</i> x <i>benthamiana</i>	Susceptible

* Storm Susceptibility ratings are based on USDA Forest Service and University of FL Institute of Food and Agricultural Sciences research. Rating does not guarantee susceptibility or resistance to any listed species.



URBAN FOREST
MANAGEMENT PLAN
WILSONVILLE, OREGON

OCTOBER 2021

HEALTHY TREES, HEALTHY CITY



*Back cover photo courtesy of Sandy Wilson, winner of the UFMP photo contest,
November 2020*



WILSONVILLE'S URBAN FOREST MANAGEMENT PLAN



A PRESENTATION OF THE UFMP TO THE WILSONVILLE PLANNING COMMISSION



OCTOBER 2021



WELCOME & INTROS



Chris Peiffer, Project Manager
PlanIT Geo



Kerry Rappold, Natural Resources Manager
City of Wilsonville



May 2020 – December 2021

- ✓ May 2020 Project Kickoff
- ✓ Jul 2020 Tree Inventory
- ✓ Aug 2020 Research & Discovery
- ✓ Sept 2020 Survey & Meeting #1
- ✓ Oct 2020 City Staff Workshop
- ✓ Nov 2020 Survey & Meeting #2
- ✓ Jan – Mar 2021 Plan Drafting
- ✓ Sept 2021 PC Presentation
- Oct – Dec 2021 Draft Plan with PC
- Council Study Session
- Plan Adoption with PC
- Plan Adoption with Council

AGENDA

➔ **Welcome & Intros**

➔ **Project Overview**

➔ **Plan Highlights**

➔ **Urban Forest Vision & Goals**

➔ **Actions to Support Goals**

➔ **Summary & Next Steps**

➔ **Open Discussion**



Source: Let's Talk, Wilsonville!

OVERVIEW OF PLANNING APPROACH



Tree Management Policy (MP)

Capacity, Training, and Authority (CT)

Assessments and Plans (AP)

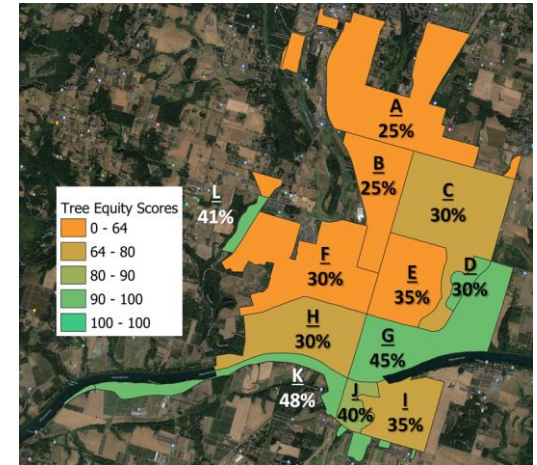
Community Engagement (CE)

Green Asset Management (GA)

UFMP HIGHLIGHTS

Urban Forest Analysis

- Updated Tree Inventory
- Inventory Analysis
- Ecosystem Services and Benefits
- Tree Equity Analysis
- Focus Areas
- Benchmarking Research
- Urban Forest Audit
- Research Summary



\$1.9M



4.6M Gal



7k lbs



14M lbs C



\$1.8M



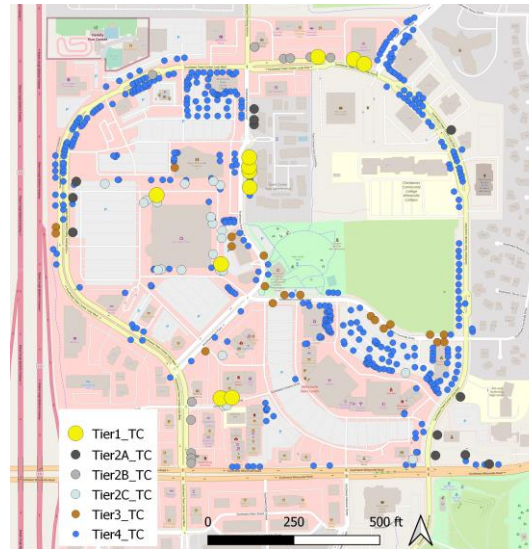
\$64k

Description	Overall (% Achieved)
Management Policy and Ordinances	71%
Professional Capacity and Training	63%
Funding and Accounting	58%
Decision and Management Authority	63%
Inventories	46%
Urban Forest Management Plans	50%
Risk Management	61%
Disaster Planning	43%
Standards and BMPs	63%
Community	89%
Green Asset Evaluation	55%
Total	62%

UFMP HIGHLIGHTS

Urban Forest Management

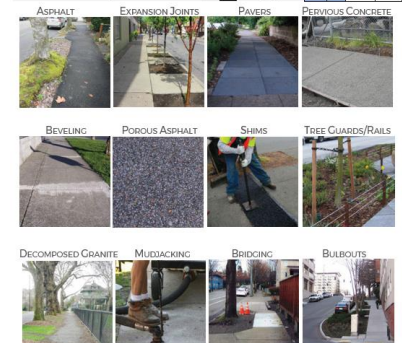
- Staff Interviews
- Focus Area Tree Preservation
- Focus Area Tree Removals
- Storm Prep and Response
- Recommended Tree List
- Canopy Goal Setting
- Tree Planting Prioritization
- Funding Mechanisms
- Trees and Hardscape Conflicts Solutions



LARGE-STATURED TREES (SHORTENED)

Tree Type	Common Name	Scientific Name	Height x Width (ft)	Features	Slater Climate City Tree?
Kentucky Coffeetree	Espresso™ Kentucky Coffeetree	<i>Gymnocladus dioica</i> Espresso-JFS	60 x 40	Fall color	Y
Kentucky Coffeetree	True North™ Kentucky Coffeetree	<i>Gymnocladus dioica</i> UMN/Synergy	60 x 40	Fall color	Y
Linden	Greenspire® Littleleaf Linden	<i>Tilia cordata</i> PNI 6025	50 x 40	Fall color	Y
Linden	Redmond American Linden	<i>Tilia americana</i> 'Redmond'	45 x 35	Fall color	Y
London Planetree	Exclamation™ London Planetree	<i>Platanus xacerifolia</i> 'Morton Circle'	55 x 40	Unique bark	
London Planetree	Bloodgood London Planetree	<i>Platanus X acerifolia</i> 'Bloodgood'	55 x 40	Unique bark	
London Planetree	Columbia London Planetree	<i>Platanus X acerifolia</i> 'Columbia'	55 x 40	Unique bark	
London Planetree	Yarwood London Planetree	<i>Platanus X acerifolia</i> 'Yarwood'	55 x 40	Unique bark	
London Planetree	Liberty London Planetree	<i>Platanus xacerifolia</i> 'Liberty'	55 x 40	Unique bark	
Madrone	Pacific Madrone	<i>Arbutus menziesii</i>	80 x 25	Evergreen, flowers, unique bark	
Magnolia	Cucumber Magnolia	<i>Magnolia acuminata</i>	50 x 40	Flowers, unique leaf	
Maple	Autumn Blaze Maple	<i>Acer x freemanii</i> 'Jeffersred'	55 x 40	Fall color	
Maple	Scarlet Sentinel Maple	<i>Acer rubrum</i> 'Scarsen' 'Scarsen'	45 x 25	Fall color	
Maple	Bigleaf Maple	<i>Acer macrophyllum</i>	75 x 75	Fall color	
Maple	October Glory Red Maple	<i>Acer rubrum</i> 'October Glory'	50 x 40	Fall color	Y
Maple	Red Sunset Maple	<i>Acer rubrum</i> 'Franksred RED SUNSET'	50 x 40	Fall color	Y
Maple	Hedge Maple	<i>Acer campestre</i>	35 x 35	Unique leaf	
Maple	Armstrong Red Maple	<i>Acer rubrum</i> 'Armstrong'	70 x 15	Fall color	Y
Maple	Green Column Black Maple	<i>Acer saccharum</i> subsp. 'nigrum' 'Green Column'	70 x 30	Fall color	
Maple	Queen Elizabeth Hedge Maple	<i>Acer campestre</i> 'Evelyn'	35 x 35	Fall color	

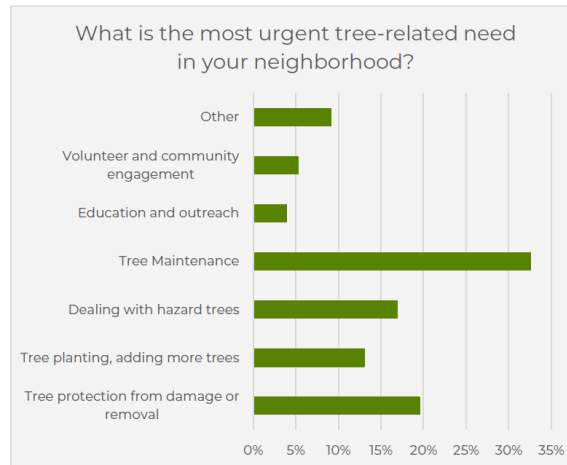
TOOL TYPE	TOOLS	PRODUCTIVE RESPONSE	COST*	EXPECTED USEFUL LIFE			
				Month	Year	Decade Century	
ROOT	ROOTZONE-BASED MATERIALS						
	Mulch	P R	\$	M	Y	D	C
	Root Barriers	P R	\$	M	Y	D	C
	Continuous Trenches	P R	\$\$\$	M	Y	D	C
	Foam Underlay	P R	\$-\$	M	Y	D	C
	Modified Gravel Layer	P R	\$	M	Y	D	C
	Root Paths	P	\$-\$	M	Y	D	C
	Soil Modification	P R	\$-\$	M	Y	D	C
	Steel Plates	P R	\$\$-\$\$\$	M	Y	D	C
	Structural Soils	P R	\$\$-\$\$\$	M	Y	D	C
Subsurface Aeration / Irrigation	P R	\$\$	M	Y	D	C	
TREE	TREE-BASED SOLUTIONS						
	City Forestry Street Tree List	P R	\$	M	Y	D	C
	Corrective Pruning	P R	\$-\$	M	Y	D	C
	Root Pruning	P R	\$-\$	M	Y	D	C



UFMP HIGHLIGHTS

Community Engagement

- Two Online Surveys
- Two Public Meetings
- Photo Contest
- Let's Talk, Wilsonville!
- Boones Ferry Messenger
- Existing and Potential Partners



Home » Urban Forest Management Plan

Urban Forest Management Plan



Project Purpose

Urban trees and forests are considered integral to the sustainability of cities as a whole. Yet, sustainable urban forests are not born, they are made. They do not arise or redden, but result from a community-wide commitment to their creation and management.

—Clark et al. Urban Forest Sustainability, Journal of Arboriculture, 1997

About

Wilsonville cares about its trees. The City has been designated a "Tree City USA" by the Arbor Day Foundation every year since 1987.

Caring for the urban forest is an important part of growing a sustainable, healthy and vibrant city. Wilsonville's urban forest is comprised of all trees, both native and planted, that contribute to the seasonal beauty and livability of our community. Whether it is a majestic 200-year old Oregon white oak or a young flowering cherry, trees greatly contribute to our sense of place and quality of life; they clean the air, conserve the soil and water, reduce heating and cooling costs, and bring nature close to home.

Who's Listening

Kerry Rappold
Natural Resources Manager
City of Wilsonville
Phone: 503-570-1570
Email: rrapold@city.wilsonville.or.us

Christopher Peiffer
Director of Urban Forestry
Consulting Services
Plant1 CEO
Phone: 833-TREE-MAP
Email: christopher@plant1go.com

Key Dates

Photo Contest
September 01 — October 30 2020

Community Meeting #2
November 17 2020

Community Survey #2
November 16 — December 04 2020



September 2020

THE CHARBONNEAU VILLAGER 23

Enhancing the urban forest in Wilsonville

Wilsonville's Natural Resources Program helps develop management plan for trees

AN ENVIRONMENTAL PRIORITY

The urban forest in Wilsonville is comprised of all trees in the city, both native and planted, that contribute to the seasonal beauty and livability of the community. Whether it is a majestic 200-year old Oregon white oak, or a young flowering cherry, trees greatly contribute to the sense of place and quality of life in Wilsonville. Trees help clean the air, conserve the soil and water, reduce heating and cooling costs and bring nature close to where we live. Wilsonville's urban forest is a valuable asset that, if maintained, will continue to add to the health of our community for generations to come.

The commitment to a healthy urban forest is evidenced by Wilsonville receiving the recognition as a Tree City USA by the Arbor Day Foundation every year since 1987.

The city has been granted numerous "Growth Awards" from the Arbor Day Foundation for outstanding efforts on urban forest projects. This status indicates the city's long-term dedication to the care of trees comprising the urban forest as well as the City's Heritage Tree Program, which seeks to preserve trees of special historical significance. Based on a 2018 inventory, the city has over 24,000 street trees but so strategic plans for maintaining and growing this urban forest, until now.

To create a future vision for Wilsonville's urban forest, the City of Wilsonville has begun the process of developing the Urban Forest Management Plan ("UFMP") with Plant1's urban forestry consultants. This plan will provide an integrated approach to preserving, sustaining, and regenerating Wilsonville's urban forest into the future. While the plan will

cover the entire city, it will have two special focus areas: Charbonneau and Town Center. By conducting an inventory of trees and gathering input from the community, the goals, objectives, strategies, actions and monitoring techniques will be developed for urban forest management in those focus areas and citywide.

Instrumental to the development of this plan, is the participation from the community.

This project, which will run through spring 2021, includes a series of virtual public meetings and online surveys to provide information and to gather feedback by listening to the viewpoints of the community. On Sept. 1, the first online survey will be posted on the Let's Talk, Wilsonville website to gather input from the public relating to urban forest benefits, tree-related issues, tree maintenance and planting needs, and risks to the urban forest. Following up on the first public survey, a virtual recorded community meeting will be

held Sept. 15 to raise awareness and provide background on the project. It will be an interactive online meeting to encourage participation in the planning process.

We all benefit from the proper care and enhancement of the urban forest in Wilsonville and ensuring we're growing a sustainable, healthy and vibrant city. These goals cannot be achieved without the input of its residents and a shared commitment and partnership with the city. Together, we will develop a strategic plan that will sustain the city's character shaped by the urban forest, maintain public safety, establish a sustainable and resilient urban forest, strengthen and create new partnerships, and grow a healthy urban forest to benefit all who live, work, and play in the City of Wilsonville.

For more information, visit the Let's Talk, Wilsonville website. For questions and comments please contact the Kerry Rappold, natural resources program manager, at 503-570-1570 or rrapold@city.wilsonville.or.us.



ADVERTISE IN THE VILLAGER!
Reach every resident in Charbonneau.

Contact Jesse Marichaux
971-204-7774
jessem@pamplinmedia.com



UFMP HIGHLIGHTS

Goal and Action Framework

- 25-Year Horizon
- Urban Forest Vision
- Tree Canopy and Equity Goal
- Management, Staffing, Assessments
- Plans, Engagement, Tree Management
- Evaluation and Monitoring Plan



- TREE MANAGEMENT POLICY (MP):**
The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.
- CAPACITY, TRAINING, AND AUTHORITY (CT):**
Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.
- ASSESSMENTS AND PLANS (AP):**
A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.
- COMMUNITY ENGAGEMENT (CE):**
Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.
- GREEN ASSET MANAGEMENT (GA):**
Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

PRIORITY	EFFORT	ACTION # ORDER	TREE MANAGEMENT POLICY (MP) ACTIONS	CO-BENEFITS**	LEAD* & TARGET YEAR	ACTION TARGET 1	ACTION TARGET 2	ACTION TARGET 3
High	High	MP.01 11	Support canopy goals in Town Center with effective tree preservation policies (i.e., City Code 4.600 - 4.640.20). Use Appendix B-E as guidance.	● ● ● ● C H E N	CD, PW 2022	MP.01: Guidance in Appendix B-E of the UFMP is reviewed and incorporated accordingly (Year 1)	MP.01: Tree preservation policies are enforced in Town Center (Year 1)	MP.01: The City has staffing levels to adequately monitor development projects and enforce tree preservation policies to achieve canopy goals in Town Center (Year 25)
Low	High	MP.02 15	Strengthen storm and disaster preparations, mitigations, recovery strategies, and protocols (see Appendix I), protocols, and mechanisms, including flexibility related to obvious tree removals to shorten the permitting process.	● ● ● ● C H E N	CD, PR, PW 2022	MP.02: Appendix I is reviewed and a strategy is developed (Year 1)	MP.02: A plan or manual detailing storm and disaster preparation, response, and mitigation is updated (Year 2)	MP.02: The plan or manual is actively utilized and reduces costs of storm response. The urban forest is more resilient (Year 25)
High	Low	MP.03 27	Complete a comprehensive high-resolution urban tree canopy (UTC) assessment using industry recommended protocols to measure progress towards canopy goals and tree equity.	● ● ● ● C H E N	CD, PW 2025	MP.03: A decision on in-house or consultant-led tree canopy assessment is determined (Year 3)	MP.03: A budget proposal is prepared if needed (Year 4)	MP.03: An urban tree canopy assessment is completed and canopy goals are established, supported by Master Tree Planting Plans (Year 5)
Low	High	MP.04 30	Develop a tree manual for planners, developers, homeowners, and tree care companies that includes tree-related policies, guidelines, best practices, and standards.	● ● ● ● C H E N	CD 2026	MP.04: A statement of need and an outline for the tree manual(s) is prepared (Year 4)	MP.04: A decision on in-house or consultant-led manual is determined (Year 5)	MP.04: Tree manual(s) developed to support goals of a healthy and sustainable urban forest (Year 6)



Source: Villebois Facebook

Healthy Trees, Healthy Wilsonville

Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.

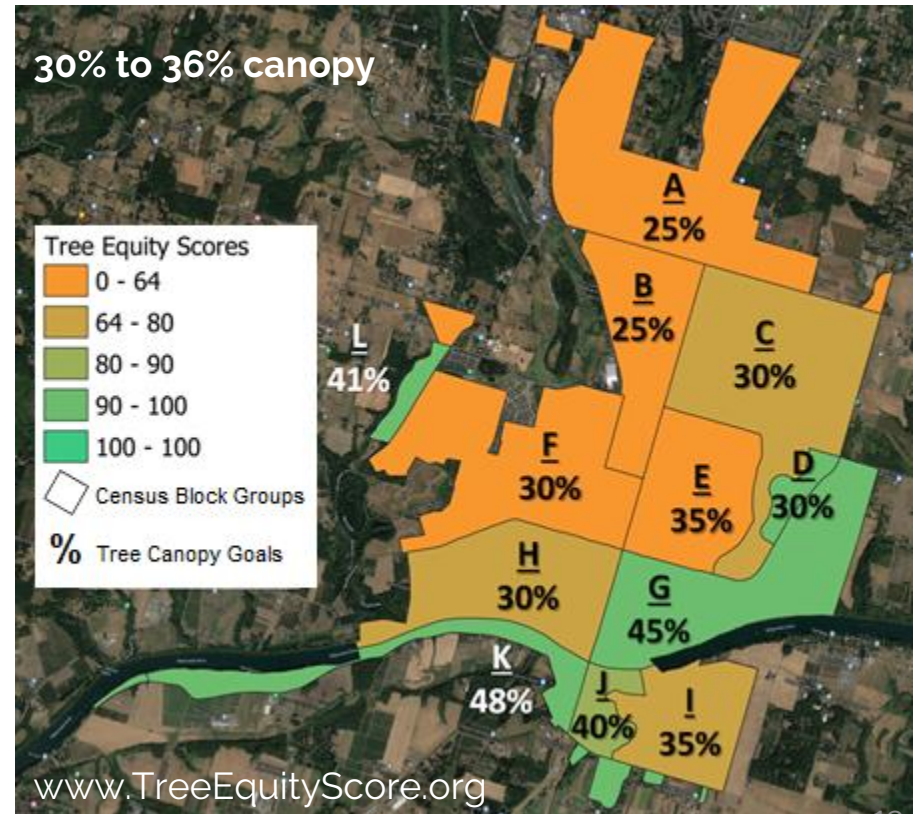
URBAN FOREST VISION



“36 by 46”

36% tree cover by 2046

- ✓ *6% increase*
- ✓ *27k new trees*
- ✓ *All CBGs at 75 or higher tree equity*
- ✓ *Preserve existing canopy*
- ✓ *City-community*
- ✓ *Derived from TreeEquityScore.org*



URBAN FOREST GOALS



AUDIT CATEGORY/GOAL THEME	GOAL DESCRIPTION
Tree Management Policy (MP)	The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.

URBAN FOREST GOALS



AUDIT CATEGORY/GOAL THEME	GOAL DESCRIPTION
Tree Management Policy (MP)	The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.
Capacity, Training, and Authority (CT)	Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.

URBAN FOREST GOALS



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URBAN FOREST GOALS



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Assessments and Plans (AP)	A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.
Community Engagement (CE)	Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.

URBAN FOREST GOALS



AUDIT CATEGORY/GOAL THEME	GOAL DESCRIPTION
Tree Management Policy (MP)	The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.
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Community Engagement (CE)	Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.
Green Asset Management (GA)	Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

**Tree
Management
Policy (MP)**

URBAN FOREST GOALS



GOAL THEME	ACTIONS
<p>Tree Management Policy (MP)</p>	<p>Support canopy goals in Town Center with effective tree preservation policies...</p>

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Tree Management Policy (MP)

Support **canopy goals** in Town Center with effective tree **preservation** policies...

Strengthen **storm** and **disaster** preparations, mitigations, recovery **strategies**, and protocols (see Appendix J).

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Tree Management Policy (MP)

Support **canopy goals** in Town Center with effective tree **preservation** policies...

Strengthen **storm** and **disaster** preparations, mitigations, recovery **strategies**, and protocols (see Appendix J).

Complete a...canopy (**UTC**) **assessment**...to measure progress towards canopy goals and tree equity.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Tree Management Policy (MP)

Support **canopy goals** in Town Center with effective tree **preservation** policies...

Strengthen **storm** and **disaster** preparations, mitigations, recovery **strategies**, and protocols (see Appendix J).

Complete a...canopy (**UTC**) **assessment**...to measure progress towards canopy goals and tree equity.

Develop a **tree manual** for planners, developers, homeowners, and tree care companies that includes tree-related policies, guidelines, best practices, and standards.

URBAN FOREST GOALS



GOAL THEME	ACTIONS
<p>Capacity, Training, and Authority (CT)</p>	

URBAN FOREST GOALS



GOAL THEME	ACTIONS
<p>Capacity, Training, and Authority (CT)</p>	<p>Establish an urban forestry working group...to monitor progress of implementing actions...</p>

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Capacity, Training, and Authority (CT)

Establish an **urban forestry working group**...to monitor progress of implementing actions...

Maintain International Society of Arboriculture (**ISA**) **Certified Arborist certifications** and other credentials...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Capacity, Training, and Authority (CT)

Establish an **urban forestry working group**...to monitor progress of implementing actions...

Maintain International Society of Arboriculture (**ISA**) **Certified Arborist certifications** and other credentials...

Educate and **train** City **staff** to adhere to **BMPs**...Provide **public education** for the proper care of trees on private property and trees adjacent to their property in the right-of-way.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

**Assessments
and Plans
(AP)**

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Assessments
and Plans
(AP)

Maintain an **inventory** of **public trees** Citywide and within Focus Areas...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Assessments and Plans (AP)

Maintain an **inventory** of **public trees** Citywide and within Focus Areas...

Master Tree Planting Plan for Town Center... Preserve existing trees in Town Center...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Assessments and Plans (AP)

Maintain an **inventory** of **public trees** Citywide and within Focus Areas...

Master Tree Planting Plan for Town Center... Preserve existing trees in Town Center...

Master Tree Planting Plan for Charbonneau's aging oak (Quercus) population...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Assessments and Plans (AP)

Maintain an **inventory** of **public trees** Citywide and within Focus Areas...

Master Tree Planting Plan for Town Center... Preserve existing trees in Town Center...

Master Tree Planting Plan for Charbonneau's aging oak (Quercus) population...

Complete an urban forest **audit**...modify existing actions and develop new actions...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Assessments and Plans (AP)

Maintain an **inventory** of **public trees** Citywide and within Focus Areas...

Master Tree Planting Plan for Town Center... Preserve existing trees in Town Center...

Master Tree Planting Plan for Charbonneau's aging oak (Quercus) population...

Complete an urban forest **audit**...modify existing actions and develop new actions...

...develop a **Trees and Construction Operations Plan** for...conflicts between public trees and infrastructure/construction.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Assessments and Plans (AP)

Maintain an **inventory** of **public trees** Citywide and within Focus Areas...

Master Tree Planting Plan for Town Center... Preserve existing trees in Town Center...

Master Tree Planting Plan for Charbonneau's aging oak (Quercus) population...

Complete an urban forest **audit**...modify existing actions and develop new actions...

...develop a **Trees and Construction Operations Plan** for...conflicts between public trees and infrastructure/construction.

Quantify the ecosystem **benefits**...informs maintenance and planting recommendations and raises public awareness of urban forest benefits.

URBAN FOREST GOALS



GOAL THEME	ACTIONS
<p>Community Engagement (CE)</p>	

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community
Engagement
(CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community Engagement (CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

...conduct...**events**...especially involving **youth** and **HOAs**—relating to tree planting and pruning...Prioritize areas with **lower** urban tree **canopy**...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community Engagement (CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

...**events**...especially involving **youth**—relating to tree planting and pruning...Prioritize areas with **lower** urban tree **canopy**...

Continue to...maintain Arbor Day **Tree City USA** designation.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

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...strengthen **partnerships**...Clarify tree maintenance **authority** and **responsibilities** among entities **such as HOAs**...

URBAN FOREST GOALS



GOAL THEME

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Update the City's **website** and materials...**social media**...and **other** communication platforms...

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...strengthen **partnerships**...Clarify tree maintenance **authority** and **responsibilities** among entities **such as HOAs**...

...provide...**workshops**...about the proper tree **species**...current and future pest/disease **concerns**...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community Engagement (CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

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...utilize the **City Tree Fund** for homeowner mitigation plantings.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community Engagement (CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

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...provide...**workshops**...about the proper tree **species**...current and future pest/disease **concerns**...

...utilize the **City Tree Fund** for homeowner mitigation plantings.

...sustain **partnerships** with **local** and **regional** organizations...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community Engagement (CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

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...utilize the **City Tree Fund** for homeowner mitigation plantings.

...sustain **partnerships** with **local** and **regional** organizations...

Develop strategies to **remove barriers** to participation for all community members...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community Engagement (CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

...**events**...especially involving **youth**—relating to tree planting and pruning...Prioritize areas with **lower** urban tree **canopy**...

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...provide...**workshops**...about the proper tree **species**...current and future pest/disease **concerns**...

...utilize the **City Tree Fund** for homeowner mitigation plantings.

...sustain **partnerships** with **local** and **regional** organizations...

Develop strategies to **remove barriers** to participation for all community members...

Recognize exemplary urban forest **stewards** and volunteers...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community Engagement (CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

...**events**...especially involving **youth**—relating to tree planting and pruning...Prioritize areas with **lower** urban tree **canopy**...

Continue to...maintain Arbor Day **Tree City USA** designation.

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...utilize the **City Tree Fund** for homeowner mitigation plantings.

...sustain **partnerships** with **local** and **regional** organizations...

Develop strategies to **remove barriers** to participation for all community members...

Recognize exemplary urban forest **stewards** and volunteers...

Conduct biannual **community surveys**...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community Engagement (CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

...**events**...especially involving **youth**—relating to tree planting and pruning...Prioritize areas with **lower** urban tree **canopy**...

Continue to...maintain Arbor Day **Tree City USA** designation.

...strengthen **partnerships**...Clarify tree maintenance **authority** and **responsibilities** among entities **such as HOAs**...

...provide...**workshops**...about the proper tree **species**...current and future pest/disease **concerns**...

...utilize the **City Tree Fund** for homeowner mitigation plantings.

...sustain **partnerships** with **local** and **regional** organizations...

Develop strategies to **remove barriers** to participation for all community members...

Recognize exemplary urban forest **stewards** and volunteers...

Conduct biannual **community surveys**...

Establish **non-conventional** partnerships...

URBAN FOREST GOALS



GOAL THEME	ACTIONS
<p>Green Asset Management (GA)</p>	

URBAN FOREST GOALS



GOAL THEME

**Green Asset
Management
(GA)**

ACTIONS

...**long-term planning** and **management** of existing and future tree **pests** and **diseases**...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Green Asset Management (GA)

...**long-term planning** and **management** of existing and future tree **pests** and **diseases**...

Prioritize and mitigate **risk** trees...**young** and **large** tree **maintenance**...inform adjacent **property owner(s)** of...**responsibilities**...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Green Asset Management (GA)

...**long-term planning** and **management** of existing and future tree **pests** and **diseases**...

Prioritize and mitigate **risk** trees...**young** and **large** tree **maintenance**...inform adjacent **property owner(s)** of...**responsibilities**...

...**strategic** approach to tree **species** and **site selection**...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Green Asset Management (GA)

...**long-term planning** and **management** of existing and future tree **pests** and **diseases**...

Prioritize and mitigate **risk** trees...**young** and **large** tree **maintenance**...inform adjacent **property owner(s)** of...**responsibilities**...

...**strategic** approach to tree **species** and **site selection**...

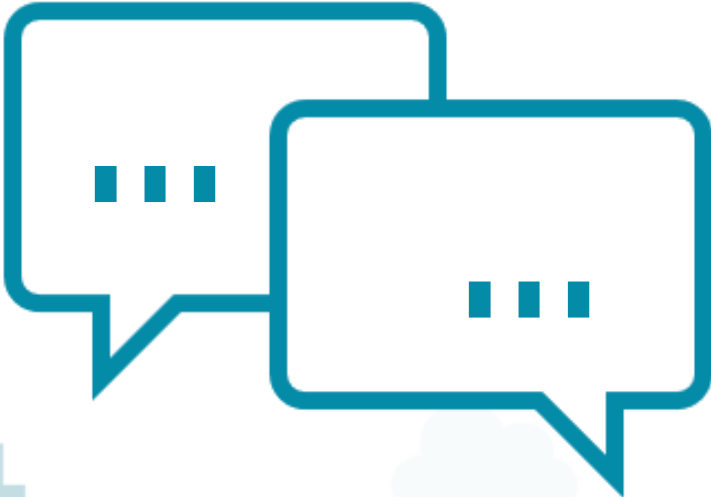
...effectively **plant** and **maintain** trees **aligned** with canopy **goals** and provide **post-planting care**.



SUMMARY



OPEN DISCUSSION



THANK YOU!



Chris Peiffer
Director of Urban Forestry Consulting
Project Manager
(717) 579-9890
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www.planitgeo.com



For questions or comments,
please contact:

Kerry Rappold,
Natural Resources Manager

Phone: (503) 570-1570
rappold@ci.wilsonville.or.us

**PLANNING COMMISSION
WEDNESDAY, OCTOBER 13, 2021
6:00 P.M.**

**Wilsonville City Hall
29799 SW Town Center Loop East
Wilsonville, Oregon**

Minutes

I. CALL TO ORDER - ROLL CALL

Chair Kamran Mesbah called the meeting to order at 6:00 p.m. Those present:

Planning Commission: Olive Gallagher, Jerry Greenfield, Ron Heberlein, Kamran Mesbah, Breanne Tusinski, and Jennifer Willard. Aaron Woods was absent.

City Staff: Miranda Bateschell, Daniel Pauly, Ryan Adams, Kimberly Rybold, and Kerry Rappold.

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was recited.

CITIZEN'S INPUT - This is an opportunity for visitors to address the Planning Commission on items not on the agenda. There was none.

ADMINISTRATIVE MATTERS

A. Consideration of the September 8, 2021 Planning Commission minutes
The September 8, 2021 Planning Commission minutes were accepted as presented.

II. WORK SESSION

A. Urban Forest Management Plan (Rappold)

Miranda Bateschell, Planning Director, noted the Urban Forest Management Plan (UFMP) was presented to the Commission in September for a work session. The project team was back this evening with a full draft of the Plan for adoption in the near future. The UFMP was important for the City which had long supported a strong urban forest and had been a Tree City for more than 26 years. The City continued to value trees in long-range planning, as well as site planning, and tried to preserve as many trees as possible and plant more where possible. With climate change and the recent ice storm in the City of Wilsonville, the urban forest was becoming increasingly more important, and the project had been extended to allow the project team to look into and provide more specific recommendations to the City for the long-term future. The team was excited to present the Plan tonight and to walk through some of its key recommendations.

Kerry Rappold, Natural Resources Manager, stated this was an opportunity to look at the updated draft UFMP following input from the September Commission work session. He reviewed the history and timeline of the project to date as follows:

- The project kicked off back in May of 2020, and one of the most important steps initially was to do the updated or additional tree inventory for Charbonneau and Town Center. Those trees were incorporated into the 2018 Street Tree Inventory and the most updated inventory from 2021.
- A lot of research and information gathered between July and September was reflected in a research summary, and much of that information was included in the draft UFMP. Two surveys and two workshops were done in the fall with specific outreach to Town Center and Charbonneau with a pretty good

attendance. About 90 people participating in the survey with others providing some input after the workshop presentation. The photo contest had good participation, and some of the photos, especially the prizewinners, had ended up in the Plan.

- The drafting of the Plan was completed in early 2021, but in February, the city had the winter storm event resulting in significant damage to the trees within the community. The City hired two interns in the Public Works Department who spent considerable time going through every street tree in the community to update and add trees to the 2018 inventory. That updated tree inventory was released at the end of August and allowed the project team the opportunity to look at and incorporate the results into the draft UFMP.
- As outlined in September, the tree equity score had also been incorporated into the Plan providing the project team an opportunity to look at what was being done nationwide with the American Forest organization. The tree equity score was considered a starting point in identifying an overall tree canopy goal and the number of trees that should be planted over the next 30 years. Updating the UFMP with a more detailed, high-resolution type of an analysis was expected, and was included as an action within the UFMP. Being able to bring all that updated information into the UFMP was important, which was why the schedule to present to the Planning Commission and ultimately, City Council, changed from spring to a fall.
- Based on the Commission's input tonight, the UFMP would be presented for a public hearing at the November Commission meeting, in hopes that the UFMP would be full adopted by the end of the year.

Chris Peiffer, Project Manager, PlanIt GEO, noted the project updates made based on the feedback and recommendations of the Planning Commission as follows:

- Neighborhood scale planning and canopy goal setting were included, which would be driven by the high resolution canopy assessment mentioned by Mr. Rappold.
- Appropriate tree species were integrated to draft Recommended Tree List allowing selections to be made in relation to diversity and climate change impacts, trees that were less of a nuisance or that had fewer recurring issues with clearance. Other strategies and guidance were also provided in the Plan.
- Funding mechanisms drafted for the Plan were also considered with regard to funding a canopy goal. Given the tree equity score, a cost would be involved with increasing the tree canopy that included the initial planting as well as maintenance. Large scale planting efforts were already underway with about 1,000 seedling plugs being planted in a park.
- Comments and concerns about permitting requirements were also addressed, as well as the outreach and education needed for multiple sectors of the city, including HOAs, developers, business owners, and residents.
- He presented the draft UFMP via PowerPoint, reviewing the project timeline, Plan highlights, the urban forest vision and goals, and the actions to support those goals, as well as next steps.

Mr. Rappold added that a notice for the public hearing in November would be sent to every address within the community. The project team would be working through any comments provided by the Commission tonight to move the project forward to the Commission's next meeting.

Discussion and feedback from the Planning Commission on the UFMP was as follows with responses by the project team to Commissioner questions as noted:

- The tree equity score for Charbonneau was surprisingly low. Did the equity score look purely at tree canopy rather than accounting for the huge green space of the golf course?
 - Mr. Peiffer noted the tree equity score consisted of a variety of criteria, which included canopy cover, population density, income, employment, surface temperature, race, age, and health. He did not know the full demographics of the area, but believed canopy cover was one of the main drivers for the lower score.
 - Health might have been a factor as well, because the population of Charbonneau was up there in age. Equity scores typically showed gaps. Charbonneau was one of the greener neighborhoods in the

city with the golf course and the relatively affluent population. It was not expected to need help to boost its equity stature. A detailed analysis would outline the proposed number of trees to be added to Charbonneau, but trees that should potentially be going to neighborhoods truly underserved with tree cover should not be put in a golf course community with plenty of green space already just because an equity score number was an anomaly. Any detailed analysis needed to zero-in on the actual need.

- Mr. Rappold noted a critical piece moving forward would be a continuation of the winter storm response team was working with Friends of Trees to look at the neighborhood data separate from the Street Tree Inventory assessment, so a number of potential resources would be considered as far as where to plant trees, and the team wanted to be cautious and make the best decisions about that. While some refinement was needed, the tree equity score was a starting point that provided an opportunity for benchmarking in something comparative across the nation. That score would be a key piece with the Urban Forestry working group in making decisions about future planting projects with the Neighborhood Street Tree Program. Work had started with the Parks Department where the department would be doing plantings into the future. One plan was for 1,000 plugs to be planted in Memorial Park. As a Staff person, he was responsible for the City's compliance with the Clean Water Act and the NPDES requirements for stormwater management. The Temperature Implementation Plan was a part of that compliance work that looked at planting trees for the shade they provided. A number of pieces could fit into the tree equity score moving forward and discussions would take place in terms of which areas to target within the community.
- Some of the trees shown for Charbonneau in the future were replacing the aging oak trees.
- Some trees had been damaged in the ice storm and needed help, but were not getting it. Was the care and condition of all trees in Wilsonville, including those on private property, the City's concern?
- Mr. Rappold noted at this point, the data being worked from was the Street Tree Inventory and the data added from the City's inventory of Charbonneau and Town Center. Clearly, a lot more trees in the community had not been inventoried, but then there were the goals and actions of the Plan, so a lot came back to educating and working with the community with regard to its knowledge and what to be aware of, which could bring the potential of creating a manual in the future. The community would still have a significant responsibility for private trees.
- Many private trees and properties were not cared for by the owners, but by maintenance crews who did not know what they were doing. Damage was being done, or things were not being done properly to protect the trees from another storm, for example, which was a grave concern.
 - Mr. Rappold agreed to have a conversation with Commissioner Gallagher to get her specific input and concerns. The Planning Division dealt with a lot of the tree issues within the community, and coordinating and working with the HOAs would be important because many of the HOAs were responsible for the landscape companies or the arborists that came through their communities. HOAs needed to be aware of what they needed to know and to convey that information for those they hired.
- Someone looking at the UFMP might conclude that the City was only concerned about the two focus areas. If read carefully, much of the Plan had to do with the city outside of the two focus areas, but the Plan should make explicit that the focus areas were pro tem and that the Plan itself was subject to ongoing updating. In future iterations of the UFMP, other areas would likely be brought into focus for attention as Wilsonville was more than the two focus areas.
 - Mr. Rappold replied he could not speak specifically to what areas those might be, but most master plans or plans with a citywide perspective got updated. The reason Charbonneau and Town Center came to the fore was due to so many issues with the Red Oak population along French Prairie Rd. A deeper dive had been needed to understand the issues and come up with some proposed actions. Town Center was driven by all the planning work that had been done, the potential for significant redevelopment, and the need to protect the best of the trees that were there. The team could make it clear in the Plan that these areas were the focus at one point in time, but that did not mean other areas in the city were not as important to consider.

- When looking at the canopy, there was no distinction in the percentages between what was city- versus private-owned.
 - Mr. Peiffer noted the finer-scale analysis with the tree canopy assessment would give that information; however that information was not available through the tree equity score tool. Generally, the assessments found that private property contained the most tree canopy, as well as the most available planting space for new trees, which emphasized the need for outreach and education.
- The relationship between private and public canopy was crucially important, and where the responsibility fell was not well-defined or understood. The City's responsibility or authority regarding the canopy that was privately owned had to do with HOAs, private property owners, and businesses, for example. The plans for developing the former Xerox property across Canyon Creek Rd were encouraging in that a great deal of mitigation would occur with a planned park, in effect, replacing both storm and non-storm damage loss of trees to make way for the landscaping plans. The area currently occupied by the Xerox campus was a major part of Wilsonville's tree canopy and it was changing. What was the City's responsibility and role in that planning and in other future developments involving the existing tree canopy?
 - Mr. Rappold noted that the Development Code and Tree Protection Code came into play with private sites like a corporate campus like Xerox, or industrial, commercial, or residential land. The threshold started with trees that had a 6-inch or greater diameter. If the trees were below 6 inches in diameter, they might be protected in other ways on the site, such as if they were already within a conservation easement or part of a natural area protected within the Significant Resource Overlay Zone (SROZ). Each development project was a balancing act between the potential to grow and develop the site, but also to protect what already existed. Every site had a specific discussion that took place as part of the land use process which involved a number of people. The City looked to preserve where possible and push back, especially with the more significant trees like oaks and pines, but other competing objectives had to be weighed. Education played an important role and he believed more needed to be done. The Plan looked to do more education in terms of working with the HOAs and individual property owners, and providing information to make their roles and responsibilities clear.
 - He confirmed any manual created would cover what people should know about their own trees and also provide greater clarification about their responsibilities, as well as what they could do to have a healthier tree population, which would benefit everyone.
 - Mr. Peiffer added that the canopy goal provided the overarching message of sustaining and enhancing tree canopy, as well as the future benefits of an increased canopy, which helped with the messaging of preserving trees. As a side study while doing the research, the team provided some recommended changes to policy guidelines and specifications due to areas of inconsistencies or places that needed strengthening to support canopy goals and tree preservation.
 - In Appendices B and C of the UFMP, more guidance was provided on how to refine the canopy goals, as well as how to refine priority planting areas. Rather than just looking at the census block groups with low or high equity scores, the Plan looked at drilling down to a land use and zoning type level because land use and zoning had different hurdles, resources, and challenges. Other criteria were also included in the prioritization.
 - The tree planting goal was a City/public partnership, and as outlined in the appendices, the initial recommendation was that the City should lead 60 percent of the tree plantings per year and for the overall planning horizon. The remaining 40 percent of tree plantings should be picked up by the partners and residents.
- Mr. Rappold confirmed that the Tree Protection Code specifically referenced the 6-inch diameter at breast height (DBH). Anything 6 inches or greater at that height required a tree removal permit from the City. Of the different types of permits, some had a simpler process and some were more involved, such as for trees within the SROZ.

- He confirmed trees in an HOA commons area would be dealt with by the HOA, but trees on private property were the responsibility of the owner.
- Community engagement and educating the public would be the key to the success of all of this effort. A new person coming into the city or even a resident of 30 years would not know City approval was needed to remove a tree with a 6-inch DBH without being educated. Many trees were probably removed improperly because people did not know about the requirement.
 - Mr. Rappold agreed. He noted one finding from the updated Street Tree Inventory was that most of the lost trees with stumps might have been related to the winter storm. Lost trees with no stumps likely came out prior to the winter storm. People needed to be educated on what was and was not allowed.
- Given the size of the UFMP, moving forward identifying the changes made from prior versions would be helpful for future reviews.

Mr. Rappold noted the team appreciated the Commission's input, which would be reflected in the final UFMP presented at the public hearing in November. He added the UFMP would go to City Council for a work session before the Planning Commission meeting, and the team would make the Commission aware of the input received from City Council.

Respectfully submitted,

By Paula Pinyerd of ABC Transcription Services, LLC. for
Tami Bergeron, Administrative Assistant-Planning



PLANNING COMMISSION STAFF REPORT

Meeting Date: September 8, 2021		Subject: Urban Forest Management Plan	
		Staff Member: Kerry Rappold, Natural Resources Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable	
		Comments: N/A	
Staff Recommendation: Review and provide input on the proposed goals and actions of the Urban Forest Management Plan.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities Stewardship of the Environment and Natural Resources	<input type="checkbox"/> Adopted Master Plan(s)	<input checked="" type="checkbox"/> Not Applicable	

ISSUE BEFORE COMMISSION: The project team will provide an update on the Urban Forest Management Plan (UFMP) and seek input on the proposed goals and actions.

EXECUTIVE SUMMARY:

In 2020, the City began the UFMP to guide the City's programs and actions related to the urban forest. Active management of the community's urban forest is becoming more critical as it ages and changes. This will be the City's first comprehensive Urban Forest Management Plan. With the initial timeline for the project, the draft Plan was scheduled for the Planning Commission in late spring, but due to delays in finalizing the draft Plan and the opportunity to incorporate new data from an updated street tree inventory that resulted from the winter storm, the draft Plan will be presented to the Planning Commission in October 2021.

The UFMP provides an integrated approach to preserving, sustaining and regenerating Wilsonville's urban forest into the future. While the UFMP covers the entire City, it has two focus areas: Charbonneau and Town Center. In Charbonneau, the focus was primarily on the red oak population along French Prairie Road, and in Town Center, an inventory was conducted identifying trees that would be good candidates for retention as part of future redevelopment scenarios. Recommendations in the Plan address issues and topics specific to the urban forest in these areas. An important foundational component of the UFMP is the City's street tree inventory completed in 2018. Over 24,000 trees were inventoried and entered into the City's asset management system in Cartegraph. The inventory provided a critical starting point for developing the Plan as it relates to the management of publically owned trees.

An interdisciplinary team, comprised of staff from Community Development, Public Works, and Parks and Recreation, have participated with the consultant (PlanIt Geo) and public in the development of the Plan. The team members have provided their expertise about Wilsonville's urban forest and identified key issues to be addressed within the Plan.

In fall of 2020, the public participated in online surveys and virtual meetings, available on Let's Talk, Wilsonville!, to discuss the planning process, Plan framework, and focus areas. Nearly 100 people took the surveys and participated in the virtual meetings. In addition, more than eighty tree photos were submitted by residents as part of a project photo contest. Ultimately, three prize winners were chosen and their photos will be featured prominently in the Plan document.

At this work session, the project team will provide an update about the UFMP and highlight the proposed goals and actions. To finalize the development of the draft Plan prior to the Planning Commission work session scheduled for October 13, 2021, the project teams seeks feedback on the following questions:

- What goals and actions are your top priorities? Are there any edits or modifications you would recommend?
- Are there any other key elements or considerations that should be included in the draft Plan?

EXPECTED RESULTS:

The project team will incorporate input from the Planning Commission about the goals and actions into the draft Plan.

TIMELINE:

Based on the work session, the project team will incorporate the Commissioners’ input to finalize the draft for the October 13, 2021 Planning Commission work session.

CURRENT YEAR BUDGET IMPACTS:

The approved FY 2020-21 Wilsonville budget included \$18,000 in general funds as part of Project #3006 Charbonneau Street Tree Study and \$38,500 in general funds as part of Project #9165 Urban Forest Management Plan for the planned work. A supplemental budget adjustment was approved to add unspent general funds from FY 2019-20 to the project, which includes an estimated \$22,000 from Project #3006 and \$28,000 from Project #9165. The unspent budget from the previous fiscal year was rolled over into the approved FY 2021-22 Wilsonville budget.

FINANCIAL REVIEW / COMMENTS:

Reviewed by: Date:

LEGAL REVIEW / COMMENT:

Reviewed by: Date:

COMMUNITY INVOLVEMENT PROCESS:

Community involvement and public outreach have been a key component of the project. Surveys, virtual open houses and the photo contest have provided a variety of opportunities for the public to engage in the process and provide their input.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY (businesses, neighborhoods, protected and other groups): The UFMP identifies actions that support a healthy and regenerative urban forest across Wilsonville’s publically and privately owned lands through the combined efforts of City government, businesses, and residents. It will be important to engage the community in the care of our urban forest and make them a partner in implementing the Plan.

ALTERNATIVES:

N/A

CITY MANAGER COMMENT:

ATTACHMENTS:

- A. UFMP Goals and Actions (draft August 31, 2021)

WILSONVILLE'S URBAN FOREST MANAGEMENT PLAN



A PRESENTATION OF THE UFMP TO THE WILSONVILLE PLANNING COMMISSION



SEPTEMBER 2021



WELCOME & INTROS



Chris Peiffer, Project Manager
PlanIT Geo



Kerry Rappold, Natural Resources Manager
City of Wilsonville



AGENDA

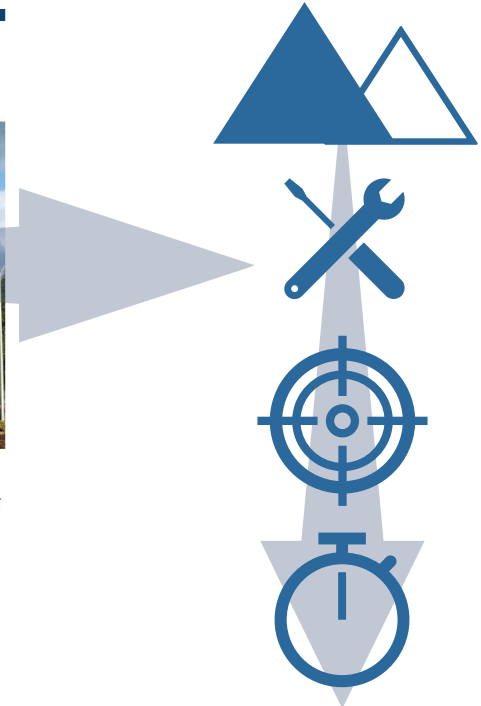
- ➔ **Welcome & Intros**
- ➔ **Project Approach**
- ➔ **Vision, Goals, Actions**
- ➔ **Focus Areas**
- ➔ **Summary & Next Steps**
- ➔ **Open Discussion**




“Urban trees and forests are considered integral to the sustainability of cities as a whole. Yet, sustainable urban forests are not born, they are made. They do not arise at random, but result from a community-wide commitment to their creation and management.”

Clark et al.: A Model of Urban Forest Sustainability

PROJECT APPROACH



Effort	Priority	Co-Benefit	GOAL	LEAD	YEAR	FUNDING MECHANISM
1.A				Department Name(s)	2022	Special assessment district



Source: Villebois Facebook

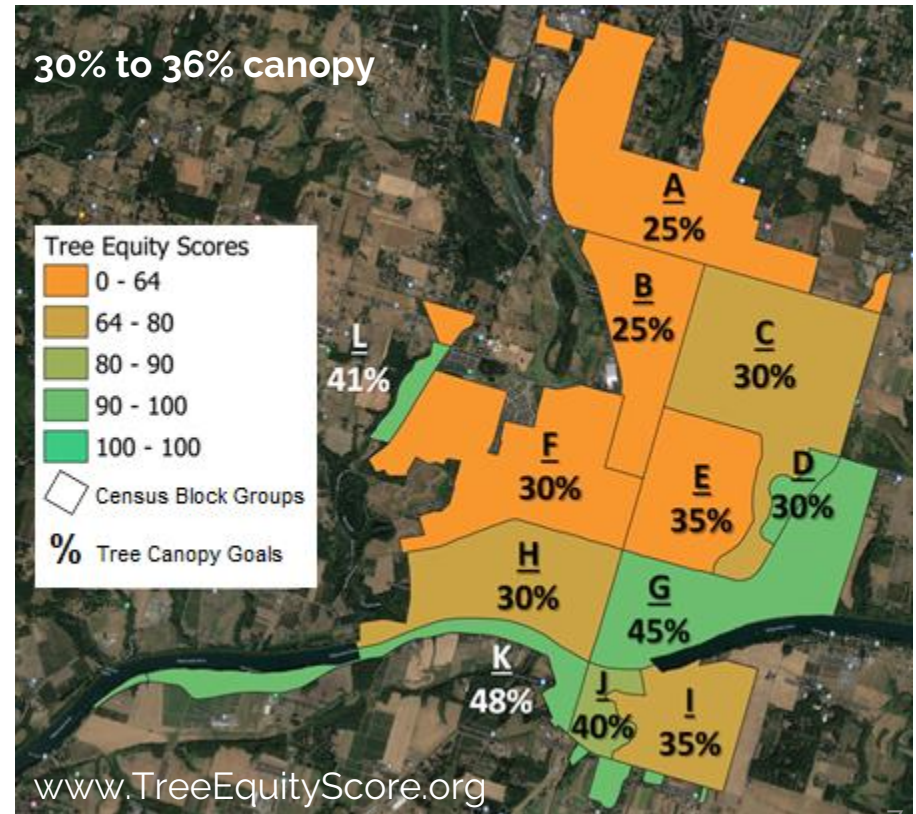
URBAN FOREST VISION



“36 by 46”

36% tree cover by 2046

- ✓ 6% increase
- ✓ 27k new trees
- ✓ All CBGs at 75 or higher tree equity
- ✓ Preserve existing canopy
- ✓ City-community
- ✓ Derived from TreeEquityScore.org



Healthy Trees, Healthy Wilsonville

Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.

URBAN FOREST GOALS



AUDIT CATEGORY/GOAL THEME	GOAL DESCRIPTION
Tree Management Policy (MP)	The City's urban forest policies are the foundation for preserving the environmental benefits, management, and character of Wilsonville's urban forest.
Capacity, Training, and Authority (CT)	Wilsonville has the capacity and expertise to provide optimal levels of service for sound urban forest management.
Assessments and Plans (AP)	A thorough understanding of the urban forest ensures data-driven decisions, sustainable and comprehensive planning, and amplified tree benefits.
Community Engagement (CE)	Sustainable urban forest management and equity is achieved through a partnership with the City and its residents resulting in improved well-being, human health, and local economies.
Green Asset Management (GA)	Wilsonville proactively manages the public trees, continues to grow and expand a healthy canopy, effectively mitigates storm damage, maintains public safety, and optimizes urban forest benefits.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Tree Management Policy (MP)

Support **canopy goals** in Town Center with effective tree **preservation** policies...

Strengthen **storm** and **disaster** preparations, mitigations, recovery **strategies**, and protocols (see Appendix J).

Complete a...canopy (**UTC**) **assessment**...to measure progress towards canopy goals and tree equity.

Develop a **tree manual** for planners, developers, homeowners, and tree care companies that includes tree-related policies, guidelines, best practices, and standards.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Capacity, Training, and Authority (CT)

Establish an **urban forestry working group**...to monitor progress of implementing actions...

Maintain International Society of Arboriculture (**ISA**) **Certified Arborist certifications** and other credentials...

Educate and **train** City **staff** to adhere to **BMPs**...Provide **public education** for the proper care of trees on private property and trees adjacent to their property in the right-of-way.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Assessments and Plans (AP)

Maintain an **inventory** of **public trees** Citywide and within Focus Areas...

Master Tree Planting Plan for Town Center... Preserve existing trees in Town Center...

Master Tree Planting Plan for Charbonneau's aging oak (Quercus) population...

Complete an urban forest **audit**...modify existing actions and develop new actions...

...develop a **Trees and Construction Operations Plan** for...conflicts between public trees and infrastructure/construction.

Quantify the ecosystem **benefits**...informs maintenance and planting recommendations and raises public awareness of urban forest benefits.

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Community Engagement (CE)

Update the City's **website** and materials...**social media**...and **other** communication platforms...

...**events**...especially involving **youth**—relating to tree planting and pruning...Prioritize areas with **lower** urban tree **canopy**...

Continue to...maintain Arbor Day **Tree City USA** designation.

...strengthen **partnerships**...Clarify tree maintenance **authority** and **responsibilities** among entities...

...provide...**workshops**...about the proper tree **species**...current and future pest/disease **concerns**...

...utilize the **City Tree Fund** for homeowner mitigation plantings.

...sustain **partnerships** with **local** and **regional** organizations...

Develop strategies to **remove barriers** to participation for all community members...

Recognize exemplary urban forest **stewards** and volunteers...

Conduct biannual **community surveys**...

Establish **non-conventional** partnerships...

URBAN FOREST GOALS



GOAL THEME

ACTIONS

Green Asset Management (GA)

...**long-term planning** and **management** of existing and future tree **pests** and **diseases**...

Prioritize and mitigate **risk** trees...**young** and **large** tree **maintenance**...inform adjacent **property owner(s)** of...**responsibilities**...

...**strategic** approach to tree **species** and **site selection**...

...effectively **plant** and **maintain** trees **aligned** with canopy **goals** and provide **post-planting care**.



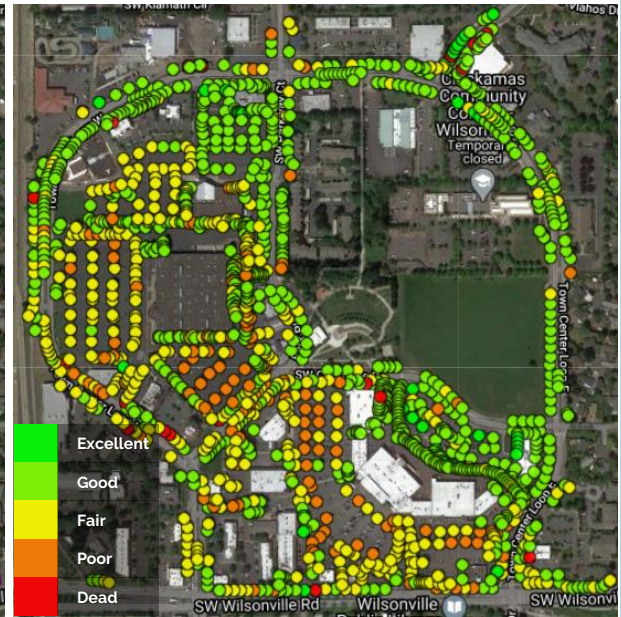
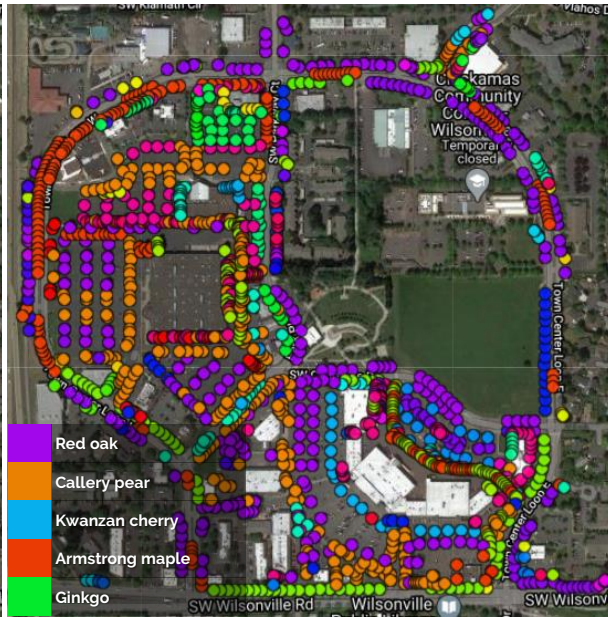
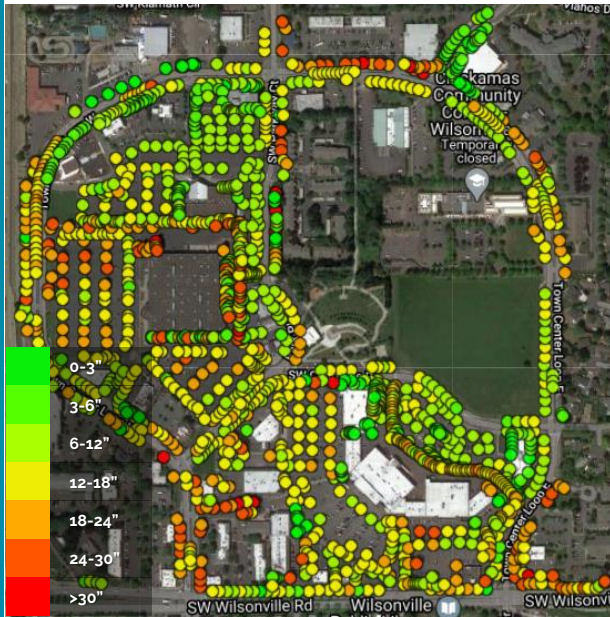
FOCUS AREAS

Town Center

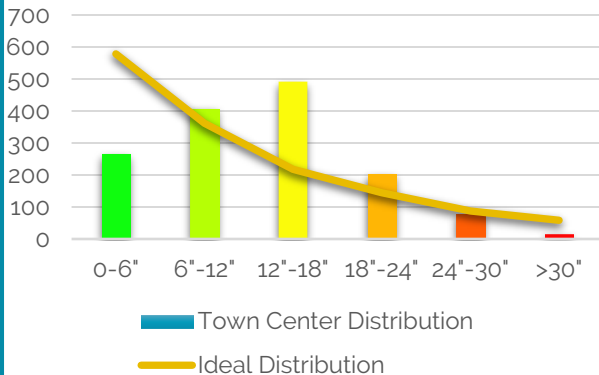
How big are the trees?

What kinds of trees?

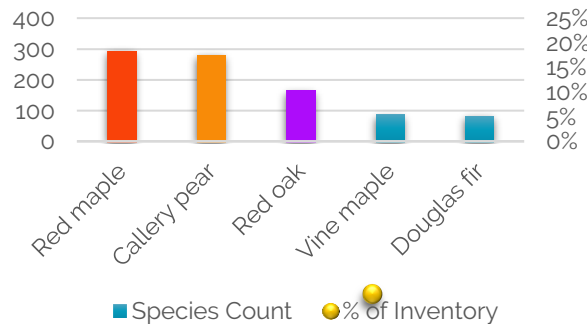
Condition of trees?



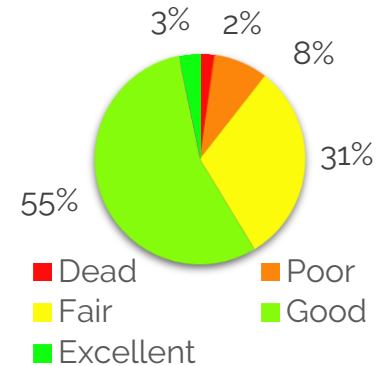
Size Classes



Top 5 Species

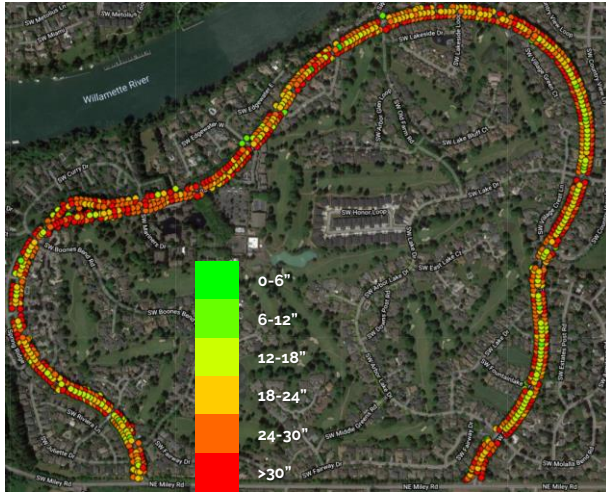


Condition

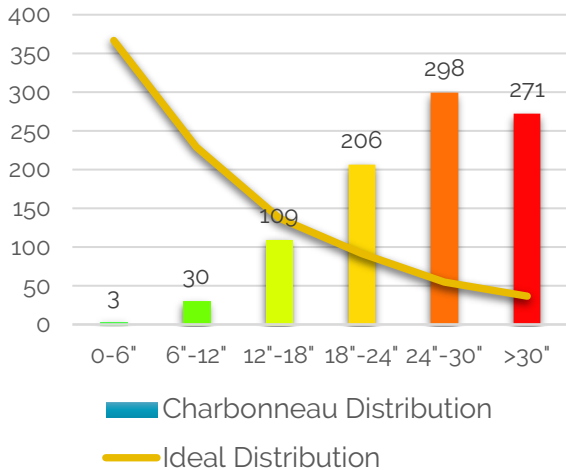


Charbonneau

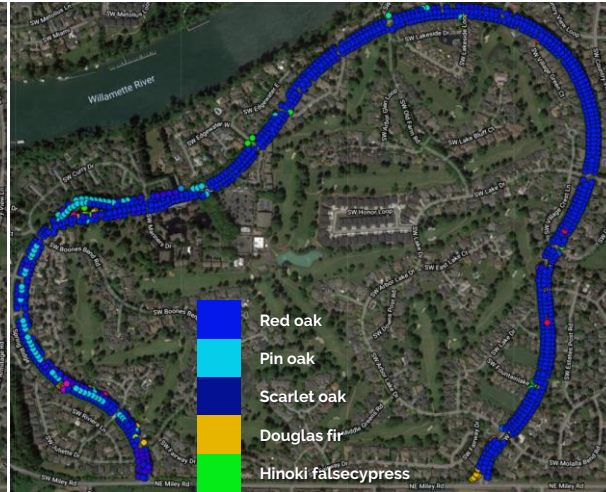
How big are the trees?



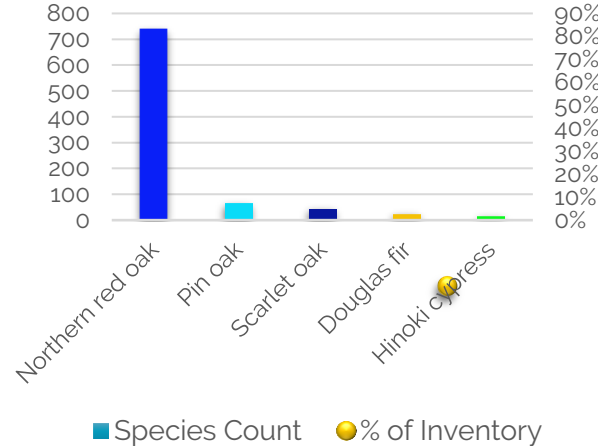
Size Classes



What kinds of trees?



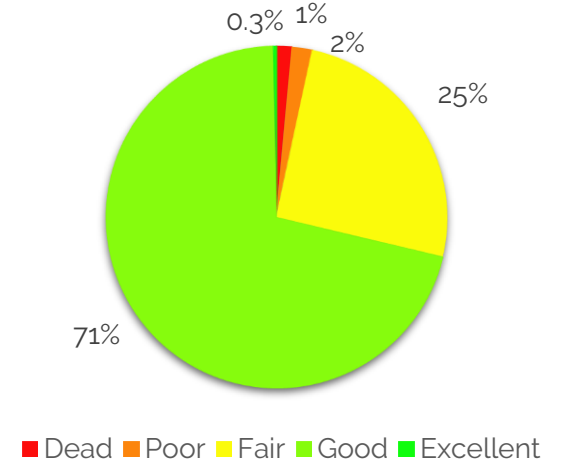
Top 5 Species



Condition of trees?



Condition





SUMMARY



Tree Management Policy (MP)

Capacity, Training, and Authority (CT)

Assessments and Plans (AP)

Community Engagement (CE)

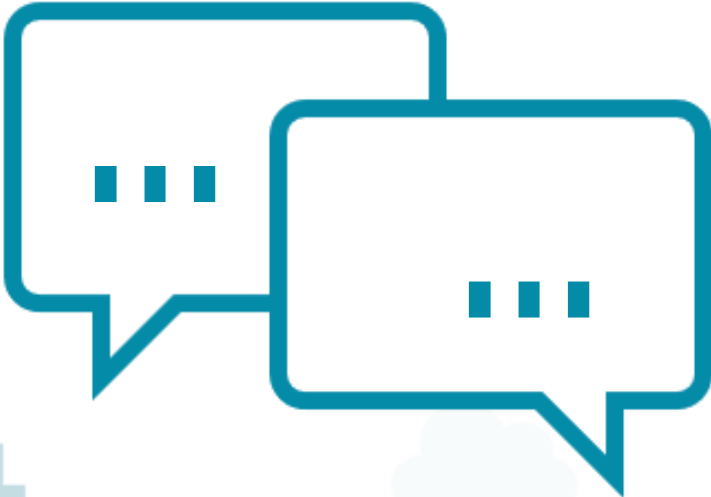
Green Asset Management (GA)

NEXT STEPS

Task	Timeframe
Finalize Goals and Actions	September
Update the Draft UFMP	September
Presentation to Planning Commission	October
Update the Draft UFMP	October
Final UFMP Draft	Late-October
Presentation to Planning Commission (Public Hearing)	November
Final Project Delivery	December



OPEN DISCUSSION



THANK YOU!



Chris Peiffer
Director of Urban Forestry Consulting
Project Manager
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chrispeiffer@planitgeo.com

www.planitgeo.com



For questions or comments,
please contact:

Kerry Rappold,
Natural Resources Manager

Phone: (503) 570-1570
rappold@ci.wilsonville.or.us

**PLANNING COMMISSION
WEDNESDAY, SEPTEMBER 8, 2021
6:00 P.M.**

**Wilsonville City Hall
29799 SW Town Center Loop East
Wilsonville, Oregon**

*Draft PC Minutes were
reviewed and approved at the
October 13, 2021 PC Meeting.*

Minutes

I. CALL TO ORDER - ROLL CALL

Chair Kamran Mesbah called the meeting to order at 6:05 p.m. Those present:

Planning Commission: Kamran Mesbah, Jennifer Willard, Ron Heberlein, Jerry Greenfield, Aaron Woods, Breanne Tusinski, and Olive Gallagher

City Staff: Miranda Bateschell, Ryan Adams, Daniel Pauly, Kimberly Rybold, Phillip Bradford, and Georgia McAlister

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was recited.

CITIZEN'S INPUT - This is an opportunity for visitors to address the Planning Commission on items not on the agenda. There was none.

ADMINISTRATIVE MATTERS

A. Consideration of the August 11, 2021 Planning Commission minutes
The August 11, 2021 Planning Commission minutes were accepted as presented.

II. PUBLIC HEARING

A. Town Center Streetscape Plan (Bradford)

Chair Mesbah read the legislative hearing procedure into the record and opened the public hearing at 6:12 pm.

Miranda Bateschell, Planning Director, stated she was honored and excited to introduce the Town Center Streetscape Plan, which was near and dear to her heart because she was the project manager for the Plan over the course of three years and had worked with the citizens of Wilsonville. Thousands of people had engaged in the project to develop a vision for the Town Center and for the future of the heart and hub of the Wilsonville community. The community wanted the space to be bright and active, connected, and an accessible place for the community to gather; to be vibrant not just in form and design, but also in terms of activity and economic vibrancy. The Town Center would transform over time. Placemaking was a priority in helping to achieve the community's vision through social programming in the Town Center, but also in the public realm design. A major implementation action coming from the Town Center Plan was the Streetscape Plan, which had been presented at a few work sessions prior to tonight's hearing. The Streetscape Plan had come together in a beautiful design that suited the City of Wilsonville with the design features that had been prioritized over time. The Streetscape Plan would help the City in guiding developers in their projects and as the City worked on its own capital improvement projects to help bring the public realm to life in the Town Center.

Philip Bradford, Associate Planner, stated the Town Center Streetscape Plan was the result of nearly a year's worth of community engagement, work sessions with the Planning Commission and City Council, and technical advisory meetings with City Staff, culminating in a final product that would create a cohesive and attractive

look for the streets within the Town Center. Over the next few decades as the Town Center redeveloped, the Streetscape Plan would help Town Center achieve the goals of being a vibrant community hub of the Town Center Plan. He thanked the Planning Commission and City Council for the feedback provided during the work sessions held on the Streetscape Plan since March of 2020, City Staff from SMART, Public Works, Parks and Recreation, and the Engineering Division for all their input throughout the process, and the members of the public, who had participated in the surveys, public forums, and stakeholder interviews conducted as part of the community engagement. All of this input had shaped the design to be in line with the same community-driven spirit of the Town Center Plan that this project was implementing. He believed the end result had taken into account all of the feedback received and once constructed, Town Center would be a beautiful place to live, work, and play. He also thanked the consultant team from SERA Architects for all of their hard work on the designs.

- He noted the exhibits and attachments that had been entered into the record, adding that the public hearing materials were posted on the website one week prior to the hearing and notices were mailed to property owners within 250 ft of the Town Center project boundary. Staff also provided additional notice of the hearing via e-mail to the interested parties list for Town Center and posted notice within the *Wilsonville Spokesman*, thus meeting all noticing requirements for public hearings.

Mr. Bradford presented the Town Center Streetscape Plan via PowerPoint, reviewing the project's background and context, how the Streetscape Plan implemented the goals and aspirations of the Town Center Plan, the changes made since the previous work sessions with the Planning Commission, as well as next steps and the Staff recommendation as follows:

- As mentioned, the Town Center Streetscape Plan was a key implementation item of the Town Center Plan. The development of a streetscape design plan was a priority place making strategy in the implementation matrix and was one of the first items the City was implementing as a result of the listed implementation items within the Town Center Plan.
 - Due to the robust public engagement in the Town Center Plan, the project team drew from the aesthetic preferences residents preferred with a palette of stone, wood, brick, and glass, and a modern design direction reflective of a newer community, along with other preferences noted in the Signage and Wayfinding Master Plan which also impacted Town Center. The project team began with three preliminary concepts in the fall of 2020 and moved forward with refining the concepts in the winter of 2021, utilizing additional surveys on *Let's Talk Wilsonville* and confirmation from the Planning Commission and City Council. The final result was a hybrid concept that incorporated the River Environment concept and included elements of the Technological Innovation concept, as numerous public comments noted that the sidewalks and motive space of the Technological Innovation concept provided clear and direct connections throughout Town Center. In line with the project schedule, the final draft was now presented for adoption.
- He reviewed a sampling of the public engagement activities conducted as part of the planning process. (Slide 4) The team had to think creatively in terms of conducting public engagement for this plan, as the project kicked off just as stay-at-home orders and social distancing measures began in Oregon. All of the engagement activities were held remotely via Zoom or utilized surveying on *Let's Talk Wilsonville*. In addition, there were five Planning Commission work sessions, three City Council work sessions, and two stakeholder interviews.
- The Streetscape Plan accomplished many of the goals found within the Town Center Plan. (Slide 5) The first goal was accomplished by the selection of resilient tree species and opportunities for lush planting and stormwater facilities throughout Town Center. The second goal was accomplished by the attractive streetscapes in the Plan by creating three different investment levels which would be cohesive and provide a drastically improved condition compared to the current streets. While the Town Center Plan and Development Code increased the mixed-use opportunities within Town Center, the Streetscape Plan would build upon that foundation and provide an attractive streetscape for the future mix of uses. The direct connections, accessible surfaces, and multi-modal focused design of the plan would also work to accomplish Goal 4, making Town Center more accessible for everyone. Goal 5 would be satisfied through the compelling designs for future spaces, like the promenades and plazas through Town Center, for which the

Streetscape provided design guidance. Overall, the adoption of the Town Center Streetscape Plan would lead to further business development and prosperity within Town Center as an attractive public realm, and accessible streets would help attract activity and investment within Town Center.

Ben Weber, SERA Architects, thanked Mr. Bradford for the introduction and background on the past year of work, as well as the Planning Commission for its attention and focus on the project and valuable input throughout previous work sessions and meetings. He continued the presentation, reiterating the number of community forums, Planning Commission work sessions, and other events through the winter of 2020 and into the early months of 2021 involved in getting to the preferred concept design of blending the River Environment and the Technological Innovation hybrid approach, which was first presented to the Planning Commission for approval in March of 2021.

- The design represented a clarity and linearity to the motive space, shown in blue and purple on the diagram, punctuated with landscape and stormwater accent pieces within the street in the green planters and elsewhere. (Slide 6) He highlighted the more detailed plan view included on the bottom left of the slide and noted that the project team was starting to narrow down and refine the tree selection, concrete patterns, benches, and other furnishing elements that would define and build out the concept.
- After the March 2021 meeting and into April 2021, at Mr. Bradford's initiation, the concept was rendered and modeled out and presented to City Council to help the project team flesh out a number of the spatial details and the configuration of the different design elements, including trees, lighting, and bench design, and how the elements interacted with the multi-modal street improvements. (Slide 7) Along with design, consideration was given for how the streetscape investment supported the six key goals of the Town Center Plan, such as how the streetscape interacted with private site development and eased mobility to buildings and plaza spaces, as well as how it emphasized walking and biking access, traffic calming, and bringing ecology into the streetscape environment, for example. The project team hoped the rendered image reflected and represented the ways the Streetscape Plan included not only a design, but clear implementation steps to bring to fruition all the different street types around the Town Center.
- Specific designs had been done for seven different prototype locations, all consistent with key locations identified in the Town Center Plan. By using all seven of the prototypes, and with the input of the Planning Commission, the project team was able to capture a wide range of street types, locations, and three investment levels, Signature, Enhanced, and Standard.
 - He highlighted three different prototype locations in the Town Center:
 - Some Signature investment features of the Promenade (Slide 8) included custom built and installed bench areas, significant landscaping and stormwater features running along the spine of the Promenade, the custom concrete pattern with tessellated shapes, and key elements like the two-way cycle track, part of the Emerald Chain connection. The prototypes were intended to test and display how the concept and material and furnishing elements would be applied in specific locations and would be tailored to the unique conditions. The Promenade was not a vehicular street, but more of a linear park and yet was still a key part of the mobility network and important in acting as the front porch for a number of the businesses and residential uses that would be redeveloped to the north and south of the Promenade.
 - The Park Place Redesign (Slide 9) was a minor realignment of the street, but also an inclusion of the continued cycle track as part of the Emerald Chain. The Enhanced streetscape investment tied into an open space and into buildings and private plazas, shown at the top and bottom of the image, and related to a number of different contexts within the Town Center.
 - The Signature design served a different blend of mobility needs. (Slide 10) The Park Place Extension was an extension of the main street, and, as there was no road there, the Extension was a proposed new alignment through an existing parking lot. The Extension was a more traditional configuration of a main street with shared vehicular lanes, wider sidewalks, marked and improved crossings, and an overall investment in the pedestrian network, the bicycling network with abundant bike parking, and the creation of a lot of spaces for businesses to spill out into cafés and street seats. The street design had a lot of flexibility overall with gathering spaces, landscape

and stormwater spaces that reflected the investment in the street and created welcoming gathering and lingering places for people to live, work, and play along the street.

- The other four example locations were in the complete Streetscape Plan and reflected some of the Enhanced and Standard investment levels, and the project team hoped the designs showed the way the Streetscape investments and projects could bolster the vibrancy of the Town Center over time.

Mr. Bradford continued the presentation by covering the minor changes made since the previous work session and Staff's recommendations with the following comments:

- The key design element selections for each investment level were linked in the Plan and also included in Appendix E. (Slide 11) The product selections included bike racks, pavement types, benches, tree grates, ADA tactile pads, water fountains, trash and recycling bins, and bollards, for example. All of the selections directly linked back to the community's preference for a modern, natural aesthetic, captured by the product selections, regardless of the investment level in which they were utilized.
- The investment level map included in the packet incorporated some of the feedback from the last work session. (Slide 12) The Promenade locations were now extended to meet the public streets to which they connected. The Rebekah intersection, the primary north/south bike lane through Town Center, would receive an Enhanced intersection with Wilsonville Rd to be set apart as a gateway into the heart of Town Center but slightly less so than the main street. An Enhanced level would also be included south of the I-5 Pedestrian Bridge Plaza to further differentiate the area. Otherwise, the map would remain primarily consistent with what was shown at the last work session.
- The Lighting Plan had now been revised to include the PGE product in all of the renderings except one that now showed the Rama product. (Slide 13) He highlighted the aesthetic trade-off between the PGE-compliant list and the fixture the project team believed was the best fit for the other design choices in the Plan and met the aspirations of the community for Town Center.
 - Full build-out for Town Center would involve long-range implementation, so it was uncertain when development in Town Center might occur; however, after construction of the new Public Works facility, there might be potential to store custom fixtures, like the Rama.
 - Some language in the Plan had been changed to add further flexibility to state that at the time of development, the Rama fixture would be preferred, if there was capacity to store custom fixtures. Otherwise, the team would move forward with the PGE Option A and render those fixtures in the plan. As the fixtures were subject to change because PGE was in charge of maintaining the list, the project team's preference was to move forward with a more contemporary option if one became available on the PGE list at the time of development.
- Changes had been made to the street trees and accent trees within the Streetscape Plan. (Slide 14) There had been further alignment with the Urban Forest Management Plan, and additional tree species shown to be resilient through this year's heatwave and ice storm had been included. These additional trees would provide additional flexibility and resilience going forward. The selection focused on tree species that were more columnar, taking into account that Town Center would have taller buildings with minimal setbacks which would remove any interference with the trees as they grew. The tree list within the future UFMP would serve as a guide for tree selections in the future if any issues with availability arose at the time of development.
- Staff recommended that the Planning Commission forwarded a recommendation to City Council to adopt the Town Center Streetscape Plan as an appendix to the Town Center Plan, a sub-element of the Comprehensive Plan. (Slide 15) The project would then continue to City Council for a public hearing on October 4, 2021.

Commissioner Heberlein:

- Asked if a cycle track would extend through the entire length of the Emerald Chain or just from the bridge landing to IN.12 (Slide 8) and through the Town Center Park area.
 - Mr. Bradford replied the Emerald Chain would have a consistent cycle track from the bridge, through Town Center, utilizing the Promenade (IN.12), and then heading south adjacent to Town Center Park,

continuing east, down Courtside. The cycle track would then head south towards Memorial Park as it exited Town Center on Town Center Loop East.

- Noted that answered the questions he had been emailing back and forth about regarding the consistency of the cycle track.

Chair Mesbah called for public testimony regarding the Town Center Streetscape Plan. There was none.

Mr. Bradford confirmed public testimony had been received via email today from Susan Myers of Capital Realty, which had been emailed to all the Commissioners and would be entered into the record tonight.

Chair Mesbah closed the public hearing at 6:45 pm and called for discussion from the Planning Commission.

Commissioner Willard asked if it was possible to use the recommendation made via public comment for the bus shelters.

Mr. Bradford noted the text would be changed per the community member's recommendation between now and the presentation to City Council. The language in the draft plan stated that SMART and the City of Wilsonville were considering other transit shelter products specific to Town Center. He believed Susan Myers' email requested the wording be stronger to state that SMART and the City of Wilsonville shall develop a Town Center-specific transit shelter that worked more closely with the designs of the Streetscape Plan. He noted the shelter included in the Plan was the shelter SMART currently used within Town Center. The plan was to move forward with using that shelter; however, SMART wanted to apply for grant funding for a more unique design that worked with the Streetscape Plan in the future, so the current design would not be used and instead, something that looked much more in line with the aesthetics that had been chosen for the Streetscape Plan. The design would be dependent on different funding mechanisms available in the future.

Chair Mesbah asked if the default shelter would be used if no funding was found.

Mr. Bradford replied that was possible, but he was uncertain because he was not familiar with the different funding grants available to SMART that might come up in the future. He confirmed that if no funding was received to develop a custom design, then the current design would be the default shelter.

Commissioner Greenfield said he appreciated Ms. Myers' comment and noted that having the support of an interested party who represented a major player in Town Center was helpful. He added Ms. Myers had been a major player in the planning efforts for years. He did not find anything drastically different in the language offered by Ms. Myers from the language already in the report. Planning reports and resolutions did not typically use the language of "shall" which he believed was more of a very direct and restrictive legislative language. He believed SMART was already contemplating the language included in the report, and while he did not object, he did not see a need to strengthen that language.

Chair Mesbah noted specific design decisions had been made for Town Center in everything like lights, seats, and sidewalks, for example. He believed the spirit of Ms. Myers' comment conveyed that the bus shelter should have a special design as well. The City should do everything it could to ensure the bus shelters also had a theme that went with the rest of the Town Center, which might entail fundraising if money was not available.

Commissioner Heberlein noted the picture in the presentation showed a stark color for the bus shelter. He had gone on the Oregon Corrections Enterprises website and found a brochure for their bus shelters, which came in different frame and roof colors, and different options could be utilized without a significant expense. He was okay with the Plan language as stated because it said other transit products were being considered. The products should fit in with the rest of the look and feel, and not stand out from everything else in the Town Center.

Commissioner Gallagher agreed with a cohesive overall design, whether that was a bus shelter or anything else. She suggested including a clause to the overall proposal that anything that would be inserted into that area of the Town Center would have to be approved as cohesive to the overall design of the project.

Ms. Bateschell noted that as the Commission's discussion moved toward a motion, the suggested "shall" language could be considered, or color could be noted as something that could change, and the shelter that was across from and adjacent to City Hall could be used as guidance in making the decisions moving forward.

Commissioner Heberlein noted in the packet on Page 36 of the streetscape packet or Page 29 of the Streetscape Plan, the second paragraph for the transit stop said, "No additional products are specified in the Streetscape Plan, but colors and material selection should be consistent with those used elsewhere in Town Center." He believed that was the language necessary to say a design would fit in with the rest of the development, and therefore, he recommended no language needed to be added to the current proposal.

Commissioner Greenfield agreed no language needed to be added.

Commissioner Woods also agreed, adding he did not see a need to make any changes.

Chair Mesbah stated Staff should note that the Commission definitely wanted to make sure that the design choices were consistent throughout the Town Center, as it would be a special place.

Commissioner Heberlein moved to adopt Resolution LP21-0002. Commissioner Tusinski seconded the motion.

Commissioner Greenfield believed the report was very complete and beautiful. He commended SERA Architects and the Wilsonville Planning Staff for their complete and careful process that produced a beautiful result. He believed the document was durable and a good guideline for what would be a long developing project, adding he was prepared to declare his full support for the project.

Commissioner Woods noted a lot of time had been spent on the very comprehensive and detailed plan, which would set the stage for the City for years to come. He expected some minor changes that fit within the whole planning scheme while the Plan was implemented, but he supported the Plan.

Commissioner Willard noted she looked forward to seeing the Plan play out in real life.

Commissioner Gallagher agreed, adding she approved of the plan.

Commissioner Tusinski stated she was very excited to see the Plan play out, particularly as someone who had just bought her first house in the last five years and planned to spend the next 25 years in Wilsonville. She was thrilled that the Plan would take the city in the cultural and business direction she believed it needed to go.

Commissioner Heberlein noted that having been part of the initial Town Center planning process, he believed the Plan was a great addition, noting that Staff continued to do a fantastic job.

Chair Mesbah noted he had also started with the task force five or six years ago. He believed the Streetscape Plan was maturing and developing very well due to the good work of the consultants and Staff.

The motion passed unanimously.

B. Middle Housing (Pauly)

Chair Mesbah confirmed the legislative hearing procedure did not need to be reread into the record and opened the public hearing at 7:00 pm.

Miranda Bateschell, Planning Director, noted housing was a critical component to the community and to how each individual lived their daily lives; it was also a key part of planning. Living in an inclusive community, which Wilsonville had declared itself to be, meant the City needed to look at inclusive housing and housing opportunities that met the needs of everyone living in the city. Inclusion also involved undoing exclusionary policies by looking back at existing policies and seeing where changes were needed. Taking a fresh look was always important when looking at policies, which had been done over the years in Wilsonville. The work being presented tonight was very important, and the Planning Commission had taken that importance to heart working with Staff over eight work sessions in the past year to get the work done right. The work needed to comply with statewide House Bill 2001 and the new regulations from the State of Oregon. Additionally, it also needed to further diversify the housing in the city of Wilsonville, moving into the future and meeting the needs of both current and future residents, while also implementing the recently adopted Equitable Housing Strategic Plan to broaden opportunities to more people in the community for housing and homeownership in the future. She noted the packet presented tonight was quite large, and its size exemplified the amount of work Staff, the project team, and the Commission had put into the project, as well as the monumental nature of the work. She thanked the Commission for its work and everyone who had engaged in the project over the past year.

Daniel Pauly, Planning Director, introduced the project team and presented the Middle Housing in Wilsonville Project via PowerPoint, reviewing the project's background and process, the definition and types of middle housing, the updates and actions related to implementing middle housing, as well as the desired project outcomes, with the following comments:

- He noted Attachment 9 included the Planning Commission record, which included all the meeting materials to date and written public comment received up to the publication of the Staff report. Any subsequent public comments, which included several received on Friday and another received this morning, would also be entered into the record, as well as an additional memo from Staff he would discuss later. All these materials had been sent via email to the Planning Commission. He noted the review criteria regarding regulatory compliance was in Attachment 8 on Pages 1 and 2, copies of which were available online and otherwise as requested.
- The project team began with an audit of the existing Code to find the compliance issues and that audit led to looking at siting and design to ensure the look and feel of existing and future neighborhoods was maintained. Public involvement in siting and design helped contribute to the current recommendation. Public involvement had informed the Code and Comprehensive Plan amendments now being presented for adoption. Prior to adoption, additional input had been received from the community, and what the community and stakeholders had offered was appreciated.
- Middle housing in this context was a range of smaller attached or clustered housing types typically built at a similar scale and mixed with single-family homes. Middle housing was often referred to as "missing middle" largely because it had been missing from city neighborhoods since World War II, prior to which neighborhoods had more housing variety.
- Regarding the State rules and laws and how the definitions were manifested in the updated Code, he reviewed the different types of middle housing as follows:
 - Duplexes were two units on a lot, and the equivalent of a duplex, but with the units detached was a two-unit cluster or cluster housing.
 - A triplex was three units on a lot, and a quadplex was four units on a lot, both of which had a detached equivalent.
 - Townhouses were the most common type of middle housing seen in Wilsonville today. The townhouse term encompassed the four- to six-unit townhouses seen in Villebois, but also attached single-family, such as found around the golf course in the middle of Charbonneau with common wall units that were otherwise fairly traditional single-family homes.
 - Also regulated by the State, and included in the definitions, was cluster housing, which was a group of smaller homes, typically 900 sq ft or smaller that were clustered around a common green space and had some specific rules.

- The recommended actions were to allow middle housing throughout the City's residential areas, establish new design standards for residential development, enable middle housing land divisions, establish the Old Town Residential Zone (OTR), and also establish standards and processes for planned developments in all zones to become legal-nonconforming.
 - The actual documents being updated to implement the recommended actions were shown on Slide 7. He noted that the Frog Pond East and South Master Plans were not yet updated, as they were still under development. The Zoning Map amendment was related to the Old Town Neighborhood.
- The updates were broken down into four categories to help clarify what to focus on. (Slide 8)
 - Category 1 involved the large group of updates that were direct requirements for State compliance with no significant local flexibility. These updates were noted, but not discussed in great detail, aside from what State requirements were being implemented.
 - Category 2 included indirect requirements by the State without a lot of local flexibility, such as making middle housing feasible and ensuring the Code standards were workable and did not inadvertently prohibit the housing the City was required and trying to allow.
 - Category 3 updates involved a lot more discussion, and many work sessions had been spent on these requirements of State compliance with local flexibility, such as the standards around master planned communities and design standards.
 - Category 4 updates were not necessarily for compliance or feasibility related to middle housing, but were intended to improve or fix the Code. Many of the updates revolved around direction received to clean up the parking standards, for example.
- He emphasized there was no budget or time to do a wholesale change to plans. The focus was on honoring past planning efforts, as a lot of amazing planning work had been done in the City's residential areas over many years. The scope of the project was to make refinements that remained consistent with existing plans, while reflecting the Equitable Housing Strategic Plan actions and complying with new State law. In broader changes, there would have also been a broader public engagement process that was not within the scope of this project. The overall idea was to comply and refine, while remaining consistent with all of the previous decisions from Old Town to Frog Pond to Villebois and to the City's general infrastructure, such as the transportation system.
- He provided further explanation of the recommended actions with these comments:
 - Allow Middle Housing (Slides 11-13). These actions were tied to specific State requirements. House Bill 2001 specifically required cities to allow duplexes on all lots that allowed detached single-family homes. Other middle housing, such as triplexes, quadplexes, townhouses, and cottage clusters, was allowed in areas that allow detached single-family homes. "In areas" meant that while duplexes must be allowed on every lot regardless of size, cities could limit the allowance of the other middle housing types by such things as lot size. For example, triplexes were only allowed on lots over 5000 sq ft.
 - Special considerations existed for master planned communities that were under development, which came into play for Villebois and Frog Pong West.
 - Middle housing was not subject to density maximums and had no ceiling for development with regard to density, as long as they met other siting and design standards.
 - Based on the requirements and meeting the City's aspirations and goals, the specific approaches recommended were broken down by different considerations:
 - The General approach included the planned development residential zones that applied in much of the city. In these zones, middle housing was already allowed and had been allowed for decades. The changes acknowledged specific wording that reflected the State requirements and the different types of middle housing. The largest change regarded process, which would be explained later. In addition to attached middle housing, there was a broad allowance of the detached equivalent referred to as cluster housing.
 - In Old Town, middle housing was already allowed as well, but rezoning was required for each proposal, which would not be compliant with the HB 2001 requirements. The allowance was kept, but the process was also changed.

- During the rule making process, the City worked with the State to create rules to allow master planned communities like Villebois and Frog Pond West to continue as planned, as some housing variety already had been planned into them.
 - Ultimately, Villebois would have minimal change, as it was almost built out. The City must allow for duplexes on any of the unbuilt lots, and redevelopment of any lots in the future would be allowed for middle housing, which was not likely for some time because of the type and newness of the development.
 - Currently, about half of Frog Pond West was unbuilt, but by the time the updates were implemented, maybe as little as a quarter of the area would not have land use entitlements. Duplexes would be allowed on any unbuilt lot and triplexes on corners, some cottage clusters, but not quadplexes. Like any other area in the city, any redevelopment must be allowed for any middle housing type, which was again, not likely due to the newness of the development.
- As far as the process update, currently, most middle housing required a public hearing and notice to neighbors in Wilsonville, but the State directly required the process to change. Middle housing must be reviewed using the same review process as detached single-family, which meant if there was no land division for an existing lot or a subdivision had already been established, only a building permit would be required with no notice to neighbors or the public. A building permit for a triplex could be pulled the same as for a single-family home. Land division still required notice, even middle housing land divisions, with opportunities for neighbors and the public to comment. However, the land division did not need to identify what would be built on the lots, and the building permit process was the same as a single-family home.
- Design Standards were an important part of the project, and a big focus was to develop design standards to help the different housing types blend in neighborhoods and maintain the look and feel of current and future Wilsonville neighborhoods. These standards were intended to be direct to meet a purpose, while not unduly increasing the cost of construction.
 - A key concept was that the same standards needed to apply to detached, single-family as well as middle housing, except for some specific model Code provisions defined by the State, which drove how the design standards were built.
 - Two new design standards were proposed for single-family detached homes and middle housing throughout the city:
 - Façade variety, which built off existing variety standards in Villebois and Frog Pond that had worked well to avoid monotony or having repetitive design.
 - Architectural consistency and interest. A single building needed to have one style, so even with a shared wall type unit, the entire structure needed to have a uniform design. Larger building façades needed variation to create visual interest.
 - A lot of thought went into how design standards could help middle housing look similar to existing detached single-family and, as previously discussed at Planning Commission, the current proposal appeared to strike the balance of meaningful standards that were not too costly.
 - For middle housing, the City was allowed certain standards defined by the State that were specific and varied to each type of middle housing, so standards were different for townhouses than triplexes or quadplexes, for example. The standards focused on entrance orientation, the number of windows, and parking configuration, which could vary depending on the type of unit. The standards had followed the State Model Code and worked well with the City's Code, even though they were based on the same Model Code, because the same type of standards applied to development in Frog Pond under the Residential Neighborhood Zone.
- Middle housing land divisions was a new concept in the Code that allowed a lot to be divided for platting and property transfer purposes to allow individual units, such as in a triplex or duplex, to be sold to different owners. The zoning regulations would be applied to the parent lot, so things like setback or lot coverage were applied to the parent lot, and the individual units within the parent lot did not have to meet those standards, only any Building Code property line standards.

- The land division did not change the type of housing unit. A duplex divided down the middle could technically meet the definition of a townhouse, but did not change from being a duplex just because it was divided. For certain types of units, the land division changed the regulations that could apply. Even if the land underneath a unit was divided, the unit remained the type of housing it was when developed.
- The State required land division to be allowed for new middle housing starting in the middle of next year. Based on feedback from the Commission, Council, and through the public review process and the desire to have more options for homeownership at a lower price point, in particular, the City was expanding the allowance to both existing middle housing and accessory dwelling units (ADUs). The State required a special expedited review for land divisions associated with new middle housing. However, middle housing land divisions not required by the State would go through the existing Class 2 process with public notice and appeal possibilities, as partitions and other land divisions currently did.
- The Old Town Residential Rezone fulfilled an action item from a resolution adopting the 2011 Old Town Neighborhood Plan and resolved a process compliance issue for middle housing to ensure that middle housing did not go through a more complex, cumbersome, and time-consuming process than single-family homes in Old Town. The rezone also followed the existing Old Town residential design standards and only made changes specifically required by State law.
 - The yellow portions of the map showed the slightly less than 20 acres of property in Old Town to be rezoned to the new Old Town Residential Zone. (Slide 19)
- Planned Development Non-Conforming Process and Standards. Similar to the Old Town changes, these modifications resolved some process compliance issues. Currently, if a planned development approval was received for a neighborhood back in 1983, for example, the standards applied in 1983 essentially applied forever. The proposed standard allowed applying current standards to redevelopment in the planned development, and any changes to the planned development needed to come closer into compliance with current standards. The proposed standard would apply not only to residential, but also to industrial and commercial development in the city, as noted in the public notice.
 - Two methods were proposed to make planned developments legal nonconforming:
 - Threshold. When a new code was adopted, such as for Town Center, virtually every numerical standard changed. A threshold had to be met if the majority of the standards were changing, so that any existing planned developments would then become legal nonconforming. [1:23:10]
 - Specific Council designation was an option as part of a Development Code update or a standalone. Part of the package recommendation was to designate existing residential developments to be legal nonconforming which would enable middle housing development, as well as any redevelopment meeting current standards.
 - Middle housing was exempt from any density maximums designated in any of the previous residential planned developments, which was a State compliance issue.
- He reviewed how the desired project outcomes had been reached as follows: (Slide 21)
 - To support a thoughtful, inclusive built environment, the project thoughtfully considered the new siting and design standards to ensure they contributed positively to the look and feel of Wilsonville. The standards incorporated diverse viewpoints and citizens' needs, including quite a bit of input from the Latinx community.
 - To comply with HB 2001 and the related administrative rules adopted by the State, the City completed the audit and made the necessary changes identified in the audit. The Department of Land Conservation and Development (DLCD) staff had reviewed the proposal, met with the project team, and did not have any substantial concerns and therefore chose not to provide written comment. The City appreciated the State's valuable partnership, including the funding of \$95,000 in grant money to support the project.
 - To increase the opportunity to develop more middle housing to help meet the housing needs of Wilsonville's diverse community, the project removed regulatory barriers, allowing more opportunity for development of diverse housing. The City recognized this was only one aspect of a much broader

effort to meet housing needs and was one of a number of action items identified last year in the Equitable Housing Strategic Plan and it fulfilled one of those priority action items.

- Including public outreach to inform middle housing design, particularly from historically marginalized communities of color, was another desired outcome. A number of targeted community meetings were held, and information was shared widely through online engagement, such as *Let's Talk Wilsonville*. For the Latinx outreach, the City partnered with Centro Cultural of Washington County with the support of a Metro grant and included a series of Saturday afternoon focus groups, as well as Spanish language surveys. The project team was mindful to ensure the input received from all the sources had meaningful project impact and appreciated how the input came together to inform the project.
 - Attachment 7 provided information about all of the outreach efforts and specific impacts on the package before the Commission tonight.
- To update the infrastructure plans needed to support additional middle housing production, the City worked with consultants who had worked with the infrastructure plans previously to do sensitivity analyses. Generally, the system could handle the incremental changes anticipated. The full analysis was in Attachment 6.
 - An additional study was needed for Frog Pond as part of the East and South Master Plan that was already scoped, funded, and in progress. Potential additional middle housing in Frog Pond West would eat up more of the infrastructure capacity in that sector of the city which needed to be thought through as part of the Frog Pond East and South master planning, but sufficient infrastructure would accommodate anything that would happen in Frog Pond West.
- The object of usable standards was to ensure the standards created had a high likelihood for use. Staff and the consultant team as well as the Planning Commission, City Council, and developers all offered feedback on what the key components were of usable standards.
- Minimize Parking Congestion. Substantial effort was put forth to evaluate and update parking strategies and policies to minimize parking congestion. Parking was a major focus of the online survey.
 - Parking constraints included limited land which competed with other needs outlined in the online survey outreach report, such as back yards, space between houses, and open space. In addition, per State requirement, cities could require no more than one space per unit, although most development built above that minimum.
 - Parking opportunities included making parking spaces more usable and accessible, such as ensuring the correct size and avoiding obvious conflicts, such as storage or trash containers. Garage parking should have specific requirements, such as the garage being kept clear and used for parking. Additional parking was encouraged as appropriate in constrained areas. For units over 1000 ft or larger developments, a preference of two spaces per unit was encouraged though could not be required, and development partners would be made aware of the City's preference.
 - Outreach pointed to a desire to have visitor parking options. Visitor parking needed to be designated or it would become extra vehicle parking. If 10 percent or more of lots did not have adjacent on-street parking in a development, the developer had an option to add additional parking that must be within 200 ft of a lot and be owned and maintained by an HOA. The land would come from incentivizing trade-offs of slightly reducing lot size and open space to enable additional space for shared visitor parking.
- In summary, the proposal was compliant with new and existing State regulations, Metro regulations, and local policies and regulations. The compliance findings were included in Attachment 8.
- He noted a memorandum had been emailed to the Planning Commissioners noting a number of minor edits made to the proposed Code amendments, which he reviewed as follows:
 - Striking the language pertaining to old housing numbers that were no longer applicable.
 - An undefined reference to "specified middle housing" did not specify the middle housing. The language was clarified to point out that when discussing density ranges in the Comprehensive Plan, middle housing, as well as ADUs, were either exempt from density or, in the case of townhouses and cottage clusters, had some type-specific density limits, which were further defined and delineated in the standards for each of the zoning districts.

- The missing word "development" was added to single-family residential in reference to single-family subdivisions in commercial and industrial zones as part of larger planned developments to clarify the developments were subject to allowing middle housing and updated standards.
- Language was added for a new standard requiring waste container storage outside of the parking area for the garage to clarify the containers would be those provided by the franchise hauler, to include solid waste, recycling, and yard debris, for example.
- Staff recommended approval to City Council of all of the different components discussed. (Slide 31)

Joe Dills, Angelo Planning Group (APG), commented that the comprehensive Code update was done comprehensively, adding it would take time for developers to pick up on it and for the proof of the work to play out on the ground. He believed it was well put together, thorough, and infused Wilsonville values.

Kate Rogers, APG, noted the packet before the Commission was large and detailed. The project team had focused on getting the details right and had met with DLCD to review the proposed Code amendments to ensure they complied with the rules and with HB 2001 legislation. DLCD was supportive of the changes and did not identify substantive compliance issues.

Commissioner Tusinski noted a citizen had asked if there had been any discussion about noncompliance and what would happen if the City did not comply with the State.

Chair Mesbah also asked for clarification regarding the delegation of authority from the State to the City for planning. He understood the City did not have the right to make its own mind, but rather that delegation was from the State.

Ryan Adams, Assistant City Attorney, noted home rule was what applied. Home rule was an imprecise term to describe a city's or a county's power to form its own government and to a certain extent, to define the scope of its own powers, but just like any rule or right, there were limitations. The principle of preemption said that if a state legislature adopted a law, then a city did not have the authority to override that law; it was black letter law and that was well-established. In this case, if the City did not adopt the updated ordinance, then Land Conservation and Development Commission (LCDC) would apply its own model ordinance. The choice was to adopt what had been worked on or the direct revisions to that work, otherwise the State's model ordinance would take effect. He understood the frustration of local citizens saying local ordinances should be local, but when the State acted and adopted a law, ordinances were taken out of the City's hands. The fix was not necessarily to pick a bone with the Planning Commission or the City Council. The extent of the citizens' concerns needed to be addressed at the ballot box or taken to the legislature.

Commissioner Tusinski:

- Noted she was asking purely for the citizens who had questions about what would actually happen to Wilsonville if the City did not adopt the rules.
 - Mr. Adams responded the model ordinance would apply. The City would give up its right to adopt its own ordinances, and the State would take over and adopt whatever model rule was put forth by the LCDC.
 - Mr. Pauly added that the rules allowed the City to do some tailoring to specific circumstances, as done with Old Town, Frog Pond, and Villebois, for example. If the legislation was ignored, the State Model Code would come into effect and would apply citywide. More broad allowance would be included during initial buildout in Frog Pond West, for example. Design standards would be limited, and design standards would be implemented that might not work well in Wilsonville's context. Many components were the same either way, but the rules did allow the City to tailor the standards to Wilsonville where allowed.
 - Ms. Bateschell noted that in terms of process, the State could come in and mandate the changes to the City's Code, but prior to that, the City could not implement any of the standards that were contrary to the State Code. Even if the City's Code said a duplex was not allowed on a lot or had to go through

the Development Review Board process, those Code items could no longer be required of an application was based on the new State law. Those processes and standards would no longer apply because they were contrary to State law, and doing so would put the City in a risky legal situation where the State could take the City to court.

- Explained the responses were helpful to have on record based on the citizen comments received via email so they would understand what the City was up against, regardless of what the City wanted.

Chair Mesbah noted home rule was present when building a house. Electric code required an outlet every four feet, but did not say exactly where, and otherwise, no occupancy permit would be issued. Though an individual might believe they should be able to build their home however they wanted, codes existed all over to prevent endangering the health and safety of others. The State's policing power ended up being the planning tools that determined where to build or not to build and that was what was at stake. Doing whatever was wanted did not work anywhere, whether in driving, building houses, or living.

Mr. Adams noted the policy was set by the legislature. In 2004, the voters adopted Measure 37, which was significantly curtailed in 2007 by Measure 49. The State recognized the problem and was doing its best to address the problem with a legislature fix, which did not work. Like the United States, the City was an experiment in democracy. He commended Mr. Pauly and the consultants for developing Code that was compliant with HB 2001.

Mr. Pauly noted some formatting issues with Attachment 2, the Frog Pond West Master Plan. While he had struck out all references to the expanded 10 percent requirement, one reference remained on Page 13 of Attachment 2 in the PDF which would be struck out as well. The section would be corrected as follows: "...This expands the previous limited requirement for large, which requires 10 percent of units. ~~The 10 percent requirement has been expanded to include all subdistricts.~~" He confirmed there were no other references to the 10 percent requirement.

Chair Mesbah called for public testimony on Middle Housing Resolution LP21-0003.

Dorothy Von Eggers stated she was on the original 2014 task force working with the Angelo Planning Group. She was in the HOA of the Landover neighborhood, which was surrounded by Frog Pond West, East, and South. Back then, the issue was high-density housing versus medium- and low-density housing. After hearing that middle housing was exempt from any density maximums, she was uncertain what that meant. Back in 2014, there were hours and hours of verbal testimony, as well as pages and pages of testimony, mostly against high-density housing. The proposed changes were reviewed ad nauseum and went on for years. She did not believe there was a need to recreate the wheel, but she asked that all of the testimony regarding high-density housing be entered into the record for the middle housing project.

- In regard to the different housing projects, she requested to vote separately on each of area of the city, such as Villebois, Frog Pond West, and Old Town, etc., rather than looping the areas in as one decision encompassing all three areas.

Michele Sandlin noted opportunities were mentioned regarding the minimized parking congestion to make parking spaces more usable and accessible, and she asked whether usable and accessible were defined in detail. She also asked what constituted constrained and appropriate with regard to additional parking in appropriate constrained areas. She concluded that knowing what terms meant was important.

Sparkle Anderson confirmed she did not want to provide testimony.

Ms. Bateschell confirmed there was no further public testimony.

Chair Mesbah asked Staff to address Ms. Sandlin's questions about the specifics related to parking maximization.

Mr. Pauly explained the terms Ms. Sandlin asked about were specifically defined, but he had used discretion not to go into a lot of detail for the sake of time. For example, usable and accessible were defined by such things as specific size, such as a defined size of 9 ft x 18 ft, and spaces needed to be clear to get into and not conflict with walkways and storage areas. Usable and accessible meant having a requirement or covenant preventing long-term storage if the parking was in a garage to keep the garage clear for parking. The intent was to have those terms defined. Constrained referred to a lack of on-street parking and was defined in the Code where it applied. He noted he had used generic terms for the sake of brevity, but the terms were defined in specificity in the Code.

Ms. Bateschell asked Mr. Pauly to address the question from Ms. Von Eggers about the meaning of middle housing being exempt from any density maximums, and to also speak to the lot standards in Frog Pond West and how that intersected with the density exemption.

Mr. Pauly stated the lot standards were the key, and the lots were the one key thing kept the same in Frog Pond West. The lot sizes and the number of lots were both kept the same. The envelope that could be built to remained the same, so things like setbacks and lot coverage all remained the same, the number of lots remained the same, and minimum lot sizes for the different subdistricts remained the same. In that same envelope, which might have been previously a single-family house could be a duplex within the same footprint. The design standards were also written as such that the duplex would have a similar look and feel to the single-family that was envisioned. The overall look and feel of Frog Pond and the perceived density from an urban design standpoint would be substantially the same. What happened within the walls of the building was where the exemption applied, where additional units could be added within the envelope without restriction.

Chair Mesbah noted the question was what did the exemption do to density or units per acre. The goal was to bring up the density in Frog Pond from what it would be at full development to something higher and asked what those numbers were.

Mr. Pauly noted there were some options, depending on whether the Model Code applied or whether those options were tailored specifically to Frog Pond. Frog Pond had the option of allowing some level of additional density or defaulting to the base standards, which would be even more density. For example, if density was not increased from 6.5 units to 8 units per acre, then quadplexes would be allowed on any lot, and the default would be a much bigger increase than 8 units per acre. The chosen approach was most consistent with the Frog Pond Master Plan and its established density, which was the intent. [Inaudible] the previous planning effort as much as the regulations and current policy direction allow.

Ms. Bateschell confirmed the lots remained the same in terms of the overall number of lots that were allowed to be subdivided when developed. The number of lots did not change. The State law was exempting middle housing from density, so at a base level, if a density maximum was applied on a development project, the middle housing applicant would not be denied just because they went over the density. What still applied were things like setbacks, lot coverage, and the fact that only certain housing types could go on certain lots of certain sizes, etc. Other factors came into play, and density did not just now allow four to seven times the amount of density allowed before. Everything would operate within the same density envelope. The City could not say a unit had to be a single-family home; a unit proposed as a duplex must be allowed.

Mr. Pauly added the change to the Code ended up being simple. For Frog Pond, the number of units range for each subdistrict was changed to a number of lots range in order to meet the 8 units per acre while staying as close as possible to the Frog Pond West Master Plan.

Chair Mesbah closed the public hearing at 8:11 pm and called for Commissioner discussion.

Commissioner Greenfield noted a question had been raised by a member of the public regarding breaking out the separate pieces of the resolution for individual adoption, such as the updates to the Comprehensive

Plan, Frog Pond West Master Plan, etc. He asked if that was even feasible. He believed the updates had been approached in a fairly holistic way, and consistency had to be maintained across the city in the zoning approach and in the accommodation of the middle housing requirement. He doubted it was possible to break out more precisely the impacts of the various planning documents that existed.

Mr. Adams agreed on keeping the resolution together. He did not see any issue with breaking the resolution apart but believed it was cleaner to keep it together.

Ms. Bateschell added that historically, the resolutions had always been kept together to tie the intent to the changes. If later, clarity was sought on a change in a document or what a Code standard meant, the history of initial adoption and how it changed could be tracked to this specific resolution, which was tied to HB 2001, middle housing compliance, and the Equitable Housing Strategic Plan. Separating the resolutions would be challenging with the record because the changes were intertwined. Changes to the Comprehensive Plan related to changes in the Development Code, which related to design standards. The Old Town Plan was tied to the rezoning, which was also tied to the Development Code. All of those elements were interrelated and the standards correlated with one another to allow what was needed, and the testimony received was related in relationship to how those standards functioned. Keeping public input and the record apart would be difficult. The record could be duplicated and have multiple motions, but in effect, the end result would be the same.

Chair Mesbah added a public hearing had been held on the subject resolution, but not on any new separate resolutions.

Commissioner Heberlein noted the public hearing would have to continue and have new resolutions, which would only be something to do if the Commission felt there was a need. He believed his vote would be the same regardless of whether the resolutions were separate or together, unless there was going to be a change in one that would impact one and not the rest.

Chair Mesbah agreed, adding that theoretically, voting no to Old Town would still not meet the State mandate. All resolutions would have to be accepted because the City as a whole needed to come to the required standards to be in compliance.

Commissioners agreed the resolutions should be kept together and not separated.

Commissioner Greenfield moved to adopt Resolution LP21-0003. Commissioner Gallagher seconded the motion.

Commissioner Heberlein moved to amend the main motion to include the following refinements:

- Adding the memorandum from Daniel Pauly dated September 8, 2021 noting minor edits to the proposed Code Amendments.
- Removal of the 10 percent requirement expansion to all subdistricts on Page 13 of Attachment 2.

Commissioner Gallagher seconded and the amendment to the main motion was unanimously approved.

The main motion to adopt Resolution LP21-0003 as amended was unanimously approved.

Chair Mesbah noted the Commission had worked hard on the project and tried to thread the needle. He could understand that most interested parties of the public, perhaps had better things to do than to follow all eight work sessions it took to build this project and the debate involved to make sure the flavor was very much a Wilsonville flavor.

Commissioner Gallagher said she appreciated the comments made about distinguishing between what the State was requiring and what the City's options were with home rule. A lot of the dissatisfaction she had heard about had come from the fact that people in the community did not understand there was an option and things

were not just being done arbitrarily. The discussion was helpful and something for which the public should be made aware, that the choices were to amend the Code according to State ruling or to lose the option to have any input and be overridden. The public would benefit from having that information. She also appreciated the extra time Mr. Pauly took to bring her up to speed, being new on the Commission. The Staff had done an extraordinary job under very difficult circumstances.

Chair Mesbah agreed citizens needed to be educated more on what could and could not be done. He congratulated Staff and the consultants for a magnificent job, and for being responsive to the types of concerns the Commission raised. On every issue, a consultative process was used to try to get to the root of the issue and to make the Code amendments work in the least destructive way with the best fit.

Commissioner Heberlein thanked Staff and the Planning Commission for all of the work on the project. He noted the work had been a grind for everyone, and so far, the hardest thing he had gone through as part of the Commission. He believed that in the long run, a good job had been done in trying to meet the needs of all of the constituents in the city.

Chair Mesbah called for a brief recess and reconvened the meeting at 8:33 pm.

Ms. Bateschell noted she did not get to extend her congratulations before the recess and wanted to briefly do so before the work session. The Middle Housing Project was an amazing feat of work in a way that the City had not done before. The City had other big projects, such as Town Center, which was a lot of work over two years, but it did not involve eight work sessions in ten months on very detailed Code provisions. She personally wanted to acknowledge the amazing effort of Mr. Pauly, who kept the project on track and consistent with State code. The project was finished on time and on budget, and the whole team, including the Planning Commission, deserved congratulations. The seven volunteer members of the Planning Commission had contributed countless hours in particular to this project and had looked critically at the Code with good, thoughtful planning that was best suited and best fit for Wilsonville, which was invaluable to the community and the residents. She expressed her gratitude and thanked the Commission for its work.

III. WORK SESSION

A. Urban Forest Management Plan (Rappold)

Miranda Bateschell, Planning Director, noted the Urban Forest Management Plan (UFMP) had come before the Commission around the same time House Bill 2001 was launching. The original intent was to present the plan to the Commission in the spring of 2021, but the massive ice storm in February 2021, as well as other different climate-related events over the past year and a half prompted the project team to want to revisit the Plan to make sure it was reflective of those recent events and what the City needed to be doing moving forward.

Kerry Rappold, Natural Resources Manager, introduced Consultant, Chris Peiffer, and noted the delay had allowed a couple of opportunities to be presented over the last five or six months. Since the winter storm in February, a winter storm response team had been working internally with the City. A couple interns with the Public Works Department had been updating the street tree inventory that was done back in 2018, and the project team hoped to incorporate the information from that report. Some new software had recently become available that allowed for using tree equity scores, and the team would be able to incorporate some of that information as well. Over the last year, various elements of the project had been worked through. The project team did its own inventory which looked at about 2400 trees and re-inventoried some of the trees included in the 2018 study and added some new trees, especially within Town Center. Information in the UFMP had been helpful to the Town Center Streetscape Plan. The team had also been working on some of the various planning elements that would be presented to the Commission tonight, specifically in regards to the goals and actions.

- The project had fairly extensive public involvement, including two virtual surveys and open houses conducted last fall in which nearly 100 people participated. Specific outreach was also done with the Charbonneau community. The photo contest was quite exciting where people could submit photos of individual trees and groves of trees within Wilsonville. There were more than 80 photo submissions, and

three prize winners were selected, along with their photos, to be featured in the draft UFMP which would be presented at the Commission's October work session.

- The project team wanted to get the Commission's initial input on the goals and actions, and how they should be prioritized to help target the years in terms of implementing the goals and actions. The UFMP was a 25-year plan, so not all of the items would be done right away, but the team wanted an idea about what the Commission, as representatives of the community, and community member believed were the most important actions to move forward with the goals. The Commission would be able to provide input on the overall draft UFMP in October and a public hearing on the UFMP was planned for November.

Chris Peiffer, PlanIt GEO, presented the UFMP via PowerPoint, reviewing the project's background and approach; its visions, goals, and supporting actions; the key findings in the focus areas of Town Center and Charbonneau; and a brief summary that outlined the next steps.

Mr. Rappold clarified that within the focus areas, the draft Plan contained both lists of trees that should be preserved and ones that should be removed based on their condition. The Plan also had a variety of planting lists, one specific to climate change, for instance, and others specific to the focus areas, etc. He reiterated that some of the information was used as the basis of the Streetscape Plan. He noted some areas within Town Center were not surveyed based on the budget to survey only a certain number of trees, but some areas within Town Center were not likely to redevelop, such as the post office and community college, or it was driven by the proposed street network.

Discussion and feedback from the Planning Commission was as follows with responses by the project team to Commissioner questions as noted:

- How much detail would the tree equity scoring tool provide for neighborhoods since a lot of neighborhoods had lost trees, and would the report include recommendations for specific types of trees?
 - Mr. Rappold noted the project team hoped to use the tree equity information within the Plan, but he believed the scoring tool would be revisited moving forward over the 25-year planning period. Using the scoring tool would be a key discussion as part of the urban forest working group that would be established to coordinate between Parks and Recreation, Community Development, and Public Works.
 - Regarding tree recommendations for neighborhoods, over the last year and a half, a new partnership was started with the Friends of Trees Neighborhood Trees Program. Two events this fall would involve 100 trees per event, and City Staff would work closely with the Friends of Trees in terms of selecting trees within those neighborhoods. The Plan referenced a list of trees created by Friends of Trees for climate adaptive trees. All of those pieces would fit together moving forward in terms of how the City worked within the various neighborhoods in the community.
 - Mr. Peiffer noted one recommendation was to consider developing master tree planting plans in the focus areas and perhaps extending that to neighborhoods, working with partners like Friends of Trees. Decisions should be made using the recently updated inventory data, along with the recommended tree list in the draft UFMP which would help to inform species and diversity, so pests and diseases that came through would not wipe out a complete neighborhood block of one species. He added that follow-up canopy assessments were also recommended. The tree equity score was a starting point. Future canopy assessments might look more closely at the neighborhood level or even down to a parcel level to know the percent canopy and potential planting space where more trees could go. There were ways to really refine data to identify some priority areas to address equity, surface temperatures, reduce stormwater volumes, and other variables. Many tools were available, but the tree equity score tool was a good starting point for getting the 36 percent tree canopy by 2046 draft goal in place.
 - Mr. Rappold added a more extensive report would be provided about the revisiting of the street tree inventory. Some information had been shared internally already, and he believed the community would find it interesting.
- Mr. Rappold noted the Plan probably would not get to the level of directing design standards so trees were placed in a location where they could mature in place without causing conflicts, such as being too

close to a home or nested with water lines and cable lines, for example. Some things would need to be followed up on when looking at the Development Code or standards, and those would follow a separate path. Information specific to Town Center and Charbonneau could be used, because the team looked at those trees in regards to site constraints and other things that could be an issue. Site constraints would come into play when looking at redevelopment within Town Center. The focus area information could be used going forward to inform future discussions about the Code or standards, but there were no specific citywide types of recommendations.

- Mr. Peiffer explained the project team did not initially have canopy assessment data to set the overarching goal of 36 percent tree canopy, which drove other goals and actions in the UFMP. American Forest completed the tree equity score, which resonated across the country in terms of what urban forest could do, and where gaps were in canopy. Often underserved/lower income areas had less tree canopy. The tree equity score looked at a number of different criteria to get a score from 0 to 100. Citywide, Wilsonville's score was 77 out of 100, but when looking at all of the census block groups, which was the geographies the tree equity score utilized, more than half were under 75, the recommended level for tree equity. The 36 percent tree canopy required 27,000 trees, which would bring all census blocks to at least a score of 75, which would address canopy, income levels, age, race, human health, and a variety of other factors.
 - Mr. Rappold added the new partnership with the Friends of Trees and its Neighborhood Trees Program would hopefully enable more events that could target some of the deficient areas within neighborhoods, but the Planning Commission, City Council, and the community had to agree upon the goal.
- Trees were a consistent area where neighbors struggled with problems with specific species that were in the Street Tree Plan or a general lack of understanding of good tree maintenance, for example. The UFMP goals and actions should align with more active outreach with homeowners associations to ensure they had the tools necessary to help support residents. The Plan should help homeowners maintain the trees they had and if possible, provide active revisions of street tree plans for different homeowners associations by helping to define alternate trees for problematic species trees when something new needed to be planted. The key was developing that information and making sure to actively pass it to the homeowners associations so they could share it with residents.
 - Mr. Rappold noted part of the winter storm response team's discussion was recognizing that there could never be enough education in the community about proper tree maintenance. Some of the issues with the winter storm were related to a lack of proper maintenance, such as necessary pruning over time, for example.
 - Mr. Peiffer added that one of the recommended actions in the draft was to create manuals that laid out the industry standards and best practices for maintenance and proper planting, which could be supported by the recommended tree list drafted as part of the project.
 - Mr. Rappold noted Friends of Trees had gotten some funding to conduct workshops in the community that would help people understand the best practices and how people should be dealing with trees.

Chair Mesbah:

- Noted that when he first moved to Wilsonville, he was surprised to find out the street trees on French Prairie Rd were his responsibility as a homeowner. Where he came from, street trees belonged to the City. The City maintained them and pruned them. If street tree maintenance was left to the homeowner who could not afford the maintenance, it would not happen. Adding 6 percent to the tree canopy was fine, but who was paying for it? Maintenance all falling on the homeowners, or the homeowners association who then dumped it on the homeowners, meant affordability would go out the window. He understood why cities depend on homeowner associations to take the load off in all manner of public works activities, but in a big part of the country, such activities were the City's responsibility and paid for by property taxes.
- Noted incentives and funding for training was one thing, but funding for maintenance was also going to be necessary in at least some situations. Most homeowners in Charbonneau might not need it, but having such a broad coverage in neighborhoods designed for affordable housing could very well end up becoming an onus for property owners.

- Mr. Rappold noted options had been discussed during the project planning on what it would cost the City to take on more of the responsibility, which went back to whether funding was available and what it would entail in terms of the number of staffing. Currently, the Public Works crew was responsible for the street trees they maintained, but only a small percentage of their time was devoted to tree maintenance; nobody was devoted full-time to tree maintenance. He noted Chair Mesbah's point was excellent, but it required the buy-in and support of City Council in how to go about funding it.
 - He agreed finding some efficiencies, such as discounted rates for HOAs or other groups, could be helpful from time and cost perspectives.
- Suggested manuals and guidelines would be helpful to establish clear standards. Certifications should be considered for arborists who were familiar with the standards the City wanted enforced, so a homeowner could easily find a City-trained arborist to maintain their trees without question. Maintenance work could later be checked to determine if the arborist needed to be put through the certification training again. A certification system would be much easier and less confusing than having multiple calls, starts, and stops with an arborist.
 - Mr. Rappold agreed that standardizing and creating awareness and expectation of how things were done would be helpful.
 - Mr. Peiffer added that many cities had a registration list or licensing for ISA-certified arborists, and those were the only arborists to call on for street trees.

Chair Mesbah stated the plan had a nice framework. He looked forward to seeing the draft UFMP next month and confirmed the public hearing would be held in November.

IV. INFORMATIONAL

A. City Council Action Minutes (August 2 & 16, 2021) (No staff presentation)

There were no comments.

B. 2021 PC Work Program (No staff presentation)

Chair Mesbah highlighted the Planning Commission's upcoming work sessions.

Miranda Bateschell, Planning Director, expressed her appreciation of Assistant Planner Georgia McAlister, who had helped run a seamlessly, unflawed meeting tonight, providing support during the absence of Administrative Assistant Tami Bergeron. She appreciated not having to multi-task tonight, commending Ms. McAlister for a job well done.

V. ADJOURNMENT

Chair Mesbah adjourned the regular meeting of the Wilsonville Planning Commission at 9:23 p.m.

Respectfully submitted,

By Paula Pinyerd of ABC Transcription Services, LLC. for
Tami Bergeron, Administrative Assistant-Planning



CITY COUNCIL WORK SESSION STAFF REPORT

Meeting Date: July 20, 2020		Subject: Urban Forest Management Plan	
		Staff Member: Kerry Rappold, Natural Resources Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable	
		Comments: N/A	
Staff Recommendation: Provide input on the proposed Urban Forest Management Plan.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities Stewardship of the Environment and Natural Resources	<input type="checkbox"/> Adopted Master Plan(s)	<input checked="" type="checkbox"/> Not Applicable	

ISSUE BEFORE COUNCIL: Provide input on the proposed Urban Forest Management Plan and upcoming process.

EXECUTIVE SUMMARY:

The City has kicked off an Urban Forest Management Plan (UFMP) to guide the City's programs and actions related to the urban forest. Active management of the community's urban forest is becoming more critical as it ages and changes. While the Plan will come back to the City Council as it progresses, staff wanted to inform the Council of this important project and get feedback on the potential content and process to develop the Plan. This will be the City's first comprehensive Urban Forest Management Plan.

Wilsonville's urban forest is comprised of all trees in the city, both native and planted, public and privately-owned, that contribute to the seasonal beauty and livability of the community. Trees help clean the air, manage stormwater, conserve soil and water, reduce heating and cooling costs, provide habitat for wildlife, and bring nature to where we live, work, and play. Trees are a critical component of the City's green infrastructure and environmental stewardship goals.

The UFMP will provide an integrated approach to preserving, sustaining and regenerating Wilsonville's urban forest into the future. While the UFMP will cover the entire City, it will have two focus areas: Charbonneau and Town Center. In Charbonneau, the focus will be primarily on the Red oak population along French Prairie Road, and in Town Center an inventory will be conducted identifying trees that would be good candidates for retention as part of future redevelopment scenarios. Recommendations in the plan will address issues and topics specific to the urban forest in these areas. An important foundational component of the UFMP will be the City's street tree inventory completed in 2018. Over 24,000 trees were inventoried and entered into the City's asset management system Cartegraph. The inventory provides a critical starting point for developing the Plan as it relates to the management of publically-owned trees.

Following a competitive process staff selected a consultant, PlanIT Geo, to provide the technical assistance in developing the UFMP. The consultant has extensive experience with developing urban forest management plans and providing local, regional and statewide forest resources planning throughout the U.S. and, specifically, within Oregon. Their scope of work and schedule for the project is included as Attachment A, which identifies the various steps in developing the plan.

An interdisciplinary team, comprised of staff from Community Development, Public Works, and Parks and Recreation, will participate with the consultant and public in the development of the Plan. The team members will provide their expertise about Wilsonville's urban forest and identify key issues to be addressed within the Plan.

BACKGROUND:

In Wilsonville, a healthy and vibrant urban forest has always been a high priority. Whether seen through the colorful array of street trees or the extensive forested areas, trees play a pivotal role in the identity of the community. For twenty-two years, the City has earned the designation of a "Tree City USA" from the National Arbor Day Foundation. In 2019, Wilsonville was one of only 10 cities in Oregon to earn Tree City USA's "Growth Award" for enacting innovative projects that exceed Tree City USA standards.

The City's Tree Protection code prescribes requirements for protecting and conserving trees,

including those on private property. The code acknowledges the ecological services provided by trees, such as reduced air pollution and improved water quality, but also the economic contribution trees make to local property values. When it comes to historically significant trees, the Heritage Tree Program recognizes trees or groves of trees due to their age, design placement, link to important events or activities, location, persons associated with them, setting and size. For example, the R.V. Short Douglas-fir at Park at Merryfield is designated both a State and local Heritage Tree as it predates European settlement of the Willamette Valley and has important connections to a key historical local figure.

In partnership with Friends of Trees, the City has enhanced and restored many of Wilsonville's natural areas. Over the last 18 years, volunteers have installed thousands of native trees and plants. In 2019, the City started a new partnership with Friends of Trees to plant up to 100 neighborhood street trees as part of the Street Tree Infill program. The Urban Forest Management Plan will build on the legacy of these efforts in addition to addressing climate change to ensure Wilsonville continues to have a healthy and vibrant urban forest.

EXPECTED RESULTS:

The completion and adoption of an Urban Forest Management Plan, which will guide management of this valuable resource over the next 20+ years.

TIMELINE:

Draft and final plans will be presented to the City Council for specific input and final adoption. The project is anticipated to take 9 months.

CURRENT YEAR BUDGET IMPACTS:

The approved FY 2020-21 Wilsonville budget includes \$18,000 in general funds as part of Project #3006 Charbonneau Street Tree Study and \$38,500 in general funds as part of Project #9165 Urban Forest Management Plan for the planned work. A supplemental budget adjustment will be needed to add unspent general funds from FY 2019-20 to the project, which includes an estimated \$22,000 from Project #3006 and \$28,000 from Project #9165.

FINANCIAL REVIEW / COMMENTS:

Reviewed by: Date:

LEGAL REVIEW / COMMENT:

Reviewed by: Date:

COMMUNITY INVOLVEMENT PROCESS:

Community involvement and public outreach will be a key component of the upcoming project. Staff welcomes input from the Council on public engagement activities for the UFMP process. Currently, the consultant is developing the Community Outreach Strategy, which will employ "Let's Talk, Wilsonville!" and other outreach methods.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY (businesses, neighborhoods, protected and other groups): The UFMP will identify actions that support a healthy and

regenerative urban forest across Wilsonville's public and privately-owned lands through the combined efforts of City government, businesses, and residents. It will be important to engage the community in the care of our urban forest and make them a partner in implementing the plan.

ALTERNATIVES:

N/A

CITY MANAGER COMMENT:

ATTACHMENTS:

- A. PlanIT Geo Scope of Work and schedule

EXHIBIT A - SCOPE OF WORK



PROJECT OVERVIEW

The Urban Forest Management Plan (“Plan” or “UFMP”) will provide an integrated approach to preserving, sustaining, diversifying, and regenerating the City’s urban forest into the future. The Plan will include goals and objectives, an inventory and assessment, strategies, implementation actions, and monitoring—accomplished through strategic partnerships and community outreach.

While the Plan will cover the entire City, it will have two special focus areas: Charbonneau and Town Center. Recommendations in the Plan will address issues and topics specific to the urban forest in these areas—such as the 800 mature northern red oaks in Charbonneau in various states of health, and impacts to infrastructure. A better understanding will be gathered from an in-depth inventory of these trees. The Plan will address program, management, and community needs as well as recommendations for the urban forest resource derived from analyses of the 24,000+ street tree inventory completed in 2018.

The Plan will support ongoing efforts, initiatives, and plans, such as the Town Center Plan adopted in 2019. The commitment to a healthy urban forest is evidenced by Wilsonville being accredited as a Tree City USA since 1997, with numerous "Growth Awards" for outstanding efforts on urban forest projects. This status indicates the City’s long-term dedication to the care of trees that are the urban forest, as well as the City's Heritage Tree Program, which seeks to preserve trees of special historical significance.

Primary issues such as tree preservation during development, climate change, pest and disease, environmental justice, and resource allocation, among others, will be strategically planned with this effort. This Urban Forest Management Plan is the next step to achieve higher levels of urban forest management, sustainability, and equity in an ever-changing environment and community.

PROJECT APPROACH

Throughout the term of the Project, Consultant will:

City Scope of Work Item	PlanIT Geo Proposal Approach
<p>1) Long-Term Strategy Framework: Establish a framework for a long-term strategy (minimum 25 years) to protect, conserve, and enhance the City’s urban forest with comprehensive goals and objectives. Develop specific recommendations to implement the goals and objectives.</p>	<p>3) Internal Work Plan 4) Program, Plans, Initiatives, and Meeting Alignment 5) Information Gathering</p>

<p>2) Urban Forest Status: Describe the status of the City’s urban forest, include the context (history and land use changes, environmental conditions), vegetation (canopy cover, tree inventory), and community values and issues.</p>	<p>5A) Existing Plans & Policies 5B) City Operations and Workflows 5C) Existing Conditions 5D) Benchmarking Research 5E) Community Engagement 5F) Urban Forest Audit</p>
<p>3) Current & Future Issues: Identify current and future issues that will affect the City’s urban forest, such as climate change, pests, and tree diversity.</p>	<p>5C) Existing Conditions 5D) Benchmarking Research</p>
<p>4) Urban Forestry Operations: Describe and assess the City’s overall urban forestry activities and practices, including various departments’ roles and responsibilities in permitting, management, and maintenance operations via interview or survey, and review of City documents, such as codes/ordinances. Provide recommendations on improvements to existing programs.</p>	<p>5A) Existing Plans & Policies 5B) Benchmarking Research 5D) Benchmarking Research 5F) Urban Forest Audit</p>
<p>5) Focus Area Goals: Develop specific goals, objectives, and recommendations for the special focus areas in Charbonneau and Town Center.</p>	<p>2) Tree Inventory & Assessment in Focus Areas 5) Information Gathering</p>
<p>6) Community Engagement: With City staff, identify interested parties for community engagement and develop a strategy to obtain public input. Target specific groups early in the Project via email, focus group discussion, online surveys, or applicable strategies (e.g., Let’s Talk, Wilsonville!).</p>	<p>3) Internal Work Plan 5E) Community Engagement</p>
<p>7) Charbonneau Community Engagement: Conduct outreach with the Charbonneau community regarding the health and condition of their urban forest.</p>	<p>3) Internal Work Plan 5E) Community Engagement</p>
<p>8) Plan Outreach & Education Strategy: Develop an education and outreach strategy for Plan implementation. This strategy will include, but not be limited to, website material, handouts, and presentation material for community groups.</p>	<p>3) Internal Work Plan 5E) Community Engagement</p>
<p>9) Monitoring Plan: Develop a monitoring plan that will allow the City to measure progress in achieving the Plan’s goals, objectives, and recommendations.</p>	<p>5F) Urban Forest Audit 6) UFMP Framework</p>
<p>10) Funding & Partnership: Provide recommendations on potential program funding sources or partnership opportunities for implementing the Plan.</p>	<p>4) Resource Alignment 5A) Existing Plans & Policies 5E) Community Engagement</p>
<p>11) Presentations: Prepare presentations of the draft and final Plans and attend meetings before the Planning Commission and City Council. Four meetings (two each) are anticipated.</p>	<p>7) UFMP Drafts, Presentations, & Final Delivery</p>

1. Tree Inventory

Consultant will schedule the project kickoff meeting based on the desired timeline and provide a tentative agenda. Prior to kickoff, Consultant will set up the TreePlotter inventory management software application. Topics to cover during the kickoff may include:

- Project schedule, communications, meetings, and priority areas/incomplete areas
- Acquisition of tree maps and GIS data layers from the City
- Tree inventory data fields and criteria understanding and procedures
- Safety, equipment, and industry standards
- Immediate and imminent tree risk protocols
- Rights-of-way limits and criteria
- TreePlotter software app set up and training, which includes a demonstration and training to the City.

A. Web-Based GIS Data Collection

The web-based GIS tree inventory will be performed using pre-programmed computers (i.e., TreePlotter app tailored to Wilsonville with appropriate accounts) and a combination of GIS and GPS equipment using tablet and smartphone's GPS locator on map ("location services"), Google, Bing, ESRI, OpenStreetMap, local imagery basemaps with spatial lat/long data on tablet, and ISA Certified Arborist's judgement using his/her experience and observations to finalize point location and resolve any GIS/GPS signal issues.

- ❖ As inventory information is collected, data will be instantaneously stored on secure remote servers, eliminating the possibility of data loss, and making it possible for City officials to access and download, at any time, real-time data collection with secure login credentials.

B. Tree Inventory Data Fields

The following protocols and fields will be populated for each tree. Final fields will be determined at the project kickoff meeting and will be set for the duration of the Project. The common data fields requested and collected are as follows:

- Latin Name (genus and species) (automated), Common Name
- GPS Coordinates (automated), Location Address – address #, street name (autopopulated)
- Land Use – Commercial, Residential, Industrial, etc.
- Date Collected – Month/Day/Year (automated)
- DBH – diameter at 4.5' above ground measured to the nearest inch (DBH class automated)
- Maintenance Need (example fields, final fields determined during project negotiation)

- Priority 1 Removal, Priority 2 Removal, Priority 1 Pruning, Priority 2 Pruning, Large Tree Routine Pruning, Small Tree Routine Pruning; others based on Focus Area Goals
- Condition – overall condition of the tree at time of inventory (Excellent, Good, Fair, Poor, Dead)
- Observations – Each visual apparent structural defect will be individually noted
- Notes: Noteworthy information not included in above fields

C. Quality Control and Accuracy

Consultant will provide the City with a professional, courteous, and informative tree inventory project experience, beginning with high-quality tree inventory data.

- All technicians working on this Project will have an ISA Certified Arborist Credential
- During the inventory process, extensive quality control checks will be applied regularly
- The City may periodically perform on-site verification of the data
- If any errant tree site location is detected, Consultant will correct the data promptly

D. Format for Inventory Data Deliverables

Successors and assigns will deliver tree inventory data in the following formats (final determined at kickoff):

- Microsoft Excel – compatible with i-Tree Streets and ESRI GIS shapefile and/or geodatabase
- Electronic copy of data on a USB flash drive or CD and Access/export data at any time at no cost

2. Project Award and Kickoff

Consultant will coordinate a project kickoff meeting with the City’s desired audience to discuss the purpose, timeline, approach, and opportunities to engage. The City will assist in determining the final presentation for the kickoff meeting.

The project kickoff meeting with the City project team will focus on the development of the Urban Forest Management Plan (“Plan” or “UFMP”), and will include the following topics:

- Desired level of planning services
- Plan outline, project timeline, and Plan format
- Planning horizon (e.g., 25-year Plan with 5-year strategies and milestones)
- Focus areas (Charbonneau and Town Center) discussion

- Information gathering procedures and available resources
- Project team, internal/external stakeholders, target audience, and dissemination methods
- Pictures, images, logos, and acknowledgements
- Draft review and revision processes
- Appendices and maps (including inventory maps)
- Tree inventories and assessments approach (in focus areas)

3. Tree Inventory and Assessment in Focus Areas

Based on the kickoff meeting, Consultant staff will coordinate the inventory and assessment of trees in the focus areas, using TreePlotter software to conduct the inventory and gather attributes as determined at kickoff. This information will be used to inform the UFMP, in addition to the analysis of the 24,000 trees in the City's existing system.

4. Internal Work Plan

An internal work plan will be developed based on decisions determined during the project kickoff meeting. The work plan will provide guidance for the project team and a summary that can be utilized by City staff to share with other departments, stakeholders, and partners. Topics provided in the work plan may include:

- UFMP Outline
- Timeline, Meeting Schedule, and Milestones
- Summary Approach
- Content Decisions
- Format Decisions
- Community Outreach Strategy (project website, public meeting, public survey)
- Partners and Stakeholders

5. Resource Alignment (Programs, Plans, Initiatives, Meetings)

Successful UFMP development relies on the momentum and support of planned and ongoing City efforts. Early in the planning process, Consultant will identify potential programs, plans, initiatives, and organizational meetings that could align with phases of the UFMP Project. The City will provide feedback and input. Outcomes of this effort will assist in finalizing the Internal Work Plan while staying within this Project's scope and budget. Examples of this alignment process include:

- Existing community neighborhood outreach events
- Existing programs, initiatives, and projects
- Stakeholder and partner meeting schedules
- City Council and subcommittee meeting schedule and process

- Cultural and ethnic challenges and opportunities to encourage equity of services and outcomes

6. Information Gathering

Consultant will work with the City project team to gather information to inform the Plan. This information may include current tree management procedures, staffing, equipment, budget, service requests, in-house and contractual tree maintenance procedures, and existing plans and reports relating to tree management and the community forest. This information may be collected by completing a questionnaire prepared by Consultant, conducting surveys, and/or phone calls.

The information gathering process will consist of the following planning elements and approaches to achieve Scope of Work items 1-11 in the City's RFP:



A. Existing Plans and Policies

During the information gathering processes, all relevant plans, resources, programs, and initiatives will be reviewed to measure the City's readiness for improved urban forest management and sustainability. This includes review of codes and ordinances.

- ❖ Consultant will conduct research following the USFS Urban Forest Sustainability & Management Audit System (see item F for information about the Urban Forest Audit). Consultant will send the City project team a request for information, and the City project team will send Consultant available resources. Existing plans and policies will be filed on Google Drive, indexed, and summarized.



B. City Operations and Workflows

The existing operations and workflows will be understood and analyzed through a series of surveys, questionnaires, meetings, and requests for information.

- ❖ In coordination with the City project team, Consultant will facilitate an in-person meeting(s) with City staff, stakeholders, and partners. Consultant will send a brief questionnaire to key individuals and work groups identified by the City project team prior to in-person meeting(s). Current operations and workflows will be discussed and defined, along with resource and information gaps. Information gathered will be summarized in the Research Summary and applied to the UFMP.



C. Existing Conditions

The existing urban forestry conditions and trends will be analyzed using available data such as tree inventories, canopy assessments, i-Tree Eco surveys, and other relevant datasets. Prior to data analysis, Consultant's ISA Certified Arborists will collect tree inventory data for the focus areas (northern red oaks in Charbonneau and the trees in the redevelopment area of Town Center). See step 2 for more information.

- ❖ Data from the existing tree inventory will be acquired from the City. Additional relevant datasets will be acquired and analyzed to identify existing urban forestry conditions. Data analysis summaries will be detailed in the Research Summary, and results of the data analyses will be applied to the UFMP.



D. Benchmarking Research

Consultant will conduct benchmarking research, comparing jurisdictions similar in size, location, structure, and other attributes, to inform the development of realistic and achievable goals and strategies for the City's urban forestry program.

- ❖ Consultant will provide the City project team with ~5 comparable cities for benchmarking research and comparison. Consultant will then provide the City project team with attributes to attain from research. A table or matrix will summarize the information discovered for the cities and compared to Wilsonville. Information will be summarized in the Research Summary and applied to the UFMP.



E. Community Engagement

Consultant will facilitate public meeting(s), public surveys, and/or an interactive UFMP project website to gather input and feedback.

- ❖ Consultant will set up a UFMP project website and complete the Kickoff Meeting (1st Community Outreach Meeting, optional). Consultant will complete the UFMP Internal Work Plan to include the community engagement approach, followed by the 1st Round Public Survey (web). Consultant will complete the 2nd Community Outreach Meeting to inform UFMP vision, goals, and strategies, followed by the 2nd Round Public Survey (web). Consultant will provide for a UFMP Draft Public Review Period, and then will conduct a 3rd Community Outreach Meeting to discuss the final UFMP. Consultant will provide up to four community outreach and education materials (fliers, postcard, handout, etc.).



F. Urban Forest Audit System

Consultant will utilize the [US Forest Service's Urban Forest Sustainability and Management Audit](#), which consists of 11 community forestry categories to facilitate the collection of necessary information and identify program and resource gaps. Information gathered from the previous planning elements (A-E) will inform this Audit. With this Audit, urban forest resource, management, and community goals as it relates to the City's urban forest will be informed.

- ❖ All previous planning elements will be completed, and Round 1 of the Urban Forest Audit System will be completed by Consultant and reviewed by the City project team. Round 2 of the Urban Forest Audit System will be completed by Consultant the and City

project team via web-conference call. The final Round 3 of the Urban Forest Audit System will be completed for use in the Research Summary and applied to the UFMP.

7. Research Summary

The findings from the aforementioned planning elements (A-F) will be summarized in a research summary document. This document will be structured to serve as a reference and guide to the final UFMP.

8. Urban Forest Management Plan Framework and Development

Based on the Research Summary (Existing Plans and Policies, City Operations and Workflows, Existing Conditions, Benchmarks, Community Engagement, Urban Forest Audit), the Urban Forest Management Plan will be developed to provide short- and long-term goals, with the strategies and actions to achieve higher levels of service as it relates to urban forest management, sustainability, equity, and other goals identified in the process.

The Plan will include the results of all prior tasks and develop a strategic plan for achieving the established values, goals, and objectives. The Plan will also describe recommended staffing, resources, funding, and funding mechanism for each strategy. Finally, the Plan will include measures and milestones to evaluate success.

9. Urban Forest Management Plan Drafts, Presentations, and Final Delivery

Consultant intends to provide a project experience that consists of frequent reviews and input periods by the City project team to provide effective, meaningful, and relevant recommendations in the UFMP, as follows:

1. City project team reviews and provides feedback on the UFMP Internal Work Plan, community engagement strategy, UFMP Outline, UFMP project website, approach and outcomes of the six Planning Elements, draft Research Summary, draft goals-strategies-targets-actions-adaptive management measures-monitoring measures, three draft reviews, and draft presentations (2) for Planning Commission and (2) City Council.
2. The final UFMP is prepared and delivered as a MS Word and Adobe PDF document for print and digital versions, and UFMP website hosting is transferred to the City after project contract.
3. Supporting data, maps, and information are delivered to the City (i.e., tree inventory analysis, focus area assessments, information discovered, public survey analysis, meeting notes, etc.).

PROJECT SCHEDULE

The proposed timeline is set forth below. The final timeline will be determined during project negotiation and the final Internal Work Plan. Consultant has the capacity to complete the services of this RFP within a narrower timeline if deemed necessary for the City’s objectives.

		Project Management										
Task	Sub-task	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9		
Project Management	Project Negotiation	X										
	Project Kickoff Meeting	X										
	Bi-Weekly Updates		X	X	X	X	X	X	X	X	X	X
		Urban Forest Management Plan										
SOW #	RFP SOW Abbreviation	Sub-task	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	
2	Urban Forest Status	Focus Areas Tree Inventories	X	X	X							
1	Long-Term Strategy Framework	Internal Work Plan	X									
1	Long-Term Strategy Framework	Plan Outline		X								
2	Urban Forest Status	Resource Alignment		X								
2	Urban Forest Status	Existing Policies & Plans		X	X	X						
4	Urban Forestry Operations	City Operations & Workflows			X	X	X					
2	Urban Forest Status	Existing Conditions		X	X	X	X	X				
3	Current & Future Issues											
5	Focus Area Goals											
2	Urban Forest Status	Benchmarking Research				X	X	X				
6	Community Engagement Charbonneau Engagement Plan Outreach Strategy	Community Engagement Strategy	X									
		UFMP Website		X								
		1st Community Meeting	X									
		1st Public Survey				X						
		2nd Community Meeting						X				
8	Plan Outreach Strategy	2nd Public Survey (optional)						X				
		3rd Community Meeting							X			
1	Long-Term Strategy Framework	Urban Forest Audit System										
2	Urban Forest Status Monitoring Plan						X	X				
1	Long-Term Strategy Framework	Research Summary					X	X				
1	Long-Term Strategy Framework	Plan Writing		X	X	X	X	X	X	X	X	X
9	Monitoring Plan	Plan Drafts						X		X		X
11	Presentations	Presentations (2 Planning Commission, 2 City Council)								X		X
		Final Delivery										X

Schedule Summary: Project kickoff meeting, 3 community meetings, 2 public surveys, tree inventories in focus areas, in-person City staff meeting, information gathering, auditing and gap analyses, Research Summary, Plan development, 3 draft reviews, 4 presentations, 1 final interactive Plan.

Urban Forest Management Plan

City Council Work Session

July 20, 2020

Kerry Rappold

Natural Resources Manager



WILSONVILLE
OREGON

Urban Forests

“Urban trees and forests are considered integral to the sustainability of cities as a whole. Yet, sustainable urban forests are not born, they are made. They do not arise at random, but result from a community-wide commitment to their creation and management.”

Clark et al.: Urban Forest Sustainability



Urban Forest Benefits

See The Nature Conservancy's
Outside Our Doors
report for more

- BOOSTS ECONOMY
- INSPIRES PHYSICAL ACTIVITY
- WELL BEING
- AIR QUALITY
- STORMWATER REDUCTION
- NEIGHBORHOOD SAFETY
- WILDLIFE
- REDUCED HEAT ISLANDS
- ENERGY SAVINGS
- PROPERTY VALUES
- EROSION CONTROL
- AESTHETICS
- WATER QUALITY
- IMPROVES FOCUS



Urban Forest Benefits



Property Value

\$\$\$\$

Value added to properties

Air Quality

\$\$\$\$

Filter and absorb pollutants

Stormwater

\$\$\$\$

Reduce gallons treated

Energy Use

\$\$\$\$

Reduce kilowatt hours

Carbon

\$\$\$\$

Store and sequester carbon

Total Value

\$\$\$\$

Total Annual Value

Wilsonville's Urban Forest



Managing the Urban Forest



Programs






- **Tree City USA**
 - 22 years
 - Sterling Tree City
- **Heritage Tree Program**
 - Nine designated trees
 - Fir, Sequoia, White Oak, Japanese maple, Black walnut
- **Friends of Trees**
 - Green Space program (18 years)
 - Neighborhood Trees program (1 year)



What is a UFMP?

- **Vision** for the urban forest
- **Inventories and assessments** of the current status of the urban forest
- **Strategic Plan: goals, objectives, and actions** based on the information analyzed and identified needs
- **Implementation Plan** with specific dates and assigned responsibilities
- **Monitoring Plan** with a system or matrix to check effectiveness and revise the UFMP as needed

PlanIT Geo

 <p>Chris Peiffer, Director of Urban Forestry Consulting Services ISA Certified Arborist & Municipal Specialist (PD-2070AM) BA in Urban Forestry</p>	<p>Project Manager: Project scoping, internal work plan, information gathering, tree inventory analysis, community engagement, project website, policy reviews, city operations, goal setting, plan drafting, presentations</p>
 <p>Maegan Blansett, GIS and Natural Resources Specialist BA in Geography, Minor in Forestry</p>	<p>Information gathering, benchmarking research, data analyses, community engagement, plan drafting</p>
 <p>TJ Wood, Director of Tree Inventory & Assessments ISA Certified Arborist (#RM-7676A) & TRAQ BA in Landscape Architecture</p>	<p>Planning for the tree inventories and assessments in focus areas, TreePlotter software training, data delivery, communications with City contacts</p>
 <p>Rocky Yosek, Tree Inventory Specialist ISA Certified Arborist (WE-11457A) & TRAQ</p>	<p>Tree inventory data collection, TreePlotter software training, communications with TJ and City contacts regarding priority areas, inventory status, etc.</p>
 <p>Elizabeth Schulte, Marketing Director ISA Certified Arborist (WI-1258A) BA in Urban Forestry</p>	<p>Urban Forest Management Plan project website, community engagement, outreach and marketing materials, final plan development</p>

Scope of Work

- Long-term strategy framework
- Urban forest status
- Current and future issues
- Urban forestry operations
- Focus area goals
- Community engagement
- UFMP drafts, presentations and final delivery
- Plan outreach & education strategy
- Monitoring plan



Focus Areas

- Town Center and Charbonneau
- Specific goals, objectives and recommendations



Plan Framework

PLANNING ELEMENTS



POLICIES & PLANS



CITY OPERATIONS/WORKFLOWS



EXISTING CONDITIONS



URBAN FOREST BENCHMARKS



COMMUNITY ENGAGEMENT



URBAN FOREST AUDIT SYSTEM

GOAL FRAMEWORK



STRATEGIES



TARGETS



GOALS (draft)

- ✓ SUSTAINABILITY
- ✓ MANAGEMENT
- ✓ EQUITY

ACTIONS



EVALUATION



Timeline

Month 1 Inventory, work plan, community strategy, web content, public meeting

Month 2 Planning elements

Month 3 Public survey, **City operations & workflows meeting(s)**

Month 4 Planning elements

Month 5 Public meeting

Month 6 Public survey

Month 7 Presentations (Planning Commission & City Council)

Month 8 Plan draft

Month 9 Presentations, final delivery

Questions





PLANNING COMMISSION WORK SESSION STAFF REPORT

Meeting Date: June 10, 2020		Subject: Urban Forest Management Plan	
		Staff Member: Kerry Rappold, Natural Resources Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input type="checkbox"/> Information or Direction <input checked="" type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable	
		Comments:	
Staff Recommendation: Provide input on the proposed Urban Forest Management Plan			
Recommended Language for Motion: NA			
Project / Issue Relates To: <i>[Identify which goal(s), master plans(s) your issue relates to.]</i>			
<input type="checkbox"/> Council Goals/Priorities	<input type="checkbox"/> Adopted Master Plan(s)	<input checked="" type="checkbox"/> Not Applicable	

ISSUE BEFORE COMMISSION: Provide input on the proposed Urban Forest Management Plan and upcoming process.

EXECUTIVE SUMMARY:

The City has kicked off an Urban Forest Management Plan (UFMP) to guide the City's programs and actions related to the urban forest. Active management of the urban forest is becoming more and more critical as it ages and changes. While the plan will come back to the Planning Commission as it progresses, staff wanted to inform the Commission of this important project

and get feedback on the potential content and process to develop the plan. This will be the City's first comprehensive Urban Forest Management Plan.

Wilsonville's urban forest is comprised of all trees in the city, both native and planted, public and privately-owned, that contribute to the seasonal beauty and livability of the community. Trees help clean the air, manage stormwater, conserve soil and water, reduce heating and cooling costs, provide habitat for wildlife, and bring nature to where we live, work, and play. Trees are a critical component of the City's green infrastructure and environmental stewardship goals.

The UFMP will provide an integrated approach to preserving, sustaining and regenerating Wilsonville's urban forest into the future. While the UFMP will cover the entire City, it will have two focus areas: Charbonneau and Town Center. Recommendations in the plan will address issues and topics specific to the urban forest in these areas. An important component of the UFMP will be the City's street tree inventory completed in 2018. Over 24,000 trees were inventoried and entered into the City's asset management system (i.e., Cartegraph). The inventory provides a critical starting point for developing the plan as it relates to the management of publically-owned trees.

Staff selected a consultant, PlanIT Geo, to provide the technical assistant in developing the UFMP. The consultant has extensive experience with developing urban forest management plans and providing local, regional and statewide forest resources planning throughout the U.S. and, specifically, within Oregon. Their scope of work and schedule for the project is attached, which identifies the various steps in developing the plan.

An interdisciplinary team, comprised of staff from Community Development, Public Works, and Parks and Recreation, will participate with the consultant and public in the development of the plan. The team members will provide their expertise about Wilsonville's urban forest and identify key issues to be addressed within the plan.

BACKGROUND:

In Wilsonville, a healthy and vibrant urban forest has always been a high priority. Whether seen through the colorful array of street trees or the extensive forested areas, trees play a pivotal role in the identity of the community. For twenty-one years, the City has earned the designation of a "Tree City USA" from the National Arbor Day Foundation. Wilsonville is one of only 10 cities in Oregon to earn the Tree City USA's Growth Award for innovative projects that exceed Tree City USA standards.

The City's Tree Protection code prescribes requirements for protecting and conserving trees, including those on private property. The code acknowledges the ecological services provided by trees, such as reduced air pollution and improved water quality, but also the economic contribution trees make to local property values. When it comes to historically significant trees, the Heritage Tree Program recognizes trees or groves of trees due to their age, design placement, link to important events or activities, location, persons associated with them, setting and size. For example, the R.V. Short Douglas fir at Park at Merryfield is designated a Heritage Tree as it predates European settlement of the Willamette Valley.

In partnership with Friends of Trees, the City has enhanced and restored Wilsonville's natural areas. Over the last 17 years, volunteers have installed thousands of native trees and plants. In 2019, the City started a new partnership with Friends of Trees to plant up to 100 neighborhood trees as part of the Street Tree Infill program. The Urban Forest Management Plan will build on the legacy of these efforts to ensure Wilsonville continues to have a healthy and vibrant urban forest.

EXPECTED RESULTS: The completion and adoption of an Urban Forest Management Plan.

TIMELINE: Draft and final plans will be presented to the Planning Commission for specific input.

CURRENT YEAR BUDGET IMPACTS: In the 2019-20 fiscal year budget, \$50,000 has been earmarked for the UFMP.

COMMUNITY INVOLVEMENT PROCESS: Community involvement and public outreach will be a key component of the upcoming project. Staff welcomes input from the Commission on public engagement activities for the UFMP process.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY (businesses, neighborhoods, protected and other groups): The UFMP will identify actions that support a healthy and regenerative urban forest across Wilsonville's public and privately-owned lands through the combined efforts of City government, businesses, and residents. It will be important to engage the community in the care of our urban forest and make them a partner in implementing the plan.

ALTERNATIVES: N/A

CITY MANAGER COMMENT: N/A

ATTACHMENTS:

- A. PlanIT Geo Scope of Work and Schedule

EXHIBIT A - SCOPE OF WORK



PROJECT OVERVIEW

The Urban Forest Management Plan (“Plan” or “UFMP”) will provide an integrated approach to preserving, sustaining, diversifying, and regenerating the City’s urban forest into the future. The Plan will include goals and objectives, an inventory and assessment, strategies, implementation actions, and monitoring—accomplished through strategic partnerships and community outreach.

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<p>2) Urban Forest Status: Describe the status of the City’s urban forest, include the context (history and land use changes, environmental conditions), vegetation (canopy cover, tree inventory), and community values and issues.</p>	<p>5A) Existing Plans & Policies 5B) City Operations and Workflows 5C) Existing Conditions 5D) Benchmarking Research 5E) Community Engagement 5F) Urban Forest Audit</p>
<p>3) Current & Future Issues: Identify current and future issues that will affect the City’s urban forest, such as climate change, pests, and tree diversity.</p>	<p>5C) Existing Conditions 5D) Benchmarking Research</p>
<p>4) Urban Forestry Operations: Describe and assess the City’s overall urban forestry activities and practices, including various departments’ roles and responsibilities in permitting, management, and maintenance operations via interview or survey, and review of City documents, such as codes/ordinances. Provide recommendations on improvements to existing programs.</p>	<p>5A) Existing Plans & Policies 5B) Benchmarking Research 5D) Benchmarking Research 5F) Urban Forest Audit</p>
<p>5) Focus Area Goals: Develop specific goals, objectives, and recommendations for the special focus areas in Charbonneau and Town Center.</p>	<p>2) Tree Inventory & Assessment in Focus Areas 5) Information Gathering</p>
<p>6) Community Engagement: With City staff, identify interested parties for community engagement and develop a strategy to obtain public input. Target specific groups early in the Project via email, focus group discussion, online surveys, or applicable strategies (e.g., Let’s Talk, Wilsonville!).</p>	<p>3) Internal Work Plan 5E) Community Engagement</p>
<p>7) Charbonneau Community Engagement: Conduct outreach with the Charbonneau community regarding the health and condition of their urban forest.</p>	<p>3) Internal Work Plan 5E) Community Engagement</p>
<p>8) Plan Outreach & Education Strategy: Develop an education and outreach strategy for Plan implementation. This strategy will include, but not be limited to, website material, handouts, and presentation material for community groups.</p>	<p>3) Internal Work Plan 5E) Community Engagement</p>
<p>9) Monitoring Plan: Develop a monitoring plan that will allow the City to measure progress in achieving the Plan’s goals, objectives, and recommendations.</p>	<p>5F) Urban Forest Audit 6) UFMP Framework</p>
<p>10) Funding & Partnership: Provide recommendations on potential program funding sources or partnership opportunities for implementing the Plan.</p>	<p>4) Resource Alignment 5A) Existing Plans & Policies 5E) Community Engagement</p>
<p>11) Presentations: Prepare presentations of the draft and final Plans and attend meetings before the Planning Commission and City Council. Four meetings (two each) are anticipated.</p>	<p>7) UFMP Drafts, Presentations, & Final Delivery</p>

1. Tree Inventory

Consultant will schedule the project kickoff meeting based on the desired timeline and provide a tentative agenda. Prior to kickoff, Consultant will set up the TreePlotter inventory management software application. Topics to cover during the kickoff may include:

- Project schedule, communications, meetings, and priority areas/incomplete areas
- Acquisition of tree maps and GIS data layers from the City
- Tree inventory data fields and criteria understanding and procedures
- Safety, equipment, and industry standards
- Immediate and imminent tree risk protocols
- Rights-of-way limits and criteria
- TreePlotter software app set up and training, which includes a demonstration and training to the City.

A. Web-Based GIS Data Collection

The web-based GIS tree inventory will be performed using pre-programmed computers (i.e., TreePlotter app tailored to Wilsonville with appropriate accounts) and a combination of GIS and GPS equipment using tablet and smartphone's GPS locator on map ("location services"), Google, Bing, ESRI, OpenStreetMap, local imagery basemaps with spatial lat/long data on tablet, and ISA Certified Arborist's judgement using his/her experience and observations to finalize point location and resolve any GIS/GPS signal issues.

- ❖ As inventory information is collected, data will be instantaneously stored on secure remote servers, eliminating the possibility of data loss, and making it possible for City officials to access and download, at any time, real-time data collection with secure login credentials.

B. Tree Inventory Data Fields

The following protocols and fields will be populated for each tree. Final fields will be determined at the project kickoff meeting and will be set for the duration of the Project. The common data fields requested and collected are as follows:

- Latin Name (genus and species) (automated), Common Name
- GPS Coordinates (automated), Location Address – address #, street name (autopopulated)
- Land Use – Commercial, Residential, Industrial, etc.
- Date Collected – Month/Day/Year (automated)
- DBH – diameter at 4.5' above ground measured to the nearest inch (DBH class automated)
- Maintenance Need (example fields, final fields determined during project negotiation)

- Priority 1 Removal, Priority 2 Removal, Priority 1 Pruning, Priority 2 Pruning, Large Tree Routine Pruning, Small Tree Routine Pruning; others based on Focus Area Goals
- Condition – overall condition of the tree at time of inventory (Excellent, Good, Fair, Poor, Dead)
- Observations – Each visual apparent structural defect will be individually noted
- Notes: Noteworthy information not included in above fields

C. Quality Control and Accuracy

Consultant will provide the City with a professional, courteous, and informative tree inventory project experience, beginning with high-quality tree inventory data.

- All technicians working on this Project will have an ISA Certified Arborist Credential
- During the inventory process, extensive quality control checks will be applied regularly
- The City may periodically perform on-site verification of the data
- If any errant tree site location is detected, Consultant will correct the data promptly

D. Format for Inventory Data Deliverables

Successors and assigns will deliver tree inventory data in the following formats (final determined at kickoff):

- Microsoft Excel – compatible with i-Tree Streets and ESRI GIS shapefile and/or geodatabase
- Electronic copy of data on a USB flash drive or CD and Access/export data at any time at no cost

2. Project Award and Kickoff

Consultant will coordinate a project kickoff meeting with the City’s desired audience to discuss the purpose, timeline, approach, and opportunities to engage. The City will assist in determining the final presentation for the kickoff meeting.

The project kickoff meeting with the City project team will focus on the development of the Urban Forest Management Plan (“Plan” or “UFMP”), and will include the following topics:

- Desired level of planning services
- Plan outline, project timeline, and Plan format
- Planning horizon (e.g., 25-year Plan with 5-year strategies and milestones)
- Focus areas (Charbonneau and Town Center) discussion

- Information gathering procedures and available resources
- Project team, internal/external stakeholders, target audience, and dissemination methods
- Pictures, images, logos, and acknowledgements
- Draft review and revision processes
- Appendices and maps (including inventory maps)
- Tree inventories and assessments approach (in focus areas)

3. Tree Inventory and Assessment in Focus Areas

Based on the kickoff meeting, Consultant staff will coordinate the inventory and assessment of trees in the focus areas, using TreePlotter software to conduct the inventory and gather attributes as determined at kickoff. This information will be used to inform the UFMP, in addition to the analysis of the 24,000 trees in the City’s existing system.

4. Internal Work Plan

An internal work plan will be developed based on decisions determined during the project kickoff meeting. The work plan will provide guidance for the project team and a summary that can be utilized by City staff to share with other departments, stakeholders, and partners. Topics provided in the work plan may include:

- UFMP Outline
- Timeline, Meeting Schedule, and Milestones
- Summary Approach
- Content Decisions
- Format Decisions
- Community Outreach Strategy (project website, public meeting, public survey)
- Partners and Stakeholders

5. Resource Alignment (Programs, Plans, Initiatives, Meetings)

Successful UFMP development relies on the momentum and support of planned and ongoing City efforts. Early in the planning process, Consultant will identify potential programs, plans, initiatives, and organizational meetings that could align with phases of the UFMP Project. The City will provide feedback and input. Outcomes of this effort will assist in finalizing the Internal Work Plan while staying within this Project’s scope and budget. Examples of this alignment process include:

- Existing community neighborhood outreach events
- Existing programs, initiatives, and projects
- Stakeholder and partner meeting schedules
- City Council and subcommittee meeting schedule and process

- Cultural and ethnic challenges and opportunities to encourage equity of services and outcomes

6. Information Gathering

Consultant will work with the City project team to gather information to inform the Plan. This information may include current tree management procedures, staffing, equipment, budget, service requests, in-house and contractual tree maintenance procedures, and existing plans and reports relating to tree management and the community forest. This information may be collected by completing a questionnaire prepared by Consultant, conducting surveys, and/or phone calls.

The information gathering process will consist of the following planning elements and approaches to achieve Scope of Work items 1-11 in the City's RFP:



A. Existing Plans and Policies

During the information gathering processes, all relevant plans, resources, programs, and initiatives will be reviewed to measure the City's readiness for improved urban forest management and sustainability. This includes review of codes and ordinances.

- ❖ Consultant will conduct research following the USFS Urban Forest Sustainability & Management Audit System (see item F for information about the Urban Forest Audit). Consultant will send the City project team a request for information, and the City project team will send Consultant available resources. Existing plans and policies will be filed on Google Drive, indexed, and summarized.



B. City Operations and Workflows

The existing operations and workflows will be understood and analyzed through a series of surveys, questionnaires, meetings, and requests for information.

- ❖ In coordination with the City project team, Consultant will facilitate an in-person meeting(s) with City staff, stakeholders, and partners. Consultant will send a brief questionnaire to key individuals and work groups identified by the City project team prior to in-person meeting(s). Current operations and workflows will be discussed and defined, along with resource and information gaps. Information gathered will be summarized in the Research Summary and applied to the UFMP.



C. Existing Conditions

The existing urban forestry conditions and trends will be analyzed using available data such as tree inventories, canopy assessments, i-Tree Eco surveys, and other relevant datasets. Prior to data analysis, Consultant's ISA Certified Arborists will collect tree inventory data for the focus areas (northern red oaks in Charbonneau and the trees in the redevelopment area of Town Center). See step 2 for more information.

- ❖ Data from the existing tree inventory will be acquired from the City. Additional relevant datasets will be acquired and analyzed to identify existing urban forestry conditions. Data analysis summaries will be detailed in the Research Summary, and results of the data analyses will be applied to the UFMP.



D. Benchmarking Research

Consultant will conduct benchmarking research, comparing jurisdictions similar in size, location, structure, and other attributes, to inform the development of realistic and achievable goals and strategies for the City's urban forestry program.

- ❖ Consultant will provide the City project team with ~5 comparable cities for benchmarking research and comparison. Consultant will then provide the City project team with attributes to attain from research. A table or matrix will summarize the information discovered for the cities and compared to Wilsonville. Information will be summarized in the Research Summary and applied to the UFMP.



E. Community Engagement

Consultant will facilitate public meeting(s), public surveys, and/or an interactive UFMP project website to gather input and feedback.

- ❖ Consultant will set up a UFMP project website and complete the Kickoff Meeting (1st Community Outreach Meeting, optional). Consultant will complete the UFMP Internal Work Plan to include the community engagement approach, followed by the 1st Round Public Survey (web). Consultant will complete the 2nd Community Outreach Meeting to inform UFMP vision, goals, and strategies, followed by the 2nd Round Public Survey (web). Consultant will provide for a UFMP Draft Public Review Period, and then will conduct a 3rd Community Outreach Meeting to discuss the final UFMP. Consultant will provide up to four community outreach and education materials (fliers, postcard, handout, etc.).



F. Urban Forest Audit System

Consultant will utilize the [US Forest Service's Urban Forest Sustainability and Management Audit](#), which consists of 11 community forestry categories to facilitate the collection of necessary information and identify program and resource gaps. Information gathered from the previous planning elements (A-E) will inform this Audit. With this Audit, urban forest resource, management, and community goals as it relates to the City's urban forest will be informed.

- ❖ All previous planning elements will be completed, and Round 1 of the Urban Forest Audit System will be completed by Consultant and reviewed by the City project team. Round 2 of the Urban Forest Audit System will be completed by Consultant the and City

project team via web-conference call. The final Round 3 of the Urban Forest Audit System will be completed for use in the Research Summary and applied to the UFMP.

7. Research Summary

The findings from the aforementioned planning elements (A-F) will be summarized in a research summary document. This document will be structured to serve as a reference and guide to the final UFMP.

8. Urban Forest Management Plan Framework and Development

Based on the Research Summary (Existing Plans and Policies, City Operations and Workflows, Existing Conditions, Benchmarks, Community Engagement, Urban Forest Audit), the Urban Forest Management Plan will be developed to provide short- and long-term goals, with the strategies and actions to achieve higher levels of service as it relates to urban forest management, sustainability, equity, and other goals identified in the process.

The Plan will include the results of all prior tasks and develop a strategic plan for achieving the established values, goals, and objectives. The Plan will also describe recommended staffing, resources, funding, and funding mechanism for each strategy. Finally, the Plan will include measures and milestones to evaluate success.

9. Urban Forest Management Plan Drafts, Presentations, and Final Delivery

Consultant intends to provide a project experience that consists of frequent reviews and input periods by the City project team to provide effective, meaningful, and relevant recommendations in the UFMP, as follows:

1. City project team reviews and provides feedback on the UFMP Internal Work Plan, community engagement strategy, UFMP Outline, UFMP project website, approach and outcomes of the six Planning Elements, draft Research Summary, draft goals-strategies-targets-actions-adaptive management measures-monitoring measures, three draft reviews, and draft presentations (2) for Planning Commission and (2) City Council.
2. The final UFMP is prepared and delivered as a MS Word and Adobe PDF document for print and digital versions, and UFMP website hosting is transferred to the City after project contract.
3. Supporting data, maps, and information are delivered to the City (i.e., tree inventory analysis, focus area assessments, information discovered, public survey analysis, meeting notes, etc.).

PROJECT SCHEDULE

The proposed timeline is set forth below. The final timeline will be determined during project negotiation and the final Internal Work Plan. Consultant has the capacity to complete the services of this RFP within a narrower timeline if deemed necessary for the City’s objectives.

		Project Management										
Task	Sub-task	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9		
Project Management	Project Negotiation	X										
	Project Kickoff Meeting	X										
	Bi-Weekly Updates		X	X	X	X	X	X	X	X	X	X
		Urban Forest Management Plan										
SOW #	RFP SOW Abbreviation	Sub-task	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	
2	Urban Forest Status	Focus Areas Tree Inventories	X	X	X							
1	Long-Term Strategy Framework	Internal Work Plan	X									
1	Long-Term Strategy Framework	Plan Outline		X								
2	Urban Forest Status	Resource Alignment		X								
2	Urban Forest Status	Existing Policies & Plans		X	X	X						
4	Urban Forestry Operations	City Operations & Workflows			X	X	X					
2	Urban Forest Status	Existing Conditions		X	X	X	X	X				
3	Current & Future Issues											
5	Focus Area Goals											
2	Urban Forest Status	Benchmarking Research				X	X	X				
6	Community Engagement Charbonneau Engagement Plan Outreach Strategy	Community Engagement Strategy	X									
		UFMP Website		X								
		1st Community Meeting	X									
		1st Public Survey				X						
		2nd Community Meeting						X				
8	Plan Outreach Strategy	2nd Public Survey (optional)						X				
3rd Community Meeting												
1	Long-Term Strategy Framework	Urban Forest Audit System				X	X					
2	Urban Forest Status Monitoring Plan											
1	Long-Term Strategy Framework	Research Summary					X	X				
1	Long-Term Strategy Framework	Plan Writing		X	X	X	X	X	X	X	X	X
9	Monitoring Plan	Plan Drafts						X		X		
11	Presentations	Presentations (2 Planning Commission, 2 City Council)							X			
		Final Delivery										X

Schedule Summary: Project kickoff meeting, 3 community meetings, 2 public surveys, tree inventories in focus areas, in-person City staff meeting, information gathering, auditing and gap analyses, Research Summary, Plan development, 3 draft reviews, 4 presentations, 1 final interactive Plan.

Urban Forest Management Plan

June 10, 2020

Kerry Rappold
Natural Resources Manager



WILSONVILLE
OREGON

Urban Forests

"Urban trees and forests are considered integral to the sustainability of cities as a whole. Yet, sustainable urban forests are not born, they are made. They do not arise at random, but result from a community-wide commitment to their creation and management."

Clark et al.: Urban Forest Sustainability

Urban Forest Benefits

See The Nature Conservancy's
Outside Our Doors
report for more

- BOOSTS ECONOMY
- INSPIRES PHYSICAL ACTIVITY
- WELL BEING
- AIR QUALITY
- STORMWATER REDUCTION
- NEIGHBORHOOD SAFETY
- WILDLIFE
- REDUCED HEAT ISLANDS
- ENERGY SAVINGS
- PROPERTY VALUES
- EROSION CONTROL
- AESTHETICS
- WATER QUALITY
- IMPROVES FOCUS



Urban Forest Benefits



Property Value

\$\$\$\$

Value added to properties

Air Quality

\$\$\$\$

Filter and absorb pollutants

Stormwater

\$\$\$\$

Reduce gallons treated

Energy Use

\$\$\$\$

Reduce kilowatt hours

Carbon

\$\$\$\$

Store and sequester carbon

Total Value

\$\$\$\$

Total Annual Value

Wilsonville's Urban Forest



Managing the Urban Forest



Programs

- **Tree City USA**

- 21 years
- Growth Award

- **Heritage Tree Program**

- Nine designated trees
- Fir, Sequoia, White Oak, Japanese maple, Black walnut

- **Friends of Trees**

- Green Space program (18 years)
- Neighborhood Trees program (1 year)



TREE CITY USA[®]
Arbor Day Foundation



What is a UFMP?

- **Vision** for the urban forest
- **Inventories and assessments** of the current status of the urban forest
- **Strategic Plan: goals, objectives, and actions** based on the information analyzed and identified needs
- **Implementation Plan** with specific dates and assigned responsibilities
- **Monitoring Plan** with a system or matrix to check effectiveness and revise the UFMP as needed

Consultant



SaaS

Tree and Park
Asset
Management
Software



Tree Inventory
and Field
Services

ISA Certified.
Efficient,
accurate tree
data collection
and software
field testing

Services

Geospatial
Mapping Services





Urban tree
canopy and green
infrastructure
assessments

Urban Forestry
Consulting

Strategic
Management
and Master Plans



PlanIT Geo

 <p>Chris Peiffer, Director of Urban Forestry Consulting Services ISA Certified Arborist & Municipal Specialist (PD-2070AM) BA in Urban Forestry</p>	<p>Project Manager: Project scoping, internal work plan, information gathering, tree inventory analysis, community engagement, project website, policy reviews, city operations, goal setting, plan drafting, presentations</p>
 <p>Maegan Blansett, GIS and Natural Resources Specialist BA in Geography, Minor in Forestry</p>	<p>Information gathering, benchmarking research, data analyses, community engagement, plan drafting</p>
 <p>TJ Wood, Director of Tree Inventory & Assessments ISA Certified Arborist (#RM-7676A) & TRAQ BA in Landscape Architecture</p>	<p>Planning for the tree inventories and assessments in focus areas, TreePlotter software training, data delivery, communications with City contacts</p>
 <p>Rocky Yosek, Tree Inventory Specialist ISA Certified Arborist (WE-11457A) & TRAQ</p>	<p>Tree inventory data collection, TreePlotter software training, communications with TJ and City contacts regarding priority areas, inventory status, etc.</p>
 <p>Elizabeth Schulte, Marketing Director ISA Certified Arborist (WI-1258A) BA in Urban Forestry</p>	<p>Urban Forest Management Plan project website, community engagement, outreach and marketing materials, final plan development</p>

Scope of Work

- Long-term strategy framework
- Urban forest status
- Current and future issues
- Urban forestry operations
- Focus area goals
- Community engagement
- UFMP drafts, presentations and final delivery
- Plan outreach & education strategy
- Monitoring plan



Focus Areas

- Town Center and Charbonneau
- Specific goals, objectives and recommendations



Plan Framework

PLANNING ELEMENTS



POLICIES & PLANS



CITY OPERATIONS/WORKFLOWS



EXISTING CONDITIONS



URBAN FOREST BENCHMARKS



COMMUNITY ENGAGEMENT



URBAN FOREST AUDIT SYSTEM

GOAL FRAMEWORK



STRATEGIES



TARGETS



GOALS (draft)

- ✓ SUSTAINABILITY
- ✓ MANAGEMENT
- ✓ EQUITY

ACTIONS



EVALUATION



Timeline

Month 1 Inventory, work plan, community strategy, web content, public meeting

Month 2 Planning elements

Month 3 Public survey, City operations & workflows meeting(s)

Month 4 Planning elements

Month 5 Public meeting

Month 6 Public survey



Questions



**PLANNING COMMISSION
WEDNESDAY, JUNE 10, 2020
6:00 P.M.**

**Wilsonville City Hall
29799 SW Town Center Loop East
Wilsonville, Oregon**

*Minutes approved as
amended at the
July 8, 2020 PC Meeting*

Minutes

I. CALL TO ORDER - ROLL CALL

This meeting was conducted and recorded via Zoom.

Chair Kamran Mesbah called the meeting to order at 6:02 p.m. Those present:

Planning Commission: Kamran Mesbah, Ron Heberlein, Jerry Greenfield, Phyllis Millan, Aaron Woods, and Jennifer Willard

City Staff: Miranda Bateschell, Amanda Guile-Hinman, Kerry Rappold, Zach Weigel, Daniel Pauly, Kim Rybold, Beth Wolf, Andy Stone, Georgia McAlister, and Tami Bergeron.

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was recited.

CITIZEN'S INPUT - This is an opportunity for visitors to address the Planning Commission on items not on the agenda. There was none.

ADMINISTRATIVE MATTERS

A. Consideration of the May 13, 2020 Planning Commission minutes

Commissioner Greenfield said he did not believe his comments on Page 10 of 17 accurately reflected what he had stated, "Commissioner Greenfield believed the City adopted a resolution a couple years ago on inclusion. Though reflected in the Plan, it might not be the best place to do so. He believed the City did adopt a resolution for equity. Wilsonville was an inclusive community."

- While he was uncertain about the second sentence, the third sentence was inaccurate.

Following discussion from the Commission, Commissioner Greenfield agreed the third sentence should be deleted. He added that a statement about equity would complement the one on inclusion.

Commissioner Milan moved to approve the May 13, 2020 Planning Commission minutes with the following correction:

- Delete the third sentence in Commissioner Greenfield's comments on Page 10 of 17, which stated, "He believed the City did adopt a resolution for equity."

Commissioner Woods seconded the motion, which passed unanimously.

II. WORK SESSION

A. Urban Forest Management Plan (Rappold)

Miranda Bateschell, Planning Director, stated the Planning Commission would hear an update on the City's first Urban Forest Management Plan, a project that Mr. Rappold was undertaking this year, adding that a consultant had just been selected to help on the project. As the Commission might recall, one thing that came out

at the end of the Town Center planning project was to do additional work inventorying trees in Town Center, and to help enhance the urban forest in the Town Center to help achieve the environmental stewardship goal that was in the Town Center Master Plan.

Kerry Rappold, Natural Resources Manager, noted he had introduced the Urban Forest Management Plan at the November Planning Commission meeting. Following a Request for Proposal (RFP) process, PlanIT Geo was selected about a month and a half ago as the consultant for the project. He presented the Urban Forest Management Plan (UFMP) via PowerPoint, highlighting the Plan's purpose and benefits, its framework and timeline, as well as the reasons PlanIT Geo was selected as the City's consultant, noting the company's experience and proprietary software.

Discussion and feedback from the Planning Commission was as follows with responses by Staff to Commissioner questions as noted:

- Under Community Outreach, the project team should involve homeowners associations (HOAs) and get their input. Most HOAs have websites, which would make it easy to provide links to surveys, etc. and it would be a good way to get homeowners involved.
 - Mr. Rappold agreed the HOAs were a great conduit within the community and the team would want to make use of them as much as possible. He would be sure to include the suggestion in the Outreach and Engagement Work Plan.
- Mr. Rappold explained that "Cultural and ethnic challenges..." in the last bullet under Item 5, the top sentence on page 9 of 12 in the Scope of Work, would need to be discussed further with the consultants, specifically about what that would mean in terms of the project.
 - The team wanted to be equitable, which was one of the things considered in the Neighborhood Tree Program. The team wanted to acknowledge areas that were underserved, in terms of where street trees were being planted or maintained, and make sure the entire community was being considered in this process.
- The consultants were scheduled for two presentations before the Planning Commission, but the project team wanted to wait until there was more work to report on before bringing in the consultants.
- Mr. Rappold explained the Plan's approach in the focus areas of Town Center and Charbonneau would be to look at where trees could be retained in terms of future development, but the team could not get to that scale in the rest of the City so a broader approach would be used citywide.
 - The focus on Town Center and Charbonneau would allow a fine-scale approach to retaining and preserving in those areas during future development that scaled to the entire city, so it would be a broader approach to the rest of the city.
- The Development Review Board (DRB) did not have much choice about which specific trees were retained or removed in any given development. How could the DRB retain certain trees and what policies would need to be updated accordingly?
 - Mr. Rappold responded the Scope included an exercise to look at existing plans and policies, which would include the Development Code. If something could facilitate or make it easier for the DRB or review body to make decisions regarding tree retention, he believed that would be an important consideration for the UFMP.
- The stakeholder groups should include business arborists working within the community because of their professional knowledge about the trees in the city, including arborists contracted by the City to work on tree removal and tree protection plans. He expected to have some targeted outreach within Charbonneau and Town Center to explore what was and was not being done well within the community.
- The UFMP needed a vision statement to better understand how the urban forest would be different or improved through this Plan. Perhaps, this goal statement was intended to come out of the public engagement.
 - Mr. Rappold agreed the UFMP would be a reflection of what the community believed was important. The project team would suggest some vision ideas and goals for the urban forest, but the feedback about what the community wanted to see happen was important. Through the survey, information on

Let's Talk, Wilsonville!, or specific public meetings, the project team would suggest some possible options for the vision statement based on the Goal Framework. (Slide 13) The goals would lead into the strategies or groups of strategies for action, which would be brought to the community.

- Certainly, the Plan would address invasive species and new challenges with new bugs arriving, but were there any specific species of concern that live in the city's urban forest?
 - Mr. Rappold confirmed some species were prone to pests or were not as resilient to climate change. Natural Resources was looking at different species, such as from southern Oregon or northern California that might be more adaptable to the climate in coming years. Staff had to consider that adaptability, the direction of the forest into the future, and the accommodations needed to address climate change, which could include the species' resilience to climate, pests, and other problems.
- Mr. Rappold explained that the impact of public use and the increased use on the canopy and various habitats in newly proposed park areas, such as the kayak launch and overlook walk near the Willamette River, would be part of the consultants' review.
- The U.S. Forest Service benchmarks were an excellent tool to use and should provide a good scorecard for the City.
- Mr. Rappold explained that the previous tree inventory conducted by interns identified at least 24,000 trees by location, species, condition, and any issues associated with the tree.
- Plant Geo would go to that same level of detail in the focus areas of Town Center and Charbonneau, so a lot of great information would be available between the two data sets. It would be easy to create an interface between iTree software used by the City and the TreePlotter software for this project. The previous street tree inventory went as wide as 20 ft to 30 ft outside the right-of-way, so it included a lot of natural areas, too. The consultants had already used the street tree inventory to identify deficiencies within the community for the City's Neighborhood Tree Program. Staff would be able to make similar decisions; for example, if there was a strategy to increase the overall canopy, the data would help determine the species composition, locations, etc.
- Staff explained that the street tree plan requirements for Town Center would be impacted by this work, in terms of what trees species to plant and in what areas. The information gathered by the consultant would be coordinated directly with the Town Center team and feed into the Streetscape Plan that was currently launching. Staff was trying to line up those projects systematically so they could be coordinated.
 - In addition, Staff was developing an RFP for updating the Stormwater Master Plan, and Staff had talked with the consultant about using the information and data gathered about trees helping with stormwater management being used to help update the Stormwater Master Plan. Staff was always looking for ways to integrate and be more effective in their planning to determine the best approach.
- Community Outreach would include the entire community's input, not just Town Center and Charbonneau, the focus areas. Charbonneau had risen to a different level due to so much discussion and concerns from residents over the years about the Northern Red Oaks. The City had put so much effort into Town Center that Staff wanted to do the best they could with the existing trees there. These areas would form the basis for other work done in the community, perhaps by creating an action plan that could be applied to other areas as needed.
- The City should query the HOAs to find out about pressing or longstanding concerns in the neighborhoods. For instance, residents in Canyon Creek Meadows were concerned specifically about aging pear trees. Daydream Ranch and Arbor Crossing residents were concerned about their trees as well. How could the Planning Commission help address maintenance and restoration of existing developments?
 - Mr. Rappold responded some specific areas might be looked at in that respect. Overall, the plan was to look at what the appropriate composition of trees in the community and where there were issues related to specific trees used 10 to 20 years ago and if they were appropriate today. Perhaps, a tree list needed to be developed to include certain trees, but excluded others. Decisions regarding trees change over time, especially with regard to invasive species which become a problem. The project team would look at the city in its entirety, although the level of detail would not be the same as that used in Charbonneau and Town Center. He hoped to the project would result in a process to help assess and make decisions about those situations.

- He agreed that having a sense of inclusiveness was important in order to have broad community support for the overall plan.
- HOAs could provide feedback about problem species not obvious to the casual observer and could help avoid planting them in future developments.
 - Mr. Rappold agreed, adding he works closely with various HOAs, which provide good input.
- Communication with HOAs was also an opportunity to educate communities about the importance of trees in neighborhoods. Staff could provide short presentations at HOA meetings as part of the community outreach effort and get some feedback there, too.
 - Mr. Rappold agreed adding that once the plan was adopted, the City would move forward with an education outreach strategy to educate the public, and contacts developed with the HOAs would facilitate educating people within those areas of the community.
- The entire UFMP project should always be presented as covering the entire city, in Staff's presentations, online, outreach to HOAs and other stakeholders, etc. as well as the summary. The summary should also discuss that part of consultant's role was to identify special areas of needed improvement, gaps in operations or maintenance, procedures, protocols, etc. and that the project team had already identified two areas of special concern: Charbonneau, because of the oak trees, and Town Center, where the City had already expended a lot of planning efforts in redesigning it for redevelopment, in which landscaping was a very important element. The two focus areas could be explained at the end of the summary, so they did not overshadow the whole project.
- The following UFMP implementation points were suggested:
 - Regarding carbon sequestration, urban forestry programs in other cities use wood harvested from diseased or displaced trees to provide wood for artisans, which perpetuates the carbon sequestered, rather than for firewood, which releases carbon back into the atmosphere. Even though wood was plentiful in Oregon, providing wood free to woodworkers would be in line with the carbon sequestration goal.
 - Create a maintenance protocol training so arborists could be certified by the City as understanding the goals and objectives of the UFMP so they did **not** need to be double-checked and second-guessed by the City's arborists.
 - Chair Mesbah shared that he was told by Planning that he did not need a permit to trim an oak tree and that the Public Works Department would talk to his hired arborist to ensure he was doing his job. Public Works was told of the arborist's proposal and did not respond. His hired arborist started, and then the City responded to a complaint that someone was "killing trees". The City's arborist said the trees were protected, which resulted in the hired arborist becoming overly cautious to protect himself from trouble.
 - The City needed a clear protocol that commercial arborists could learn, so they could do the work necessary and then the City could do spot checks. The City could remove an arborist's permit if abused, but the goal would be to not second guess someone in the middle of a job.
 - The HOAs have always been a bit of a mystery, in terms of the requirements and limitations of the HOA, the City, and the owners, as well as their relationship to one another. It would be nice if the responsibilities and limitations of each party were spelled out clearly, and the UFMP might be a good opportunity to consider doing that.
 - Mr. Rappold agreed Charbonneau was particularly confusing with regard to the Tree Protection Code and tree removal permits.

B. I-5 Pedestrian Bridge (Weigel)

Miranda Bateschell, Planning Director, said she was excited about the important I-5 Pedestrian Bridge project, which was linked to a number of adopted master plans, including the Bike and Pedestrian Connectivity Plan, Transportation System Plan, and the most recent Town Center Plan. The Planning Commission's previous work sessions held earlier this year laid out the scope for the bridge project, as well as the timeline for the key milestones and community engagement pieces. Staff would be addressing the first step, which related to the

gateway plaza. Staff posed many key questions to the community earlier this year in an open house, online, and via a survey, and received initial comments and input about bridge types. In thinking through the different bridge types, Staff had to look at different high-level concepts for the plaza, which was what the project team will be presenting.

Zach Weigel, Capital Projects Engineering Manager, noted that the project design team had been developing concept designs for the plaza layouts and bridge types since last meeting with the Planning Commission. Alex Dupey with MIG would walk through how the plaza layout has evolved, and some of the major considerations that have gone into those designs. The design team sought feedback on any challenges the Commission might see with the designs, additional considerations the design team should be looking at as these concepts were refined moving forward, and questions the design team should follow up on with the Commission in July.

Alex Dupey, Consultant, MIG, recognized Melissa Erikson and Casey Howard from MIG, and Bob Goodrich from OBEC were also present to answer questions. He reviewed the public engagement received regarding the themes and prioritizing elements for the I-5 Pedestrian Bridge Project via PowerPoint. He noted the project continued to prioritize goals identified in the Town Center Plan, as well as the priorities identified through public engagement over the last several months. The preferred design features identified through public engagement and previous meetings were shown on Slide 5.

Melissa Erikson, Consultant, MIG, overviewed the scale and context, design variables, and design alternatives related to the ramp and plaza area adjacent to the bridge. She described the “loop and swoop ramp” options and how the north and south landing options would interact and connect with adjacent buildings, roads, and the Emerald Chain identified in the Town Center Plan. She reviewed the numerous design considerations that related the ramp’s grade and how the ramp options might impact sight lines and the use of land in the plaza area.

Discussion and feedback from the Planning Commission was as follows with responses by the design team to Commissioner questions and comments as noted:

- Ms. Erikson explained that a midpoint landing option seemed to truncate the site, making it less useable, so the design team ruled it out, which left the north and south landing sites as the dominant options.
- Ms. Erikson explained the rationale behind the chosen sight lines, noting the team wanted to envision how the transition between the plaza and 18-ft high bridge, whether a Swoop or Loop option, would impact sight lines through the plaza; what people could see through and where structures would block the sight line. The sight line points on the diagrams were identified as places where transportation and additional circulation would be derived.
 - Casey Howard, MIG, added another consideration was the experience of being within or around the space. As a safety consideration, the team did not want to create areas that were out of sight of main circulation areas, especially the in Emerald Chain where most people would be coming and going. Open sight lines for safety were a major consideration.
- The South Loop option provided continuous plaza space, which seemed to offer more options for active space. The North Loop and South Swoop options had divided plaza spaces, which increased opportunities for bike/pedestrian conflicts, especially with children potential running between the plaza areas, which would be high-risk, particularly if there were a significant number of bicyclists going through. The South Loop design would not have those same issues.
- Though the South Loop was preferred, would the costs be more significant?
 - Ms. Erikson confirmed some rough cost estimates on the three options would be provided in July, particularly to allow a comparison of the relative costs.
- Ms. Erikson confirmed the ramp options had grades that would accommodate wheelchairs, motorized scooters, etc. One of MIG’s key practice areas was universal design and accessibility, so such issues were likely considered more so than other firms. Other power driven mobility devices beyond ADA were a key part of the circulation considerations.

- Mr. Dupey added that the length of the approach in each design was driven by the grade necessary to meet ADA standards.
- The South Loop option freed up more plaza space, which was attractive
- Commissioners appreciated the design team walking through sight lines and considerations of breaking up the active plaza space, which was very informative.
- South Loop looked best from an aesthetics standpoint, as well as line-of-sight. The Swoop would seem to accommodate autonomous vehicles better than the Loop configuration.
- Safety concerns were expressed about bicyclists and pedestrians on the loop, depending on how tight or open the loop was.
 - Mr. Dupey added the team expected the bridge to last 50 to 100 years. In conversations with SMART, it was also important to build a structure for multiple modes of travel over the years, including autonomous vehicles.
 - Bob Goodrich, DOWL, stated the radius of the curve was the important consideration for autonomous vehicles, and the team was using the minimum design radius for any of the alternative options.
- From a bird's eye perspective, the Swoop was nicer looking; but from ground level, the level of the actual path, the South Loop was probably the best configuration.
 - Ms. Erikson explained that the connections between the main circulation path and the plaza would be delineated at the next meeting, as well as further explanation about how the plaza would open off the side.
- The South Loop preserved the maximum possibilities for the plaza area and usability of the entire area. South Swoop and North Loop offered more opportunities for creative architectural and articulation of the pathway and landscaping.
- For July update, the project team was asked to discuss how autonomous vehicles would work on the bridge. It looked like there would be separate bike and pedestrian lanes on the bridge. Would autonomous vehicles on the bridge be in the bike or pedestrian lane? Understanding how the different modes would work together on the bridge would be helpful.

Ms. Erikson concluded by displaying three potential bridge concepts to think about how the articulation of the bridge design could be made specific to Wilsonville and how public art could be included (Slide 17). She thanked the Commissioners for their comments, noting the team would provide rough cost estimates on the three ramp/plaza configurations and review safety and the circulation delineation related to the bridge/path in July.

III. INFORMATIONAL

A. Annual Housing Report (McAlister)

Miranda Bateschell, Planning Director, reminded that a couple years ago, the City switched to presenting the Annual Housing Report online using a program called Story Map, which allowed the information to be presented in a more interactive way with the community. The program shared permit data and plan information, so residents could zoom into the map and access different levels of information, and get more details about the recent housing activity. Ms. McAlister would also walk through the sections that she has expanded on based on previous input from the Planning Commission over the last couple years.

Georgia McAlister, Assistant Planner, presented the sixth Annual Housing Report, highlighting the City's housing characteristics, information on housing affordability and development and how Wilsonville compared with other cities in the region, as well as future trends related to growth in the region. She reviewed ways the Equitable Housing Strategic Plan addressed trends and needs in the City, and ways the City has supported its businesses and would continue working to provide a variety of housing options residents in light of the COVID-19 pandemic.

Discussion and feedback from the Planning Commission was as follows with responses by Staff to Commissioner questions as noted:

- Ms. Bateschell clarified that the Urban Growth Report published by Metro was not necessarily goal based, in that it did not set goals or a growth rate goal for cities. It was more market based, looking at potential demand in the region, which was based on the supply and zoning of land, and on a number of economic factors that were integrated into Metro's model. The Annual Housing Report looked toward what demand was anticipated, which was the state-level requirement for the regional government. Every six years, Metro must report on what the 20-year growth rate was likely to be in order to forecast the demand for residential and employment land. The Urban Growth Report estimated that Wilsonville would grow approximately 1.8 percent, and the City had consistently grown at a faster rate, even prior to the report being published in 2014. That was one of the many reasons why Wilsonville considered looking at the housing report and better tracking the city's growth rates to better inform urban growth report discussions with Metro.
 - In planning for Frog Pond, the consideration was to continue to reflect the variety of housing and price points. Based on the report, it seemed the City was accurate in terms of needing more multi-family and attached homes, or other varieties of properties besides single-family detached homes.
 - Ms. McAlister explained it was hard to assess the demand levels for some housing types until the market's reactions were seen. Right now, the mix in Wilsonville was what the market demanded. It was not entirely clear how the housing would form in Frog Pond; but especially with the implementation of House Bill 2001, the City would see how the market would affect how Frog Pond developed.
 - These were issues would be considered in great detail when master planning Frog Pond East.
 - Wilsonville seems to be ahead of the curve for the entire Metro region. Clearly, there was more the City could do in terms of affordability, but there seemed to be a larger burden on neighboring communities that have a larger gap. Wilsonville seemed to be on a good track, and did not need to outstrip neighboring communities in building low-cost housing. The City needed to be reasonable going forward, and remember the commitment made when doing area planning for the entire Frog Pond area that the Commission/City would temporarily tip the balance toward higher income and higher cost building in Frog Pond West, with the anticipation that there would be more affordable and multi-family housing options in Frog Pond East.
 - The Annual Housing Report clearly showed that the Equitable Housing Plan was greatly needed. The Frog Pond East area looked like the primary area for a lot of this affordable housing.
 - The report confirmed the City's Equitable Housing Plan was on the right track and direction, and that like the Equitable Housing Plan, Wilsonville needed affordable housing that renters could afford.
 - Staff was commended for a good report that clarifies how the City had grown, and how housing needs have grown.
 - West Linn was requested to be included in the comparison analysis, as they shared a school district with Wilsonville and were an immediate neighbor, so it would be good to see that data.
 - The report made clear that affordable housing was a regional issue that needed to be solved at a regional level. Hopefully, the City's Equitable Housing Plan would help, but its impact might be limited if the issue was not solved at the regional level.
 - The region must be taken into account, which might be why the State passed the statewide housing laws. Commissioners hope to see changes going forward.
 - Wilsonville's quality of housing needed to be paramount and protected in the planning process. Wilsonville wanted to be known, not as the low-income community, but as a well-designed and well-built community.
 - True affordable housing was well-designed affordable housing. Providing low-quality housing would increase inequity and costs for shelter. Quality of design was an important part of increasing equity and affordability in housing.
- B. City Council Action Minutes (May 4, 2020 as May 18th meeting was cancelled) (No staff presentation)
- C. 2020 PC Work Program (No staff presentation)

Commissioner Greenfield asked for an update on the Planning Commission's recommendation to City Council that a committee on equity and inclusion be created.

- Miranda Bateschell, Planning Director, responded that Staff had met internally with Legal, Planning, and the City Manager's Office to discuss the recommendation which would be enveloped within a "whereas" clause in the resolution drafted for City Council's consideration and would also be highlighted in the Staff report and presentation given in both the work session and hearing. The hearing on the item was scheduled for Monday, June 15th, when there would likely be discussion and the item addressed via a Council decision, or it would come back for further discussion.

Commissioners Millan and Willard agreed that Staff's approach and response was fine. The matter could be revisited depending on the Council's decision.

Ms. Bateschell announced that the Planning Division received notice that it would receive about \$530,000 to help to pay for the master planning of Frog Pond East and South, a majority of the funding needed to cover the implementation of HB 2001, and to conduct additional outreach to communities typically under-engaged in the City's efforts, particularly as they relate to housing and housing needs moving forward.

- The Equitable Housing Strategic Plan noted that Wilsonville would experience a significant increase in the Latinx demographic, which was a population that was often less involved in City projects and decision-making in the city. That project was particularly interesting because it would help the City engage with the HB 2001 implementation, as well as the Frog Pond master planning on specific housing issues. It also set up a framework for empowering and involving the community long-term in decision-making in Wilsonville in a way that would expand beyond just planning or housing projects. Staff would be looking to contract with a community-based organization to help lead that effort and set up a framework. The Planning Division was pretty excited, and had an ambitious work program around housing that Staff would be working on over the next few years. She encouraged the Commissioners to congratulate all of the planners, and particularly, Dan Pauly, who authored all three grant requests.

Ms. Bateschell expressed her appreciation to all of the Commissioners for serving their community in this way. She noted all the Commissioners were at this meeting despite a conflict with another community event that many might have preferred to attend. She acknowledged there must be many times when Commissioners were torn between the different ways they wanted to serve the community and provide leadership, and it did not go unnoticed. She thanked the Commissioners for the support they gave to the City and the Staff members in Planning and Community Development.

Commissioner Woods thanked Ms. Bateschell for her acknowledgement.

Chair Mesbah said he hoped one of the roles of the new committee on equity and inclusiveness would undertake within the community an ongoing dialogue, like the outreach efforts to populations who were less involved, which would be funded by the new grants. To address the issues that keep coming up on certain projects, the City needed to have started that dialogue and familiarize itself with the issues that the community as a whole saw, so those issues could be addressed. The Commissioners needed to understand the issues of interest to the whole community. He was happy that the grant would help start a discourse to create a common vision and solution as a community, and hoped it would provide a foundation to continue an ongoing dialogue in the community on a full-time basis.

Commissioner Greenfield noted that was why it was so important for it to be an ongoing committee and not a task force.

Chair Mesbah noted that libraries host regular weekly talks with different speakers on different subjects, which could be an outreach and education effort of the new committee. He hoped that kind of ongoing effort would create a conversation in the community that would preempt the oppositional and positional issues that come up when decisions have to be made.

Chair Mesbah expressed his appreciation for Staff's excellent and ongoing work at this and many other meetings.

IV. ADJOURNMENT

Chair Mesbah adjourned the regular meeting of the Wilsonville Planning Commission at 8:31 p.m.

Respectfully submitted,

By Paula Pinyerd of ABC Transcription Services, Inc. for
Tami Bergeron, Administrative Assistant-Planning

Virtual Community Meeting for Wilsonville's Urban Forest Management Plan

A Thriving Urban Forest for a Thriving Community

Public trees belong to the community of Wilsonville, and the beauty of a thriving tree canopy is for all to enjoy. The Urban Forest Management Plan (UFMP) project provides a forum for community engagement, a shared vision, and a strategic, long-term road map for the management of Wilsonville's urban forest resources.

We invite you to join us for an informational and engaging virtual public meeting where you will have the opportunity to learn more about the UFMP process and provide invaluable input to finalize the Plan's vision, goals, and short- and long-term strategies for the management and enhancement of Wilsonville's urban forest. We hope you can join us!

Tuesday, September 15th | 6:00 pm to 7:30 pm (meeting will be recorded)

Join Zoom Meeting:

Go to <https://us02web.zoom.us/j/83043046719> on your smartphone or laptop/PC.

To enable audio, choose your preferred audio option on the prompt that appears after clicking the URL or dial (669) 900-6833 with Meeting ID 830 4304 6719.

Question/Comments? Contact the City's Natural Resources Program at (503) 570-1570 or rappold@ci.wilsonville.or.us

Learn more about the City's urban forest at www.ci.wilsonville.or.us/planning/page/trees

Reminder! Complete the online survey open August 17th through September 17th by visiting [Let's Talk, Wilsonville!](#) or contact Wilsonville's Natural Resources Program for a hard copy.

Thank You!

A PLAN FOR WILSONVILLE'S URBAN FOREST



A PRESENTATION FOR THE RESIDENTS OF WILSONVILLE



SEPTEMBER 2020



PURPOSE



“Urban trees and forests are considered integral to the sustainability of cities as a whole. Yet, sustainable urban forests are not born, they are made. They do not arise at random, but result from a community-wide commitment to their creation and management.”

Clark et al.: A Model of Urban Forest Sustainability

WELCOME & INTROS



Chris Peiffer, Project Manager, Presenter
Maegan Blansett, GIS & Natural Resources Specialist
Andrew Carrier, Urban Forestry Planning Support



Kerry Rappold, Program Manager
City of Wilsonville, OR Natural Resources Program



Let's Hear From You!

Use the chat box

Share your name, neighborhood, favorite tree, park, other
(optional)

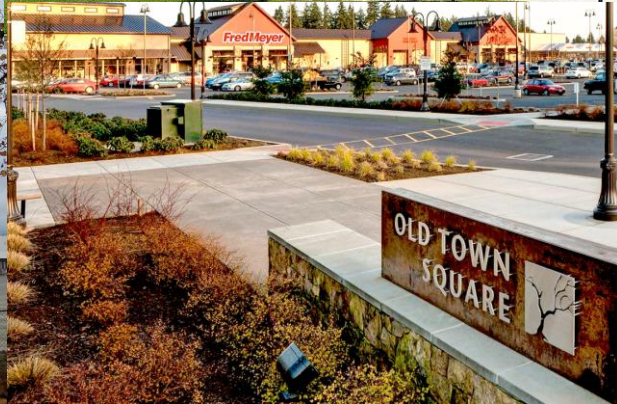
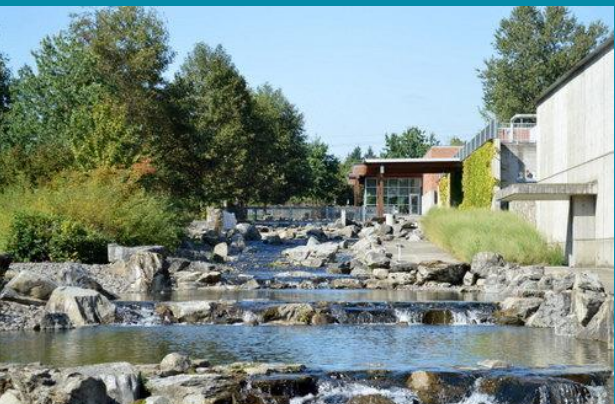
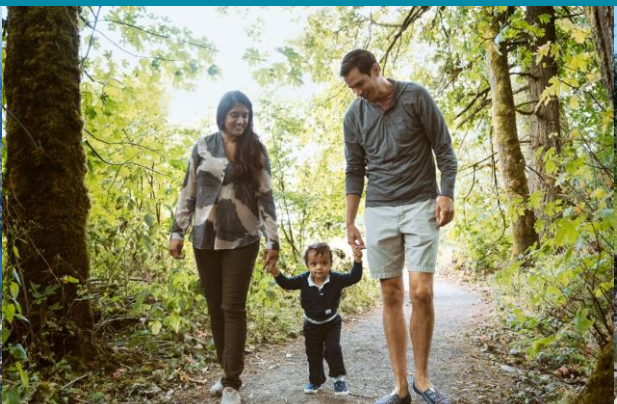


AGENDA

- **Welcome & Intros**
- **Extent of the Urban Forest**
- **Benefits of the Urban Forest**
- **Key Issues & Opportunities**
- **UFMP Framework**
- **Closing Remarks**
- **Engagement Opportunities**
- **Questions & Comments**



URBAN FOREST EXTENT



URBAN FOREST BENEFITS

See The Nature Conservancy's
Outside Our Doors
report for more

**BOOSTS
ECONOMY**

**INSPIRES PHYSICAL
ACTIVITY**

**WELL
BEING**

**AIR
QUALITY**

**STORMWATER
REDUCTION**

**NEIGHBORHOOD
SAFETY**

WILDLIFE

**REDUCED
HEAT ISLANDS**

**ENERGY
SAVINGS**

**PROPERTY
VALUES**

**EROSION
CONTROL**

AESTHETICS

**WATER
QUALITY**

**IMPROVES
FOCUS**



URBAN FOREST BENEFITS



Property Value

\$\$\$\$\$

Value
added to
properties

Air Quality

\$\$\$\$\$

Filter and
absorb
pollutants

Stormwater

\$\$\$\$\$

Reduce
gallons
treated

Energy Use

\$\$\$\$\$

Reduce
kilowatt
hours

Carbon

\$\$\$\$\$

Store and
sequester
carbon

Total Value

\$\$\$\$\$

Total
Annual
Value

URBAN FOREST BENEFITS



TOTAL VALUE: \$280,000

2020 Tree Inventory



STORMWATER: \$48,000
4.4 million gallons

**2,356 trees of over
24,000 inventoried
public trees**



AIR QUALITY: \$7,000
3,500 lbs removed



CARBON STORAGE & SEQUESTRATION: \$7,500
1 million lbs of C stored, 238 tons of C sequestered



PROPERTY VALUES: \$175,000

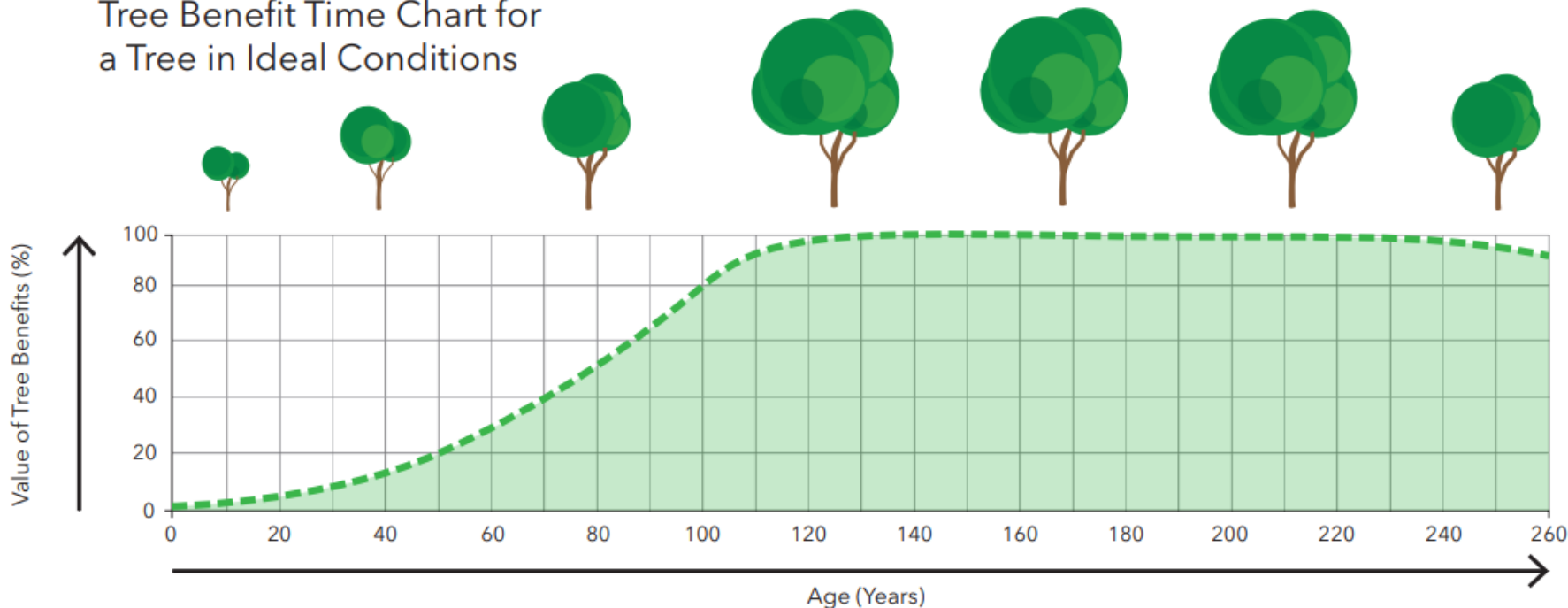
**Total Public
Tree Benefits
TBD \$\$\$**



ENERGY SAVINGS: \$18,000
288,000 kWh

URBAN FOREST BENEFITS

Tree Benefit Time Chart for
a Tree in Ideal Conditions



Benefits from a tree planted in adequate soil volume will continue to increase beyond 200 years.

Source: GreenBlue Urban "Street Tree Cost Benefit Analysis"

CHAT BOX REMINDER



KEY ISSUES & OPPORTUNITIES

- Existing Programs, Plans, & Policy
- Wilsonville's Urban Forest Today
- Wilsonville's Urban Forest Tomorrow



Source: City of Wilsonville

KEY ISSUES & OPPORTUNITIES

Existing Programs, Plans, & Policy

Natural Resources Program

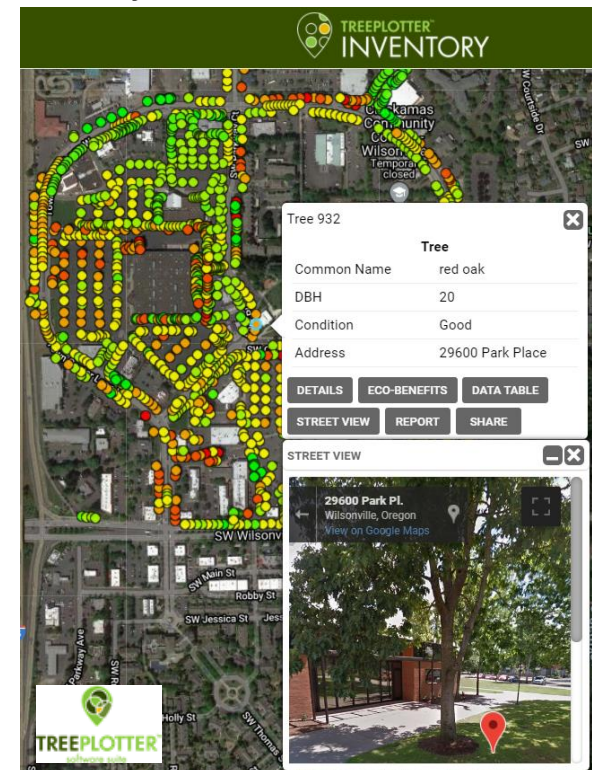
The Natural Resources Program helps maintain and promote a healthy environment in Wilsonville. By providing long term care of local natural resources, such as streams, wetlands, and natural areas, the City is ensuring a sustainable future for the residents of Wilsonville.



Existing Programs, Plans, & Policy

Other Urban Forestry-Related Programs

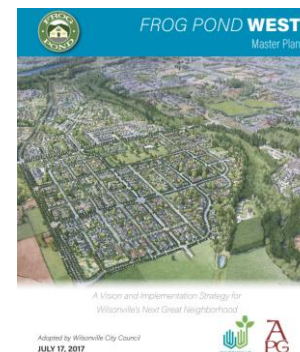
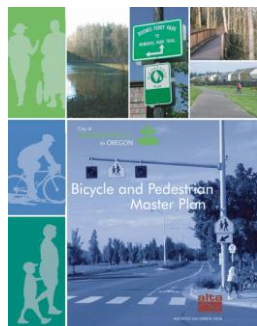
- ✓ Heritage Tree Program – Virtual Tour! Visit: <https://bit.ly/2ZYxowZ>
- ✓ Arbor Day Foundation Tree City USA since 1997 (22 years)
 - Arbor Day Growth Award
 - Sterling Tree City USA (10 Growth Awards)
- ✓ TreePlotter
- ✓ Stormwater Management Program
- ✓ Friends of Trees
- ✓ CREST Environmental Education Center
- ✓ Student Watershed Research Project
- ✓ Wilsonville Planning Commission
- ✓ Wilsonville-Metro Community Enhancement Committee
- ✓ Planned Neighborhoods Programs
- ✓ Many others



KEY ISSUES & OPPORTUNITIES

Existing Programs, Plans, & Policy

- ✓ City Comprehensive Plan
- ✓ Wilsonville Urban Renewal Strategic Plan
- ✓ Coffee Creek Master Plan
- ✓ Town Center Plan
- ✓ Other planned neighborhoods master plans
- ✓ Stormwater Master Plan
- ✓ Transit Master Plan
- ✓ Parks and Recreation Master Plan
- ✓ Bicycle and Pedestrian Master Plan
- ✓ Public Works Construction Standards
- ✓ Facility Master Plan
- ✓ Among others

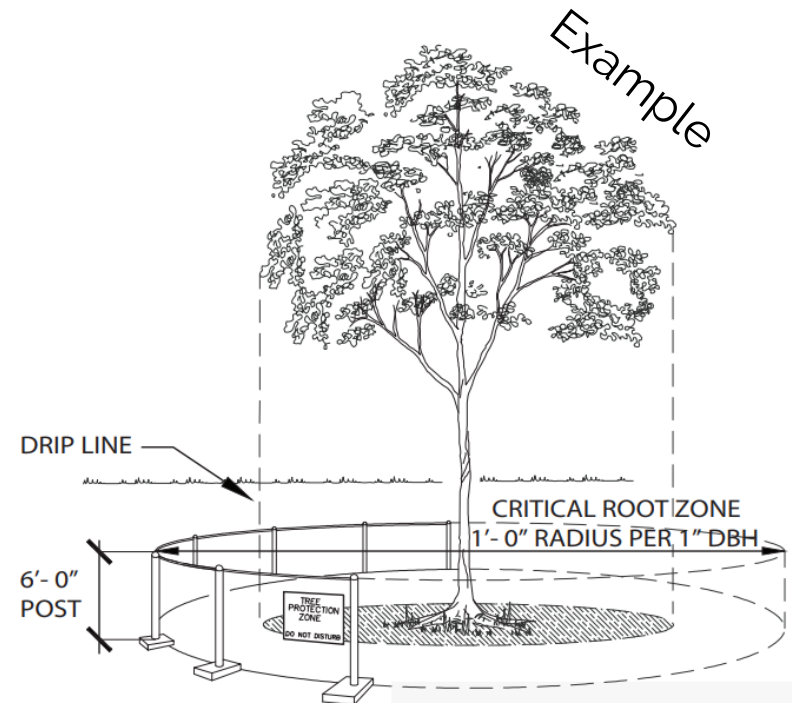


Existing Programs, Plans, & Policy

City Code:

4.600: Tree Preservation and Protection

- Purpose
- Permits
- Standards
- Replacements
- Protection
- Enforcement



TREE PROTECTION ZONE IS AT THE EDGE OF THE CRITICAL ROOT ZONE OR DRIP LINE, WHICHEVER IS GREATER

View City Code at:

https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/community/page/4861/tree_code_sections_4.600-4.640.pdf.pdf

Existing Programs, Plans, & Policy

City Code:

4.113: Standards Applying to Residential Developments in Any Zone

4.139: Significant Resource Overlay Zone (SROZ)

- Regulates uses and activities that could impact locally significant wetlands, riparian corridors, and upland wildlife habitat.

Existing Programs, Plans, & Policy

Manuals & Standards:

- Public Works Construction Standards
- Guidelines for Water Wise Landscape Manual
- Stormwater & Surface Water Design & Construction Standards (Public Works)

KEY ISSUES & OPPORTUNITIES

Wilsonville's Urban Forest Today

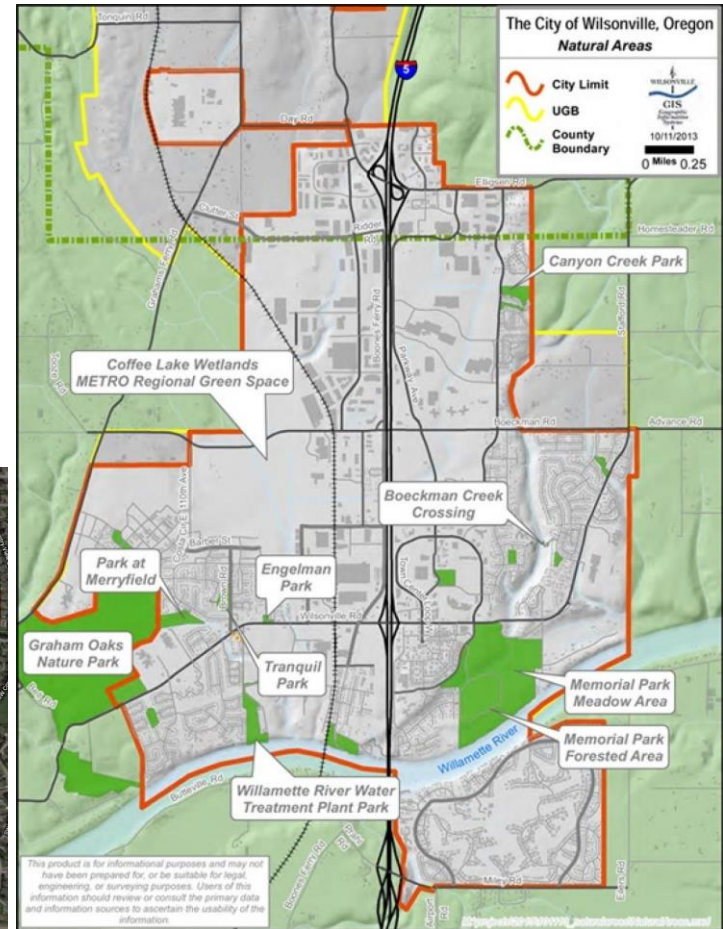
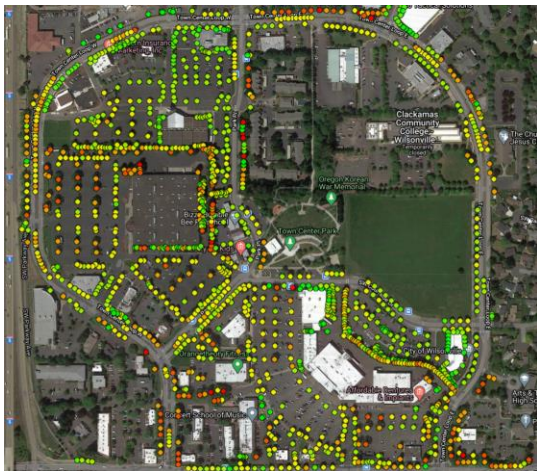
24,000+ public street trees

1,440 trees in Town Center

916 trees on SW French Prairie Road

15 public parks

1,500 acres of parks and rec*



Wilsonville's Urban Forest Tomorrow

- Population growth
- Tree pests and diseases
- Invasive species
- Stormwater management
- Program resources
- Storms and disasters
- Updated policy
- Construction conflicts
- Roles and responsibilities



Source: Oregon Forest
Resources Institute

CHAT BOX REMINDER



City Scope of Work Item

- 🌳 Long-Term Strategy Framework
- 🌳 Urban Forest Status
- 🌳 Current & Future Issues
- 🌳 Urban Forestry Operations
- 🌳 Focus Area Goals
- 🌳 Community Engagement
- 🌳 Charbonneau Community Engagement
- 🌳 Plan Outreach & Education Strategy
- 🌳 Monitoring Plan
- 🌳 Funding & Partnership
- 🌳 Presentations

Approach to Achieve Scope of Work

- 1) Project Kickoff
- 2) Tree Inventory & Assessment
- 3) Internal Work Plan
- 4) Resource Alignment
- 5) Information Gathering (6 planning elements)
- 6) Research Summary
- 7) Plan Framework & Development
- 8) Presentations & Delivery

PLANNING ELEMENTS



POLICIES & PLANS



CITY OPERATIONS/WORKFLOWS



EXISTING CONDITIONS



URBAN FOREST BENCHMARKS



COMMUNITY ENGAGEMENT



URBAN FOREST AUDIT SYSTEM

GOAL FRAMEWORK



GOALS

(draft themes)

- ✓ SUSTAINABILITY
- ✓ MANAGEMENT
- ✓ EQUITY

STRATEGIES



TARGETS



ACTIONS



EVALUATION



Urban Forest Benchmarks



Cities

10+ cities

- Size
- Location

- Program
- Authority
- Resources

Attributes

- General Statistics
- Demographics
- Funding/Budget
- Program Management
- Parks, Open and Green Space

- Municipal Code and Policy
- Operations & Maintenance
- UF Equity and Tree Benefits
- Community and Stakeholders

Sources: Research, consultations, 2014 Municipal Forestry Census*, TC USA records, Urban Forest Audit System

Urban Forest Audit



- 🌳 US Forest Service System
- 🌳 11 Categories
- 🌳 120 Subcategories
- 🌳 Gap Analysis
- 🌳 Informs Plan Goals and Actions
- 🌳 Provides System for Monitoring
- 🌳 Supports Adaptive Management

Category

Management Policy and Ordinances
Professional Capacity and Training
Funding and Accounting
Decision and Management Authority
Inventories

Category

Urban Forest Management Plans
Risk Management
Disaster Planning
Standards & Best Management Practices (BMPs)
Community

URBAN FOREST ACTION PLAN TIMETABLE

Theme	#	Action	Target Year	Lead	Rank (Effort, Priority)	Rank Total (E + P)	Co-Benefits	Composite Rank
CE	6B.3	Every quarter, share informative urban forestry and tree-related content to a social media, City website, and other communication platforms.	Quarterly	ES, CMO	1,2	3 of 6	6 of 12	9 of 18
CE	6C.2	Conduct biannual community surveys (starting in 2021) to gauge public viewpoints and receive feedback on Plan implementation/program success. Survey responses should inform future urban forest decision making.	Biannual	ES	1,2	3 of 6	6 of 12	9 of 18
MP	1D.1	Monitor tree loss and gain through annual tree removal and planting permit reporting.	Annual	ES, PDS	1,3	4 of 6	4 of 12	8 of 18
MP	1E.2	Plant 2,000 trees through City projects annually and support 8,500 annual tree plantings through partnerships and public incentive programs. Improve tracking and reporting of partnership plantings to better represent on-the-ground efforts to achieve planting targets.	Annual	ENPs	3,3	6 of 6	12 of 12	18 of 18
CT	2C.1	Conduct annual urban forestry events, or partner-events—especially involving youth—relating to tree planting and pruning.	Annual	ES	2,1	3 of 6	10 of 12	13 of 18
FA	3A.1	Continue to track and annually report urban forestry activities of all partners to apply to budget change requests and continue support of Arbor Day Tree City USA Designation.	Annual	PWD	1,3	4 of 6	5 of 12	9 of 18
IP	4A.1	Conduct a comprehensive <u>inventory of public trees planted and maintained by the City</u> , keeping the data current, and continue the cycle aligned with tree maintenance cycles (600 trees per year) and City tree planting projects (2,000 trees per year).	Annual	ES, PWD	3,2			
IP	4A.2	Beginning in 2020, track tree maintenance, removals, and plantings in a tree inventory software program. Annually prioritize maintenance and risk-tree removals in established corridors/areas and create work orders using this program.	Annual	PWD	1,3			
IP	4B.3	Develop a strategic urban forest management plan for one priority neighborhood or area per year similar to the 2020 Tacoma Mall Strategic Urban Forest Management Plan (in progress) and the 2010 Neighborhood Business Districts Urban Forest Management Plan. Address best practices, species diversity, and tree pest and disease resiliency.	Annual	ES	2,2			
IP	4C.4	Continue to align tree planting and canopy goals with the watershed assessment, green stormwater infrastructure plans, and subarea planning efforts by providing technical assistance for the goals of stormwater management and improved water quality.	Annual	ES	1,2			
IP	4E.5	Utilize partners to provide at least one annual workshop or event and provide resources to private landholders to support sustainable urban forest management and planting practices with an emphasis in priority areas as identified in Appendix A.	Annual	ENPs	1,2			

ONE TACOMA, ONE CANOPY

Our urban forest needs you

Tree-planting events meet people just as much as people need trees. Consider volunteering a local environmental organization.


Engage your local parks and enjoy the restorative effect of our urban forest. Visit MetroParksTacoma.org to find a park near you.

Sign up for EnviroNews with Citizens for a Healthy Bay to learn about workshops, training, and news at HealthyBay.org.

Participate in biannual urban forest surveys. Your feedback is influential to current and future programs.

See how this Plan's actions align with One Tacoma at cityoftacoma.org/planning and Tacoma 2025 at cityoftacoma.org/tacoma_2025.

EXAMPLE

#	ACTIONS	LEAD/YEAR	CO-BENE
6A.1	Support and sustain partnerships with local and regional participatory organizations. Encourage and support horizontal volunteer collaboration between organizations. Increase the number of community volunteers annually from 275 recorded in 2018.	ES and listed partners (next page)	
Effort		TARGET YEAR:	
Priority		ANNUAL	

1

MANAGEMENT POLICY GOAL: Urban forest policies are the foundation for preserving the environmental benefits, management, and the character of the City's urban forest.

Some Action Callouts

Target Year

Use Code Recommendations to **establish an Urban Forestry Title**, align urban forestry policy with the Comp Plan, **update antiquated language** and inconsistencies, and **require the use of industry BMPs**.

2021

EXAMPLE

Update Code with a **Heritage Tree Ordinance**.

2022

Plant 2,000 trees through City projects annually and **support 8,500 annual tree plantings** through partnerships and public incentive programs. **Improve tracking and reporting** of partnership plantings.

Annual

Align tree protection and design standards in Code ##### with a no-net-loss policy by 2023 to achieve tree canopy goals.

2023

CHAT BOX REMINDER



Timeline

- May – Project Kickoff
- July – Tree Inventory
- August – Research & Discovery
- September – Survey & Meeting #1
- October – City Staff Workshop
- November – **Survey & Meeting #2**
- December – Draft Plan, Presentations
- January – Presentations, **Meeting #3**, Final Plan

REMINDER

COMMUNITY SURVEY & PHOTO CONTEST!



Your participation is crucial to the success of this project. A survey has been created to get a better understanding of community values and preferences about trees and improve the City's community outreach and engagement efforts. The results of this brief survey will help guide the development of the City's Urban Forest Management Plan. This survey considers your perception of trees on public property—think street right-of-way and parks—as well as private trees—trees on yours and your neighbor's property. **Survey closes Friday (9/25)!**

Upload your favorite urban forestry photo! Three (3) winning photos will be selected by November 13th. Winners will each receive a prize with a retail value of no more than \$100.

Visit www.letstalkwilsonville.com/ufmp to complete the survey and upload your photo!

THANK YOU!

Let's Hear From You!

Use the chat box

Questions & Comments



THANK YOU!



Chris Peiffer
Director of Urban Forestry Consulting
Project Manager
(717) 579-9890
chrispeiffer@planitgeo.com

www.planitgeo.com



For questions or comments,
please contact:

Kerry Rappold, Program Manager
Natural Resources Program

Phone: (503) 570-1570
rappold@ci.wilsonville.or.us

29799 SW Town Center Loop E
Wilsonville, OR 97070

www.ci.wilsonville.or.us
www.letstalkwilsonville.com/UFMP

The City's Natural Resources staff continues work to develop its Urban Forest Management Plan (UFMP), a long-term plan to maximize the benefit and impact of City trees while simultaneously reducing any risks or hazards.

A healthy urban forest provides a great many benefits to Wilsonville's economic and environmental health. Informed by public input and thoughtful study of the City's forest landscape, the UFMP recommends actions and policies to ensure the long-term care and sustainability of Wilsonville's treescape.

In September, PlanIt Geo and Wilsonville's Natural Resources Program hosted the first of a series of community meetings to gain resident perspectives on Wilsonville's urban forest. Residents provided input on what a successful, sustainable urban forest would look like.

Two additional community meetings are scheduled on Nov. 17, noon and 6:30 pm, to specifically address treescapes in Wilsonville Town Center and Charbonneau, two focus areas for the plan. The City encourages residents, business owners, and property owners in the Charbonneau and Town Center areas to participate in these virtual meetings.

In conjunction with these meetings, a public survey to collect input specific to Town Center and Charbonneau is being posted online at [LetsTalkWilsonville.com](https://lets-talk-wilsonville.com) between **Nov. 16 and Dec. 4**.

Last year, Wilsonville adopted the Town Center Plan. A vital part of creating a more vibrant and livable Town Center is an urban forest that lays the foundation for economic, social, and environmental success. This urban forest resource must be carefully studied, cared for, and actively managed to ensure long-term success of the district.

Similarly, Charbonneau is being inventoried, studied, and reviewed for its unique contribution to Wilsonville's urban forest landscape.

The City invites residents to attend the Nov. 17 meeting, complete the survey or learn more about the plan at [LetsTalkWilsonville.com/ufmp](https://lets-talk-wilsonville.com/ufmp).

For additional information, contact Natural Resources Manager Kerry Rappold at 503-570-1570 or rappold@ci.wilsonville.or.us.

A PLAN FOR WILSONVILLE'S URBAN FOREST



A PRESENTATION FOR THE RESIDENTS OF WILSONVILLE



NOVEMBER 2020



PURPOSE



“Urban trees and forests are considered integral to the sustainability of cities as a whole. Yet, sustainable urban forests are not born, they are made. They do not arise at random, but result from a community-wide commitment to their creation and management.”

Clark et al.: A Model of Urban Forest Sustainability

WELCOME & INTROS



Chris Peiffer, Project Manager, Presenter
Maegan Blansett, GIS & Natural Resources Specialist
Andrew Carrier, Urban Forestry Planning Support



Kerry Rappold, Program Manager
City of Wilsonville, OR Natural Resources Program



Let's Hear From You!

Use the chat box

Share your name, neighborhood, favorite tree, park, other
(optional)

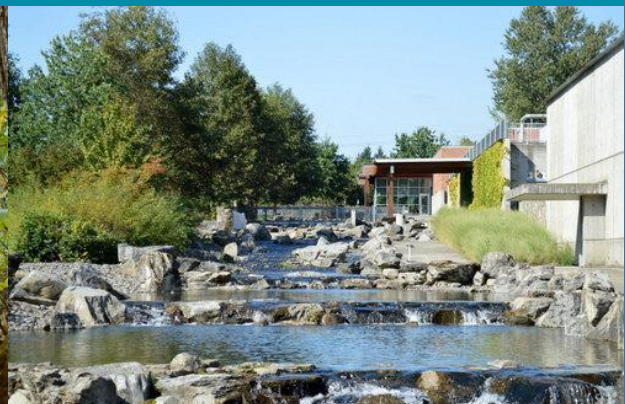
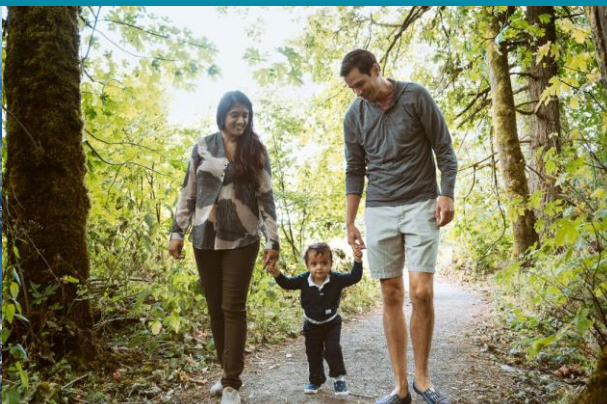


AGENDA

- ➔ **Welcome & Intros**
- ➔ **Extent of the Urban Forest**
- ➔ **Benefits of the Urban Forest**
- ➔ **Project Findings**
- ➔ **Vision Development**
- ➔ **Recap & Next Steps**
- ➔ **Open Discussion**



URBAN FOREST EXTENT



URBAN FOREST BENEFITS

See The Nature Conservancy's
Outside Our Doors
report for more

**BOOSTS
ECONOMY**

**INSPIRES PHYSICAL
ACTIVITY**

**WELL
BEING**

**AIR
QUALITY**

**STORMWATER
REDUCTION**

**NEIGHBORHOOD
SAFETY**

WILDLIFE

**REDUCED
HEAT ISLANDS**

**ENERGY
SAVINGS**

**PROPERTY
VALUES**

**EROSION
CONTROL**

AESTHETICS

**WATER
QUALITY**

**IMPROVES
FOCUS**



URBAN FOREST BENEFITS



Property Value

\$\$\$\$

Value added to properties

Air Quality

\$\$\$\$

Filter and absorb pollutants

Stormwater

\$\$\$\$

Reduce gallons treated

Energy Use

\$\$\$\$

Reduce kilowatt hours

Carbon

\$\$\$\$

Store and sequester carbon

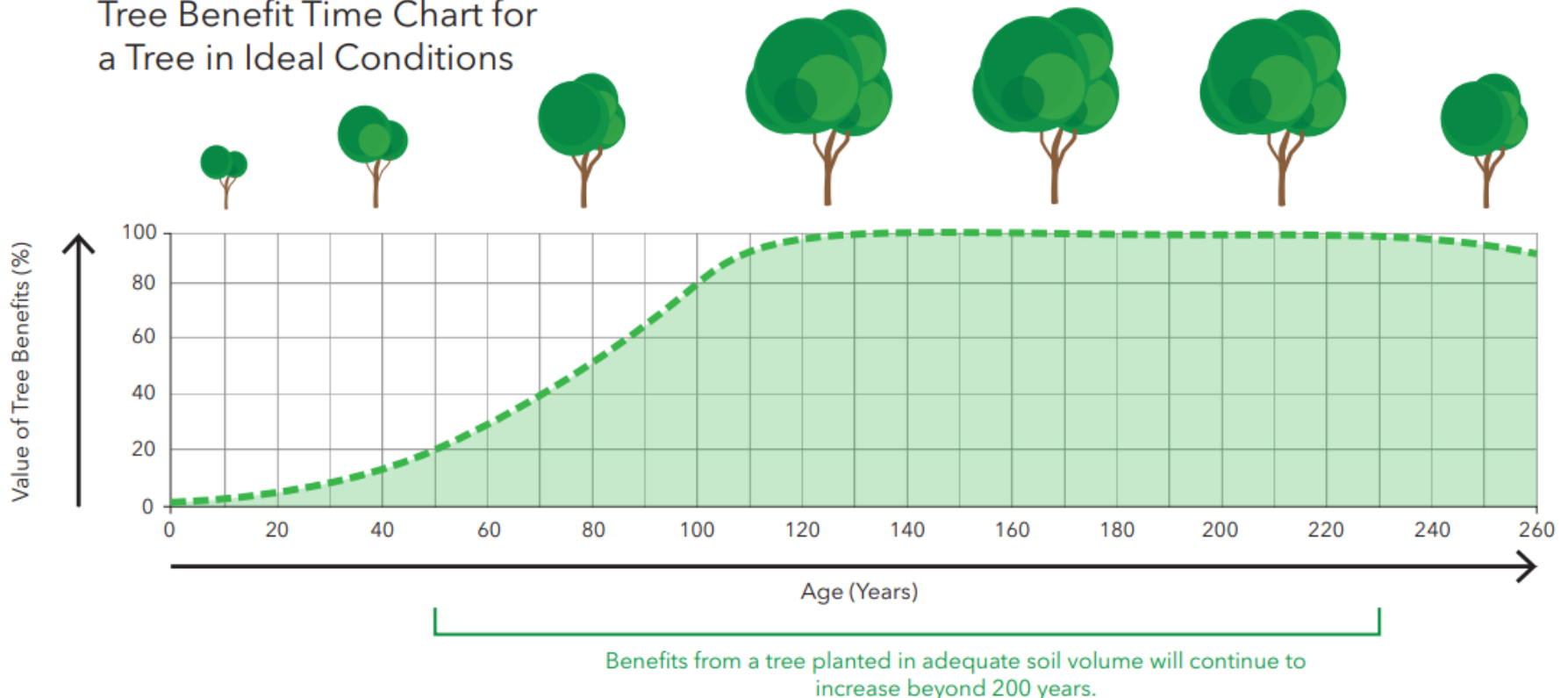
Total Value

\$\$\$\$

Total Annual Value

URBAN FOREST BENEFITS

Tree Benefit Time Chart for
a Tree in Ideal Conditions



Source: GreenBlue Urban "Street Tree Cost Benefit Analysis"

Protecting Urban Forest Benefits

- Population growth
- Tree pests and diseases
- Invasive species
- Stormwater management
- Program resources
- Storms and disasters
- Updated policy
- Construction conflicts
- Roles and responsibilities



Source: Oregon Forest
Resources Institute

CHAT BOX REMINDER



URBAN FORESTRY PROGRAM OVERVIEW

- ❖ Programs
- ❖ Plans
- ❖ Policy

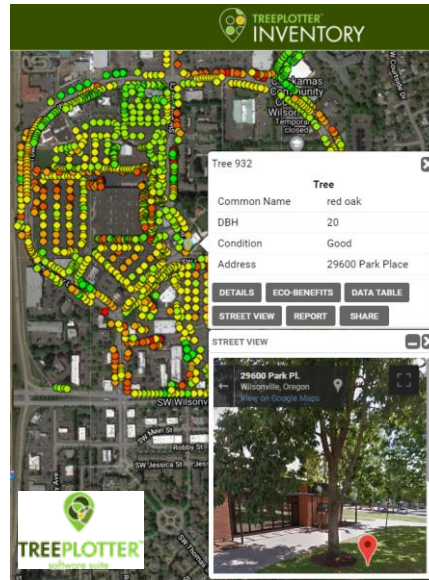


URBAN FORESTRY PROGRAM OVERVIEW



Existing Programs, Plans, & Policy

PROGRAMS



PLANS

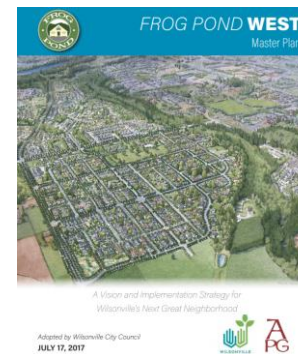
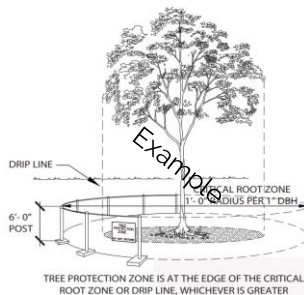


Source: City website

POLICY

4.600: Tree Preservation and Protection

- ❖ Purpose
- ❖ Permits
- ❖ Standards
- ❖ Replacements
- ❖ Enforcement



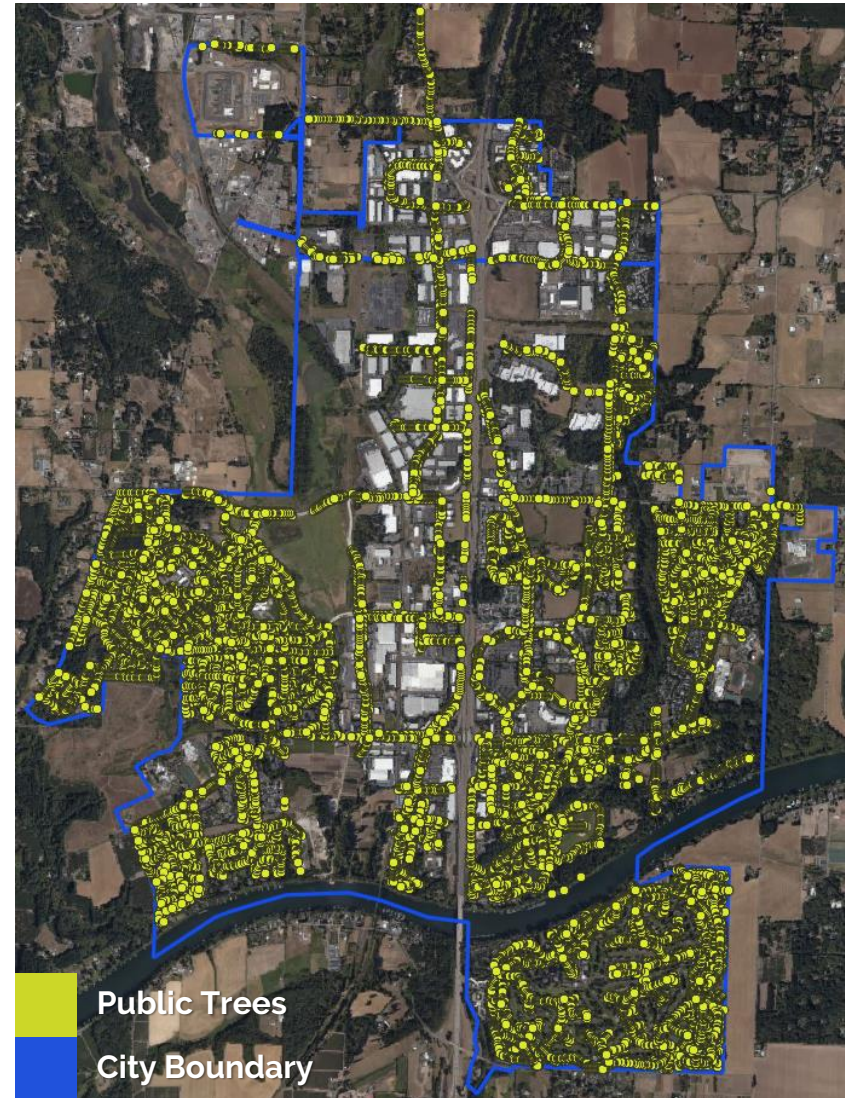
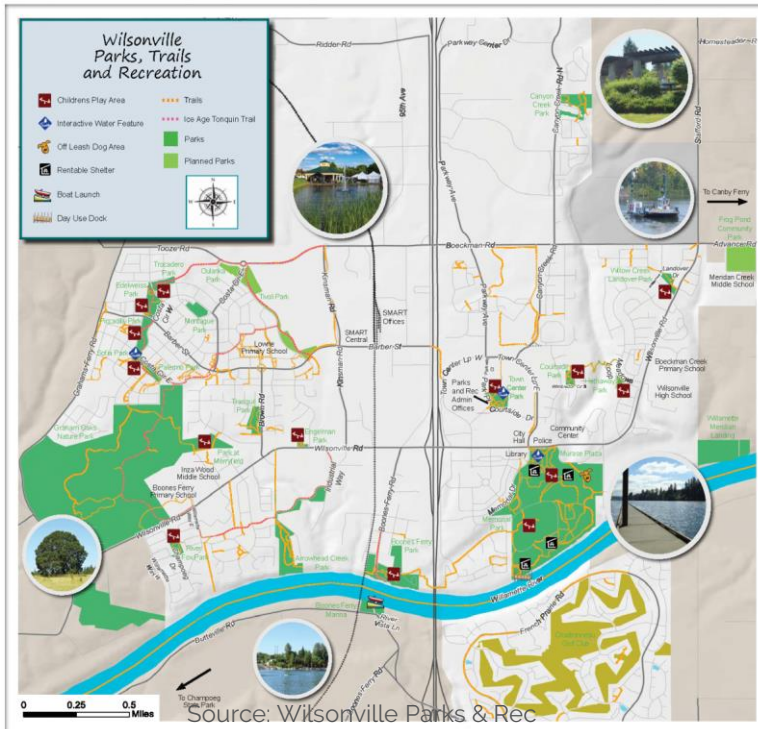
CHAT BOX REMINDER



UFMP PROJECT FINDINGS: INVENTORY

Wilsonville's Urban Forest Today

- ❖ 24,000+ public trees
- ❖ 15 public parks
- ❖ 1,500 acres of parks and rec

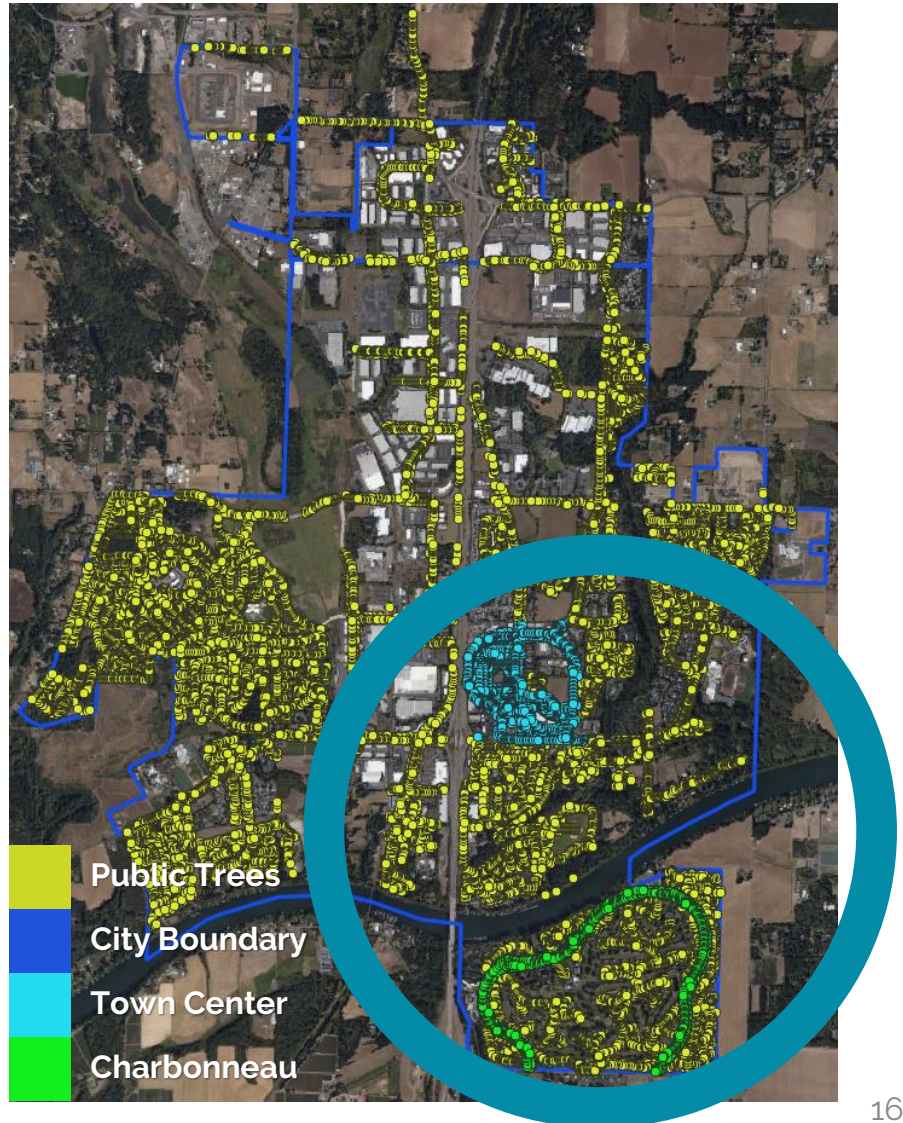


Wilsonville's Urban Forest Today

24,000+ public trees

2020 Inventory

- ❖ 1,440 trees in Town Center
- ❖ 916 trees on SW French Prairie Road in Charbonneau



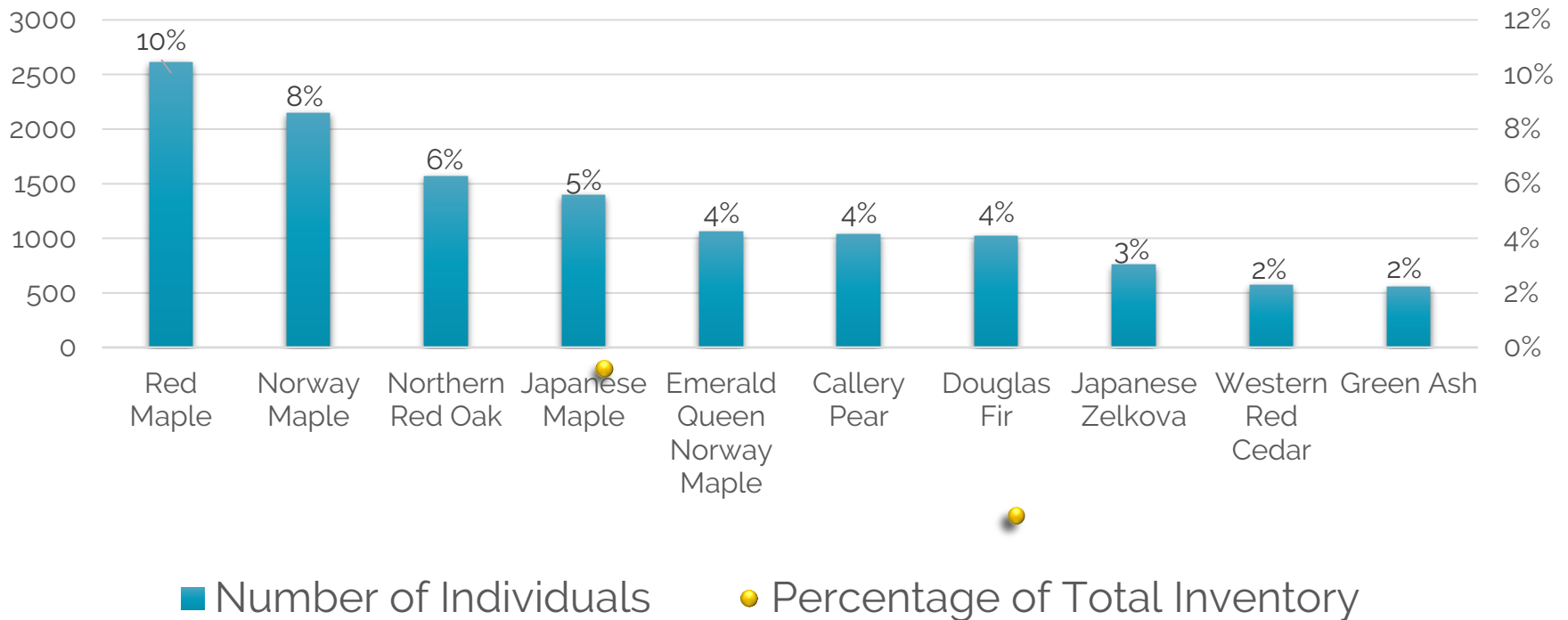
Wilsonville's Urban Forest Today

Citywide Analysis

What kinds of trees are out there?

Maples, Oaks, Pines, Ash, Cherry, Pear, Douglas Fir, Cypress, Zelkova, Spruce

Most Common Tree Species (Top 10)

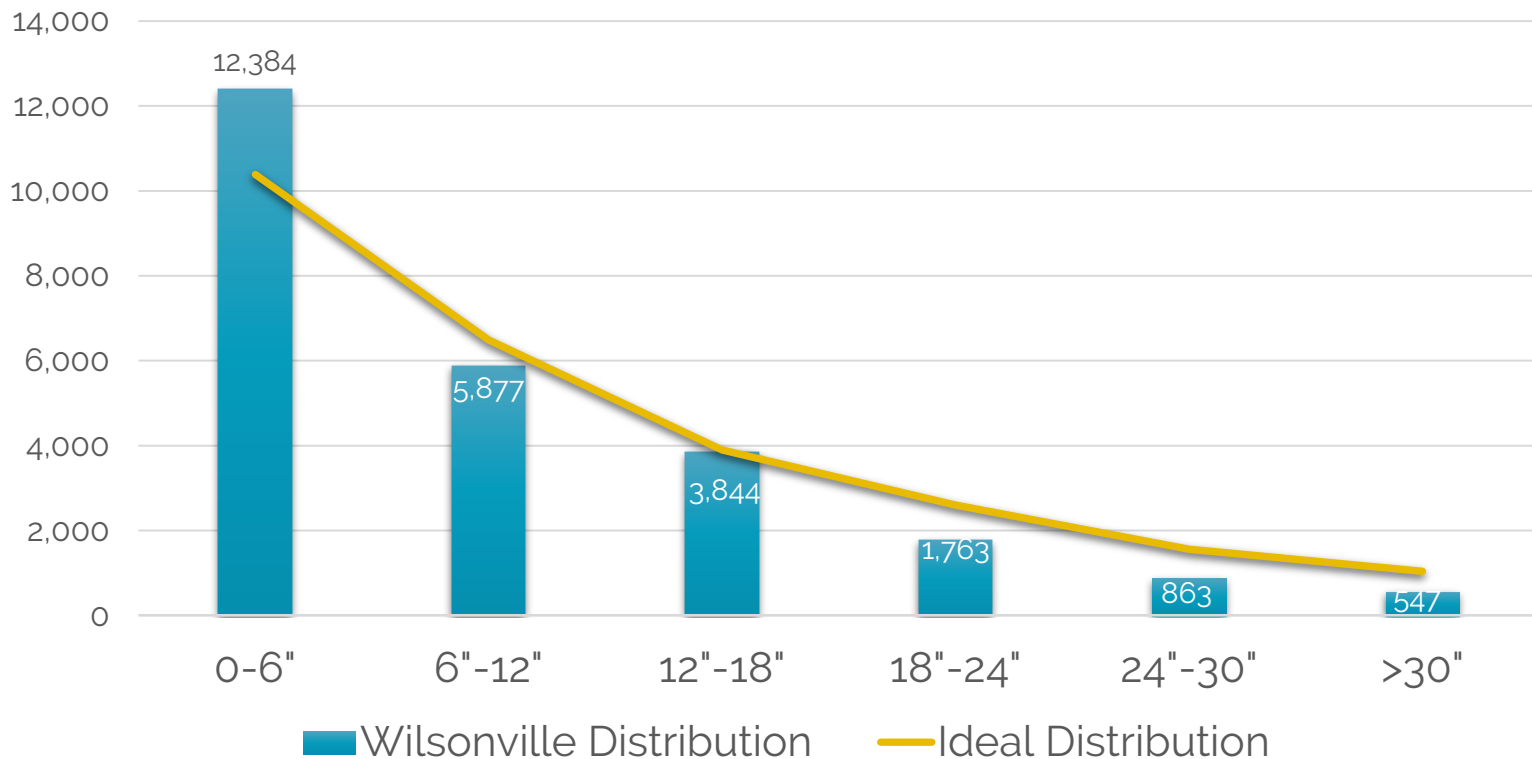


Wilsonville's Urban Forest Today

Citywide Analysis

How big are the trees?

Number of Trees by Diameter Class



UFMP PROJECT FINDINGS: INVENTORY

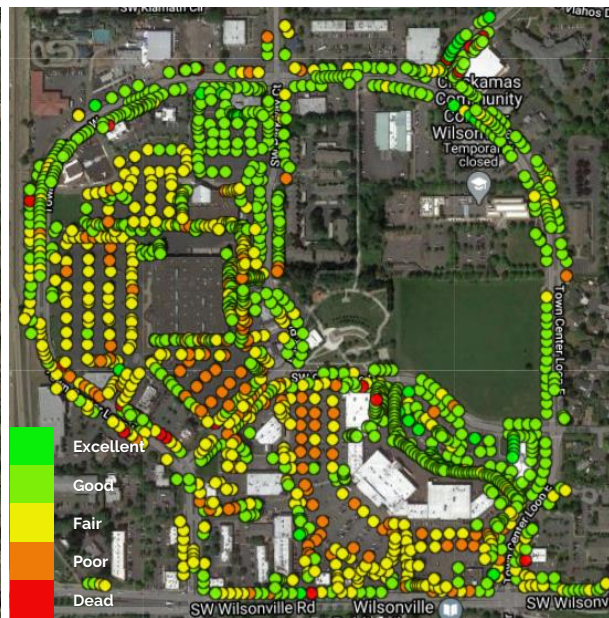
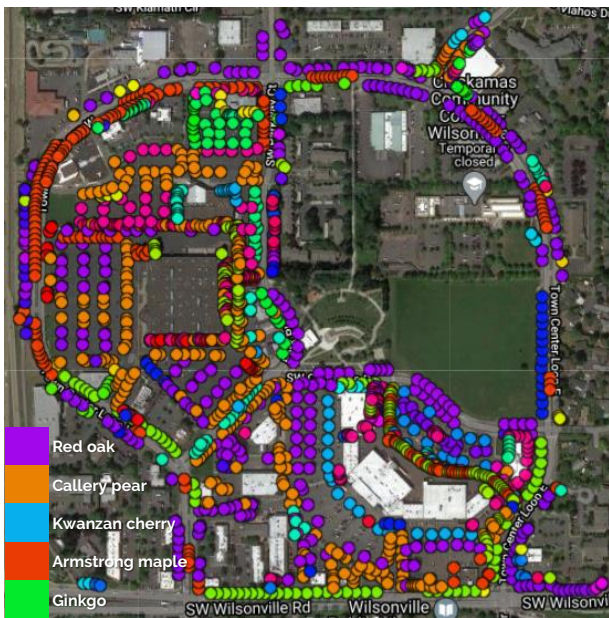
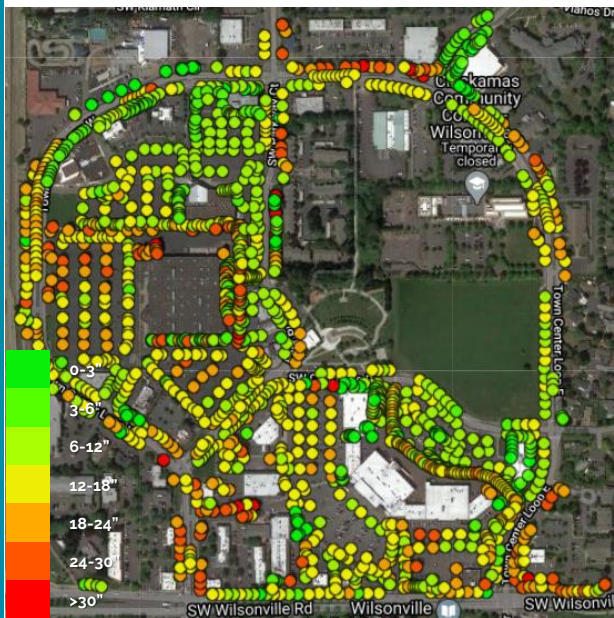
Wilsonville's Urban Forest Today

Town Center Analysis

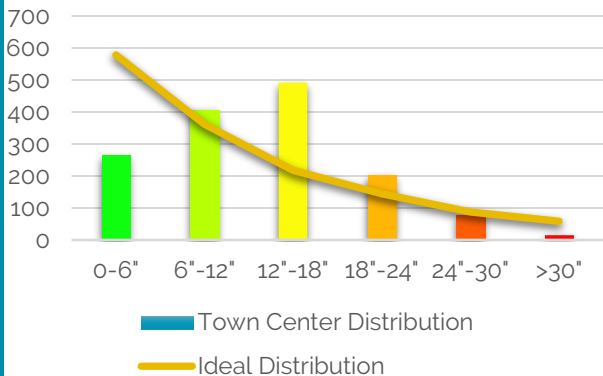
How big are the trees?

What kinds of trees?

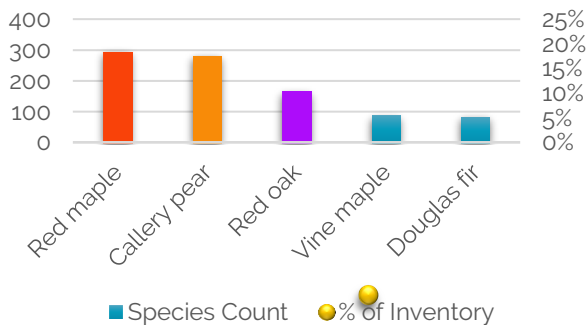
Condition of trees?



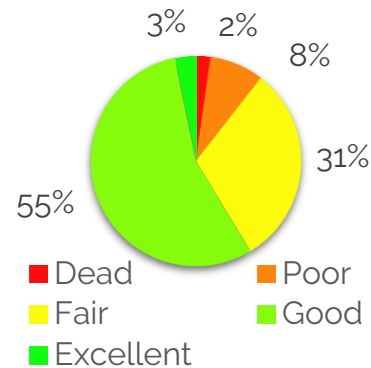
Size Classes



Top 5 Species



Condition



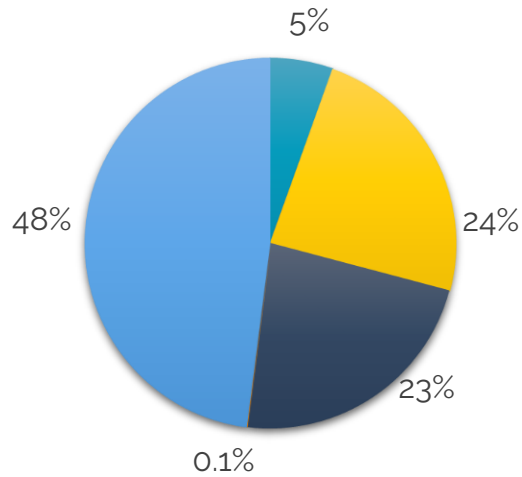
UFMP PROJECT FINDINGS: INVENTORY

Wilsonville's Urban Forest Today

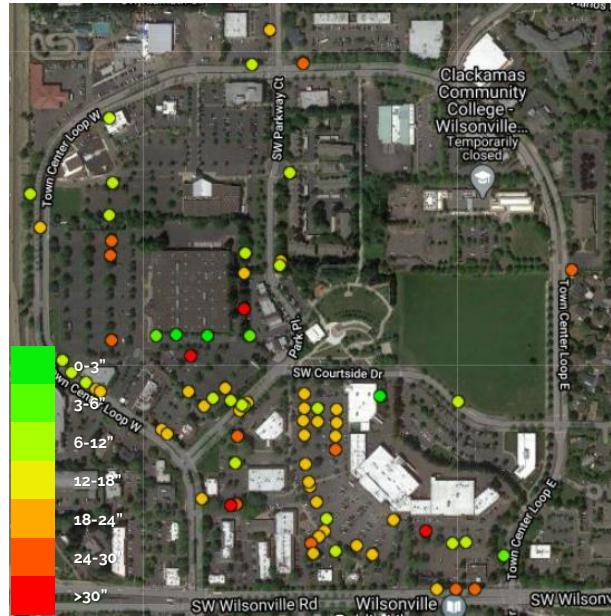
Town Center Analysis

Where are trees growing? What trees need removed? Primary maintenance need?

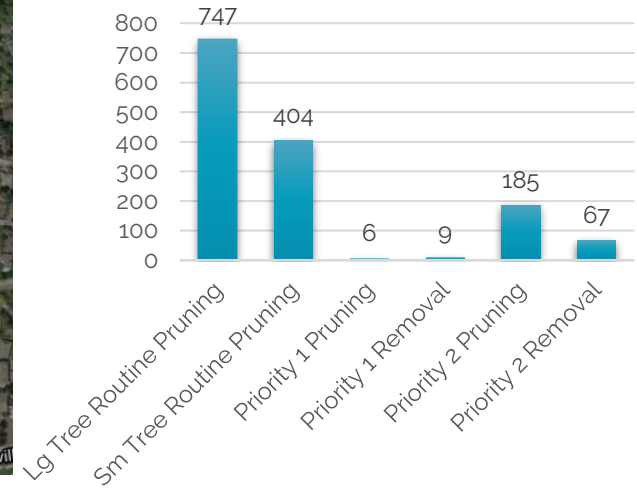
Growing Space



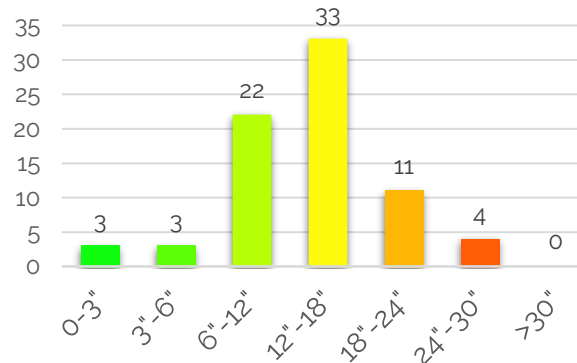
- Cutout
- Median
- Other (Maintained)
- Other (Unmaintained)
- Planting Strip



Maintenance Needs



Trees Marked for Removal

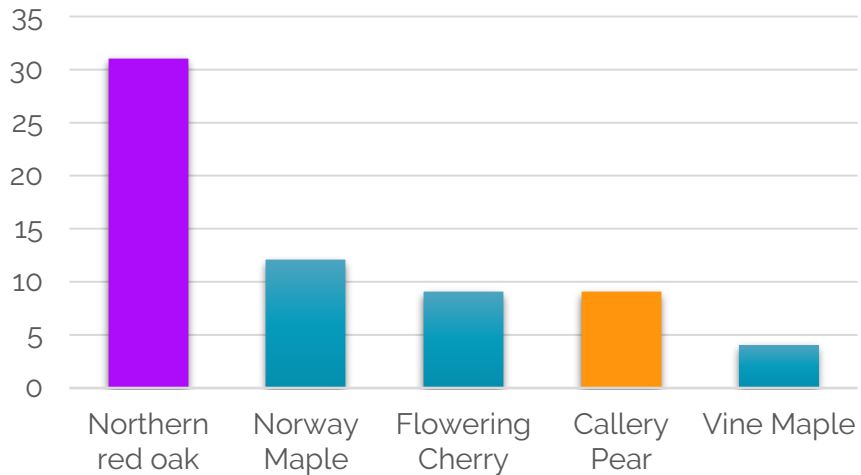


Wilsonville's Urban Forest Today

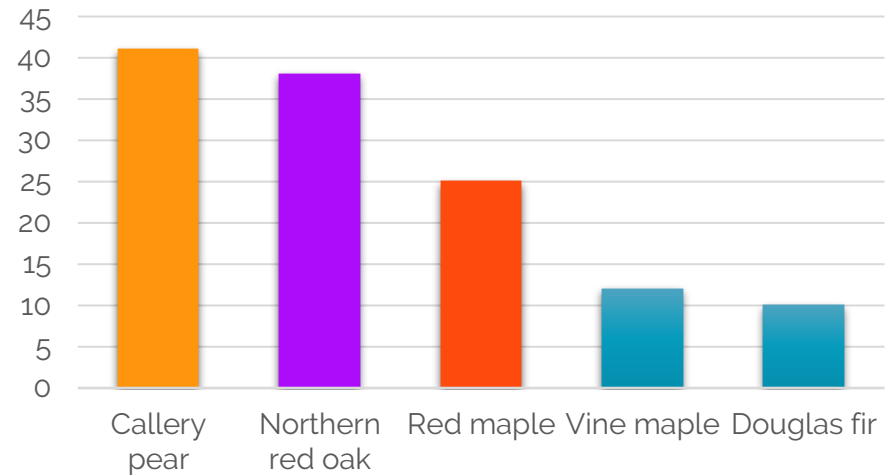
Town Center Analysis

Which trees require the most maintenance?

Number of Specific Species Marked for Removal



Priority Tree Work by Species



Note: The maintenance required for a species may be a result of the abundance of the species

UFMP PROJECT FINDINGS: INVENTORY

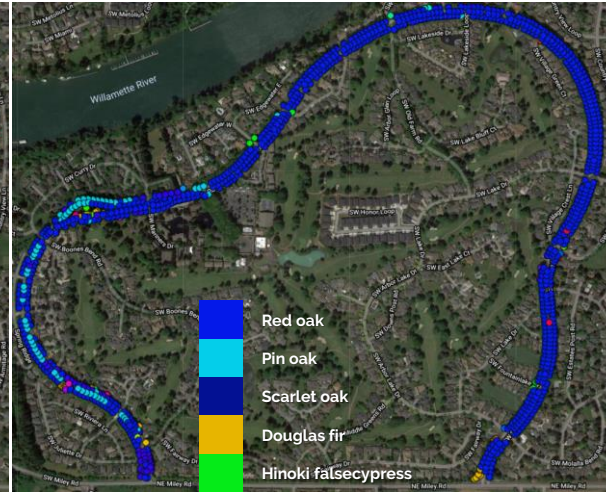
Wilsonville's Urban Forest Today

Charbonneau Analysis

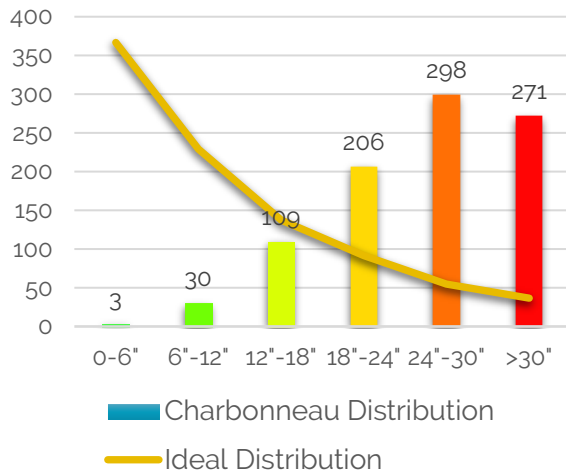
How big are the trees?

What kinds of trees?

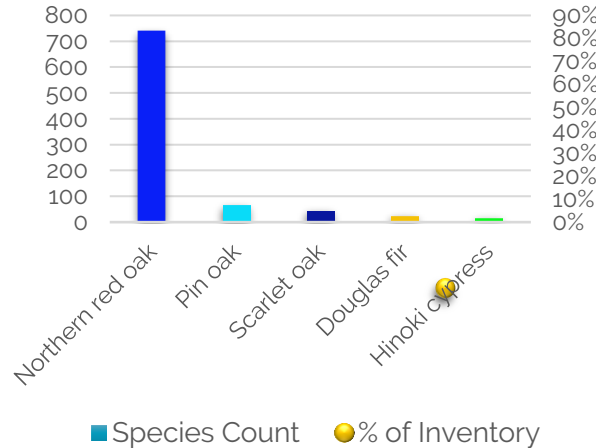
Condition of trees?



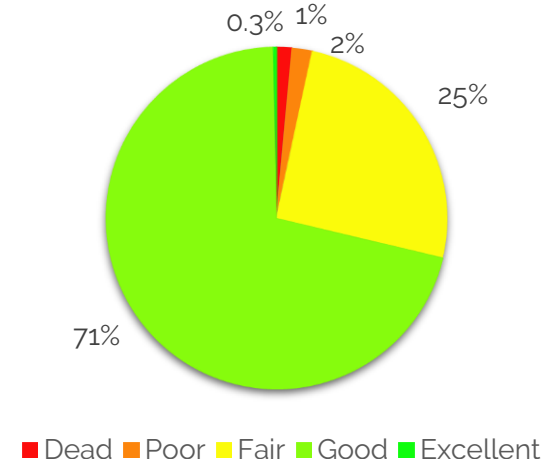
Size Classes



Top 5 Species



Condition



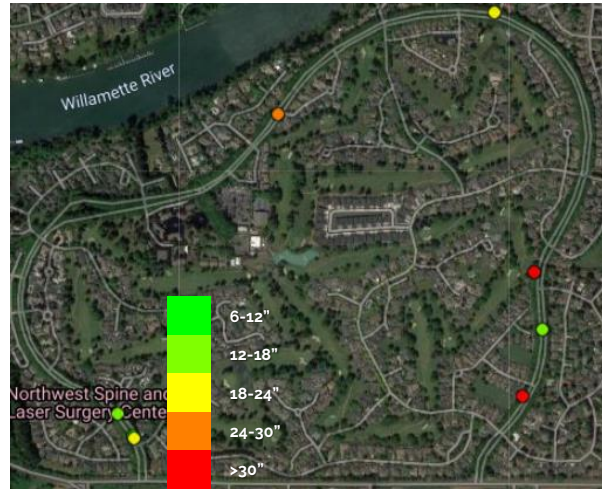
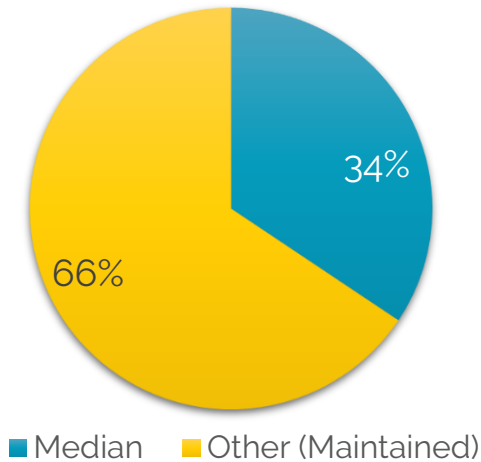
UFMP PROJECT FINDINGS: INVENTORY

Wilsonville's Urban Forest Today

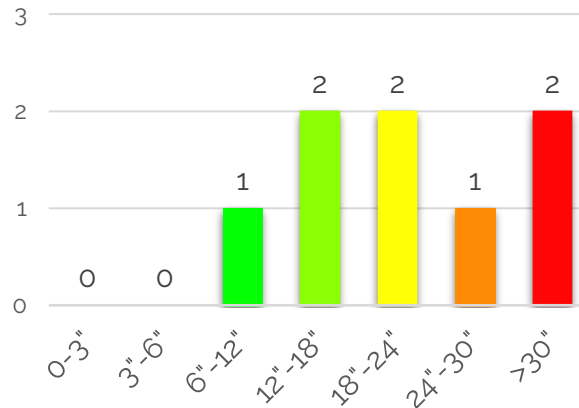
Where are trees growing? What trees need removed? Primary maintenance need?

Charbonneau Analysis

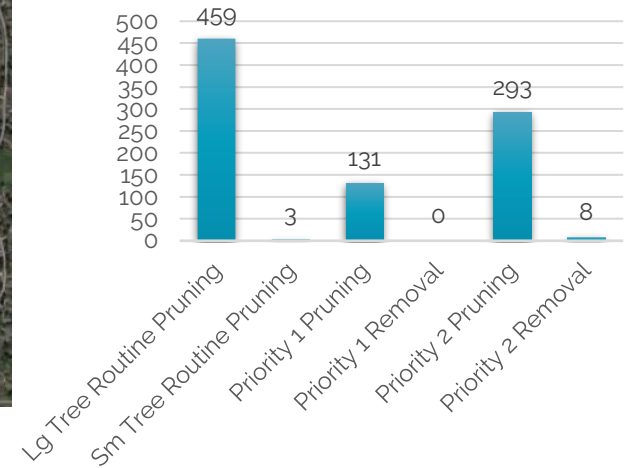
Growing Space



Trees Marked for Removal



Maintenance Needs

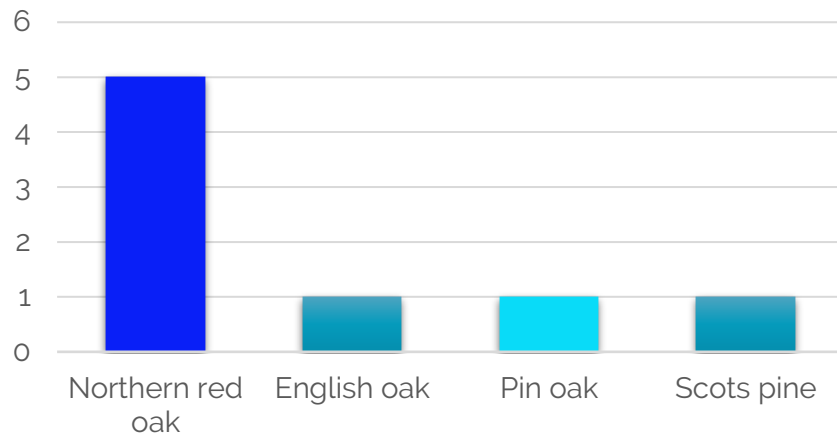


Wilsonville's Urban Forest Today

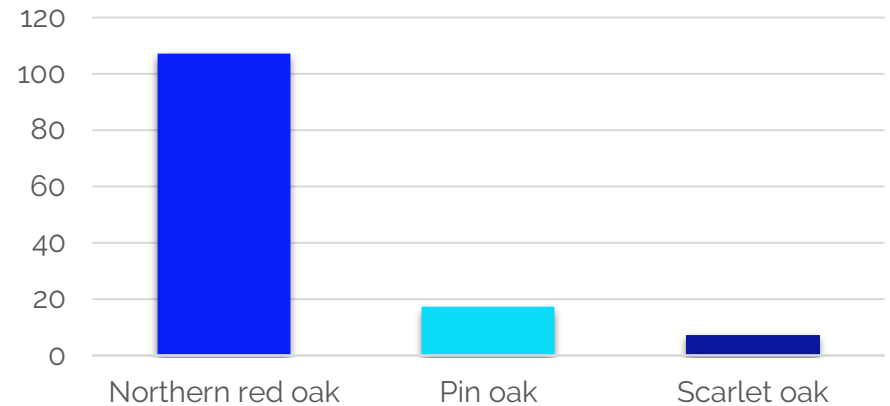
Charbonneau Analysis

Which trees require the most maintenance?

Number of Specific Species Marked for Removal



Priority Tree Work by Species



Note: The maintenance required for a species may be a result of the abundance of the species

UFMP PROJECT FINDINGS: INVENTORY



Wilsonville's Urban Forest Today

Citywide Analysis

Which species contribute the most canopy cover, numbers, and benefits?

Species	% Population	% Leaf Area	Importance Value*
Red maple	9%	12%	21.2
Northern red oak	6%	14%	20.8
Norway maple	7%	12%	18.4
Douglas fir	4%	9%	13.4
Crimson King Norway maple	2%	5%	7.6
Japanese maple	6%	2%	7.2
Callery pear	4%	3%	6.9
Japanese zelkova	3%	2%	4.6
American sycamore	1%	3%	3.9
Green ash	2%	2%	3.8

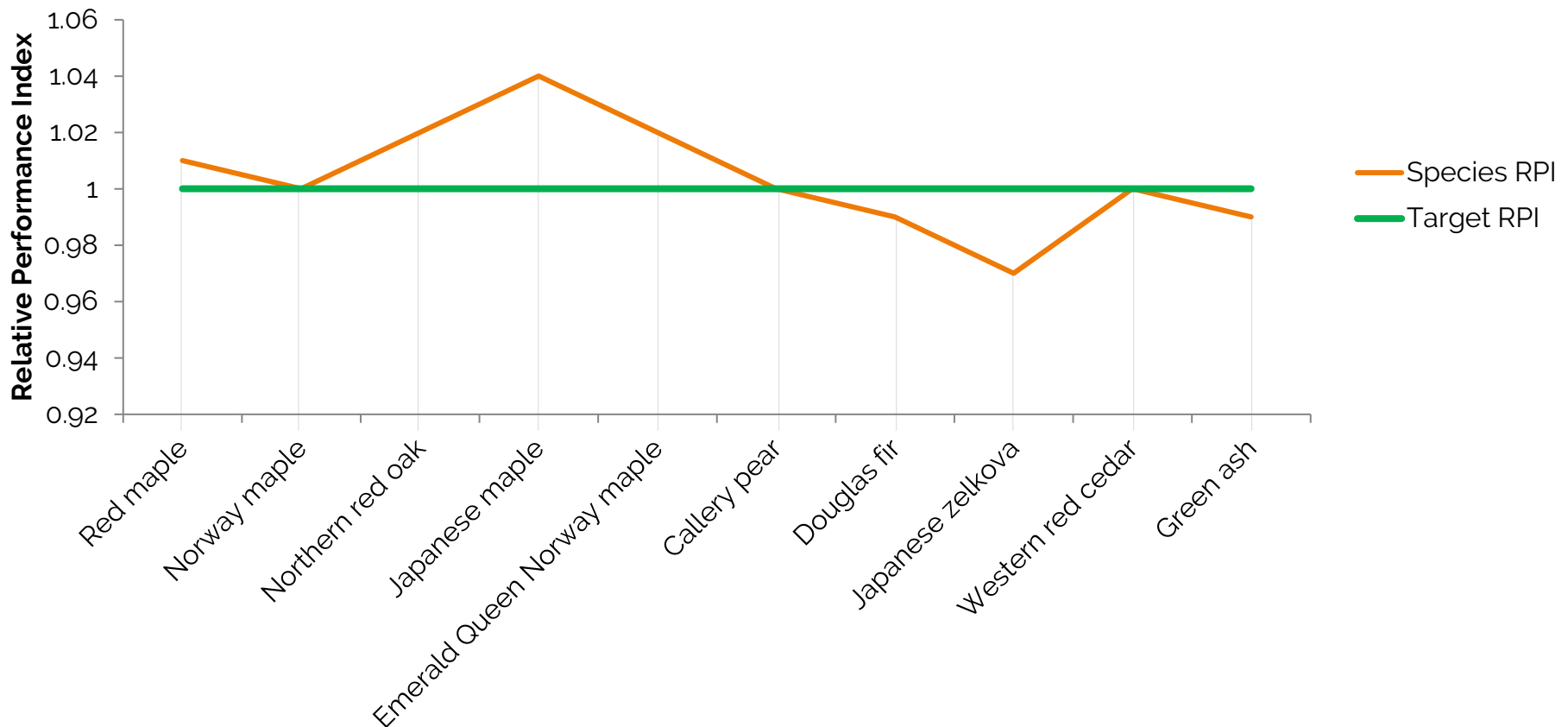
***Importance Value:** Percentage of total trees, total leaf area, and canopy cover. Ranges from 0 to 100, with an IV of 100 suggesting total reliance on one species.

Wilsonville's Urban Forest Today

Citywide Analysis

How do individual species perform compared to the entire population?

Top 10 Species Relative Performance Index*



***Relative Performance Index:** Comparison of species condition to overall population condition. 1.00 = same as population, <1.00 = underperforming, >1.00 performing better than population.

UFMP PROJECT FINDINGS: BENEFITS

Charbonneau & Town Center Trees



TOTAL VALUE: \$280,000

2020 Tree Inventory

**2,356 trees of over
24,000 inventoried
public trees**



STORMWATER: \$48,000
4.4 million gallons



AIR QUALITY: \$7,000
3,500 lbs removed



CARBON STORAGE & SEQUESTRATION: \$7,500
1 million lbs of C stored, 238 tons of C sequestered



PROPERTY VALUES: \$175,000



ENERGY SAVINGS: \$18,000
288,000 kWh

ANNUAL AMOUNTS

**Total Public
Tree Benefits
on Next Slide**

UFMP PROJECT FINDINGS: BENEFITS

Citywide Tree Population



STRUCTURAL VALUE: \$46.4 million



STORMWATER: 7 Olympic-sized swimming pools of runoff prevented



AIR QUALITY: 6,700 lbs of pollutants removed



CARBON STORAGE & SEQUESTRATION: \$1.2 million
14 million lbs of C stored



PROPERTY VALUES: \$1.8 million



ENERGY SAVINGS: \$63,600
523,600 KWh (usage of 50 homes)

Cartegraph Inventory

**24,094 trees with
benefits values**

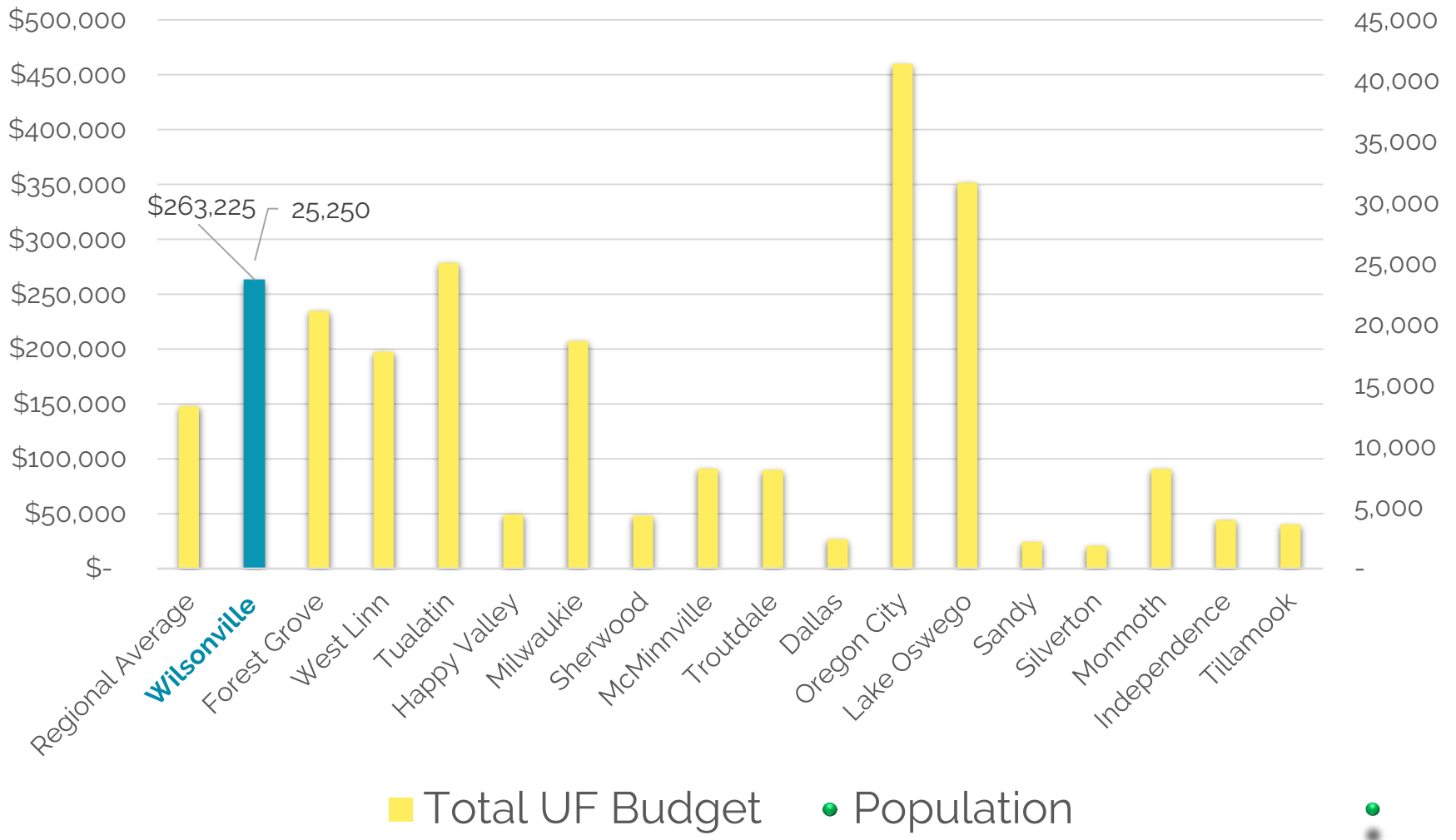
ANNUAL AMOUNTS

UFMP PROJECT FINDINGS: BENCHMARKS



Tree City USA Data

Total Forestry Budget vs Population

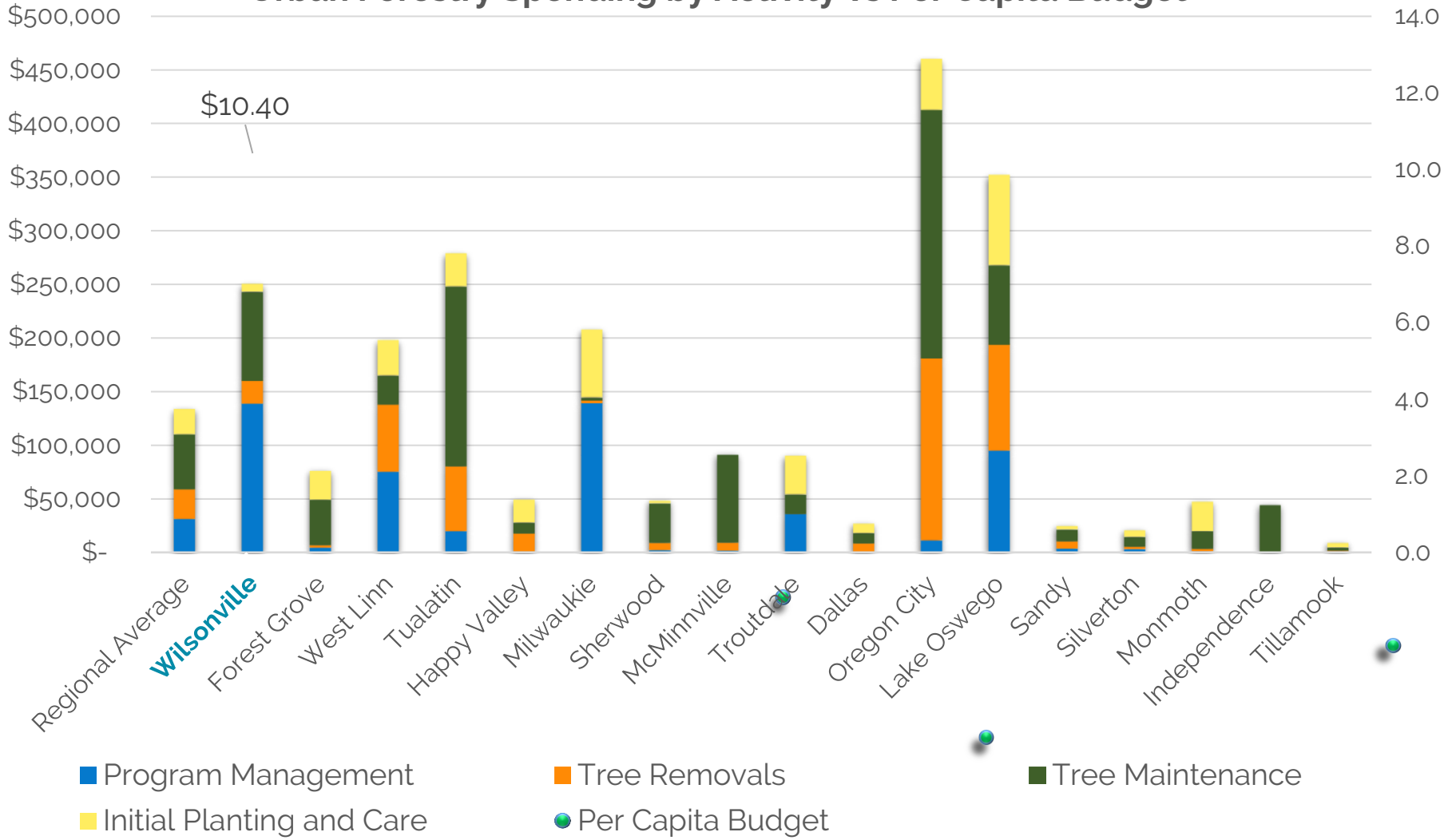


UFMP PROJECT FINDINGS: BENCHMARKS



Tree City USA Data

Urban Forestry Spending by Activity vs Per Capita Budget

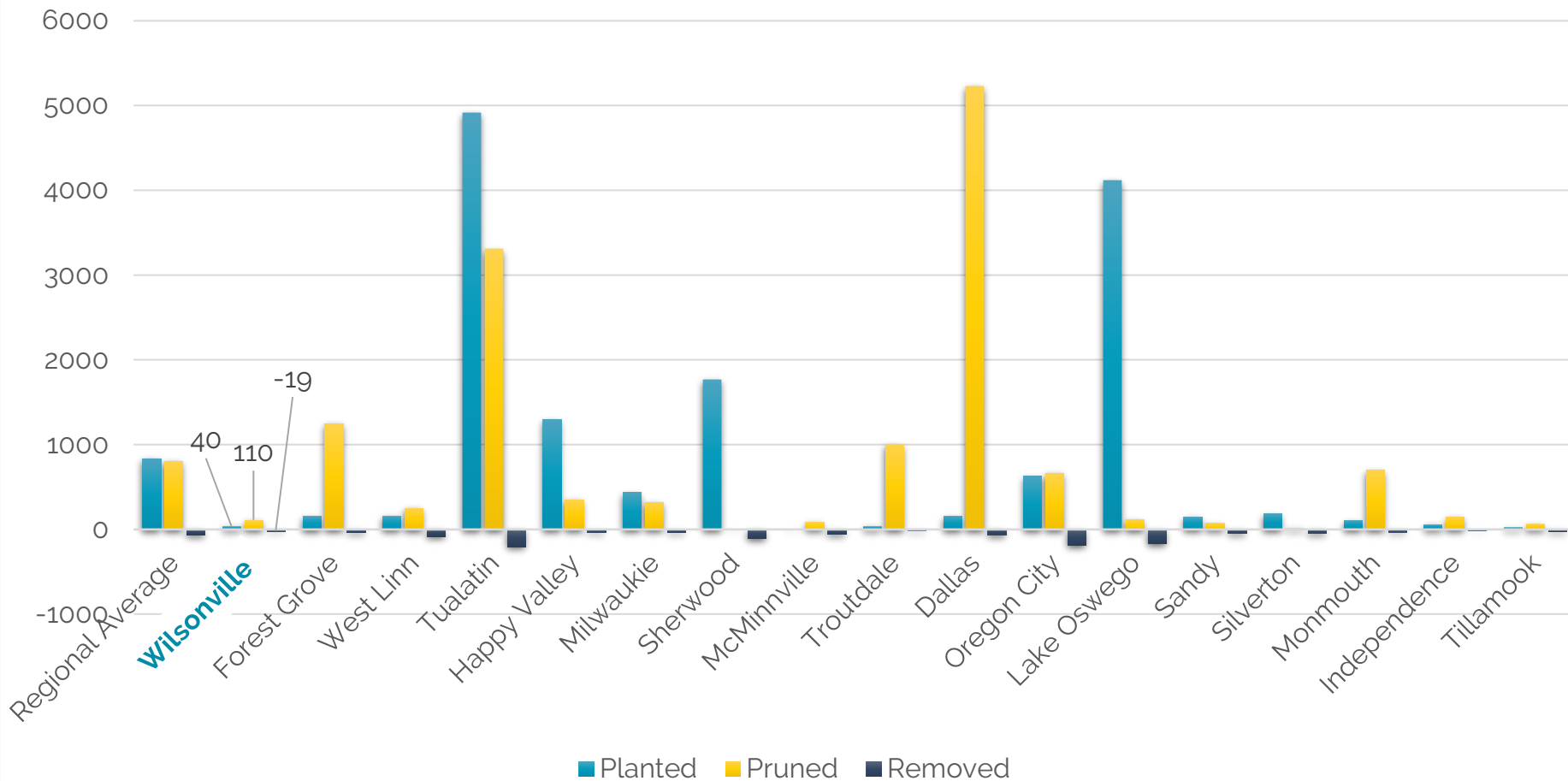


UFMP PROJECT FINDINGS: BENCHMARKS



Tree City USA Data

Overall 2019 Tree Maintenance Data



UFMP PROJECT FINDINGS: BENCHMARKS



Tree City USA Data

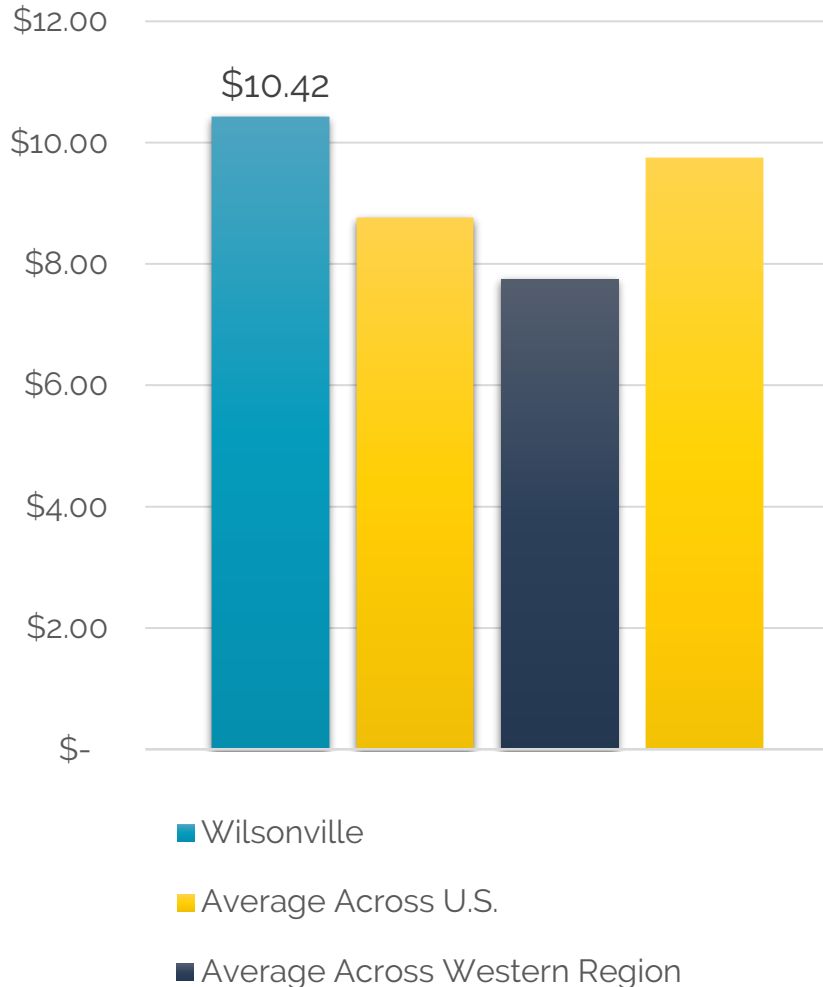
Community Name	County	Community Population	Population Difference vs Study City	Total Budget	Per Capita Budget
Wilsonville	Clackamas County	25,250	0	\$263,224	\$10.42
Forest Grove	Washington County	24,125	1,125	\$235,325	\$9.82
West Linn	Clackamas County	26,756	1,506	\$198,072	\$10.06
Tualatin	Washington County	27,478	2,228	\$278,899	\$16.78
Happy Valley	Clackamas County	21,700	3,550	\$49,743	\$2.84
Milwaukie	Clackamas County	20,929	4,321	\$207,811	\$10.42
Sherwood	Washington County	19,505	5,745	\$48,573	\$3.18
McMinnville	Yamhill County	33,810	8,560	\$91,520	\$2.77
Troutdale	Multnomah County	16,656	8,594	\$90,318	\$8.01
Dallas	Polk County	15,345	9,905	\$27,200	\$5.01
Oregon City	Clackamas County	35,570	10,320	\$459,743	\$13.35
Lake Oswego	Clackamas County	38,215	12,965	\$352,000	\$11.48
Sandy	Clackamas County	11,075	14,175	\$24,850	\$2.24
Silverton	Marion County	10,325	14,925	\$21,190	\$4.94
Monmouth	Polk County	9,920	15,330	\$91,306	\$9.42
Independence	Polk County	9,730	15,520	\$44,707	\$5.46
Tillamook	Tillamook County	4,950	20,300	\$40,900	\$8.39

UFMP PROJECT FINDINGS: BENCHMARKS

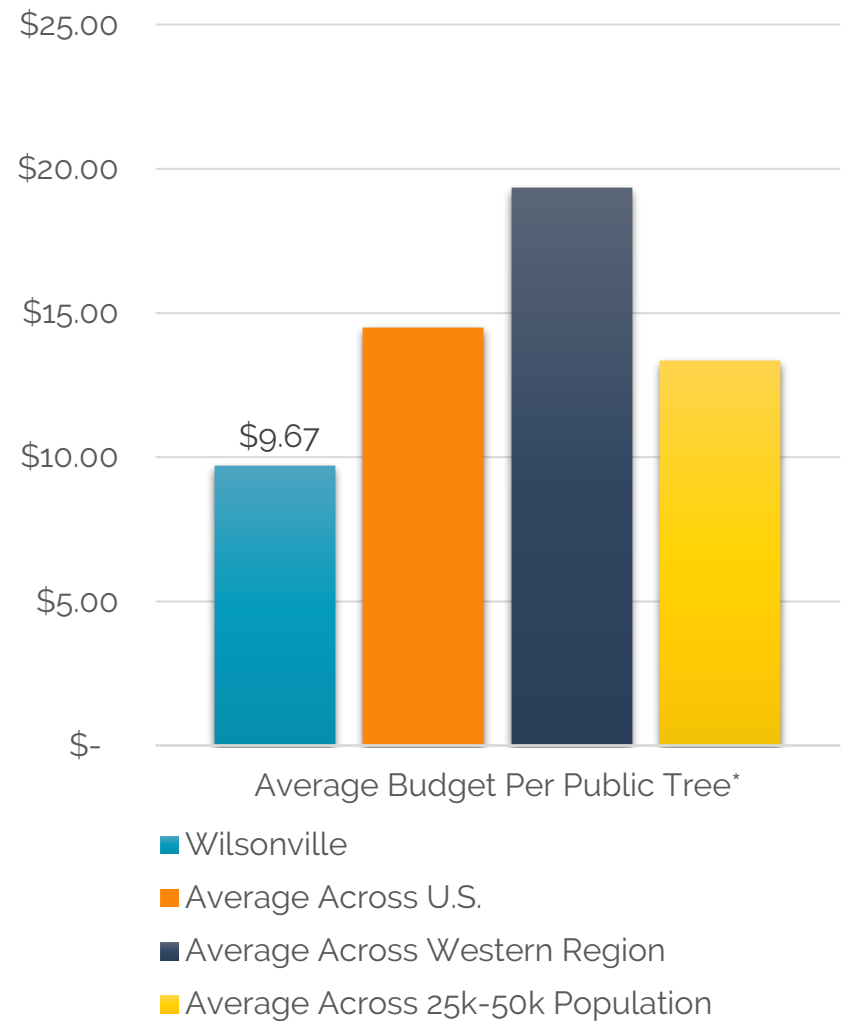


Community Forestry Census (2014)

Forestry Budget Per Capita

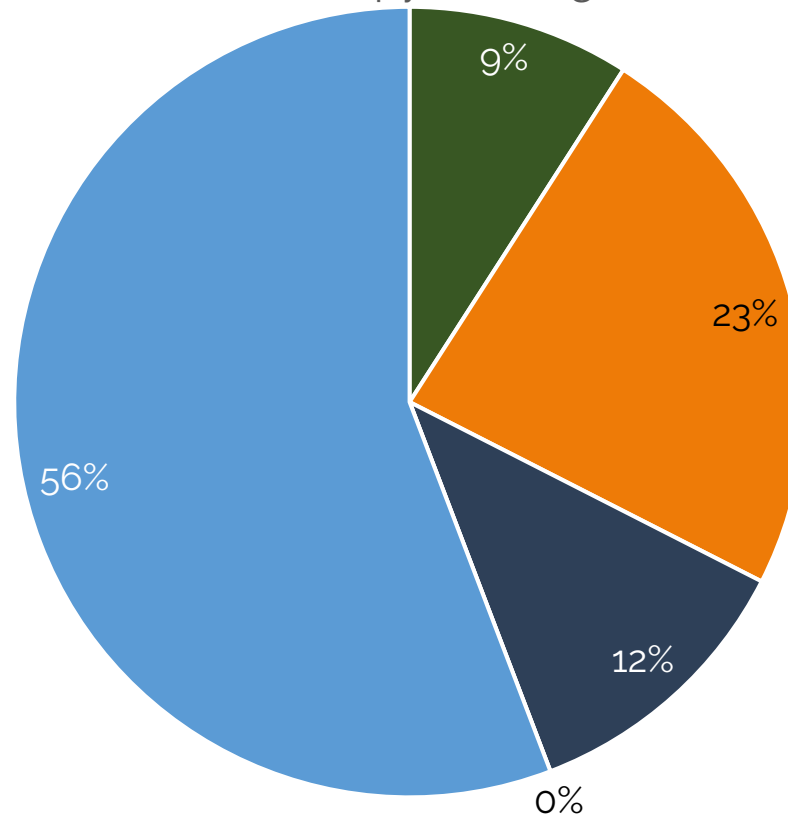


Average Budget per Public Tree



UFMP PROJECT FINDINGS: SURVEY

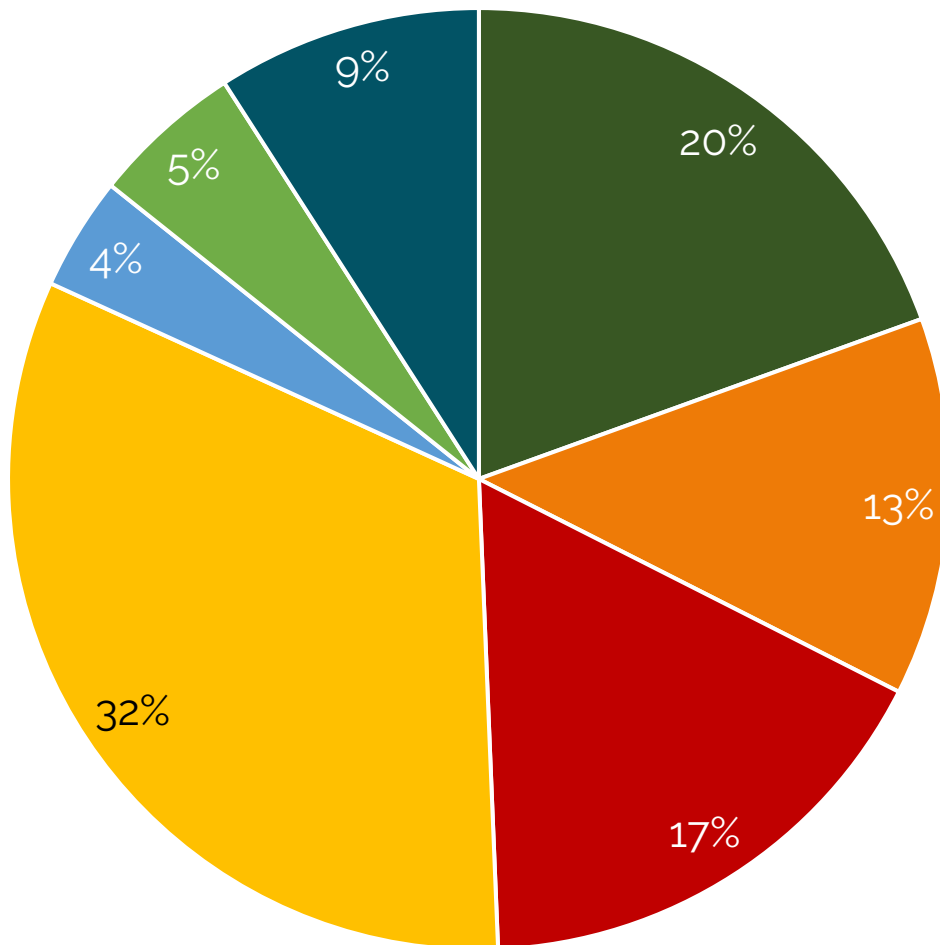
Q1: Which of the following most closely describes your opinions on the amount of tree canopy coverage in the city?



- There should be drastically more tree canopy coverage
- The current amount of tree canopy coverage is satisfactory
- There is currently too much tree canopy coverage and it should be reduced slightly
- There should be drastically less tree canopy coverage
- Current tree canopy coverage is good, but there should be more

UFMP PROJECT FINDINGS: SURVEY

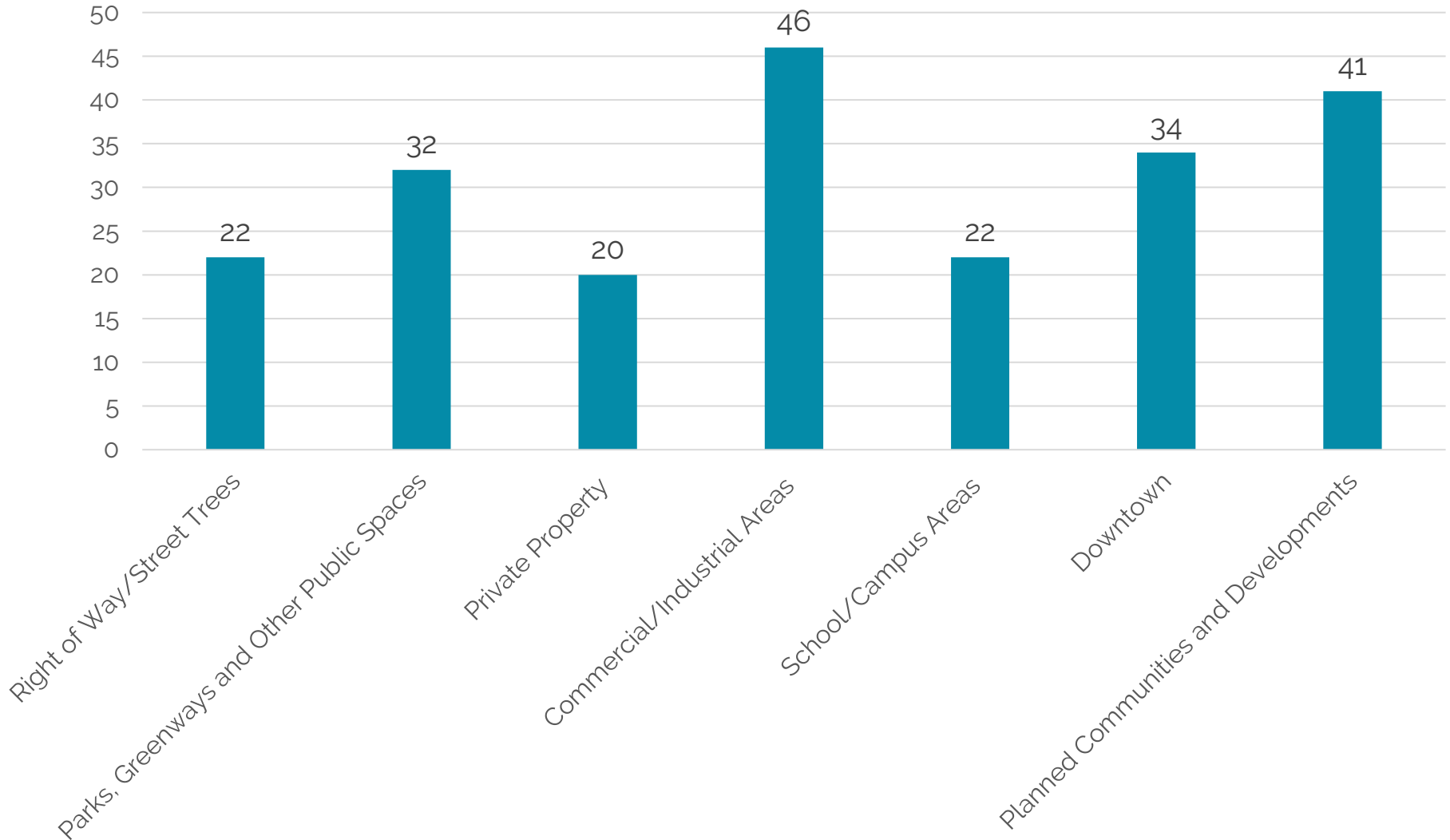
Q4: What is the most urgent tree-related need in your neighborhood?



- Tree protection from damage or removal
- Tree planting, adding more trees
- Dealing with hazard trees
- Tree maintenance
- Education and outreach
- Volunteer and community engagement
- Other (please specify)

UFMP PROJECT FINDINGS: SURVEY

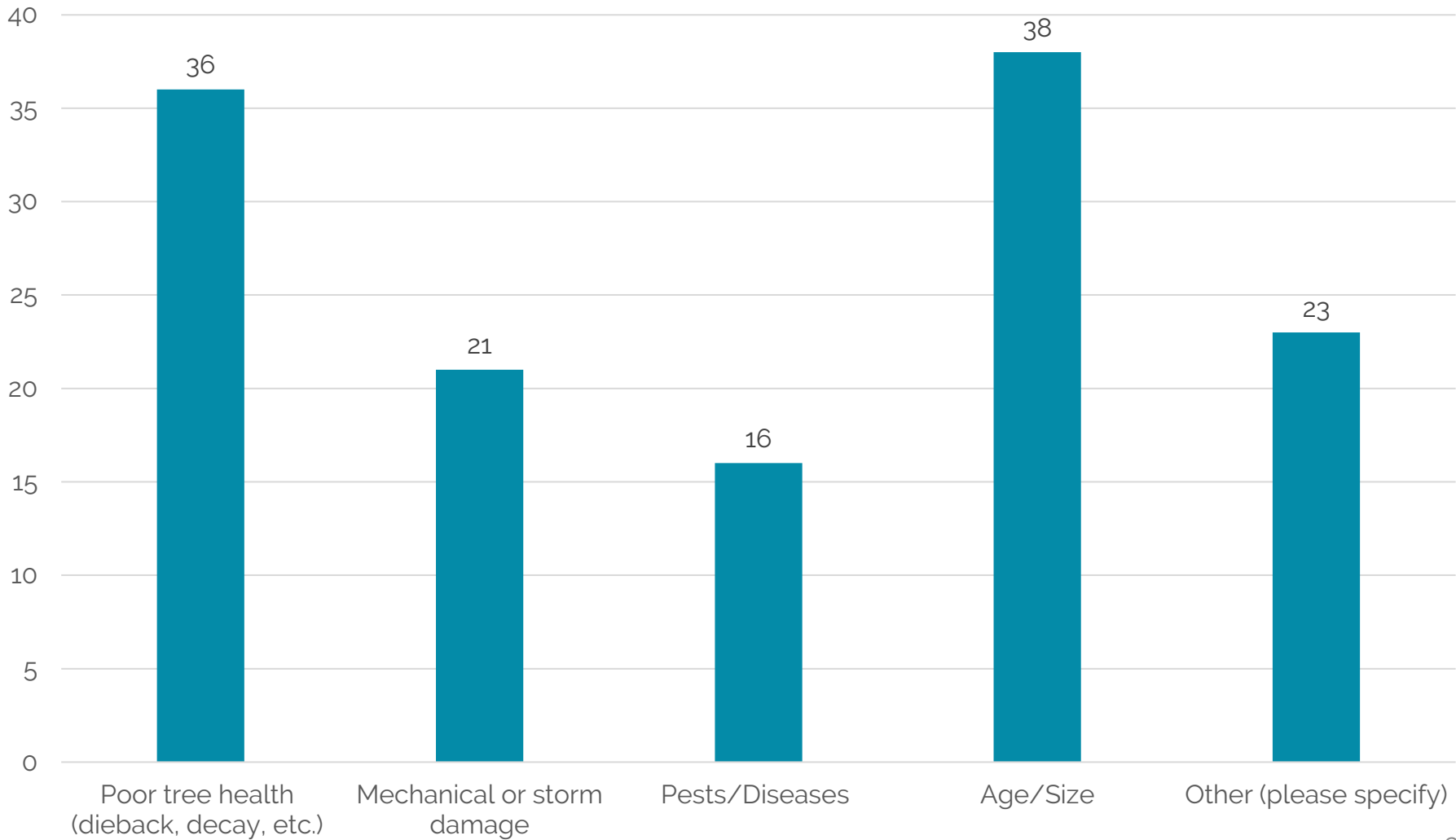
Q7: From the list below, please choose the areas you feel are most in need of more tree plantings. (Select all that apply)



UFMP PROJECT FINDINGS: SURVEY

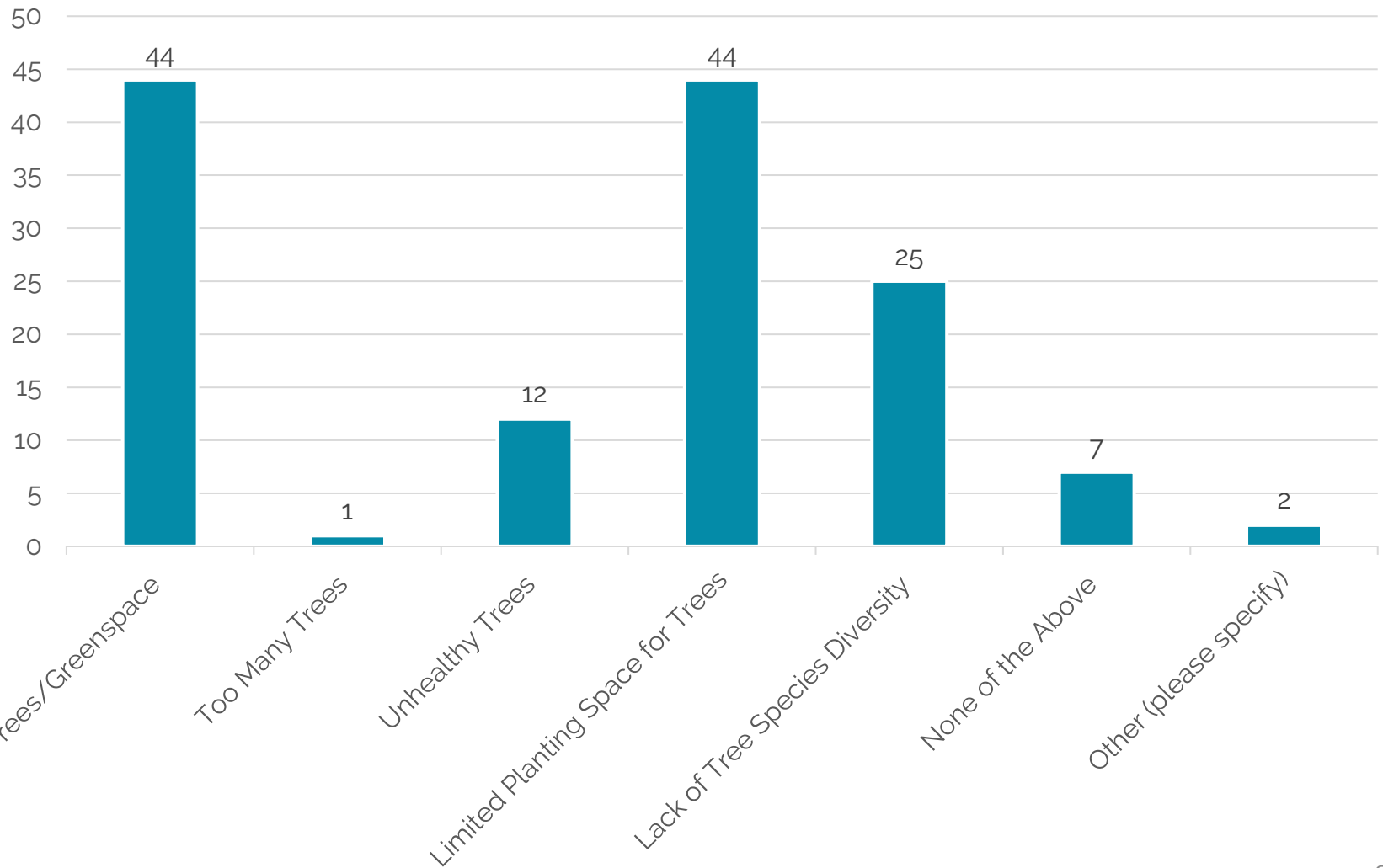


Q10: Charbonneau is a focus area of the urban forest management plan. Based on your knowledge of the area, what urban forestry issues would you say are of importance in Charbonneau? (check all that apply)



UFMP PROJECT FINDINGS: SURVEY

Q11: Town Center is a focus area for the urban forest management plan. Based on your knowledge of the area, what urban forestry issues would you say are of importance in Town Center? (Select all that apply)



CHAT BOX REMINDER



A VISION FOR THE URBAN FOREST

A Vision is:

- ✓ Forward-thinking
- ✓ Actionable
- ✓ Collaborative
- ✓ Engaging
- ✓ Simple
- ✓ Specific



A VISION FOR THE URBAN FOREST



Question #1

What do you want your urban forest to look like 10 years from now? For future generations?



Question #2

What would more tree cover look and feel like, where is it, and what would it take to achieve this?



Question #3

If you could change Wilsonville's environment in one way, what would it be? How would the City's urban forest be different than it is now?



A VISION FOR THE URBAN FOREST

UFMP Tagline:

- 1) Our Urban Forest, A Community Effort
- 2) An Urban Forest for the People by the People
- 3) Healthy Trees, Healthy Wilsonville
- 4) The City of Trees
- 5) Other?



A VISION FOR THE URBAN FOREST



Scope of the Urban Forest Management Plan: This Plan serves as a road map outlining meaningful, high-priority actions that the City of Wilsonville will take to support our community between 2020 and 2040 to strive towards our goal of a healthy tree canopy. This means creating greater efficiency in our City operations, standardizing our level of service to meet the needs of our community, and responding to the challenges of climate change and other environmental factors. This Plan will also standardize a reporting system for tracking progress toward our goals. In this way, it functions both as a management tool for City staff and provides transparency to the public regarding the actions the City will take to support environmental health on behalf of the broader community.

A) UFMP Tagline: Wilsonville's trees are recognized as integral to the quality of life for all City residents as well as for the City's urban character and natural environments. A healthy, thriving, and sustainable urban forest remains a longstanding community priority and will be thoughtfully managed in a way to maximize a range of public benefits including a thriving ecosystem, a vibrant economy, and a livable community shared by all.

B) UFMP Tagline: Wilsonville's urban forest is a thriving and sustainable mix of tree and understory species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all of its residents as an essential environmental, economic, and shared community asset that reinforces Wilsonville's identity and legacy as a forested, livable city.

C) UFMP Tagline: Wilsonville's urban forest is a healthy, dynamic, diverse, and cohesive ecosystem that is valued and cared for through community stewardship because it balances economic vitality with the conservation of natural resources now and for future generations.

D) UFMP Tagline: Wilsonville's urban forest is a healthy and cohesive ecosystem that is valued and cared for through community stewardship. The City is dedicated to protect and manage the vibrant urban forest to enhance its benefit to the environment and its contribution to the livability of the community today and for generations to come.

STRATEGIES TO ACHIEVE THE VISION



URBAN FOREST ACTION PLAN TIMETABLE

Theme	#	Action	Target Year	Lead	Rank (Effort, Priority)	Rank Total (E + P)	Co-Benefits	Composite Rank
CE	6B.3	Every quarter, share informative urban forestry and tree-related content to a social media, City website, and other communication platforms.	Quarterly	ES, CMO	1,2	3 of 6	6 of 12	9 of 18
CE	6C.2	Conduct biannual community surveys (starting in 2021) to gauge public viewpoints and receive feedback on Plan implementation/program success. Survey responses should inform future urban forest decision making.	Biannual	ES	1,2	3 of 6	6 of 12	9 of 18
MP	1D.1	Monitor tree loss and gain through annual tree removal and planting permit reporting.	Annual	ES, PDS	1,3	4 of 6	4 of 12	8 of 18
MP	1E.2	Plant 2,000 trees through City projects annually and support 8,500 annual tree plantings through partnerships and public incentive programs. Improve tracking and reporting of partnership plantings to better represent on-the-ground efforts to achieve planting targets.	Annual	ENPs	3,3	6 of 6	12 of 12	18 of 18
CT	2C.1	Conduct annual urban forestry events, or partner-events—especially involving youth—relating to tree planting and pruning.	Annual	ES	2,1	3 of 6	10 of 12	13 of 18
FA	3A.1	Continue to track and annually report urban forestry activities of all partners to apply to budget change requests and continue support of Arbor Day Tree City USA Designation.	Annual	PWD	1,3	4 of 6	5 of 12	9 of 18
IP	4A.1	Conduct a comprehensive <u>inventory of public trees planted and maintained by the City</u> , keeping the data current, and continue the cycle aligned with tree maintenance cycles (600 trees per year) and City tree planting projects (2,000 trees per year).	Annual	ES, PWD	3,2			
IP	4A.2	Beginning in 2020, track tree maintenance, removals, and plantings in a tree inventory software program. Annually prioritize maintenance and risk-tree removals in established corridors/areas and create work orders using this program.	Annual	PWD	1,3			
IP	4B.3	Develop a strategic urban forest management plan for one priority neighborhood or area per year similar to the 2020 Tacoma Mall Strategic Urban Forest Management Plan (in progress) and the 2010 Neighborhood Business Districts Urban Forest Management Plan. Address best practices, species diversity, and tree pest and disease resiliency.	Annual	ES	2,2			
IP	4C.4	Continue to align tree planting and canopy goals with the watershed assessment, green stormwater infrastructure plans, and subarea planning efforts by providing technical assistance for the goals of stormwater management and improved water quality.	Annual	ES	1,2			
IP	4E.5	Utilize partners to provide at least one annual workshop or event and provide resources to private landholders to support sustainable urban forest management and planting practices with an emphasis in priority areas as identified in Appendix A.	Annual	ENPs	1,2			

ONE TACOMA, ONE CANOPY

Our urban forest needs you

Meet people just as much as people need trees. Consider volunteering a local environmental organization.

Engage your local parks and enjoy the restorative effect of our urban forest. Visit MetroParksTacoma.org to find a park near you.

Sign up for EnviroNews with Citizens for a Healthy Bay to learn about workshops, training, and news at HealthyBay.org.

Participate in biannual urban forest surveys. Your feedback is influential to current and future programs.

See how this Plan's actions align with One Tacoma at cityoftacoma.org/planning and Tacoma 2025 at cityoftacoma.org/tacoma_2025.

EXAMPLE

#	ACTIONS	LEAD/YEAR	CO-BENE
6A.1	Support and sustain partnerships with local and regional participatory organizations. Encourage and support horizontal volunteer collaboration between organizations. Increase the number of community volunteers annually from 275 recorded in 2018.	ES and listed partners (next page)	
Effort		TARGET YEAR:	
Priority		ANNUAL	

CHAT BOX REMINDER



Source: Villebois Facebook

Timeline

• May – Project Kickoff

• July – Tree Inventory

• August – Research & Discovery

• September – Survey & Meeting #1

• October – City Staff Workshop

• November – **Survey & Meeting #2**

• December – Draft Plan, Presentations

• January – Presentations, **Meeting #3**, Final Plan

REMINDER

COMMUNITY SURVEY!



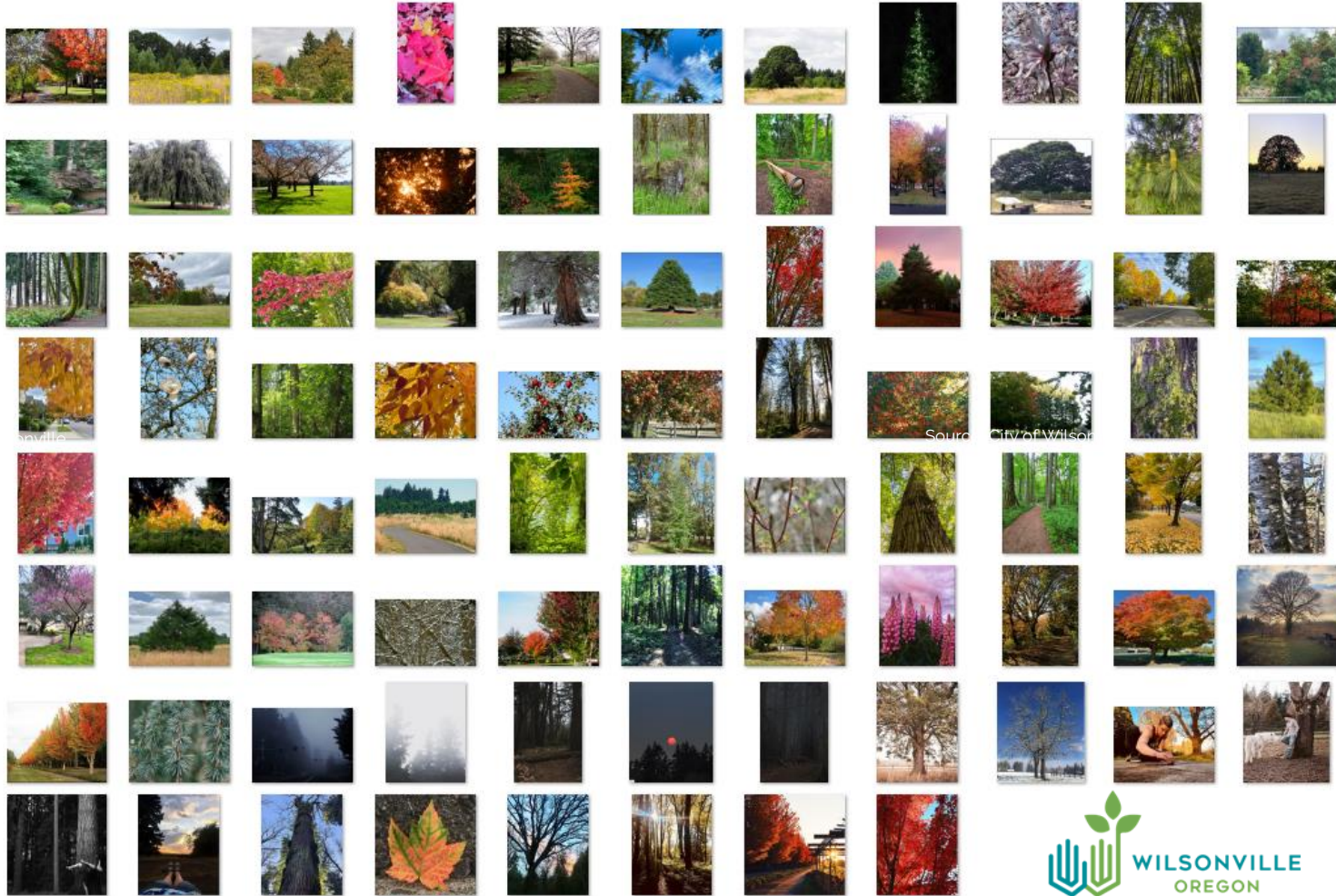
Your participation is crucial to the success of this project. A survey has been created to get a better understanding of community values and preferences about trees and improve the City's community outreach and engagement efforts. The results of this brief survey will help guide the development of the goals and strategies in the City's Urban Forest Management Plan. This survey considers your perception of trees on public property—think street right-of-way and parks—as well as private trees—trees on yours and your neighbor's property. **Survey closes December 4th!**

Visit www.letstalkwilsonville.com/ufmp to complete the survey!

THANK YOU!

REMINDER

PHOTO CONTEST!



85 photos submitted for the contest. Top 3 winners have been selected. Visit www.letstalkwilsonville.com/ufmp to explore the photos.

THANK YOU FOR YOUR PARTICIPATION!



Let's Hear From You!

Use the chat box

Questions & Comments



THANK YOU!



Chris Peiffer
Director of Urban Forestry Consulting
Project Manager
(717) 579-9890
chrispeiffer@planitgeo.com

www.planitgeo.com



For questions or comments,
please contact:

Kerry Rappold, Program Manager
Natural Resources Program

Phone: (503) 570-1570
rappold@ci.wilsonville.or.us

29799 SW Town Center Loop E
Wilsonville, OR 97070

www.ci.wilsonville.or.us
www.letstalkwilsonville.com/UFMP

Urban Forest Survey

SURVEY RESPONSE REPORT

19 July 2019 - 27 September 2020

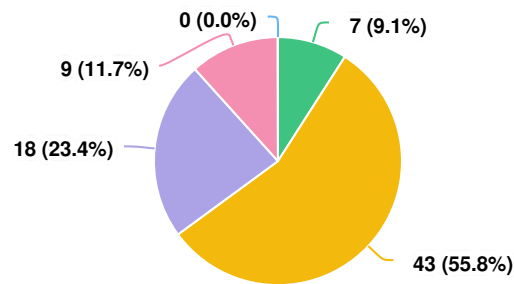
PROJECT NAME:

Urban Forest Management Plan



SURVEY QUESTIONS

Q1 Which of the following most closely describes your opinions on the amount of tree canopy coverage in the city?

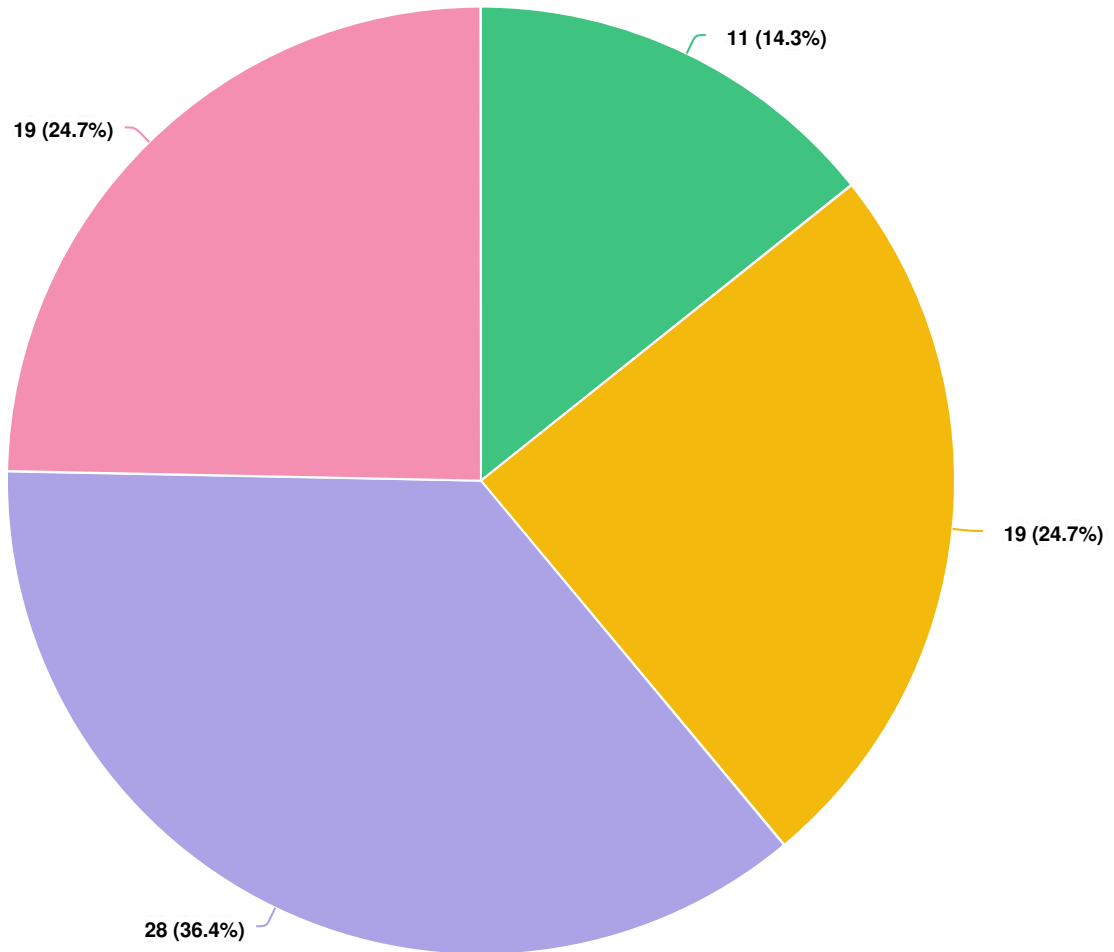


Question options

- There should be drastically more tree canopy coverage
- Current tree canopy coverage is good, but there should be more
- The current amount of tree canopy coverage is satisfactory
- There is currently too much tree canopy coverage and it should be reduced slightly
- There should be drastically less tree canopy coverage

Mandatory Question (77 response(s))
Question type: Radio Button Question

Q2 Do you think the overall health and quality of the city's public trees has improved, declined, or stayed the same in the last 10 years?

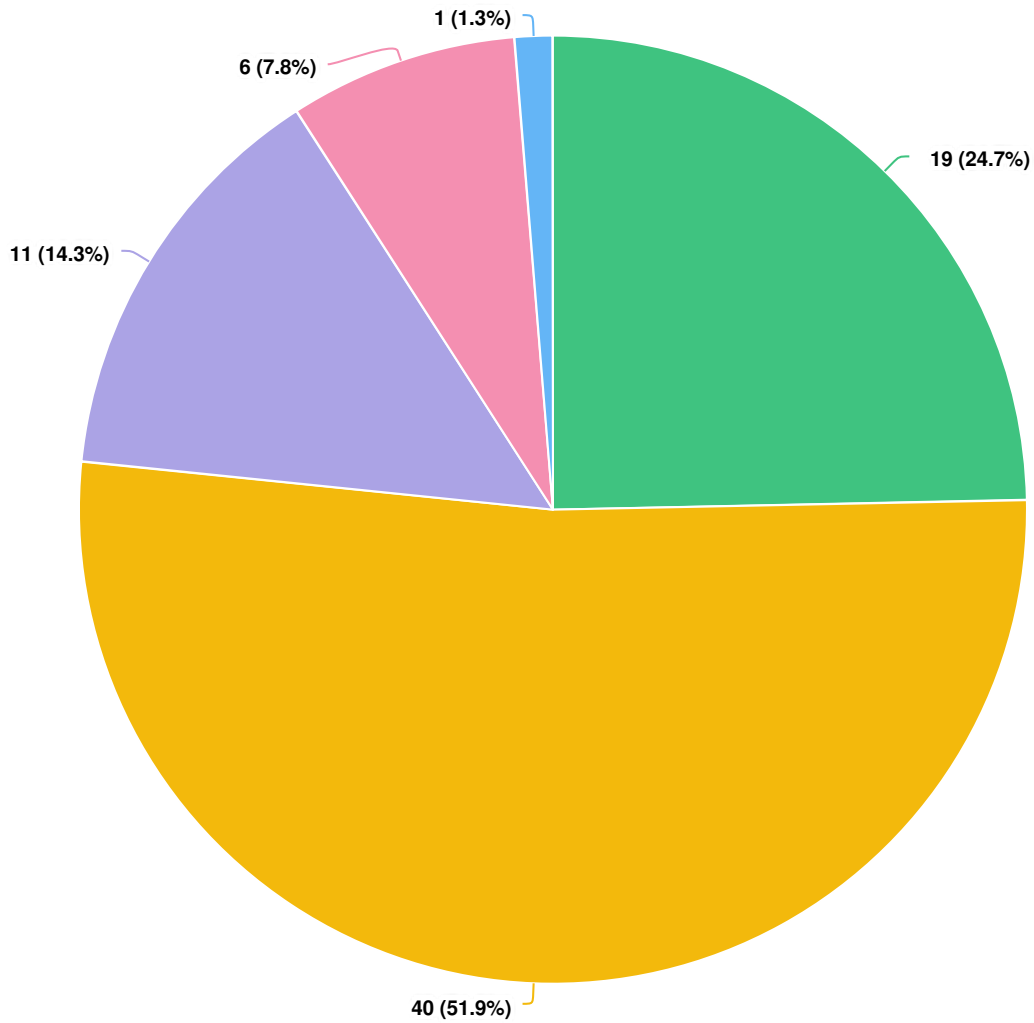


Question options

- Improved
- Declined
- Stayed the same
- Unsure

Mandatory Question (77 response(s))
Question type: Radio Button Question

Q3 How would you rate the overall care and management of the City’s public trees (along streets, in medians, in public city parks)?

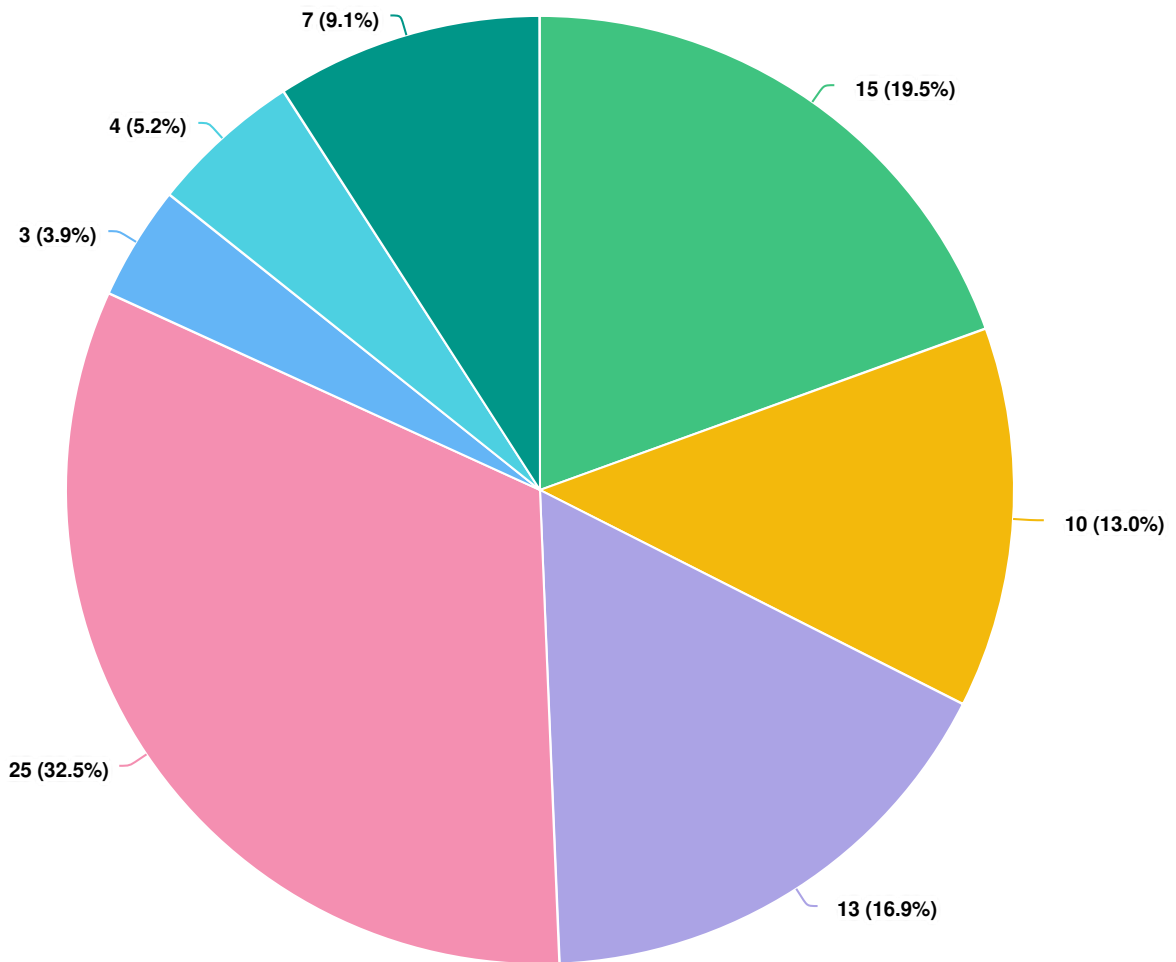


Question options

- Very Good
- Good
- Fair
- Poor
- Very Poor

Mandatory Question (77 response(s))
Question type: Radio Button Question

Q4 What is the most urgent tree-related need in your neighborhood?

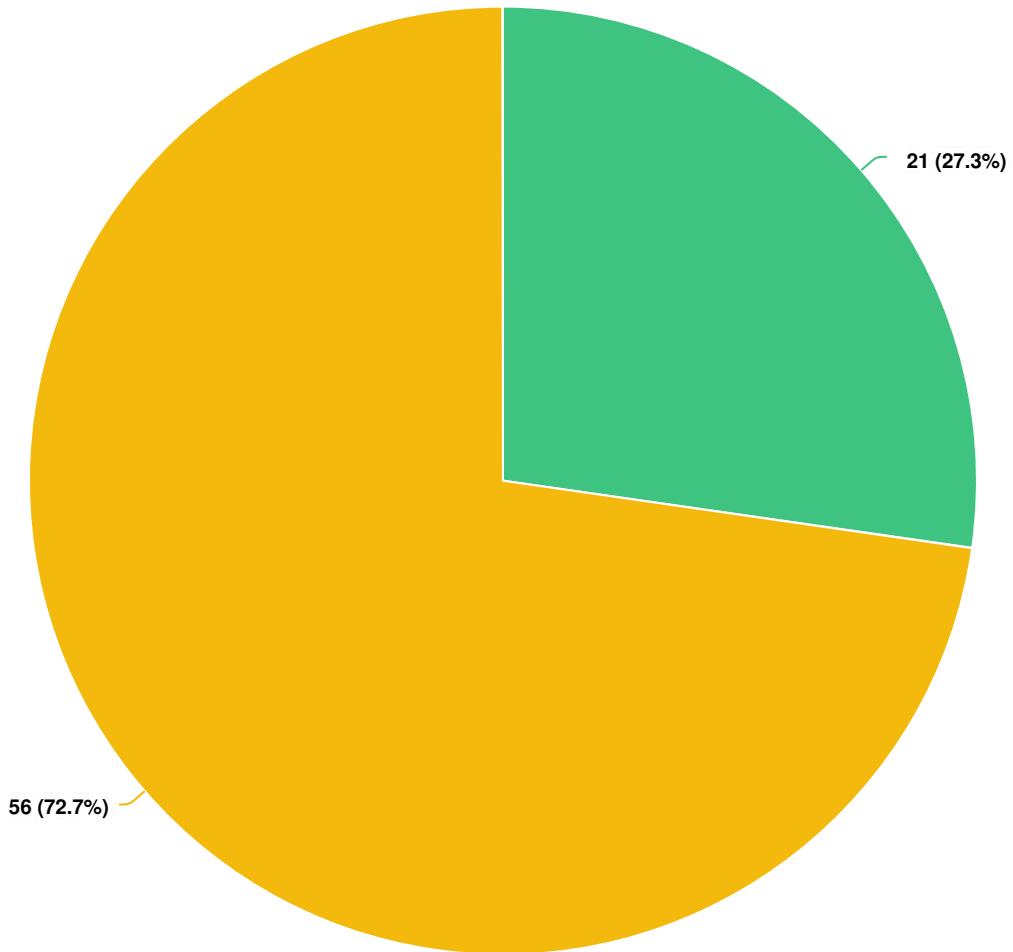


Question options

- Tree protection from damage or removal
- Tree planting, adding more trees
- Dealing with hazard trees
- Tree maintenance
- Education and outreach
- Volunteer and community engagement
- Other (please specify)

Mandatory Question (77 response(s))
Question type: Radio Button Question

Q5 Are you aware of any current or recent public tree plantings accomplished by the City or a contracted partner?

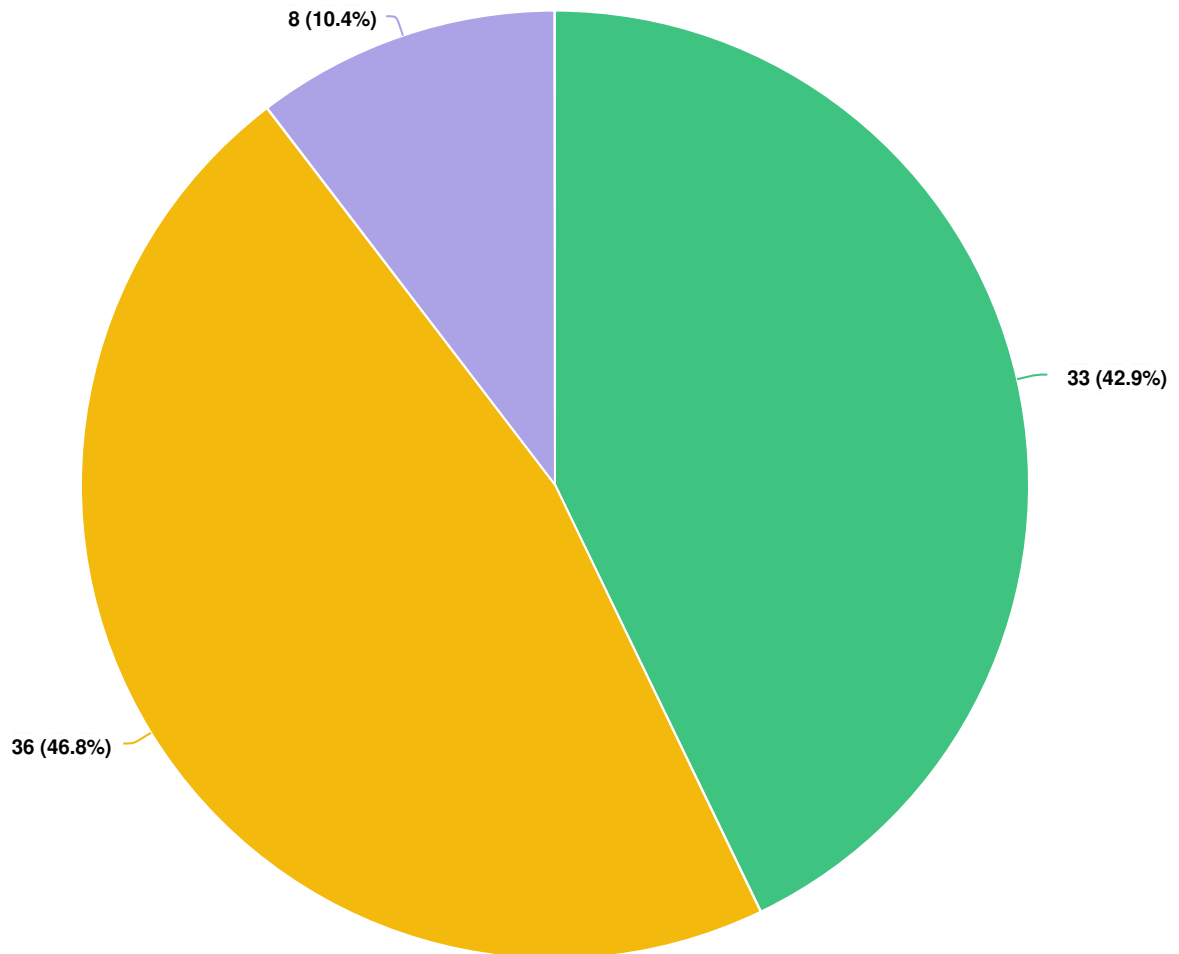


Question options

- Yes
- No

Mandatory Question (77 response(s))
Question type: Radio Button Question

Q6 When it comes to tree planting, would you say that the City is: not planting enough annually, planting just the right amount annually, or planting more than enough annually?

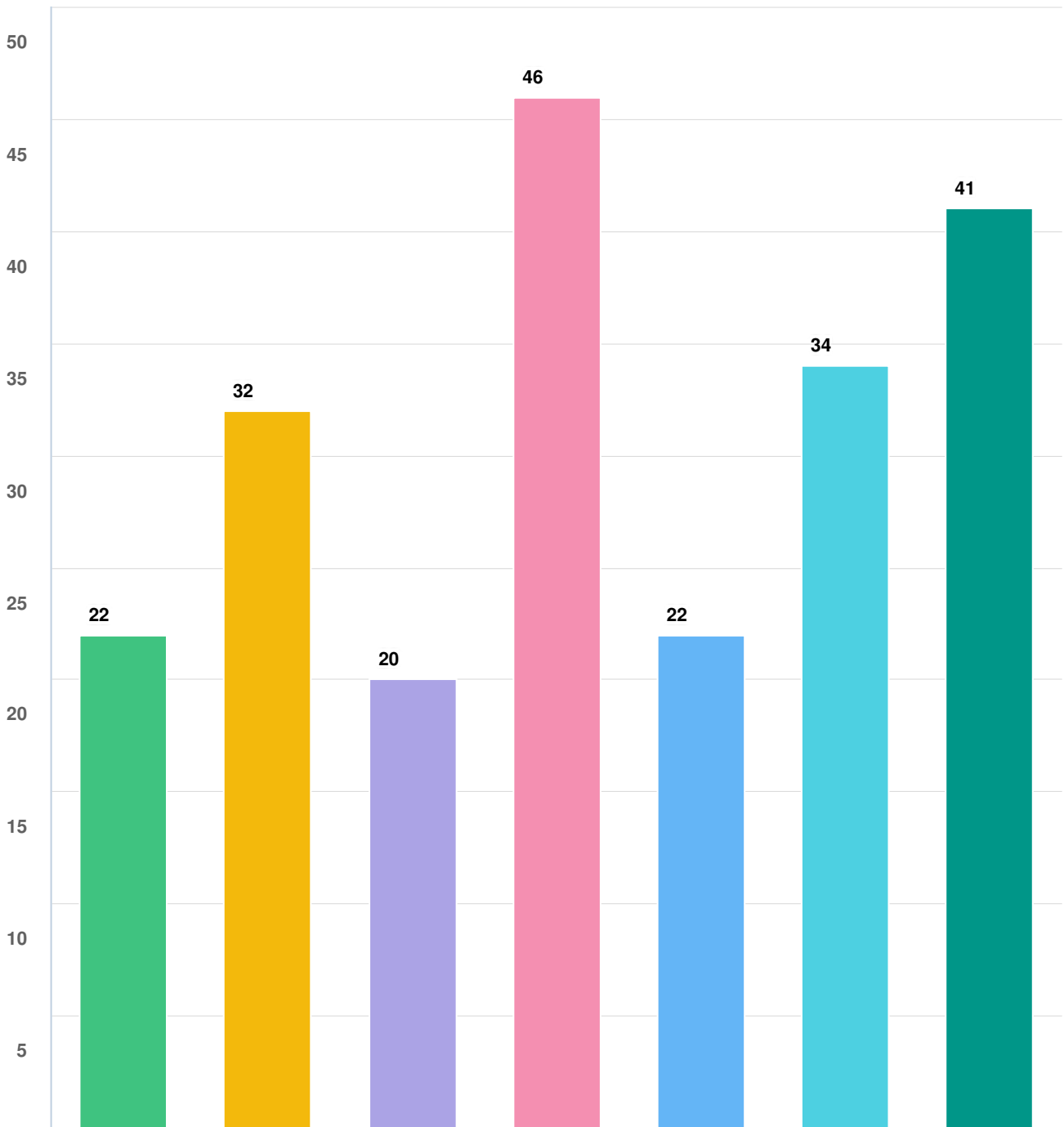


Question options

- Not Enough
- Just the Right Amount
- More Than Enough

*Mandatory Question (77 response(s))
Question type: Radio Button Question*

Q7 From the list below, please choose the areas you feel are most in need of more tree plantings. (Select all that apply)

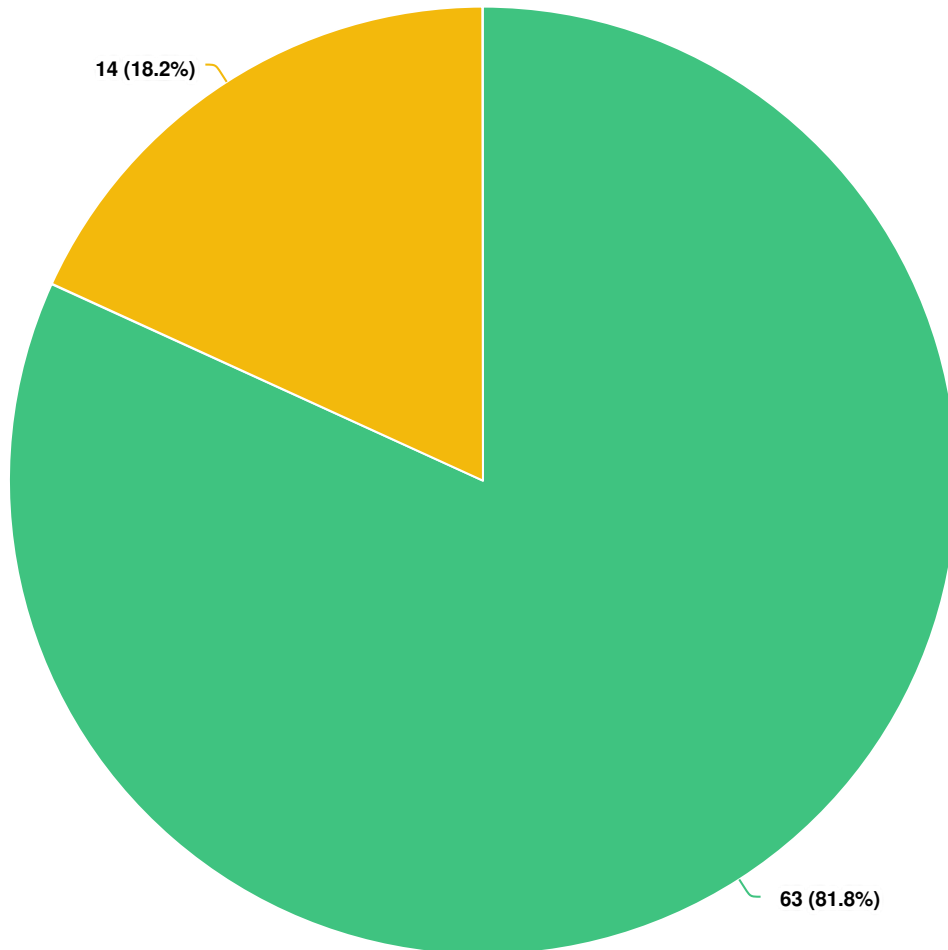


Question options

- Right of Way/Street Trees (strips between sidewalks & City streets)
- Parks, Greenways and Other Public Spaces
- Private Property
- Commercial/Industrial Areas
- School/Campus Areas
- Downtown
- Planned Communities and Developments

Mandatory Question (77 response(s))
Question type: Checkbox Question

Q8 Did you know that the city currently has tree regulations in place for planting, pruning, and removal of street trees?

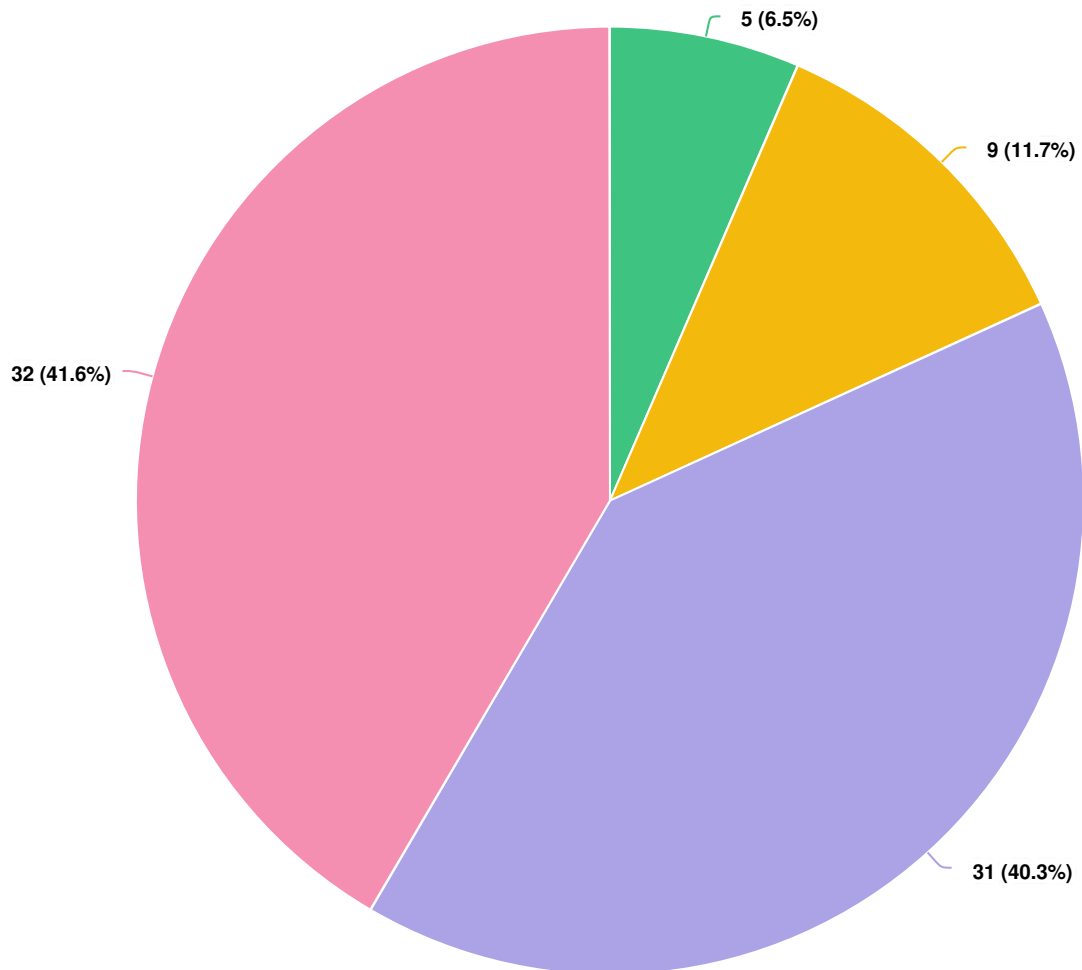


Question options

- Yes
- No

*Mandatory Question (77 response(s))
Question type: Radio Button Question*

Q9 Which city department cares for and manages public trees in the right-of-way (street trees)?

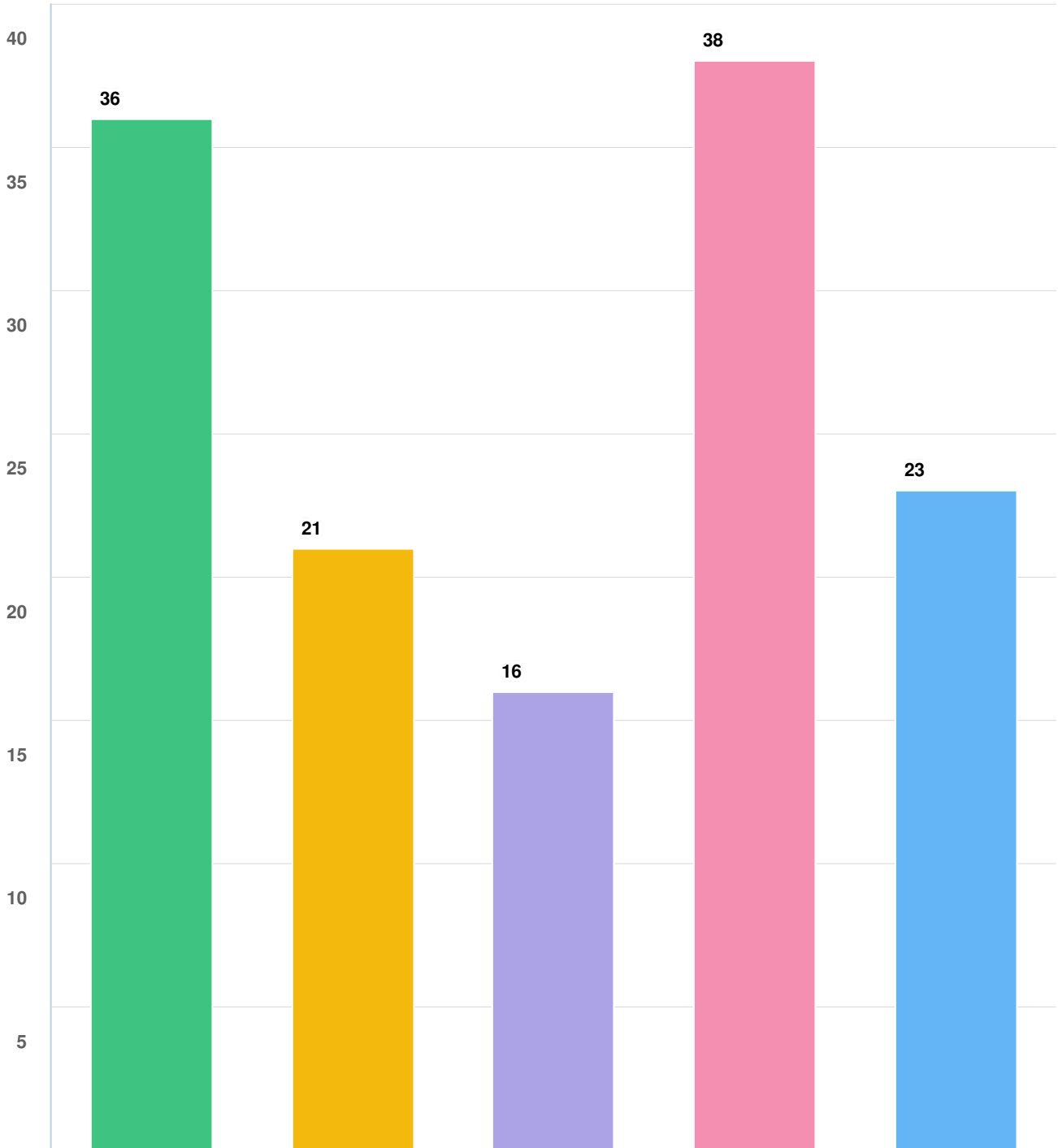


Question options

- Parks and Recreation
- Natural Resources
- Public Works
- Unsure

Mandatory Question (77 response(s))
Question type: Radio Button Question

Q10 Charbonneau is a focus area of the urban forest management plan. Based on your knowledge of the area, what urban forestry issues would you say are of importance in Charbonneau? (check all that apply)

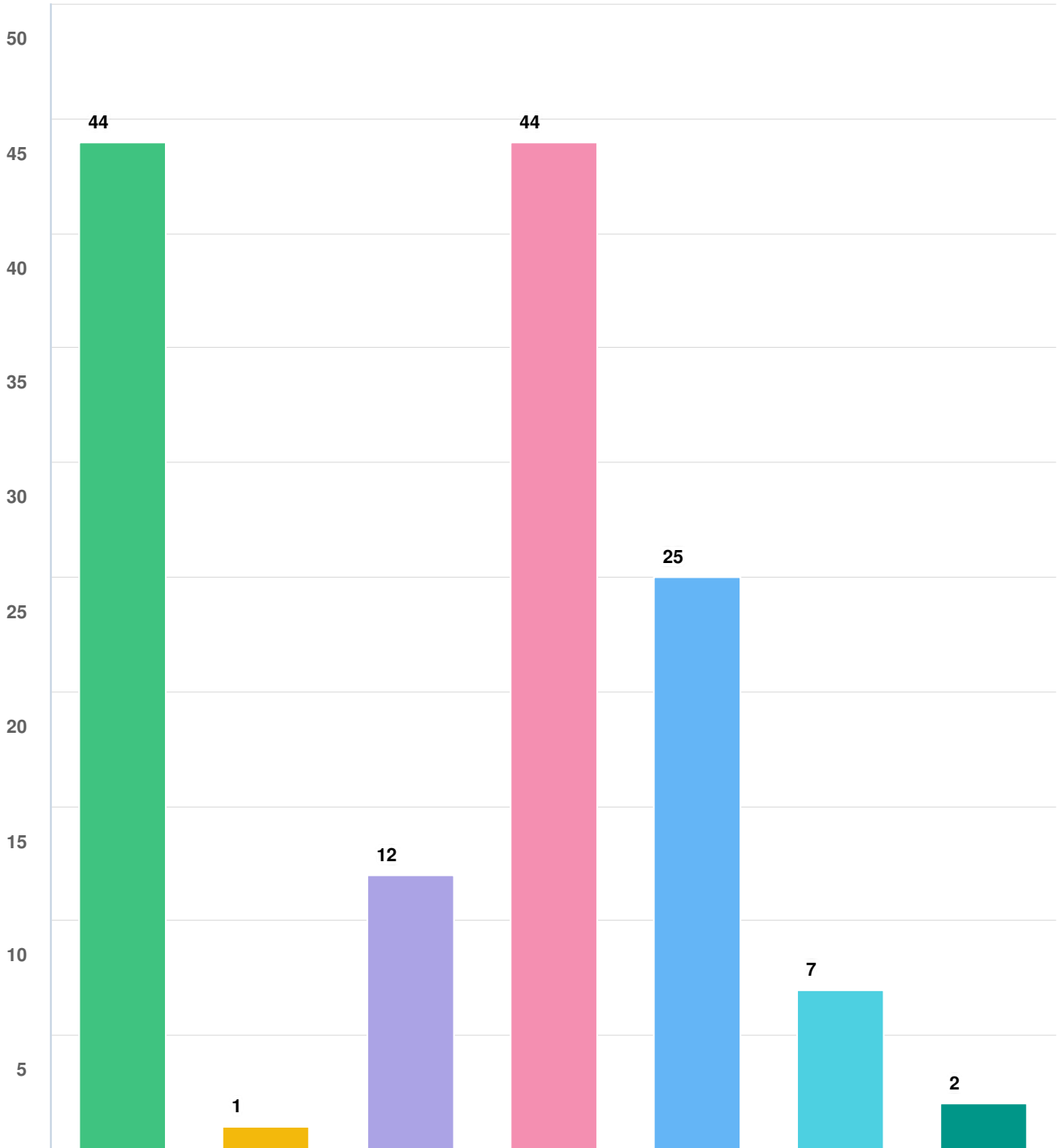


Question options

- Poor tree health (dieback, decay, etc.)
- Mechanical or storm damage
- Pests/Diseases
- Age/Size
- Other (please specify)

Mandatory Question (77 response(s))
Question type: Checkbox Question

Q11 Town Center is a focus area for the urban forest management plan. Based on your knowledge of the area, what urban forestry issues would you say are of importance in Town Center? (Select all that apply)

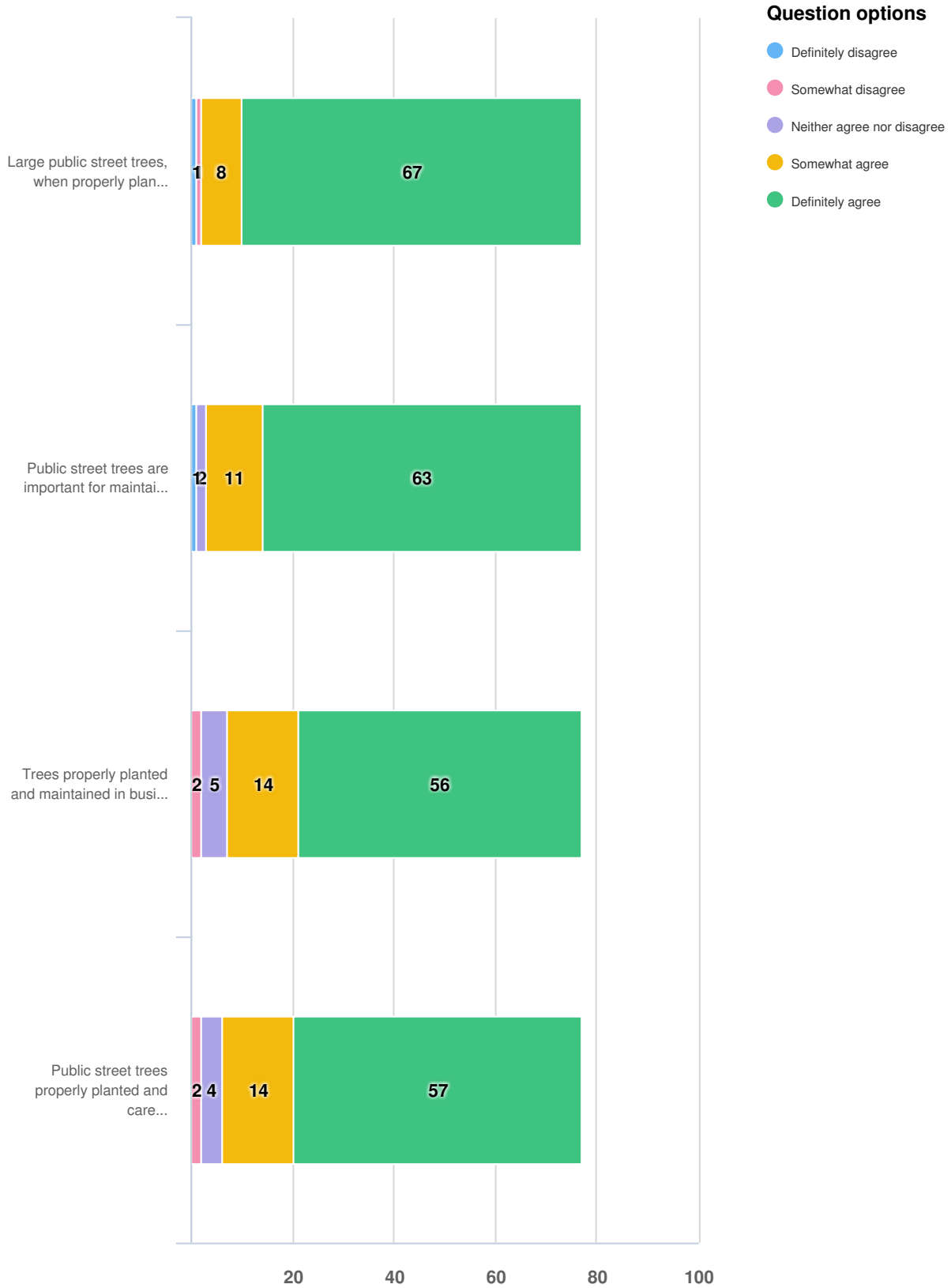


Question options

- Not Enough Trees/Greenspace
- Too Many Trees
- Unhealthy Trees
- Limited Planting Space for Trees
- Lack of Tree Species Diversity
- None of the Above
- Other (please specify)

Mandatory Question (77 response(s))
Question type: Checkbox Question

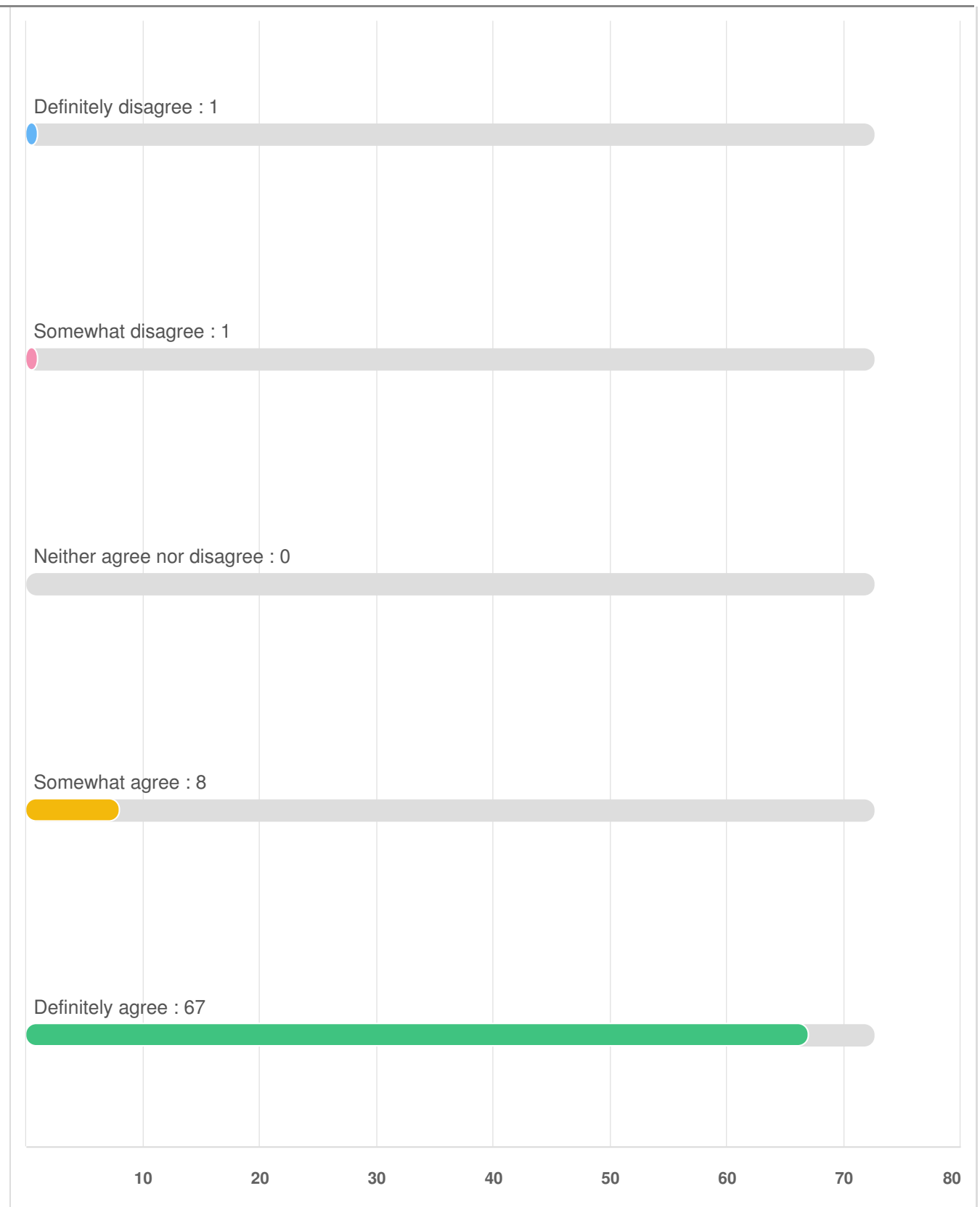
Q12 Please rate your agreement with each of the following statements:

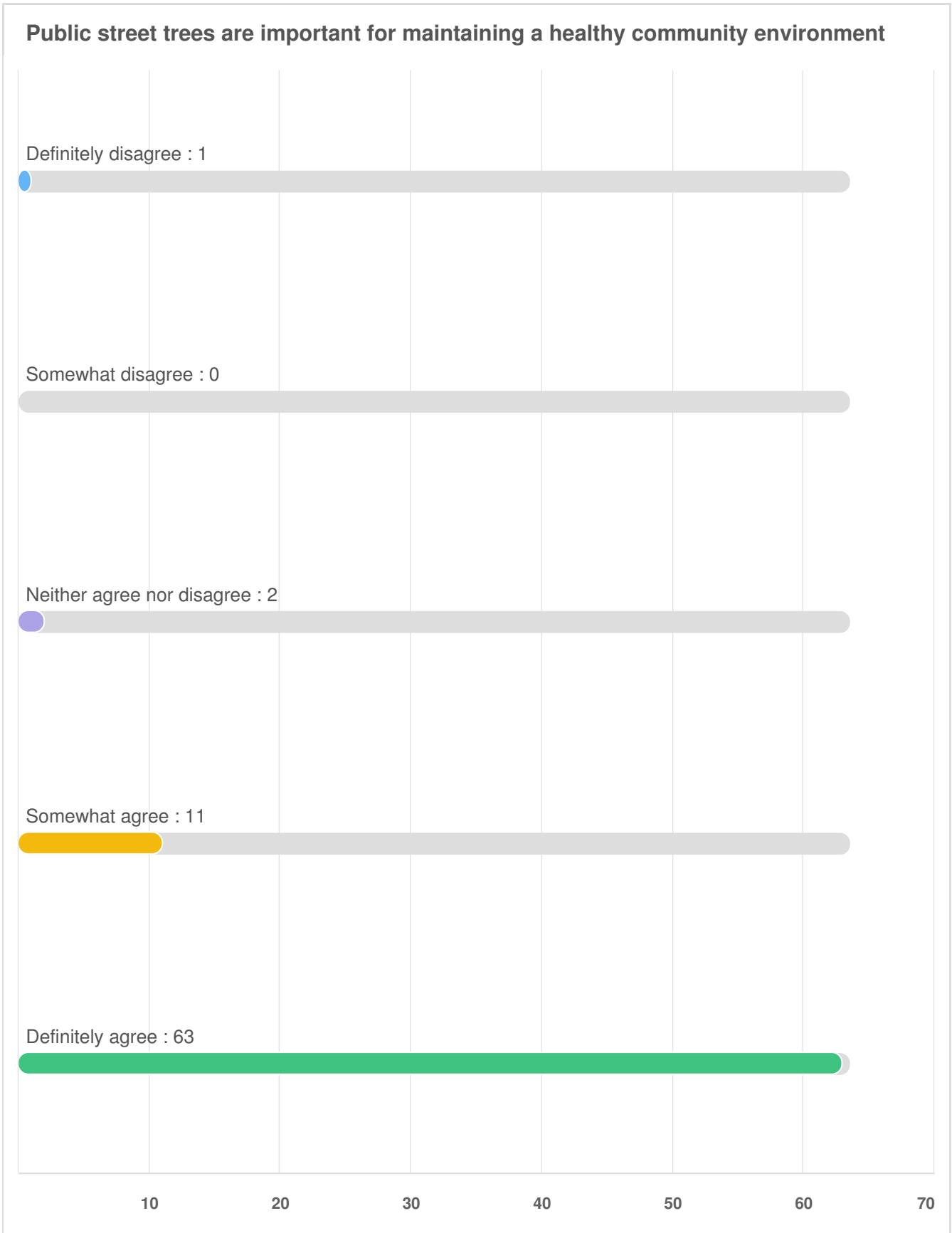


Mandatory Question (77 response(s))
Question type: Likert Question

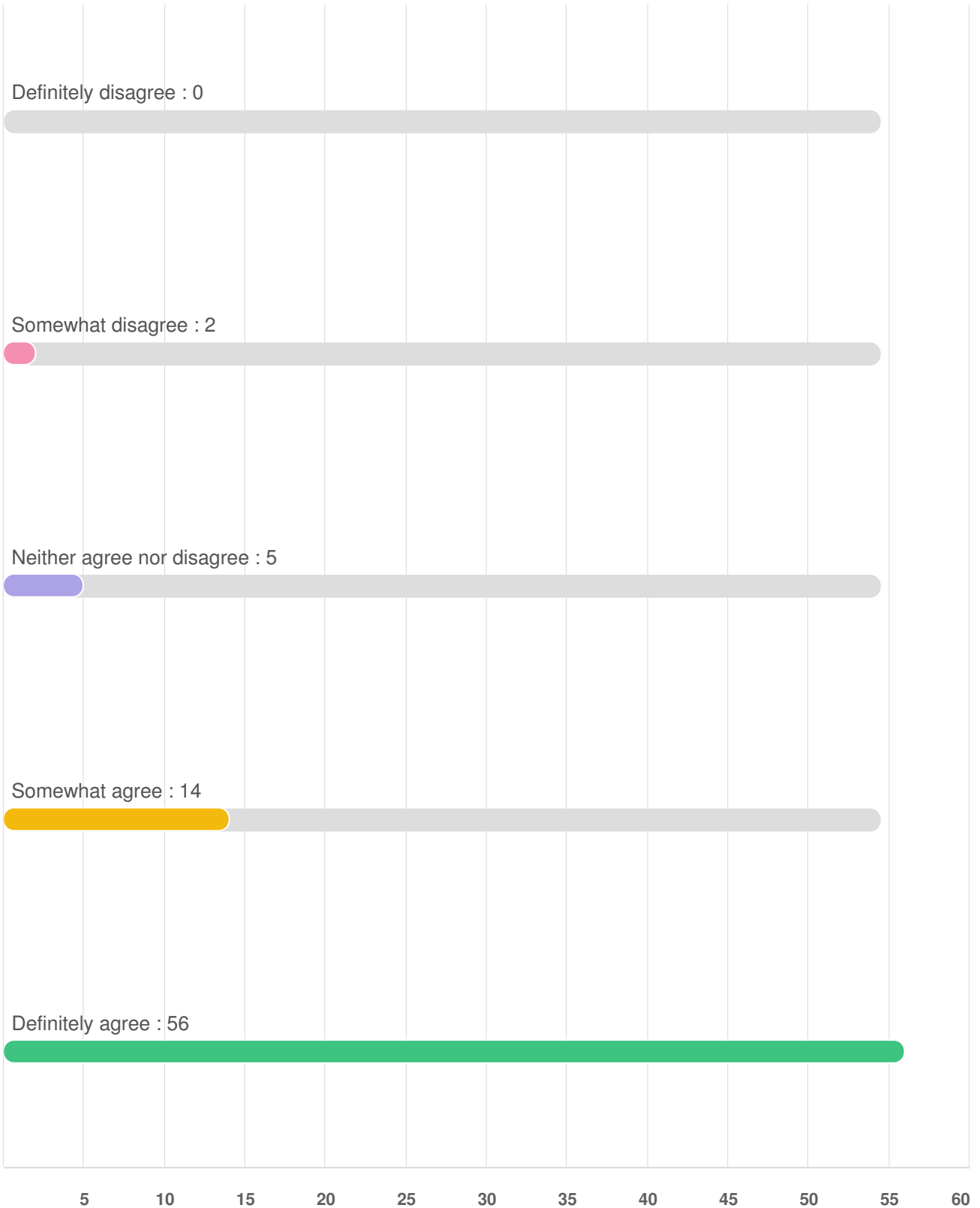
Q12 | Please rate your agreement with each of the following statements:

Large public street trees, when properly planted and cared for, improve the appearance of a community

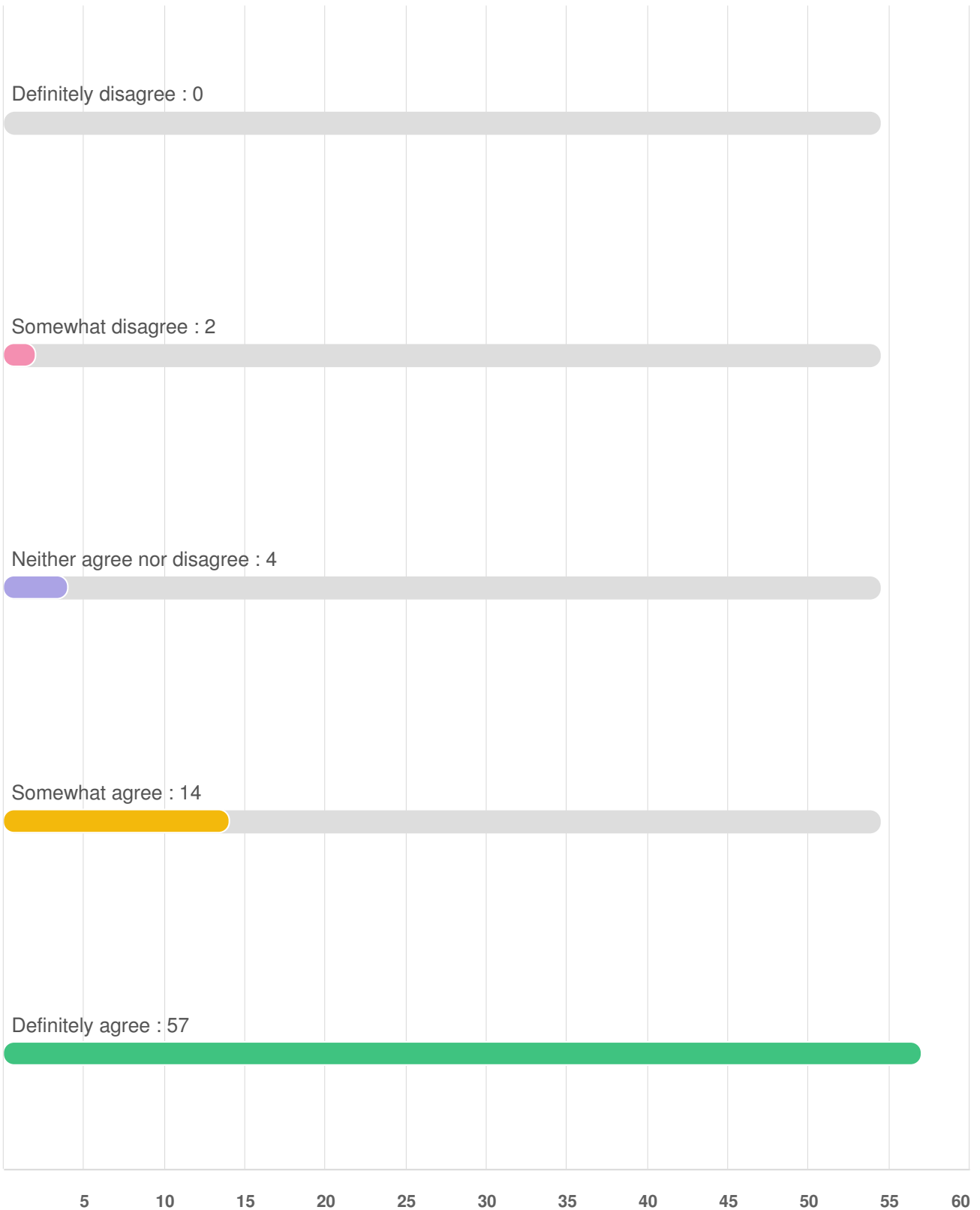




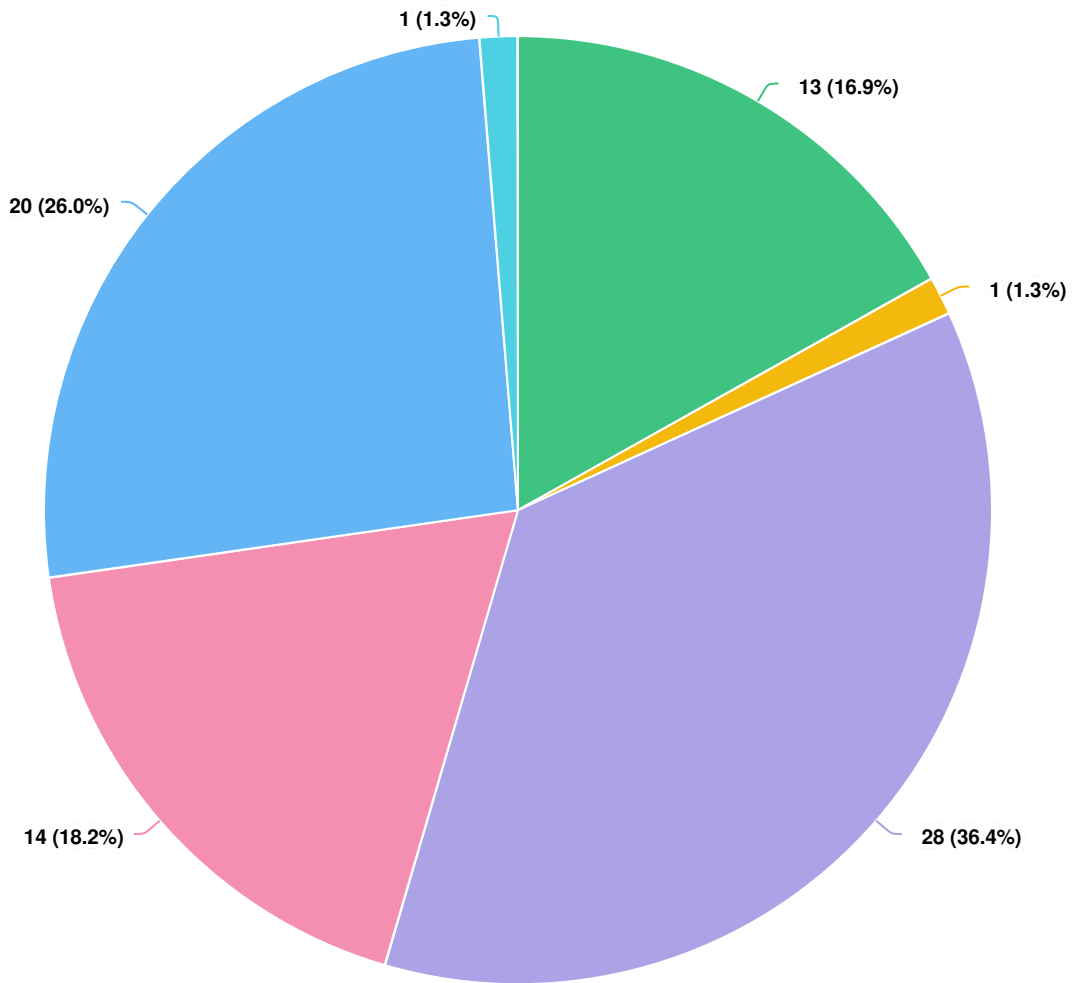
Trees properly planted and maintained in business districts help to attract customers to the area



Public street trees properly planted and cared for enhance social aspects of life in a community



Q13 | If you have street trees planted in the right-of-way adjacent to your home or business, who owns the tree?

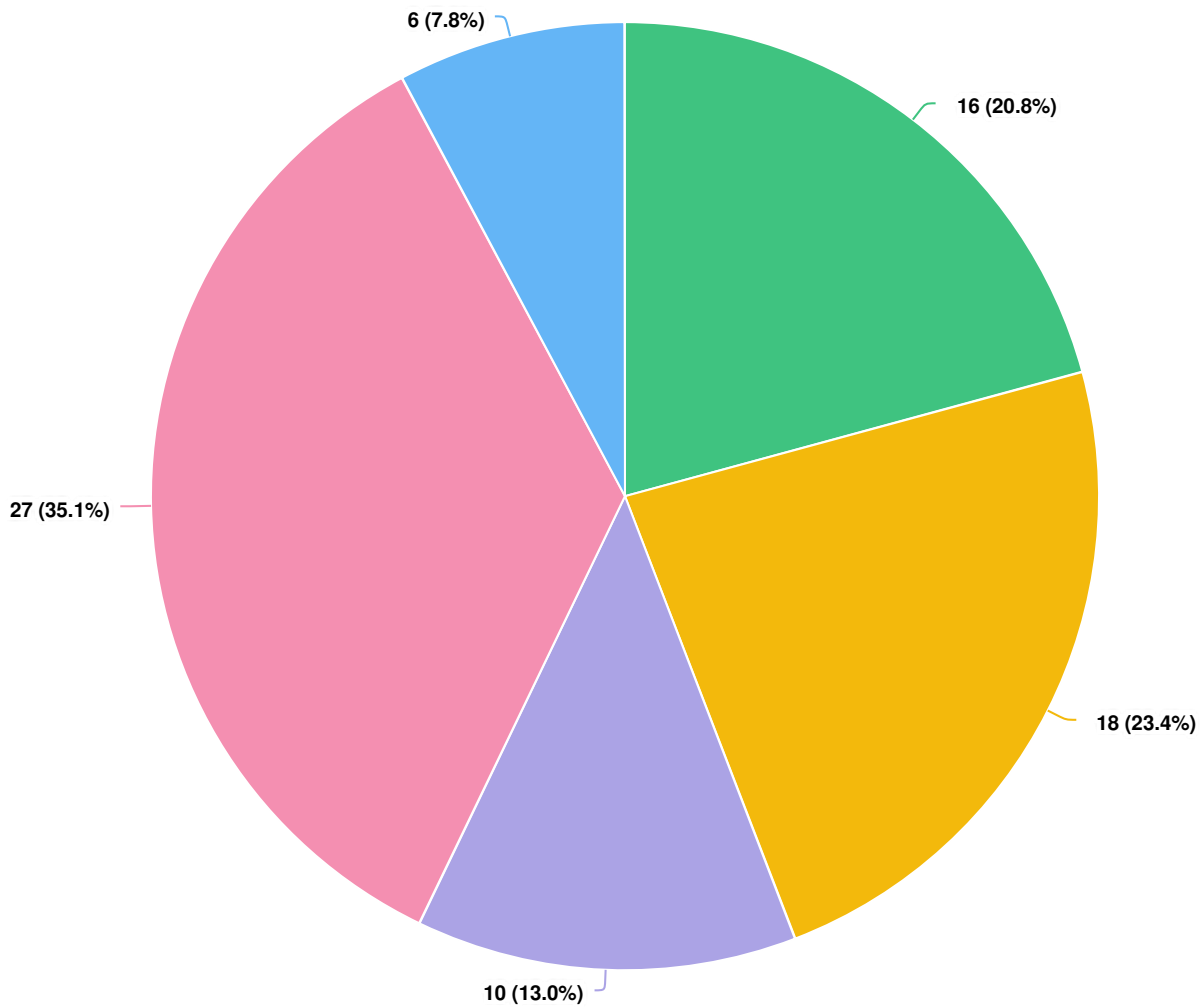


Question options

- Other (please specify)
- Unsure
- My Homeowners Association
- The City
- My Landlord
- Myself and/or Spouse

Mandatory Question (77 response(s))
Question type: Radio Button Question

Q14 | If you have street trees planted adjacent to your home or business, who prunes and performs other maintenance on your street tree(s)?

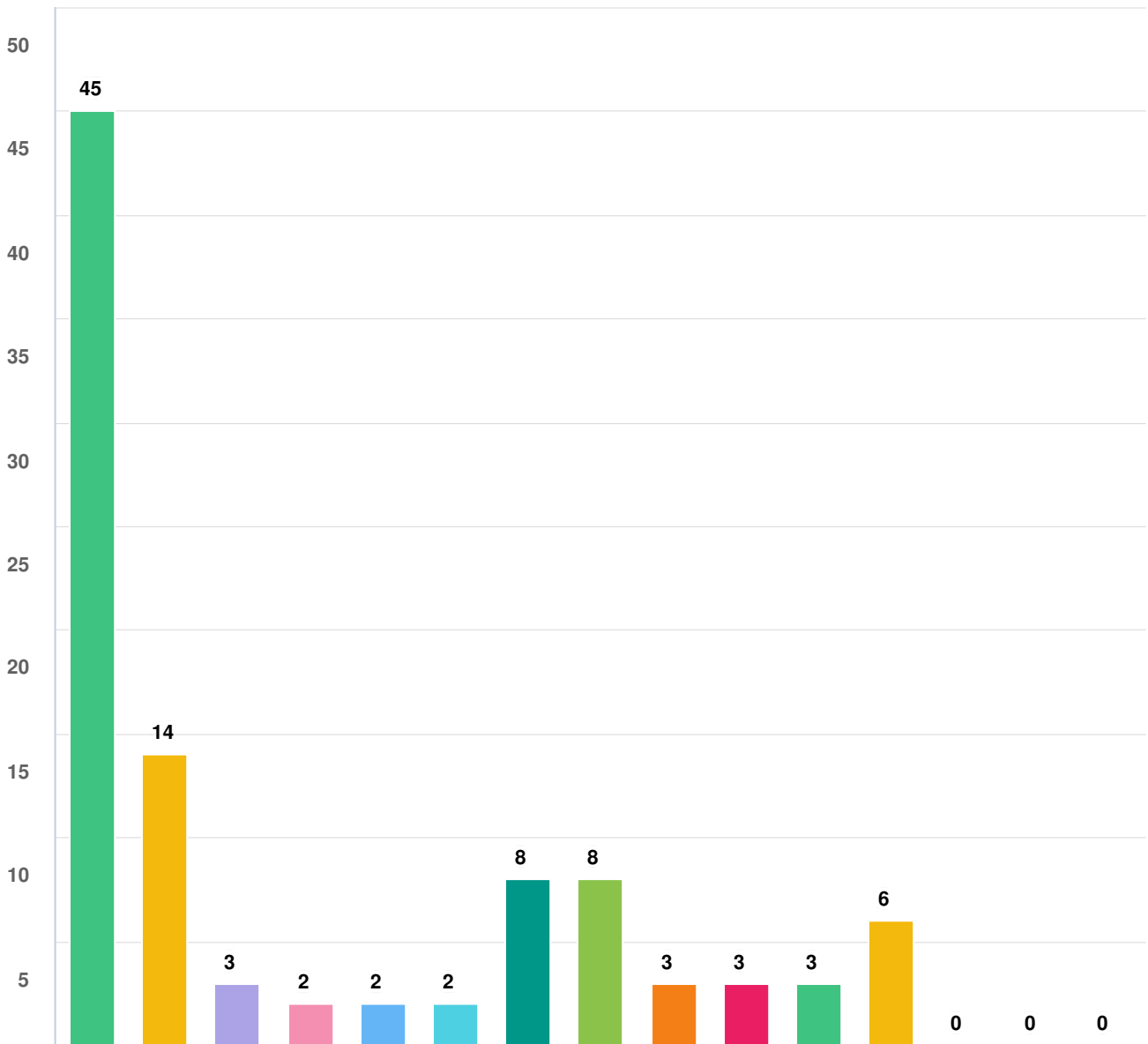


Question options

- No one maintains the street trees adjacent to my home or business
- A private tree worker or landscape contractor
- City tree worker
- Myself or a friend, neighbor, or family member
- Not applicable - I have no trees in the street right-of-way

Mandatory Question (77 response(s))
Question type: Radio Button Question

Q15 If you do not have street trees adjacent to your home or business, which factors affect your decision about having street trees? (Select all that apply)

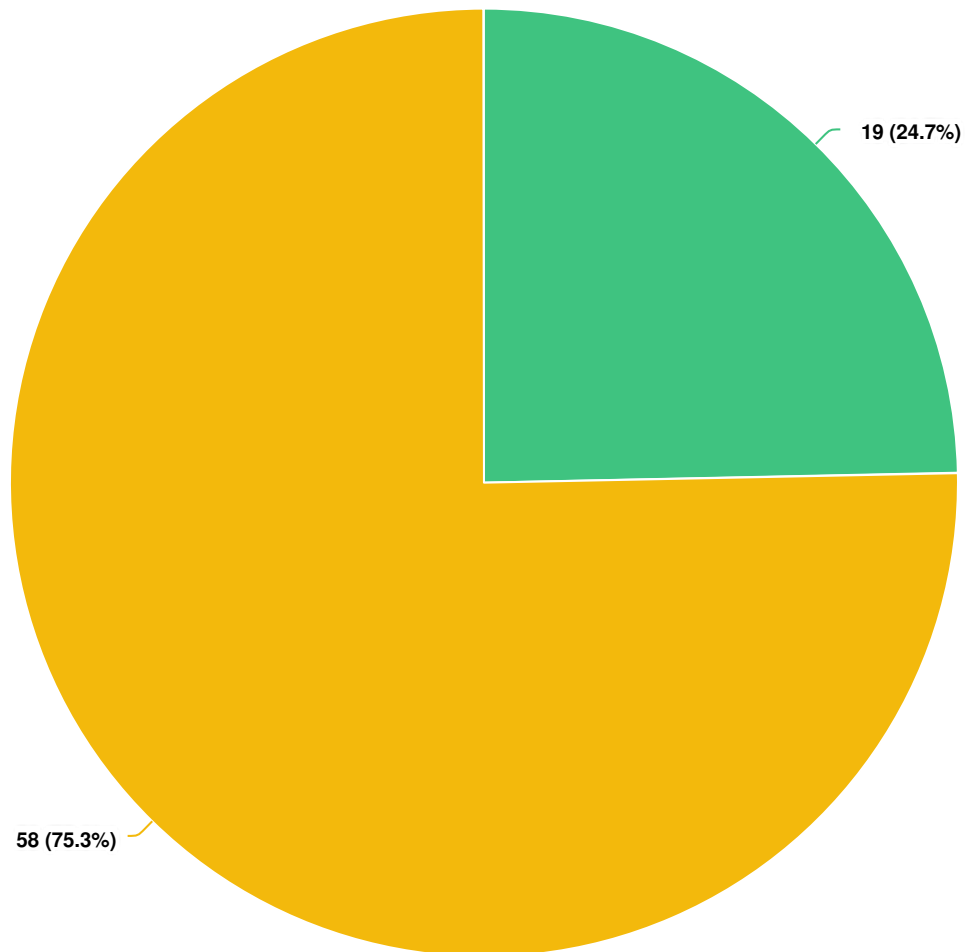


Question options

- I just do not like or care about trees that much
- I lack the knowledge to know how to care for them
- I want to conserve water
- Other (please specify)
- I do not understand the permit process
- I do not know how or what tree(s) to plant
- I want a tree, but I have not gotten around to planting one yet
- I am a renter and cannot plant a tree
- I am concerned that trees might cause property damage
- I think trees are too expensive to purchase and maintain
- I do not want to block my view
- I do not want to rake leaves
- I think trees are difficult to prune and maintain
- There is not enough planting space because of sidewalks, utilities, or other conflicts
- Not Applicable - I have trees along my street right-of-way

Mandatory Question (77 response(s))
 Question type: Checkbox Question

Q16 | Have you ever tried to find tree care, tree planting or recommended tree species list information on the city's website?

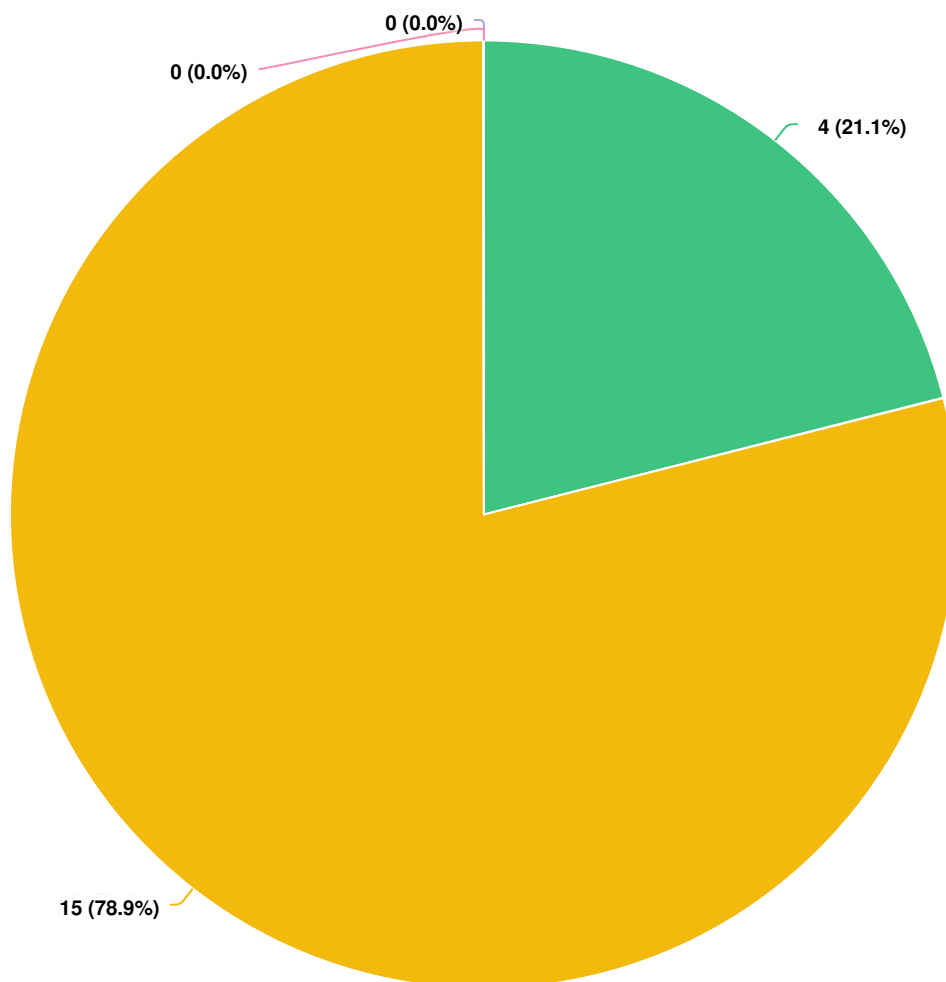


Question options

- No
- Yes

Mandatory Question (77 response(s))
Question type: Radio Button Question

Q17 : How would you rate the ease of accessing the information you were seeking?

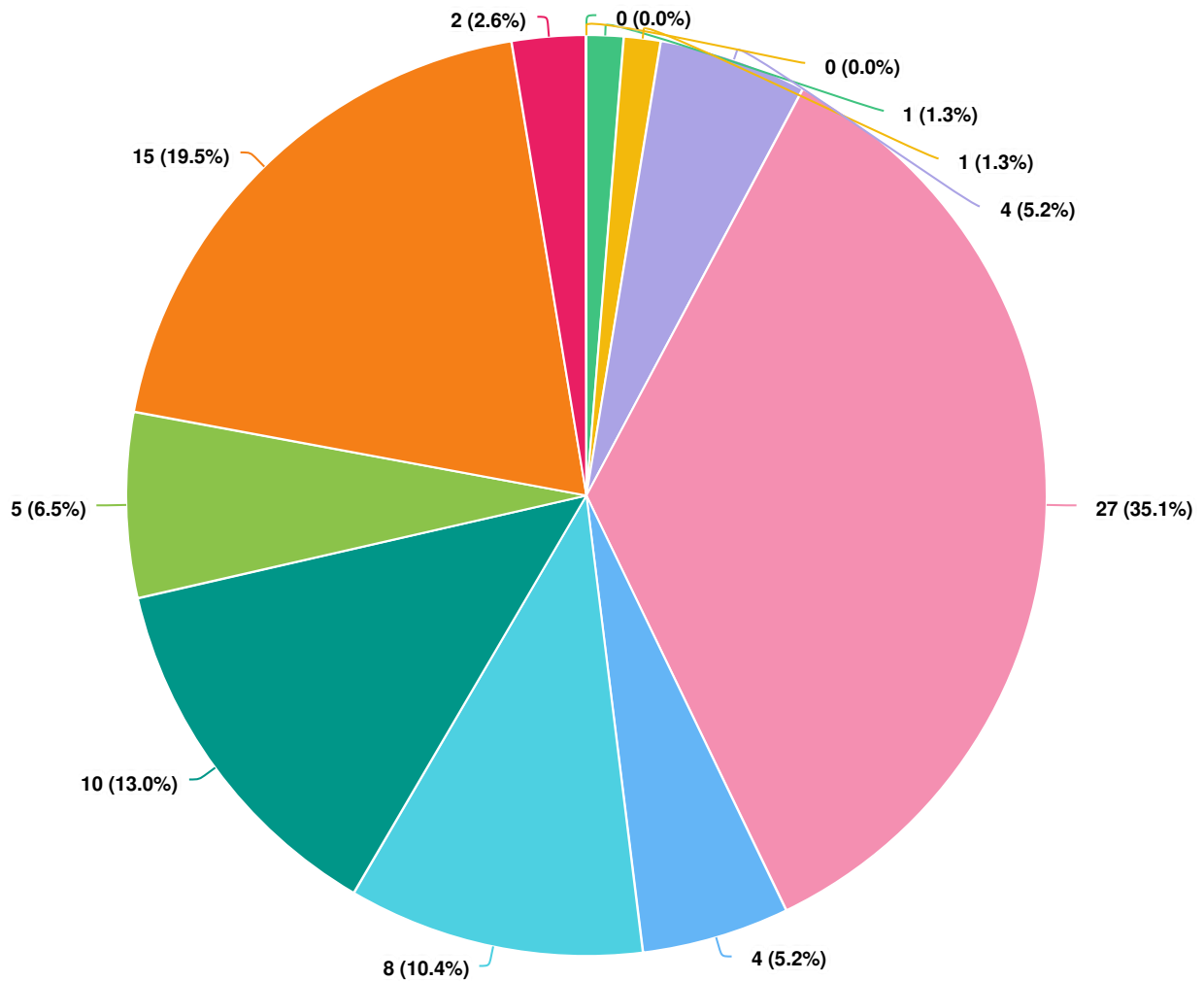


Question options

- Could Not Find the Information
- Difficult
- Moderate
- Easy

Mandatory Question (19 response(s))
Question type: Radio Button Question

Q18 Using the map, in which area of Wilsonville do you live (note: grids do not represent any specific city planning area or boundary)?



Question options

- Area 3
- Area 2
- I do not live in Wilsonville
- Area 11
- Area 10
- Area 9
- Area 8
- Area 7
- Area 6
- Area 5
- Area 4
- Area 1

Mandatory Question (77 response(s))
 Question type: Radio Button Question

Q19 | If you would like to join our email list to stay engaged with all things urban forestry related, please include your email address in the box below.

jeffbay jeffbaymor@hotmail.com

9/01/2020 03:42 PM

Tod todcgcs@gmail.com

9/01/2020 09:32 PM

SharonP slaoakley20@gmail.com

9/02/2020 07:50 AM

Lizzy.Wilsonville E.C.2020@hotmail.com

9/02/2020 04:42 PM

Wayne Hickey wjhickey1@gmail.com

9/03/2020 03:03 PM

trevorconroy trevor.conroy@outlook.com

9/03/2020 03:21 PM

Ray Atkinson ray.atkinson@clackamas.edu

9/03/2020 03:23 PM

kimberlyf kimberlyferrell@gmail.com

9/03/2020 04:13 PM

Peepsy susanreep@gmail.com

9/03/2020 08:33 PM

Kroche kristin.roche@gmail.com

9/03/2020 08:50 PM

Enchanted Forest fumasi@gmail.com

9/03/2020 10:57 PM

merkle lift2drag@gmail.com

9/04/2020 09:29 AM

JRM morgan@mholen.com

9/04/2020 03:13 PM

K8joo78 k8joo78@yahoo.com

9/05/2020 12:48 AM

Ariel

deanch.3@gmail.com

9/07/2020 06:59 PM

Zuni

dodiescroppo@gmail.com

9/08/2020 05:20 PM

Brennan

mjbren1230@comcast.net

9/09/2020 08:16 AM

Beth M

b.mallon@frontier.com

9/09/2020 09:13 AM

Bob/Marcia

marciatnichols@gmail.com

9/14/2020 07:12 PM

Brian K

briankrieg@comcast.net

9/14/2020 08:28 PM

Brian Wilcox

bkwilcoxnw@gmail.com

9/14/2020 08:55 PM

Charbonneau Resident

cktbme@gmail.com

9/15/2020 11:41 AM

Rick

rick@charbonneaucountryclub.com

9/15/2020 06:02 PM

Valwoo

valeriewoowo@gmail.com

9/16/2020 08:01 PM

JRHP

jrhillan@gmail.com

9/22/2020 09:23 PM

Sabinasmith

sabina.pariser@gmail.com

9/22/2020 09:57 PM

Ben

menzew@hotmail.com

9/23/2020 10:23 AM

EmilyM

emily_messerly@yahoo.com

9/23/2020 01:23 PM

Erica

existlookingup@gmail.com

9/23/2020 06:29 PM

Aaird80

aaird80@gmail.com

9/23/2020 10:50 PM

Kent Wright

kentwrightbooks@gmail.com

9/24/2020 08:28 AM

Alex Hansen

AlexRHansen@gmail.com

9/24/2020 04:02 PM

Optional question (32 response(s), 45 skipped)

Question type: Email Question

Project Report

17 November 2020 - 16 December 2020

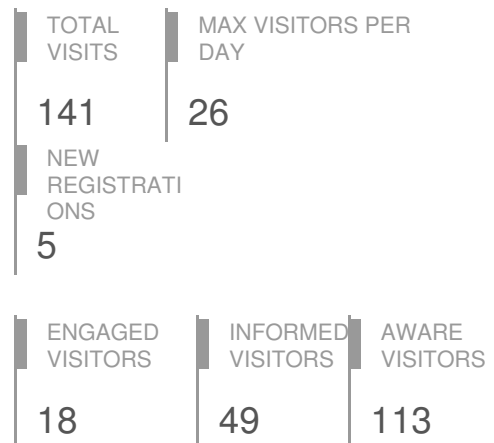
Let's Talk, Wilsonville! Urban Forest Management Plan



Visitors Summary

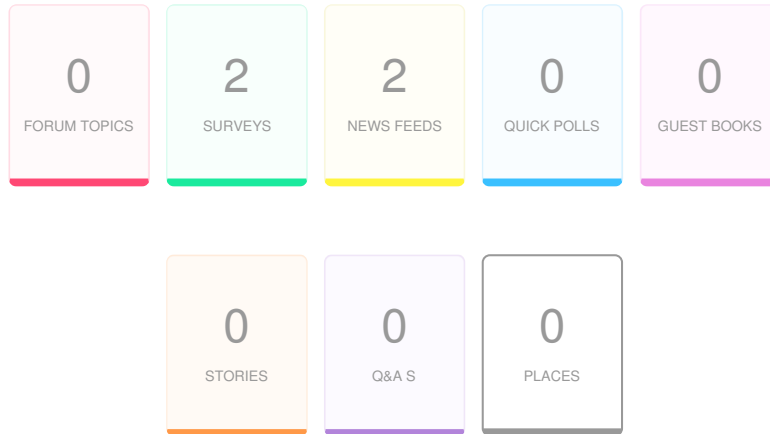


Highlights



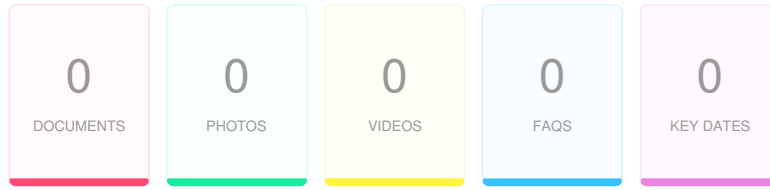
Aware Participants	113	Engaged Participants	18		
Aware Actions Performed	Participants	Engaged Actions Performed	Registered	Unverified	Anonymous
Visited a Project or Tool Page	113				
Informed Participants	49	Contributed on Forums	0	0	0
Informed Actions Performed	Participants	Participated in Surveys	18	0	0
Viewed a video	0	Contributed to Newsfeeds	0	0	0
Viewed a photo	0	Participated in Quick Polls	0	0	0
Downloaded a document	0	Posted on Guestbooks	0	0	0
Visited the Key Dates page	11	Contributed to Stories	0	0	0
Visited an FAQ list Page	0	Asked Questions	0	0	0
Visited Instagram Page	0	Placed Pins on Places	0	0	0
Visited Multiple Project Pages	29	Contributed to Ideas	0	0	0
Contributed to a tool (engaged)	18				

ENGAGEMENT TOOLS SUMMARY



Tool Type	Engagement Tool Name	Tool Status	Visitors	Contributors		
				Registered	Unverified	Anonymous
Newsfeed	Community Meeting	Draft	0	0	0	0
Newsfeed	Nov. 17 Meeting	Published	0	0	0	0
Survey Tool	Urban Forest Management Plan Survey #2	Archived	39	18	0	0
Survey Tool	Urban Forest Survey	Archived	2	0	0	0
Ideas	Photo Contest	Published	6	0	0	0

INFORMATION WIDGET SUMMARY



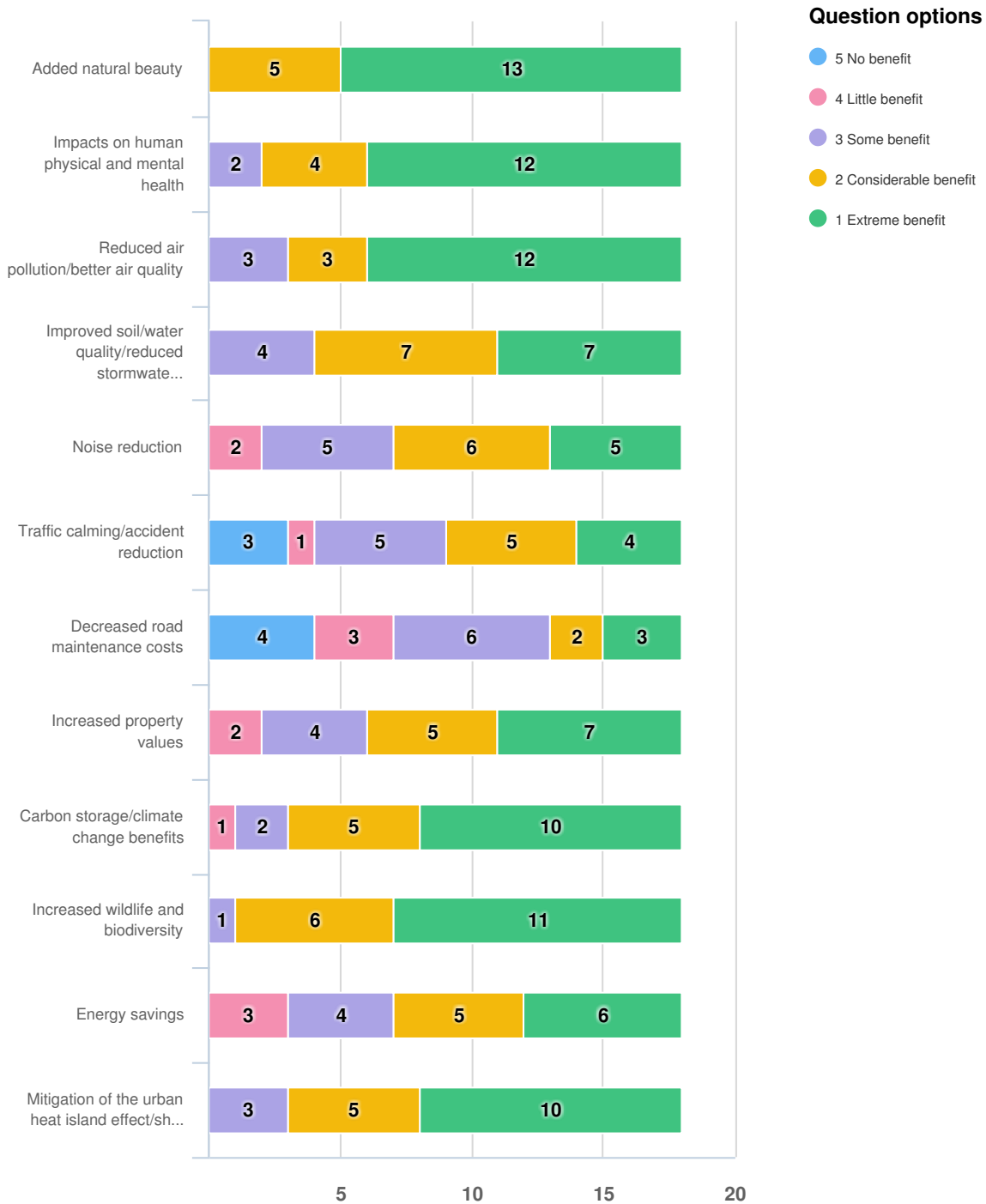
Widget Type	Engagement Tool Name	Visitors	Views/Downloads
Key Dates	Key Date	11	11

ENGAGEMENT TOOL: SURVEY TOOL

Urban Forest Management Plan Survey #2

Visitors 39	Contributors 18	CONTRIBUTIONS 18
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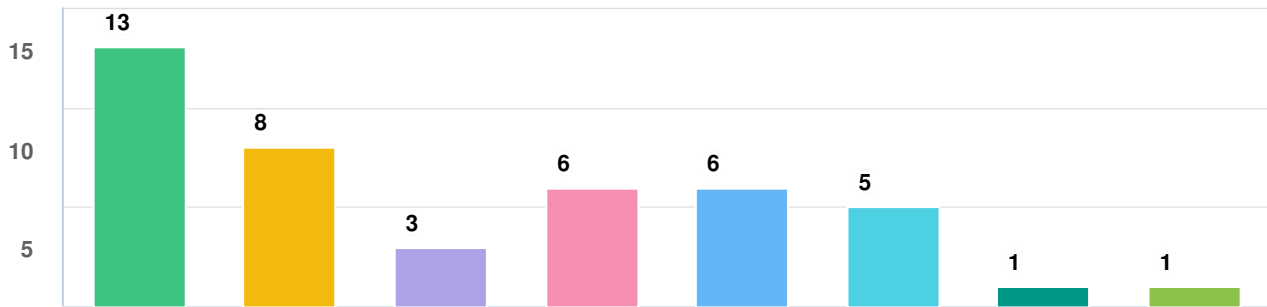
Understanding which tree benefits are most appreciated by residents can help guide long-term management strategies. Please ...



Mandatory Question (18 response(s))

Question type: Likert Question

Of the following tree planting and care issues, which are the most important concerns to you (select up to 3)?



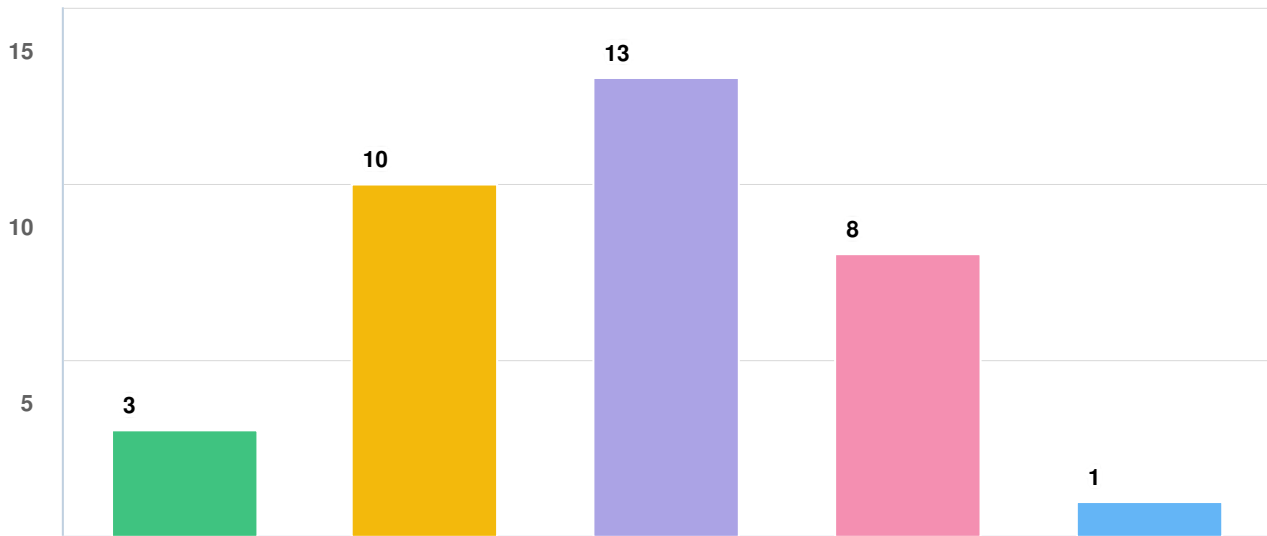
Question options

- None
- Aesthetics
- Creating safety problems from trees and limbs falling
- Blocking traffic, sidewalks, signs, and/or streetlights
- Leaves and fruit dropping/ongoing maintenance
- Overly pruned trees near overhead electrical lines
- Roots damaging underground utilities (such as sewer, water lines, natural gas)
- Sidewalk and pavement cracking due to tree roots

Mandatory Question (18 response(s))

Question type: Checkbox Question

From the list below, please choose the areas you feel are most in need of more tree plantings within Town Center and Charbo...



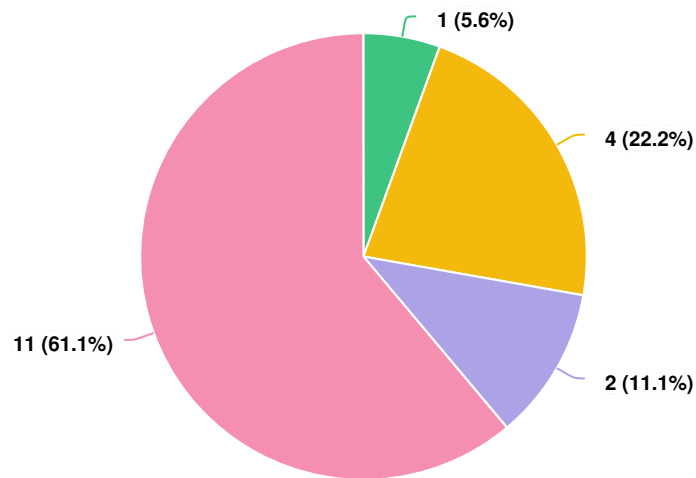
Question options

- Other (please specify)
- School/campus areas
- Commercial/industrial areas
- Parks, greenways, and other public spaces
- Right-of-way/street trees (strips between the sidewalk and city streets)

Mandatory Question (18 response(s))

Question type: Checkbox Question

Using the options below, please choose a response regarding how the city is handling invasive species management (Himalayan...



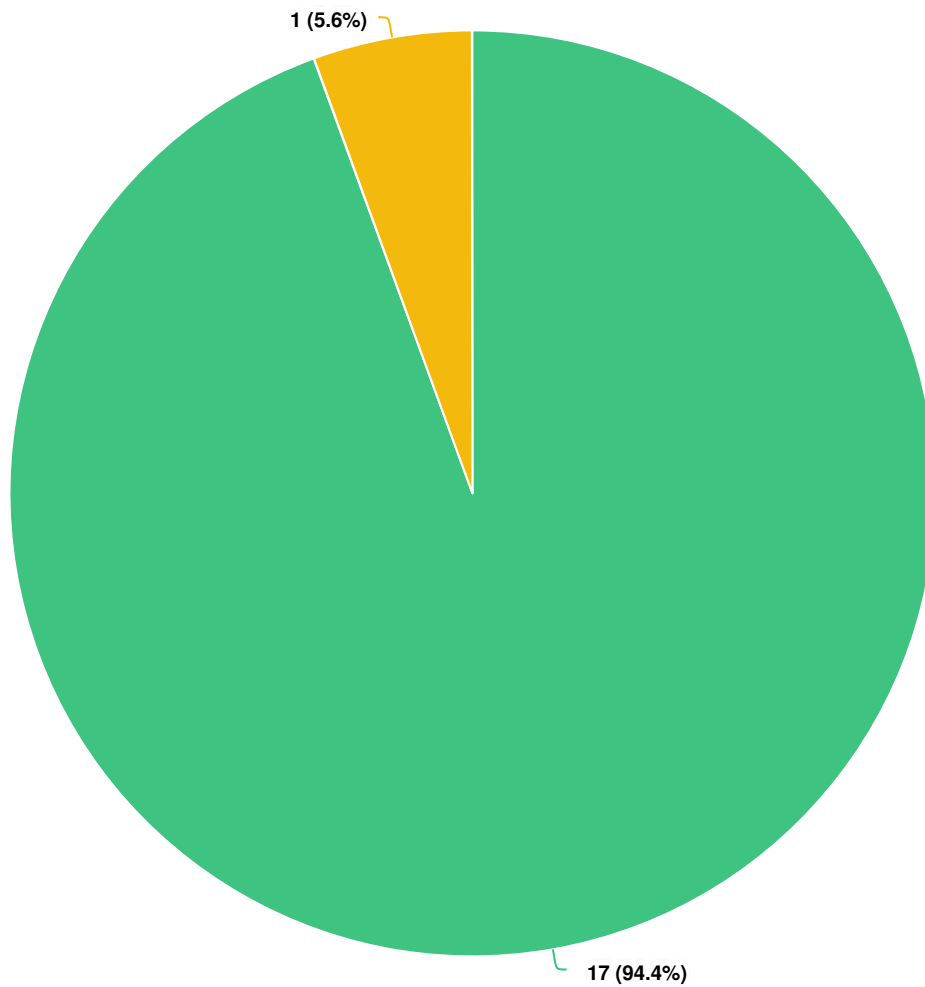
Question options

- I don't know / unsure
- The city is not making significant progress in handling invasive species
- The city is doing fine, but more progress could be made
- The city is doing an outstanding job handling invasive species

Mandatory Question (18 response(s))

Question type: Radio Button Question

Do you support community design standards (ordinances) that mandate tree planting or protection during development?



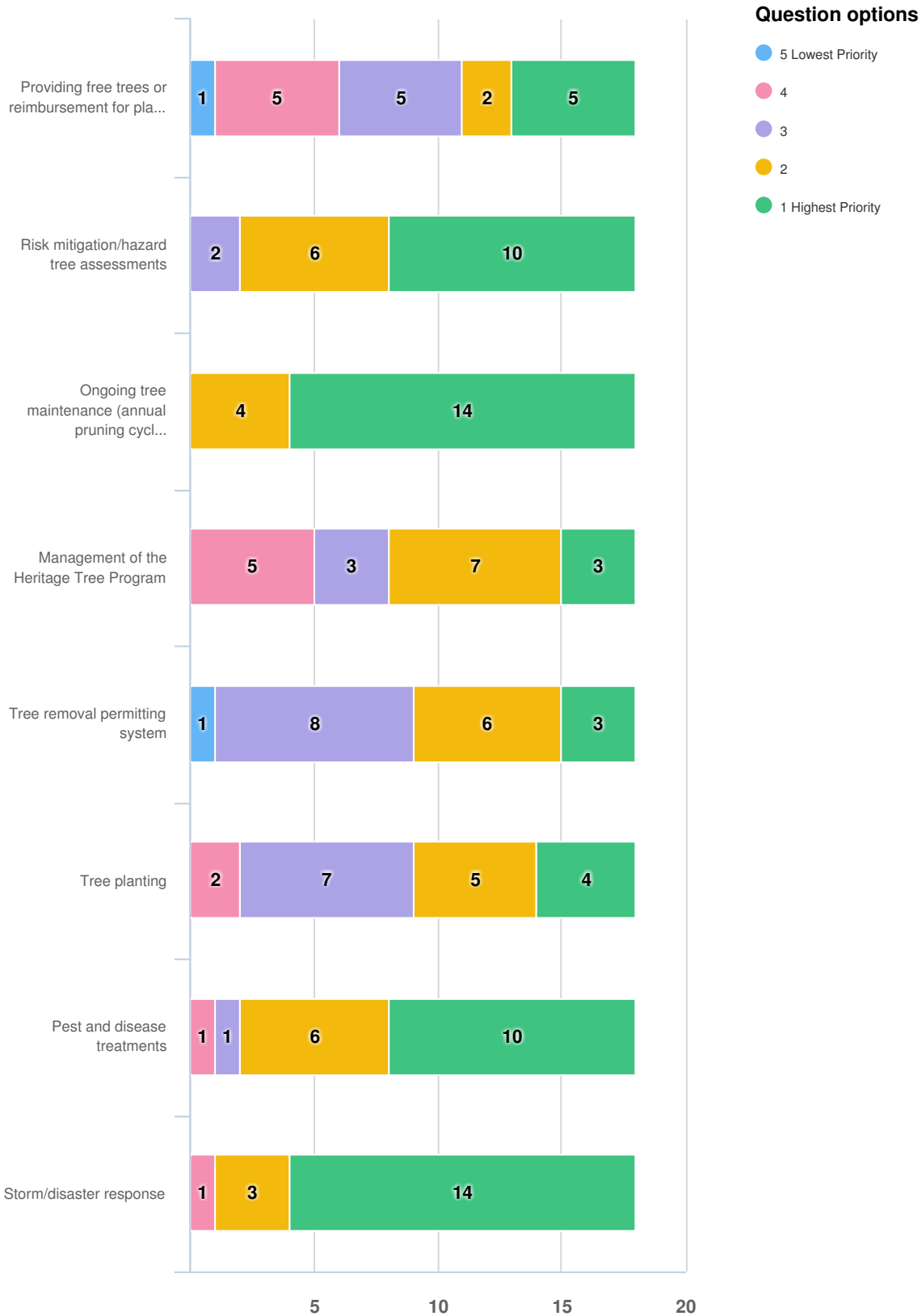
Question options

- Know
- Yes

Mandatory Question (18 response(s))

Question type: Radio Button Question

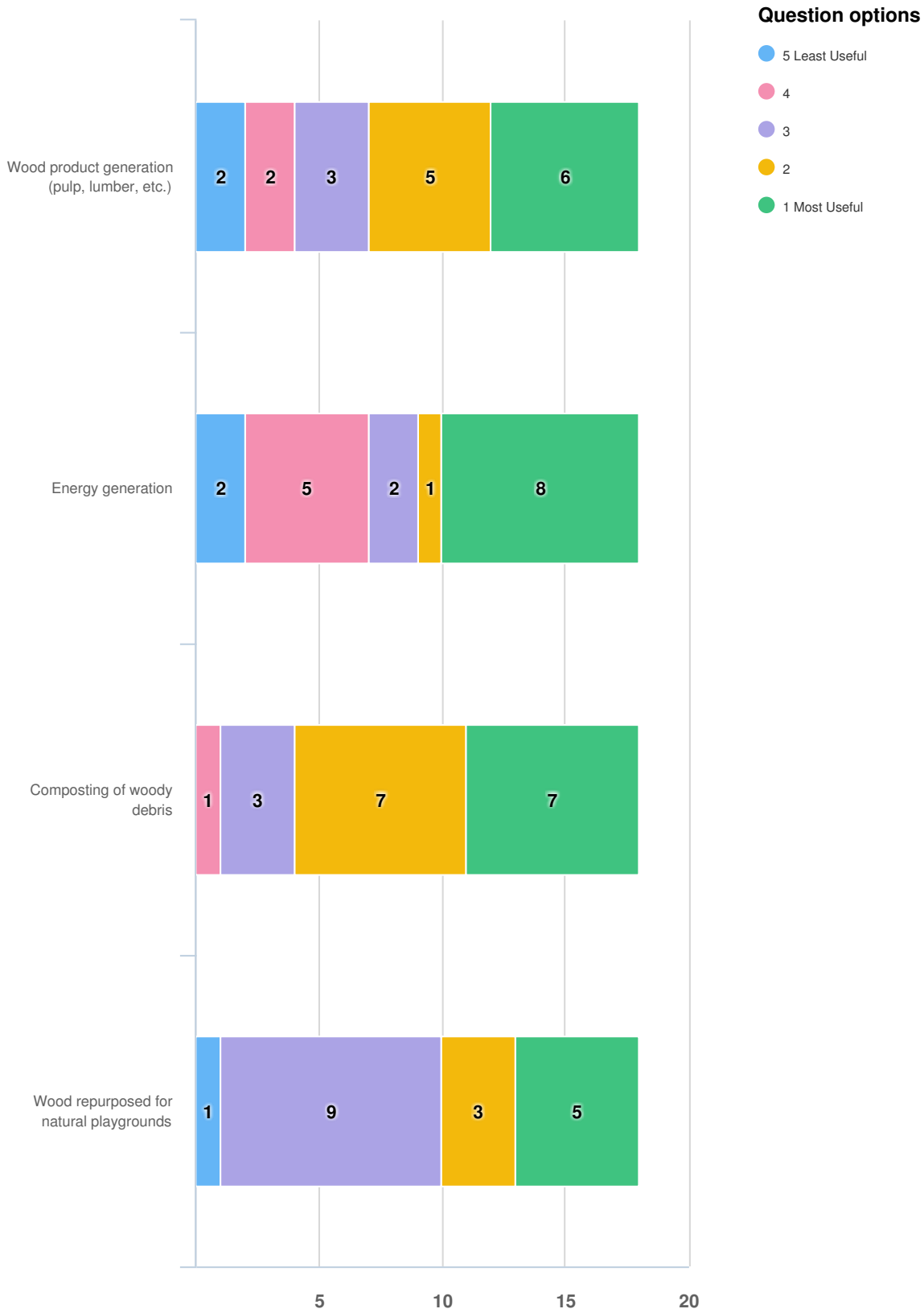
Below is a list of services provided by the city. Please rate the importance of each on a scale of 1 to 5 ("1" being a very high priority).



Mandatory Question (18 response(s))

Question type: Likert Question

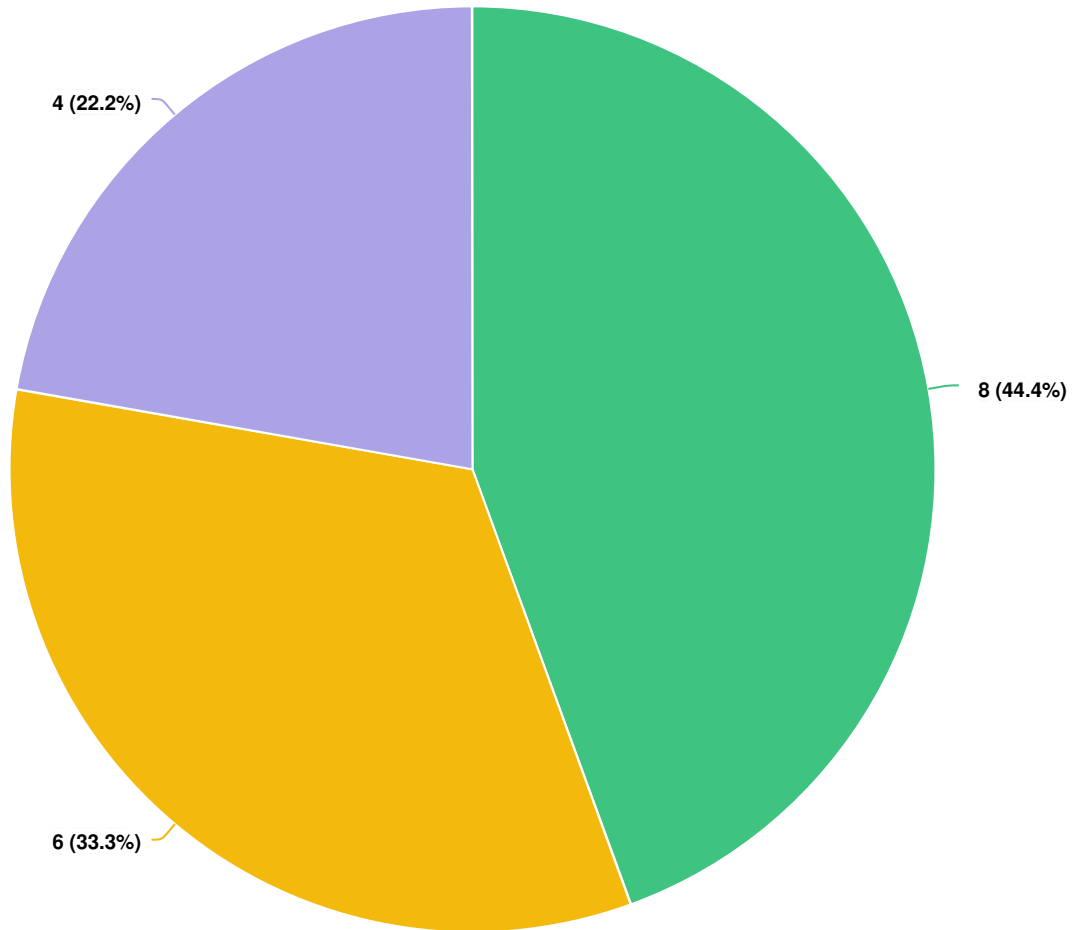
Which methods for recycling and reuse of urban forest waste (pruned limbs, debris, etc.) you find most feasible and useful for Wilsonville (“1” being most useful).



Mandatory Question (18 response(s))

Question type: Likert Question

Risk management of urban trees is often a high priority for forest managers. Using the following options, please share your views on how the City mitigates risk of urban trees.



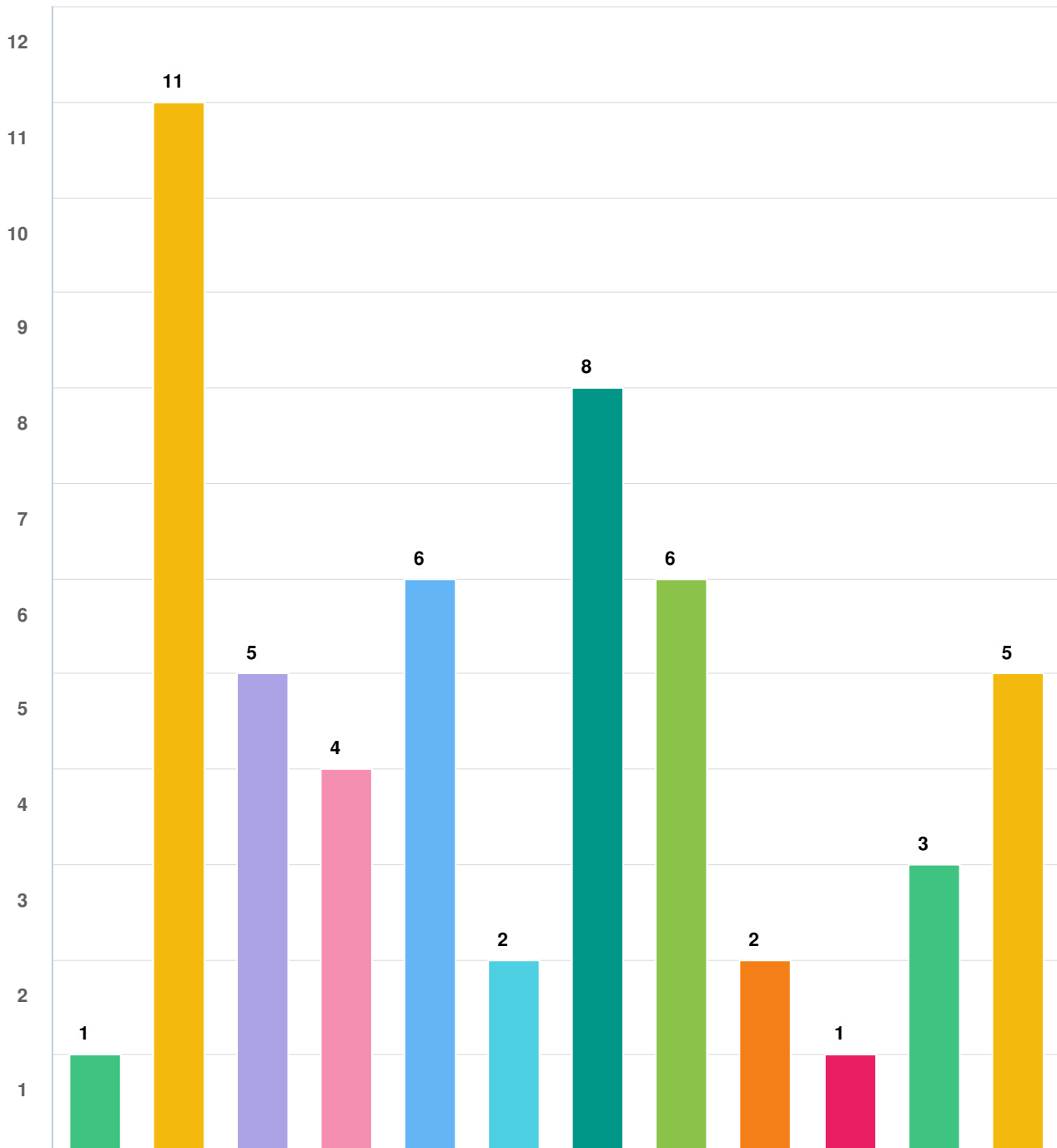
Question options

- Risk management is poor (there are many dead/damaged/risky trees in my neighborhood)
- Risk management is fair (there are some dead/damaged/risky trees in my neighborhood)
- Risk management is good (there are very few dead/damaged/risky trees in my neighborhood)

Mandatory Question (18 response(s))

Question type: Radio Button Question

Charbonneau is one focus area for the Urban Forest Management Plan. Based on your knowledge of the area, what urban forestry needs would you say are of greatest importance in Charbonneau (select all that apply)?



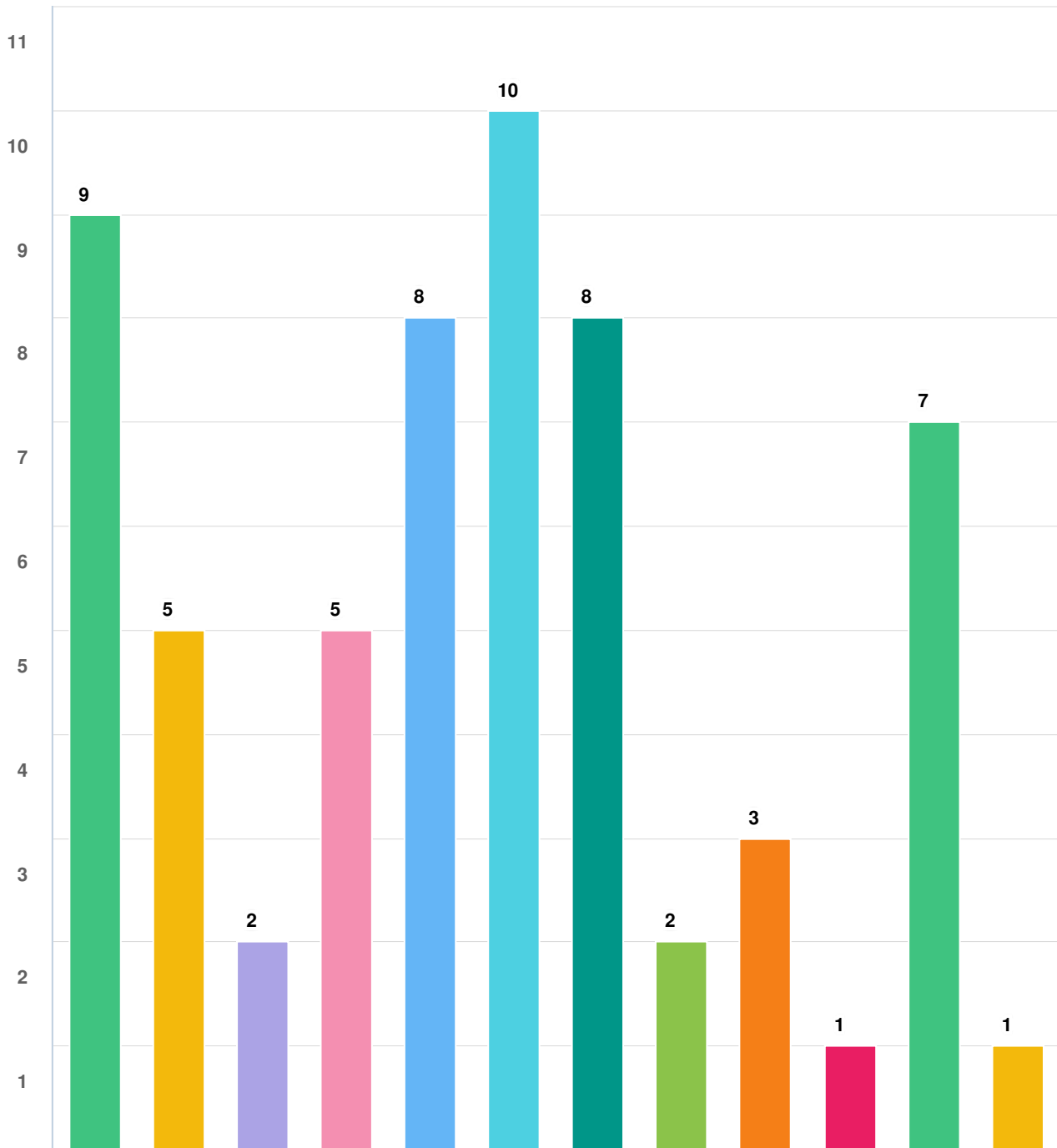
Question options

- Other (please specify)
 ● Linkages to existing greenspace
 ● Invasive species removal
 ● Insect/disease management
- Alternative solutions to sidewalk repair/replacement
 ● Strategy to replace large dying oaks
 ● More tree species diversity
- Protection during construction/development
 ● Survival of newly planted trees
 ● Removal
 ● Pruning
 ● Planting

Mandatory Question (18 response(s))

Question type: Checkbox Question

Town Center is the second focus area for the Urban Forest Management Plan. Based on your knowledge of the area, what urban forestry needs would you say are of greatest importance in Town Center (select all that apply)?*



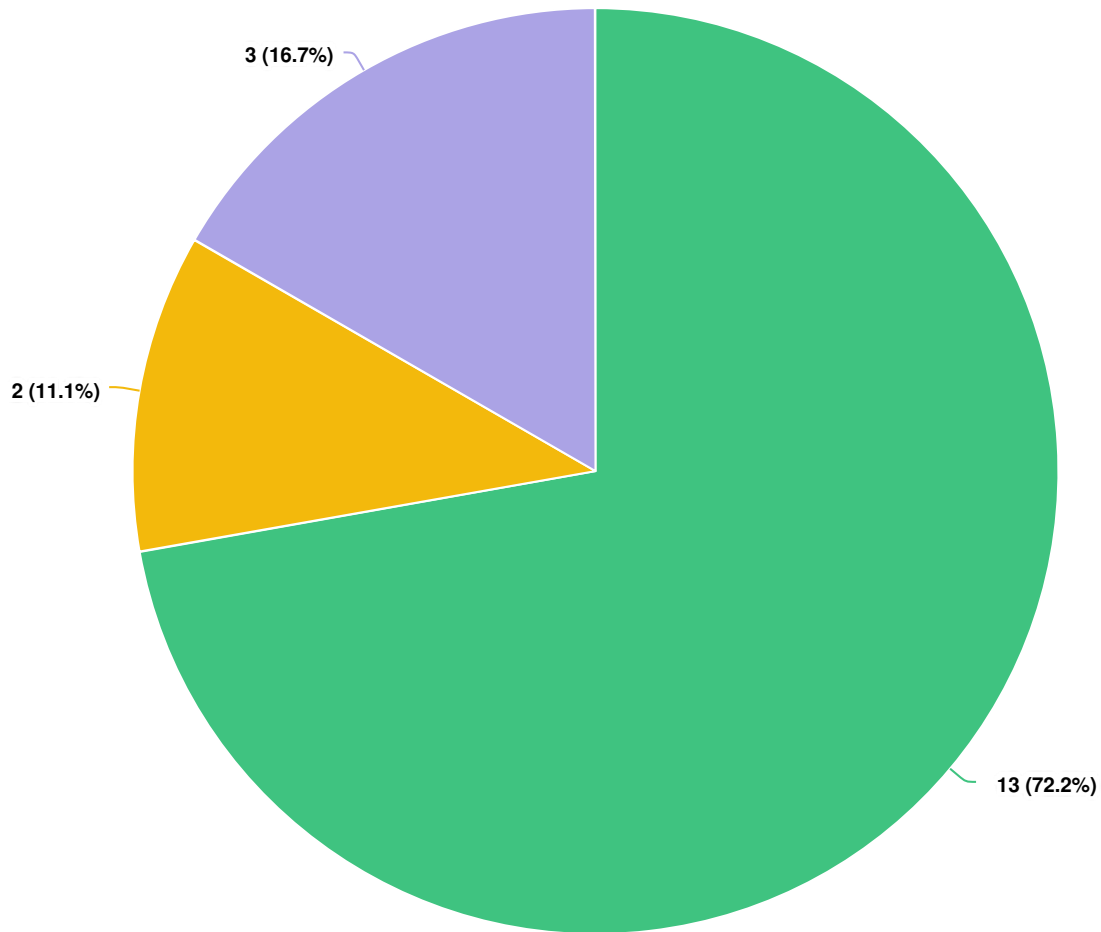
Question options

- Other (please specify)
 ● Linkages to existing greenspace
 ● Invasive species removal
 ● Insect/disease management
- Alternative solutions to sidewalk repair/replacement
 ● More planting space for trees
 ● More tree species diversity
- Protection during construction/development
 ● Survival of newly planted trees
 ● Removal
 ● Pruning
 ● Planting

Mandatory Question (18 response(s))

Question type: Checkbox Question

Many sustainably-growing cities adopt a tree canopy goal and annual planting targets (numbers) based on land cover assessments, available resources, community support, and policies and regulations — in an effort to more equitably provide services a...



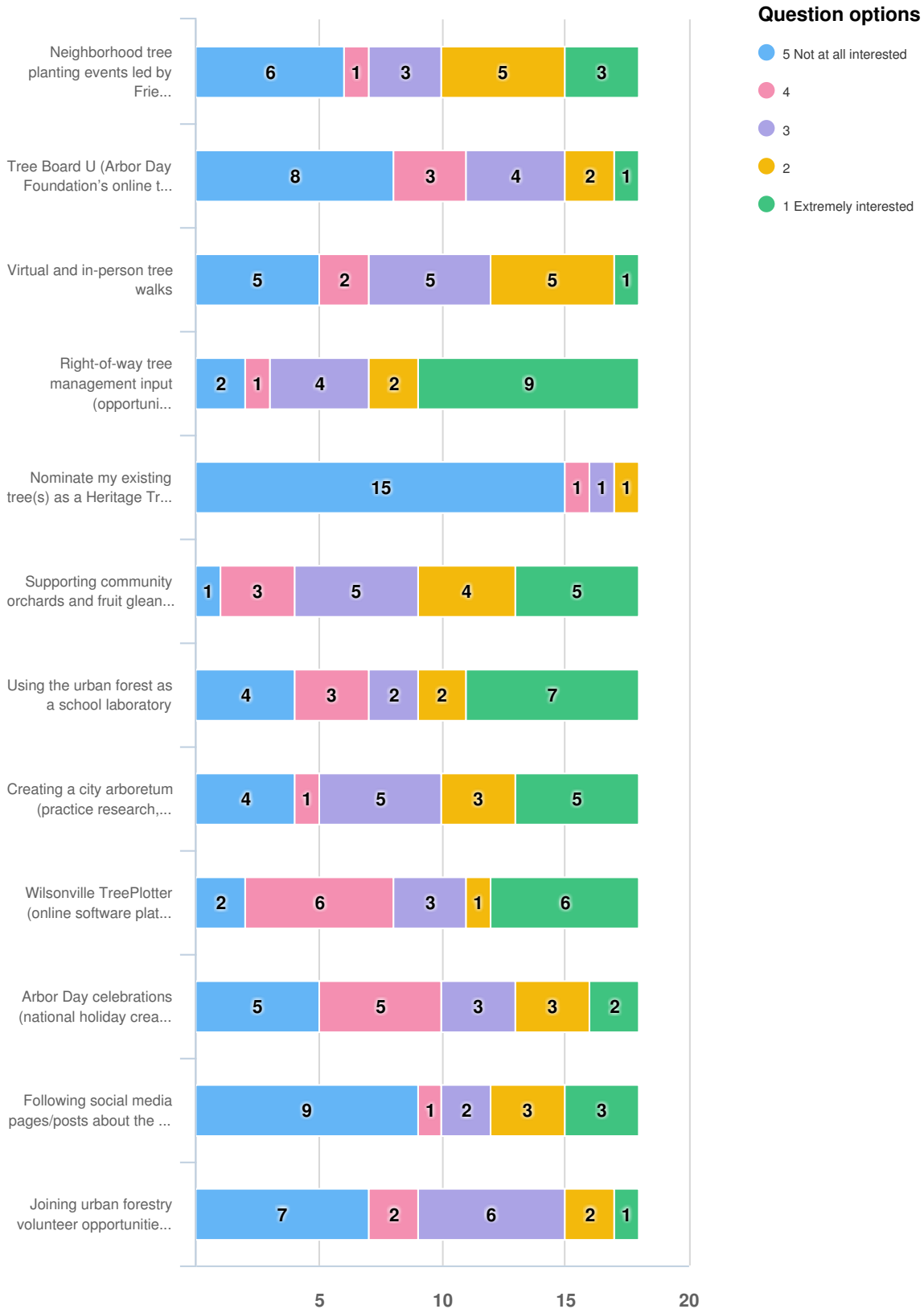
Question options

- I need more information to decide
- I do not support establishing a tree canopy goal or planting targets
- I support a realistic canopy goal citywide and by other planning boundary (such as neighborhood or land use) that does not impede smart development

Mandatory Question (18 response(s))

Question type: Radio Button Question

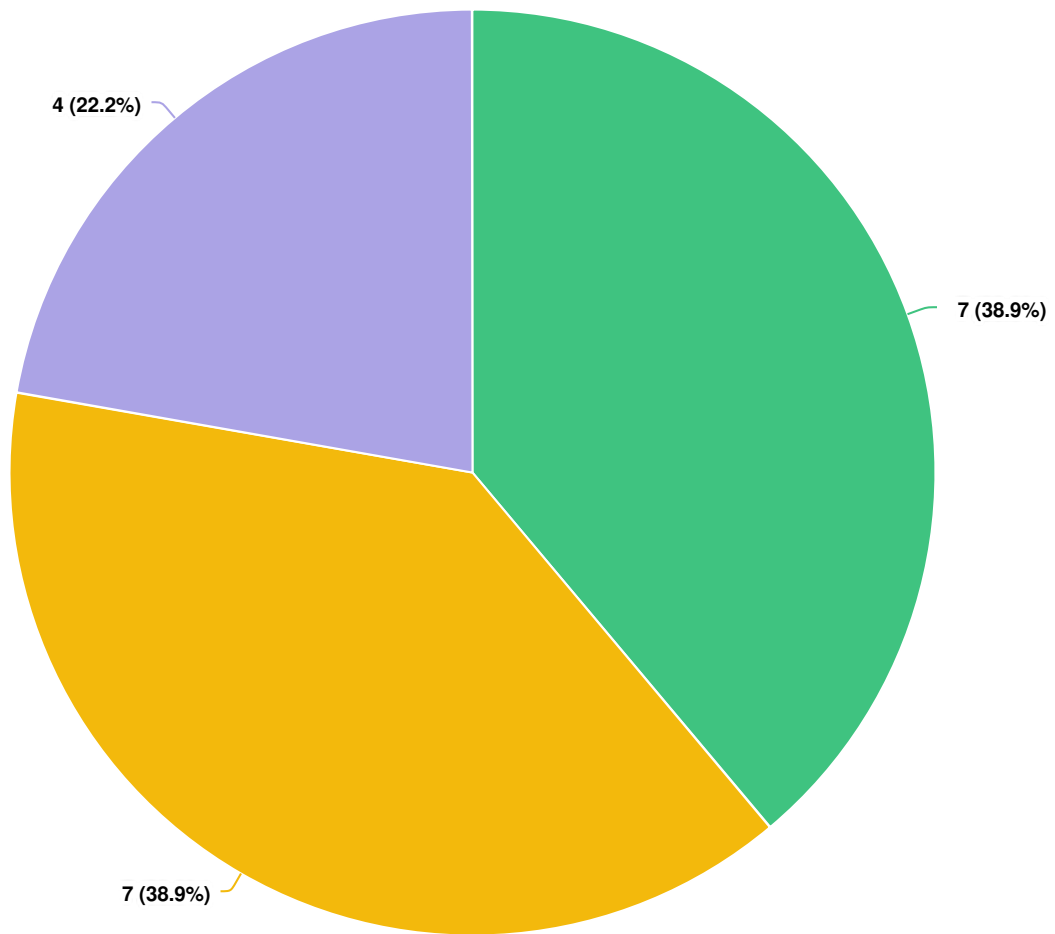
Community involvement is a key factor to urban forest success and sustainability. Using the scale below, please rate your interest in the variety of community involvement programs listed (“1” being very interested).



Mandatory Question (18 response(s))

Question type: Likert Question

Wilsonville has been a Tree City USA for 22 years. One requirement to earn this designation from the Arbor Day Foundation is that a minimum of \$2 per capita be spent on the community forest program. In Wilsonville, this equates to more than \$50,000...



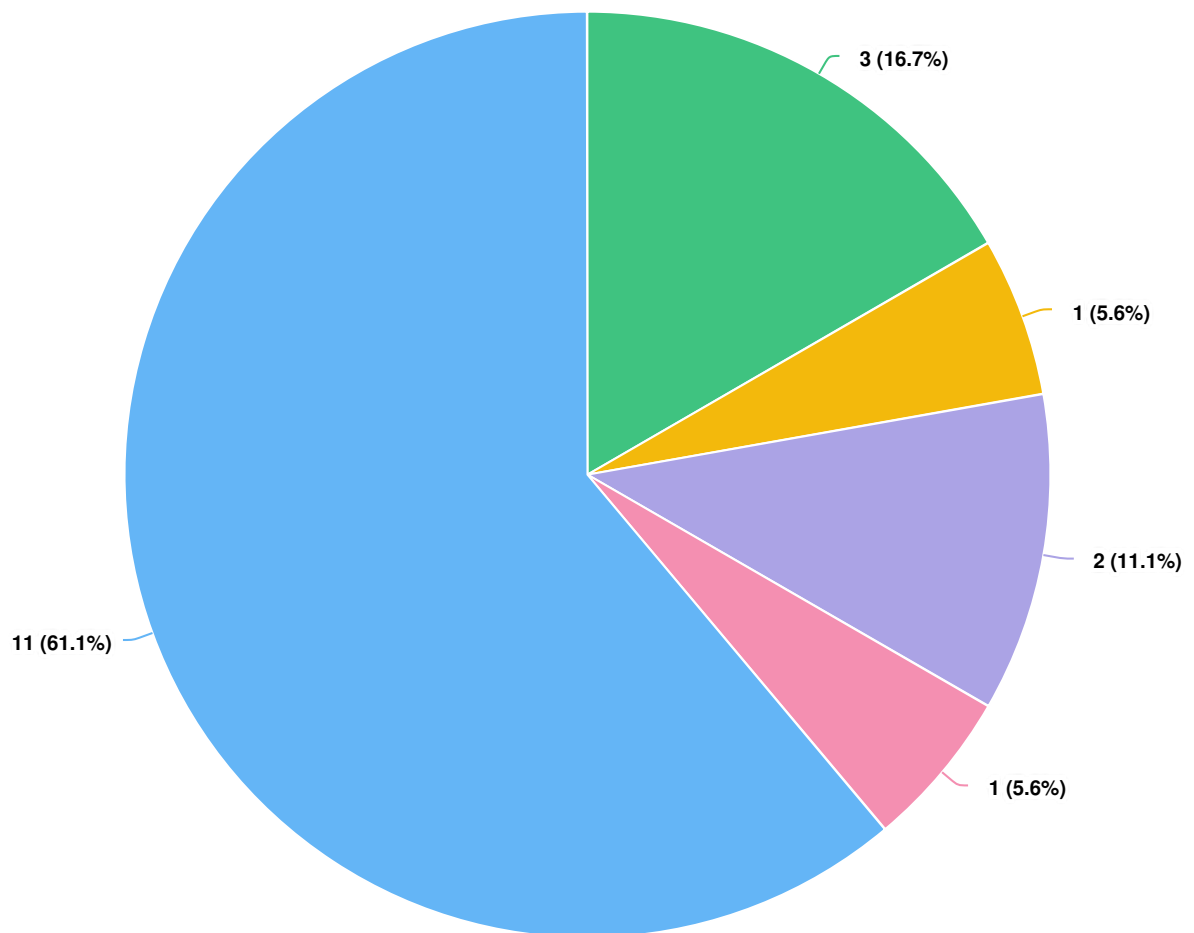
Question options

- No preference
- An urban forest budget based on per capita numbers
- A dedicated urban forestry budget with more funding than the per capita amount

Mandatory Question (18 response(s))

Question type: Radio Button Question

Using the zone map, in which area of Wilsonville do you live?



Question options

- Zone 11
- Zone 10
- Zone 8
- Zone 7
- Zone 6

Mandatory Question (18 response(s))

Question type: Radio Button Question



Sharon Brown <irishrose70@icloud.com>

Rappold, Kerry

9/14/2020

Trees

[This email originated outside of the City of Wilsonville]

Wilsonville is gorgeous! Mostly, trees are in great condition. We're in Charbonneau & have beautiful trees, well taken care of as far as most of us are concerned.

I'll give my two cents worth as far as National forests . . . allow the logging industry to be the STEWARDS of the forests!!! They'd been doing a great job since before you were born. Until environmentalists stuck their political noses in! The forests have been allowed to become crowded with dead growth just waiting for a fire. It's like kindling! Logging correctly is absolutely necessary! Climate change is NOT the problem. And anyone thinking it is, is brainwashed! Sincerely, Sharon Gear

Sent from my iPad



Brian Krieg <brian@focuspointcom.com>

Rappold, Kerry

9/14/2020

urban forestry

You replied to this message on 9/15/2020 4:08 PM.

[This email originated outside of the City of Wilsonville]

Hi Mr. Rappold –

My name is Brian Krieg – a resident of Wilsonville (Charbonneau) for about 6 years now and am very interested in the conversations and the development of an urban forestry plan for the city. Prior to moving here I lived in Portland for about 18 years and during that time for a period of 6 years I served on the City of Portland Urban Forestry Commission. I served as chair for about 2.5 years during the lengthy development of a new tree code in conjunction with the Planning Commission. After that I served on the board of Friends of Trees for 3 years, and still do pro bono representation of FOT at the state legislature. I would be interested in being involved in the tree conversations and planning in Wilsonville.

Part of the magic of Charbonneau is the tree canopy – which I have been watching decrease in my time here. And the age and long term health and replacement plan for the trees on French Prairie is a vital concern, as is the Golf Course and the loss of Doug Firs on it. I have filled out a survey and would have loved to have participated in the virtual meeting on the 15th however I have a zoom meeting with clients during that time period so will have to watch a replay. I hope to catch up with you at some future point to chat. I will note that I own a government affairs firm and we are up to our eyeballs with work in part due to all the covid rules and regulations needing sorted out.

Brian F. Krieg
7289 SW Lake Bluff Dr.
Charbonneau
503/709-9670

Rappold, Kerry

From: Veliz, Kim
Sent: Monday, November 8, 2021 2:56 PM
To: Councilor Charlotte Lehan; Councilor Ben West; Councilor Kristin Akervall; Councilor Joann Linville; Mayor Julie Fitzgerald
Cc: Rappold, Kerry; Neamtzu, Chris; Jacobson, Barbara; Cosgrove, Bryan
Subject: Jennifer Constantine - Public Comment: Urban Forest Management Plan

Good afternoon Mayor and Council,
Please see the below public comment from Jennifer Constantine.
Thank you,
Kim

From: Jennifer Constantine <jennconstantine@gmail.com>
Sent: Monday, November 8, 2021 2:22 PM
To: City Recorder <cityrecorder@ci.wilsonville.or.us>
Subject: Urban Forest Management Plan

[This email originated outside of the City of Wilsonville]

I am writing to express my support of the UFMP. I am new to the area, and am continuously happy and surprised at the attention paid to natural areas here, with a focus on ecosystem protection. Equally, I applaud your focus on equity, and believe we will not find climate solutions without also addressing climate justice. This plan is an important piece of that puzzle for Wilsonville. My only concern is that it appears to have funding ideas, but no concrete funding sources as yet. I hope that funding can be found and that this plan can be fully implemented as written.

Well done!
Jennifer Constantine
11985 SW Lausanne St, Wilsonville, OR 97070

Jennifer Constantine, M.Ed., S.L.D.I.
Reading Specialist
Orton Gillingham Practitioner
Approved IDA Provider

11/10/21

City of Wilsonville Planning Commission,

First, thank you for your dedication and hard work for the City of Wilsonville.

I wish to comment on the UFMP. I have read the plan before you today and feel that it is a good document. I believe one aspect should be clarified due to issues I have seen in Memorial Park. I believe that management practices for street trees should be different than forest trees. Street trees and limbs can fall on powerlines, street and buildings. Their roots can mess up sidewalks. Forest trees may just fall. Forest trees level of risk is way less than a street tree. From the data that I have viewed the risk of a forest tree or a limb of striking a walker is 1/20,000,000.

I have seen a team of hired tree cutters in Memorial Park unsupervised by the city deciding which trees to cut on and branches to remove. Some trees had up to 80 nubs removed. This is a waste of city money.

Recently large trees were cut down in the Memorial Park forest that was straight, tall and no sign of disease or rot. Why? If a tree does require removing can a portion remain standing to become a snag for wildlife?

Please spell out with greater detail in the UFMP rules for tree and branch cutting in the forested portions of Wilsonville.



Tree with about 80 nubs removed



Recently cut and healthy

Sincerely,
Steven Benson
8525 SW Wilson Ln
Wilsonville OR 97070