



City of Corvallis Urban Forestry Management Plan



October 2009

Corvallis Urban Forestry Management Plan

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Statement of Scope & Purpose

The Corvallis Urban Forestry Management Plan provides a 20-year strategic framework to focus and expand the city's Urban Forestry program to meet a range of policy, educational and management goals. The Plan is intended as a tool to explore community concerns and management conflicts, while offering a series of prioritized implementation actions based on extensive stakeholder and community outreach. The Plan evaluates staffing needs and addresses program sustainability, funding and ongoing community support. The Plan will serve as a road map to improve the city's urban tree management and stewardship in a coordinated, cooperative approach with city departments, program partners and private land owners.

As a strategic and forward-looking document, this Plan does not alter or supersede the existing policies and requirements of the Corvallis Municipal Code, the Comprehensive Plan or the Land Development Code. While the Plan does not create new, discrete public policy with regard to the management of the urban forest, it does suggest modifications and expansions to city codes to improve long-term tree stewardship, and any proposed code revisions will be reviewed and considered through future public process.

The plan was prepared through a systematic and comprehensive review of existing city regulations, standards and other adopted plans, discussions with key community stakeholders, results from a public opinion survey and an analysis of tree inventory data. This is a unique, holistic urban forestry management plan for the city of Corvallis based on local needs and priorities, as determined through this public process.

Lastly, it is understood that woody shrubs and ground cover plant communities are part of, and integral to, the overall health of the urban forest, but the primary scope of this plan is to focus on trees – the largest, longest-lived and more significant member of the landscape community.

Executive Summary



Springtime colors in Downtown

I think city should put more emphasis on public education and importance to tree care to beautification of city, before going to stronger enforcement type measures. This could be done in paper, web sites and the city 'bulletin' ...

— Survey Respondent

Situated in the heart of the temperate Willamette Valley, the City of Corvallis has long benefited from its relationship to its natural setting and has made critical, bold statements about its future through the Corvallis Vision 2020, Comprehensive Plan and land use and sustainability policies. Through this leadership and in recognition of the role of urban trees in providing environmental, economic, social and aesthetic benefits, the City of Corvallis embarked on the development of its first Urban Forestry Management Plan. While significant challenges lie ahead, this plan provides a framework for policy direction and realistic action steps to improve the health, well-being and extent of the City's urban forest.

Comments and opinion from residents, along with industry and community stakeholders, shaped the direction of the overall plan, its objectives and the implementation strategy. Four primary methods of community outreach were used:

- Public opinion survey
- Interviews and group discussions with key stakeholders
- Stakeholders Committee
- Project-specific webpage

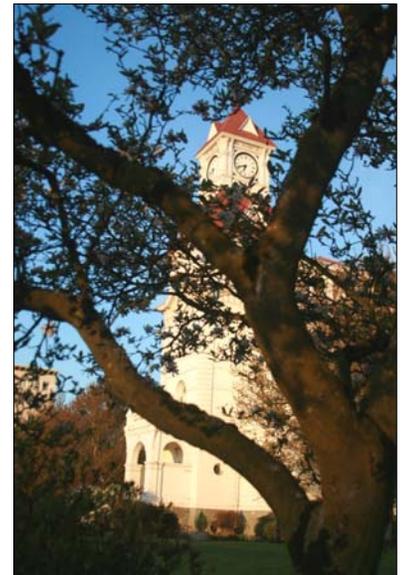
Survey results indicate a strong public passion for trees, which is favorable to the successful implementation of this plan. Also, survey responses highlighted the tension between regulatory versus incentive/voluntary measures. As a result, the plan is geared toward strenuous marketing and community outreach efforts to connect with and inform private property owners and to heighten the level of awareness of and care for the urban forest. This commitment to education and outreach is a central tenet of the plan and will be necessary for any future growth of the Urban Forestry program.

The plan identifies a broad range of objectives and action steps that are intended to guide Corvallis toward the growth and management of a healthy, sustainable urban forest that

will continue to enhance the quality of life for its residents. Additionally, plan recommendations include a summary of the highest priority initiatives to be undertaken by the Urban Forestry program within the first 5 years of adoption of this plan.

- **Outreach & Education Campaign:** A focused, extensive campaign is required to improve awareness of the program, reach new volunteers and provide support and education to private property owners who are responsible for the vast majority of the city's trees.
- **Code & Policy Revisions:** Certain clarifications will help address issues with which the Land Development Code is currently silent or ambiguous, such as structural pruning of young trees, inspections and specific development site-related issues.
- **Inventory & GIS Projects:** GIS modeling and aerial imagery will provide crucial information about the extent and condition of the urban forest to inform future planning by land use classification or resource type.
- **Tree Maintenance & Care:** On-going and expanded coordination with Public Works and Parks will address the planning, care and replacement of city street trees, including sidewalk infrastructure conflicts and improvements for wildlife habitat, tree canopy and tree species diversity.

Corvallis' urban forest is a recognized, valuable resource to residents, but its health, maintenance and continuity are not guaranteed and will remain threatened by potential conflicts between land use and management approaches. Guided by the objectives and action steps contained in this plan, Urban Forestry staff can lead the city's efforts to preserve, enhance and sustain this dynamic and precious resource through the 21st century. While this plan provides only the framework by which Corvallis can begin to improve its forest environment, many specific details and new ideas can be developed and fostered through further public involvement and interaction among agencies and program partners, making Corvallis a more healthy, sustainable, and vibrant community.



Shade near the Courthouse

Vision & Mission

Vision

The city of Corvallis embraces its urban forest as an integral part of the community's infrastructure, which contributes to the healthy lifestyle of its residents; connects and enhances natural areas and habitat; provides ecological services, such as cleansing the region's air, capturing stormwater and sequestering carbon; and contributes to the economic prosperity of the city.

The Urban Forestry Program is vibrant, robust and held as a critical city service. The Program draws strength from active, committed partners and volunteers and maintains a successful recruitment and retention program to attract and engage the community. Its keen focus on integrated urban forestry education and direct landowner outreach make the Program both innovative and highly effective, while creating one of the most beautiful communities in Oregon and maintaining one of the healthiest and most complete urban forests in the Northwest.

[The Civic Beautification/Urban Forestry Commission Vision appears in Appendix C.]

Mission Statement: "To Enhance, Protect and Manage Our Urban Forest"

The Corvallis Parks and Recreation Department's Urban Forestry Program strives to promote a safe, healthy, and diverse urban forest by preserving, managing and enhancing tree resources, while promoting active community participation through public education and outreach.

In cooperation with community residents and program stakeholders, the Urban Forestry Program has outlined the following tenets to guide urban forest management in Corvallis:

- **Inform** – Expand program awareness through innovative, visible outreach and education campaigns.

- **Protect** – Recognize the environmental, economic, cultural and social benefits offered by the urban forest and refine and implement policies to protect public tree resources, while seeking substantial participation from landowners to protect private trees.
- **Expand** – Enable the growth of public and private tree resources to optimize the urban tree canopy through plantings, outreach and other incentives.
- **Manage** – Improve and institutionalize the care, maintenance and operating principles for the long-term viability of a mixed-aged, sustainable urban tree resource.
- **Partner** – Increase community, private sector and other city/county department’s involvement in planning, management and funding of the urban forest.

History of Urban Forestry in Corvallis



Before & After: Downtown Corvallis



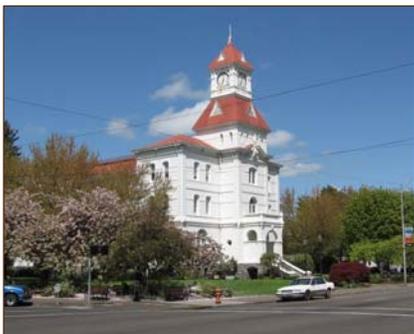
Program History

The Corvallis community has a long history of citizens who have had the foresight to create a green city. The trees, landscapes and open spaces now enjoyed were preserved or planted by early settlers, individuals, garden clubs, civic and youth groups. These people worked to enhance the livability of Corvallis through their donated land, money and time.

The formal Corvallis Urban Forestry program has its roots in an initial three year grant to improve public awareness about trees and power line conflicts. In February 1996, the city accepted and received a \$120,000 grant from PacifiCorp administered by the Oregon Department of Forestry. City Council appointed a citizen-based Street Tree Task Force to lead the implementation of the grant which focused on communicating with the public about tree and power line safety and creating innovative education projects about the selection of appropriate trees. The Street Tree Task Force made arrangements to receive, on loan, from the Oregon Department of Forestry an urban forester for 20 hours a week to assist the task force and city staff in coordinating and organizing the program.



Before & After: County Courthouse



The Task Force focused significant effort on public education through the use of volunteer and demonstration projects. Specifically, a small tree arboretum of 15 trees was established at Cloverland Park as a physical demonstration of the types of trees that can be planted underneath, and are compatible with, overhead power lines. Also, an Arbor Day celebration was held for each of the three years of the grant – culminating with a major tree planting project where 520 trees were planted by over 500 volunteers in public rights-of-way and other public areas. Other outreach included a public forum, the distribution of tree selection and planting literature and Master Gardener training. As a result of the city's efforts, Corvallis received a "Partnership Award" from

the Oregon Urban and Community Forestry Council, representing the successful completion of the three-year partnership with the Oregon Department of Forestry and PacifiCorp.

To summarize the grant program, the Street Tree Task Force prepared a memorandum to City Council to urge its consideration of two key commitments in support of continuing urban forestry efforts. The Task Force requested that Council establish a Street Tree Commission to review and update city policies and municipal codes relating to street trees, while providing support to an urban forestry program. The second element was a request to establish a budget to hire and retain an urban forester to oversee the growth of the program, provide coordination between city departments on tree-related issues and site plan review, promote community events and maintain the tree inventory.

In 2000, City Council established the urban forester position, and instead of establishing a new commission, Council favored a merger in 2003 of the Civic Beautification Commission with the former Street Tree Task Force to create the Citizens Advisory Commission on Civic Beautification/Urban Forestry (CBUF). The purpose of the commission was to improve the overall health of community trees and landscapes through the promotion of neighborhood and civic projects and education.

In 1996 and as a part of a state-mandated comprehensive plan review process, Corvallis undertook a visioning process, resulting in the adoption of Corvallis Vision 2020 by City Council. The vision statement guided a wholesale revision of the city's comprehensive plan and initiated a three-phased update to the Land Development Code (LDC) to ensure that both complied with the statewide planning laws and rules (particularly Goal 5 - *Open Spaces, Scenic and Historic Areas, and Natural Resources*).

The third phase of the LDC update included a Natural Features Inventory Project, which was completed with strong coordination between the City and Benton County. Subsequently, both jurisdictions adopted significant and specific protections within the city and the urban growth boundary for many resources that contain trees, including



Volunteer Tree Planting

steep slopes, local streams and their associated riparian corridors, wetlands and public and private tree groves. As a result, many of the activities in the urban forest are currently regulated, and the proposed objectives and action steps of the Urban Forestry Management Plan are refinements of existing standards or, more importantly, will address gaps in the existing program. The UFMP is intended to complement and further implement the Natural Features Inventory Project; however, where a portion of the urban forest falls within a protected area identified on the Significant Vegetation Areas Map, Riparian Corridors and Wetlands Map, or the Natural Hazards Map, management efforts for that area will need to be accomplished consistent with the provisions of the Land Development Code associated with those maps. (See Appendix J for additional Goal 5 background.)

“Corvallis in 2020 has successfully integrated its economic and population growth with the preservation of its scenic natural environment, open spaces, clean air and water, wildlife habitat areas, and recreational opportunities.”
(Corvallis Vision 2020)

Additionally, in 1996 City Council adopted an updated Corvallis 2020 Vision Statement and in 2004 adopted a policy on sustainability. The purpose is to ensure city departments develop practices that achieve a more sustainable workplace through plans and programs that promote a balance of environmental values with economic and social equity values in the expenditure of public funds.

Since the inception of the Urban Forestry program, Corvallis has been named Tree City USA by the Arbor Day Foundation for 8 years and has also received 6 prestigious Arbor Day growth awards within that timeframe. A recent example illustrates the community’s enthusiasm for trees. In 2007, the City of Corvallis celebrated it’s 150th anniversary, and a community project was proposed to plant 150 trees in honor of the milestone. Through significant effort, 175 new trees were planted in the public right-of-way and another 100 trees were planted on the OSU Campus; additionally, PacifiCorp financed the planting 39 power line friendly trees. A wide array of volunteers, including neighborhood groups, the 6th grade class from Waldorf School, Sierra Club and Audubon Society members, property owners and other tree enthusiasts, committed time and energy to exceed the original goal and further beautify the city.



Organizational & Functional Overview

The Corvallis Urban Forestry program is housed within the Corvallis Parks & Recreation Department, which prior to the establishment of the urban forestry program had historically responded to tree-related issues and permit issuance. Currently, one full-time employee manages the Urban Forestry program, which serves more than 55,000 residents and has strong ties to the Public Works and Community Development departments in an effort to facilitate a coordinated and cohesive response to urban tree management. Also, a full-time Parks Division arborist/ornamental horticulturalist has provided significant assistance to the urban forestry program by taking the primary responsibility for parkland tree resources. This has allowed the urban forester to focus more energy toward street tree, private tree and site development issues.

The Corvallis Urban Forestry program provides services in two major areas: planning and management.

Planning

- Site development review, in collaboration with Public Works and Community Development, for conformance to existing tree ordinances
- Program/event coordination and planning to include management of NeighborWoods tree planting program, tree planting events and festivals, along with general community outreach
- Partnership development and grant writing to increase capacity and revenue in support of program objectives

Management

- Park and street tree inventory management, including Dutch Elm Disease monitoring and hazard tree identification and removal
- Enforcement and permit issuance for tree pruning, planting or removal of street and park trees
- Coordination with city departments, developers and citizens to ensure activities affecting trees are managed consistently
- Providing quality customer service and information for residents, contractors and developers regarding tree planting and tree care needs



Dutch Elm Removal by arborist

Investments in the planting and care of trees represent a long term commitment of scarce dollars, and improper plantings can increase costs and reduce benefits. Therefore, it is important to do it right and plan for future management. The effectiveness of urban trees and forests in providing benefits to people depends on their species composition, diversity, age, and location with respect to people and other elements in the landscape. An ecosystem approach that recognizes people as the central component offers the best means to assess the complex interactions between urban trees and forests and the well-being of urbanites, linking management actions with their effects on urban forests and the associated benefits and costs. (Dwyer, et al; 1999)

As the Urban Forestry program is currently structured and staffed, the range and complexity of responsibilities exceeds the capacity of a single staff person. As such, responsibilities for the management of the urban forest fall to multiple city departments and volunteers, which requires a heightened awareness of the importance of clear and constant communication, identifiable expectations and the enhancement of cross-training opportunities for staff.

However, the maintenance and care of the vast majority of the city's trees are the responsibilities of private property owners; this reality illustrates a major limitation to the city's overall efficacy in protecting and expanding urban tree resources. Unless and until an alternative arrangement for tree management is developed, public outreach and education will remain as the most powerful tools available to Corvallis – a common theme noted in survey responses collected as part of the development of this plan.

Civic Beautification / Urban Forestry Commission

Additionally, a citizen-based, advisory Commission on Civic Beautification/Urban Forestry (CBUF) oversees the activities of the Urban Forestry program and advises staff and the City Council on matters relating to the planting, maintenance, preservation and removal of community trees and landscape beautification. The commission consists of 9 community members representing the following:

- (1) Certified arborist
- (1) Garden club or plant society
- (1) Landscape architect, landscape contractor or nursery industry
- (1) Member of Downtown Landscape Review Board, Downtown Corvallis Association or Madison Avenue Task Force
- (1) Property/business owner, land development or building contractor
- (2) Members of the education or research community
- (2) Citizens-at-large

Since its inception, the CBUF Commission has served a critical role in advancing the benefits of urban forestry throughout the community and follows an adopted mission consistent with the vision, mission and objectives noted in this plan. For example, CBUF has successfully advocated for the computerized tree inventory software and the formation of the NeighborWoods program, improved a community beautification award program, partnered with Public Works to create the Concrete to Trees Program and secured one-time funding to facilitate the development of this urban forestry management plan.

Relationship to Other Planning Documents

To supplement the public participation conducted in the development of this plan, four community-based plans were reviewed for past policy direction and goals as they pertain to the protection and management of the urban forest.

- **The City of Corvallis Comprehensive Plan:** Acknowledged in 2000 and amended in 2004 as part of the Natural Features Project, the Comprehensive Plan directs land use planning and development policies for the city. It also establishes specific policies related to natural areas, open spaces, urban trees and historic resources that have had a direct bearing on the development of this urban forestry management plan. A major outcome of the Comprehensive Plan was the establishment of the Significant Natural Features Inventory and the resultant regulations to protect significant vegetation throughout Corvallis.
- **The City of Corvallis Park and Recreation Facilities Plan:** Adopted in 2000, the Parks and Recreation Plan outlines community standards for parks, natural areas and recreation facilities. The Plan specifically recommends the preparation of management plans for natural areas to consider hazard trees, invasive and non-native species and tree preservation in general.
- **Downtown Streetscape Plan:** Prepared in 1988 by the Downtown Corvallis Association and adopted by City Council, this Plan offers guidelines to retain and enhance the unique architectural and physical features of downtown. It also includes a tree management program for downtown street trees, which was codified in the municipal code but later repealed in 2006 due to implementation challenges and internal conflicts with other sections of the code.

- **Corvallis Parks and Natural Areas Sustainable Operations Plan:** This plan, prepared for the Parks and Recreation Department in 2008, provides a comprehensive framework to evaluate and guide all site operations and maintenance activities of the city's parks and natural areas. With regard to urban forestry, it addresses site-specific resource management plans, along with city and county policies and programs related to vegetation and pest management, habitat conservation and sustainability practices.

The Urban Forestry Management Plan specifically implements Corvallis Comprehensive Plan policy 5.3.4, which establishes the goal of a comprehensive management plan for public trees, and it further supports implementation of various policies within sections 4.6, 4.10, 5.3 and 5.4. While the UFMP will act as a stand-alone management tool for the Urban Forestry program, it does not supersede the policies or regulations detailed in the Comprehensive Plan, the Land Development Code or the Municipal Code. Upon review and adoption by City Council, this plan will guide the protection, expansion and management of the urban forest, while also complementing the guidelines of the Parks and Recreation Plan and the Sustainable Operations Plan.

Existing Regulations

Resulting from the city's planning and policy work noted above, the Corvallis City Council has adopted a number of ordinances to provide tree protection. Specific urban forestry related regulations include the following:

- **Land Development Code:** Adopted and effective in 2006, the Land Development Code implements the land use planning and development policies of the City of Corvallis Comprehensive Plan. It provides specific regulations related to natural resources, natural hazards, open spaces, urban trees, and historic resources that have a direct bearing on the development of this urban forestry management plan. A major component of the Land Development Code is the package of regulations for the Natural Features Program, which protects significant vegetation in Natural Hazard, Natural Resource, and urban areas throughout Corvallis.
- **Landscaping, Buffering, Screening and Lighting Provisions (LDC 4.2):** Prescribes standards vegetative landscaping,

street trees, and buffer plantings among others in association with site development.

- **Significant Vegetation Protection Provisions (LDC 4.12):** Provides standards for the protection of significant vegetation inventoried through the Natural Features Inventory and subsequently selected for protection by the Natural Features Project (requiring vegetation management plans for affected lands).
- **Riparian Corridor and Wetland Provisions (LDC 4.13):** Provides standards for the protection of significant vegetation in riparian corridor and wetland areas inventoried through the Natural Features Inventory and subsequently selected for protection by the Natural Features Project.
- **Natural Hazard and Hillside Provisions (LDC 4.5):** Provides standards for the protection of significant vegetation in floodway areas inventoried through the Natural Features Inventory and subsequently selected for protection by the Natural Features Project.
- **Historic Resources Provisions (LDC 2.9):** Defines and regulates the removal of historically significant trees.
- **Tree and Park Strip Planting Code (CMC 2.19):** Provides for the establishment of a permit and competency requirements for the planting, pruning and removal of trees within the public right-of-way and on public lands within the city of Corvallis.
- **Dutch Elm Disease Code (CMC 5.05):** Declares Dutch Elm Disease as a public nuisance and regulates the removal and disposal of infected trees.

Taken together, these regulations have helped Corvallis expand the scope of its urban forest, chiefly through its Significant Vegetation provisions, and promote sound management and care of existing trees. However, a number of improvements can still be made to the existing suite of ordinances to further improve their effectiveness. For example, the landscaping provisions can be clarified regarding the financial guarantee requirements to address impacts if the minimum coverage requirements are not met within the specified 3-year period. Also, pruning requirements can be added for newly planted deciduous trees within public rights-of-way to address structural training of young trees; this could also be tied to the financial guarantee program. Another consideration may be the inclusion of additional detail and clarification of tree

protection and preservation plans associated with new construction. Such refinements, among others, may improve the long-term health and viability of the urban forest and will be discussed in more detail both in the Objectives and Implementation sections of the plan.

State of City Street & Park Trees



Narrow Planting Strip in Downtown



Street Trees in Residential Area

The City completed park and street tree inventories in 1997 and 2007 to better understand the public tree stock and identify existing and potential tree problems. The latest inventory is maintained and organized in TreeWorks software and tallied a total of 13,213 public and street trees, which excludes trees on non-park public lands and trees or tree groves identified through the Natural Features Inventory. **It is critical to realize that the public tree inventory grew by over 30% between 1997 and 2007 through the addition of over 14 miles of new streets which were planned and planted in association with new development. These new trees present both a benefit and a liability to Corvallis.** Of the total inventory, 37% are in the smallest diameter class of 1 to 3 inches, with a total of 78 % of all of trees less than 12 inches in diameter. Therefore, the vast majority of park and street trees within Corvallis should be considered to be young trees, as determined by their diameter class.

The large distribution of younger trees is still an asset to the urban forest that will, in most cases, appreciate in value as the trees grow in size. The total estimated, appraised value of the entire inventory is over \$24.6 million, and trees smaller than 12 inches in diameter contribute a value of approximately \$20 million (over 80% of total). Although the value of young trees has been noted, they will need structural pruning to insure a strong branching structure, which will lessen the need for major pruning in later years and prevent structures more prone to failure during storm events. A substantial investment will be required for structural pruning of these young trees in the coming years.

The species distribution is balanced overall. Red Maple (*Acer rubrum*) has the highest percentage (9.9%) in the inventory,

followed by Norway maples (*Acer platanoides*) at 7.8% and Raywood ash (*Fraxinus oxycarpa*) at 7.0%. No single species exceeds the industry standard of 10% of the total, which is recommended to reduce the chance of exotic diseases or insects devastating the forest. Such problems occurred in many eastern communities with the loss of millions of American elms (*Ulmus americana*) and currently exist with the infestation of the emerald ash borer attacking ash trees (*Fraxinus* spp.) in the upper-Midwest and lower-Northeast regions, where over 25 million ash trees have died in recent years.

Regarding the condition of park and street trees, the majority (57%) were rated as good or above. Only 11% were rated fair to poor, but the predominance of young trees will increase this percentage and expand liabilities, unless attention to structural pruning is provided. Additionally, the condition of trees in the downtown core may decline further as a result of conflicts with buildings and other existing infrastructure.

Benefits of Trees

Global warming, ecological footprint, carbon neutral, carbon cap-and-trade, green infrastructure – these concepts have become part of today’s daily vernacular and represent a broadening public awareness of the affects to and impacts of environmental change at multiple scales: global, national, regional and local. Paralleling this has been the recent rise in corporate environmental marketing and in educational documentaries, such as Al Gore’s, *An Inconvenient Truth*.



Cyclist along Avery Park Drive



Oregon Oak standing tall

Trees, and forestry practices in general, have held a prominent role in discussions regarding environmental change, and more directly there has been a growing number of scientific studies in recent years specifically geared toward the role of trees in urban environments. The US Forest Service’s Urban and Community Forestry (U&CF) program acknowledges that trees and urban forests provide environmental, ecological, economic and social benefits to people living in urban and suburban areas. According to the Forest Service, one of the most important activities of the U&CF program is encouraging localities to adopt controls to *protect and expand* their tree canopy coverage and *encourage the sound management* of that canopy (*emphasis added*).¹

The United States has grown increasingly urban since the 1920s, with 80% of Americans now living in urban/suburban areas; that percentage increases to approximately 90% when looking at the western US.² Additionally, the amount of urbanized land in the western US increased by 49% in the 15 year period between 1982 and 1997, while the region’s population grew only at a rate of 32% - suggesting an increased strain on land resources and limited land use controls.³ “The increasing extent and significance of urban influence across the United States call for resource policymakers, planners, and managers at

¹ US Forest Service

² US Census Bureau; 2000.

³ Fulton, et al.; 2001.

national, regional, and local levels to focus their attention on forest resources in urban settings.”⁴ While one study showed the average tree canopy for urban areas in Oregon exceeded that of the national average (30.4% to 27.1%, respectively)⁵, improvements to and the expansion of the urban forest is needed to promote the principles of sustainability and counteract local threats of poor air and water quality and the loss of habitat and recreational space.

Effective management of the urban forest requires recognition of the diversity of land uses and landowners within the urban area and the interactions of policies, programs and physical development. Whether connected by the logistics of managing urban infrastructure (for example, coordinating maintenance of urban trees and power lines, sewers, sidewalks, and roads), or by contributing to the overall character of the area, the urban forest links “landscape” with “architecture” and becomes an important component of urban planning.

With the many benefits provided by urban trees, the management of the urban forest may be linked to an array of other urban initiatives, including community revitalization, economic development, community empowerment and environmental education, in addition to programs for improving air and water quality, stormwater control, energy conservation and recreational opportunities. (Dwyer, et al.; 2000.)

At the local level, municipalities have begun dedicating resources to urban forestry programs and recognizing the role of urban forests as a component of a broader green infrastructure program, with the intent to create and retain economically-sound, livable communities. “Just as growing communities need to upgrade and expand their built infrastructure (roads, sewers, utilities, etc.), so too they need to upgrade and expand their green infrastructure – the network of open space, woodlands, wildlife habitat, parks and other natural areas that sustains clean air, water and natural resources and enriches our quality of life. The concept of green infrastructure repositions open space protection from a community amenity to a community necessity.”⁶ Unlike traditional gray infrastructure capital improvements, such as transportation and water systems that begin to depreciate as soon as they are installed, green infrastructure accrues value, in part through direct cost savings, and provides greater environmental services with time.

⁴ Dwyer, et al.; 2000.

⁵ Dwyer, et al.; 2000.

⁶ Benedict & McMahon; 2002

The primary benefits of the urban forest follow.

Water Quality & Stormwater Retention

Urban forests absorb rainfall, control surface water run-off, filter ground water and assist in ground water recharge. According to one study, 37,500 tons of sediment per square mile per year comes off of developing and developed landscapes, and urban trees could reduce this value by 95%.⁷

Urban tree canopy reduces stormwater runoff by intercepting and storing rainfall and increasing infiltration into the soil through improved soil structure. The US Environmental Protection Agency issued a report, *Using Smart Growth Techniques as Stormwater Best Management Practices*, which identified urban tree canopy as a innovative and sustainable means to dramatically reduce stormwater runoff and the costs associated with stormwater management.⁸ The American Forests study also estimated that the Corvallis urban forest provides stormwater retention at the capacity of nearly 14 million cubic feet per peak storm event; building additional gray infrastructure to accommodate this runoff would cost \$27.5 million.⁹

Energy Savings & Carbon Capture

Trees shade buildings and pavement, reducing the urban heat island effect and thereby decreasing the demand for electricity. They also cool the air by releasing water vapor through evapotranspiration. In Western Washington, trees strategically planted to shade buildings lower summertime air temperature between 5°-9° F and reduce cooling costs by approximately 4%.¹⁰

Discussions concerning carbon sequestration and the potential of a regional cap-and-trade program have led to a heightened review of the role of urban trees. The American

⁷ Coder; 1996

⁸ US Environmental Protection Agency

⁹ American Forests; 2001

¹⁰ McPherson, et al; 2002

Forests CityGreen study estimated that Corvallis' urban forest stores over 100,000 tons of carbon at a sequestration rate of approximately 830 tons per year. While trees can capture and store carbon in substantial quantities over time, those gains in carbon reduction may only be temporary and must be viewed in relation to other factors, such as tree decomposition and urban area emissions.

Urban trees can also provide a significant secondary carbon reduction benefit through the appropriate placement near buildings to enhance energy conservation. "These secondary effects are likely more important than the primary effects of direct carbon sequestration...[and the] secondary tree effects that avoid carbon emissions are of permanent benefit to reducing global climate change. Therefore, energy-conserving sites are the best location for trees in urban areas to conserve carbon due to their relatively significant effect on reducing carbon emissions associated with building climate control and the permanent nature of the carbon reduction."¹¹

Air Quality Improvements

Trees absorb gaseous pollutants such as ozone, nitrogen oxides and sulfur dioxide; and they filter particulate matter such as dust, ash, pollen and smoke. Reductions in these pollutants results in improved public health and reduces the severity of ozone-induced asthmatic responses and other respiratory illnesses. Urban trees absorb carbon dioxide, a major greenhouse gas, at an approximate rate of 230-lbs per year per tree. According to the U.S. Department of Agriculture, "one acre of forest absorbs six tons of carbon dioxide and puts out four tons of oxygen. This is enough to meet the annual needs of 18 people." Specific to Corvallis, the American Forests regional ecosystem analysis published in 2001 estimated the local canopy coverage at approximately 30% and the monetary value of pollution removal services provided by the urban forest at nearly \$550,000 annually, as shown below.

As markets become established, credit prices are expected to increase, and foresters will have a better chance of fully funding tree planting projects in communities, as well as being able to monetarily manage those forests until maturity. Moreover, it is important to consider that there are other benefits associated with urban trees, and because of these added benefits, investors may be willing to spend more per credit than they would for other projects dedicated to only reducing atmospheric CO2 concentrations. (McHale; 2007.)



Patchwork of Fall colors

¹¹ Nowak, et al; 2002

Table 1: Air Pollution (CityGreen data for Corvallis: 2001)

Pollutant	Amount Removed	Dollar Value
Ozone (O ₃)	79,776 -lbs	\$ 244,875
Sulfur Dioxide (SO ₂)	26,766 -lbs	\$ 20,075
Nitrogen Dioxide (NO ₂)	41,318 -lbs	\$ 126,840
Particulate Matter (PM)	74,005 -lbs	\$ 151,666
Carbon Monoxide (CO)	8,830 -lbs	\$ 3,782
TOTAL	230,695 -lbs	\$ 547,238

Well-maintained trees improve residential "curb appeal" and increase potential buyers' willingness to pay a 3-7% premium for property. Homes with trees are generally preferred to comparable homes without trees, with the trend across multiple studies being a price increase of about 7%. Here are results from a selection of studies :

Price Increase Condition

- ♦ 2% mature yard trees (greater than 9-inch dbh)
- ♦ 3-5% trees in front yard landscaping
- ♦ 6-9% good tree cover in a neighborhood
- ♦ 10-15% mature trees in high-income neighborhoods

Site developers may argue that tree protection costs are prohibitive. Understanding potential market values in different forest conditions is an important step in understanding the economics of forest protection. Market price studies of treed versus untreed lots show this range:

Price Increase Condition

- ♦ 18% building lots with substantial mature tree cover
- ♦ 22% tree-covered undeveloped acreage
- ♦ 19-35% lots bordering suburban wooded preserves.

(Wolf; 2007.)

The Economics of Aesthetics

Improving aesthetics of our community has tangible economic benefits. Networks of natural areas and trails give a community a reputation for being a good place to live and visit. Increased recreational and community activity attracts new businesses, fosters expressions of creativity and stimulates tourism.¹²

Due to the changing nature of business needs and the move toward a service and technology based economy, businesses locate or re-locate based on a community's quality of life, including an abundance of open space, nearby recreation and pedestrian-friendly neighborhoods. Nationwide, easy access to parks and open space has become a new measure of community wealth – an important way to attract businesses and residents by guaranteeing both quality of life and economic health.¹³

Aside from the potential price effect on residential property sales (see left), trees in retail settings increase shoppers' willingness to pay for goods and services by 12%.¹⁴ Shoppers also indicate that they are willing to drive farther and stay longer if a retail district is well-landscaped with trees. Also, respondents consistently reported greater willingness-to-pay values for goods and services in the landscaped mall at an overall rate of 8.8%.¹⁵

¹² Florida; 2001

¹³ Trust for Public Land; 1999

¹⁴ Wolf; 1999

¹⁵ Wolf; 2009

Increases in land values or sale prices as a result of quality landscaping and the presence or retention of trees offers a secondary benefit to the local jurisdiction. The adjustments directly relate to additional revenue from sources such as real estate transfer taxes and property tax assessments.

Wildlife & Habitat

The urban forest, including the trees, canopy, understory, and woody and leaf debris, provides habitat, food and shelter for birds, insects, and other urban wildlife. If large, contiguous or linked, the urban forest provides a buffer from the built environment, while acting as a travel corridor, for wildlife. It also offers a critical environmental education resource for local students, bird watchers and nature enthusiasts. While the urban forest provides an environmental structure for wildlife, challenges exist with providing and promoting native vegetation. "Urban sites rarely provide environmental and plant growth conditions found in the natural habitat. Increasing advocacy for use of native plants in urban landscapes often overlooks the poor match between the plant material and the site."¹⁶ While the challenging conditions of an urban setting may cause stress or growing problems for certain native plants, others may thrive.



Deer foraging at Avery Park

Health & Well-Being

Public spaces with trees receive more visitors, increasing the frequency of casual social interactions and strengthening the sense of community. Trees along transportation corridors narrow a driver's field of vision, reducing traffic speeds and increasing pedestrian safety by providing a natural, physical barrier. Studies have found that urban highways lined with trees decrease driver stress, resulting in fewer incidents of road rage.



Trees foster safer, more sociable neighborhood environments and have been shown to reduce levels of

¹⁶ Dwyer, et al; 2001.

crime, including domestic violence.¹⁷ Views of nature reduce the stress response of both body and mind when stressors of urban conditions are present.¹⁸ Hospital patients with window views of trees recover significantly faster and with fewer complications than comparable patients without access to such views.¹⁹

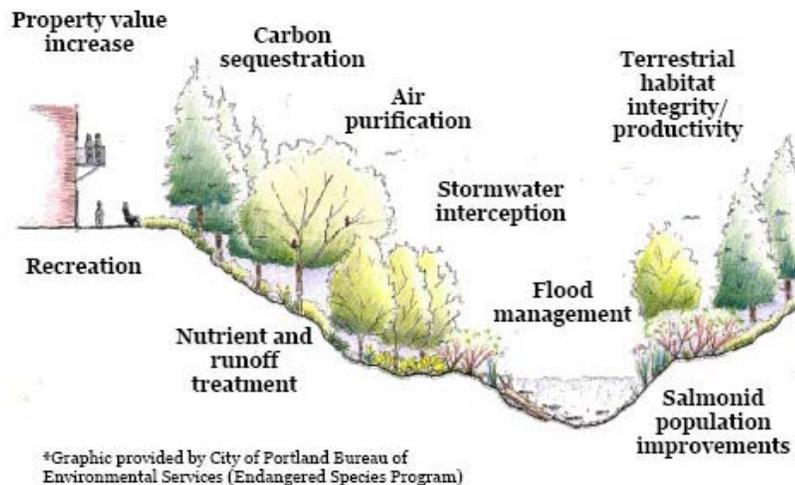
Overall, the service value of individual urban trees can be quantified as shown in the table below.

Average annual net benefits values per tree by size

Small	Medium	Large
\$1 - \$8	\$19 - \$25	\$48 - \$53

Source: Society of American Foresters: *Western Forester*, January 2007

The graphic below illustrates the various benefits of and the integrated functions provided by the urban forest.



While real costs must be borne by the city and its residents because of the urban forest (e.g., storm damage, removals, planting, care, leaf removal, infrastructure impacts, etc), the protection and expansion of the Corvallis urban forest will yield increased environmental, economic and social benefits. This plan specifies a number of actions the city can take to maximize these benefits and engender community involvement and activism.

¹⁷ Sullivan and Kuo; 1996

¹⁸ Parsons et. al.; 1998

¹⁹ Ulrich; 1984

Community Feedback & Program Assessment

Overview

Community outreach is a vital element of this plan. With a significant number of city sponsored commissions, ad hoc committees and local organizations working for the betterment of the city, Corvallis prides itself in having an engaged and motivated citizenry and a high degree of community-based activism and involvement. This planning project tapped into that existing network in several ways; it also attempts to synthesize the wide range of residents' comments, while acknowledging their significant contribution of time and energy, to honestly reflect the community's desires.

Comments and opinion from residents, along with industry and community stakeholders, shaped the direction of objectives and strategy for the future of the Corvallis Urban Forestry program. Four primary methods of community outreach were used in the development of this plan:

- A public opinion survey completed in March 2009;
- Five stakeholder interviews/group discussions with city and OSU staff and CBUF (in a public meeting format);
- Three sessions with the Stakeholders Committee, which included opportunities for public comment, and
- A project-specific web page offering a summary of the planning process, information from past meetings and an electronic version of the draft plan.

In addition, an internal review of the draft plan has been initiated to allow various city departments opportunity to comment. Also, work sessions and a public hearing have been held with the Corvallis City Council to solicit additional feedback on and support for the proposed plan.

Community Involvement

Public Opinion Survey

In collaboration with staff, the CBUF Commission and the Stakeholder Committee, the project team developed a survey instrument to gauge residents' attitudes and insights about the urban forestry program, city policies and certain management options. The internet-based survey was made available to residents through a prominent, graphic link provided on the city's homepage. The survey was "live" online from February 20th through March 13, 2009.

Additionally, a postcard mailer was developed and mailed to 1,200 randomly selected households to further promote the survey.

I would like to see more emphasis on well thought out and coordinated boulevard plantings to enhance the aesthetic impact of our street trees when driving through Corvallis.

— Survey Respondent

The total number of completed surveys (325) and the detail provided in open-ended responses surpassed expectations for the survey. Highlighted responses are discussed below, and the survey instrument and summary data are provided in Appendix E. It is important to note that survey results are derived from a partial non-random sample, and respondent results cannot directly be attributed to the broader Corvallis community.

Design a map of city trees for the public to evaluate before planting in their own yards and for tree tours.

— Survey Respondent

Overall, survey respondents are satisfied with the state of public landscaping in Corvallis and rated the quality of public landscaping as good or very good (83.4%). While respondents have mild expectations that the number of trees will increase (48.3%) in the coming decade, there is no consensus on the current quality or health of the urban forest. Additionally, respondents were evenly split on their perception in the change in the number of trees throughout the city over the past ten years. One possible factor affecting these results could be that approximately 38% of respondents stated their residence as 10 years or less.

Respondents were asked to identify their familiarity with various benefits provided by trees, and they marked generally strong responses across all of the noted benefits (values ranging from 3.5 – 3.7, where 3 represents "somewhat familiar" and 4 represents "very familiar"). Also,

I am not aware of the neighborhood programs that you sponsor ... I feel that projects to educate the public about tree maintenance and planting are and will be extremely important.
– Survey Respondent

they ranked “quality of life and aesthetics” as the most important reason for protecting trees in Corvallis from a sample of five choices including habitat/wildlife benefits, energy conservation and stormwater management.

The survey posed a series of questions to elicit responses on the roles of regulation and landowner education, along with certain care and maintenance responsibilities. In a forced choice about the management of urban trees, more respondents (49.5%) aligned themselves with the notion of expanding tree coverage through aggressive planting on public lands and replanting as new development occurs, rather than primarily focusing landowner education (27.1%) or through site development regulations (23.4%).

With development comes inevitable removal of large trees, to be replaced with (usually) many small trees. This is where I think Corvallis' urban forest has suffered over the past decade (and more).
– Survey Respondent

Throughout the city, trees on private property also exist in a quasi-public state, and this is especially true for street trees and significant vegetation (as defined by the Land Development Code). With regard to street trees, respondents showed mild support (48.3%) for the transfer of responsibility of street tree care to the city from property owners, while they also indicated strong support (69.6%) for the removal and replacement of street trees known to cause significant and repetitive damage to street, sidewalk and utility infrastructure. Additionally, individual property owners and homeowners associations are responsible for maintenance of protected tree groves, and in such cases, respondents showed mild support (56.9%) for the transfer of care and maintenance of these tracts to the city. While the level of support for these various concepts was generally high, there was no consensus regarding the imposition of new taxes or fees to cover the costs associated with each.

The tensions between regulation and property rights were also tested. With regard to an expansion of protections for trees on private property, respondents favored (65%) voluntary compliance through landowner outreach and education over new land use regulations fees or fines. Respondents also offered lengthy and significant feedback and critiques about the survey instrument, the urban forestry program and specific issues through several open-ended questions. Again, the complete results and open-ended responses are included in Appendix E.

Stakeholder Committee

An ad hoc stakeholder committee was formed to offer direction and guide the development of this management plan. The committee consisted of nine voting community stakeholders from local professional firms, OSU and civic organizations. Additionally, five non-voting staff members were involved and represented the city departments of Public Works, Community Development and Parks & Recreation. The committee held three meetings between January and April in an effort to identify critical urban forestry issues, review and discuss urban forestry program objectives and consider the draft plan in its entirety. These public meetings were held at the Osborn Aquatic Center and also accommodated citizen propositions and comments.

Stakeholder Interviews

To more broadly assess the opportunities and challenges of urban forest management, a series of internal and external stakeholder interviews were conducted. Representatives from the following city departments, divisions and local organizations provided comment:

- Parks & Recreation: Administration, Parks and Urban Forestry
- Community Development: Development Services and Planning
- Public Works: Engineering, Utilities and Transportation
- Oregon State University: Facilities
- Civic Beautification / Urban Forestry Commission Public Meeting

Comments were often specific to the particular program area or perspective of the stakeholder. Overall, comments were very favorable toward the Urban Forestry Division, its staff and its quality of services and offerings. Specific comments ranged from an acknowledgment of staff's commitment and limitations to the need for expanded community outreach and education to interdepartmental and regional partnership opportunities. Additional comments were geared toward the need to search for and secure new, stable funding to expand programming and management, along

with specific suggestions on improving coordination between city departments on site development plan review, street tree planting and maintenance and open space and riparian area management.

Urban Forestry Program Web Site

A project page for the Urban Forestry Management Plan was posted on the city's website for residents to learn about the planning process and timelines, access the online survey and review a draft version of the plan. The page was updated periodically to keep residents informed of progress and alerted to opportunities for involvement during the process. Staff contact information was provided for citizen inquiries.

S.W.O.T. Analysis

A Strengths, Weaknesses, Opportunities, and Threats (SWOT) assessment was completed as a means to organize input and comments provided by the public, program affiliates and stakeholders, CBUF commissioners and city staff. The lists that follow offer a synthesis of the range of insights, perspectives and opinions regarding the current and future state of the Corvallis Urban Forestry program; this information has helped inform the development of the program objectives and specific action steps in this plan. Please note that it is common for a specific issue to be identified in multiple, even contradictory, sections of the SWOT matrix because different perspectives yield different perceptions.

STRENGTHS

- ◆ Technically trained and competent staff.
- ◆ Program linked with the CBUF Commission – a designated, council-appointed commission overseeing program and advocating on its behalf.
- ◆ Existing regulations form the backbone of city-wide tree protection and provide the basis of the Urban Forestry program (e.g., street and public tree permitting, significant vegetation, historic trees, landscaping standards).
- ◆ Program can rely, in part, on the previously completed and adopted Natural Features Inventory and the associated policies and codes.
- ◆ Dutch Elm Disease policy exists and periodic monitoring and response occurs
- ◆ Thorough tree inventory completed and identifies the location and quality of over 13,000 public trees.
- ◆ Good interdepartmental communication.
- ◆ Strong intent toward sustainability through such programs as “Trees to Treasure” and wood share.
- ◆ NeighborWoods program is a good conduit to engage resident volunteers and educate them on tree care and tree health issues, and have them share their knowledge with friends and neighbors on a one-to-one basis.
- ◆ Robust list of existing program partners including PacifiCorp, Consumers Power, OSU, the Downtown Corvallis Association and many others.
- ◆ Large, local knowledge base to include OSU, local arborists and residents; highest density of certified arborists in Oregon.
- ◆ CityGreen data from ‘99/’00 shows approximately 30% coverage city-wide; GIS technology and inventory data are available to conduct more detailed spatial analyses for future planning.
- ◆ City has good, clear planning processes to address the formation and modification of city policies.
- ◆ Pacific Northwest provides a good climate for tree growth.

I would like to have trees in my front yard, but the park strip is too narrow.

– Survey Respondent



CBUF Informational table

Increase number of trees in parks, e.g., Lilly Park.

– Survey Respondent

People are turned off from planting trees because of the sidewalk root problems and being charged to fix their sidewalks.

– Survey Respondent

WEAKNESSES

Sweetgums are a vital tree in our urban forest. They need to be retained.

– Survey Respondent

Make sure that trees do not impact public infrastructure.

– Survey Respondent

Replace the sweet gums!

– Survey Respondent

I think city should put more emphasis on public education and importance to tree care to beautification of city, before going to stronger enforcement type measures. This could be done in paper, web sites and the city "bulletin" that is some times sent out.

– Survey Respondent

- ◆ Limited staff resources to meet the demands of program objectives, citizen communication and outside requests.
- ◆ Limited interaction between CBUF and other commissions.
- ◆ Limited funding for program, with current budget tied to the General Fund.
- ◆ No goals are stated or identified for raising outside funds via grants or donations.
- ◆ Public has limited awareness of and exposure to the Urban Forestry program, along with its functions, purpose or goals.
- ◆ Rudimentary information posted on program website; limited web presence.
- ◆ Website information that exists is hard to find – with poor site navigation and an awkward program location relative to other city divisions.
- ◆ Website does not provide sufficient information on program details; there are no links to Community Development or the various applicable code sections.
- ◆ Limited materials available (brochures, handouts, etc) about existing regulations and policies for use by development community and local arborists and landscaper contractors.
- ◆ Tree and urban forest management falls within the scope of multiple city departments.
- ◆ Existing language in the Land Development Code is silent on young tree pruning and offers no control regarding the timing of planting in new developments.
- ◆ Significant Vegetation policies are poorly understood, and affected property owners may be unaware or unsympathetic to the regulations.
- ◆ Due to demands on staff, there is limited enforcement/ oversight of existing regulations; Program is largely complaint-driven.
- ◆ Fragmented management of significant vegetation areas via HOAs, private landowners and public sector.
- ◆ Private property owners are responsible for street tree care and management, but often lack the knowledge, experience or resources to properly maintain them.
- ◆ Inability to regulate private lands equitably with regard to tree removals or improper pruning.

OPPORTUNITIES

- ◆ Corvallis is a diverse community with a range of groups/ associations willing to help; Passionate, active citizenry.
- ◆ Educated and environmentally-oriented residents who can appreciate the Program’s intent and objectives.
- ◆ Strong and engaged group of local arborists who care about the city and the role of trees.
- ◆ Positive survey responses regarding the care of and interest in trees reflect broad public support.
- ◆ Focused strategic planning and implementation program can guide the Program’s future.
- ◆ The city can lead through example, create Program momentum and set standards for tree care and maintenance.
- ◆ Relationship with OSU and access to students via curriculum, internships and research opportunities.
- ◆ Interdepartmental coordination, communication and training can be improved to address consistency and enhance problem-solving and collaboration.
- ◆ Integration of Urban Forestry Plan with stormwater master plan and urban streams program
- ◆ Public passion for trees may indicate viability of alternatives such as a bond, levy, or special district for long-term, stable funding.
- ◆ Outside funding sources, such as federal, state, and private foundation grants, corporate sponsorships and donations, may be available in limited fashion for urban forestry uses.
- ◆ Potential to develop street tree master plan for coordinating identification and planting of trees along major corridors; Build from previously completed downtown streetscape plan.
- ◆ Expand the “tree fund” to aid in or coordinate street tree planting in new development – tied to performance bonds.
- ◆ Revising the Land Development Code to address timing of planting (with regard to overall site/infrastructure improvements), canopy coverage and young tree pruning.
- ◆ Creating baseline inventory and geospatial data, along with periodic updates, to understand changes in canopy coverage over time and by neighborhood/ward.
- ◆ Annual or semi-annual sessions of CBUF with City Council and the Planning Commission could increase program visibility

Tree labeling in parks would be neat.

– Survey Respondent

I think that people enjoy the benefits of having trees, and that this should be encouraged through education, rather than more regulations that take away even more personal property rights.

– Survey Respondent



Provide a map of city trees for the public to evaluate before planting in their own yards and for tree tours. More small street tree planting displays.

– Survey Respondent

Corvallis' reputation as a "tree" community was built on good citizenship, fostered by local government support, not regulation. Increased government regulation, applied indiscriminately, may serve to discourage voluntary tree preservation.

– Survey Respondent

THREATS

- ◆ Vast number of committees, commissions and special groups competing for limited resources may fragment and cause loss of focus of Program objectives.
- ◆ Inflationary staff and equipment cost increases may affect the pace at which the Program expands to meet program objectives and/or manages operational and administrative challenges.
- ◆ Past budget shortfalls have led to deferred maintenance, such as pruning and replacement, at city-owned sites.
- ◆ General sense of tax fatigue may require creative solutions and strategies for long-term funding.
- ◆ Changing maintenance and care practices of private landowners over time – less watering and pruning.
- ◆ Even-age and same-species tree stands may fail or decline at same time creating a substantial maintenance and operations burden.
- ◆ Small lot and infill development creates conflicting demands for the use of right-of-way (i.e., utilities, line-of-sight clearance, planting distances) and leaves no interior space the re-planting of large specimen trees, thereby limiting future canopy expansion.
- ◆ Tendency to plant smaller canopy trees with new development will reduce the future canopy potential and long-term benefits of new trees.
- ◆ Unpruned young trees may become future city liability if structural pruning not addressed soon.
- ◆ The sense of Program accomplishment might wane due to the long timeframe needed to achieve the stated goal of increased canopy.
- ◆ The risk of punitive measures or over-regulating private property; Property rights and takings arguments.
- ◆ The potential of new pest/invasive breakouts requiring coordination with State and untested response protocols.
- ◆ Illegal, unwarranted and/or inappropriate removals and pruning on private lands.
- ◆ Under-management of existing or future SVMPs and other lands “protected” under Significant Vegetation regulations.

Through the SWOT analysis, a wide range of issues and opportunities surfaced, and the significant findings can be summarized as follows. The Program is led by a capable, technically-competent and energetic staff person, whose focus is limited by a wide scope of program responsibilities. Residents of Corvallis can offer a wealth of insight, support and energy to renew and expand the program, while acting as a conduit to connect with their neighbors and friends about the importance, and proper care, of the urban forest. The Program can rely on existing ordinances as a framework for managing the urban forest, but revisions, clarifications and expansions to ordinance language should be considered, while balancing concerns regarding the over-regulation of private lands.

While uncertainty exists over future funding levels, the apparent public passion for trees is favorable to the successful implementation of this plan. Focused and strenuous marketing and community outreach efforts must be made to connect with and educate private property owners of the value in managing their tree resources and to heighten the level of awareness of and care for the urban forest. This commitment to education and outreach must become a central tenet of future efforts and for any growth of the Urban Forestry program, and the placement of this theme as the leading element of the following Program Objectives further strengthens its importance.



Program Objectives²⁰



Provide lower income homeowners/renters assistance with the cost and labor of maintaining trees in and around their property.
– Survey Respondent



Community outreach and festivals to engage residents



1. Education & Outreach

- 1.1 Promote proper tree care to increase tree health and longevity, reduce hazard potential, and minimize storm damage
- 1.2 Provide education about the benefits of native plants, the negative effects of invasive species and promote the concept of “Right Plant, Right Place” (e.g., site appropriate planting).
- 1.3 Design, maintain and update promotional and technical information, in multiple media, about urban forestry and the Urban Forestry Division using staff contributions or program partner materials.
- 1.4 Elevate the prominence of and expand content of the Program’s web page; develop internet address mailing lists to enhance communication and marketing efforts with the public.
- 1.5 Expand community-based volunteer and stewardship opportunities, such as the NeighborWoods program, as a way to inform and engage residents about urban forestry issues, such as tree planting, tree care and management and expanding the Program’s tree inventory database.
- 1.6 Host events and festivals to promote the benefits of trees, such as Arbor Day and Earth Day

²⁰ Objectives shall be pursued in concert with existing Comprehensive Plan and Land Development Code provisions developed through the Natural Features Project and its Goal 5 ESEE analysis. Especially relevant are any existing or required Significant Vegetation Management Plans (SVMP’s), any existing land use approvals and those implementing provisions including: Chapter 2.9 - Historic Preservation Provisions; Chapter 4.2 - Landscaping, Buffering, Screening, & Lighting; Chapter 4.5 - Natural Hazard and Hillside Development Provisions; Chapter 4.11 - Minimum Assured Development Area (MADA); Chapter 4.12 - Significant Vegetation Protection Provisions; Chapter 4.13 - Riparian Corridor and Wetland Provisions.

celebrations, and recognize forestry community advocates and volunteers.

- 1.7 Maintain the Arbor Day Foundation’s “Tree City USA” status
- 1.8 Coordinate with schools and other organizations to develop and/or promote youth education and outreach materials related to urban forestry.
- 1.9 Coordinate with OSU in support of the development of an urban forestry curriculum and for mentorship, internship and research opportunities for students.
- 1.10 Increase communication with city decision-makers, including City Council and commissions, about the benefits of trees and the urban forestry program’s objectives and performance.
- 1.11 Promote professional development opportunities to strengthen the core skills and engender greater retention of and commitment from volunteers, commissioners and staff.

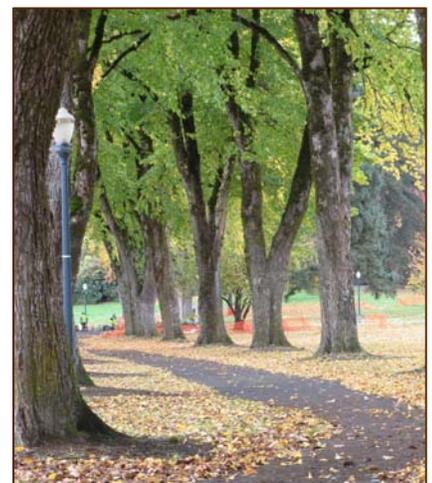


2. Tree Resource Protection

- 2.1 Develop approaches to protect larger tracts of privately held forest lands via conservation easements and acquisition, property tax reduction or other means.
- 2.2 Develop and promote a nomination-based, voluntary Heritage Tree program to recognize and protect unique, landmark or notable private trees.
- 2.3 Promote tree-friendly development and land use practices by reviewing and reinforcing policies to preserve mature, significant trees and planning for appropriate replanting.
- 2.4 Promote stewardship of native plant communities on private and public property.
- 2.5 Prevent unnecessary tree removal on single-family residential lots through property owner education.



Invasive plant control by volunteers



Managing Elms at OSU



Finding appropriate locations for new Downtown trees



3. Tree Resource Expansion

- 3.1 Increase tree and shrub planting on city-owned property, including parks, natural areas and riparian corridors.
- 3.2 Promote additional street tree plantings to maximize future tree canopy coverage, while considering infrastructure (i.e., utility) limitations
- 3.3 Review new site development proposals to maximize tree planting and preservation opportunities.
- 3.4 Encourage tree planting and preservation on private property; partner with property owners on project design and implementation.
- 3.5 Develop guidelines for reviewing tree selection and/or location with regard to the aesthetics of specific architectural and development projects in the downtown core.
- 3.6 Consider the development of a Master Street Tree Plan as a means to express unified visions and themes for street trees across the city.
- 3.7 Explore options for protecting existing canopy through the review and modification of development and management policies in the urban fringe area, in partnership with Benton County, to manage the interface between rural and urban lands.

4. Stewardship, Maintenance & Care

- 4.1 Conduct GIS-based canopy analyses, in addition to that of the Natural Features Inventory, to better understand the composition, character and distribution of the urban forest.
- 4.2 Establish a long-term tree care and management program for public trees and expand interdepartmental coordination to enhance urban forest and ecosystem health and function, along with the wildlife habitat protection and expansion,

to include structural pruning of young trees, cyclical pruning and crown cleaning of older trees, line-of-sight and height clearance pruning of street trees, removal and replanting efforts, hazard identification and site-specific vegetation management plans for city-owned parks, drainage ways and natural areas.

- 4.3 Coordinate with Public Works and Community Development to identify and address serious and persistent tree-related infrastructure conflicts, to include street, sidewalk and utility impacts along with maintenance and installation impacts within utility easements.
- 4.4 Consider opportunities to expand the use and marketing of wood waste bi-products from various Urban Forestry programs and activities.
- 4.5 Maintain industry-appropriate storm and hazard tree response protocols.
- 4.6 Maintain, promote and apply industry-appropriate pruning and planting standards through staff and volunteer training and reference in city codes and outreach materials.
- 4.7 Review and update the Urban Forestry Management Plan on a 10-year cycle, or as needed, to adjust to changing circumstances.
- 4.8 Examine the impacts to, or benefits of, the role of the urban forest in carbon sequestration through partnerships with ODF and OSU; Explore options for carbon banking/accounting as they relate to regional cap-and-trade program objectives.
- 4.9 In partnership with Community Development, balance Program objectives with solar access needs.



Sidewalk heave near OSU



Trees to Treasure: craftwork from fallen trees

5. Organizational Development & Funding

- 5.1 Maintain a list of and coordinate with municipal urban foresters and consulting arborists throughout

Oregon and the Pacific Northwest as a resource base for issues and opportunities.

- 5.2 Promote interdepartmental staff training and education for common understanding of tree issues and management practices.
- 5.3 Seek new and renewed funding sources, to include service fees, grants, sponsorships and others, to support a comprehensive urban forestry program.

Implementation Strategies²¹

Overview

This urban forestry management plan identifies a broad range of objectives that are intended to guide Corvallis toward the growth and management of a healthy, sustainable urban forest that will continue to enhance the quality of life for its residents. Building from this plan's recommendations, the city of Corvallis will develop and implement specific site management plans, protocols, policies and initiatives to attain the stated objectives. Such plans will necessarily be developed within the political and managerial structures of the city and should include a more refined and detailed assessment of budget, staffing, timelines and performance measures.

Long-Term Action Steps

The following pages list proposed action steps that support or fulfill the objectives identified in the previous section. Each action step is assigned a potential cost range, priority level and staffing demand. While the Urban Forestry division primarily will be responsible for implementing this plan, other stakeholders must also play significant roles to ensure success. Therefore, each action step is assigned to one or more project partners; the partner with the greatest responsibility is listed *first and in boldface*.

²¹ Implementing actions shall be pursued in concert with existing Comprehensive Plan and Land Development Code provisions developed through the Natural Features Project and its Goal 5 ESEE analysis. Especially relevant are any existing or required Significant Vegetation Management Plans (SVMP's), any existing land use approvals and those implementing provisions including: Chapter 2.9 - Historic Preservation Provisions; Chapter 4.2 - Landscaping, Buffering, Screening, & Lighting; Chapter 4.5 - Natural Hazard and Hillside Development Provisions; Chapter 4.11 - Minimum Assured Development Area (MADA); Chapter 4.12 - Significant Vegetation Protection Provisions; Chapter 4.13 - Riparian Corridor and Wetland Provisions.

Potential Urban Forestry Partners

City Departments:

- ◆ Parks & Recreation (P&R)
- ◆ Community Development (CD)
- ◆ Public Works (PW)
- ◆ GIS
- ◆ Library

City Boards & Commissions:

- ◆ Civic Beautification Urban Forestry (CBUF)
- ◆ Parks Natural Areas Recreation Board (PNARB)
- ◆ City Council
- ◆ Planning Commission
- ◆ Historic Resource Commission (HRC)
- ◆ Bicycle and Pedestrian Advisory Commission (BPAC)

Non Profits:

- ◆ Greenbelt Land Trust
- ◆ Sierra Club
- ◆ Oddfellows
- ◆ Corvallis Environmental Center
- ◆ 509J School District

Other Partners:

Watershed Groups	Preservation Works
Homeowners Associations (HOA's)	Madison Avenue Task Force
Local Nurseries	Local Arborist
Local Garden Shops	Realtors
International Society of Arboriculture (ISA)	Gazette Times (GT)
OSU Extension Service	Pacific Power and Light (PP&L)
Oregon Landscape Contractors Association	Oregon Department of Forestry, Urban & Community Forestry (ODFUCF)

OBJECTIVE

1.1 Promote proper tree care to increase tree health and longevity, reduce hazard potential, and minimize storm damage

Action Item	Cost	Priority	Staffing Demand	Project Partners
1.1.1 Develop press releases and educational material aimed at preventing the unwarranted or illegal pruning and removal of trees, as well as tree planting responsibilities and procedures.	\$-\$\$	VH	M	CBUF, ODFUCF, CD, ISA, OSU Ext
1.1.2 Continue providing public education booths at community fairs and events on the benefits, needs and care of the Corvallis urban forest	\$	M	H	CBUF, PW
1.1.3 Prepare and distribute "No Topping" and proper tree care materials via the website and printed publications	\$-\$\$	H	M	UF staff, ODFUCF
1.1.4 Reduce incidence of girdling and premature tree failure through outreach to property owners and rental property managers to prevent mechanical damage to tree trunk (i.e., mower or string trimmer damage) and to remove stakes and ties from newly-planted trees after one growing season	\$	H	M	CBUF, Volunteers, HOA's, OSU Ext
1.1.5 Highlight the benefits of trees, especially direct financial benefits to private property owners; Provide information about hazard tree identification, assessment and mitigation	\$	H	M	Realtors, HOA's, OSU Ext
1.1.6 Explore options for methods to inform and educate new property owners, such as a marketing packet or interactive CD provided through local title companies, of existing tree policies, the benefits of the urban forest and available city resources	NA	M	M	CBUF, Realtors, HOA's, CD
1.1.7 Research and publish a marketing material addressing potential tax and regulatory incentives for tree preservation and planting	\$	H	M	CBUF, UF staff, CD

OBJECTIVE

1.2 Provide education about the benefits of native plants, the negative effects of invasive species

Action Item	Cost	Priority	Staffing Demand	Project Partners
1.2.1 In coordination with Community Development, distribute and update a list of recommended native tree species and their potential uses in the urban forest; Include notable traits and appropriate locations for planting individual species	\$	H	M	CD, OSU Intern, OSU Ext, ODFUCF, PP&L
1.2.2 Encourage planting of native trees and shrubs, where appropriate, through outreach materials, trainings, events and other media exposure	\$	M	M	OSU Ext, Nurseries, Garden Center
1.2.3 Work with the Ivy Broom League and other volunteers to remove and control invasive species which threaten native plant communities on public lands	\$-\$\$	M	VH	P&R + PW staff, Volunteers
1.2.4 Implement a comprehensive and creative "No Ivy" campaign to inspire removal efforts and promote landscaping alternatives; Support and market the Ivy Broom League	\$\$	H	VH	P&R marketing, OSU intern (marketing), Local Nurseries, OSU Ext

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OBJECTIVE

1.3 Design, maintain and update promotional and technical information

Action Item	Cost	Priority	Staffing Demand	Project Partners
1.3.1 Partner with the Oregon Extension Service and Oregon Department of Forestry on the development and distribution of outreach materials	NA	VH	M	OSU Ext, Watershed groups, Nurseries, ODFUCF
1.3.2 Prepare periodic media releases to promote continued media coverage; explore option of monthly or seasonal urban forestry column in the Gazette-Times	NA	VH	M	CBUF, ODFUCF, OSU Ext, GT
1.3.3 Prepare and publish an annual report that highlights Urban Forestry program accomplishments and includes performance measurements, volunteer successes and upcoming goals	\$	VH	H	CBUF, City Newsletter, UF staff
1.3.4 Utilize available low-cost media outlets, such as cable access channels 21 & 29, public service announcements and City newsletter, to deliver marketing messages and promote Urban Forestry activities	NA	VH	H	P&R staff (marketing + volunteer coord.)
1.3.5 Increase visibility of the Program by attending local community events and offering presentations to various civic, service or community organizations	NA	M	H	UF staff, CBUF, Guest Speakers
1.3.6 Design and implement a residential survey to assess program awareness and concepts of urban forestry and tree care; Utilize the UFMP survey as potential baseline data	\$	H	M	
1.3.7 Repeat the program survey on 3-5 year cycle to establish and analyze trends to re-orient marketing and informational material as needed	\$-\$\$	H	H	P&R Marketing
1.3.8 Develop and update promotional materials to tell the story of the urban forest, its benefits and how residents can help	\$-\$\$	M	M	UF staff, ODFUCF, EPA (data collection)
1.3.9 Prepare and deliver seasonally-appropriate marketing material to deliver key messages to priority audiences	\$-\$\$	M	M	CBUF, UF staff, ODFUCF
1.3.10 Seek opportunities for Urban Forestry staff to speak at regional and national arboriculture events and submit articles for publication in industry magazines and journals	\$-\$\$	M	H	ODFUCF, ISA, OLCA

OBJECTIVE

1.4 Elevate the prominence of and expand content of the Program's web page

Action Item	Cost	Priority	Staffing Demand	Project Partners
1.4.1 Coordinate with city staff to create additional linkages about urban forestry on the City's website, to include expanding the "Get Involved" section for program-specific volunteer opportunities, providing links to tree permits and tree-related codes in the "Doing Business" section, publishing periodic news updates and stories for hosting on the home page, among others.	NA	VH	H	UF staff, CD
1.4.2 Expand the urban forestry web page to include multiple pages by topic to address ways to volunteer or participate, program offerings, relevant codes, pertinent documents, and outreach and informational information	\$	VH	H	UF staff, CBUF
1.4.3 Consolidate and index existing tree-related policies from the Land Development Code and the Municipal Code on the Program's web page and for distribution at the Permit Counter to improve awareness and applicability of regulations for the development community, local arborists and landscaping firms	\$	VH	H	UF staff, CBUF
1.4.4 Continually update web page information to keep it fresh; Review websites from other jurisdictions for ideas about content and message	NA	H	M	P&R, CD, PW, CBUF, Arborists, Landscapers

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1.4.5	Work with program partners, city departments and other relevant organizations for opportunities to cross-link websites	NA	H	L	UF staff
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OBJECTIVE

1.5 Expand community-based volunteer and stewardship opportunities

Action Item	Cost	Priority	Staffing Demand	Project Partners
1.5.1 Expand promotions for the CBUF reimbursement program	NA	M	M	CBUF, UF staff
1.5.2 Promote and expand the "Beauty Grows Here" program as a way to recognize the contributions of private property owners to the urban forest	NA	M	M	CBUF, UF staff, GT
1.5.3 Encourage neighborhoods to apply for grants and seek sponsors to implement urban forestry projects; Provide assistance as necessary	NA	H	M	HOA's, ODFUCF, CBUF
1.5.4 In coordination with local organizations, schools and OSU, offer more volunteer opportunities for tree planting, tree care and management and expanding the Program's tree inventory database	NA	VH	H	CBUF, Rec Staff, AmeriCorps, Schools

OBJECTIVE

1.6 Host events and festivals to promote the benefits of trees and recognize forestry community advocates and volunteers

Action Item	Cost	Priority	Staffing Demand	Project Partners
1.6.1 Celebrate the benefits of trees at Arbor Day and Earth Day festivals	\$	H	M	CBUF, UF staff
1.6.2 Promote receipt of Tree City USA awards at the Arbor Day celebration	NA	H	L	CBUF, UF staff, GT
1.6.3 Develop and promote additional award or recognition programs that celebrate individual or group involvement in the urban forestry program	\$-\$\$	H	H	CBUF, Environmental Center
1.6.4 Recognize neighborhood associations and individuals who have provided commitment and support to the urban forestry program	\$	VH	H	CBUF, HOA's
1.6.5 Coordinate with other city departments in the opportunity to post, publish or provide outreach and informational materials at community events, gatherings and celebrations	NA	H	L	CBUF, Library, Garden shops, Nurseries

OBJECTIVE

1.8 Develop and/or promote youth education and outreach materials

Action Item	Cost	Priority	Staffing Demand	Project Partners
1.8.1 Partner with the school district or OSU to develop a school curriculum for young children to teach, explore and experience the benefits of the urban forest; Use or build on existing programs (e.g., Project Learning Tree, City Among the Trees)	\$-\$\$\$	M	H	P&R Rec, 509J, Environmental Cntr

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OBJECTIVE

1.9 Support the development of an urban forestry curriculum and for mentorship, internship and research opportunities for OSU students

Action Item	Cost	Priority	Staffing Demand	Project Partners
1.9.1 Initiate and maintain communications with OSU Department of Forestry faculty regarding opportunities to grow urban forestry studies: identify partnership and practicum opportunities	NA	M	M	CBUF, ODFUCF, PP&L, CPI
1.9.2 Develop and promote internship and research opportunities for OSU students, such as carbon sequestration investigations for different trees species or program models and benefits for regional carbon cap-and-trade program	\$-\$\$\$	M	H	ODFUCF, CBUF, PP&L, CPI, EPA, DEQ

OBJECTIVE

1.10 Increase communication with city decision-makers

Action Item	Cost	Priority	Staffing Demand	Project Partners
1.10.1 Encourage and coordinate with the CBUF Commission for periodic, joint sessions between the Parks, Natural Areas and Recreation Board and the Planning Commission to improve coordination and address policy matters	NA	VH	H	UF staff, CBUF
1.10.2 In partnership with CBUF Commission, schedule and present urban forestry updates to City Council	NA	H	H	UF staff, CBUF
1.10.3 Brief newly elected or appointed policy makers on the socio-economic and environmental services that trees provide, and on existing ordinances and policies that promote tree conservation and protection	NA	H	M	UF staff, CBUF

OBJECTIVE

1.11 Promote professional development opportunities

Action Item	Cost	Priority	Staffing Demand	Project Partners
1.11.1 Encourage staff to seek training opportunities in addition to International Society of Arboriculture certification and requisite Continuing Education Units	\$-\$\$	M	M	OPRA, ODFUCF, OLCA
1.11.2 Conduct periodic CBUF Commission trainings on relevant urban forestry topics, meeting management, partnership development skills, etc	\$-\$\$	H	M	ODFUCF, OSU Ext, PP&L, UF staff
1.11.3 Develop additional training opportunities for volunteers, based on feedback from volunteer participants	\$	M	H	P&R Vol. Coord., CBUF, ODFUCF,
1.11.4 Coordinate topic-specific workshops for targeted stakeholder groups (e.g., a low-impact development workshop for developers or a proper tree pruning workshop for landscape laborers)	\$	M	VH	CBUF, CD, Landscapers, Arborists

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OBJECTIVE

2.1 Develop approaches to work with willing property owners to protect larger tracts of privately held forest lands

Action Item	Cost	Priority	Staffing Demand	Project Partners
2.1.1 Conduct a GIS-based analysis to identify landowners with proximity or adjacency to existing city-owned or other public lands managed as parks or natural areas or identified with significant vegetation via the NFI	\$-\$-\$\$\$	VH	VH	GIS Staff, CBUF, Benton Co.
2.1.2 Prioritize the landowner list based on best available information regarding the quality and value of the resources	NA	H	M	GIS Staff, CBUF, Benton Co.
2.1.3 Coordinate the acquisition and/or protection of parcels through existing open space acquisition programs within the Public Works and Parks departments	\$\$\$\$	M	M	Greenbelt Land Trust, Environmental Cntr, UF staff
2.1.4 Develop informational materials for landowners stressing the benefits of forest and tree protection and describing options for private open space protection, to include conservation easement, partial sale, transfer of development rights or outright sale	\$-\$-\$\$\$	VH	H	CD, Environmental Center, Greenbelt Land Trust
2.1.5 Coordinate with the Greenbelt Land Trust and other local conservation organizations to review and discuss existing or potential conservation easement holdings as a way to synchronize efforts and objectives	NA	H	M	Watershed groups
2.1.6 In partnership with local land trusts, strengthen the long-term viability of conservation easements through improved property owner education and enforcement	NA	M	M	Greenbelt Land Trust, UF staff
2.1.7 Seek grants, donations or other resources to backfill potential acquisition expenditures	\$-\$-\$	M	VH	UF staff
2.1.8 Partner with the Corvallis School District, churches and other quasi-public landowners to increase canopy on their properties; Develop Memorandums of Understanding and/or other working agreements as necessary to facilitate project completion	NA	H	VH	CBUF, CD, Civic groups

OBJECTIVE

2.2 Develop and promote a nomination-based Heritage Tree program

Action Item	Cost	Priority	Staffing Demand	Project Partners
2.2.1 In partnership with the Oregon Heritage Tree Program, prepare a proposal to establish a voluntary heritage/notable/landmark tree program and include discussion of outreach materials/methods, need for formal policy via code amendment and program incentives for property owners	\$-\$-\$	VH	VH	CBUF, Historic Resource Comm., CD, OHTP, PreservationWorks
2.2.2 Increase awareness of programs through targeted outreach, tours, publications and events	\$	H	M	CBUF, UF staff, OSU Ext
2.2.3 Actively solicit nominations through an existing base of volunteers (e.g., NeighborWoods and CBUF Commission)	NA	M	M	CBUF, Historic Resource Comm., PreservationWorks
2.2.4 Consider and designate new Heritage Trees annually; announce newly recognized trees at existing festivals or community events	NA	M	L	CBUF, City Council
2.2.5 Update the Program's tree inventory database, include GIS-based geospatial data and record relevant historical and arbicultural information about each tree; Compile information into Heritage Tree inventory and install signage/placards at each tree	NA	L	H	UF staff, OHTP, Preservation Works, HRC

OBJECTIVE

2.3 Promote tree-friendly development and land use practices

Action Item	Cost	Priority	Staffing Demand	Project Partners
2.3.1 Review existing tree- and landscaping-related ordinances, requirements and standards, along with enforcement protocols, to explore opportunities to increase effectiveness and compliance consistent with the code's intent	NA	VH	H	CBUF, CD, PW, P&R, PNARB
2.3.2 In partnership with Community Development, review and consider an amendment to the LDC to require an initial structural pruning of new street trees installed as a condition of site plan approval; Pruning service could be provided or coordinated by the City to ensure uniformity to industry standards and be tied to the existing performance bond requirements for landscape establishment	NA	H	H	CD, Arborists, HOA's, UF staff, ODFUCF, Developers
2.3.3 In partnership with Community Development, review and consider an amendment to the LDC to require inspection of new trees on development sites to ensure tree stock quality/size, planting technique and for appropriate site conditions (i.e., no fill, concrete wash, etc)	NA	H	H	Architects, Developers, Building contractors
2.3.4 In partnership with Community Development, review and consider an amendment to the LDC to clarify and simplify procedures related to the removal of hazard trees in Historic districts	NA	H	H	P&R + CD staff, HRC
2.3.5 In partnership with Community Development, review and consider an amendment to the LDC to address tree retention and protection standards and requirements with sensitivity toward site-specific issues, such as predominant wind direction and affect on retained trees or groves	NA	H	H	P&R + CD staff, HRC
2.3.6 Re-examine and update protocols for tree preservation on construction sites using the most current research and practices; Share these techniques with developers through workshops, publications and outreach	\$	VH	M	CD, Code Enforcement, HOA's, Landscaper designers, Environmental Cntr, ODFUCF, OSU Forestry, Architects
2.3.7 Develop and maintain root pruning standards and provide training for developers and contractors as a means to protect trees from removal due to construction activity	\$	M	M	ODFUCF, ISA, Local Contractors, CD, PW
2.3.8 Develop a tree species palette for commercial/industrial areas that takes into consideration the needs and concerns of business owners and operations	\$-\$	M	H	UF Staff
2.3.9 Discuss with Community Development the potential to increase vegetation and tree coverage associated with building roofs (green roofs) and parking areas	NA	M	M	OSU Hort, Sustainable Building Coalition, CD, PW, Industry Consultants
2.3.10 Establish, and potentially co-brand with the Oregon Home Builders Association, a recognition program for developers and contractors who have created exemplary projects with the preservation and longevity of the urban forest in mind	\$	M	VH	OHBA, BBB, OLCA, CBUF, CD
2.3.11 Explore alternative incentives to preserve and protect mature trees and tree groves	NA	On-Going	M	Greenbelt Land Trust, PNARB, CBUF
2.3.12 Periodically review and revise the approved list of street trees to incorporate additional large, evergreen and native trees, as appropriate. Re-orient the list to reinforce the relationship between unique site conditions and growth requirements of specific trees	\$	On-Going	L	Nursery Industry, CD, Landscape Arch., CD, arborists, PP&L & CPI
2.3.13 Create a "Home owners guide" to street tree process (i.e., Contact City Forester, permits, plant selection, planting, pruning etc.	\$	M	M	CBUF, UF staff, CD

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OBJECTIVE

3.1 Increase tree and shrub planting on city-owned property

Action Item	Cost	Priority	Staffing Demand	Project Partners
<p>3.1.1 Assess park properties and other public lands to prioritize tree planting sites in terms of greatest demand for additional vegetation and lowest existing canopy coverage; Add additional trees as appropriate within the context of the current/intended use of each site</p>	\$\$\$\$	H	VH	<p>P&R staff, Environmental Cntr, Sierra Club, Oddfellows, PNARB, CBUF, GBLT</p>
<p>3.1.2 Include canopy targets into the park master planning process for new or renovated sites; Encourage substantial tree planting as a funded element in first phase park construction</p>	NA	H	M	<p>P&R staff, Environmental Cntr, Sierra Club, Oddfellows, PNARB, CBUF, GBLT</p>
<p>3.1.3 Assess and retrofit existing parks and public spaces by planting trees and shrubs in hard to mow or under-utilized grassy areas as a means to reduce long-term maintenance costs while expanding canopy coverage</p>	\$\$-\$\$\$	M	H	<p>P&R staff, Environmental Cntr, Sierra Club, Oddfellows, PNARB, CBUF, GBLT</p>
<p>3.1.4 Use more understory species, where appropriate, for an increased and multi-layered canopy and for additional wildlife and habitat benefits</p>	\$\$-\$\$\$	M	M	<p>P&R staff, Environmental Cntr, Sierra Club, Oddfellows, PNARB, CBUF, GBLT</p>
<p>3.1.5 In partnership with Public Works, select appropriate tree and shrub species for urban stream, greenway and riparian enhancement/restoration projects</p>	NA	H	M	<p>P&R staff, Environmental Cntr, Sierra Club, Oddfellows, PNARB, CBUF, GBLT</p>
<p>3.1.6 Improve tree succession and manage tree replacement by implementing inter-planting projects with appropriate species</p>	\$\$\$\$	H	H	<p>P&R staff, Environmental Cntr, Sierra Club, Oddfellows, PNARB, CBUF, GBLT</p>
<p>3.1.7 In partnership with Public Works, conduct green street demonstration projects to explore the potential vegetation swales for stormwater management and to provide public education opportunities</p>	\$\$\$	M	H	<p>P&R staff, Environmental Cntr, Sierra Club, Oddfellows, PNARB, CBUF, GBLT</p>
<p>3.1.8 In coordination with Public Works, create volunteer opportunities to assist with the removal of invasive species on City-owned, non park lands; Support the Ivy Broom League</p>	\$	H	VH	<p>P&R staff, Environmental Cntr, Sierra Club, Oddfellows, PNARB, CBUF, GBLT</p>

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OBJECTIVE

3.2 Promote additional street tree plantings to maximize future tree canopy coverage

Action Item	Cost	Priority	Staffing Demand	Project Partners
3.2.1 Review the tree inventory database and develop a GIS tool to identify street corridors with low or marginal canopy; Prioritize neighborhood outreach for street tree plantings	\$\$\$	H	VH	GIS & P&R staff, Neighborhood groups, HOA's
3.2.2 Focus limited street tree planting resources toward low- and moderate-income neighborhoods, accessing Community Development Block Grant funds if appropriate/available	NA	M	M	CBUF, CD, UF staff
3.2.3 Expand the NeighborWoods program through greater outreach and promotion to develop community advocates to lead planting projects	\$	VH	VH	CBUF, UF staff, P&R Marketing
3.2.4 Secure AmeriCorps team or member to increase neighborhood participation in tree planting projects	\$\$\$	VH	H	P&R Rec AmeriCorps, CBUF
3.2.5 Assist landowners in the selection and location of replacement or new street trees	NA	M	H	UF staff
3.2.6 In partnership with Public Works, develop street profiles that create more opportunities for tree planting in the public right-of-way; Include innovative standards to provide for adequate soil volumes to enable successful tree planting and long-term tree health, while minimizing interference with utilities/infrastructure	\$	M	H	PW, CBUF, CD, ISA, ODFUCF

OBJECTIVE

3.3 Review new site development proposals

Action Item	Cost	Priority	Staffing Demand	Project Partners
3.3.1 Increase frequency and thoroughness of plan reviews; Expand involvement and role with PIPCI plans	NA	VH	VH	CD, PW-Eng
3.3.2 During the review of site plans, recommend biologically-diverse planting plans and the largest species appropriate for the planting location; Compare site plans to existing tree inventory data and suggest species in balance with maintaining a diverse tree inventory	NA	H	VH	
3.3.3 Encourage pre-application site consultations prior to submission of significant development or rezoning applications to provide an up-front, collaborative approach to site design as it relates to tree preservation and protection	NA	H	VH	CD, PW, Developer/Architect
3.3.4 Develop informational material regarding code requirements and tree valuation (i.e., appraisal) to be provided during site development pre-application to minimize the number of tree violations and subsequent appeals.	\$	VH	H	UF staff, ISA

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OBJECTIVE

3.5 Develop guidelines for reviewing tree selection re: aesthetics of specific architectural and development projects

Action Item	Cost	Priority	Staffing Demand	Project Partners
3.5.1 Re-examine the 1988 Downtown Streetscape Plan and review samples of similar documents and standards from other jurisdictions	NA	H	H	CBUF, DCA, CD staff
3.5.2 In coordination with Community Development, the Corvallis Downtown Association and other stakeholders, consider revising the 1988 Downtown Streetscape Plan to achieve guidelines or policies to address the relationship of trees and cultural/architectural resources. Determine if a CPA is needed.	\$\$-\$\$\$\$	M	VH	UF staff, DCA, HRC, CD, PreservationWorks
3.5.3 In partnership with Community Development, develop protocols for the on-going review, inspection and monitoring tree planting and pruning activities in relation to the guidelines	NA	M	H	CBUF, DCA, CD staff
3.5.4 Examine the possibility of creating species selection for streets trees throughout the city	NA	M	M	UF staff

OBJECTIVE

3.7 Explore options for protecting existing canopy in the urban fringe area

Action Item	Cost	Priority	Staffing Demand	Project Partners
3.7.1 In coordination with Community Development, renew conversations with Benton County staff and elected officials regarding tree preservation, significant vegetation policies and other management tools in support of revised county policies for the benefit of an integrated urban forest	NA	H	H	City & County staff
3.7.2 Prepare a GIS and orthophotographic study to examine canopy/vegetation coverage changes with regard to land use and development patterns	\$\$-\$\$	H	H	American Forests, City & County staff, ODFUCF
3.7.3 Include information about trees and Corvallis Urban Forestry program in a "welcome packet" for property owners, business owners and residents in newly-annexed areas	\$\$	L	H	CBUF, City & County staff, CD

OBJECTIVE

4.1 Conduct GIS-based canopy analyses to understand the composition, character and distribution of the urban forest.

Action Item	Cost	Priority	Staffing Demand	Project Partners
4.1.1 Periodically translate the Program's tree inventory data to a GIS data layer, as new data is available, and include attributes of tree species, condition and maturity information as a means to share across departments the location, extent and quality of the urban forest	\$	VH	H	Staff (GIS & P&R)
4.1.2 In partnership with Public Works and Benton County, develop a canopy study proposal to include LIDAR aerial imaging and geospatial analysis to understand the relationship of tree coverage to land use classifications and ownership patterns	\$\$\$\$	VH	VH	American Forests, City & County staff
4.1.3 Conduct the GIS-based canopy coverage study on a 5-year cycle to study and understand changes in the urban forest	\$\$-\$\$\$\$	M	L	American Forests, City & County staff

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OBJECTIVE

4.2 Establish a long-term tree care and management program for public trees

Action Item	Cost	Priority	Staffing Demand	Project Partners
4.2.1 Update and maintain the TreeWorks tree inventory with known/permitted removals and new planting projects; Include City-owned, non-park lands into inventory; Develop data collection protocol to maximize efficiency and accuracy	NA	H	VH	UF staff, OSU intern
4.2.2 Proactively manage trees on City property for safety and to minimize storm damage costs through hazard tree identification and removal	NA	M	H	Staff (PW, P&R)
4.2.3 Establish protocols for post-storm clean-up efforts, outreach to adjacent property owners and restoration pruning	NA	M	M	CBUF, Staff (PW & P&R)
4.2.4 Replace trees removed or lost to damage on site whenever practical or in a nearby available site with no net loss to the urban forest	\$\$\$\$	M	H	City Staff, Sierra Club, Oddfellows, Volunteers
4.2.5 Provide training for all appropriate City staff on proper pruning and tree care to improve health of city vegetation; Encourage staff to contact Urban Forestry personnel for further assistance	\$	H	VH	ODFUCF, arborists, PW
4.2.6 Create a tree maintenance program (i.e., watering, pruning) for newly established, young trees and involving trained interns, temporary seasonal employees or contracted labor	\$\$\$	VH	VH	HOA's, OSU Ext, OSU Hort Lab, Neighborhood groups
4.2.7 Manage all tree pruning and planting contracts to ensure contractor compliance with specifications	NA	M	VH	UF staff
4.2.8 Coordinate with Public Works for line-of-sight and height clearance pruning of street trees	NA	H	L	UF staff
4.2.9 Minimize negative impacts of invasive species through strategic removal and control efforts	\$\$\$	H	VH	Weed Spotters, Ivy Broom League, PW, P&R, Watershed Groups, Sierra Club, Audubon
4.2.10 Identify and prioritize areas with large numbers of over-mature or declining public or street trees; Initiate phased replacement tree program for these areas to create and maintain species and age diversity	\$\$\$\$	H	VH	HRC, CD, PreservationWorks
4.2.11 Where removal of healthy City or street trees is necessary, the option of relocation/transplanting of trees should be explored and implemented where possible	NA	M	M	PW, CIP Eng
4.2.12 Research and monitor tree survival and growth under various conditions expected in Corvallis (i.e., structural soils, parking lots, bare root vs. container, asphalt/concrete cut-outs, etc.); Use these studies to revise and update standards for tree planting	\$	L	VH	UF staff, OSU Hort, ISA, ODFUCF
4.2.13 Periodically review removal rates for different tree species to assess which species are performing poorly and which have high survival rates and long life spans	NA	M	H	UF staff, OSU intern
4.2.14 Assist in the development and review of site-specific and city-wide protocols, such as the Corvallis Parks & Natural Areas Sustainable Operations Plan, to address integrated vegetation and pest management and other operational controls	NA	H	VH	UF staff

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OBJECTIVE

4.3 Identify and address serious and persistent tree-related infrastructure conflicts

Action Item	Cost	Priority	Staffing Demand	Project Partners
4.3.1 In coordination with Public Works, review all proposed street tree planting sites for tree species selection and planting locations to maximize planting of site-appropriate trees to minimize future infrastructure and utility damage	NA	VH	H	PW, P&R staff, PIPC review team
4.3.2 Encourage proper tree placement and pruning to reduce conflicts between trees and transportation and safety elements (e.g., street lights, traffic signs, and vehicle visibility sight lines)	NA	H	L	UF staff, PW, P&R
4.3.3 Explore and evaluate new methods of repairing/constructing sidewalks using alternative materials to provide safe walkways while retaining large, healthy trees	\$\$-\$\$\$	H	M	UF staff, PW, P&R, CD, Eng, CBUF
4.3.4 Examine and update standards for the planting and spacing of trees in the right-of-way, along with minimum area requirements to ensure that trees of differing mature size classes can thrive	\$\$	M	M	CBUF, UF staff, CD, P&R
4.3.5 Develop flexible sidewalk standards that will accommodate mature trees; Examine options to expand the right-of-way to re-route sidewalks	\$\$	H	M	UF staff, PW, P&R, CD, Eng, CBUF
4.3.6 Explore new solutions to address infrastructure conflicts and examine approaches to remove/replace street trees causing persistent and repeated infrastructure damage; Develop a public awareness campaign to improve information about recurring costs	\$	VH	M	UF staff, PW, P&R, CD, Eng, CBUF

OBJECTIVE

4.4 Consider opportunities to expand the use and marketing of wood waste bi-products

Action Item	Cost	Priority	Staffing Demand	Project Partners
4.4.1 Continue to partner with local organizations and others to promote increased recycling of wood waste from tree removals	NA	M	M	woodworkers, log buyers
4.4.2 Periodically review disposal protocols for infected/infested wood products to the best available science	NA	L	L	UF staff, ISA, fiber marketing

OBJECTIVE

4.7 Review and update the Urban Forestry Management Plan on a 10-year cycle, or as needed

Action Item	Cost	Priority	Staffing Demand	Project Partners
4.8.1 Distribute the UFMP to City Council, relevant advisory commissions, city departments and program partners. Make the plan available to interested parties including the general public.	\$	VH	L	UF staff, CBUF
4.8.2 Coordinate and facilitate periodic plan updates.	\$-\$\$	M	M	UF staff, CBUF

\$ = <\$1000
 \$\$\$ = \$10000-\$20000
 \$\$\$ = \$5000-\$10000
 \$\$\$\$ = >\$20000

VH = Very High
 M = Moderate
 H = High
 L = Low

OBJECTIVE

5.1 Maintain a list of and coordinate with municipal urban foresters and consulting arborists throughout Oregon and the Pacific Northwest

Action Item	Cost	Priority	Staffing Demand	Project Partners
5.1.1 Periodically visit other cities' urban forestry programs and discuss program management with other municipal urban foresters	NA	H	M	ODFUCF, MFI, ISA
5.1.2 Become member of Society of Municipal Arborist and other organizations that provide to opportunity to exchange program information to enable Corvallis to improve their urban forestry program	\$	VH	L	UF staff
5.1.3 Actively participate in the Society of Municipal Arborists' Municipal Arborist Exchange Program	NA	M	M	UF staff

OBJECTIVE

5.2 Promote interdepartmental staff training and education

Action Item	Cost	Priority	Staffing Demand	Project Partners
5.2.1 Encourage regular and formalized interdepartmental coordination through the use of pre-construction meetings for public and private projects, staff meetings, development project review and permit review and approval.	NA	H	VH	UF staff

OBJECTIVE

5.3 Seek new and renewed funding sources

Action Item	Cost	Priority	Staffing Demand	Project Partners
5.3.1 Explore and consider an expansion of the Storm Water Utility Fee to support Urban Forestry program administration	NA	VH	M	UF staff, CBUF
5.3.2 Explore and consider the establishment of Development Review Fees specific to urban forestry review of site plan applications	NA	VH	M	UF staff, CBUF
5.3.3 Apply for grants to facilitate volunteer efforts, planting projects and urban forestry system research	\$	M	VH	UF staff, CBUF
5.3.4 Seek private sponsorships and government agency partners to increase tree planting project capacity	NA	M	VH	UF staff, CBUF

\$ = <\$1000
 \$\$\$ = \$10000-\$20000
 \$\$\$\$ = \$50000-\$100000
 \$\$\$\$\$ = >\$200000

VH = Very High
 M = Moderate
 H = High
 L = Low

the forest, and it will inform future planning by land use classification or resource type.

Key Action Items: 2.1.1; 4.1.1; 4.1.2; 4.2.1

Potential 5-Year Budget Impacts: \$30,000 (*one-time*)

Tree Maintenance & Care

This initiative relies on on-going, expanded coordination with Public Works and Parks for the planning, care and replacement of city trees. Specific attention should be directed toward tree-induced street/sidewalk infrastructure damage, systematic pruning of young street trees, along with elevating the role of planting/re-planting projects in parks and along urban stream corridors to improve wildlife habitat, canopy, species diversity and age diversity.

Key Action Items: 2.3.6; 3.1.1; 3.1.5; 3.1.6; 4.2.6; 4.2.10; 4.3.3; 4.3.6

Potential 5-Year Budget Impacts: \$60,000 (*one-time, does not include potential on-going maintenance costs*)

Staffing Considerations

In order to meet the objectives of this plan, additional staff resources are both necessary and critical. Specifically, the addition of another full-time position can enable a discrete focus on enhancing program communications, marketing and outreach, while providing significant relief to the urban forester through a reallocation of duties and priorities (See Appendix F: Staffing Analysis for more information). In the near-term (*within 1 year*), the following staffing configuration is recommended, while acknowledging the need for a subsequent, more detailed staffing study:

- 1.0 FTE Urban Forester: Responsibilities could include overall Program management and oversight of staff and contractors, in addition to negotiating and overseeing service contracts; prioritizing projects and activities; conducting tree assessments, site plan reviews and construction site inspections; developing the SVMPS; reviewing and implementing existing Land Development Code provisions, existing SVMPS and existing land use approvals where applicable to UFMP efforts, fostering partnerships and seeking

*Individual land holdings and trees are not isolated in urban areas. The homeowner soon learns that a neighbor's trees affect his property and vice versa. Welcomed shade on the house or unwanted shade on the vegetable garden are often from a neighbor's tree rather than one's own ... As increasing numbers of individuals and groups become involved in tree planting and care throughout urban and urbanizing areas, there is a critical need for disseminating tree care information to a wide range of audiences using a broad range of methods ... More than any other forest, the building block of the urban forest is the individual tree, but the aggregate effects of these individual trees and associated resources can have a major impact on our communities.
(Dwyer; 2001.)*

additional program funding in coordination with division supervisor.

- 1.0 FTE Communications/Outreach Specialist:
Responsibilities could include preparation marketing strategy and marketing/informational materials; coordinating broad community outreach, via presentations, discussions and trainings; cultivating community involvement and managing all aspects of festivals, plantings, heritage/notable tree program, NeighborWoods program and outreach to area students; developing relationships with residential and business property owners to promote stewardship, education and assistance; performing other urban forestry functions as needed. Position should obtain ISA certification shortly after hire.

As the program matures, an additional part-time staff position is recommended to further refine and balance the workload and enable the urban forester to focus more attention on funding, partnership opportunities and program management. A 0.5 FTE Urban Forestry Assistant could be responsible for processing tree permits; reviewing site plan submittals; coordinating street tree service requests; reviewing and implementing LDC provisions and existing SVMs, among other duties.

Funding Considerations

The recommendations and proposals offered in this plan exceed not only current staffing capacity, but also exceed the current funding allocations for the program. While this reality creates a serious set of challenges for the future expansion, some discrete funding options are available for consideration. Each will require additional discussion between affected city departments (Public Works and Community Development) and between CBUF and City Council to assess viability and political will in greater detail.

Table 2: Potential Funding Sources by Type

Source	One-Time / Capital	Staffing / Program Management
Development Review Fee		*
Storm Water Utility Fee	*	*
Parks Bond / Levy	*	*
Transportation Maintenance Fee	*	
Natural Features Fee	*	*
Park & Recreation Foundation / Urban Forestry component	*	
Grants	*	
Sponsorships	*	

Generally, one-time or capital funds are easier to secure than on-going, administrative or program management funds. After reviewing a number of options available to the Corvallis Urban Forestry program, the following have been elevated for consideration.

- At the present, the urban forester does not directly charge time spent on site plan application review, as is outlined in the LDC. The establishment of an urban forestry component to the city’s development review fee program could provide some recurring operating revenue.
- The potential to expand the storm water utility fee should be considered, given the role of urban trees in offsetting, at least, some of the demand on hard and piped storm water infrastructure. This option would require a close review of the Oregon Revised Statutes for eligibility requirements and possible revisions to the CMC, along with an analysis to establish an appropriate rate adjustment.
- In the event that the Parks and Recreation Department considers a publicly-financed bond program for renovations or system expansion, the inclusion of projects associated with the Urban Forestry program could provide one-time and administrative support to the program.
- Lastly, grants and business sponsorships could be secured to fund unique or specific projects benefiting the program, but these two sources often require a significant level of involvement and effort from staff.

Conclusion

Corvallis' urban forest is a recognized, important and valuable resource to its residents, but the health and continuity of that forest has been threatened through conflicts with land development and management approaches. With the public opinion data, program objectives and action steps contained in this plan, Urban Forestry staff can lead the city's efforts to preserve, enhance and sustain this dynamic and precious resource through the 21st century.

This plan provides only the framework by which Corvallis can begin to improve its forest environment. Many specific details and new ideas can be developed and fostered in the future through public involvement and interaction among agencies and program partners. This plan will help guide the future discussions and interactions that will, because of the benefits provided by urban trees, ultimately make Corvallis a more healthy, sustainable, and vibrant community.

Appendix A: Acronyms & Definitions

Acronyms & Definitions

Acronyms

CBUF	Civic B eautification / Urban Forestry Commission
CBD	Central Business District
CMC	Corvallis Municipal Code
GIS	Geographic Information System
LDC	[Corvallis] Land Development Code
ODF	Oregon Department of Forestry
ORS	Oregon Revised Statutes
RFP/RFQ	Request for Proposals / Request for Qualifications
STRATUM	Street Tree Management Tool for Urban forest Managers - <i>computer application that uses tree inventory data to quantify the structure, function, value and management needs of any street tree resource</i>
SVMP	Significant Vegetation Management Plan
UFMP	Urban Forestry Management Plan
UFORE	Urban Forest Effects - <i>computer model that calculates the structure, environmental effects and values of urban forests</i>

Definitions *(excerpted from LDC; refer to LDC for complete listing)*

Conservation Easement - Non-possessory interest of a holder in real property imposing limitations or affirmative obligations, the purposes of which include retaining or protecting natural, scenic, or open space values of real property; ensuring its availability for agricultural, forest, recreational, or open space use; protecting Natural Resources or Natural Hazards; maintaining or enhancing air or water quality; or preserving the historical, architectural, archaeological, or cultural aspects of real property. Also defined in ORS 215.715, as amended.

Diameter at Breast Height (DBH) - the diameter of a tree measured at four feet six inches above ground level. The diameter may be calculated by use of the following formula:

$$\text{DBH} = \text{circumference at breast height} \div 3.14.$$

Green Infrastructure - Strategically planned and managed networks of natural lands, working landscapes and other open spaces that conserve ecosystem values and functions and provide associated benefits to human populations.

Historically Significant Tree - A tree that meets one of the following criteria: 1.) A tree that is located on a Designated Historic Resource property, is at least 50 years old, and meets the definition of Significant Tree, among others; 2.) A tree that is either: identified as a Designated Historic Resource on an individual basis; or in or adjacent to a National Register of Historic Places Historic District, among others; or 3.) Individually identified as Historically Significant in an official historic inventory for a Designated Historic Resource or an approved National Register of Historic Places nomination. *(A more detailed definition exists in the LDC.)*

Natural Features Map Overlays - Comprehensive Plan and Zoning overlay designations for Natural Hazard areas and Natural Resource areas. Natural Features Map Overlays are designated on the Comprehensive Plan Map and the Official Zoning Map. The natural features are further identified on the official Zoning Map's sub-maps entitled the "Natural Hazards Map, the Significant Vegetation Map, and the Riparian Corridors and Wetlands Map."

Non-native, Invasive, and/or Noxious Vegetation - Vegetation identified in the Oregon Department of Agriculture's Noxious Weed Policy and Classification System, as amended, including weeds designated as "A," "B," and/or "T."

Sequestration (Carbon) - The removal and storage of carbon from the atmosphere in carbon sinks (such as oceans, forests or soils) through physical or biological processes, such as photosynthesis.

Significant Shrub - Excluding Non-native, Invasive, and/or Noxious Vegetation, a Significant Shrub is a living, standing plant that is either required to be preserved through LDC chapters 4.5, 4.12 and/or 4.13; or over four feet in height and located outside any area inventoried by the City's Natural Features Inventory.

Significant Tree - Excluding Non-native, Invasive, and/or Noxious Vegetation, a Significant Tree is a living, standing woody plant that is either required to be preserved through LDC chapters 4.5, 4.12 and/or 4.13; or located outside any area inventoried by the City's Natural Features Inventory and of a trunk size that is eight inches or greater in caliper at four feet above grade.

Significant Vegetation - Vegetation identified and assessed in the City's Natural Features Inventory and determined to be significant through the Natural Features Project. Significant Vegetation is clearly identified on the Significant Vegetation Map and through the provisions of LDC Chapter 4.12 (Significant Vegetation Protection Provisions).

Significant Vegetation Management Plan – A Plan required by LDC Chapter 4.12 (Significant Vegetation Protection Provisions) prior to the removal of any vegetation governed by the Code, and required either prior to or as part of a land use application, building permit application, or construction permit application.

Tree Canopy - A view which is dominated by the appearance of trees. As used in the Comprehensive Plan, Tree Canopy refers to those hillside areas where trees are the major visual feature when viewed from a horizontal plane or from lower elevations.

Tree Canopy Coverage - The percentage of a lot, parcel, tract, development site, and/or common area that is within the drip line of trees as measured on a horizontal plane.

Tree Grove - A group of trees that are predominantly 25 ft. or more in height and have continuous canopy cover of 0.5 acre or more and are identified in the City's Natural Features Inventory.

Tree, Hazardous - Trees which are determined by a certified arborist and/or the City Urban Forester to be of immediate health, safety, or welfare threat to persons or property. Immediate health, safety, or welfare threat includes damage to persons or property from tree collapse or limb breakage that is imminent or expected during average annual winter storm events. Hazardous Trees include trees that are cracked, split, leaning, or physically damaged to the degree that they are likely to fail and injure persons or property. Hazardous Trees also include trees that are sufficiently diseased, damaged, and/or decayed that treatment to restore their health is not warranted, and that without reasonable treatment and pruning, the disease is likely to spread to adjacent trees and cause such adjacent trees to become diseased or hazardous.

Tree, Large Canopy - Trees that, at maturity, are expected to have a Tree Canopy Coverage of 30 ft. or more in diameter.

Tree, Medium Canopy - Trees that, at maturity, are expected to have a Tree Canopy Coverage of less than 30 ft. in diameter.

Appendix B: References

References

- American Forests. "Regional Ecosystem Analysis for the Willamette/Lower Columbia Region of Northwestern Oregon and Southwestern Washington State: Calculating the Value of Nature." October, 2001.
- Benedict, M. A. and E. T. McMahon. 2002. *Green Infrastructure: Smart Conservation for the 21st Century*. Sprawl Watch Clearinghouse, Monograph Series.
- City of Corvallis. Corvallis Comprehensive Plan. 2000.
- City of Corvallis. Corvallis Municipal Code.
- City of Corvallis. Corvallis Parks and Natural Areas Sustainable Operations Plan. 2009.
- City of Corvallis. Corvallis Vision 2020.
- City of Corvallis. Downtown Streetscape Plan. 1988.
- City of Corvallis. Land Development Code.
- City of Corvallis. Park and Recreation Facilities Plan. 2000.
- Coder, Dr. K.D. 1996. *Identified Benefits of Community Trees and Forests*. University of Georgia.
- Dwyer, J. F., E. G. McPherson, H. W. Schroeder, and R. A. Rowntree. 1992. "Assessing the Benefits and Costs of the Urban Forest." *Journal of Arboriculture* 18(5), 227-234.
- Dwyer, J. F., D.J. Nowak, M.H. Noble, and S.M. Sisinni. 2000. *Connecting People with Ecosystems in the 21st Century: An Assessment of Our Nation's Urban Forests*. USDA Forest Service.
- Dwyer, J. F., D.J. Nowak, and G.W. Watson. 2001. *Urban Forestry Research in the United States: The State of the Art and Future Prospects*. In Sievänen, T, et al (eds). *Forest and Social Services – the Role of Research*. Proceedings of IUFRO Research Groups 6.01, 6.11.04 and 6.14 sessions in the XXI IUFRO World Congress 2000, Kuala Lumpur, Malaysia.
- Florida, R. 2002. *The Rise of the Creative Class: and How It Is Transforming Work, Leisure, Community and Everyday Life*. Basic Books. New York, N.Y.
- Fulton, W., R. Pendall, M. Nguyen and A. Harrison. 2001. *Who Sprawls Most? How Growth Patterns differ Across the U.S.*, The Brookings Institution, Survey Series.
- McHale, M.R., E.G. McPherson and I.C. Burke. 2007. "The Potential of Urban Tree Planting to be Cost Effective in Carbon Credit Markets." *Urban Forestry & Urban Greening* 6(2007), 49-60.
- McPherson, E. G., S. E. Maco, J. R. Simpson, P. J. Pepper, Q. Xiao, A. M. VanDerZanden, N. Bell. 2002. *Western Washington & Oregon*

- Community Tree Guide: Benefits, Costs and Strategic Planning.*
Center for Urban Forest Research USDA Forest Service, Pacific Southwest Research Station.
- McPherson, E.G., J.R. Simpson, P.J. Peper, S.E. Maco, S.L. Gardner, S.K. Cozad and Q. Xiao. 2005. *Midwest community tree guide: benefits, costs and strategic planting.* Davis, CA: Center for Urban Forest Research, Pacific Southwest Research Station, USDA Forest Service.
- Nowak, D. J., J. C. Stevens, S. M. Sisinni, and C. J. Luley. 2002. "Effects of Urban Tree Management and Species Selection on Atmospheric Carbon Dioxide." *Journal of Arboriculture* 28(3), 113-122.
- Parsons, R.; Tassinary, L.G.; Ulrich, R.S.; Hebl, M.R.; and Grossman-Alexander, M. 1998. "The View From the Road: Implications for Stress Recovery and Immunization." *Journal of Environmental Psychology*, 18
- Ries, P.D. and S. Griffith. 2007. "Urban and Community Forestry – Forestry's Final Frontier." *Western Forester* 52(1), 1-5.
- Sullivan, W.C. & Kuo, F.E. (1996). "Do trees strengthen urban communities, reduce domestic violence?" *Arborist News*, 5(3), 33-34.
- Trust for Public Land; Lerner, S and P. William. 1999. *The Economic Benefits of Parks and Open Space.*
- Ulrich, R.S. 1985. "Human Responses to Vegetation and Landscapes." *Landscape and Urban Planning*, 13
- University of Washington, College of Forest Resources. 2008. *Urban Forestry Research & Technology Transfer: A Needs Assessment for the Pacific Northwest Region.*
- US Environmental Protection Agency. *Using Smart Growth Techniques as Stormwater Best Management Practices.*
http://www.epa.gov/piedpage/pdf/sg_stormwater_BMP.pdf
- Wolf, K.L. 2009. "Strip Malls, City Trees, and Community Values." *Arboriculture & Urban Forestry* 35(1), 33-39.
- Wolf, K.L. 2007. "Science in the City: Urban Forestry Research." *Western Forester* 52(1), 10-13.
- Wolf, K.L. 2007. "City Trees and Property Values." *Arborist News*, 16(4), 34-36.
- Wolf, K.L. 2006. "Roadside Urban Trees: Balancing Safety and Community Values." *Arborist News*, 56-57.
- Wolf, K.L. 1999. "*Nature and commerce: human ecology in business districts.*" In C. Kollin (Ed.), *Building Cities of Green: Proceedings of the 1999 National Urban Forest Conference.* Washington, D.C. *American Forests*: 56-59.
- World Forestry Center; Morgan, R. 1989. *An Introductory Guide to Community and Urban Forestry in Washington, Oregon and California.* World Forestry Center, Portland, OR.

Appendix C: CBUF Vision

CBUF VISION for the Year 2015 (as of June 4, 2004)

CBUF is recognized in Oregon as an innovative and dynamic organization that has been successful, through volunteer and staff efforts, in creating one of the most beautiful communities in Oregon and in growing and maintaining one of the healthiest and most complete urban forests in the Northwest.

The CBUF program is viewed by the city council and by citizens as a very important part of city government, and it is adequately funded to maintain a vibrant, robust program. The Parks and Recreation Department and the CBUF Commission are very successful in obtaining grants, donations, and in-kind support from private organizations, foundations, and nonprofit organizations.

Corvallis has a long-standing, accurate, and frequently updated urban forestry master plan and inventory of street trees, public landscaped areas, and significant natural features which is used by staff, the commission and citizens to maintain, improve and enhance our natural and man-made environment. The city has detailed policies and ordinances that support and enhance the CBUF vision and mission.

The city, OSU, and other organizations have created an integrated beautification and urban forestry education and outreach program that includes walking tours, educational brochures, and classroom education programs.

CBUF has an active and very successful volunteer recruitment and retention program that provides support and resources to related programs and efforts. There is an active, involved corps of urban landscape and forestry volunteers who keep track of the urban forest and landscaped areas in their neighborhoods, and who work with city staff to maintain and enhance their quality.

The city, the county, OSU, and other organizations have developed collaborative programs that enhance the urban forest and landscaped areas in the city on the OSU campus and in the ex-urban Corvallis area. The city (CBUF and the Open Space Commission), the county, the Greenbelt Land Trust, state programs, and other organizations coordinate and work together in planning, developing, and implementing programs that enhance natural features, forest resources and landscapes in the urban fringe and in open spaces outside the city.

Appendix D: Additional Resources

Pacific Northwest Municipal Urban Forestry Plans

Oregon

Albany – <http://www.cityofalbany.net/parks/urbanforestry/>

Eugene – Urban Forestry Management Plan (1992); http://www.eugene-or.gov/portal/server.pt?open=18&objID=144746&parentname=CTPortalSyndicator&parentid=0&mode=2&in_hi_userid=2&cached=true

Grants Pass – Urban Forestry Framework Plan (2008); <http://www.grantspassoregon.gov/Index.aspx?page=822>

Lake Oswego – Urban & Community Forestry Plan (2007); <http://www.ci.oswego.or.us/plan/Urban%20Forestry/Home%20Page%20Photos%20&%20documents/UrbanForestryDraftPlan12-18-07.pdf>

Portland – Urban Forestry Management Plan (2004); <http://www.portlandonline.com/parks/index.cfm?a=184641&c=38306>

Salem – <http://www.cityofsalem.net/Departments/CommunityServices/ParksManagement/UrbanForestry/Pages/default.aspx>

Tualatin – Urban Forestry Management Plan (2001)

Washington

Bainbridge Island – Community Forest Management Plan (2006); <http://www.ci.bainbridge-isl.wa.us/documents/Community%20Forest%20Management%20Plan%20Updated%203.pdf>

Lacey – Urban Forestry Management Plan (2005); http://www.ci.lacey.wa.us/building_and_planning/updates/planning_commission/draft_lacey_urban_forest_management_plan.pdf

Olympia – Urban Forestry Manual; <http://www.ci.olympia.wa.us/NR/rdonlyres/340189DA-8F6D-4BA6-9440-B7358D4B2B93/0/UrbanForestryManual.pdf>

Seattle – Urban Forestry Management Plan (2006); http://www.seattle.gov/environment/documents/Final_UFM_P.pdf

Tumwater – Urban Forestry Plan; <http://www.mrsc.org/govdocs/t83urbforestplan.aspx>

Vancouver – Urban Forestry Management Plan (2007);
http://www.cityofvancouver.us/parks-recreation/parks_trails/urban_forestry/ufmanplan.htm

Other Urban Forestry Resources

Alliance for Community Trees <http://actrees.org/site/index.php>

American Forests <http://www.amfor.org/>

American Society of Consulting Arborists <http://www.asca-consultants.org/>

Center for Urban Forest Research; US Forest Service.
<http://www.fs.fed.us/psw/programs/cufr/>

GreenInfrastructure.Net (The Conservation Fund).
<http://www.greeninfrastructure.net/>

Friends of Trees <http://www.friendsoftrees.org/>

International Society of Arboriculture <http://www.isa-arbor.com/>

Ivy Removal Project <http://noivyleague.com>

Municipal Research & Services Center of Washington
<http://www.mrsc.org/Subjects/Environment/urbanforest/urbtrees.aspx>

National Arbor Day Foundation <http://www.arborday.org/>

National Tree Trust <http://www.nationaltreetrust.org/>

Native Plant Society of Oregon <http://www.npsoregon.org/>

Oregon Community Trees
<http://www.oregoncommunitytrees.org/index.html>

Oregon Department of Forestry <http://www.oregon.gov/ODF>

Oregon Invasive Species Council <http://www.oregon.gov/OISC/>

Oregon State Extension <http://extension.oregonstate.edu/>

Pacific Northwest Chapter ISA <http://www.pnwisa.org/>

Plant Native <http://www.plantnative.com/>

Treelink <http://www.treelink.org/>

Tree Musketeers <http://www.treemusketeers.org/tm06/index.asp>

Trees are Good <http://www.treesaregood.com/>

TLC for Trees <http://www.tlcfortrees.info/home.htm>

Urban Forest Ecosystems Institute <http://www.ufe.org/>

Western Climate Initiative
<http://www.westernclimateinitiative.org/>

Western Forester – an official publication of the Society of American Foresters <http://www.forestry.org/wf/index.php>

Appendix E: Survey Summary



Survey Results: Corvallis Urban Forestry

The following represents the summary results for the Corvallis Urban Forestry Program survey. At the close of the survey on March 13, 2009, a total of 325 completed surveys¹ were recorded. Of the returns, 141 (43%) respondents completed the survey after receiving the city’s postcard mailer, and the overall gender split was fairly balanced (54% male/46% female).

1.) Were you aware that Corvallis has an urban forestry program dedicated toward protecting and improving tree resources throughout the city?

Answer Options	Response Frequency	Response Count
Yes	65.5%	213
No	34.5%	112

2.) How would you rate the overall quality or attractiveness of public landscaping in Corvallis?

Answer Options	Response Frequency	Response Count
Very good	24.6%	80
Good	58.8%	191
Average	13.8%	45
Poor	1.5%	5
Very poor	1.2%	4

3.) The urban forest in Corvallis consists of the trees, shrubs and other vegetation in parks, along streets, in private yards, on empty lots and in urban natural areas. Do you think the overall quality of Corvallis’ urban forest has improved, declined or stayed the same in the last 10 years?

Answer Options	Response Frequency	Response Count
Improved	29.5%	96
Declined	16.9%	55
Stayed the Same	29.8%	97
Don’t Know	23.7%	77

4.) Over the past 10 years, do you think the number of trees in Corvallis has increased, decreased or stayed the same?

Answer Options	Response Frequency	Response Count
Increased	31.4%	102
Decreased	27.1%	88
Stayed the Same	20.0%	65
Don’t Know	21.5%	70

¹ A total of 382 surveys were received, which were filtered to remove non-resident responses (9) based on zip code identification and incomplete surveys (48). The removal of these surveys did not significantly affect the tallied responses and provided a complete dataset from which to compare results. The survey is not a pure random-sample, and statistical accuracy can only be conservatively estimates at ±8.2% at 95% confidence level given the 141 responses received from postcards.



Survey Results: Corvallis Urban Forestry

5.) Looking forward 10 years into the future, do you expect the number of trees to increase, decrease or stay the same given the recent rate of urban development in Corvallis?

Answer Options	Response Frequency	Response Count
Increase	48.3%	157
Decrease	27.7%	90
Stay the Same	19.4%	63
Don't Know	4.6%	15

6.) Do you think the overall health of the urban forest has improved, declined or stayed the same in the last 10 years?

Answer Options	Response Frequency	Response Count
Improved	19.7%	64
Declined	24.3%	79
Stayed the Same	30.5%	99
Don't Know	25.5%	83

7.) Urban trees provide many local benefits. How do you rate your familiarity with the following:

Answer Options	Rating Average	Unfamiliar	Somewhat Unfamiliar	Somewhat Familiar	Very Familiar	Don't Know
Urban trees make walking or cycling through neighborhoods more enjoyable.	3.76	5	2	30	281	8
Urban trees keep the city cooler in the summer by shading streets, buildings and paved surfaces such as parking lots.	3.76	2	3	43	271	6
Urban trees improve the aesthetics of the city by providing screening and softening the edges of buildings and paved areas.	3.70	7	4	52	258	4
Urban trees are critical to providing habitat and maintaining urban wildlife populations.	3.68	3	6	66	246	4
Urban trees improve air quality by filtering airborne pollutants and dust.	3.66	5	8	57	249	7
Urban trees provide shading over streams, which helps to maintain cooler water temperatures for fish.	3.60	5	18	58	239	6
Urban trees improve water quality by controlling pollution, erosion and flooding from stormwater runoff.	3.55	4	16	71	226	8
Urban trees increase residential and commercial real estate values.	3.51	6	13	82	216	8



8.) How would you prioritize in importance the following as reasons for protecting trees in Corvallis?

Answer Options	1st-Least Important	2nd	3rd	4th	5th-Most Important	Rating Average
Quality of life / aesthetics	75	41	37	48	122	3.29
Habitat & wildlife benefits	51	68	59	79	68	3.14
Air quality improvement benefits	53	60	88	61	63	3.06
Energy conservation benefits	68	65	84	73	34	2.81
Stormwater management benefits	78	91	57	64	35	2.65

9.) Where do you get tree care advice (mark all that apply)?

Answer Options	Response Frequency	Response Count
books and/or magazines	19.9%	208
the internet	19.8%	207
the nursery or garden center	17.9%	187
an arborist certified by the International Society of	10.6%	111
OSU Extension Agent	10.0%	105
Master Gardeners	7.3%	76
Parks and Recreation Urban Forester	5.4%	57
a non-certified tree worker or landscape contractor	4.7%	49
Other (please specify)	4.4%	46

(See list of responses at end of summary)

10.) Do you have street trees along your street frontage?

Answer Options	Response Frequency	Response Count
Yes	68.6%	223
No	31.4%	102

11.) Was it (were they) planted within the last five years?

Answer Options	Response Frequency	Response Count
Yes	22.7%	51
No	77.3%	174

12.) Who performs pruning and other tree maintenance on your street tree(s)?

Answer Options	Response Frequency	Response Count
Myself or a friend, neighbor, or family member	48.2%	107
Other (please specify)	14.9%	33
Nobody	13.5%	30
A non-certified tree worker or landscape contractor	13.1%	29
An arborist certified by the International Society of Arboriculture	9.9%	22

(See list of responses at end of summary)



Survey Results: Corvallis Urban Forestry

13.) Did you know that Corvallis currently has tree regulations in place for the following:

13A.) Planting, Pruning and Removal of Street Trees?

Answer Options	Response Frequency	Response Count
Yes	72.0%	234
No	28.0%	91

13B.) Removal and Replacement of trees in Historic Districts?

Answer Options	Response Frequency	Response Count
Yes	67.4%	219
No	32.6%	106

13C.) Protection of Significant Vegetation inventoried as a riparian areas or as a tree grove and identified for protection on the Zoning Map?

Answer Options	Response Frequency	Response Count
Yes	57.5%	187
No	42.5%	138

14.) Which ONE of the following three statements comes closest to the way you feel about the management of urban trees in your community.

Answer Options	Response Frequency	Response Count
Urban tree loss should be minimized through development regulations, review and enforcement	23.4%	76
Trees in the urban area should be aggressively planted on public lands wherever possible and replanted as new development and natural tree decline occurs	49.5%	161
Urban tree protection and care should primarily be accomplished through education outreach and technical support to private landowners	27.1%	88



15.) Below is a list of programs and services provided by the Urban Forestry Program. Please rate each of the following using a scale of 1 to 5, with 1 being a “very low priority” and 5 being a “very high priority.”

Answer Options	Rating Average	1 - Very Low Priority	2	3 - Neutral	4	5 - Very High Priority
Review of new development projects for tree retention and re-planting to ensure compliance with the land development code.	3.98	16	19	47	105	136
Hazard tree assessment for street trees and for private trees when requested by code enforcement.	3.69	19	29	70	118	88
Coordinate street tree planting and pruning projects using volunteers and volunteer organizations.	3.56	14	28	93	136	53
Coordinate the “Concrete to Trees” program – removing sidewalk concrete and planting trees in the downtown core	3.54	42	27	57	112	87
Coordinate the “NeighborWoods” tree planting and care program – a volunteer training and education program for residents.	3.51	20	26	96	130	52
Review and issue permits for the planting, pruning or removal of street trees in compliance with the Tree & Park Strip Planting Code.	3.29	40	42	77	105	59
Coordinate street tree planting and pruning projects using hired contractors and city staff.	3.20	34	40	102	114	33
Host Arbor Day and other tree-related festivities and events.	2.90	51	65	95	93	21

16.) What additional service would you like the Urban Forestry Program to provide, if any?
(See list of responses at end of summary)

17.) Currently, individual property owners are responsible for the care, maintenance and removal of street trees along their frontage. Using a scale of 1 (no support) to 5 (strongly support), how would you rate your support for establishing a tree care and maintenance program that transfers street tree care responsibility to the city?

Answer Options	Response Frequency	Response Count
1-No Support	15.7%	51
2-Limited Support	19.4%	63
3-Neutral	16.3%	53
4-Somewhat Support	33.8%	110
5-Strongly Support	14.5%	47



Survey Results: Corvallis Urban Forestry

18.) Using a scale of 1 (no support) to 5 (strongly support), how would you respond if such a city-sponsored tree care and health monitoring program required an increase in taxes or fee?

Answer Options	Response Frequency	Response Count
1-No Support	25.8%	84
2-Limited Support	20.0%	65
3-Neutral	14.8%	48
4-Somewhat Support	28.6%	93
5-Strongly Support	10.8%	35

19.) Currently, individual property owners and Homeowners' Associations are responsible for the care and maintenance of trees in protected tree groves. Some of the protected areas are too large to be managed by these private funding sources, especially when there are only a few individual property owners involved. Using a scale of 1 (no support) to 5 (strongly support), how would you rate your support for establishing a tree care and maintenance program that transfers tree care responsibility for the larger protected areas to the city?

Answer Options	Response Frequency	Response Count
1-No Support	14.2%	46
2-Limited Support	13.8%	45
3-Neutral	14.8%	48
4-Somewhat Support	40.0%	130
5-Strongly Support	16.9%	55

20.) Using a scale of 1 (no support) to 5 (strongly support), how would you respond if such a city-sponsored tree care and health monitoring program required an increase in taxes or fee?

Answer Options	Response Frequency	Response Count
1-No Support	23.7%	77
2-Limited Support	19.4%	63
3-Neutral	12.9%	42
4-Somewhat Support	33.5%	109
5-Strongly Support	10.5%	34

21.) Also, individual property owners are responsible for repairing sidewalk damage caused by their street trees. Using a scale of 1 (no support) to 5 (strongly support), how would you rate your support for establishing a sidewalk repair program that transfers responsibility to the city?

Answer Options	Response Frequency	Response Count
1-No Support	12.0%	39
2-Limited Support	12.6%	41
3-Neutral	10.2%	33
4-Somewhat Support	32.0%	104
5-Strongly Support	32.9%	107



22.) Using a scale of 1 (no support) to 5 (strongly support), how would you respond if such a city-sponsored sidewalk repair program required an increase in taxes or fee?

Answer Options	Response Frequency	Response Count
1-No Support	17.8%	58
2-Limited Support	18.5%	60
3-Neutral	13.8%	45
4-Somewhat Support	30.2%	98
5-Strongly Support	19.7%	64

23.) Using a scale of 1 (no support) to 5 (strongly support), how would you rate your support for removing and replacing street trees that are known to cause significant infrastructure (sidewalk, street, utility) damage – requiring repeated replacement or repair of the same infrastructure over time?

Answer Options	Response Frequency	Response Count
1-No Support	8.9%	29
2-Limited Support	9.2%	30
3-Neutral	11.7%	38
4-Somewhat Support	31.1%	101
5-Strongly Support	38.5%	125

24.) Currently, the city of Corvallis regulates private trees only in specific, mapped natural areas (natural areas & historic districts). If the city were to expand this program to also include the protection of unique or landmark trees on all private lands, which of the following best describes your sentiment?

Answer Options	Response Frequency	Response Count
Protection of these trees should be a voluntary compliance with the property owner through improved community outreach and information.	64.9%	211
Protection of these trees should be through land use regulations which may impose the need for permits, fees and/or fines.	30.2%	98
Other (please specify)	4.9%	16

25.) Please share any additional thoughts or comments that were not addressed as part of this survey
(See list of responses at end of summary)



Survey Results: Corvallis Urban Forestry

DEMOGRAPHICS:

What is your age?

Answer Options	Response Frequency	Response Count
Younger than 18	0.3%	1
18 to 29	9.1%	29
30 to 39	14.5%	46
40 to 49	19.8%	63
50 to 64	42.5%	135
65 and older	12.9%	41

How many years have you lived in Corvallis?

Answer Options	Response Frequency	Response Count
Less than 1 year	3.8%	12
1 - 5 years	21.1%	67
6 - 10 years	12.9%	41
More than 10 years	62.3%	198

Do you own or rent? 83.6% OWN 16.4% RENT

Which of the following general income categories best describes your total combined household income last year before taxes:

Answer Options	Response Frequency	Response Count
Under \$20,000	8.5%	27
\$20,000 - \$34,999	7.5%	24
\$35,000 - \$49,999	9.4%	30
\$50,000 - \$74,999	35.2%	112
\$75,000 or more	38.7%	123

Gender: 53.5% MALE 46.5% FEMALE

What is your zip code?

Answer Options	Response Frequency	Response Count
97330	69.4%	220
97331	2.2%	7
97333	27.4%	87
Other (please specify)	0.9%	4



Open-Ended Responses

9.) Where do you get tree care advice (mark all that apply)?

friends
directly from the old trees
urban forestry journal
personal knowledge from professional forestry degrees, orchardists, etc
Dept. of Forestry
I write the books
My dad, who has read a lot of tree books
I grew up on a farm taking care of trees & shrubs.
dad
my husband used to be a tree trimmer
haven't looked into tree care
I don't get tree care advice.
I have a degree in Botany & Plant Pathology
Experienced family members
books
newspaper articles
Self
Science/Environment reading
OPB INVASIVE SPECIES SPECIAL
My friend who is a certified arborist
John Gonzales owner of Noble Scape Designs
friends and family that are knowledgeable about forestry
I am an expert
6 yr horticulture education
Rent so don't have my own trees
Neighbor who is a horticulturist
retired tree worker
newspaper
my own experience
friends
Benton SWCD
when I was in college
knowledgeable friends
experienced friends
My old forestry textbooks.
Retired OSU Hort. Prof.
my grandpa
OSU forestry dept
friends, neighbors
local nurseries
CORVALLIS URBAN FORESTER
neighbor who is a nursery specialist
nowhere
I just moved back to Corvallis after many years away!
Events such as Spring Garden Festival, da Vinci Days



Survey Results: Corvallis Urban Forestry

12.) Who performs pruning and other tree maintenance on your street tree(s)?

myself and the power company
 some by me, some by others. Note I could not answer "both" to question 12 because some trees were planted over five years ago and some more recently... and I could not skip the question... so my answer to #12 is only partially accurate.
 Don't know - apt mgr hires them
 HOA grounds crew. Bad, Bad, Bad
 I believe the power company, not much for beauty
 City staff
 some by me, some by arborist
 Apartment maintenance guy, I think
 One year old, as yet unpruned.
 Utility Representative
 City Worker
 our HOA manages, contracts with ?non certified?
 Don't know; all adjacent trees are in people's yards
 the city
 HOA contracted with a company
 HOA
 Landscaper for apartment owner
 small tree no need for pruning
 power company
 my husband is a trained tree worker
 City
 city
 road association
 Rural area - each property owner takes responsibility
 the apartment complex manages it
 POWER CO
 power company
 Shared: arborist and myself - but I'm not sure they're really street trees; there are no sidewalks in my neighborhood

16.) What additional service would you like the Urban Forestry Program to provide, if any?

more sweet gums- great shade tree- lovely leaves
 I am not aware of the neighborhood programs that you may sponsor within the city of Corvallis. I feel that neighborhood projects to educate the public about tree maintenance and planting are and will be extremely important.
 programs to school children and new homeowners
 organic, non-toxic, conservation of diversity programs
 resources about what to plant and where to plant
 Provide funding for any required tree maintenance, removal and/or replacement required by code. Promote native tree species rather than exotic landscape species currently promoted. Provide education about how to irrigate trees; many don't like to be treated like lawns, and that kind of irrigation kills them. Provide funding for any damage caused by any tree that a private property owner is compelled to retain (i.e., is not allowed to remove). Finish planting a riparian forest in the City parkland in Linn County along the bypass (formerly known as MLK Park) as well as Berg Park. Replace dead or damaged trees in Willamette Park (Crystal Lake Sports Fields).
 I would like to have trees in my front yard, but the park strip is too narrow. Still, I'd like help with it so I can plant trees in my front yard.



Encourage wildlife habitat and waterwise trees
Increase number of trees in parks, e.g., Lilly Park
placing value on planting native trees, shrubs, and plants
snag protection in safe areas in parks, etc. for habitat
protect views and vistas by keeping tree planting to restricted areas, with protection of views and vista
low-income assistance
People are turned off from planting trees because of the sidewalk root problems and being charged to fix their sidewalks.
Make sure that trees do not impact public infrastructure
Public education forums/seminars for developers/builders, Emergency response coordinator for public tree damage after storms
Increase the city budget by eliminating the Urban Forestry Program
none...less would be better
Funds available to help with overgrown? trees posing a hazard on private land?
None, Becky does a great job!
provide lower income homeowners/renters assistance with the cost and labor of maintaining trees in and around their property
plan checks before development and planting
Ability to actually prune homeowner trees at a reasonable cost and/or be available at your home for tree consultation
keep up the education and awareness of trees
Advise individual homeowners who are considering removing large trees from their yard because they fear it falling on their house during a storm. Advise them realistically about the chances of this occurring so they don't unnecessarily remove it/them which creates a large gaping hole in the 'skyscape' which is unsightly and removes needed shade.
Notify owner's ahead of time that trees in their property will be pruned.
Increase awareness of activities; comprehensive website
Planting fruit trees in the city
inexpensive or free trees planted with land owners permission - with outreach to individual treeless homes and businesses
penalties for unauthorized removal/trimming.
better address the "right tree in the right place" - remove/replace if possible trees damaging public and or private property
Focus on removing invasive species, Scotchbroom, E. ivy at North hills and south bike path by TWP
Better education, publicity! Trees are being cut everywhere recently. People must like the "Timerhill" look (no timber).
nothing
Transition from current program to food-bearing trees with produce available to citizens
Coordinate Solar Access for renewable energy sites
Educate us as to varieties of trees that don't tear up sidewalks.
Services are ineffective if the underlying regulations are dysfunctional, corrupt (e.g., Land Development Code), or simply not ecological.
a map of city trees for the public to evaluate before planting in their own yards and for tree tours. More small street tree planted displays.
education on the right tree for the right place
Free pruning of trees esp. older and. if the City doesn't view the trees as the owners property to do as they wish.



Survey Results: Corvallis Urban Forestry

training

evaluate dead and/or dangerous trees adjacent to property

The City Forester does an excellent job.

I live on Dixon Creek. Need better support and resources for management of the riparian area, which is blackberry infested.

promote awareness of ecological and cultural value of native tree species

Assess parks for multiple benefits - habitat as well as recreation

Maintain correct pruning of trees vs adding more that will not be properly attended to.

A list of appropriate native trees

Advice on pruning fruit trees and other common trees shrubs on private lots.

pruning demonstrations

Additional Education on tree care and maintenance?

second opinion on "dangerous trees" on private lands

SHADY BEER GARDEN

Information, support for tree planting as carbon sequestration measure.

waist-high, native plants and shrubs that create hedges should be planted at corner land areas to keep out people from switch back walking at these corners and creating brown fields, muddy and foot trail spots.

Walking tours looking at trees

assistance to people whose neighbors plant or keep trees that are damaging to their neighbor's roof. Just letting a neighbor cut what "hangs over" does NOT alleviate the accumulated damage. Very frustrating to have a neighbor who doesn't care because the trees are not effecting their property negatively.

Somehow prevent mutilation pruning of trees by non arborist "pros" through education or other means

Add trees to roadways like 9th, aggressively place new trees in urban area.

Remove houses and plant forests

Tree labeling in parks would be neat.

you need input from citizens, arborists before you add services and more regulations

Appearance at other local events (Farmer's markets, Da Vinci Days, Fall Festival, etc.) promoting informational festivities.

That's plenty!

go back and make sure the trees that have been removed by permit have been replaced like they were supposed to have been

25.) Please share any additional thoughts or comments that were not addressed as part of this survey

sweet gums are a vital tree in our urban forest. They need to be retained.

Urban forestry is a waste of taxpayer money. This should be conducted by property owners. Tax money should be spent on water sewer and public safety as core required services.

removal of trees that cause infra structure damage should only be done if the repairs can not be done with out significant damage to the tree.... Trees are important to a community, please limit regulations, inform the public with enthusiasm, support green efforts.

-encourage planting to increase biodiversity in Corvallis -plant edible fruited shrubs and trees throughout the city -use organic techniques -get rid of the tree maulers who turn beautiful trees into disfigured and overcut plants

As a home owner, I got dinged because the company I hired did work the city lady didn't like! Why not regulate who can do tree work for residents of the city to make sure they operate according to what the city wants, rather than punishing home owners just trying to limit their liability from old, overgrown trees. License the companies so that we don't have to pay them for their work AND pay the city because the city didn't like it!



On Question #22, if the grove is owned by a person or a group of persons, they should be financially responsible.

Non-owners shouldn't have to pay to support private assets owned by somebody else.

Although I would prefer to see all landmark trees saved, land use permits would generate significant opposition from some and would probably result in negative feelings about trees in the city. I believe that community outreach would be a better alternative.

I think city should put more emphasis on public education and importance to tree care to beautification of city, before going to stronger enforcement type measures. This could be done in paper, web sights and the city "bulletin" that is some times sent out.

In Austin Texas, developers had to pay the government for the trees that they cut down when building. For example, right now, in Corvallis, where they're building at Rite Aid, they cut down well established trees. I assume they're going to replant, but it will be a decade or more before the replacement trees are as big as the trees that were just destroyed. I think there was a way for them to develop that land without cutting those trees, and if they were fined for every tree they wanted to cut, they'd be more careful about what they chose to cut.

Replace the sweet gums!

There should be rules, but the rules shouldn't be so tough that people hate the city or hate having the landmark/historic/huge/whatever tree(s) on their land.

With development comes inevitable removal of large trees, to be replaced with (usually) many small trees. This is where I think Corvallis' urban forest has suffered over the past decade (and more). I believe that protecting forest land should be given a great deal more clout in making land use decisions. Case in point: the development across Walnut from Kings. Beautiful, 50+ year-old trees cut down to make room for...nothing, except a street, some little trees, and a For Lease sign. That was a deal that should not have been approved.

Tree leaves use carbon dioxide and generate oxygen, but your survey only talks about pollutant removal. Surely you don't mean to imply that all carbon dioxide needs to be gone (death of green plants results).

distant, mountain views and vistas from decks and windows should be protected to large high trees which block this valuable resource. trees with potential to grow tall should not allowed to be planted under power lines

I find that in some neighborhoods where the water table is higher or the income level is lower there are fewer trees. I believe that it is in these areas that some community outreach would benefit us all.

Damage to sidewalk is of minimal concern to me. This type of damage is inevitable and an acceptable trade-off for having large, beautiful street trees. If damage to utilities is a recurrent problem, removal is justified. If damaged sidewalks significantly affects access for people in wheelchairs, then removal of problem trees is okay unless the sidewalk could be redesigned to accommodate the tree roots. Dead hazard trees are abundant in areas with rental properties, such as the VanBuren/Harrison area, and pose a public risk not addressed by rental property owners.

The column headings for question 9 are confusing. Reword to be more like question 15. (The problem with rating 5th as most important still remains. The wording of both could use improvement.) Questions starting with #14 will get biased information due to the intro wording of "Did you know." Better wording would have been "Does Corvallis have ..." and including "I don't know as an answer.

Survey could have asked what method/forum would be best to pass along educational information regarding trees to the general public,(ex. What type of class/seminar would you be most willing to attend? How effective do you feel the current education outreach effort re: trees is carried out by the city?

This survey can not be deemed representative because you have no way of limiting responses to be city residents, or to prevent people responding multiple times...what a waste of taxpayers money!

bad survey...indicates predisposed opinions instead of facts

The real danger of imposing too much regulation with permits, etc. is the added cost and delay, when action is needed.

Tree pruning and removal is a huge expense, that homeowners must shoulder already. Added city fees would not enhance the process. Trees in this part of the world grow so quickly, they can pose a hazard at times. Some city funds made available for management, would be helpful, but expensive for the economy at this time.

While I enjoy the fact that Corvallis is very tree friendly, I think more should be done to encourage, maybe even force, developers to retain more mature tree growth within new neighborhoods as well as planting new trees when construction is completed. Also I believe that the trees planted in developed areas should not be limited to the small, spindly, minimal shade trees that are often planted in parking lots and along streets. I would love to see more streets that look like Harrison Blvd. between 29th and 36th, lined with large mature shade trees.

Thanks for having an urban forestry program and getting trees more space in the newsletter and other city outreach.



Survey Results: Corvallis Urban Forestry

If I am at all typical, most homeowners don't have a clue what the city's regulations concerning trees are. In our neighborhood a number of larger trees on private property were preemptively cut down, which is the owners' right. However, it looks rather blighted sometimes where the holes are left in the landscape. If there are regulations, property owners should be made aware of them and enforced. I think some of the owners might have gotten bad advice in some cases.

Any increase in urban trees means an increase in autumn leaf management. Which means an increase in the use of leaf blowers. No thanks!

I am glad that trees are now being seen as a living and often irreplaceable community asset rather than something to be chopped down whenever it gets in the way.

This survey is really biased! Where are the questions about property owners rights? How about a choice for or against street trees? How about a choice of what we think about shoving urban canopy down our necks? Maybe I want a garden and need some sunlight. Maybe I have solar panels on my roof and need some sunlight. Maybe I want to build a solar passive home and need some light? Maybe I want to cut down a tree to heat my home with from a carbon neutral source? Where are these questions?

Avoid creating and reduce existing tree vs utility conflicts.

Is this a survey or a commercial?

Downtown trees should be better protected by removal of paving stones placed around them and enlargement of the planters.

The big trees are far more valuable than the smaller newer ones. Cutting a big tree because someone is afraid a branch might crash on someone's car is frivolous and disrespectful.

I would like to see more emphasis on well thought out and coordinated boulevard plantings to enhance the aesthetic impact of our street trees when driving through Corvallis. Several years ago a volunteer planting project occurred on Harrison and the result was a hodge podge of trees species from squat little crab apples to columnar maples with no apparent rhyme or reason. The over all effect was chaotic and not at all visually pleasing. I feel it was a waste of effort. I feel the city forestry department should develop a detailed planting plan for the entire street and work with residents to get them to buy in and help with the planting and care phase but not in species selection or placement.

Poorly written survey-- lots of questions that pass off information without really asking a question. I can't imagine what use the responses will be or how many people will have the patients to fill out the entire thing.

New developments: Developer should provide funding for landscape and perhaps 3 years of replacement and maintenance. Old developments: land strips and trees on collection roads should be maintained by the city/county. neighborhood lanes should be maintained by land owners allowing food gardens, ornamentals, lawns and trees that don't break up the sidewalk. Sidewalks should be maintained by city.

I suspect my opinion on tax increases for urban tree care may be different if I were to have taken the survey at the height of economic prosperity rather than while being in an economic swale. It may be worthwhile to revisit the topic of city-manages tree care once we pull out of this dreary economy.

Public benefit should have public support - burden of maintenance cost should be eased for individuals if trees benefit all citizens - this discourages treeless space when people see only the financial drain of maintenance

much higher priority to size, age and carbon retention of all trees, many small trees are not equivalent to one large footprint, old tree. Don't remove old trees!

If property owners are responsible for repairing sidewalk damaged by trees on their property, they should be allowed to remove them without a permit. Also--the large tree that went down on Harrison between 35 & 36th Street-- when is the large section of log going to be removed from the parking strip? Also, as much as I love trees, it make sense to widen Harrison between 29th and 35th--take out the trees and replant. About 8 years ago, one of the huge trees in front of Harding school dropped a branch on the car in front of me, taking out their windshield. I try to avoid driving on this section of Harrison as much as possible--due to fear of a large branch falling on my car and the congestion.

In reference to the #26 question, Isn't the concrete to trees program setting the City up for just this sort of issue? A good idea to add the trees, but are we prepared for the damage to the concrete side walks and curbs the growing trees will eventually cause? I would like to hear the pros/cons that went into the thinking on this project.

I was disappointed to see a large oak tree taken down on Coolidge just because of one broken limb. The city also took out trees at Cloverland Park that they worried about too much. I think your Urban Forestry program is mainly about cutting trees down if there's any possibility of a problem, which there always is.



nothing

Corvallis has some of the last remaining strands of Savannah Oaks in the Willamette Valley, everything that could be done to protect these strands. Also, please look at Boulder, Colorado the city planners bought up all the open space surrounding the city and turned this into park land, this should be a goal of Corvallis also.

Though street trees and vegetation provide good screening and social benefits, they should be maintained through a city-run program so that the city can manage trees and vegetation that overgrow their boundaries to cause driving hazards, block sidewalks, etc.

The city should work with landowners in heavily wooded areas to develop a plan that manages the tree growth so homeowners don't end up completely shaded by neighbor's fir trees and bigleaf maple trees, which don't make good urban trees.

Requiring private property owners to keep and maintain trees that cause damage to the infrastructure (sidewalks, etc.) and requiring the same property owners to bear the expense of repairs caused by trees the landowner(s) don't want to keep is unconstitutional at best. Replacing nuisance street trees with ones that don't cause as much damage to the surrounding infrastructure, but still provide carbon sequestration, pollution and noise control and aesthetics through a voluntary program that includes replacement trees and city support for property owners would be ideal. A move away from punitive restrictions to an incentive based program where property owners are rewarded for good stewardship will be more effective and will improve the relationship between City staff and local property owners.

Trees and vegetation will become increasingly of interest for climate remediation through carbon sequestration. Trees which produce food should be given high priority in planting programs.

Unless the flora is creating a hazard to the community, private property owners should be able to do as they wish with their own property. Help them figure out what they want, tell them why certain things are better for the community.

thank you for your help!

I abhor the planting of trees directly under utility wires which results in butchering these trees later on. Our city should either place these utility lines underground or offset the tree plantings so that they do not need such brutal, expensive, and unattractive pruning.

I live in Grand Oaks. As I understand it, the development code required planting several deciduous and evergreen trees in each lot. The lot sizes are too small to accommodate the total number of trees and especially the type of evergreens (firs and pines) planted as required of the developer. There are instances now, five to seven years after planting, where pine and fir trees are outgrowing the small spaces available on the small lots and they are becoming problems for both owners and neighbors. If allowed to stay, these trees will negatively impact some foundations and roofs. The development code needs to account for the space that trees need to grow when requiring specific numbers and types of trees on small lots. It is not enough to require trees in new developments; thought must be given to the long term co-existence needs of trees, buildings and people. The development code should address that issue otherwise trees get cut down because they are the wrong type of tree in the wrong place. The developer did their "duty" and met the development code requirements, but the trees, buyers and neighbors are the ones who suffer from the poor planting schemes.

Street trees that cause problems cannot be removed due to their "value" to the City. They are not a "value" to the home owner who must replace sidewalks.

The list of approved street trees is a joke, and the City should be ashamed of itself for planting non-native species and trees that are known to cause problems (such as the Norway Maple). The City bias toward large, mass-produced housing developments results in neighborhoods that replace diverse habitat with monotonous vegetative uniformity. The City's characterization of such policies as "sustainable" is absolutely sickening. The ecological failures of the Corvallis City Manager's Office engender zero trust in local government. The Corvallis tourism office can market its lies to the world. "Look at how 'green' we are!" But those of us who live here can see the truth.

Please plant new trees that are larger than currently planted. Maintain the trees after planting - especially watering and post protection.

Large Fir trees on Witham Hill and other areas are prone to wind falling, the City should go door to door & remove them if the homeowner wants to & sell the fire wood. Use unemployed losers.

#27 needs to address the transfer of property ownership and regulation. I also think that retail stores need to be responsible for the type of trees they sell - educating the buyer of the size, placement, insect and disease issues. Too many trees are sold by local retailers that are not qualified to sell trees in my opinion. A non-grower/gardner etc can not assist a buyer on proper tree/placement. I think educating the public on how to care for the trees on their property is essential, there is too much butchering and wrong placement and I think the homeowner needs to be held



Survey Results: Corvallis Urban Forestry

accountable for that. Planting large trees in parking strips (next to sidewalks and streets) should be fined and new trees provided to them that suit the space. This makes me angry as you may have gathered. People generally like trees but they are stupid about them

As a resident living in the Witham Hill area I am shocked and saddened at the amount of trees that have been removed by residents who live on and near Elmwood. We purchased our house because we love being "in the woods" yet these past 6 months have witnessed so many trees being removed. Obviously nothing can be done about it but we are angry and sad nonetheless!

I have spoken to the City Forester on several occasions and found her to be extremely knowledgeable and dedicated. Individual homeowners should be more interested in the care of the trees on their property. I am very happy with the Urban Forestry program in Corvallis and would probably support a small tax increase if it would be helpful for urban trees.

too bad Corvallis's tallest tree got cut down in the College Hill area before there were regulations

Streamside vegetation needs to be better protected in neighborhoods. Too many residents want grass up to the stream edge.

hands off private property! Inform & suggest ONLY!

Do not support tax increases. This town is one of the higher taxed one. As a prospective home buyer, many lots have too many trees, not allowing adequate light for vegetable gardens, thereby decreasing home value. Need to better balance this issue, currently too far to the left.

City should strongly consider eliminating the Urban Forester position.

Use native plants to minimize fertilizer and water use

In some cases, as a respondent I'm forced to choose between several answers if I want to complete this survey. With this type of survey model, you get the results you are looking for. Anytime I'm required to answer, I should be given an option to decline or provide my own answer.

Street trees are great and are required. This requirement could result in shading yard space used for vegetable gardening. I would like this to be considered in new developments and future street improvements. Is there a way for someone to opt out of having a street tree? I would like to see consideration given to non-tree areas. Planting trees aggressively is fine, but there is more to a natural area than trees. Great work parks and rec!

It should be possible to skip questions on this survey. I rent downtown where, I believe, the city maintains the trees on 1st and 2nd street. I know many changes have taken place in that area over the last few years. I have only lived downtown for 2 years. I don't feel qualified to answer some of the Qs but I could not skip them.

More volunteer tree care would be helpful to elderly, disabled, or low income property owners.

Corvallis' reputation as a "tree" community was built on good citizenship, fostered by local government support, not regulation. Increased government regulation, applied indiscriminately, may serve to discourage voluntary tree preservation.

tree cutting occurs after 5 p m or on weekends - how to stop this on large trees on private lands. How to assess private lands "dangerous" trees. so arborists don't make money by declaring trees "dangerous"

A larger issue is not urban forestry, but regulating the abuse of trees by the lumber industry. The lumber jobs need to be replaced by high tech or other less destructive industries. Otherwise having a few trees in an urban core is nothing more than a sham.

I think that people enjoy the benefits of having trees, and that this should be encouraged through education, rather than more regulations that take away even more personal property rights. There are already too many bureaucrats trying to take even more control of peoples' property. Also, if the city wants people to leave their street trees intact (which I think they should do), then the city should foot the bill for sidewalk repairs and maintenance.

I hope the plan won't err on the side of tree removal for construction convenience, or mis-perceived potential hazards.

Maintain existing trees. Do NOT remove trees based on type if tree is known to pose no threat to utilities or people.

You very easily could have kept the one in front of the Second st Beanery. There was no reason to take it out. A pruning would have been good.

Good work, Becky!

All historically native Willamette valley trees should be increasingly re-planted in place of non-native trees and be done gradually when the non-natives have to be chopped down. Furthermore, this city should be promoting more



Survey Results: Corvallis Urban Forestry

natural, nature soft- scapes than paving just about everything over with cements and tar and gravel hard-scapes. Use more wood chip on hike trails in city parks. Stop paving sidewalks and tar roads as trails on these city parks. I took the ideas from when I was living in Seattle, WA. That big, huge city has less sidewalks and less manicure natural areas than a lot of the western Oregon cities. Oregonians appear to me as nature controlling fanatics who cannot stand to let the nature scapes look more wild. I have witness, many times, people seems to be cutting grasses, even when there's not enough length in their grasses to be cut, or they cutting them as soon as it's ankle high. Grasses die faster when they're cut short. Sun would bake the more exposed soil and evaporate soil moisture that otherwise be shaded by the longer grasses foliage. Is fire hazard a worried issue? Especially, when western Oregon is too wet, has higher humidity even during the hot summer. A recipe for fire is; low humidity, dry high wind and dried out vegetations as fuel. Not dampness and green tall grasses.

It would be nice if there could be an every week pick up of yard waste boxes for one month in the Spring and one month in the Fall when pruning and cleanup is more aggressive. It could be a balance from when there are stretches when NO boxes are put out for weeks at a time due to the time of the year.

Not too much regulation on private trees

regulations protecting all significant trees, both public and private, is necessary in Corvallis.

I'm concerned that when trees are replaced, not many slow-growing behemoths are being planted for future generations (oaks, beeches, plane trees, sequoias)...

Property owners pay property & city taxes which should already cover sidewalk replacement, etc. The City should be able to step in with 'crazy' tree growth/species, but should work with the property owner to resolve the issue whenever possible.

you have to be careful creating regs and permit, fees, and telling people that you are going to manage there trees.

People won't want to have any or limit what they will allow on there land. If people want trees we shouldn't manage private ones let's grow more public trees

I overwhelmingly do not support the city government having control over urban trees and shrubs. Business owners, landowners, property owners, neighborhood associations, etc. should create their own policies. Additionally, to pay taxes to have the city government remove trees that cause infrastructure makes sense if you don't take into account the city government forcing citizens to plant these erroneous "shrubby projects" in the first place.

Please be careful about proposing mandates for private properties; people tend to close their ears (and minds) at the suggestion of this kind of idea.

I would like to see the city work toward the elimination of overhead power and other utility lines.

As noted above, my neighborhood has no sidewalks, so I'm uncertain whether my trees adjacent to the street qualify as "street trees," and would be curious to know the answer.

Grand ol' trees and tree groves are impossible to "replace" and they add so much value to the community as a whole. We should protect them to the extent possible -- even if it means using alternative materials for sidewalks, or rerouting infrastructure.

remember that property owners should retain rights over their property, obviously not if their trees are a community danger, but generally speaking a property owner should be able to cut down a tree that is causing them an issue.

Appendix F: Stakeholder Interview Summaries



**Corvallis UFMP
Stakeholder Interview Summary
Community Development :: January 15, 2009**

Attending: Fred Towne, Kelly Schlesener, Kevin Russell

Location: City Hall

Time: 8:30a – 10a

The Natural Features (NF) inventory looked at lands greater than ½ acre in size for tree grove analysis. Where tree groves were encompassed within Riparian Corridor Assessment Areas (riparian corridor areas that were inventoried), they were inventoried as a component of the Riparian Corridor Assessment and not inventoried separately as tree groves. The Natural Features Inventory was a very extensive Goal 5 review. The UFMP should acknowledge the NF inventory. The policy intent is to protect and manage lands with natural features. Following the NF inventory, the decision-makers proceeded on to the remainder of the NF Project. They employed a Goal 5 ESEE analysis to balance competing goals and they ultimately determined what areas were to be protected and what areas were to be allowed to develop. These decisions should not be re-opened, as it would trigger a full Goal 5 review – too extensive and costly. The city is committed to relying on the existing data and outcomes. There was unanimous approval by the City of Corvallis Planning Commission and City Council, and the Benton County Board of Commissioners and Planning Commission. Two appeals submitted to LUBA, and both were denied.

Site management was not addressed through the NF inventory process or through the remainder of the Natural Features Project, other than the activity limitations outlined in the Land Development Code chapters pertaining to protected Natural Resources and Natural Hazards. The city does require submittal of a Significant Vegetation Management Plan (SVMP) if there are intended/proposed activities within protected areas as defined in the Comprehensive Plan and Land Development Code. A public education program about protected natural features would be beneficial, as would the development of best management practices (BMPs) for protected areas. This is an area where Parks might be able to assist. They [Parks] would be required to submit a SVMP for alterations or development on parklands. If the parkland is comparable to any of the protected groves, then the Parks BMPs might be applicable to other comparable groves. In other words, their work could be an example to private landowners and would be consistent with the code. Performance measures or standards have not been developed, but would be useful in the preparation of a SVMP by Parks. Also, there may be conflicts between previously adopted park site master plans and the code (e.g., the difference between the intended recreational use of a site versus the land development code's requirements for protection). During the NF inventory project, staff prepared a white paper on potential options to consider for how to fund maintenance and management of vegetation areas (*requested from Kelly*). These options were presented to the City Council and the Council determined that a future project would evaluate them to find the appropriate solution for the larger protected areas. In the interim, the maintenance and management of these areas is required of the property owners (or, following development, often the responsible party is a Homeowners' Association). This Urban Forestry Management Plan project might be the vehicle for addressing the issue of maintenance and management solutions of the large natural feature areas the community has designated for protection.

Stakeholder Interview Summary**Community Development***Page 2 of 2*

Dripline issue – land owner site improvements should not affect or intrude into a tree’s dripline IF the area was inventoried for trees as part of the Natural Features Inventory and IF the tree’s dripline was designated for protection by the Natural Features Project (these protected areas are shown graphically on the sub-maps that go with the City’s Zoning Map). For tree driplines that were NOT inventoried as part of the Natural Features Project, Chapter 4.2 of the Land Development Code requires protection to the maximum extent practicable.

Regarding parks staff interactions, Becky and Jackie have provided effective and timely responses regarding development projects, and CD staff heavily rely on their expertise. This expertise is needed during the development review process, as well as during actual construction of projects. On approved landscape plan, CD staff can call on Becky to field check installations. Currently working with Parks on a code amendment relating to trees in historic districts.

Defining UF – assistance regarding health of trees in the community, disease management, canopy coverage, replacement and maintenance. Outgrowth of UFMP should be better definition of benefits of trees and urban forest, along with the needs of the urban forest (rooting area, crown management, etc). Look at the new ICMA survey. Residents like the city’s natural environment, and these amenities are appreciated. Regarding outreach and communications with residents, use “Inform” rather than “Educate.”

Funding – the city passed a parks bond a few years ago (shows general support for open space), but it only passed after sufficient detail was provided to voters regarding the sites planned for protection and development. Community center bond did not pass, in part (maybe), because it was taking away some open space. Maybe there should be a community-wide fee or assessment (administrative or utility fee) to address tree maintenance and management needs, rather than some other mechanism such as an SDC.

Commissions – more communication between CBUF and the Planning Commission would be helpful. Seek communication periodically to touch base on broad issues and work items, but work more closely on specific, pertinent projects. Joint sessions or discussions could be set to review any amendments to the code that affects urban forestry, such as alley planting in downtown and in the Riverfront Zone area.

OSU – Vincent Martorello and Jim Lloyd worked closely with city on latest Campus master plan. They listened to comments from community and city staff regarding process. Much of the campus recently was enveloped by the city’s historic district. This will have an impact on how trees are treated. The UFMP should add additional definition for historic trees and include industry standards, as well as procedures to follow if trees are to be removed due to development or tree decline.

Land development – utility conflicts with trees exist on small or substandard lots. Planning wants to require that sewer and water laterals be placed under the driveway to allow enough room for trees. There is a 10’ offset zone from utility lines in which trees cannot be planted. Look at utility casing options to protect from root encroachment.

Hot buttons – pruning techniques on private lands may be sensitive topic. Usually the neighbor makes complaint about how a private tree is pruned [topped]. Also, tree replacement policies in historic districts should be reviewed to be able to select trees that have less of an impact on the infrastructure.



**Corvallis UFMP
Stakeholder Interview Summary
Public Works :: January 15, 2009**

Attending: Bruce Moser, Jeff McConnell, Dick Gaskill, John Olson

Location: PW Admin Offices

Time: 11a – 12:30p

Areas of conflict – Coordination is generally good with Parks; Becky calls Dick for work arounds on trees near water lines - trying to maintain the 10' offset zone, eliminate root intrusion at meter boxes, and problems of roots wrapping around and/or rupturing cast iron and copper lines. Water lines are typically set 36"-42" deep in the ROW, but in certain areas they are only 12"-18" deep. In past years, PW only reviewed the utilities portion of development projects and did not see the overlay of tree planting plans to see potential conflicts. Within last 1.5 years, Engineering has had a more complete review of development plans, but they still only look for conflicts with the utility lines and are not looking at species selection, installation details or field verification. Community Development does the on-site review. Even with plan review, on-site problems exist. The developer's landscapers do not necessarily understand the utility offset requirements and strictly follow the 30' on-center planting. In one instance, landscaper planted tree in middle of 12 ganged meter boxes... they don't understand what they can't see [utilities]. Problem is severe at Townhomes at Timber Hills (trees planted within 3'-6' from meter boxes).

Sidewalk Safety program – Two sidewalk surveys completed so far, and the program reviews 1/10th of city every year. The purpose is to identify deficiencies using the 1/2" deflection ADA guidelines. The surveys indicate that 75% of the existing sidewalk damaged is due to street trees. The program will help repair/replace sidewalks adjacent to private lands only; government properties still are required to finance their own work. Curbs, sidewalks and streets are 6"-12" raised in some areas. Sweetgum is the main culprit, which was planted in large numbers in the past and planted in narrow parking strips. Regarding street tree removal and sidewalk repair, the current practice is that the property owner is responsible, but due to the scope, scale and continued tension between the city and resident, Council will likely approve in the '09/10 budget an annual line item of \$144K of GF for repairs. Using the 75% factor, the overall community is directly paying \$108K annually for tree-related sidewalk damage. Existing problems include root intrusion into utilities and full panel lift. Ramping, root cutting (which is frowned upon by PW and the urban forester), pervious surfacing and re-routing sidewalks have been used as work arounds. Rubber sidewalks, root deflectors and allowable root pruning procedures need to be reviewed for effectiveness and cost (2x cost of other alternatives).

Corvallis residents love their trees and the tree-lined streets. The loss of any tree is unacceptable to some people. Neighbors fee very strongly about trees and that all trees are assets. Street trees are virtually untouchable.

Stormwater – two issues exist: detention and treatment/quality. Regarding detention, basins and ponds require sunlight to allow plants to remain healthy and grow that assist in managing water quality; therefore, trees in or near detention facilities are not acceptable. Trees shade the grasses which do much of the work to improve water quality. Intent is to direct stormwater to open swales and treat with sunshine and detention occurs in grassy swales. Systems are designed to peak flows which equate to large

Stakeholder Interview Summary**Public Works**

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rainfall events that are multi-day in nature. Trees only offer limited aid in this system because they become fully saturated early on during these events and offer no addition capacity for interception and retention past a certain point of rain fall and water flow.

Urban streams – trees help with shading and cooling the water temperature. There are 14 miles of streams within the urban area, and an extensive planting program exists throughout. Stormwater utility funds are used for tree pruning, planting, removal and debris/obstacle clearance. Overall approach regarding woody debris is to leave it in-stream unless it will affect upstream flooding due to limited funding and desire to provide habitat within the stream corridor. Within drainage ways, the orientation is to increasing shade, reducing temperature and keeping blackberries down, while managing for adequate water conveyance.

PW has the responsibility for the ROW, except street trees in the downtown core. These are managed by Becky. On significant issues (e.g., heave, hazards etc.), PW coordinates with UF. PW relies on Street Fund and not GF support. Street Fund uses gas tax as revenue and is fairly stable (\$2.5m).

PW also has leaf removal program and prunes trees for sweeper clearance. Corvallis has a high percentage of renters and relying on landowners to manage these issues has been a problem. As such, PW has taken the role of pruning for street and sidewalk clearance – complaint driven (generally limbs less than 2"-3" in diameter). City standards require clearance of 8' over sidewalk and 12' over roadway. Pruning method usually involves staff on/atop small trucks with pole chainsaws. ROW clearance in emergencies is also PW duty. After ice and wind storm events, PW clears ROW and stacks debris on adjacent owners land for them to remove. View clearance at driveways, intersections and bulb outs is also an issue. Maturing shrubs and un-pruned trees block views and create crossing and driving hazards.

Leaf collection is ranked as a highly valuable service by residents. Frequency and number of collections is highest in the state. With trees aging and growing, the demand for the service will rise as the leaf volume and number of miles served will rise. PW is projecting about 5% increase in leaf volume per year.

Tree canopy – setting simple percentage might not be appropriate, since many existing trees (e.g., Sweetgums) are creating on-going and increasing infrastructure repair costs. If these are deemed “untouchable” because of an established “goal” for citywide canopy, then it would be a disservice to the city. Review the area of 13th Street between Monroe and Jackson for bad problems with heave, etc. [*may need to be very explicit in discussions about canopy to account for trees causing infrastructure damage*]

Concrete to Trees program – overall, there is good coordination with Becky. PW does much of the prep work including sawcuts and excavating holes, even when there is no defined budget for it. Need better communication and coordination with Parks on this program. For example, there are new street tree plantings along 9th/Jefferson, but Parks did not check with PW in advance to learn that future reconstruction of the road will expand its footprint causing the need to uproot and replant new trees. PW learned about the planting through an article in the paper, and this situation could have been avoided with better communication and planting the trees 3' farther away from the street to account for the future road project. PW should have been consulted to see if road projects eminent/planned.

Funding – Increased street maintenance funding might occur in the near term and is tied to governor's approach to increase registration fees, gas tax etc. Also, the city has a Transportation Maintenance Fee

Stakeholder Interview Summary

Public Works

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(TMF) currently set at \$0.36 per month and is directed to repairing arterials and collectors. A future expansion of the program may include an increased fee to cover neighborhood streets. The TMF is currently set to sunset in 2010. Another option for expanding the program may include removal and replacement of problem street trees.

Teragan & Associates, Inc.

Terrence P. Flanagan

Arboricultural Consultants

Corvallis URMP Stakeholder Interview Summary Oregon State University: January 29, 2008

Attending: Joe Majeski

Location: OSU Facilities Maintenance Shops, Mr. Majeski's office

Time: 9:00a – 10:00a

A concern that Mr. Majeski indicated from his perspective is OSU's ability to care for the trees on campus in a manner that encompasses acceptable scientific practices and industry standards without requiring public input on every individual project.

Mr. Majeski indicated that most of the main campus, approximately two thirds of the campus, is now a historical district that requires a plan to maintain the historical aspects of the campus including the trees that were present at the time of the buildings creation. Any changes to the existing structures and landscape within the historical district will have review by state boards and will have to meet the objectives of the master historical tree plan that is to be created by OSU and approved by the historical boards.

He also stated that OSU is one of the first campuses to receive the designation from the National Arbor Day Foundation as a Tree Campus USA. Tree Campus USA program recognizes college and university campuses that:

- Effectively manage their campus trees.
- Develop connectivity with the community beyond campus borders to foster healthy, urban forests.
- Strive to engage their student population utilizing service learning opportunities centered on campus, and community, forestry efforts.

In order to receive the designation of Tree Campus USA the five following standards have to be met;

- Standard 1 – Campus Tree Advisory Committee
- Standard 2 – Campus Tree Care Plan
- Standard 3 – Campus Tree Program with Dedicated Annual Expenditures
- Standard 4 – Arbor Day Observance
- Standard 5 – Service Learning Project

Additional information on the Tree Campus USA program can be accessed via the Arbor Day Foundation web site.

The response from the Corvallis Urban Forestry Division has always been very good in regard to the requests from OSU. Mr. Majeski's concern was more that UF was making too many

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demands on their time rather than their willingness and ability to serve OSU. He stated a concern that there is a lack of communication between the internal aspects of OSU and as well as between OSU and the City. OSU has utilized the urban forestry staff to review and support the actions that the campus has planned in regards to management of the trees on campus.

OSU realizes that the citizens of Corvallis do utilize OSU open space and consider some areas of OSU campus as part of the City's park space.

Currently when trees are to be removed and the condition of the tree allows it (not a hazardous situation) the University posts any planned tree removals for two weeks that informs the public that the tree will be removed and for what reason. As I understand the process, they notify Becky and the CBUF for all trees greater than 8 inches in diameter that they plan to remove.

An example of the reason that the University would like to be able to operate under an acceptable policy on the management of the trees on campus is an oak on the 30th Street Mall that is in serious decline. The University did not feel comfortable removing the tree, nor did it want to go through the process of removing the tree so they only removed the dead branches. The resulting tree is unbalanced, aesthetically unacceptable and will most likely continue to decline. Ideally, the University would like the ability to be able to evaluate such a tree under a stated, acceptable policy that allows them to make the decision to manage the trees on campus without the need for a great deal of public input on specific, individual trees that can take so much time. Such a predetermined, acceptable policy ideally would be designed to give the University the latitude to make decisions that are not drawn out and don't unnecessarily add to costs.

The University has inventoried all of the trees on campus and is utilizing the inventory to actively manage the trees. For example, the elms on campus have been mapped and all pruning that has been completed recorded. This is allowing the University to plan the pruning needed on the elms on a cyclic basis as needed to ensure that the management of the elms is done to give the greatest chance of preventing infection by the Dutch elm disease that the trees are susceptible to.

The University is interested in ensuring that the population of trees on campus is diverse in species and age. There are many trees that the public associates with the campus that are starting to reach their age limit in regards to their expected natural life span on a site such as the campus. The University is concerned that many of the specimen trees on campus are reaching their mature age and have started to decline.

When asked what is not working, the reply was a lack of personal to properly manage the trees on campus.

Challenges include protecting trees on construction sites both small and large. A successful project was the library; an unsuccessful project was the Kelly Engineering Building project. The University required proper tree protection measures but could not oversee the projects at a level that prevented some of the tree damage. When asked if higher fines implemented by the City

would help in getting the contractors to be more careful and self policing, the response was positive.

One of the biggest concern as stated by Mr. Majeski is the age of the larger tree specimens on campus. The University was started in 1868. Many of the larger specimen trees are over 100 years old and either already been removed due to poor or hazardous condition or are starting to decline.

Sincerely,

Terrence P. Flanagan
ISA Board Certified Master Arborist, #PN-0120 BMT
PNW/ISA Certified Tree Risk Assessor, #PN-0152
Member, American Society of Consulting Arborists



**Corvallis UFMP
Stakeholder Interview Summary
Parks Staff :: January 29, 2009**

Attending: Karen Emery, Steve DeGhetto, Jackie Rochforte, John Hinkle, Becky Merja

Location: Parks & Recreation Office at Avery Park

Time: 8:30 – 10:00a

The following summarizes the comments offered regarding the long-term vision for the Urban Forestry program:

- Ordinances that work effectively and support the goals of the program
- Tree inventory that is updated periodically; Re-assess 1/10th of tree inventory on a cycle tied to the sidewalk safety program
- New and expanded partnerships in support of the program
- Stable and secure funding
- Recruiting strong, new CBUF commissioners, as terms expire
- Integration of volunteers with education and heritage trees
- Incentive-based private tree management system
- Service charges (via Development Review fees and/or interfund transfers) for staff time required for on-going, LDC-required reviews
- Develop more in-roads in review of PIPCI plans, and review more often
- Address and manage the structural pruning needs of young street trees planted from recent, extreme growth over the last 10 years and with over 14 miles of new streets added
- Revise process for the removal of hazard tree in historic areas and coordinate more with the Historic Resource Commission; reduce review period from a couple months to a couple days

Regarding staffing, the Urban Forestry program is currently leaning on Parks staff now for watering, fertilizer, volunteer coordination and plantings. Look to comparable cities to assess the Corvallis program; review the reclassification assessment with regarding to stated staffing tasks relative to goals. If a new funding package is proposed that uses General Funds, then that request must be in the Department's business plan for 3-5 years before being reviewed and approved by Council via a staffing study plan. The internal process is easier if funding for program expansion is a reallocation of General Funds (rather than new GF) or if outside funding is secured/dedicated. Consider the development of a fee-for-service model, where a developer or contractor pays into the fund, then the urban forester manages species selection and planting.

Public outreach and education is the critical link to the success of the program - communicating why it's valuable; promoting trees, street trees, pruning and appropriate plantings. Review the experience of Recreation staff in putting classes together as a model for community education. Become part of the Pacific Tree Program and team with Master Gardeners, HOAs and small neighborhoods, specifically in the area south of town.

Appendix G: Staffing Analysis

Staffing Analysis

Program Summary: Current Staffing/Workload Configuration

A precise staffing assessment of the Corvallis Urban Forestry program is complex and imperfect inasmuch as responsibilities for the care and management of the urban forest fall to staff in multiple departments, with differing missions. The following recognizes the contributions of non-urban forestry staff to the program, but focuses directly on existing Urban Forestry staff with regard to stated roles and responsibilities. The Program is administered and managed by 1.0 FTE, Becky Merja, who carries the day-to-day responsibility as the city's urban forester overseeing a broad mission and an inventory of over 13,000 park and street trees.

The current tasks performed by the urban forester are broad, numerous and varied. They include coordinating with other city departments, such as Public Works, Community Development and Parks, the CBUF Commission and program partners such as PacifiCorp and OSU, among others. This coordination is, in part, to discuss and review city-wide policy and ordinance amendments and the development of tree related standards and guidelines. Coordination is also required in the review of proposed site development and construction plans to ensure adequate tree preservation and protection, minimize infrastructure conflicts and recommend appropriate tree stock. Another aspect of coordination entails partnership maintenance/development and seeking new ways to promote the role of urban trees through demonstration projects.

The urban forester is also the lead for managing and assessing the health of trees throughout the city. This includes monitoring for Dutch Elm Disease and responding with treatment, removal and disposal as needed. It also involves coordinating and monitoring staff and contractors for pruning, planting, removal and stump removal assignments. Additionally, the urban forester educates

developers and contractors concerning tree-related policies, monitors for construction impacts during construction and conducts tree valuations related to tree damage penalties.

Lastly and most importantly, the urban forester leads and oversees overall program outreach and public education campaigns. This involves scheduling, organizing and coordinating tree planting and community events, managing and expanding the NeighborWoods program along with a volunteer database and preparing marketing and informational material promoting appropriate tree care. Additionally, the forester must make time to answer day-to-day, tree-related inquiries from residents, contractors and developers seeking advice and direction on myriad issues, including inspections and diagnosing tree problems.

Additional staff resources do exist within the Park and Recreation Department's current structure to aid the urban forestry program, but those resources are limited and have competing interests. Specifically, a full-time arborist/ornamental horticulturalist works as a Park Operations Specialist who has responsibility for and focus toward parks and natural areas. This staff position has provided significant assistance to the urban forestry program and to the urban forester directly by taking the primary responsibility for parkland tree resources. While the forester and arborist still coordinate on broader management objectives and specific projects, this shift has allowed the forester to focus more time toward street tree, private tree and site development issues. The department also has on staff a half-time marketing coordinator who primarily focuses on deliverables for the Recreation division and a full-time volunteer coordinator who primarily assists the Parks division on events, projects and activities. Both of these staff are available to provide assistance on other projects assuming advanced notice and no conflict in the timeline of existing priorities.

Comparable Cities Review

The city of Corvallis uses a standing list of Oregon cities for the purpose of human resources classification and compensation comparisons and reviews. This list provided

the basis for reviewing staffing allocations specific to urban forestry duties. Table A-1 lists comparable cities with an identification of program-specific FTE and measurements of staffing-to-population and staffing-to-land area.

Table A-1: *Comparable Cities*

City	Population	Area (sq.mi)	Urban Forestry Program	Adopted Tree Ordinance	Tree City USA	Admin FTEs	Maint. FTEs	Pop(1000)/Admin FTE	Area/AdminFTE
Bend	80,995	32.0	N	Y	Y	0.0	0.0	NA	NA
Medford	76,850	21.7	Y	Y	Y	1.0	0.0	76.850	21.700
Springfield	58,005	14.4	N	Y	N	0.3	1.8	193.350	48.000
Corvallis	54,880	13.6	Y	Y	Y	1.0	0.5	54.880	13.600
Albany	48,770	15.9	Y	Y	Y	?	?	NA	NA
Tigard	47,150	10.9	Y	Y	Y	1.0	2.0	47.150	10.900
Lake Oswego	36,590	10.3	Y	Y	Y	0.8	0.0	45.738	12.875
McMinnville	32,400	9.9	N	Y	Y	0.0	0.5	NA	NA
Grants Pass	32,260	7.6	Y	Y	Y	?	?	NA	NA
Oregon City	30,405	8.1	N	Y	N	0.4	1.1	76.013	20.350

NOTES:

The Benchmark cities generally used for Class & Comp assessments, not for budget or service level comparisons.

Admin FTE represents the number of full-time equivalent staff focused on overseeing broad program goals and policy

Maint FTE represents maintenance, operations and enforcement full-time equivalent staff

As the table indicates, the current staffing level in Corvallis is comparable to that of Tigard and Lake Oswego with regard to the staff-to-population measurement. However, the programs are not directly comparable, since Lake Oswego relies on a recurring AmeriCorps volunteer to advocate for their program, and significant differences exist in the administrative and policy roles between Corvallis, Tigard and Lake Oswego.

It should be noted that Bend and McMinnville do not have formal urban forestry programs, even though they have been recognized as Tree City USA recipients. Additionally, only half of the cities sampled have dedicated administrative staff responsible for interdepartmental coordination, citizen outreach and communication and overall program management. While the review of comparable cities provided valuable insight into the relative commitment of other municipalities to urban forestry, the provision of services is an intrinsically local decision for Corvallis considering its unique perspectives on sustainability and

resource management, along with responsiveness to the desires of its citizenry.

Staff Capacity & Service Delivery Review

Although a single, full-time position is dedicated solely to the administration of the urban forestry program, the duties outlined above indicate a current level of understaffing, which will grow in time as the program expands. As the program has evolved over the last 5 years, it has clearly grown beyond the means of the urban forester, who now relies on Parks division crews by backfilling resources (e.g., tree planting, watering, fertilizing, mulching) to help ensure project success. In attempts to minimize the potential impacts on Parks division crew, recent urban forestry activities have been moderated and restricted.

As a means to illustrate workload demands and staff capacity, Table A-2 (*at the end of this section*) lists an array of activities that will enable Corvallis to maintain and manage its tree canopy. The activities are segmented into three classes:

- Program Administration
- Resource Management
- Public Education/Community Stewardship

The table also describes the degree to which each activity is currently performed and what can be expected at different program staffing levels. This graphic depiction of workload clearly shows that only minimal to moderate coverage currently exists for the range and variety of tasks required for the appropriate management of the urban forest. Note that this is not a critique of the current staff person, but rather an assessment of capacity to successfully complete duties associated with the broader urban forestry program.

The current staff allocation is inadequate to serve all of the needs of the program or of Corvallis residents and is unsustainable given the objectives outlined in this plan. Today's staffing level has resulted in a low level of service to internal city departments, and it has severely restricted the growth of the program which require additional resources for the development of marketing and informational material and outreach to private landowners and potential volunteers.

*...because individual urban residents control a substantial portion of the urban forest, their understanding of how their activities influence the urban ecosystem is crucial to sustaining desired benefits. Open dialogue among the involved parties not only clarifies management issues, but also creates a mechanism that will enhance information sharing and technical assistance to landowners and community residents. As part of this partnership, managers also have a heightened ability to reduce detrimental human forces for change in the urban forest such as improper pruning, unnecessary tree removal, and damage to trees...[T]he collaboration among multiple groups to meet common goals is an important emphasis for the future. But it is clear that collaboration among these diverse agencies and groups does not just happen on its own; special efforts are needed to make it happen and continue into the future.
(Dwyer, et al; 2001)*

Recommended Approach: Near-Term

In order to meet the objectives of this plan, additional staff resources are necessary and critical. Specifically, the addition of another full-time position can enable a discrete focus on enhancing Program communications and marketing, while providing significant relief to the urban forester through a reallocation of duties and priorities. In the near-term (within 1 year), the following staffing configuration is recommended:

- **Urban Forester (1.0 FTE):** Responsibilities could include overall Program management and oversight of staff and contractors, in addition to negotiating and overseeing service contracts; prioritizing projects and activities; developing SVMPPs; conducting tree assessments, site plan reviews and construction site inspections; reviewing and implementing existing Land Development Code provisions, existing SVMPP's and existing land use approvals, where applicable to UFMP efforts; fostering partnerships and seeking additional program funding.
- **Communications/Outreach Specialist (1.0 FTE):** Responsibilities could include preparation marketing strategy and marketing/informational materials; coordinating broad community outreach, via presentations, discussions and trainings; cultivating community involvement and managing all aspects of festivals, plantings, heritage/notable tree program, NeighborWoods program and outreach to area

students; developing relationships with residential and business property owners to promote stewardship, education and assistance; performing other urban forestry functions as needed. Position should obtain ISA certification shortly after hire.

Recommended Approach: Long-Term

As the Program's community outreach and marketing matures, an additional staff position is recommended to further refine and balance the workload and enable the urban forester to focus more attention on funding, partnership opportunities and program management.

- **Urban Forester (1.0 FTE):** Same as above, except permitting, plan review and site evaluations shift to Assistant. Additional responsibilities include fostering stronger ties to OSU; designing internship and research opportunities; developing new partnerships and sponsorships; crafting and modifying codes and policies.
- **Communications/Outreach Specialist (1.0 FTE):** (same as above)
- **Urban Forestry Assistant (0.5 FTE):** Responsibilities could include processing tree permits; reviewing site plan submittals; reviewing and implementing LDC provisions and existing SVMPS, coordinating street tree service requests; performing other urban forestry functions as needed. Position should report to the Urban Forester and possess ISA certification prior to hire.

Budget Implications

Based on current budget estimates for staff and equipment, the addition of 1 FTE will require approximately \$75,000 in salary and benefits (assuming base salary of \$55,000 with 35% overhead for benefits), plus other operating expenses such as computer equipment and software, dues and subscriptions, telephone service and overhead such as equipment repair and replace costs.

The addition of both recommended positions (1.5 FTEs) will require approximately \$115,000 annually (plus additional

overhead and equipment charges) – bringing the staffing budget for the Program to \$210,000 to \$220,000 per year.

CORVALLIS URBAN FORESTRY PROGRAM: SERVICE DELIVERY CAPACITY

Key:

○	No energy available for the activity
◐	Inadequate energy available for a successful outcome
●	Adequate energy available for a successful outcome

	Staffing Levels		
	Current 1.0 FTE	Moderate 2.0 FTE	Preferred 2.5 FTE
PROGRAM ADMINISTRATION & PLANNING			
Policy Development			
Compose and update policies in municipal and development codes	◐	●	●
Coordinate policies and management practices between other city departments	◐	●	●
Develop standards, guidelines and protocols for planting, pruning and care of trees	◐	◐	●
Develop guidelines and incentives for private tree protection and care	○	◐	●
Update and expand street tree selection list	◐	●	●
Long-Range Planning			
Canopy Analysis and GIS Study	◐	◐	●
Strategic Management Plan development	◐	◐	●
City Comprehensive Plan goals and objectives	○	◐	●
Staff support to CBUF Commission			
	◐	●	●
Limited-term staffing			
Develop and manage internship and mentoring program	○	◐	●
Recruit, schedule and assign seasonal workers	◐	◐	●
Program Budgeting & Funding			
Annual budget development and review	◐	●	●
Assessing alternative funding options	○	◐	●
Grant Research & Applications	○	◐	●
Contract Management / Procurement			
Contract & bid specifications	◐	●	●
RFPs/RFQs for contracted services	◐	●	●
Selection/purchase of tree stock for planting projects	◐	●	●
Marketing strategy development			
	○	●	●
Overall program performance evaluations			
	○	◐	●
Provide leadership for other forestry staff (limited- or full-term)			
	○	◐	●
RESOURCE MANAGEMENT			
Public & Street Tree Management			
Coordination of planning, planting, and maintenance of all public trees	◐	◐	●
Permit program management (planting/pruning/removals)	◐	●	●
Corrective/structural pruning of young trees	○	○	●
Inspection of contractor and City agency work	○	◐	●
Review specific maintenance/management plans	○	◐	●
Preparation/coordination of pruning and repair activities for Central Business District trees	◐	●	●
Tree Inventory Data Management			
Conduct public and street tree inventory	◐	●	●
Update and expand inventory	◐	●	●
Analyze data and prepare summary and detail reports	○	◐	●
New Construction / Site Development Review			
Development Plan Review	◐	●	●
On-site, post-installation inspection of plantings	○	◐	●
On-site monitoring of plant health/establishment per code	○	◐	●
Dutch Elm Disease program monitoring			
	●	●	●

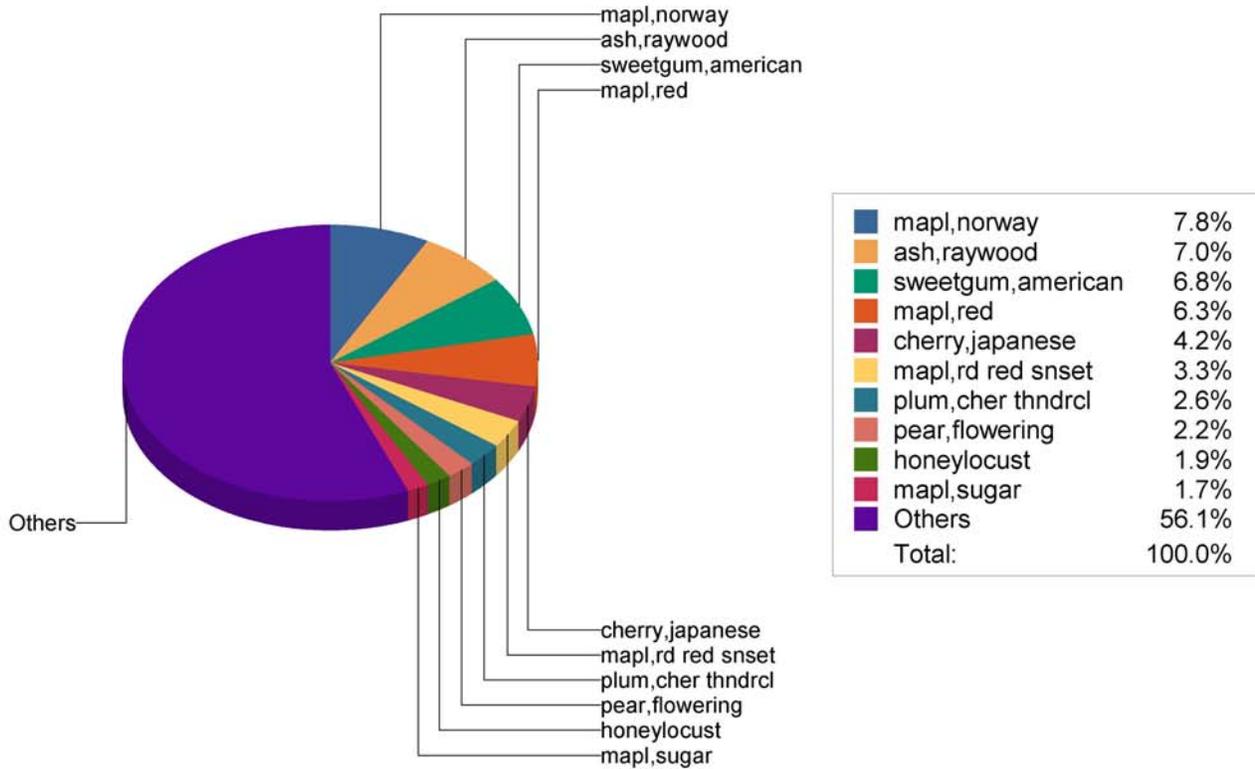
Develop and coordinate tree planting projects city-wide	◩	●	●
Service Requests (hazard tree inspection, conflicts, etc.)			
Hazard tree inspections/evaluations/removals	◩	●	●
Tree valuations/appraisals	◩	●	●
Construction impacts & tree damage penalties	○	◩	●
Complaint investigation	◩	◩	●
Interdepartmental technical support			
Parks	◩	●	●
CD: Development Review	◩	◩	●
CD: Planning	◩	◩	●
PW: Transportation	◩	◩	●
PW: Urban Streams	◩	◩	●
PW: Engineering	◩	◩	●
Emergency response - snow/ice/wind damage, disease/pest outbreaks	○	◩	●
Coordination with OSU, utility companies and contractors	◩	●	●
PUBLIC EDUCATION & COMMUNITY STEWARDSHIP PROJECTS			
Marketing and Educational Material			
Design and print informational materials (brochures, fliers)	○	●	●
Expand and maintain Program webpage	○	●	●
Compose an annual volunteer or program update newsletter	○	●	●
Strengthen relationships with local media outlets to increase program exposure	○	●	●
NeighborWoods Volunteer Program			
Recruit and train volunteers	◩	●	●
Maintain volunteer records	○	●	●
Support neighborhood planting coordinators on planting projects	◩	●	●
Conduct project follow-ups and debriefings	◩	●	●
Program evaluation/redesign	○	◩	●
Outreach			
Prepare neighborhood- or ward-specific community presentations	○	●	●
Attend business district & community meetings	○	●	●
Offer presentations, workshops and walking tours to boost program understanding & support	◩	●	●
Provide cooperative or service learning opportunities to students	○	◩	●
Expand and strengthen outreach to Master Gardeners and other organizations	◩	●	●
Special Events			
Secure supplies, donations and volunteers	◩	●	●
Arbor Day celebration	◩	●	●
Earth Day celebration	◩	●	●
Spring Garden Festival, Insights to Gardening, Fall Festival, Farmers market	◩	●	●
Heritage Tree Program			
Define, develop and market tree program to community	○	●	●
Solicit nominations and process applications	○	●	●
Create Heritage Tree Inventory	○	◩	●
Tree City USA award application	●	●	●

Appendix H: Tree Inventory Data

Species Distribution



Report universe: All sites Selected subset of sites



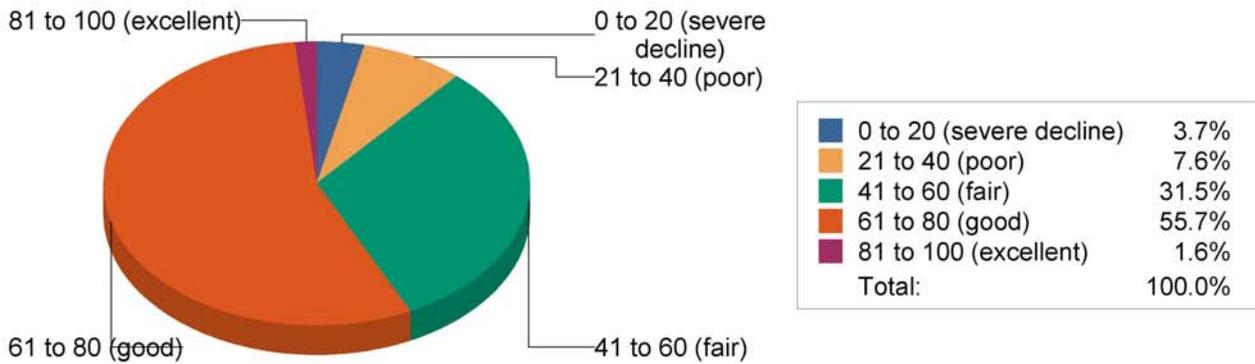
Species	Total Count	% of Total
mapl,norway	1,031	7.8%
ash,raywood	920	7.0%
sweetgum,american	901	6.8%
mapl,red	832	6.3%
cherry,japanese	552	4.2%
mapl,rd red snset	442	3.3%
plum,cher thndrcl	346	2.6%
pear,flowering	290	2.2%
honeylocust	257	1.9%
mapl,sugar	231	1.7%
Others	7,411	56.1%

Total # of trees: 13,213

Condition Distribution



Report universe: All sites Selected subset of sites



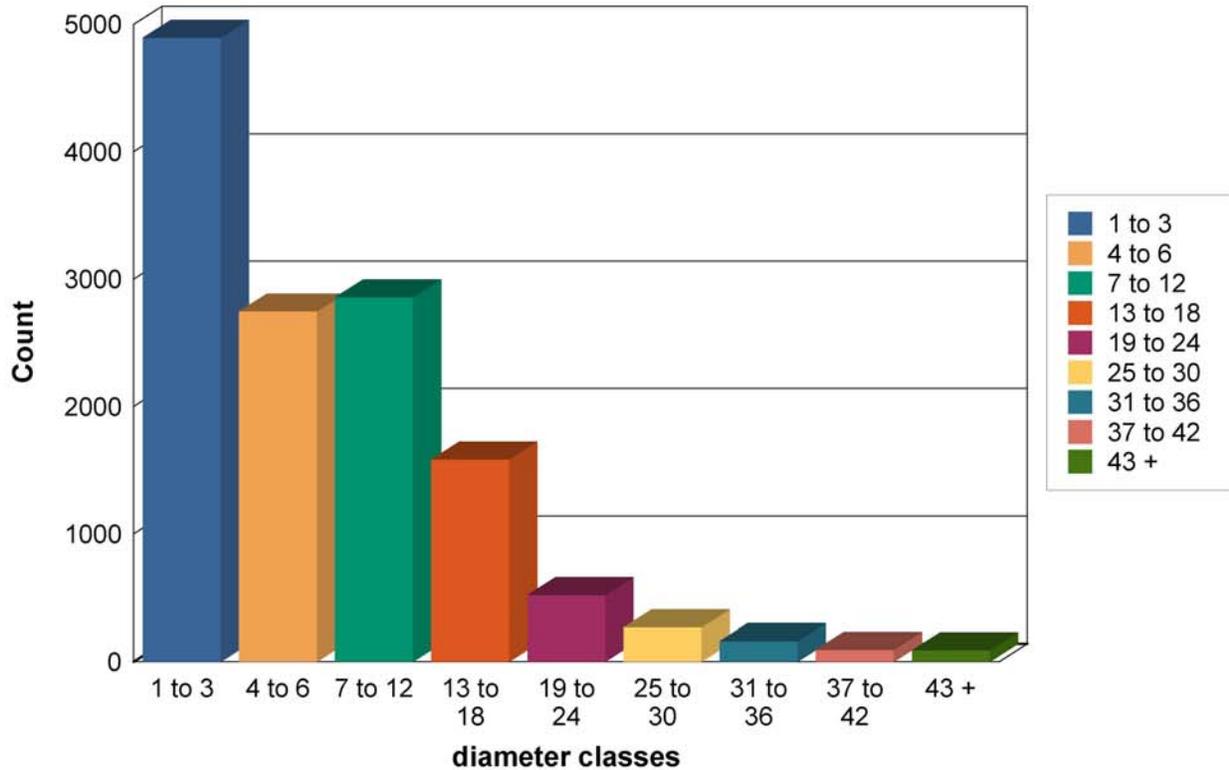
Condition Class	Count	% of Total
0 to 20 (severe decline)	494	3.7%
21 to 40 (poor)	1,001	7.6%
41 to 60 (fair)	4,156	31.5%
61 to 80 (good)	7,355	55.7%
81 to 100 (excellent)	207	1.6%
Total # of trees:	13,213	

Diameter (DBH) Distribution



Report universe: All sites Selected subset of sites

Note: Any trees with diameter = 0 are excluded from report



Diameter (DBH) Class	Count	% of Total
1 to 3	4,895	37.0%
4 to 6	2,746	20.8%
7 to 12	2,857	21.6%
13 to 18	1,583	12.0%
19 to 24	519	3.9%
25 to 30	267	2.0%
31 to 36	161	1.2%
37 to 42	94	0.7%
43 +	90	0.7%

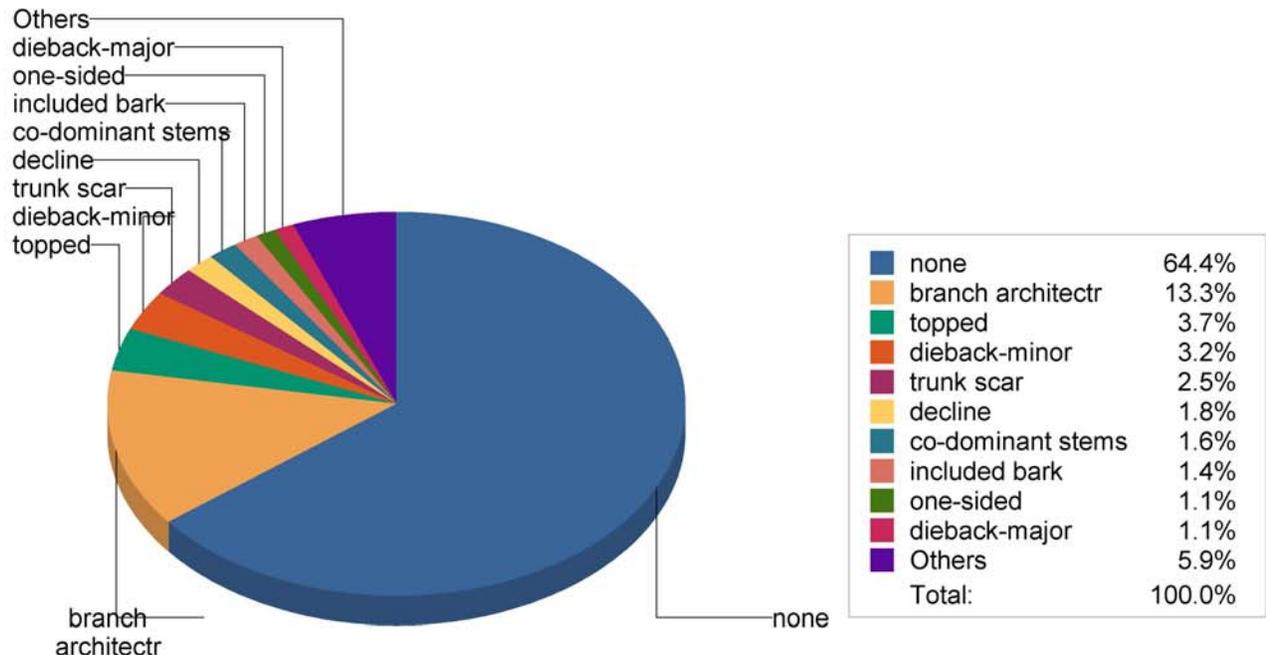
Total # of trees: 13,212

Structural Defect Distribution



Report universe: All sites Selected subset of sites

Note: Any secondary defects recorded in Notes section are not included in this report



Structural Defects	Total Count	% of Total
none	8,506	64.4%
branch architectr	1,756	13.3%
topped	495	3.7%
dieback-minor	417	3.2%
trunk scar	335	2.5%
decline	237	1.8%
co-dominant stems	208	1.6%
included bark	189	1.4%
one-sided	146	1.1%
dieback-major	141	1.1%
Others	780	5.9%
Total # of trees:	13,210	

Appraised Value



Report universe: All sites Selected subset of sites

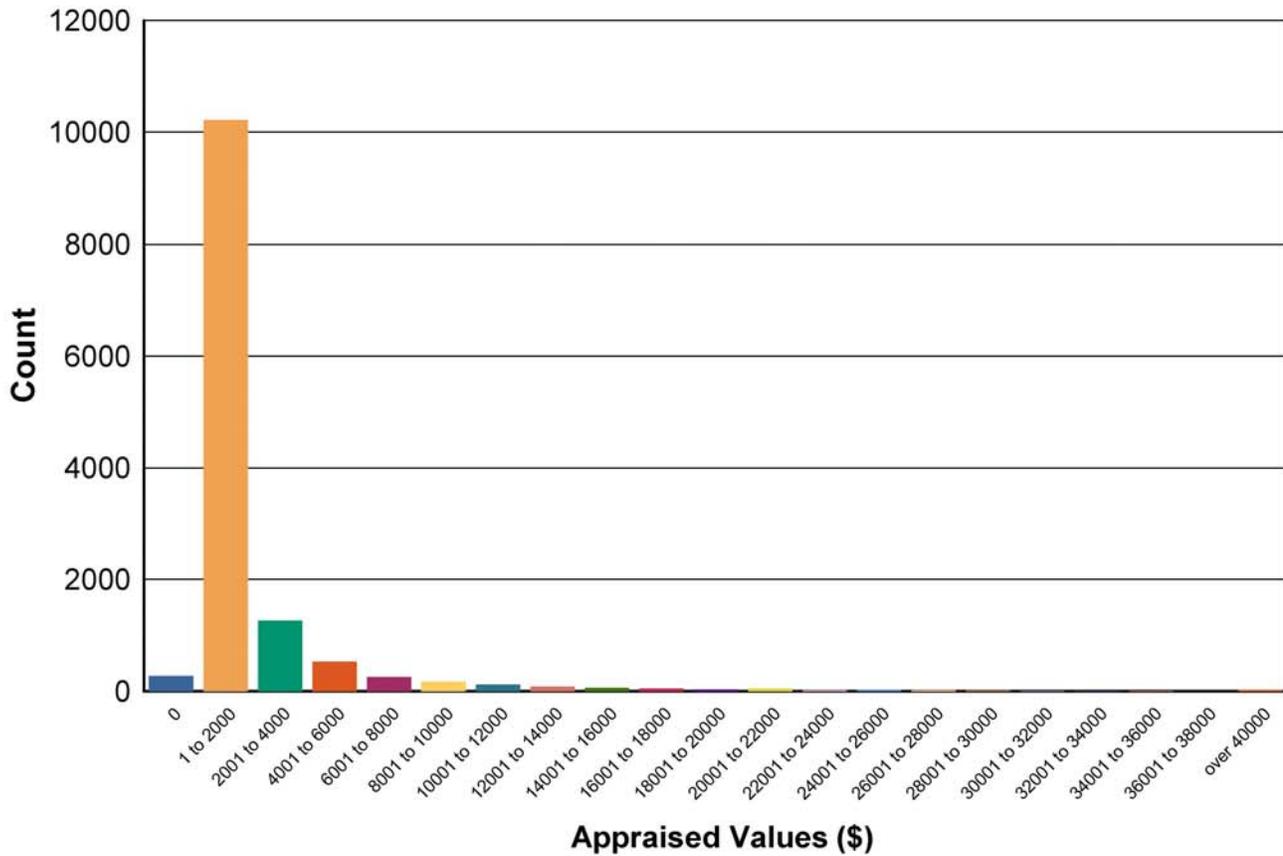
Note: Any trees with diameter = 0 are excluded from report

Note: Appraised values are calculated using CTLA/ISA formulas with user-supplied constants

Note: Trees with species = 'unknown', condition = 0 or location = 0 will result in an appraised value of \$ 0.00

Total # of trees in report:	13,212
Total appraised value:	\$24,691,930.00
Mean appraised value:	\$1,868.90
Median appraised value:	\$450.00
Maximum appraised value:	\$67,500.00
Minimum appraised value:	\$0.00

Appraised Value Distribution



Appendix I: Funding Options

Land Conservation Incentives

Forest Legacy Program - Oregon State Department of Forestry

This program provides funds to acquire permanent conservation easements on private forestlands that are at risk of being converted to non-forest uses such as residential or commercial development. Congress established the program in 1990, and ODF is the lead state agency for the program in Oregon. The program is intended to preserve “working forests,” where forestlands are managed for the production of forest products and where traditional forest uses are encouraged. These uses will include both commodity production and non-commodity values, such as healthy riparian areas, important scenic, aesthetic, cultural, fish, wildlife and recreation resources and other ecological values. Two regions in and around Corvallis were identified in the state’s Assessment of Need as areas focus; these include the Benton County–Corvallis Foothills–Southern Polk Forest Legacy Area and the Southern Willamette River Riparian Forest Legacy Area. This program may be applicable to properties within the unincorporated urban area with working forest lots.

Transfer of Development Rights

The transfer of development rights (TDR) is an incentive-based planning tool that allows land owners to trade the right to develop property to its fullest extent in one area for the right to develop beyond existing regulations in another area. Local governments may establish the specific areas in which development may be limited or restricted and the areas in which development beyond regulation may be allowed. Usually, but not always, the "sending" and "receiving" property are under common ownership. Some programs allow for different ownership, which, in effect, establishes a market for development rights to be bought and sold. Any such consideration of this approach would need to be explored in coordination with the Community Development Department

Land Trusts

Land trusts are private non-profit organizations that act to conserve locally important lands and traditionally are not associated with any government agency. Some of the land trusts serving the region include the Greenbelt Land Trust, the Nature Conservancy and the Trust for Public Land.

Local Funding Options

The city of Corvallis possesses a range of local funding tools, which could be accessed for the benefit of growing the Urban Forestry program. The sources listed below represent likely potential sources, but these are also dedicated for numerous other purposes which limit applicability and usage. However, discussions with city leadership is critical to assess the political landscape to modify or expand the use of existing city revenue sources in favor of urban forestry. Additionally, these sources can be used for overall program management, including staffing, planting projects, outreach and on-going maintenance.

General Obligation Bond

These are voter-approved bonds with the authority to levy an assessment on real and personal property. The money can only be used for capital construction and improvements, but not for maintenance. This property tax is levied for a specified period of time (usually 15-20 years). Passage requires a double majority (a majority of registered voters must vote and a majority of those voting must approve the measure), unless during a general election in even-numbered years, in which case a simple majority is required.

Storm Water Utility Fee

Corvallis Public Works has an established stormwater fee to maintain infrastructure such as inlets, pipes and urban streams to convey water through the community before being discharged in the Willamette River. While this fee does not currently support the Urban Forestry program, the potential use of this funding source would be a recognition to the importance of the urban forest for stormwater management functions, water quality protection, along with Clean Water Act, Clean Air Act and Endangered Species Act compliance.

Development Review Fee

The Corvallis Community Development Department currently assesses a fee from applicants seeking development approval. The revenue from fee collection supports the payment of staff for plan review activities. The Urban Forestry program could access this revenue source through an adjustment in the fee schedule to account for staff time associated tree plan and construction site reviews, and an interfund transfer process could be established to direct revenues to the Program.

Fuel Tax

Oregon gas taxes are collected as a fixed amount per gallon of gasoline purchased. The State of Oregon Highway Trust Fund

collects fuel taxes, and a portion is paid to cities annually on a per-capita basis. By statute, revenues can be used for any road-related purpose, which may include sidewalk and pavement repairs related to street tree damage, among others.

Community Development Block Grant

These funds are intended to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low and moderate income persons. Currently, Corvallis CDBG program funds are directed toward affordable housing and low-income assistance programs.

Front Foot Assessment / Street Utility Fee

A front foot assessment is the traditional funding source for street tree maintenance throughout the United States and provides a dedicated funding source for the management and maintenance of street trees, including planting, pruning and monitoring. [ORS review pending]

Other Funding Methods

Private Grants, Donations & Gifts

Many trusts and private foundations provide funding for urban forestry, park and natural area projects. Grants from these sources are typically allocated through a competitive application process and vary dramatically in size based on the financial resources and funding criteria of the organization. Philanthropic giving is another source of project funding. Efforts in this area may involve cash gifts and include donations through other mechanisms, such as wills or insurance policies. Below is a selection of potential grant sources.

National Tree Trust: Tree Seedling Grant Program

Through the National Tree Trust's Community Tree Planting program, municipalities, schools and non-profits can apply for tree seedlings to be planted on public property with the help of volunteers.

National Tree Trust: Partnership Enhancement Monetary Grant

This program is a partnership between the National Tree Trust and qualifying 501(c)(3) not-for-profit organizations. Its

purpose is to promote public awareness and a spirit of volunteerism in support of tree planting, maintenance, management, protection and cultivation projects in rural areas, and communities in urban areas throughout the United States. All grant funds must be matched equally (50%) by the applicant with non-federal funds.

National Urban and Community Forestry Advisory Council (NUCFAC) Grant

The National Urban and Community Advisory Council has overhauled their criteria for the US Forest Service's Urban and Community Forestry challenge cost share grant program for 2009. Grants will be solicited in two categories: innovation grants and best practices grants. As with the previous grant program, a 50% match is required from all successful applicants of non-federal funds, in-kind services and/or materials. <http://www.treelink.org/nucfac/>

Oregon Department of Forestry: Community Forestry Assistance Grant

Due to budget cuts, the Oregon Department of Forestry's Community Forestry Assistance (CFA) grants are no longer available. If funds become available, the program will be reinstated.

Oregon Department of Forestry: Urban and Community Forestry Small Projects and Scholarship Fund

The purpose of the Oregon Department of Forestry's Urban and Community Forestry Assistance Program's Small Projects and Scholarship Fund (UCF-SPSF) is to cover the small, yet sometimes prohibitive, administrative and material expenses directly related to community forestry projects encountered by smaller volunteer groups and cities across Oregon. Applications must be received by the end of each quarter for consideration.

Oregon Parks and Recreation: Local Government Grant

Local government agencies who are obligated by state law to provide public recreation facilities are eligible for OPR's Local Government Grants, and these are limited to public outdoor park and recreation areas and facilities. Eligible projects involve land acquisition, development and major rehabilitation projects that are consistent with the outdoor recreation goals and objectives contained in the Statewide Comprehensive Outdoor Recreation Plan.

<http://www.oregon.gov/OPRD/GRANTS/local.shtml>

Oregon Parks and Recreation: Land and Water Conservation Fund (LWCF) Grant

LWCF grants are available through OPR to either acquire land for public outdoor recreation or to develop basic outdoor recreation facilities. Projects must be consistent with the outdoor recreation goals and objectives stated in the Statewide Comprehensive Outdoor Recreation Plan and elements of local comprehensive land use plans and park master plans. A 50% match is required from all successful applicants of non-federal funds, in-kind services and/or materials.

<http://www.oregon.gov/OPRD/GRANTS/lwcf.shtml>

American Forests: Global ReLeaf Grant

The Global ReLeaf grant program provides private dollars to support local reforestation efforts and help match other funding sources. American Forests raises a dollar for every tree planted with Global ReLeaf. The dollars fund the reforestation projects. Competitive grant requests must maximize the use of total project funds per tree planted. Grants are available to support rural seedling projects restoring damaged forest ecosystems. Further information regarding Global ReLeaf Grants including application forms and criteria can be found at:

www.americanforests.org/global_releaf/grants/

American Public Power Association: TREE POWER Grant

To support tree planting efforts and encourage participation in the program, an APPA TREE POWER grant of \$2,500 is available to active program members. Each year at the APPA National Conference, a participant is chosen by random drawing to receive the TREE POWER grant. The winner is required to submit a report detailing how the grant money was used to benefit the program.

<http://www.appanet.org/special/index.cfm?ItemNumber=9402>

Private Fundraising

Fundraising projects generally are used to support special projects and programs. Tree climbing tournaments and plant sales are two examples of successful fundraising efforts. Additionally, specific types and sources of fundraising are identified below.

Endowment / Trust Fund

An endowment or trust fund, similar to the Casey Tree Endowment Fund of Washington D.C., could provide a funding source for future tree planting projects and maintenance operations. An aggressive capital campaign could raise the seed money to establish the fund, with future interest earned providing a stable, steady revenue stream. Also, the creation of a broader Corvallis Parks & Recreation Foundation can provide similar benefits if urban forestry objectives are a requisite funding component.

Business Sponsorships/Donations

Business sponsorships for programs may be available throughout the year. Sponsorships and donations can be of any value. For example, the Urban Forestry program can establish relationship's with local businesses or non-profits to offer trees (or funds for tree planting efforts) as part of each businesses' public relations and marketing strategies to add value for customers.

Appendix J: Goal 5 Summary

The following description of the City's land use standards, and the processes used to arrive at them, are intended to show the extent to which activities in the urban forest are already regulated and to describe the context into which the City's urban forestry management program fits.

Many activities undertaken by the City, including adoption of new protections or management programs for urban forests, can fall under the umbrella of land use. The City is required by the statewide planning program to manage land use based on the provisions in its Land Development Code and Comprehensive Plan. These provisions are required to be consistent with the Statewide Planning Goals and other rules and laws of the State of Oregon. Beginning in 1996, the City initiated its state-mandated Periodic Review of land use provisions. Adopted documents included Corvallis Vision 2020, a wholesale revision of the Comprehensive Plan, and a three-phased update to the Land Development Code. All three phases of the Land Development Code Update were finally implemented in December 2006.

With respect to the Urban Forestry Management Plan, the most important phase of the Land Development Code Update was Phase III, which included a Natural Features Inventory Project and a subsequent adoption of both Comprehensive Plan and Land Development Code Amendments to ensure that both complied with the Statewide Planning laws and rules (particularly Goal 5- Open Spaces, Scenic and Historic Areas, and Natural Resources). The project was completed with strong coordination between the City and Benton County, and in fact, Benton County also adopted comprehensive protections for wetlands and riparian areas throughout the Urban Growth Boundary (virtually identical to the City's) and protections for many significant tree groves (primarily oak-based). Because of these provisions, significant and very specific protections now exist within both the City and the Urban Growth Boundary for many resources that contain trees, including steep slopes, local streams and their associated riparian corridors, wetlands, and public and private tree groves both large and small.

A major component of these efforts as they pertain to the UFMP was the manner in which they were required to be developed and adopted. Goal 5 allows two separate paths for the development of some of these protections-- "safe harbor" and full Goal 5 analysis of the economic, social, environmental, and energy consequences of protecting or allowing development in areas containing natural resources. Using the full process, a jurisdiction is allowed to craft protections that fit local conditions and goals. This is the route taken by the City and Benton County in the implementation of the Natural Features protections in their Development Codes.

The preceding description of the City's land use standards and the processes used to arrive at them is intended to show the extent to which activities in the urban forest are already regulated. It is also intended to describe the context into which this very important next step in the City's urban forestry management program must fit. Many of the elements of the UFMP are refinements of existing standards or, more importantly, will fill gaps in the current program, and the UFMP is intended to compliment and further implement these standards. However, in all cases where a portion of the Urban Forest falls within a protected area identified on the Significant Vegetation Areas Map, Riparian Corridors and Wetlands Map, or the Natural Hazards Map, management efforts for that area will need to be accomplished consistent with the provisions of the Land Development Code associated with those Maps.