

ANALYSIS AND RECOMENDATIONS

ANALYSIS OF PORTLAND'S URBAN FOREST

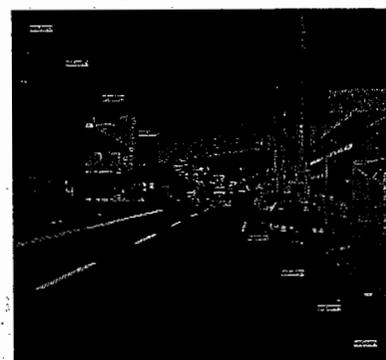
While Portland's urban forest is diverse and varied, there are common elements throughout all parts of the urban forest. They are addressed in this chapter. The following strengths, weaknesses, opportunities and threats are found in all areas of the city. The next chapter addresses the specific needs of the five different categories of the urban forest known as Urban Land Environments (ULEs).

STRENGTHS

- Portland has an excellent climate for trees and other plants.
- There is an active Urban Forestry Commission.
- Numerous bureaus and agencies have expertise in resource management and are involved in the planning and management of the urban forest.
- The city has many effective revegetation programs.
- Ordinances and environmental zones provide some protection to the urban forest.
- Residents are involved and provide stewardship through organizations such as Neighborhood Tree Liaisons, Save Our Elms and Friends of Trees.
- Residents appreciate natural resources, trees and vegetation and value the abundant opportunities to enjoy them.

WEAKNESSES

- Many bureaus are involved in the management of the urban forest, but their reasons for doing so are not necessarily compatible and the desired outcomes may be at odds with each other; consequences and side effects are not always anticipated.
- The urban forest is unevenly distributed. Economically disadvantaged neighborhoods often have fewer trees than more wealthy areas. People in poorer areas have fewer resources to care for trees and vegetation.⁶⁰ This often results in fewer street and yard trees or trees that are in poor condition in certain areas.
- Information about the overall quality and quantity of the urban forest is not coordinated, although there are some surveys of trees in several neighborhoods and of the forest canopy.⁶¹



Streets without trees

⁶⁰All residents are required to maintain street trees in their right-of-way, which may be more difficult for those in poorer areas.

⁶¹See Appendix.

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- Finding places with enough room for large canopy trees is challenging even though those trees provide greater environmental and psychological benefits.
- There is an increasing trend to plant small trees instead of large canopy trees.
- Some developers and property owners do not comply with regulations and ordinances.
- Trees in rights-of-way are often removed and not replaced.
- Funding for the urban forest comes from a variety of sources, and little of it is stable.⁶²
- There is not enough staff to enforce regulations.

OPPORTUNITIES

- There are areas available for additional trees in all parts of the city.
- There is increasing public interest in improving natural resources and the urban forest.
- Many remnant stands of large Douglas fir trees exist in Portland's parks. With active management these stands can survive into the future.

THREATS

- Increased density in the city results in more impervious surfaces and less tree and vegetation cover.
- The need to accommodate increased density puts pressure to develop on hillsides and in stream corridors.
- Invasive non-native plants — especially English ivy (*Hedera helix*) and wild clematis (*Clematis vitalba*) — are a major problem in public and private natural areas, and seriously threaten the health of the urban forest.
- Pests and disease can have sudden and devastating effects, especially in areas that lack species diversity.
- Wildfires threaten the urban forest as well as homes and businesses in certain areas.

As this analysis shows, there are many strengths to build on, and opportunities to take advantage of. There are also numerous weaknesses and threats to overcome.

⁶²Urban Forestry's budget accounts for only about 0.50% of the City budget, and only provides for care of trees in parks. Most tree work is reactive and involves removal of hazards, not health care or preventive maintenance. Compared to cities of comparable size across the country, Portland's Urban Forestry program spends \$2.65 per capita on the urban forest while other cities spend \$3.61 per capita on average. On a per-acre basis PP&R's Natural Resources program is funded at 10% to 50% of similar programs across the country.

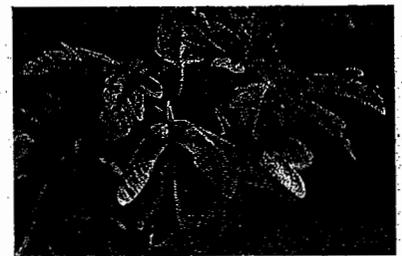
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RECOMMENDATIONS AND ACTIONS

This section gives recommendations for improving all portions of the urban forest. The intent is to move from reactive, fragmented management to proactive, integrated and coordinated management. The involvement and cooperation of all of the bureaus and agencies that manage the urban forest is key to success.

COORDINATE. *Coordinate the roles, responsibilities, policies and projects of City bureaus, agencies and partners for planning and managing the urban forest.*

- Urban Forestry will convene a permanent Urban Forestry Policy Group to coordinate management of the urban forest with representation by all major partners and the Urban Forestry Commission. Management tasks will be based on expertise, available resources and mandated responsibilities to assist in carrying out the following recommendations. The purpose of the group is not to replicate existing process, code, administrative rule and committee provisions but to coordinate efforts between bureaus and to help those bureaus with primary responsibility to carry out their tasks.
- Coordinate citywide plans and revegetation and restoration activities for wildfires, floods, stormwater, view preservation and global warming to ensure that urban forest goals for different bureaus and agencies are compatible.
- Prepare an annual report on activities and accomplishments for affected bureau directors, the commissioner in charge of Parks and the Urban Forestry Commission for use in City regulatory compliance documents and for the general public.⁶³
- Develop standing committees to coordinate the projects and activities in each ULE. Assess and report annually on progress toward meeting objectives for each ULE.
- Encourage all City bureaus and agencies to make tree planting and vegetation management a priority in their developments, capital improvements and operation programs and long-range plans.
- Work with Metro and cooperate with other municipalities to manage and maintain the regional urban forest.
- Maintain strong partnerships with groups such as Friends of Trees and Save Our Elms, and develop new alliances that expand and improve the urban forest.



Paperbark maple (Acer griseum)

⁶³ BES reports on similar activities to DEQ in the NPDES Stormwater Annual Compliance Report.

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Encourage all city bureaus to make tree planting a priority.

DOCUMENT. Characterize, inventory, and document the health and condition of Portland's urban forest.

- Determine the economic benefits of canopy and use the information to educate the public and city policy makers.
- Quantify the relationship between canopy cover, stormwater reduction and water quality. Some areas, such as the Columbia Slough, could experience great water quality gains with increased canopy.
- Coordinate data gathering, inventories and mapping projects with other City bureaus and agencies to gather and interpret information about canopy cover.
- Determine information needs for the city as a whole and for each ULE.
- Establish baselines and monitoring procedures to assess, quantify and track trends and changes in the urban forest on a periodic basis. Repeat satellite canopy cover studies every 5 to 8 years.
- Identify areas of greatest opportunity and need as priorities for improving the urban forest.
- Analyze and evaluate the effectiveness of the performance measures outlined for each ULE.

PRESERVE. Develop and coordinate effective maintenance and stewardship programs to maintain, restore and preserve the existing urban forest and ensure the safety of the public.

- Encourage City bureaus to make tree preservation a priority in their development projects and operations.
- Identify, preserve and protect healthy trees and plants in the urban forest.
- Establish cost-effective preventive maintenance programs to improve the health and safety of park, public and street trees.
- Develop and adopt appropriate maintenance standards and practices for each ULE.
- Prepare plans and educate staff and the public on how to address outbreaks of pests and diseases that may threaten the urban forest.

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- Utilize new technology such as structural soils and pervious pavement to improve growing conditions for trees in harsh environments such as urban streets and industrial areas.
- Remove invasive non-natives and other unsuitable vegetation where appropriate.
- Promote the use of fire-resistant trees and vegetation in appropriate places.
- Replace trees and vegetation lost due to development, redevelopment and disease, and mitigate impacts to the environment from development and human uses.

INCREASE. *Identify and utilize areas where additional trees and vegetation can be added to improve and enhance the urban forest, especially large canopy trees in appropriate areas.*

- Focus planting efforts in tree deficient areas in order to distribute the urban forest equitably throughout the city. Develop criteria and prioritize planting areas.
- Identify all planting plan opportunities. Focus planting efforts on tree-deficient areas of Portland. Identify and utilize non-traditional planting areas such as curb extensions, roof tops and others.
- Acquire or establish areas where trees can be planted as mitigation for tree cutting that occurs in other areas of the city.
- Promote the use of a diversity of large canopy trees that provide maximum benefits in appropriate areas.
- Encourage plantings that are long-lived and sustainable over time.
- Plant appropriate trees and vegetation in appropriate places.
- Consider overall species and age diversity when adding new trees.⁶⁴
- Encourage planting of evergreens in appropriate areas.



Noble fir (Abies procera)

⁶⁴This does not apply to natural areas.

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Tree Neighborhood Liaisons are champions for local tree issues.

EDUCATE. *Increase awareness and understanding about the value and benefits of the urban forest and promote proper care for the urban forest.*

- Baseline/Immediate Actions: Develop education plans that raise awareness of the urban forest, promote the planting of trees and vegetation, improve the care of urban forest and explain the benefits of the urban forest.
- Coordinate education and outreach programs and materials internally with City bureaus, and externally with partner agencies, neighborhood associations and coalitions.
- Initiate multi-media awareness campaigns about the benefits of the urban forest for target audiences and provide them with appropriate and easy to understand information.
- Educate the public about the serious threat posed by English ivy (*Hedera helix*) and wild clematis (*Clematis vitalba*).
- Encourage each Neighborhood Association to have two Tree Liaisons⁶⁵ to be the champions for local tree issues. Establish local neighborhood 'Tree Boards' to deal with local urban forest issues. Involve youth in the Neighborhood Tree Liaison program.
- Provide ample volunteer opportunities for citizen involvement in urban forestry projects and events. Maintain or increase the Urban Forestry Program's annual number of volunteer hours.⁶⁶
- Promote Arbor Day, the Urban Forestry Commission's Heritage Tree Program and awards and other bureaus' programs that celebrate the urban forest.
- Partner with the Office of Sustainable Development's Green Building program to educate the development community about the importance of the urban forest and its economic value.
- Develop and adopt appropriate planting and design standards that provide clear information about allowed urban forest activities in each ULE.
- Link education programs with incentives. (See next item.)

⁶⁵The Urban Forestry Program trains volunteers to be Neighborhood Tree Liaisons.

⁶⁶The Urban Forestry Program's current target is 3,000 volunteer hours per year. UF also aims to have information tables at 20 events per year.

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ENCOURAGE. *Develop and implement incentives that provide tangible benefits for the planting, care and permanent protection of the urban forest.*

- Identify and promote actions that should be rewarded such as:
 - Voluntary upgrading of existing commercial/industrial developments to meet current landscape codes.
 - Preservation of wooded ridgelines, riparian corridors and wildlife areas.
 - Use of sustainable management practices.
 - Integrated pest management (IPM) practices.
 - Conservation easements.
 - Planting large maturing trees when feasible.
- Baseline/Immediate Actions: Develop a variety of attractive incentives such as, but not limited to:
 - Land use density bonuses.
 - Transfer of development rights in sensitive areas.
 - Property tax incentives.
 - Rebates and discounts that encourage planting trees and vegetation.⁶⁷
 - Voucher/coupon systems.

Ensure adequate staff and resources to manage all areas of the urban forest.

FUND. *Establish stable funding and adequate resources and staff to maintain, preserve restore and increase all aspects of the urban forest.*

- Ensure that bureaus, organizations and agencies have adequate funds to manage those areas of the urban forest for which they are responsible. In doing this, establish a logical connection between the funding source and the expenditure.
- Explore and develop alternate funding mechanisms such as:
 - Bond measures.
 - Endowments, using the interest for operations and expenses.
 - Front foot assessment for street trees.⁶⁸
 - Permit fees.
 - Gas taxes/road taxes for street trees.

⁶⁷Bureau of Environmental Services does this through Friends of Trees and the Downspout Disconnect program. See Appendix.

⁶⁸A Front Foot Assessment would assess everyone whose property abuts a public street for a certain amount of money per linear foot of the abutment per year. This money would allow the City to take care of street trees — removal, pruning, etc., that is now the responsibility of the property owner (in some cases a major expense). It could also include seasonal leaf removal. (It would probably not include sidewalk maintenance.) FFA is done successfully in many cities in Ohio, in Vancouver, B.C., and in a suburb of Denver.

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- Trust funds with funds coming from tax-exempt donations or proceeds from sale of unused City-owned properties.
 - Surcharges that relate to the urban forest, e.g., a tax on lumber.
 - Carbon Dioxide offset program.
- Coordinate and prioritize funding among bureaus for projects and to support the Urban Forestry Coordinator position.

REGULATE. *Develop and enforce effective regulations and planting and design standards that ensure the health, quality and benefits of the urban forest.*

- Coordinate, consolidate and enforce all regulations and standards that relate to the urban forest and to site development.⁶⁹
- Develop and implement enforceable regulations with effective penalties.
 - Identify, develop and implement inspection and enforcement needs for tree preservation and tree-related development review activities. Provide training to inspectors on urban forest and tree issues.
 - Continue to evaluate the effectiveness of regulations.

MAKING THE VISION A REALITY

It will take the coordinated efforts of all the managing bureaus and agencies to implement these policies and actions and will take the commitment and involvement of all of Portland's residents to achieve the far-reaching vision presented at the beginning of this plan. To learn more about the urban forest and to get involved in this effort, contact any of the sources of information listed in the Appendix.

Working together, we will have "a healthy, sustained urban forest, carefully managed and cared for, which contributes to the economic and environmental well-being of the city."



A healthy urban forest

⁶⁹The City is currently considering revising and consolidating many regulations, including tree caliper size and tree/landscape requirements.

