

3

Urban Forestry Best Management Practices for Public Works Managers Ordinances, Regulations, & Public Policies





3

Urban Forestry Best Management Practices for Public Works Managers Ordinances, Regulations, & Public Policies

Contents

Introduction	1
Ordinances	2
Planning and Zoning Regulations and Tools	7
Public and Department Policies.....	9
Recommendations	12
For More Information.....	14
Thank You	15



Introduction

Enacting laws and policies that make public prohibitions and direct action in a certain way is not a popular way of influencing behavior. However, sometimes an issue is so important and complex that legislation and official policies are appropriate tools for local governments to use to protect its citizens and property. Managing urban forests and natural resources is an important and complex issue.

Various types of legislation, regulations, policies, and other tools can be particularly effective in protecting natural resources since the very nature and location of these resources often cross public and private lines, and the presence or absence of them in a community can greatly affect the community and surrounding areas.

This guide is intended to introduce communities to the myriad of regulatory tools available to assist in the proactive management of the urban forest.

Ordinances

Communities can regulate the urban forest through a variety of legislation. Most legislation has been created and amended over time on the local level, but federal and state regulations and laws sometimes supersede and dictate the local community's ability to control and manage trees on public and private properties. The following is a discussion of the primary legislation and regulations that can affect the urban forest.

Tree Ordinances

Tree ordinances reflect the values of a community and the worth of a community's trees or urban forest. A tree ordinance encourages tree planting and tree maintenance to secure the beautification, air-cooling and purification, noise abatement, property value enhancement, wildlife habitat, and the public health and safety benefits trees provide.

An ordinance contains the legal provisions adopted by the local or community government to provide authority, define responsibility, offer guidance to residents, and establish minimum standards for a community's tree program. *An individualized tree ordinance should be developed for each community; one ordinance does not fit all local situations.*

Key Benefits to Adopting a Tree Ordinance

- ❁ *Provides permanent procedures and legal authority*
- ❁ *Establishes an official policy for the community*
- ❁ *Helps establish new tree management programs*
- ❁ *Identifies standards and regulations for arboricultural practices, such as planting, removal, maintenance, and selection of appropriate tree species for the public trees.*
- ❁ *Makes the community's tree management program more visible*
- ❁ *Establishes a program independent of changing public opinion and finances*
- ❁ *Provides a channel through which governmental departments may interact*
- ❁ *Establishes the nature and degree of public responsibilities to the community's trees according to specific standards*
- ❁ *Provides the means to educate the public about the benefits of the urban forest*

(Ricard, 2002)

For a government to legitimately claim to have a comprehensive urban forestry program, a street tree ordinance should be in place. Generally, simple tree ordinances guide the management of public trees. They address issues such as proper planting, maintenance, liability, and responsibility. A street tree ordinance can establish standards and set guidelines. It is the legal framework within which local tree management activities are conducted for the general welfare.

They also act as a solid example of how the entire community and citizens should manage the trees under their control. Tree ordinances can protect the valuable natural resource of the urban forest and ensure that it is protected to provide public health and safety, as well as many other important benefits.

Although ordinances may vary widely in form, content, and complexity, an effective tree ordinance should meet the following criteria:

1. **Goals** should be clearly stated and ordinance provisions should address the stated goals.
2. **Responsibility** should be designated, and authority granted commensurate with responsibility.
3. **Basic performance standards** should be set.
4. **Flexibility** should be designed into the ordinance.
5. **Enforcement** methods should be specified.
6. The ordinance should be developed as part of a **comprehensive management strategy**.
7. The ordinance should be developed with **community support**.

The first five criteria are key features of the ordinance itself. The last two criteria reflect the background in which the ordinance is developed. Although an ordinance meeting these criteria is not guaranteed success, ordinances lacking one or more of these elements will definitely be handicapped.

Tree ordinances are among the tools used by communities striving to attain a healthy, vigorous, and well-managed community forest. By themselves, however, tree ordinances cannot assure that the trees in and around our communities will be improved or even maintained. Tree ordinances simply provide the authorization and standards for management activities. If these activities are not integrated into an overall management strategy, problems are likely to arise. Without an overall strategy, management can be haphazard, inefficient, and ineffective, and the community forest will suffer.

The effectiveness of a tree ordinance can be influenced by many factors:

- Do the residents support or oppose various ordinance provisions and other regulations, or are they even aware of them?
- Can the ordinance be enforced adequately?
- Will the ordinance account for existing environmental and structural limitations that affect tree health, growth, and survival?
- Will the government have the personnel and financial resources to fulfill ordinance requirements?

These questions should be asked at the

beginning of creating a new ordinance or when revising and updating an existing ordinance. The honest answers to these questions will help public works agencies and other urban forestry program stakeholders determine if the ordinance and its provisions will succeed.

It is very important that a tree ordinance meet the needs of the community for which it is written. Beware of copying an ordinance that was successful in one community because your community probably has different needs and, therefore, requires a different type of ordinance.

A public tree ordinance is not an end in itself; rather it is one of a number of important tools that must be used to attain a healthy, vigorous, and well-managed community forest. An ordinance is not a panacea for poor or inadequate management of community tree resources, but it is a valuable support mechanism for comprehensive community forest management and should not be viewed as simply another regulation.

Tree Preservation Ordinances

Tree preservation ordinances expand on the general principles and goals of the simple tree ordinances by addressing larger issues such as protection of trees on private property, protection of trees in critical areas, such as streambanks, floodplains, and steep slopes, and protection of unique forest ecosystem areas.

The goals of tree preservation ordinances can include:

- Reducing tree loss during development
- Reducing damage to standing trees during construction
- Providing for replacement of trees lost during construction
- Providing for planting trees where none occurred previously
- Providing for the maintenance of preserved trees after construction is completed

Determining the goals and scope is an important part of developing the ordinance. The scope of the ordinance may cover only projects undertaken by a government on public land, or it could also include work by utility companies, private residential, commercial, or industrial projects. There may be a minimum size for a project to be regulated, measured in land area or in project cost. The ordinance may regulate only tree preservation or may also include replacement and new planting. It may or may not include provisions for education or enforcement. The heart of the ordinance should be the preservation of trees within a development proposed for a forested area. There are many variations to the intent of tree preservation, but the bottom line becomes what should be preserved—the forest or the trees.

This often becomes an issue of just how many trees make up a forest. Some ordinances will list a percentage of trees lost versus the total trees remaining in the form of a tolerance barometer, i.e., a loss of more than 35 percent

of trees due to a proposed development would be unacceptable, and a new plan would have to be submitted for approval. Some ordinances use a minimum basal area to ensure a minimum canopy cover for all land within the municipality.

Another approach is to specify that the forest left following development will be similar to the one existing before the project was completed, i.e., if 15 percent of the trees on the site were larger than 24 inches, then trees this size should make up 15 percent of the trees remaining after construction. The intent of this provision is to have forests of similar size distribution after development, thereby preserving the character of the forests. For example, if there were 1,000 trees on a site and 150 trees were large diameter trees, then when the site is developed and there are 100 trees left, 15 trees would be in the larger diameter classes.

Tree replacement is a simple concept, but to be equitable it can become a very complex procedure. For example, an ordinance may require that the loss of a 30-inch diameter tree must be replaced with the planting of fifteen 2-inch diameter trees. However, it may be difficult, and potentially impossible, to find enough suitable planting locations for the replacement trees. This approach also fails to mitigate the environmental effect of mature tree loss.

A variety of replacement strategies are possible within tree preservation ordinances including:

- Requiring developers to set aside wooded areas as preserves
- Sliding scales
- Percentage replacement
- Off-site reforestation
- Flexible, no-net loss formulas

Each approach has its advantages and disadvantages; no approach is perfect. The intent of a tree preservation ordinance should be to provide incentives for unique and creative project designs that complement the existing forests and replace excessive tree loss.

Developing an ordinance that creates incentives is a positive way to achieve compliance. For example, preserved trees may be credited to the landscaping typically required on a project. In addition, a protected forest may be dedicated to the community in lieu of park dedication requirements.

Trees and forests are valuable elements in any community's infrastructure. Development in a community from the construction of a single building to the improvements found in a new residential subdivision can have adverse and permanent impacts upon this important natural resource.

Each community must decide upon its own appropriate balance of trees and development. Both are important. The creation of a tree preservation ordinance can assist in determining what an appropriate balance is for the community. When all of the affected parties—from property owners

to developers and builders to government officials—are involved in making these decisions and, ultimately, creating the tree preservation ordinance, the community inevitably improves the quality of life for its residents without sacrificing economic progress.



Planning and Zoning Regulations and Tools

As the population and economy grows, communities across the country are growing too, and at a rapid rate. However, sometimes the success of a place can threaten the very reasons and resources that made it so attractive in the first place. Rapid development can lead to staggering losses of greenspace and urban and rural forest resources. Clear-cutting building sites for construction, accidental damage, utility excavation, road construction, land grade changes, and pollution from developing areas can destroy millions of trees each year. In response to this situation, communities turn their attention to a variety of planning and zoning tools to help guide and direct growth in a reasonable and fair way to achieve the greatest benefits for all. Commonly, tree protection and planting are made part of these tools. Typically, planning and zoning regulations, plans, and guidelines are determined by and are the primary responsibility of the local or regional planning agency. However, public works departments often help enforce and inspect projects governed by these planning regulations. These regulations and tools can significantly affect the urban forest and are briefly described below.

Comprehensive Plans

Comprehensive plans are typically developed at the local level by a county, township, or community. Comprehensive land use plans are an all-inclusive document that identifies a community's resources, both the natural and built environment, and plans for future growth and development. Generally, a community must establish a comprehensive plan prior to enacting zoning, subdivision, and land development regulations.

A comprehensive plan is typically a static document that establishes goals and policies for a community to implement over a ten- to twenty-year period, at which time a new plan is developed. Throughout the life of a comprehensive plan, it is usually reevaluated and updated to identify the progress a community has made in implementing the various goals and policies, to account for significant land development and changes, and to accommodate new goals of the community.

This plan can and does impact the management of the urban forest resources. A common component of a comprehensive plan is information on the location and quality of natural resources of the community. Based on that and other information, the plan can be developed to allow for some level of preservation and protection of the community's key natural resources.

Even though the responsibility of the comprehensive plan is primarily with the local planning agency, the public works agency responsible for the urban forest can and should participate in the development or updating process. A comprehensive plan usually documents a community's urban forest resources and identifies goals for preservation, enhancement, and even restoration. Public works managers can help establish goals for individual public street trees, privately owned trees, and large tracts of woodlands located in the community.



Zoning, Subdivision, and Land Development Regulations

Zoning, subdivision and land development regulations are important regulations that are routinely used by a community to control and guide the amount and type of growth occurring at any given time. Related to urban forest management, these regulations can address a number of issues:

- Land use
- Land disturbance mitigation
- Tree/forest cover requirements
- Erosion Control
- Replacement planting
- Tree protection

They can attempt to preserve tree canopy by requiring developers to submit detailed plats, construction, and development plans and documents indicating the presence of large diameter trees and groups of forest trees, identification of tree protection and tree preservation areas, and landscaping calculations.

Zoning, subdivision, and land development regulations are frequently amended and are considered living documents that are revised as the development climate changes, new building technologies are developed, and land and natural resource information is learned. Since they are often revised, it is important for public works managers charged with managing the urban forest to become informed and involved in the process.

Land Development Regulations often address many issues that are related to urban forest management:

- Site plan review
- Landscaping and tree cover requirements
- Tree protection
- Erosion and sediment control
- Storm water management

Public and Departmental Policies

Dictionary definitions of “policy” include “prudence or wisdom in the management of affairs;” “a definite course of action selected from alternatives;” and “a high level overall plan.” Especially for operational duties, like tree maintenance and planting, appropriate internal policies regarding urban forest management can aid in the development and sustainability of a program.

Without formal public policies authorized by the public works department head and/or council, or without administrative regulations and policies from the city or county manager, there may not be the framework and support for a coordinated, efficient, technically competent, and comprehensive urban forest management program. Clear and reasonable policies encourage independent departments, other governmental agencies, utility companies, businesses, and even the citizens to interact and function cooperatively with each other.

Without general guidance and cooperation, poor management can result in the form of inefficient duplication or overlapping of efforts, and/or the opposite, underlapping, where areas of responsibility and needs go unmet. The lack of public urban forestry management policies can allow agencies to operate with conflicting or inadequate urban

forest management standards. The lack of a policy also means there is no measure by which to judge the community’s actions as successes or failures.

Examples of urban forestry issues and responsibilities that might be the subject of official policies are:

- Criteria for public tree removal.
- Lists of approved and prohibited tree species that can be planted on public property.
- Planting site location standards to avoid conflict with utilities, sight distances, signs, and other potential obstacles.
- Use of current industry planting and maintenance standards for public works projects, private contractors, and citizens alike.
- Utility company activities
- Safe work practices and work sites.
- Interdepartmental plan review and approval and communication.

Without the need for complicated or unpopular legislation, the adoption and enforcement of various urban forest management policies and guidelines can support a change away from a problem-specific, crisis management, and reactive approach to a more proactive, professional

management response. The lack of such useful policy statements and guidelines can allow agencies to act independently without regard to efficiency or effectiveness, hinder attempts to coordinate the action of public agencies regarding the proper management of public trees, and can confuse interaction of the public works agency with citizens, businesses, utilities, and other outside entities when dealing with public trees.

Gaining Support and Acceptance for Urban Forest Regulations and Policies

An important element in the support and acceptance of urban forestry regulations and policies is education. Public works managers can work with other public agencies and citizens to educate and inform property owners, businesses, developers, and contractors how to best maintain their trees and forests, properly plant trees, and engage in development projects using methods that protect existing trees and forest tracts. There are many educational tools that are proven approaches to achieve buy-in by stakeholders regarding regulations, guidelines, and policies, and to ultimately protect urban and community forests.

Creating new policies means educating public staff about why the policies are needed and how the department and urban forestry program will benefit. Implementing tree ordinances, public tree maintenance and planting policies, tree protection and preservation guidelines, or other regulatory measures will require educating the citizens, public officials and developers about how to

comply with the existing or new requirements in a way that appropriately protects the resources while allowing use of the land and sustaining a healthy urban forest.

The topics of any educational efforts should range from the use of statistical and scientific data about trees and urban forests to more basic, consumer-oriented tree care, planting and benefits information. The educational efforts can be targeted to the following persons and groups in addition to public works staff:

- City Planners
- Building Inspectors
- City Advisory Commissions
- Contractors/Subcontractors
- Home/Property Owners
- Neighborhood Associations Developers
- Citizen Groups
- City Councils
- Utility Companies
- Realtors
- Architects/Landscape Architects

If you do implement new regulations and policies for the benefit of the urban forest, these educational tools may help in gaining acceptance and compliance in the community at-large:

- Workshops and training seminars with community leaders, advisory groups, contractors, homebuilders, and county and municipal staff.
- Publications, including direct mailings, newsletters, forestry and arboricultural handouts and brochures, and articles for the local print media. These publications

should be available in electronic format for use in direct e-mail responses and posting on websites.

- Awards and special events to recognize citizens, contractors, and other government departments who excel at tree preservation and reforestation or provide significant support to the public works agency; and local “Big Tree Contests” and Arbor Day events and programs to raise awareness of the urban forest in general.

Recommendations for Implementing Urban Forest Regulations and Policies
Creating and sustaining a comprehensive urban forestry program requires that many factors and resources be in place. Key components are regulatory tools and policy statements.

Typically, a community starts with “the basics” and then builds on those as the urban forestry program matures, more staff and resources are available, and the desires of the citizens and elected officials change.

The following recommendations are made to suggest a reasonable approach or order of implementing urban forest regulations and policies depending on whether you manage a new, developing, or established program.



Recommendations

New Program

1. Create and adopt a basic Public Tree Ordinance. Typical provisions included in a basic tree ordinance are: purpose; authority and power; limits of applicability; tree planting and maintenance and removal standards; enforcement; and penalties, claims, and appeals.
2. Create an advisory Tree Board/Commission to recommend policies and practices, and to be a liaison with the public and elected officials.
3. Include a section specifically for compensatory payment for damages to public trees. If an automobile accident occurs or a public tree is illegally and improperly pruned, the Town should collect damages from the responsible party to compensate for the corrective action needed and/or loss of the public tree. The Urban Forester should be designated as the authority to determine the appropriate amount using local standards or national standards, such as the formulas developed by the Council of Tree and Landscape Appraisers.

Developing Program

1. Review current public tree ordinance and make necessary amendments to be in compliance with current arboricultural standards; assure compatibility with other local ordinances; secure power to control safety risk and insect and disease problems on private property; define and expand duties and authority of the urban forest manager.
2. Formalize a 'Public Tree Work Permit' process in the public tree ordinance and/or within the current public works system. The permit process would require all parties, including other government units, utility companies, developers, and citizens, to submit a permit application and receive an approved permit before any public tree is pruned, removed, or planted.
3. Create a basic Tree Preservation and Protection Ordinance for public trees.
4. Become familiar with the existing local zoning, subdivision regulations, and landscape guidelines. Begin to interact with the controlling agency to coordinate and incorporate urban forestry program goals. Review any planting or maintenance specifications to ensure they meet current industry standards.

Established Program

1. Create a Tree Preservation Ordinance for private trees with clear procedures for protecting trees and forested areas during land disturbance or development, and with penalties for non-compliance.
2. Have direct authority and powers described within zoning and subdivision regulations for inspection and enforcement of tree and landscape requirements and issues; recommend the establishment of minimum canopy cover requirements for various land uses.

Be an active participant in each comprehensive plan review; request that the most current urban forest management plan be made a part of or referenced in the comprehensive plan

For More Information

Your State Urban Forestry Coordinator

www.arboday.org/programs/urbanforesters.cfm

**USDA Forest Service, Southern Region,
"Urban Tree Ordinance Index"**

www.urbanforestrysouth.usda.gov/ordinances/index.htm

Louisiana State University School of Landscape Architecture Ordinance web site

www.design.lsu.edu/greenlaws

The Center for Watershed Protection; "model ordinances" database

www.cwp.org/

International Society of Arboriculture, "Guidelines for Developing and Evaluating Tree Ordinances"

www.isa-arbor.com/tree-ord/

Tree City USA Bulletins

www.arboday.org/programs/treecitybulletinsbrowse

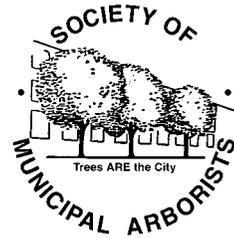
A Guide for Municipal Tree Commission, 1996. Pennsylvania Forestry Association. For a copy of the publication contact:

Pennsylvania Forestry Association, 56 East Main Street; Mechanicsburg, PA 17055

Abbey, B. 1998. U.S. Landscape Ordinances: An Annotated Reference Handbook. New York: John Wiley and Sons, Inc.

Bernhardt, E.A. and Swiecki, T.J. 1991. Guidelines for Developing and Evaluating Tree Ordinances, California Department of Forestry and Fire Protection, Urban Forestry Program,

Thank You



Series Research and Education Steering Committee

Thank You

Rachel Barker
Project Manager
Natural Resource Consulting, Inc.
Tallassee, AL

George Gonzalez
Chief Forester
Los Angeles, CA
Bureau of Street Services

Andy Hillman
City Forester
City of Ithaca, NY DPW

Gene Hyde
City Forester
City of Chattanooga, TN DPW

Walter E. Veselka, PE
Public Works Director
City of Bristol, CT

Peter J. Woodcock
Public Works Superintendant
(retired)
Croton on Hudson, NY

Colene Vogel
Technical Services Program Manager
American Public Works Association
Kansas City, MO

Jerri LaHaie, CAE
Executive Director
Society of Municipal Arborists
Watkinsville, GA

Keith W. Cline
ISA Certified Arborist (MA-0030)
Program Manager
USDA Forest Service
Urban and Community Forestry
Program
Washington, D.C.

Jennifer Gulick
Davey Resource Group
Walton, KY



Urban Forestry Best Management Practices for Public Works Managers
Ordinances, Regulations, & Public Policies