MUNICIPAL TREE MANAGEMENT

15

MUNICIPAL IMPLEMENTATION TOOL #15

JULY 2008

Delaware Valley
Regional Planning
Commission

Why Plan for Community Trees?

Few elements of the grey infrastructure of urban places can be said to boost property values, support retail activity, improve municipal health, protect water quality, reduce stormwater runoff, counter climate change, provide wildlife habitat, and ensure roadway safety—*all at once*. However, communities looking for these benefits may be surprised to find a solution right in their own backyards, along their streets, and in their parks. The green infrastructure of trees, along with parks and open space, provide a wealth of benefits to communities of all sizes.

Public support for planning and managing trees and open space is strong. Communities DO want trees in their backyards and neighborhoods. This brochure explains how, with proper planning and management, trees enhance quality of life and environment and bring long-term benefits that far outweigh costs. For a more detailed treatment of the issues in this brochure, see *Planning and Managing Natural Resources: A Guide for Municipal Commissions,* by Bill Elmendorf, Assistant Professor of Community Forestry at Penn State University.

Parts of a Comprehensive Municipal Tree Program

- An inventory of trees, open space, and other natural resources
- A community tree plan
- A street and park tree ordinance
- Consideration of trees and natural resources in comprehensive plans and zoning and other land use regulations
- Consideration of trees and natural resources in development review and approval
- Administration and oversight by municipal planning, environmental advisory, and tree commissions
- Sustainable funding
- Yearly work plans and budgets
- Opportunities for public participation and education

Economic and Quality of Life Benefits

Many municipalities have recognized the importance of planning for and providing trees and parks to foster a sense of place. Like banners, street furniture, and public art, trees help make communities more desirable places to live, work, and play. Trees can be used to make tranquil havens from underutilized spaces, announce entry to a community gateway, or transform dull roadways into memorable boulevards.

In some cases, trees are adopted as municipal symbols or become an important part of a community's identity. Trees become a part of the places where people live. Foliage and flower festivals are increasingly popular ways trees help enhance a unique local identity. The National Arbor Day Foundation recognizes outstanding community forestry programs through the Tree City USA® designation (Duerksen, Mowery, and McGlyn 2006).

Trees not only contribute to the attractiveness of landscapes and public areas, trees enhance our enjoyment and comfort in the built environment. Trees shield undesirable sights, make buildings more "human" in scale, and buffer noise, sun, and wind.

Trees and parks increase the value of homes and other property, expanding the property and sales tax base. Recent studies from the University of Pennsylvania demonstrate that planting a tree within 50 feet of a house can increase its value by 9%, and that cleaning and greening vacant lots can increase adjacent property values by as much as 30% (Wachter 2004). Studies also demonstrate that trees enhance value in retail and commercial areas. Customers prefer to shop in retail areas with trees, where they perceive that merchandise and service quality is better. In landscaped shopping centers, shoppers visit more frequently, stay longer, and pay higher prices for parking and retail goods (Wolf 1999).

Shoppers spend more time—and money—in landscaped retail and commercial areas. Trees in Haddonfield, New Jersey enhance the historic character of the downtown, making it a favorite destination for shoppers and visitors.

SOURCE: DVRPC

Social Benefits

Trees have a positive effect on many aspects of people's lives, but the benefits of trees for social, safety, health, and cultural enrichment are profound and surprising. Trees support thriving and prosperous communities by promoting health and well-being, improving safety and recreation, and supporting community development activities.

Trees reduce stress, convey serenity, and improve concentration and other mental faculties for people in a variety of settings. Views of nature are shown to reduce anxiety in urban environments (Parsons *et al.* 1998). Drivers with views of trees are better able to cope with the strain of being on the road (Wolf 2000). Trees are shown to improve the productivity of desk workers, increase the performance of girls in school, relieve the symptoms of Attention Deficit Hyperactivity Disorder (ADHD), and improve recovery for hospital patients (USDA Forest Service undated).

Trees create welcoming public spaces that cultivate real and perceived safety advantages. One study demonstrated that apartment buildings with high levels of greenery had 52% fewer crimes than those without greenery (Kuo and Sullivan 2001). Greening and gardening projects in vacant lots can help revitalize communities and strengthen neighborhood social fabric.

Trees enrich parks and other gathering spaces, complement the identity and experience of historical and culturally significant places, and heighten people's relationship with their natural environment. The green infrastructure of public landscapes provides gathering places for families, learning environments for students, and venues for play, exercise, and community functions.

Trees enhance our urban open spaces, which provide valuable health, environmental, and recreation benefits.
SOURCE: Pennsylvania Horticultural Society

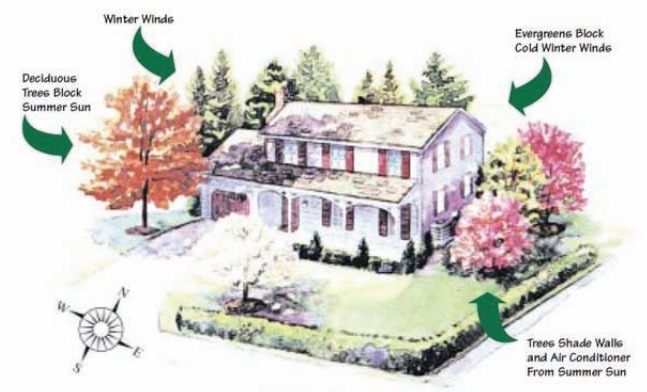
Energy Savings and Climate Change Solutions

Increasingly, local governments are reducing their greenhouse gas emissions and recognizing the roles trees and parks play in countering climate change and preserving air quality. Through photosynthesis, trees remove carbon dioxide from the atmosphere, absorbing some of the emissions produced from transportation and electricity generation and consumption. Each year, a single large shade tree can absorb 90 pounds of carbon dioxide and 10 pounds of air pollution, including four pounds of ozone and three pounds of particulates (Elmendorf 2008). Trees also mitigate urban heat island effects by providing shade and through evaporation of water from leaves.

Trees are becoming an important part of carbon offset programs. In carbon offset programs, activities that generate carbon dioxide are mitigated by projects that help counteract global warming. In 2006, an Indiana hardwood tree farm became an offset provider to the Chicago Climate Exchange.

Philadelphia's 2.1 million trees currently store approximately 530,000 tons of carbon at an estimated value of $9.8 million. These trees remove about 16,100 tons of carbon per year and 802 tons of air pollution per year (USDA Forest Service 2007).

Trees contribute to energy savings that reduce costs for households and other energy users. If planted correctly on the east and south sides of a home, shade from two large trees can save up to 30% of a home's air conditioning costs, while the windbreak function of trees can produce savings of 25% on winter heating costs for a home (USDA Forest Service undated).

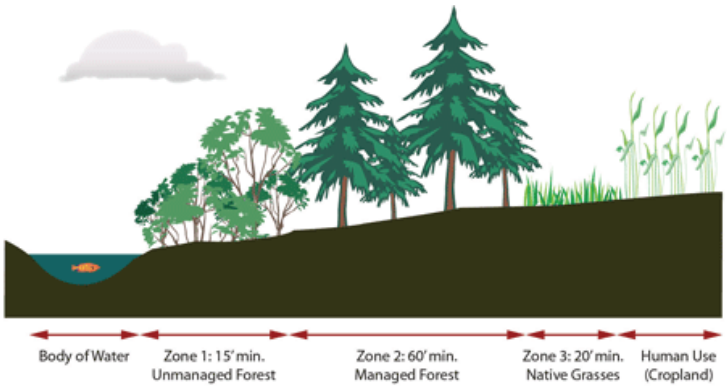


Trees have a major impact on household temperature and energy use.
SOURCE: Baltimore County, Maryland

Water Quality

Trees provide important water quality, stormwater runoff, and erosion services. Trees absorb and store water, reducing runoff and erosion while filtering out pollutants. Trees also prevent stormwater and erosion because the canopy intercepts precipitation, allowing some of it to drip, transpire, or evaporate, lessening impact on soils and streams. One hundred mature tree crowns intercept approximately 100,000 gallons of rainfall per year (USDA Forest Service undated).

Planting and protecting trees along streamside buffer and well-head protection areas is one of the most cost-effective ways to protect community water quality. Trees in riparian buffers take up nutrients and pesticides before they reach surface and ground water. In urban areas, where riparian buffers are narrower, trees are particularly important to help fulfill buffer functions. Many communities protect riparian buffers and well-heads through greenway, open space, or conservation plans that also provide recreation, wildlife habitat, and water quality benefits. These plans recognize the role of trees in the interconnected network of land and water resources that make up our green infrastructure.



The USDA recommends a 3-zone riparian buffer for landowners who wish to implement riparian buffers on their property. Two zones include trees.

SOURCE: Virginia Outdoors Foundation

Street Trees

Trees along our streets are a solution to improve the safety, walkability, and appearance of streets. Emerging research indicates that roadside landscaping reduces automobile crashes and injuries. Although engineering standards often call for wide, cleared areas along roadways to protect motorists, data from a mix of locations and road types indicate that tree-lined streets cause motorists to slow down and pay more attention to their surroundings (Dumbaugh 2006; Dumbaugh 2005). As a result, fewer accidents occur.

The term “traffic calming” is used to describe the introduction of trees and other physical measures to alter driver behavior. Traffic calming is a context sensitive solution, which is an approach to transportation that respects the setting of the communities through which roadways pass. Context sensitive solutions emphasize safety for all roadway users. Trees and landscaping can be used as part of a traffic calming strategy to increase motorist awareness while making streets friendlier for pedestrians and bicyclists.

Street trees provide more than safety benefits. A single street tree produces $90,000 of direct benefits over its lifetime, not including aesthetic, social, and natural benefits (Burden 2006). These direct benefits include safety, stormwater, and air quality improvements. Landscaping along roadways improves retail sales, decreases road rage, and provides space for snow storage and other street operations. The rain, sun, and heat protection provided by trees make streets more comfortable places to visit while lowering urban air temperatures and increasing pavement life. Trees near roadways absorb nine times more pollutants than trees planted further away.

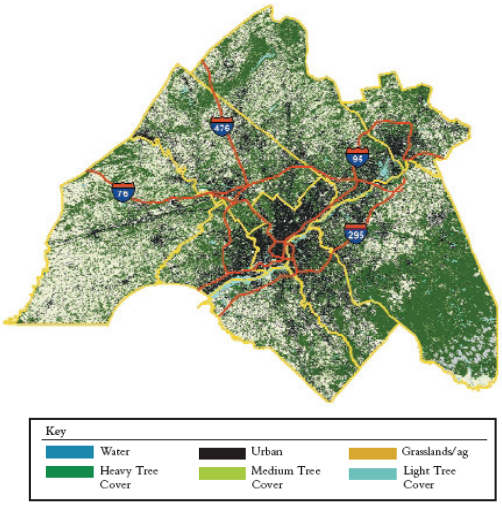
Street trees can calm traffic while enhancing the appearance of streets.

SOURCE: Pennsylvania Horticultural Society

Tree Loss in the Delaware Valley Region

In 2003, American Forests did a study of tree coverage in the nine-county Philadelphia metropolitan area. The study, called *Urban Ecosystem Analysis Delaware Valley Region,* documented landscape changes that occurred over time and identified the impact these changes have made on the ecosystem services provided by the region's tree canopies and forests. The analysis showed that even though the changes in heavy tree cover were modest over the 15 years between 1985 and 2000 (880,715 acres to 849,444 acres—a 3.5% reduction), which is typical for an older northeastern metropolitan region like Philadelphia, the ecological impacts of tree loss when calculated over the 2.4 million acre area are huge.

With the decline in heavy tree canopy, the Delaware Valley's urban forest lost the ability to detain almost 53 million cubic feet of stormwater over this 15 year period, a service valued at $105 million. This represents the cost to build stormwater retention ponds and other engineered systems to intercept this runoff. With respect to air quality, the loss in heavy tree canopy resulted in the inability to remove about 1.7 million pounds of air pollutants annually, at a value of $3.9 million per year. In addition, had heavy tree coverage not declined, the trees would have stored 633,000 tons of carbon from 1985 to 2000 (the amount stored in tree biomass), and sequestered an additional 1,373 tons annually (the amount absorbed from the atmosphere).



Landsat imagery shows tree cover in the Delaware Valley in 2000.
SOURCE: American Forests

Maintaining Tree Cover

Cumulative loss of heavy tree coverage is occurring almost everywhere across the Delaware Valley and in many other parts of Pennsylvania and New Jersey. To counter this trend, each county and municipality can do its part by setting tree canopy coverage goals and methods to achieve them. American Forests recommends the following generalized goals for different land uses, recognizing that every community is different and needs to set its own goals.

- 40% tree canopy overall
- 50% canopy in suburban residential
- 25% tree canopy in urban residential
- 15% tree canopy in central business district

In addition, American Forests recommends that communities develop specific management strategies to achieve tree cover goals. Strategies should include:

- Plant trees in suitable spaces such as vacant lots, parks, and riparian areas
- Plant trees to meet stormwater management goals
- Use trees to decrease peak storm flow
- Require trees in redevelopment and development projects
- Maintain trees to prolong their life and environmental benefits

A History of One County's Tree Protection Policies

Bucks County, Pennsylvania has taken an aggressive approach to protecting its trees since the 1970s. The County's 1973 National Resources Plan included performance zoning to protect important natural resource areas, as well as policies to protect 70-80% of all trees on a site while development occurs. In the 1980s, Bucks introduced protections for trees before and during the construction process. In the 1990s, with strong pre-construction tree preservation policies in place, the County took steps to protect trees after development. The County provides guidance about replacement materials, native plants, street trees, parking lot landscaping, and green buffers. More recently, Bucks is promoting a guiding principle of "no net tree loss" to help municipalities participate in the global effort to thwart climate change.

Communities can make use of a number of tools to protect trees.

Regulatory Tools

- *Zoning* – Trees and natural resources can be protected through provisions for steep slope, woodlands, landscaping, timber-harvesting, riparian corridors, stormwater management, wetlands, sensitive area, and conservation subdivision design
    - *Stormwater ordinance* – Sets standards for the amount of impermeable pavement, peak flow runoff, and required landscaping
    - *Specimen and special tree protection* – Requirements for protection of trees of a certain size, species, or other community value
    - *Woodland protection/percent tree cover* – Requires a certain percentage of tree cover to be preserved, sometimes on a sliding scale depending on the type of development and steepness of slope
    - *Riparian corridor* – Requires preservation of vegetated buffer along streams
    - *Buffer zones* – Requires trees and vegetation between different uses such as residential and commercial, or between roads and buildings
    - *Sensitive area and habitat protection* – Protects landscapes with important environmental or aesthetic value, typically including trees
    - *Replacement/mitigation standards* – Requires onsite replacement of trees removed during development or other mitigation measures
- *Subdivision and land development ordinances (SALDO)* – Should include requirements for trees to be shown on subdivision and site development plans, as well as strict design standards that encourage the protection of trees during the development process
    - *Landscape ordinance* – Sets minimum amounts of landscaping required for parking and other areas; should include planting standards and native species lists
    - *Construction protection measures* – Protects trees, including tree roots, during bulldozing, digging, and other construction activities
    - *Maintenance after development* – Includes measure for replacement of trees that die after construction and/or instructions for tree care

Planning Tools

- *Natural resource inventory* – Include trees, woodlands, and parks in a natural resources inventory in order to document the community's green infrastructure
- *Tree inventory* – Provides specific data on street and park tree location, species, condition, and maintenance needs to manage budgeting, staffing, and maintenance of trees
- *Element in the comprehensive plan* – Contains information and policy about the conservation and treatment of trees and other natural resources
- *Tree management plan* – For street and park trees, addresses species diversity, planting needs, hazardous trees, insect and disease problems, and delivery of regular care such as pruning and watering
- *Revitalization element or plan* – Contains information, policy, and specific recommendations for brownfield, infill, and redevelopment and should include street trees and landscaping as part of the strategy
- *Multi-municipal planning* – Crucial for coordinating trees, parks, and open space beyond municipal boundaries and potential cost-savings through economies of scale

Non-Regulatory Tools

- *Planning, environmental advisory, and tree commission* – Government advisory boards of appointed citizens charged with oversight responsibility for the preservation, planting, and maintenance of trees and other natural resources
- *Tree City USA designation* –After meeting certain prerequisites, this designation by the Arbor Day Foundation provides communities with technical assistance, educational materials, and opportunities for positive publicity
- *Land conservation* – Fee-simple acquisition or conservation easements protect open space with trees from development

More than 4,900 volunteers with the Urban Airshed Reforestation Program have planted more than 2,700 trees in Camden to mitigate air and water pollution.

SOURCE: New Jersey Tree Foundation

Street and Park Tree Ordinance

In recognition of the many benefits conferred by trees, hundreds of local governments are adopting street and park tree ordinances. Street and park tree ordinances apply mostly to publicly-owned trees, as well as nuisance trees on private property. These ordinances may also be called street tree ordinances, shade tree ordinances, or—simply—tree ordinances.

Some street and park tree ordinances apply to only publicly-owned trees such as those along streets or in parks. Like zoning and other land use regulations that impact the use of private property, street tree and park tree ordinances may also invoke the police power of local government to remove nuisance trees on private property that are diseased or threaten the public right-of-way.

Street and park tree ordinances must resolve two key issues. First, the ordinance should identify municipal (and private property owner, if desired) responsibilities for planting, maintaining, and removing trees. Second, the ordinance should establish a tree commission and provide the commission with authority to guide the management of public street and park trees.

Street and park tree ordinances reflect the values of a community and can promote a range of interests such as protecting a percentage of the tree canopy, encouraging beautification, and providing direction for tree care. Support from the community and use of an appropriate planning process are essential for the development and effectiveness of street and park tree ordinances.

The National Arbor Day Foundation recommends that local governments adopt a street and park tree ordinance and a separate, companion arboricultural standards and specifications section. The arboricultural standards and specifications section, often called Rules of Arbor Work, provides detailed guidance on arboricultural practices such as planting, maintenance, removal, and landscaping. In an ordinance, this level of detail is cumbersome and difficult to modify. The body of the ordinance should designate an authorized body (such as a tree commission) or municipal arborist to publish and revise the standards and specifications (National Arbor Day Foundation 1989).

Street and Park Tree Ordinance

The following ordinance sections can be used to help draft a street and park tree ordinance matched to local values, needs, abilities, and goals. For a detailed listing of provisions for tree ordinances, see *How to Write a Municipal Tree Ordinance* by the National Arbor Day Foundation and *Planning and Managing Natural Resources: A Guide for Municipal Commissions* by Bill Elmendorf. The sections included here are drawn from these resources.

- *Location* – Defines section in municipal code where ordinance should be placed (public works, parks and recreation, zoning, or subdivision and land development)
- *Purpose* – Purpose statements often tie specific actions—such as the maintenance, planting, and removal of trees—to the promotion and protection of public health, safety, and general welfare and the use of police power
- *Establishment of tree commission* – Designates an authority responsible for the planting, care, and protection of trees
- *Applicability* – Identifies what property is covered by ordinance; usually includes trees on right-of-way, public parks, cemeteries, and other public grounds, and sometimes includes private property
- *Definitions* – Defines legal and technical terms
- *Licensing and insurance* – Sets requirements for arborists working in the municipality to have a license and insurance
- *Authorized activities* – Defines activities local government or tree commission may perform; clearly defines rights and powers of the municipality, individual property owners, and utility companies
- *Permits* – Establishes actions that will require permits such as tree planting, pruning, or removal
- *Nuisance trees* – Provides authority to remove trees on private property that are diseased or threaten the public right-of-way
- *Enforcement* – Provides authority to officials to enforce regulations; may include right to issue citations, notices to perform or stop work, and obtain restitution for damage or destruction of public trees
- *Penalties, claims, and appeals* – Sets penalty provisions and establishes processes for assessment of claims and appeals

Municipal Tree Commissions

A street and park tree ordinance should establish and authorize a municipal tree commission to provide guidance and ensure the sustainability of a municipal tree program. Some of the responsibilities and authorities of a tree commission include advising community leaders about community forestry, administrating tree plantings and removal of hazardous trees, promoting community involvement in tree programs, reviewing permits, and settling disputes related to tree removal, planting, or maintenance.

The success of a tree commission is dependent on the expertise and dedication of its members and the support of residents, business owners, and elected officials. Tree commissions ideally include experts in forestry, horticulture, arboriculture, and landscape architecture, as well as teachers, businesspeople, and other concerned citizens.

Trees on Private Property

Many zoning ordinances include provisions related to trees on private property. Some communities elect to regulate removal of trees of certain sizes or value to the community from private property. These ordinances may require permits for tree removal or limit the number of trees that may be cut down each year. Many street and park tree ordinances contain provisions for trees on public and private property that pose a threat to public safety. Tree ordinances should provide guidance on the public authority to inspect diseased and hazardous trees on private property and identify actions required of private owners.

Students at the Kensington Culinary Arts School learn about tree planting, gardening, and the importance of growing food locally through the Pennsylvania Horticultural Society's Green City Youth program.
SOURCE: Pennsylvania Horticultural Society

Tree Inventory

A tree inventory provides an accurate assessment of tree quantity, quality, location, safety, and other tree conditions. This information helps tree and other commissions plan and prioritize budgeting, staffing needs, tree removals, maintenance, and plantings. Tree inventories can help illustrate the value and maintenance needs of green infrastructure to elected officials.

Today, computer programs such as CITYgreen, STRATUM, and UFORE help communities measure tree canopy cover and the value of community trees for energy savings, stormwater management, carbon sequestration, air pollution reductions, and property value enhancement.

Some of the information collected in tree inventories includes tree locations, types of trees, diameter of tree trunks, condition of trees, tree maintenance needs, potential planting sites, and tree-related damage to sidewalks. Tree inventories should be updated as work is completed or every three to five years.

Tree inventories help communities understand and illustrate the quantity, quality, and condition of local trees. Tree inventory software can assess the economic and environmental benefits of trees. **SOURCE: Pennsylvania Horticultural Society**

Municipal Tree Plan

Municipal tree plans provide policy and standards for implementing and managing tree programs. Tree plans should be consistent with other municipal planning strategies and usually include a vision statement, goals, objectives, and strategies. From these, an annual work plan and annual budget can be developed and presented to elected officials.

Objectives of a Municipal Tree Plan

- Effective administration
- Annual analysis and removal of hazardous trees
- Proper site analysis
- Proper site preparation
- Proper tree selection and purchase
- Proper tree planting
- Proper maintenance
- Quality design
- Adequate funding
- Community education and participation

From *Planning and Managing Natural Resources: A Guide for Municipal Commissions*, Bill Elmendorf, Penn State School of Forest Resources.

Wynnewood Valley Park is part of Lower Merion Township's system of township parks. Lower Merion's publicly- and privately-owned open spaces contribute to a high quality of life, provide recreational opportunities, and protect natural features.

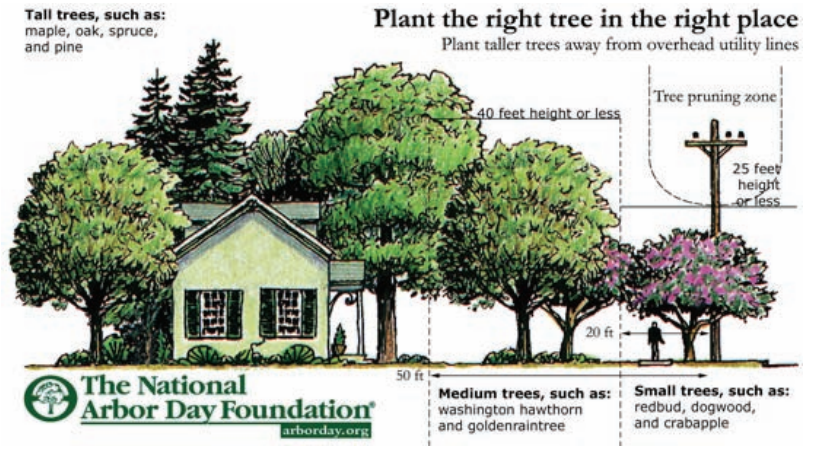
SOURCE: www.lowermerion.org

Working with Utilities

Tree branches and roots are often located near utility lines. Aerial lines such as electric, phone, and cable are subject to interference caused by tree branches. As a result, trees near aerial lines may be excessively pruned, resulting in disfiguration, decay, or other damage to the trees. Tree commissions should require that utility companies contact the municipality before tree pruning or removal, and should ensure that utility crews are qualified and trained. As a preventive measure, smaller growing tree species that will not grow to interfere with utility lines should be planted under and near utility lines.

Installation or repairs to underground utility lines such as electric, gas, water, and sewer can greatly damage tree roots. Underground utility line installation is usually only feasible in new developments. To protect trees, plantings should be far enough away from utility lines to keep the roots clear from future excavation for repairs.

Communication is the key to working well with utilities. Regular meetings and educational workshops between the tree commission and utility representatives help identify problems and solutions.



The National Arbor Day Foundation recommends planting taller trees away from utility lines.

SOURCE: National Arbor Day Foundation

Fundraising and Community Participation

Funding for tree programs can come from a number of sources. Tree and other commissions should develop annual work plans and budgets to inform elected officials about program financial needs. Volunteers can help raise funds through special events and ongoing fundraising activities such as direct mail or dedications. Tree commission members should work to gain support from local businesses, community institutions, and politicians. In addition to direct financial contributions, corporate and civic organizations may be able to assist tree programs through matching grants or donation of goods or services. Grant programs are available from a number of government and foundation sources.

Public participation and education is essential to build support for tree programs. Residents and community groups should be invited to participate in tree plantings and educational workshops. Press releases and newsletters can highlight noteworthy activities including tree plantings and removals or budget requests. Educational materials should be developed for distribution in schools and to the public.

Community participation and education help ensure a sustainable tree program.

SOURCE: Pennsylvania Horticultural Society

Tree City USA© Designation

The Tree City USA program provides direction, technical assistance, public attention, and national recognition for community tree programs. The program is sponsored by the National Arbor Day Foundation in cooperation with the USDA Forest Service and the National Association of State Foresters. More than 3,000 communities currently have the Tree City USA designation.

The Tree City USA designation benefits communities of all sizes. By meeting the standards required for designation, communities gain a framework for action to ensure the sustainable management of tree resources. The application process and post-designation publicity help foster education about the value of trees, enhance a community's public image, and boost citizen pride. In some cases, communities with the Tree City USA designation are given preference in financial assistance for tree or forestry programs.

To qualify as a Tree City USA, communities must meet four standards:

- *Tree commission, board, or department* – A community must have a designated group or person responsible for municipal tree resources, such as an active tree commission or arborist
- *Tree care ordinance* – Ordinance must designate entity responsible for creating and implementing the tree plan and ideally should provide guidance about tree planting, maintenance, and removal of trees from streets, parks, and other public places
- *Community forestry program with an annual budget of at least $2 per capita* – Communities should create an annual work plan and must demonstrate that their plan is supported by an annual budget of at least $2 per capita
- *Arbor Day observance and proclamation* – Event can be created from scratch or linked with existing tree-related events or festivals

The Borough of Media celebrated its 27th year as a Tree City USA in 2008 with a tree-planting event at Media Elementary School.

SOURCE: Borough of Media

Philadelphia Green

Philadelphia Green is the nation's most comprehensive urban greening program. A program of the Pennsylvania Horticultural Society, Philadelphia Green launched in 1974 and has played a major role in building community, revitalizing parks and public spaces, and transforming vacant land into an asset for the community through greening projects. Philadelphia Green's Green City Strategy calls for improvements to open spaces to attract residents and visitors. The City of Philadelphia adopted the Green City Strategy as the cornerstone of its anti-blight campaign.

The Pennsylvania Horticultural Society's Philadelphia Green program greens vacant land to create community assets.
SOURCE: Pennsylvania Horticultural Society

TreeVitalize

TreeVitalize is a broad-based partnership to restore tree cover in urbanized parts of Pennsylvania through a variety of planting and education programs. Launched by the Department of Conservation and Natural Resources in Southeast Pennsylvania in late 2003, TreeVitalize produced impressive results during its first four years:

- Planted over **20,000 trees** along streets, in parks, schools, other public lands and private yards
- Restored nearly **300 acres** of forested riparian buffer with over 50,000 native trees and shrubs and 19,100 seedlings
- Educated **2,800 people** through Tree Tender classes, including more than 1,100 who completed nine hours of basic training
- Engaged **11,000 volunteers** in community tree planting and care projects

The Southeast Pennsylvania TreeVitalize partnership continues to grow and improve. Meanwhile, a comparable program was launched in Pittsburgh in 2008. Over the next several years, TreeVitalize will reach urbanized communities in all metropolitan areas of the state.

New Jersey Shade Tree and Community Forestry Assistance Act

This Act provides a framework for properly planned local community forestry programs implemented through a state-approved management plan. Through development and implementation of a community forestry management plan, communities can more efficiently manage their tree resources and reduce exposure to litigation. The training skills and accreditation program familiarizes individuals with community forestry, shade tree commissions, legal aspects of managing trees, and recognition of hazardous tree situations. Completion of the training program can provide immunity protections to tree commissions.

Urban Airshed Reforestation Program

The Urban Airshed Reforestation Program is designed to mitigate air and water pollution in the ozone non-attainment area of South Jersey through the planting of thousands of trees and the recruitment of numerous organizations as partners to support these greening efforts. The program focuses on the City of Camden. The New Jersey Tree Foundation has partnered with more than 80 community groups to plant more than 2,700 trees in Camden with over 4,900 volunteers. Additionally, the program trained over 250 Camden residents in urban and community forestry issues through Camden TreeKeepers workshops.

Tree Tender volunteers assist with plantings in Philadelphia's Passyunk Square neighborhood.

SOURCE: Pennsylvania Horticultural Society

National

The **National Arbor Day Foundation** provides a range of resources to individuals and communities to help plant, nurture, and celebrate trees. www.arborday.org

The **USDA Forest Service** offers technical assistance, the Treesearch publications database, manuals, and other guidance to forestry programs. www.fs.fed.us

Pennsylvania

The **Pennsylvania Department of Conservation and Natural Resources** maintains and preserves state parks and forests, provides information on state ecological and geological resources, and establishes community conservation partnerships with grants and technical assistance. www.dcnr.state.pa.us

The **Pennsylvania Horticultural Society** (PHS) provides events, activities, and publications for novice gardeners and experienced horticulturists. Through its Philadelphia Green program, PHS supports neighborhood and public landscape greening through various initiatives, including coordinating the TreeVitalize program in Southeast Pennsylvania. Through its Tree Tenders program, it offers free training on community tree planting and stewardship. www.pennsylvaniahorticulturalsociety.org

The mission of **TreeVitalize** is to develop a public private partnership, through regional collaboration, to address the loss of tree cover in the five-county Southeastern Pennsylvania region and other urbanized areas of the state. www.treevitalize.net

Penn State Extension Urban Forestry Program provides technical assistance and education to municipalities, volunteer organizations, and agencies interested in better planning and management of trees and natural resources. www.sfr.psu.edu

New Jersey

The **New Jersey Department of Environmental Protection, Division of Parks and Forestry** has a Community Forest Program that provides staff to advise and assist counties, municipalities, and local organizations to develop and implement community forestry activities. www.state.nj.us/dep/parksandforests/forest/community/

The **New Jersey Shade Tree Federation** assists individuals and agencies in the selection, planting, and care of trees. www.njstf.org

The **New Jersey Tree Foundation** is a statewide, non-profit organization dedicated to the promotion and enhancement of urban and community forestry activities. www.newjerseytreefoundation.org/home.asp

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