

# Tree Program Wilmington, Delaware

*“Through our collaborative efforts, Wilmington’s trees and open spaces will provide environmental, aesthetic, cultural, and economic benefits that will last a lifetime.”*

-William S. Montgomery, Mayor’s Chief of Staff, City of Wilmington,



## Project Overview

The Tree Program is a multi-faceted initiative, led by the City of Wilmington and the Delaware Center for Horticulture (DCH). The City’s Beautification Commission and the Trees for Wilmington Coalition focus on urban forest enhancements. Planting and tree maintenance take place primarily in neighborhood parks and along streets in the public right-of-way. The scope of the Tree Program includes the entire City of Wilmington, the largest in Delaware. The Tree Program was created 25 years ago to enhance the region’s urban tree cover and improve the public’s understanding of the value of urban trees. Since 1982 more than 5,000 trees have been planted. The many objectives of this program include advocacy, awareness, education, and urban forest management. A primary focus of the Trees for Wilmington Coalition is to increase tree canopy through a holistic urban forest strategic plan, acknowledging trees as a necessary part of infrastructure for a healthy city, based on environmental, economic and social benefits. Education and awareness are top priorities of the Program’s individual projects, demonstrated by efforts to disseminate knowledge of the benefits and care of trees through educational trainings, workshops, publications and a vibrant Arbor Day program.

### Project at a Glance

**Project Partners:** City of Wilmington, Delaware Center for Horticulture, Trees for Wilmington Coalition, Friends of Wilmington Parks, Delaware Forest Service, Delaware Department of Natural Resources and Environment Control (DNREC), and other government and non-profit organization partners.

**Location:** Wilmington, Delaware

**Award Category:** Awards of Excellence-Population 100,000 or less

**Timeframe:** Jan. 1, 1982 - Jan. 1, 2032

**Size and Scope:** 5,671 trees in 62 neighborhoods; 30-40 tree species

**Total cost of project:** \$900,000

### Outstanding Accomplishments

- Improved streetscape, and pedestrian experiences.
- Planted 5,000 trees since the commencement of the Program.
- Increased capacity of the City’s urban forest to remove approximately 295 tons of pollutants each year.
- Enhanced the urban tree canopy and reduced stormwater and sewage overflow into waterways.
- Contributed to community-building and empowerment by initiating process of consensus-based neighborhood revitalization through greening.
- Raised public awareness concerning the importance of trees’ influence on local ecology.

## Tree Program - Project Description

### Pre-existing Conditions

The City of Wilmington's current tree coverage is 17 percent.

**Stormwater:** Wilmington has a combined sewer system, meaning the City's sewage and stormwater share the same pipes traveling to a wastewater treatment facility and eventually into the local rivers and streams. During heavy rainstorms, stormwater and untreated sewage overflow into the waterways. The City's Department of Public Works has partnered with DCH on a tree canopy study to demonstrate that enhancing the urban tree canopy will minimize peak flow storm events and serve as one of the many solutions to a problem that the Environmental Protection Agency has mandated the City to eliminate.

**Safety:** There is concern that trees can aid criminal activity by allowing criminals to hide illegal behavior or by blocking security sightlines and creating shadowy walkways. The Tree Program aims to build community consensus and actions to improve safety, using environmentally and resident friendly solutions such as pedestrian level lighting, that is compatible with a larger tree canopy.

### Project Components

**Purpose:** The primary purpose of the Tree Program is to increase public awareness of the value of the urban forest. The Program serves as the first step in bringing people together to generate ideas and build consensus for neighborhood revitalization through greening. The objectives of the Tree Program include advocacy, awareness, education, and holistic urban forest management. The Trees for Wilmington Coalition aims to increase tree canopy, and acknowledges trees as a necessary part of the infrastructure for a healthy city, based on environmental, economic and social benefits. The Tree Program strives to engage and educate civic, corporate and

private collaboration to improve the livability and viability of Wilmington. Other goals include improving the park system and enhancing the management of these resources.

**Process:** Planting and tree maintenance take place primarily in neighborhood parks and along streets. The Tree Program has planted over 5,000 trees in its 25 years of existence. In 2006, large canopy trees were the beneficiary of pro bono pruning by area arborists as part of the city-wide Arbor Day celebration. Community Development Block Grant (CDBG) funds were used to plant 62 large 2.5" caliper trees in low to moderate income neighborhoods in 2006 and 70 more in 2007. A new bare-root technique was also used to plant nearly 150 trees in 2007. The Wilmington Beautification Commission and Arbor Day activities will plant an additional 50 trees in several parks by the end of the year.

**Outreach:** Wilmington's Tree Program is highly dependent on community involvement and targets neighborhood groups willing to participate in the planning stages for their own streets, blocks and communities. Tree Steward

### Project Goals

- Increase tree canopy.
- Increase public awareness of the value of the urban forest.
- Bring different stakeholders together to generate ideas and build consensus for neighborhood revitalization through greening.
- Increase advocacy, awareness and education of urban forest management.
- Demonstrate that trees are a necessary part of the infrastructure for a healthy city, with environmental, economic and social benefits.
- Encourage civic, corporate and private collaboration around a green agenda for Wilmington.

volunteers are trained to solicit participation from their neighbors, help site trees and commit to ongoing tree care. The Tree Stewards produce a newsletter, run a mentoring program, and facilitate cross-community volunteer assistance for urban forestry projects. As part of their training they are empowered to coordinate plantings and tree care on their blocks. There are cur-



## Tree Program - Benefits

rently 40 active Tree Stewards in Wilmington, a 20 percent increase since 2005. Community support for urban forestry includes planning and implementing local Arbor Day activities. For example, in 2006, 50 community volunteers and students from three local elementary schools participated at Delaware's 105th Arbor Day celebration.

### Environmental Benefits

**Air Quality:** Wilmington's existing urban forest removes approximately 295 tons of pollutants each year.

**CO2 Sequestration:** The Tree Program helps sequester about \$65,000 worth of carbon dioxide per year

**Urban Tree Coverage:** The Tree Program has enhanced the region's urban tree canopy. Over 5,000 trees have been planted in the past 25 years.

**Energy Conservation:** The Tree Program is reducing the need for air conditioning, saving Wilmington \$142,000 in energy costs.

**Stormwater:** The street trees intercept nearly 40 million gallons of rainfall annually, with an estimated value of \$386,000. The enhanced urban tree canopy also minimizes peak flow storm events and prevents stormwater and sewage overflows into waterways.

### Funding

The Tree Program has a diversified funding base including government contracts, corporate sponsorship, private foundation grants and donations from individuals. The annual program budget of approximately \$300,000 includes state transportation funds, forestry grants, Community Development Block Grants, and other sources, such as the Alliance for Community Trees (ACT)/the Home Depot Foundation Neighbor-

hoods grant, and the State of Delaware's Community Environmental Project Fund. In 2006, the City received \$20,000 worth of in-kind services by professional arborists for high tree canopy maintenance.

### Community and Economic Benefits

**Resident Involvement and Satisfaction:** Wilmington's Tree Program educates citizens about the importance of trees to revitalize and improve the quality of life for residents in urban neighborhoods. The Program has also planted trees and built successful partnerships with a variety of civic associations and with Habitat for Humanity. Participating residents are required to sign an agreement that they will care for any new street trees planted in their right-of-way.

**Education:** Each spring the Tree Program conducts tree care workshops to teach residents proper tree care in conjunction with new plantings. Taught by DCH program staff and other urban forest volunteers, the workshops cover basic tree planting and maintenance using a combination of slides, discussion and hands-on demonstrations. The workshops also satisfy educational requirements for becoming a Tree Steward. A new Pruning Club is now maintaining trees on a block-by-block basis in Tree Steward neighborhoods.

### Environmental Improvements:

The Tree Program is raising public awareness of the importance of trees' influence on the local ecology and their value to human health. The enhancements to the urban forest that result from increased community activities are improving the City's environmental amenities.

**Air quality:** Poor air quality is a common problem in Wilmington and its suburbs, which have longstanding industrial histories. Levels of ozone, particulate matter, nitrogen dioxide, sulfur dioxide, and

carbon monoxide can be reduced by trees and shrubs. Wilmington's existing urban forest removes an estimated 295 tons of pollutants from local air each year.

**Economic Benefits:** The online inventory of Wilmington street trees completed in 2002 indicated that the street trees intercept nearly 40 million gallons of rainfall annually, saving the city an estimated \$386,000 in wastewater treatment costs, \$142,000 in related energy costs and \$65,000 worth of sequestered carbon dioxide. The analysis also estimated that Wilmington's street trees provide about \$510,000 in annual aesthetic benefits to the community.



## Tree Program - Looking Ahead

### Project Monitoring and Evaluation

The Tree Program activities can be evaluated in a number of different ways. First year and second year survival rate of the trees is one good indicator as it shows the level to which Tree Stewards, volunteers and staff properly planted and maintained trees. DCH monitors, documents and reports success at the end of the two year plant establishment period based upon the number of community volunteers engaged, survival rate of the trees, and the number of residents involved in the project.

### Project Maintenance

Since the street tree inventory was completed in 2002, the Tree Program has included maintenance priorities such as the removal and pruning of potentially hazardous trees. The responsibility of maintaining trees in the public right of way lies with the property owner. Maintenance, replanting and new planting strategies, overseen by DCH staff, supplement the efforts of city residents in maintaining trees in the long-term.

### Challenges Faced

A key challenge encountered is the lack of public understanding about the value of urban forests. Some residents in Wilmington believe that trees are actually aiding crime activity, allowing criminals to hide narcotics and drug paraphernalia, as well as blocking security sightlines and street lamp illumination, creating shadowy sidewalks and alleys. The Tree Program has worked to build a coalition of people who care about urban trees to advance more environmentally and resident friendly solutions, such as pedestrian level lighting, that are more compatible with an expanded tree canopy. Other challenges include the lack of rooting space and inadequate maintenance resources.

### Innovation Applied

The City of Wilmington and DCH has demonstrated the strength of a successful partnership model that other cities can follow. The results and leverage achieved from this type of public-private partnership are more effective and long-lasting than the two parties working independently. The Wilmington Beautification Commission, the Trees for Wilmington Coalition and the DCH Tree Program are all supported by essential partnerships with a variety of stakeholders throughout the City.



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