
Open Space Plan 2015-2021

Section 7

Analysis of Needs

Section 7.3.4 Open Space Systems Management PUBLIC SHADE TREES

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INTRODUCTION

Boston's public shade trees – those lining its streets and avenues, and those found in its public parks, playgrounds, cemeteries, urban wilds, and squares – help make Boston a beautiful city. The city recognizes trees as aesthetic and social resources as well as an important component of the urban ecosystem, providing environmental protection. The public shade tree goals for Boston are to provide stewardship to the existing legacy of mature trees and to plan for future planting and maintenance needs.

The aesthetics of the urban forest can be pictured easily: The stately elms of Mt. Vernon Street, the newly replenished boulevards of Huntington Avenue, the woodlands dotted throughout Franklin Park and the Emerald Necklace, the informal and formal park plantings ranging from Dorchester Park to Post Office Square. These are the trees that make up our urban forest.

The urban forest as a beneficial ecosystem has been documented through environmental research over the last several years. Trees return oxygen to the air, filter dust, pollution, and the harmful rays of the sun, provide shade, protect people and property from wind and weather, reduce air conditioning and heating costs for adjacent buildings, help filter storm water, and generally contribute to the physical well-being of the city's residents. Street trees also link highly developed spaces with more forested areas. They act as a green corridor that physically and emotionally connects us to nature.

Further, trees consume and store carbon through absorption of carbon dioxide, and produce oxygen. By this carbon sequestration, the return of carbon to the atmosphere is slowed, especially if the tree is long-lived. Thus, the urban forest can help contribute to the slowing of global warming.

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The urban forest, as a social resource, is a less tangible quality that must be defined by a series of processes. Trees help residents to define their neighborhood and its special character. The most popular request at the Parks Department is for tree pruning and planting. In many cases neighborhoods have organized to plant missing trees. The planting of trees fosters community spirit and helps some neighborhoods to rebuild their image and sense of identity. They also contribute to improved property values and reductions in the heat island effect, while helping decrease noise pollution.

CURRENT INITIATIVES

In 2007 on Arbor Day, the City announced a new initiative called Growing Boston Greener (GBG). Growing Boston Greener is an initiative with an objective of significantly increasing the rate of planting public shade trees. The trees will be planted on city, state, and privately owned property. The task of planting all 100,000 trees has been assigned to the Boston Urban Forest Coalition (BUFC). The coalition is made up of non-profit, city, state, and federal organizations working to improve the urban forest ecosystem, public health, and the quality of life for Boston's residents.

Growing Boston Greener not only applies to planting new trees, but also to protecting trees that already provide canopy. Along with the partners in BUFC, the Parks Department is working to develop new policies that will better protect existing trees, both public and private. Currently all public shade trees are protected under Chapter 87 of the Massachusetts General Laws.

THE NEXT SEVEN YEARS

The Parks Department is the agency with regulatory and operational responsibilities for city-owned shade trees in the street right-of-way. The ability to develop policy and day-to-day management plans in the same organization, the Parks Department, is a key part of the framework to ensure that the future of Boston is green.

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Tree policy issues are sorted into the following three categories:

- Statutory Responsibility and Regulations
- Inventory, Planting, and Maintenance
- Community Involvement and Programming

Based on these categories, the following sections summarize both city policy and recommendations that will be acted upon in the next seven years.

Statutory Responsibility and Regulations

The Parks Commissioner is by statute (Chapter 87, Massachusetts General Laws) the Tree Warden of the city. Together with the Superintendent of Trees, the Commissioner is responsible for establishing a work plan for trees within the statutes and regulations that have already been established. The current draft of the Comprehensive Shade Tree Policy brings all regulations, technical specifications, operations, and programs together for review and adoption by the Parks Commission; it is currently under review by Commission staff in preparation for Commission deliberations. By virtue of its mandate to maintain public shade trees, it is essential that the Parks Department be involved in all decision-making regarding planting and care of trees on public land by city agencies.

The support of Boston's Public Improvements Commission is key for continued communication between all of the city departments that manage land within Boston. This commission approves all development and construction projects that affect any street, road, or thoroughfare, including the public street trees thereon. For the Parks Department, our participation in the actions of this Commission allows us the power to mandate that public trees be protected and managed properly.

RECOMMENDATIONS

- Complete review and implement the new Comprehensive Public Shade Tree Policy through existing and new programs and operations to carry out regulations and technical specifications and processes
- Strengthen communication with other city agencies to help improve efficiency
- Develop stronger planting programs for residents to take more responsibility for the trees that are planted on and/or around their property

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- Implement increased penalties for removing public shade trees
- Continue to research and develop new and innovative policies to protect and build our overall urban tree canopy

Inventory, Planting, and Maintenance

Over the Parks Commission's 130-year history the tree inventory has been replenished through city budget expenditures on improvements to streets and parkland. With the exception of the Emerald Necklace, little historical data existed to substantiate a general sense among tree advocates that the inventory contains too few young trees relative to the percentage of mature trees. A visual inspection of streets provided subjective confirmation; however, the exact number, condition, and age of the canopy was still unknown.

Inventory

With increasing competition for funding, the ability to identify critical problems quickly and efficiently has become crucial for the Parks Department. Through the use of inventory analysis, the city foresters can identify problems, or potential problems, easily and develop and implement precise and accurate management plans.

Given the importance of having a solid foundation of information, the Parks Department, in cooperation with state, federal, and local non-profits initiated a citywide Street Tree Inventory in 2007, an inventory of Franklin Park, and an inventory of Olmsted Park. A partial inventory has been done for the Emerald Necklace at Jamaica Pond Park, the Riverway, and the Back Bay Fens. The Commonwealth Avenue Mall, the Public Garden, and Boston Common have full inventories.

In the spring of 2004 the Parks Department in cooperation with the Boston Urban Forest Coalition (a coalition of City, State, Federal, and local non-profit/community groups that meet to further Boston's urban forest) began a citywide street tree inventory. The Greater Boston Urban Forest Inventory (GBUFI) took two years to complete and was administered by the Urban Ecology Institute (UEI). The inventory was funded through various state and federal grants that encouraged community involvement through the use of volunteers in cooperation with trained interns to complete the inventory.

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The end result was a detailed inventory of approximately 37,000 street trees (excluding park trees) spread out over Boston. Along with this detailed information, a knowledgeable team of volunteers emerged who are aware and energized about improving our urban forest.

In conjunction with the Greater Boston Urban Forest Inventory, the Parks Department teamed up with BUFC and the US Forest Service to determine the percent canopy coverage for the city. Through a series of fly-overs, aerial photographs were taken and then analyzed using a software program developed by the US Forest Service called the Forest Opportunities Spectrum (FOS) and a canopy coverage of 28% was determined. With this baseline information, a canopy coverage goal was set at 35%. With a baseline canopy coverage established, city foresters now have a quantitative tool for measuring the growth or decline of the urban forest.

Through the FOS model and in cooperation with the Urban Ecology Institute, the Parks Department's Urban Forestry Unit has been able to identify how many acres of potential planting sites we have within the city limits. With this information, a more accurate plan for achieving a canopy goal can be devised.

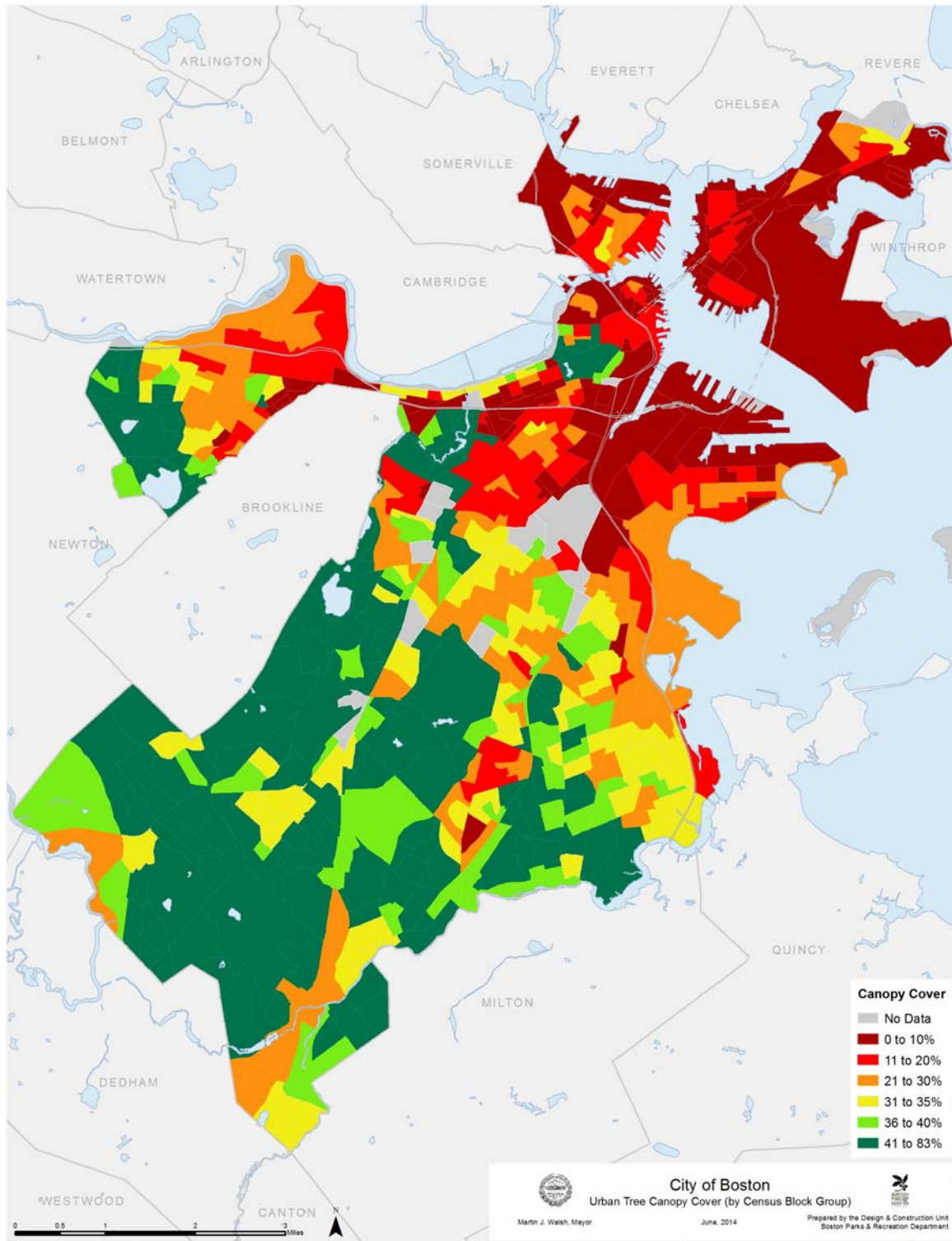
We are currently investigating the need for another street tree inventory in the near future, given changes over time and due to climate change.

Planting

A major goal of the Parks Department's Urban Forestry Unit is to spread the benefits of tree planting – heat-island effect-reduction, water quality and air quality improvements, increase in well-being and property values – to all neighborhoods, especially those with a lower percentage of tree canopy cover, thus making it an environmental justice initiative.

The other program the Parks Department has initiated over the last three years is the new lawn planting program. This program offers residents the option of having a tree planted on their property rather than in a sidewalk pit, provided the lawn planting adds to the streetscape (typically this means planting in the front lawn, or the yard with street frontage). This program was developed after

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the American's with Disabilities Act increased the minimum clearance for handicap accessibility from 3 feet to 4 feet, eliminating about 40% of the sidewalks in Boston from replanting (minimum 7-foot wide sidewalks are needed for street tree planting). By planting in a residential yard lawn, much more soil area and depth is available to the tree's roots, making such tree planting a more secure investment, as it increases the tree's viability and longevity.

In fiscal year 2014, the Urban Forestry Unit anticipates planting 1350 street and front lawn trees (fall 2013 and spring 2014 planting seasons).

Maintenance

The Maintenance Division's Urban Forestry Unit is responsible for the pruning and removal of all trees under the jurisdiction of the Parks Department. In addition they supervise specialized treatments for disease such as Dutch Elm Disease and respond to such emergencies as snowstorms and hurricanes. The Department will prune over 2,106 trees, removed 681 trees, responded to 3155 maintenance requests, and answered 927 emergency tree calls in calendar year 2013.

RECOMMENDATIONS

- Explore measures to increase the maintenance and planting capacity of the present workforce.
- Develop a citywide street tree, parkland, and private property planting and maintenance plan based on opportunities identified in the Forest Opportunities Spectrum (FOS) analysis to help meet the Growing Boston Greener 35% tree canopy coverage goal. Implement this goal through the Year 2020 100,000 trees planted objective, funded through city, state, federal, private, and non-profit sources.
- Integrate current work order software to utilize tree inventory data.
- Add GIS mapping capability to current management software.
- Implement management plans that have been developed for Franklin Park and Emerald Necklace.
- Continue to inventory and develop management plans for city parks and public land.
- Develop a street-by-street pruning plan/rotation.

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- Develop and implement a comprehensive urban forestry training program for Department staff.
- Seek private and public funding sources to supplement city allocations for planning, planting and maintenance under the Growing Boston Greener Initiative.

Community Involvement and Programming

The Department has outlined a new community forestry project which aims to provide Boston residents with straightforward information with regards to tree planting and care, basic ecology, and environmental ethics. The goal of this project is the development and practice of urban forestry by residents. This can be accomplished through a tangible and consistent public education program that enables communities to set planting and maintenance priorities, undertake local educational programs, and raise funds for local projects. The informational unit of the project includes development of a street tree brochure as well as planting and pruning doorknob hanger brochures. The Department has a website for its Street Trees/Urban Forestry unit, which is constantly updated:

<http://www.cityofboston.gov/parks/streettrees/>.

Public/private partnerships are a consistent ingredient in successful community-based environmental management programs. A balance is struck between what each partner offers to the whole, whether it is financial or social capital. The new community forestry effort will allow the Parks Department to direct its fiscal, technical, and physical resources towards supporting functioning groups. Efforts will also be directed towards building neighborhood capacity in neighborhoods that lack effective leadership. In order to use community participation to restore and maintain Boston's urban forest, the Department will sponsor educational programs to include seasonal tree walks, and lectures.

The Department also sponsors special programs in tree planting. Arbor Day has become an annual event in the Department's Urban Forestry Unit. This arbor day celebration is done in conjunction with the Massachusetts Arborists Assoc. "arbor day of service" where local tree care companies donate their time and expertise to do tree work in our parks.

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RECOMMENDATIONS

- Continue participation with the Boston Urban Forest Coalition in Arbor Day planting and education events. Expand Arbor Day and other urban tree programming, including education for all ages.
- Support community efforts to establish partnerships to advocate for and support tree issues in Boston.
- Continue to implement the educational strategy in the Lagan constituent response management system to acquaint citizens and public agency personnel, specifically Parks Department, Public Works, BRA, EDIC, and Boston Transportation Department, with basic Parks Department procedures for care of trees.