Open Space Plan 2008-2014

Section 7
Analysis of Needs

Section 7.3.4 Open Space Systems Management
PUBLIC SHADE TREES

Section 7.3.4:
Open Space Systems Management
PUBLIC SHADE TREES

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.

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.

Analysis of Needs

CURRENT INITIATIVES

On May 17, 2007, Arbor Day, Mayor Thomas M. Menino announced a new initiative called Growing Boston Greener (GBG). Growing Boston Greener is an initiative with an objective of planting 100,000 trees by the year 2020. The ultimate goal of this planting is to increase our current citywide canopy coverage from 28% to 35% by the year 2030. These 100,000 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 ordinances 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.

Analysis of Needs

THE NEXT FIVE YEARS

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

Tree policy issues can be generally 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 five 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. 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 continued 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

- 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

- Increase 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

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, an inventory of Franklin Park, and an inventory of Olmsted Park. 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.

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.

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.

Analysis of Needs

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.

Along with the street tree inventory and the FOS analysis, two of our major parks were inventoried as well. Franklin Park now has a management plan based on a tree-by-tree GPS inventory, and work is currently in progress for a plan for Olmsted Park.

Planting

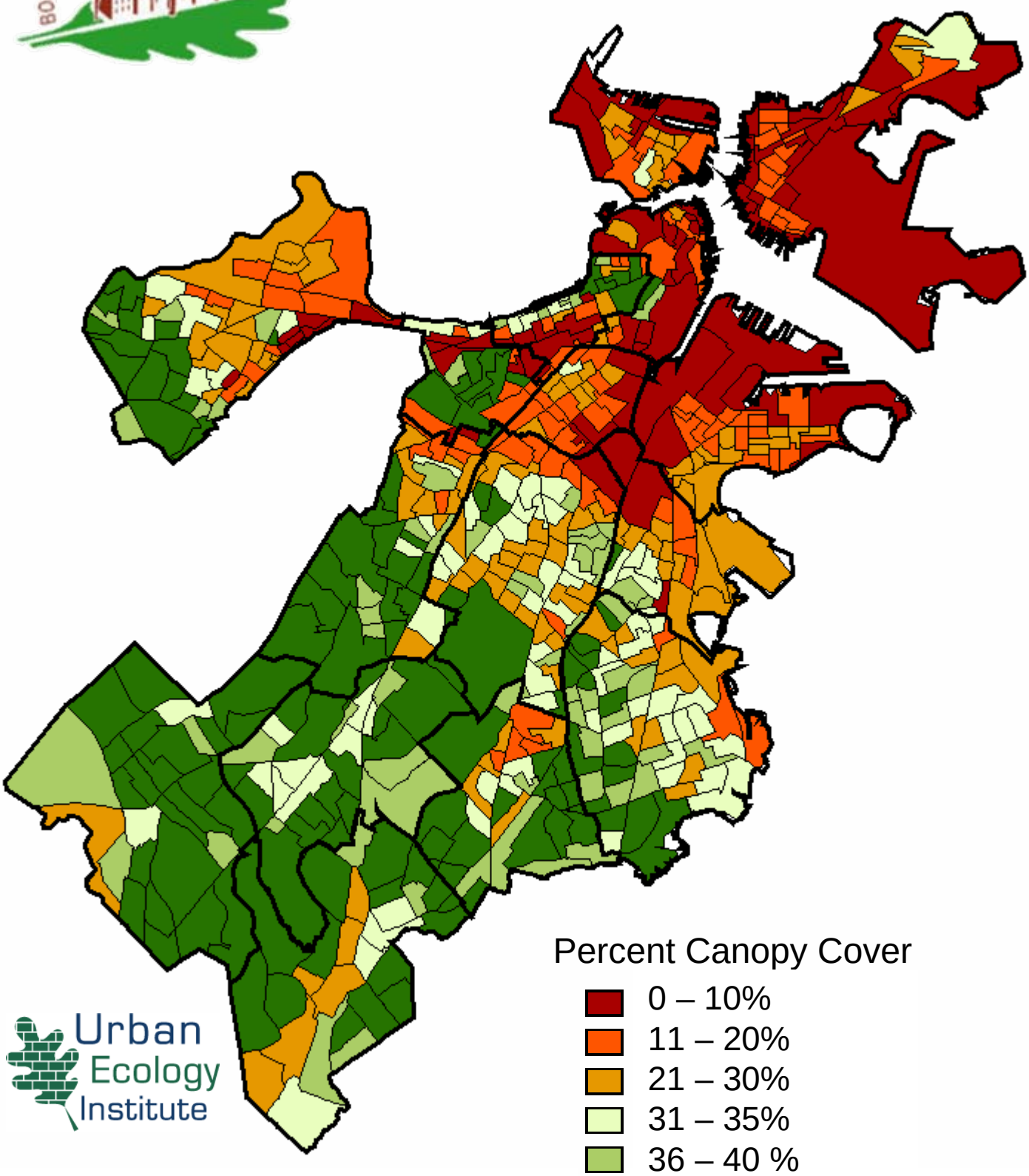
A major goal of Mayor Menino's Growing Boston Greener initiative is to spread the benefits of tree planting – heat-island effect-reduction, water quality and air quality improvements, increase in property values – to all neighborhoods, especially those with a lower percentage of tree canopy cover, thus 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 the American's with Disabilities Act increased their 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.

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

Boston's Existing Urban Tree Canopy (by Census Block)



Urban Ecology Institute

treatments for disease such as Dutch Elm Disease and respond to such emergencies as snowstorms and hurricanes. The Department will typically prune over 1,000 trees, remove nearly 500 trees, and answer over 500 emergency tree calls annually.

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 Olmsted Park.
- Continue to inventory and develop management plans for city parks and public land.
- Develop a street-by-street pruning plan/rotation.
- 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/.

Analysis of Needs

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 in cooperation with Boston's Urban Forest Coalition. The events target both children and adults and include community tree planting, tree walks, and tree care workshops in low canopy coverage neighborhoods (please see Urban Tree Canopy Map). Two hundred (200) trees were planted through such events in 2006 and 2007 alone.

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.
- Formalize a workshop series that provides technical support to neighborhood-based tree care and advocacy groups.
- Establish an educational strategy 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.
- Develop environmental education programs with an arboriculture focus for the Boston Public Schools.