"Full Foliage and Fine Growth": An Overview of Street-Tree Planting in Boston

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With the benefit of the experience it has gained over the past century and a half, Boston is well poised now to exploit the aesthetic and community-unifying qualities of street-tree plantings.

Boston is a green city. The great Olmsted park system, its parkways, and its neighborhood parks and squares are the legacy of enlightened nineteenth century planners and city officials. Despite inappropriate intrusions, changing physical conditions, different patterns of use, damage, and neglect, the integrity of the system, if not its details, remains reasonably intact. Both the Commonwealth of Massachusetts and the City of Boston have recognized the value of this unique system of open space and have created programs to finance restoration of the parks, to reestablish them as a major component of the special quality of life in Boston. But a vital link in the green-space network—the planting of trees along the city's streets—has not withstood the complex forces of growth and change. The continuous avenue plantings of earlier days are now fragmented, and the strong visual impact of tree-lined streets has been lost in many parts of the city. What remains of earlier plantings are individual specimens of great horticultural and historic interest, but these are disconnected from one another and are often isolated from the community as a whole. As we reclaim park spaces it is important also to recognize the value of street-tree plantings for their environmental benefits, for their aesthetic and humanizing appeal, and for their unique ability to define and link neighborhoods across the city.

Tree-lined streets scaled to human activity persist as a standard for urban life. While this image may derive from small-town ideals, it now serves as a protective device against the overwhelming scale and continuous change of modern urban life. The streets of Boston's early Shawmut Peninsula were not lined with trees. The narrow street pattern was based on topographic limitations and on the English rural village model known to the first residents.

The street planting as we know it today originated during the great land-filling and building period of the mid- to late nineteenth century. The major impetus for that period of planting came from the grid, that traditional urban-planning device. The laying out of streets at right angles to one another created long, uninterrupted vistas and gave designers the opportunity to soften and enrich those vistas with continuous, regularly spaced tree plantings.

Commonwealth Avenue and the Back Bay

The full flowering of the grid format is seen best in Arthur Gilman’s plan for Boston’s Back Bay and its axial boulevard, Commonwealth Avenue. Based on the new boulevard...
schemes resulting from Haussmann's redesign of Paris in the mid-1800s, Commonwealth Avenue is now a street defined both by its formal tree planting and by its controlled building facades. To the credit of its early supporters and, perhaps, to the bemusement of its current protectors, Commonwealth Avenue has become a paradigm of elegant, sophisticated urban life.

In 1880 Charles Dalton, Chairman of the Board of Park Commissioners, asked Frederick Law Olmsted and Charles Sprague Sargent to develop a planting plan for Gilman's boulevard. Their plan, based on the need for a dignified vista and for responsible planting standards, recommended a double row of a single species. City officials overruled them, however, basing their decision on the need for short-term effect, and the Commonwealth Avenue Mall was planted with a row of four trees and a mixed planting of American, English, and European elms. The crowded conditions predicted by Olmsted and Sargent quickly prevailed, but unforeseen and more devastating was Dutch elm disease, which has progressively killed most of the original planting.

To break the monoculture that exacerbated this problem, a dedicated private group has replanted Commonwealth Avenue with a variety of species. Elm varieties thought to be disease resistant were used first; when these proved unreliable, zelkovas, maples, sweet gums, and green ashes were introduced. The resulting mixed planting may be more horticulturally responsible, but it is not as aesthetically satisfying, failing as it does to provide the dignified vista so valued by Sargent and Olmsted. After years of being viewed as a neighborhood street, the Commonwealth Avenue Mall has become a focal point for visitors to the city. There is now a clear need for the city to develop a visual policy to guide future planting on the Mall. In the last few years there has been an enormous resurgence of interest in boulevard restoration and design that has, in turn, stimulated interest in formal tree-planting techniques. Commonwealth Avenue is looked to as a model for both urban designers and developers who seek to impart a sophisticated, expansive image to their projects.

Despite the problems of disease and overcrowding, the one hundred-foot-wide planting strip of the Commonwealth Avenue Mall has sustained tree growth for over a century. Other street plantings in the Back Bay relegated to tree pits have not fared so well. Lower Beacon Street, for example, had a major planting of little-leaf lindens early this century. Very few specimens remain. On the other hand, Beacon Street, as it enters Brookline, still benefits from the road layout designed by Olmsted, which includes a deep planting strip that still supports mature shade trees. Many of the London plane trees planted some years ago on Boylston Street have been destroyed or seriously damaged. Current plans

Commonwealth Avenue between Exeter and Dartmouth streets during the 1880s. Photograph courtesy of the Bostonian Society.
to transform this important commercial street into a Champs Élysées type of boulevard offer the possibility for a very significant tree-planting project for the city. The wide sidewalks offer a unique opportunity to plant a double row of trees in some locations, to install continuous tree pits in others.

The layout of the South End followed that of the Back Bay, and planners for the city used the grid here as well, albeit more modestly. Differing in a number of ways from the layout of Back Bay, that for the South End introduced the English device of laying out streets around a residential square, or park, and of eliminating street-side planting so as not to obscure views of the square from inside the houses. These small parks are still viable and can best be seen at Union Park and Rutland Square. They hold to the English tradition of the informal grouping of horticulturally interesting trees and shrubs.

Several years ago Columbus Avenue, designed as one of the major axial streets of the South End, underwent a major streetscape-improvement program by the Boston Redevelopment Authority that included a major planting of red oaks to add dignity and scale to this mixed commercial and residential street.

Formal street planting moved into Boston neighborhoods first along commercial streets, then adjacent to institutions, and eventually to the smaller residential streets. Of perhaps some solace to municipal officials today, the care of the existing population has always been a frustrating and little-appreciated process.

Past Frustrations and Successes
In 1887 there were about 30,000 street trees in Boston, but their condition evoked the dismay of William Doogue, Superintendent of the Common and Public Grounds and newly appointed guardian of the street trees. Doogue commented that summer work crews sent out in 1887 to work on the street trees did little to improve and a great deal to harm them, cutting off the trees' roots and damaging their "nutritive apparatus." In those days trees were also damaged by underground coal-gas leaks and, most especially, by the gnawing habits of horses, who showed little respect for young plants. Doogue went on to note that at least one-sixth of the tree population was either dead or dying because of the neglect, and that time, money, and careful training would be required to replace them in "full foliage and fine growth."

The American elm was deemed by many in the nineteenth and early twentieth century to be the perfect city tree because of its unique arching habit and tolerance of urban conditions. It was heavily planted in Boston and most other major cities, and we are still suffering the loss of that magnificent tree. Other species were planted as well and were quite successful. Asa Gray, writing in 1881 on the native vegetation of the Boston peninsula, commented that a number of species imported from Europe had quickly adapted to conditions on Boston’s streets. Gray makes special note of the Norway maple, the little-leaf linden, and the horsechestnut.

Tracing the types of professionals responsible for planting street trees reveals the shifting roles of professionals in urban planning. The great avenues of Europe were laid out and supervised by architects and engineers—Baron Haussmann, Jean Charles Alphand, John Nash. They participated in very specific ways in the placement of trees and the selection of species. The highest value in this process was the artistic arrangement of the plantings. In Boston, after architects and engineers had laid out streets and prescribed planting areas, municipal employees with a variety of backgrounds and skills would be called upon to maintain plantings. At the turn of the century a very significant state law organized shade-tree care on a municipal level. In 1899, the Massachusetts legislature passed an “act to codify and amend the laws relative to the preservation of trees.” It man-
dated the appointment of a tree warden for every city and town in the Commonwealth. The first law of its kind in the country, it indicated the high value that the Commonwealth of Massachusetts placed on its shade trees. Today, the complexity of planting and maintaining trees requires a team: a landscape architect, an arborist-horticulturist, a soil specialist, and, perhaps, an engineer.

**Planting for the Future**

As we look to the future, several issues need to be fully and thoughtfully addressed as we seek to restore, enhance, and rethink our street plantings. The most visible issues to residents, aside from maintenance, are species selection and planting method. Some species, such as Norway maple and little-leaf linden, have been overplanted in Boston. As a result, their faults and limitations have been magnified. As Ernest Wilson, Keeper of the Arnold Arboretum, said of trees for street planting, “they must be veritable angels among trees.” Like cornices and window mullions, trees become fashionable, and their use is dictated more by out-of-context taste than by an integration of design and horticultural requirements.

The honey locust, so admired by architects for its light, transparent foliage and by arborists for its resistance to urban stress, has had tremendous popularity over the past fifteen years. In addition to its extensive use as a street tree, it has become the ubiquitous urban-plaza tree. A number of South End streets have benefited from the planting of the honey locust, which creates a wonderful quality of dappled sunlight and does not obscure the details of the Victorian townhouses. The Callery pear, a favorite of arborists and utility-line companies because of its small, compact size, is being appropriately planted on many narrow streets of the city, including those of Beacon Hill. In other locations it cannot rival the mature effect of oaks, maples, or lindens. The green ash, another

*Tremont Street in the mid-1870s. Top: Looking eastward near Massachusetts Avenue, from top of the Chickering Building. Bottom: Looking westward from Dwight Street toward Montgomery Street and Montgomery Square. Photographs courtesy of the Massachusetts Historical Society.*
current favorite, is tough and dependable but essentially undistinguished as a specimen tree and looks best when planted in close groups. Other, more exotic species are doing well and should be used more often. The mature ginkgos on Tonawanda Street in Dorchester, native to China and remnants of a much larger planting, are horticulturally very significant and should have much needed preservation work. Young ginkgo plantings on Appleton Street in the South End and on Bowker Street in Government Center are very successful. The katsura, a very beautiful tree and also native to China, could also be used more widely in Boston. Investigations must also be made into enlarging the number of small, upright growing species used in Boston. The North End, Charlestown, and Beacon Hill all have very narrow streets where tree growth is severely restricted.

Street trees in Boston, as in every other major city, are traditionally planted in tree pits cut into the sidewalk. Continuing this tradition is important, but too many tree-pit plantings are failing to rely on this method exclusively. Restricted planting area, poor soil and drainage, lack of water, and excessive damage from cars and trucks have been repeatedly enumerated as the causes of poor survival rates. New methods of public tree planting must be used. Continuous planting strips—long, streetside planting areas where tree roots have room to spread in larger areas of soil are one solution. Off-street grove planting is another option. Many areas of this city are too narrow for planting. They create pedestrian hazards and impossible survival conditions for the trees. Tree planting on very narrow streets can only be reasonably viewed as temporary planting and probably should be done with private funds.

There is a whole body of state and municipal laws concerning the ownership and stewardship of public trees. Legally, the City of Boston and its designated agency, the Department of Parks and Recreation, has jurisdiction over street trees on public property. The Boston Parks Department has made a firm commitment to improve both the street-tree population of the city and the professional management of that population. But no major city in this country relies exclusively on city funding and city labor to plant and maintain public trees. Many private nonprofit and volunteer groups devoted to public street-tree planting and care have been organized and developed over the past twenty years. Friends of the Urban Forest in San Francisco and the New York City Street Tree Consortium have done significant work in those cities as cooperative partners with city government to fund and maintain new plantings and, most importantly, to highlight the value of trees to the city.

Trees are often seen as an end product of gentrification. Yet many cities have shown that community feeling and action can be initiated around tree planting as the beginning of a neighborhood-improvement process. Trees in Boston have a long tradition, but, as we have seen, tradition alone does not sustain trees. Trees must be valued, and their needs and idiosyncrasies must be understood. The maintenance and replenishment of our street trees must be accepted as a continuous process.

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