

Open Space Plan 2015-2021

Section 7

Analysis of Needs

Section 7.1.1 Resource Protection

GREENWAYS & BIKEWAYS

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Section 7.1.1: Resource Protection GREENWAYS & BIKEWAYS

OVERVIEW

Restoring Health, Maintaining Wellness

The rationale for urban parks posed by Frederick Law Olmsted, Sr. in the late 19th century was the need to restore health. This need was to be satisfied through a separation from both the hustle and bustle and confined spatial experiences of urban life. Olmsted sought to provide opportunities for the quiet contemplation of pastoral scenery as the preferred means of retreat from urban life.

By the beginning of the 20th century, others felt that, due to the limited land resources available within cities, more active recreation in smaller spaces could restore the health of urban dwellers. Joseph Lee pioneered and championed this concept when, here in Boston, he developed the first children's play lot in the United States. Play and physical activities even within the confines of small courts and play lots were felt to be as necessary for health as the quiet enjoyment of the large-scale pastoral landscape parks of the Olmsted model. The recreation model involving playlots would involve the purchase and maintenance of many smaller but more scattered spaces that would be accessible to residents on a day-to-day basis. These smaller spaces would also be more attractive fiscally, given the limitations of municipal budgets.

Both the Olmsted parks and the active playlot model of smaller interspersed play spaces endure because they do address our health and recreation needs. However, just as advances in public health led to these different types of parks, so too the more recent focus on greenways, trails, and bikeways in the urban environment has also been driven in part by health considerations. Certainly the activities fostered by these linear facilities are fun and worthy of being addressed for that reason alone. But one consensus among public health and medical experts that has developed during the late 20th century has been that aerobic activity – active and continuous large muscle exertion that generates significant increases in heart rate for 15 or 20 minutes or more – can provide

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significant overall health benefits, including the prevention of disease and the improvement in general mood and attitude.¹ This type of aerobic activity can be conducted in an extremely limited space, thanks to exercise machines. However, many cannot afford such equipment in their home, or the costs of membership in health clubs and related facilities.

Even those who have such equipment or access to health clubs want to engage in aerobic activity outdoors. The general preference in this country has been to favor pathways that also involve a contact with scenic, naturalistic surroundings. Users of such nature-oriented pathways speak of how such surroundings are an incentive to exercise regularly, as the repetitiveness of exercise, particularly conducted indoors, can lead to boredom. Even those who exercise regularly on exercise equipment often do so with the goal of being fit for outdoor recreational activities.

Technological Changes

Other factors that have influenced interest in linear facilities such as greenways, trails, and bikeways are technological advances that have created new recreational pursuits or made existing types of recreation more enjoyable or less expensive. Shoe manufacturers have incorporated materials that have made recreational activities less jarring and more able to be conducted in all types of weather conditions. The development and refinement of mountain bikes, in-line skates, skateboards, and even roller skis have created further demand for linear facilities.

Protecting the Environment

Certain ecological assets, particularly oceanfronts, rivers, and streams, lend themselves to support linear recreational facilities. Environmentalists see public access to such resources via linear recreational facilities as a means of protecting the resource; first, by bringing “eyes” out to it so that threats and harms can be identified and then addressed; second, by creating a constituency to advocate for long-term protection and improvement of these facilities.

Adaptive Re-Use of Abandoned Rail Lines

Another factor has been the trend toward abandonment of underused rail corridors. The Rails-to-Trails Conservancy, a national organization, supports the conversion of such abandoned rail lines into linear recreational facilities. The most prominent example here in eastern Massachusetts is the Minuteman Bikeway

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that extends from Cambridge to Lexington and Bedford. It is well used for commuting and recreation and is often crowded on weekends. Many businesses along the bikeway try to capture this market, posting signs to attract customers from the trail. Before the bikeway was built, these businesses had turned their backs to this abandoned industrial corridor.

Presidential Commissions and Congressional Acts: the Policy Spur

From a policy point of view, the current emphasis on linear recreational facilities emerged in large part in response to the 1986 Report of the President's Commission on Americans Outdoors, which called for a focus on greenways. This was a response to two phenomena. One was the rising value of land. The purchase of large tracts for use as parks was seen as becoming increasingly costly and beyond the reach of many government agencies. The other was the concern about close-to-home recreation. Perhaps a holdover from the energy-conscious times of the 1970s, several policymakers felt that many park areas were sited far from where the "market" for them was located. While becoming increasingly suburbanized, the nation's population was still largely located in metropolitan areas. Again, given rising land costs, public land acquisition efforts became focused on large tracts in ex-urban and rural surroundings. Yet, given rising energy costs and decreasing amounts of leisure time, many urban and even suburban residents could not afford the cost or the time involved in visiting such far-flung parklands. Providing recreation experiences like hiking and bicycling in a natural, scenic setting close to home, while limiting land costs, led to a focus on the linear nature of these activities. Could such activities be accommodated in long linear park systems? The land costs could be reduced while careful design would either mask out unwanted visual intrusions or celebrate the existing and prior land uses adjacent to these facilities.

In urban areas, these linear facilities could be used to link existing parklands and natural areas. This open space linkage could help generate a feeling of connectedness and continuity ("connectivity") that would, like an Olmsted park, provide relief from the confined, maze-like spatial experience of city streets typical of the urban public realm.

The 1986 report spurred a greenway movement that has continued unabated. Grassroots groups and professionals in parks and ecology have worked to create many such linear facilities,

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identifying corridors based on either man-made elements such as abandoned rail lines or natural elements such as rivers. The momentum in the greenway movement advanced considerably with the passage by Congress of the Intermodal Surface Transportation Efficiency Act (ISTEA) in the early 1990s. This act changed the focus of federal surface transportation funding from solely highway- and arterial-oriented to a focus on coordinating different surface transportation modes. Bicycle and pedestrian facilities were to receive greater encouragement, especially through the Act's Transportation Enhancements Program. This program, continued in subsequent reauthorizations of the Act under new names, has provided grants to create "enhanced inter-modal surface transportation systems" enabling users to change from one mode to another or use different modes depending on trip purpose or timing. A major program category has been bicycle and pedestrian facilities, with greenway projects, environmental groups interested in low-emission transportation, and bicycle advocacy groups targeting this funding resource.

Changes in Climate and Urban Sensibility

The centuries-long accumulation of carbon dioxide in the atmosphere that has led to human-caused global warming is well-documented elsewhere, as is the growing awareness of it among the public. The phenomenon of a rising desirability in urban living is less well known. There was a time when middle class families led an exodus from the cities to the suburbs, leading to a significant decline in the fortune of many cities. The flip side of that coin was the "back-to-the-land" movement of the children of the suburbanites (and some urban dwellers) moving to rural areas. Since at least the 1980s, however, a new movement has emerged of folks returning to the cities to pioneer a renaissance of residential and downtown neighborhoods. With the new century, and the rising awareness of global warming, there grew a new understanding that motor vehicles with their petroleum-fueled internal combustion engines were major contributors to this worldwide environmental crisis. Cities, where many needs can be accessed without driving a car, came to be seen as not a defiler of nature, but one significant answer to this crisis. In the design of new communities, the New Urbanism movement arose expressing the need for walkability as a key determinant of successful community building. The bicycle – a vehicle that requires much more limited claim on limited natural resources in its manufacture, generates a limited carbon footprint in its operation, requires much

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less space in the public realm for travel and storage (i.e., parking), provides healthful physical activity in its use, and extends the range of practicable travel – became part of the toolbox urban advocates could use to address the need to confront the global warming crisis on a day-to-day basis. Bicycle advocacy rose dramatically in the United States in the 21st century, especially in urban areas. Bike lanes, bike sharing programs, and the like became a notable addition to the menu of actions proposed or taken by progressive mayors throughout the country. This movement is, however, mainly transportation-oriented, but it is complementary to the greenway movement previously discussed.

Defining Terms

These linear facilities, i.e., greenways and bikeways, are often confused with one another. In this section of the plan, we will refer to them generally as “linear [recreation] facilities.” However, some sense of the differences between them should be conveyed, as these facilities have frequently become the subject of planning and management activities.

GREENWAY CORRIDORS

Four types of resources can form the components of greenways: natural resource preservation areas; parks and other open spaces; cultural and historic resources; and corridors. Natural resource preservation areas are what greenways are meant to buffer and at the same time they are environments that, because of their scenic qualities, often attract users to greenways. The need to balance access and protection in these areas is an important function of greenway planning and management.

Parks and recreation areas are ideal candidates for inclusion in greenways. Other open spaces to consider are plazas and malls, estates and institutional campuses, and golf courses.

Cultural and historic resources are features of human origin, which have special meaning or help define the character of places along a greenway. Old mill buildings, landmark houses, and other historic structures, churches, burying grounds, town commons, and museums are examples of such features. They can provide the special nodes along a greenway route that attract a diverse set of users and stewards for the greenway.

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Greenways inherently must include the corridor component.² Corridors can be natural, of human origin, or a mix of the two. These stretches of land, water, or both link the various resource areas spatially and can be made up of at least one of the other three greenway components. Rivers, streams, canals, coastlines, rights-of-way for railroads or utility lines, trails, paths, scenic roads, and even city sidewalks, arterials, and boulevards are examples of corridors. The spatial linkage is the corridor's most important characteristic: "By joining different resources together into an integrated network, each individual resource becomes part of a greater whole whose utility, accessibility, and environmental value are far greater than any of the separate pieces."³ Often, some significant portion of the greenway corridor will likely have a buffer to protect one or more of the resource components. Such buffering is typical for greenway corridors that include natural resource preservation areas. An example of institutionalized buffering is the Massachusetts Rivers Protection Act, which mandates a development setback (25 feet in Boston and other urban areas) from the water's edge.

One commentator, Dr. Julius Fabos of the University of Massachusetts, has categorized three types of greenways: greenways based on ecologically significant corridors and natural systems, such as rivers, coastlines, and ridgelines; recreation-oriented greenways, based on trails, paths, or water routes to link recreation and scenic areas; and heritage and cultural-oriented greenways, based on historic and cultural resources and often created with a tourism motivation.⁴ Yet "on the ground" these greenway categories often overlap as Dr. Fabos readily admits. In an older, highly urbanized state like Massachusetts, this overlap is almost inevitable and part of the attraction and excitement of our greenways. In one greenway segment, there may be a pristine wetland bordering the river with a boardwalk and interpretive signs. In the next segment downstream, an old mill has been adaptively re-used for office space with a restaurant on the first floor and an outdoor patio overlooking the impoundment and the dam. In the next segment, a riverside trail allows for a post-dinner walk by the river. The post-dinner walkers encounter a softball game in progress in the ball field next to the riverside trail. They decide to stop and catch an inning or two before returning for home. The type of greenway is not as important as the linkage of resources. In fact, many users of greenways often appreciate the

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diversity of uses along and beside many greenways, as they seek a sense of place and uniqueness as part of the experience.

An additional point to be mentioned pertains to the nature-based greenways. We typically think of “ways” as a travel route for humans. However, a nature-based greenway can be designed to enable wildlife species to travel/migrate or have sufficient space for its habitat needs. Through a greenway linkage, two separate natural resource preservation areas can better support certain species that could not be supported by each on their own. Such wildlife corridors may be designed with a travel way for humans to appreciate the natural resources there. If, for the sake of the species’ habitat, limitations on human contact are needed that preclude such a travel way, perhaps point access such as blinds can be provided.

Paths are marked or signed travel ways for use primarily by pedestrians or human-powered vehicles.⁵ They are the travel ways within greenways or connecting to them. According to one source (the National Recreation and Park Association [NRPA]), paths can be characterized as three types: park paths; connector paths; and special-purpose paths.⁶ Park paths are generally multi-purpose paths that allow continuous movement within a scenic environment while tying together the various elements of the parks, recreation areas, natural resource preservation areas, or greenway corridors within which they are located.

Connector paths are also generally multi-purpose, but differ from park paths primarily by location. They enable travel to and from parks, recreation areas, natural resource preservation areas, or greenway corridors.

Special-purpose paths serve limited or specialized uses such as mountain biking, cross-country skiing, and horseback riding.

Per the NRPA, park and connector paths can be further categorized generally by the degree of separation of uses. Where space allows and use patterns indicate, separate hard-surfaced paths for pedestrians, and wheeled travel (e.g., bicycles, in-line skates) can reduce user conflicts in more heavily traveled areas. These are Type I paths.

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Type II paths are single multi-purpose hard-surfaced paths used where dictated by space limitations and use patterns.

Type III paths are typically single soft-surfaced paths or boardwalks that cater to pedestrian travel due to the sensitivity of the resource area or the type of experience desired by the project designers.

While a signed path is self-explanatory, markings of a path can take many forms. A path where the surface treatment is the same as the soft-surfaced scenic environment, and where it is typically desired to keep man-made artifacts to a minimum, can be marked at intervals on adjacent trees via a painted blaze or small wood, plastic, or metal markers. A path can be marked by painted markings on the paved surface – the red stripe of the Freedom Trail is a prominent example – or by hard-surfaced materials embedded in the pavement continuously or at intervals.

BIKEWAYS

As the name implies, bikeways are on-road travel ways for bicycling. Transportation planners and managers posit three types of bikeways: cycle tracks, bike lanes, and bike routes.⁹

On-road/on-street bike lanes are portions of the roadway marked off by pavement striping. The bicycle travel lane may have markings on the pavement indicating designation for bicycle use, such as the international bicycling symbol. Signage may accompany bike lanes. An example in Boston is the Perkins Street Bike Lane just north of Jamaica Pond Park. Thanks to the Boston Bikes Program, other bike lanes on major thoroughfares have been installed or are in the design stages. Sharrows are pavement markings indicating bicycle travel on the vehicular travel lane when the street width does not allow a full bicycle lane to be installed. Sharrows are often installed to connect bicycle lane segments, and to remind motor vehicle drivers that bicycles have the same rights to use the vehicular right-of-way as the motor vehicle driver.

Cycle tracks differ from bike lanes in that they add a degree of separation from vehicular traffic. They are exclusive bicycle facilities separated from motor vehicle lanes and sidewalks by fixed objects such as parked cars, curbing, bollards, or flexposts.

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On-road/on-street bike routes are either paved shoulders (sometimes marked off by striping) or wide curb lanes (the traffic lane closest to the sidewalk curb whether or not there is a parking lane next to the curb). Signage usually accompanies bike routes, such as a sign with the international bicycling symbol and the words “Bike Route,” or a sign with the symbols for a car and a bicycle side-by-side with the words “Share the Road.” Recreational bike routes are typically used where traffic volumes permit or where required bike lane widths are not feasible. Examples in Boston are portions of the Claire Saltonstall Bikeway, a signed route from Boston to Provincetown on Cape Cod.

Greenway Planning Efforts

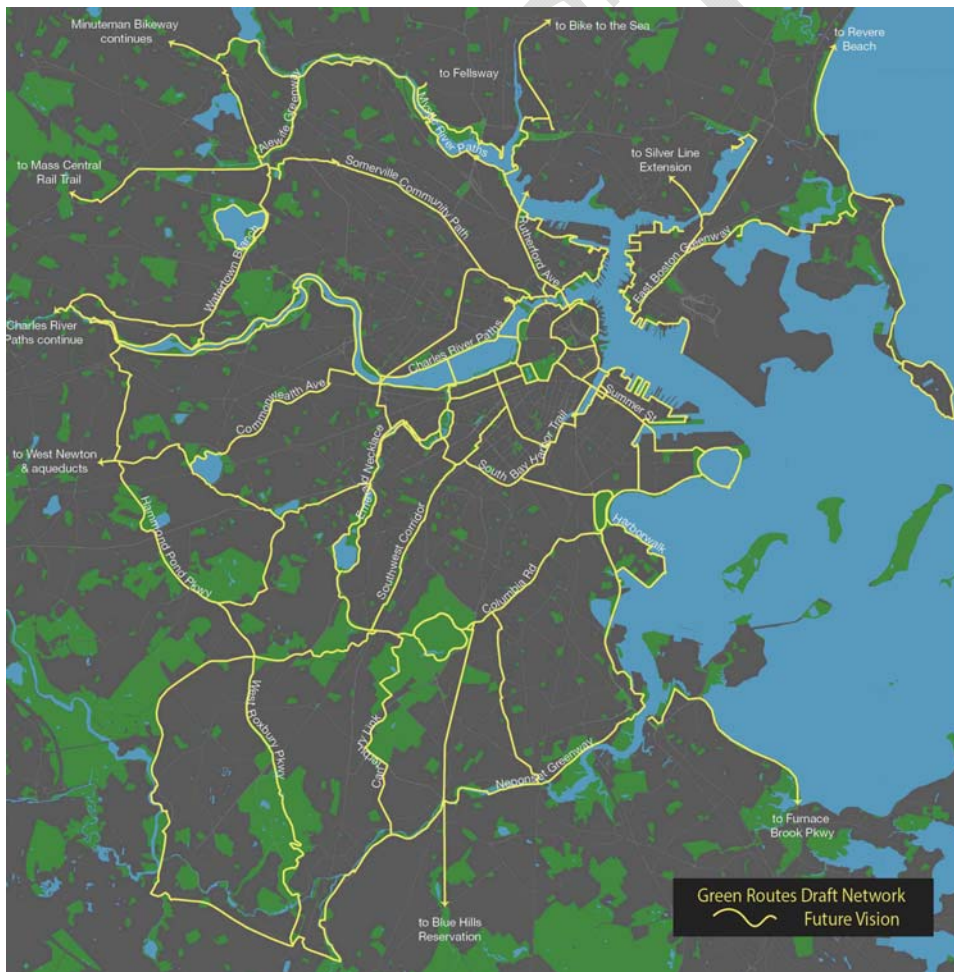
There have been efforts to plan for improved existing and new greenways in Boston and the surrounding metropolitan area. The actors have been both governmental and non-governmental organizations, and sometimes a mix of the two.

The state Department of Conservation and Recreation (DCR) has an existing plan for the Charles River Reservation from the Charles River Dam to the Watertown Dam. In 2013, it issued a Charles River Basin Pedestrian and Bicycle Connectivity Study for Pathways and Bridges to help update and advance the connectivity facet of the Reservation’s improvement. Its conceptual recommendations are seen as a first step as DCR and the state Department of Transportation (MADOT) refine and finalize designs for improvements to paths and vehicular bridges in the Reservation system.

The MADOT has a study underway to determine whether, where, and how to add ramps for the Massachusetts Turnpike (I-90 Extension) in Boston. Part of that study is the review of the need for the Bowker Overpass that connects Storrow Drive to Boylston Street and passes over the Turnpike itself, as well as Charlesgate. Charlesgate was the green connection between the Charles River Reservation and the Back Bay Fens park. Since the post-war period, the Overpass has overshadowed Charlesgate as a park, and the removal of the overpass and the restoration of Charlesgate as a park has been a goal of open space advocates and is a recommendation of the Emerald Necklace Parks Master Plan (updated 2001).

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A group of greenway advocates, under the auspices of the Livable Streets Alliance, has gathered to look at a possible regional “green route” system. Called the Green Routes Coalition (GRC), it has garnered the financial support of the Trustees of Reservations and the Solomon Foundation, the technical support of the Metropolitan Area Planning Council and the Northeastern University civil engineering department, and the staffing of the Livable Street Alliance (LSA). A GRC charrette, hosted by the LSA and the Boston Society of Architects Urban Design Committee, has taken place in mid-2014, as part of an effort called the Green Links Initiative, with juried awards for presentations by volunteer design teams of ideas for specific greenway segments in the Metropolitan Boston system, with all the award-winning ideas focused on Boston-sited projects.



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A planning study will begin soon by the Boston Transportation Department “to inventory existing greenways and off-road paths in the city, and identify key missing links that would be needed to create a truly connected network.” This “Green Links” study would complement the GRC efforts by focusing on the system inside Boston city limits.

Bikeway Planning Efforts

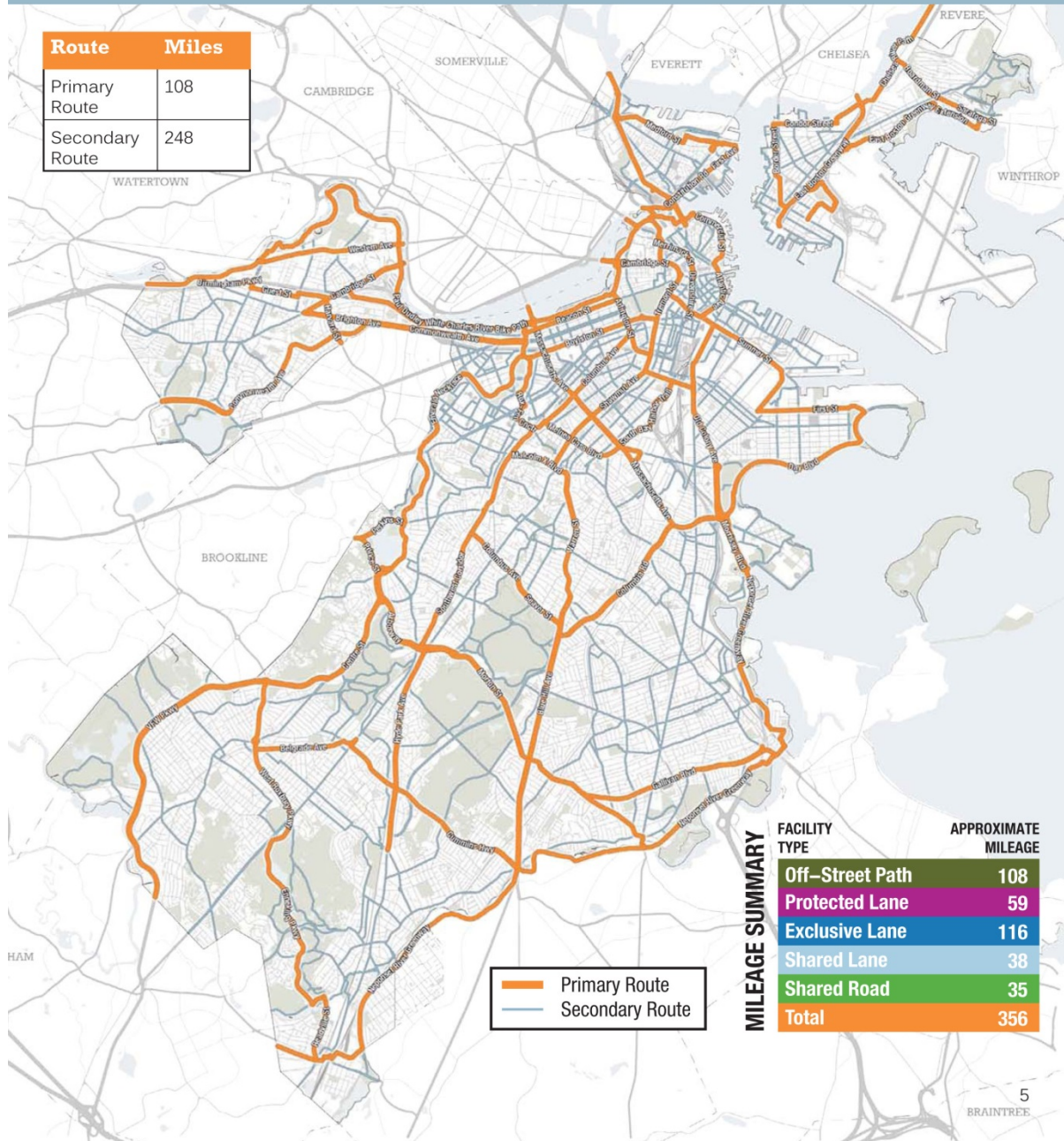
As previously mentioned, bicycle advocacy increased in public consciousness in the late 1990s and early 2000s. Given the progressive leadership Boston has enjoyed at the mayoral level, a director of bicycle programs reporting directly to the Mayor was appointed in 2007. From 2007 to 2014 the Boston Bikes Program generated 62 miles of bicycle lane and shared lane markings, more than 3,000 new bicycle parking spaces across Boston neighborhoods, and a bike share (on-street rental) system with 700 bikes and 72 stations. As a result, Boston has increased bicycle ridership by nearly 82% since 2007.

To create a more systematic approach to the planning of bicycling travel ways, the Boston Bikes Program spearheaded the City’s Bike Network Plan. This 2013 Plan lays out “a comprehensive network of bicycle routes through the city, calling for 75 miles of new facilities in the next five years and reaching a network of 353 miles within 30 years.” The hope is that an improved bikeway system will make the city’s parks and open spaces more accessible to more people beyond the typical half-mile walk-based service area.



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30-Year Vision



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ASSESSMENT AND RECOMMENDATIONS

Assessment: Greenways

Emerald Necklace

Treated as a series of parks and sensitive environmental areas elsewhere in the Open Space Plan, in this chapter the Emerald Necklace is treated primarily in its capacity to support linear recreation activities and in its state of continuity or connectivity. In the first international publication on greenways⁷, the authors noted repeatedly that Frederick Law Olmsted was the first greenway planner in the United States. Certainly the Emerald Necklace park system is an example to support that designation. Olmsted had designed a linked series of landscaped parks from Boston's Back Bay southward to the Arnold Arboretum, then eastward to Franklin Park. At the Back Bay end, this linked park system was connected to the major parks of Boston proper: Commonwealth Avenue Mall; the Public Garden; and Boston Common. The section of the Olmsted-designed system from Charlesgate to the Back Bay Fens, the Riverway, Olmsted Park, and Jamaica Pond Park coincides geographically with the route of the Muddy River. Sinuous parkways, designed for horse-drawn carriages and now conveying automobiles, paralleled these parks and connected them to the outlying parks of the Arnold Arboretum and Franklin Park.

As mentioned in this chapter's Overview, Olmsted sought to provide opportunities for quiet contemplation of pastoral scenery. Naturally this required a spatial buffer from existing and proposed development. Thus, a rationale existed for a corridor to provide both the scenic parklands – the pastoral landscapes – and the travel ways for pedestrians and horseback riders traveling at a slower pace than the parkway users. The corridor was sufficiently large in most places to buffer the users and the resources from the built environment. In both the Arboretum and Franklin Park, the parklands were large enough to provide an opportunity for trails that not only conveyed users from one park to another, but also allowed for exploration within the park. Franklin Park itself was so large as to provide several trail systems within it, such as the Scarborough Hill paths, the paths in the Wilderness, and the circuit paths.

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Rivers and streams, ponds, lakes, woodlands, rock outcrops, and salt, brackish, and freshwater marshes were among the resource areas featured in this system. Through the use of grade changes, vegetation, and the corridor's width, Olmsted was able to spatially and visually buffer these resource areas.

Therefore, the Emerald Necklace park system was the first greenway built in Boston, even though it was not called that then. The term "Emerald Necklace Greenway" arose only in the late 1990s. A group of community and bicycle activists, primarily from the Jamaica Plain neighborhood, assisted by BikeBoston, an affiliate of MassBike, a statewide bicycle advocacy group, prepared a report and a poster on the Emerald Necklace Greenway. The report, funded with a grant from the Department of Environmental Management (a predecessor agency to DCR) Greenways Program, outlined the gaps in continuity posed by changes to the system's landscape and parkways. These changes have accrued over the years due to many accommodations to the needs of automobile traffic. As these defined gaps occur typically on the DCR parkways, state action is needed to address these issues. However, as municipal park properties are immediately adjacent to these gaps, the impacts of potential solutions may affect them as well. Thus, any process to address these gaps will necessarily involve the Parks Department, the Boston Transportation Department, and the Brookline Public Works Department, in addition to the pertinent state agencies.

Within the parkland portions of the Emerald Necklace, much has been done to increase continuity/connectivity and promote bicycle and pedestrian use. In the late 1980s, a Parks Department project funded in part by DEM paved an unused bridle path in Olmsted Park and Jamaica Pond Park and dedicated it for multipurpose use including bicyclists. This project represented the beginning of the Emerald Necklace Bike Path.

In the mid-1990s, a series of ISTEA grants were obtained by the Parks Department to address other pedestrian and bicycle improvements for the Emerald Necklace. The first project involved the improvement of a vacant parcel that the Department acquired, the first acquisition of parkland in the Emerald Necklace in decades. The South Street Tract had been added to the Arnold Arboretum, and with federal and state funds from the ISTEA Enhancement Program, construction was completed for a

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landscaped addition to the Arboretum with a stone dust path leading from an entrance near the Forest Hills MBTA station to another entrance on South Street across from the original Arboretum tract.

The second project was a three-pronged effort to improve Jamaica Pond Park. The three elements of the Connecting Jamaica Pond project were the reconstruction of the pedestrian paths around much of the pond, including the banks of the pond; the installation of a storm water pollution control measure – an oil and grit separator – to further improve the high water quality of Jamaica Pond; and the installation of pavement markings for bike lanes, the city's first, on Perkins Street to connect the Emerald Necklace Bike Path to Parkman Drive and Prince Street. The Emerald Necklace Master Plan has proposed the banning of motor vehicles on Parkman Drive, therefore this project provides a connection in anticipation of the proposed change at some indeterminate point in the future. This project was essentially completed in 2000.

The third ISTEA-funded project is currently under design. It consists of two major elements: the first is the reconstruction of pedestrian paths and the paving of an obsolete bridle path to allow for multi-purpose use, both in the Back Bay Fens; the second is the enhancement of Forsyth Street from the Fenway parkway to Ruggles Street for pedestrians and bicycles to create a connection between the Emerald Necklace at the Back Bay Fens to the Southwest Corridor Park at Ruggles Street near Boston Police Headquarters and the Ruggles MBTA station. The linkage between two of the city's most significant greenway corridors led to the project's name, Linking the Corridors. Once this project is complete, the two major outstanding greenway issues for the Emerald Necklace will be the closing of remaining open space gaps and the clean-up of its major natural resource area, the Muddy River (discussed elsewhere in this plan).

Based on advocacy by the Arborway Coalition, the Parks Department, with funding from the DCR Historic Landscapes Program, produced the Arborway Master Plan to improve the landscape character of this parkway which connects Jamaica Pond Park, Centre Street, the Arnold Arboretum, and Franklin Park. One of the goals of this 2004 plan is to improve the linear greenway function of this segment of the Emerald Necklace. It calls for both a

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continuous off-road shared use path and sidewalks that would increase the non-motorized realm of this parkway.

The Arborway Master Plan assumed the existence of the Casey Overpass that formed the southeastern end of the Arborway. By 2010 however, the MADOT determined that the overpass structure was deficient and needed to be torn down. A planning process was undertaken to explore alternatives from creating a new overpass to at-grade alternatives. In 2012, the MADOT decided to “new, multimodal at-grade ... boulevard,” to be known as the Casey Arborway. Construction is expected to begin in 2014 that will allow for improved pedestrian and bicycle accommodation in this section of the Emerald Necklace greenway corridor.

Charles River Reservation & Dr. Paul Dudley White Bike Path

Under DCR jurisdiction, this greenway corridor is as defining of Boston as is the Emerald Necklace. It occupies both banks of the Charles; we will look only at the portion of the Reservation within Boston city limits. This section will also include both the new and historic Charles River Reservation areas.

The Charles River Reservation is the centerpiece of the Metropolitan Park District, the array of parks throughout the metropolitan Boston area. During 1892 and 1893, Charles Eliot, a protégé of Olmsted and the son of a Harvard College president, worked to get the state legislature to set up the Metropolitan Parks Commission (the forerunner of the DCR) and produced a report recommending the acquisition of thousands of acres of land in the Boston region. Three years later, the Metropolitan Parks Commission acquired most of the Charles River shoreline between Leverett Circle and Watertown Square. Yet the estuary conditions still left polluted mud flats and poor rowing conditions, so the concept of damming the Charles at its mouth to create a large lake or basin took on great importance. By 1908, a dam was in place, replacing the tidal saltwater estuary with a freshwater lake. A widened embankment was created in 1936. However, the pressure of automotive traffic asserted itself after World War II, with the legislature brushing aside the express wishes of the donor who funded the embankment by authorizing a parkway (Storrow Drive) on the inner edge of the embankment, which created obstacles to access that remain to this day.

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Dr. Paul Dudley White, President Dwight D. Eisenhower's personal doctor, advocated for the use of bicycles on the Esplanade, which use was first allowed in 1960. By 1970, a continuous bicycle path around the entire Basin was finally developed and named in honor of Dr. White.¹¹

Constructed with mitigation funds from the Central Artery/Tunnel Project, an eastward extension of the Reservation, known as the New Charles River Reservation, was created. Below the old Charles River Dam, a series of parks – the Paul Revere Landing Park and North Point Park in Charlestown, and the Nashua Street Park in Central Boston – were built with pathways along the Charles River near its confluence with Boston Harbor. The New Charles River Reservation therefore links the “old” Charles River Reservation with the Harborwalk and city and federal parks in Charlestown and the North End, helping to extend waterfront access along the two major water bodies, the Inner Harbor and the Charles River, that surround much of Boston.

While the Emerald Necklace is beloved because it epitomizes the Olmsted pastoral landscape park with its contemplative, intimate effects, the Charles River Reservation is beloved for a different reason. Its much larger scale, particularly due to the Basin, has made for a much grander, spectacular scenic resource. As noted in DCR's master plan, “views of the boat-dotted Basin framed by Beacon Hill, the Esplanade, the Longfellow and Harvard Bridges, and the Massachusetts Institute of Technology symbolize the region, its vibrancy, and its livability.”¹²

However, the Reservation is in need of significant reinvestment according to the current DCR Master Plan. Master Plan recommendations that are of significance to linear recreation in the Reservation include:

- “Improve 8 and add 11 parkway pedestrian crossings” to improve access to this regional greenway;
- “Narrow ... parkways ... to broaden green space along the river;”
- “Improve the multi-use pathways and add separate pedestrian and bicycle paths where space permits;” and
- “Link the Basin to Boston Harbor at the New Charles River [Reservation] and to the Emerald Necklace at the Charlesgate.”¹³

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Citizen support for the Charles River Reservation Master Plan will be crucial to its success, as the multi-million dollar price tag for improvements will be a daunting obstacle for a Legislature faced with fiercely competing demands for funds. As earlier mentioned, DCR has developed conceptual plans for pedestrian and bicycle improvements to the Charles River Reservation paths and vehicular bridges, while the MADOT I-90 Boston Ramp Study will look into the possibility of improving the linkage between the Reservation and the Emerald Necklace at the Back Bay Fens via Charlesgate.

Neponset River Greenway

In 2006, DCR completed a Neponset River Reservation Master Plan Phase II for the section of the Reservation between Paul's Bridge in Milton and Central Avenue in Boston. In 2009 construction of an early action item, bike lanes and a pedestrian path along Truman Highway in Milton and Hyde Park took place.

In 2013, the DCR was given \$1.9 million for the design of the completion of the Neponset River Greenway. Several segments from the National Grid property at the mouth of the Neponset to Mattapan Square will be the subject of this design effort. The approximately \$15 million cost of the construction itself will expended by 2016.

East Boston Greenway

A neighborhood greenway linking old and new parks is being created in East Boston. The current segments of the Greenway include the Parks Department-owned segment between Marginal Street (near the harbor) and Porter Street (near East Boston Memorial Park, the segment between Porter Street and the Day Square area known as Bremen Street Park (owned by MADOT and managed by Massport), Constitution Beach (DCR), the Belle Isle Coastal Preserve (City of Boston), and the Belle Isle Marsh Reservation (DCR).

Currently the Massachusetts Port Authority is constructing the Wood Island Marsh Link, a half-mile section of the Greenway which will connect Bremen Street Park to Wood Island Bay Marsh. It will include open space areas at Neptune Road and an overlook park at the Wood Island Marsh.

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The City of Boston is also designing the Narrow Gauge Link of the Greenway which will transform an old railroad bed adjacent to the MBTA's Blue Line, further extending the Greenway from Wood Island Bay Marsh to DCR's Constitution Beach. This will complete the connection from Bremen Street Park to Constitution Beach.

Once these segments are completed, the areas at the northern end, near Belle Isle Marsh, and the southern end, near Piers Park, will become a greater focus of efforts to improve this neighborhood greenway.

Rose Fitzgerald Kennedy Greenway

By virtue of state legislation in 1996, the surface restoration performed as part of the CA/T work on the downtown portion of the Central Artery was formally named the Rose Fitzgerald Kennedy Greenway in honor of the mother of President John Fitzgerald Kennedy and Senators Robert and Edward Kennedy. Mrs. Kennedy was born and raised from 1890-1897 in the North End neighborhood now abutting the Greenway. She was the daughter of John "Honey Fitz" Fitzgerald, Mayor of Boston from 1906 to 1908 and 1910 to 1914 (the now depressed Central Artery is formally known as the John Fitzgerald Expressway).

The greenway corridor provides sidewalks, up to three vehicular lanes in each direction, and parcels that accommodate tunnel ramps, open space, and new development. The corridor master plan was issued in 2001. Parks, gardens, and plazas were proposed on the open space parcels, which comprise 75% of the new restored surface constructed above the submerged expressway.

In 1995, a joint city-state planning process called the Surface Transportation Action Forum developed the Central Area Surface Street Consensus Plan. This plan made recommendations on the design of the streets. It outlined the sidewalk widths and mandated that one traffic lane each way be wide enough for autos to share with bicycles (i.e., an on-road bicycle route).

This greenway, located in one of the densest parts of the city, is now in operation and serves to connect users to the New Charles River Reservation, Harborwalk, and the Boston Harbor Islands via the Visitor Pavilion found on the Greenway. It is an important

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feature for residents in abutting neighborhoods, downtown workers, tourists, and regional recreation enthusiasts.

East Coast Greenway

Since 1991, a group of greenway activists along the Atlantic Coast has worked with local citizens and organizations, as well as local, state, and federal agencies, to create a multi-use “urban Appalachian Trail.” The East Coast Greenway will be nearly 3,000 miles long, from Key West, Florida to Calais, Maine, serving the full range of non-motorized users, not only hikers, but also bicyclists, in-line skaters, skateboarders, etc. The nonprofit organization behind the effort is the East Coast Greenway Alliance (ECGA). Volunteers organized by the Alliance in each state work together to link existing and proposed greenway segments.

The East Coast Greenway is a work-in-progress, and was over 29% complete – that is, exists as a path or some other feature outside the street network – as of 2013. The Massachusetts chapter of the ECGA has identified a main (spine) route corridor through the state, and three scenic or historic alternates; all four routes pass through Boston. The spine route includes the paths on the Charles River Reservation. Alternates are routed within Boston on the Southwest Corridor Park pathways, the Emerald Necklace pathways, and the Neponset River Reservation Bikeway. Routing decisions are always made by stakeholders at the local level.

The ECGA pursues agreements with pertinent trail managing agencies for installation of signage identifying the trail as part of the East Coast Greenway. The ECG route is also identified for trail users through the publication of user-friendly maps and cue sheets, some of which are available through their website, <http://www.greenway.org/>.

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Assessment: Bikeways

Given the on-road nature of bikeways, the planning for these facilities are the responsibility of the Boston Transportation Department and the Mayor's Boston Bikes program. We incorporate by reference the Bicycle Network Plan prepared by the Boston Bikes program, with the following caveat:

Boston's City-owned parks are a critical resource for residents and visitors. City demand for open space is intense, and Boston's parks provide essential space for environmental and recreational benefit to residents and visitors citywide. There are many demands for parkland - some are easily compatible, others can be in competition. At the most fundamental level, new uses cannot interfere with the normal use and enjoyment of the parks. The Parks Department works with community members, regulatory agencies, and other City departments to balance varying demands and responsibilities, and to provide clean, green, safe and accessible parks.

The Boston Bikes Network Plan includes both short-term and long-term proposals for use of parkland for bicycling. Most of these proposed routes are intended to provide neighborhood connections rather than park-specific recreational opportunities. The Network Plan will help communities see opportunities for bicycling connections through parkland, but does not address the site-specific design challenges and compatibility of uses that will need to be considered at each park during the implementation process.

The primary uses in our parks are recreational, all park paths are open to pedestrians, and bicycling is permitted only in those areas specifically designated for this use by the Parks Commission. Unless a specific designation is made by the Parks Commission, use of bicycles is not permitted in parks. The Parks Department has worked with community groups to open appropriate park pathways to bicycling - like some of those in Franklin Park - and have continued the prohibition on those park paths that are not able to accommodate biking in addition to their current use - such as those in Boston Common. We will continue to work with communities to consider the opening of park paths to bicycles as each park identified in the Network Plan comes up for capital reinvestment.

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Changes to parks proposed in the Network Plan will be considered for implementation over time when park improvements are scheduled. It is important to note community needs change over time, therefore current or even future paths may not exist long term. A decision to add biking into the parks and designate space to accommodate this activity will be the result of an inclusive process with discussion open to all park users in each community and at each park. As the Bicycle Network Plan states, Boston Bikes will participate in the community planning and design for each capital project proposed by the Parks Department that can advance the network plan. In addition, any opening of existing or proposed park paths to bicycling will require a vote of the Park Commission.

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THE NEXT SEVEN YEARS

Historically, Boston has played a leading role in providing opportunities to enjoy various recreational pursuits in linked environs to promote health and well-being. Given projects already underway and proposed, this city will continue to excel in this role.

An overall vision to inspire and guide future efforts will be needed as interest in these facilities intensifies and other urban development pressures compete. Such a vision will see Boston within a regional context, as certain linear recreation users such as bicyclists have a farther range than pedestrians. From a regional tourism focus, greenways, trails, and bikeways can be a significant means of drawing people into the city for leisure pursuits. These linear open space elements can also provide opportunities for local residents to explore other areas of the city and to appreciate their built and natural beauty, thus naturally breaking down social barriers. They can also help diminish the sense of limited open space in certain neighborhoods by providing access to open space throughout the city.

By advancing connectivity, the movement to link open spaces will yield dividends for recreation enthusiasts, families, and communities while advancing Boston's agenda as a livable and ecologically sound community.

General Recommendations

- Support the regional effort to create a greenway network plan to provide the vision and prioritization needed to protect existing facilities and nurture proposed facilities.
- Encourage strongly, where feasible, the separation of pedestrians from other path users via separate paths. Allow shared-use paths only where space limitations or other constraints are present.
- Coordinate with the Boston Bikes program as capital improvements affect parks which are shown in the Bicycle Network Plan.

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Emerald Necklace

- Support the effort to improve the Arborway and implement the Casey overpass replacement project. Protect abutting parkland in the process of closing gaps and re-aligning parkways. Provide additional signage to direct bicyclists and pedestrians to various destinations and paths.
- Complete the Muddy River Rehabilitation Project Phase II to restore the key natural resource conservation area in the Emerald Necklace greenway system, and improve pedestrian and bicycle accommodations in the Brookline Avenue/Fenway/Park Drive area.

Charles River Reservation & Dr. Paul Dudley White Bike Path

- Support the DCR Master Plan recommendations for improving access via parkway crossings, narrowing parkways to increase greenspace, improving the shared-use paths and creating separate pedestrian paths where space permits, linking the old Charles River Reservation to Boston Harbor via the new Charles River Reservation, and linking the old Charles River Reservation to the Emerald Necklace via Charlesgate.

Other Linear Facilities

- Support DCR implementation of its plan to complete the Neponset River Greenway.
- Work with the DCR and Massport on the extension of the East Boston Greenway to Constitution Beach and Belle Isle Marsh.
- Support the Rose Fitzgerald Kennedy Greenway and assure its long-term success through adequate maintenance funding by the Greenway Conservancy. Promote bicycle safety with Share the Road signage along the length of the surface road.
- Work with the East Coast Greenway Alliance to plan for the alignment through Boston of the proposed interstate greenway.

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Notes

- ¹ National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, 1999. Surgeon General's Report on Physical Activity and Health. U. S. Government Printing Office (S/N 017-023-00196-5). See also www.cdc.gov/nccdphp/sgr/sgr.htm. See also O'Sullivan, E., 2001. "Repositioning Parks and Recreation as Essential to Well-Being." In *Parks and Recreation*, Vol. 36, No. 10, October 2001, p. 91: "Linear Trails and Greenways – When walking trails were expanded in 12 southeastern Missouri counties, a study found that 40% of people with access used them and 50% of the trail walkers increased their walking since they started using the trails. Lower income groups who are at greater risk for non-activity were more likely to have increased walking as a result of the trail use (St. Louis University School of Public Health)."
- ² Greenways should be more properly termed greenway corridors, since paths and bikeways can be referred to as "greenways," as both are "ways" using non-polluting ("green") means of travel. Since for many people "greenways" implies the character of the path's surroundings, "greenway corridor" would be the more appropriate term.
- ³ Massachusetts Department of Conservation and Recreation, Greenways Program, 2000. *Creating Greenways: A Citizen's Guide*, p. 6.
- ⁴ Fabos, J. Gy., 1995. "Introduction and Overview: the Greenway Movement, Uses and Potentials of Greenways." In *Landscape and Urban Planning*, Vol. 33, (Nos. 1-3, Special Issue: Greenways), p. 5.
- ⁵ National Recreation and Park Association, 1996. *Park, Recreation, Open Space and Greenway Guidelines*, pp. 113-114.
- ⁶ *Ibid*, pp. 113-116, 118-119.
- ⁷ Fabos, J. Gy., "The Greenway Movement," p. 3.