
Open Space Plan 2008-2012

Section 7

Analysis of Needs

Section 7.1.1 Resource Protection
GREENWAYS, TRAILS
& BIKEWAYS

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Section 7.1.1: Resource Protection GREENWAYS, TRAILS & BIKEWAYS

OVERVIEW

Restoring Health, Maintaining Wellness

The rationale for urban parks posed by Olmsted in the late 19th century was the need to restore health. This was to be accomplished 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 twentieth 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. Boston's own Joseph Lee pioneered and championed this concept through the development of the first children's play lot in the United States built here in Boston. 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. This recreation model 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 recreation system 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 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 that generates significant increases in heart rate for 15 or 20 minutes or more – can lead to 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

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cannot afford such equipment in their home, or through 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 the 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 its long-term protection and improvement.

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 that extends from Arlington to Lexington and Bedford. It is well used for commuting and recreation and is often crowded on weekends. Many businesses along the bikeway now try to capture this new 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.

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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 large 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 afford neither the cost nor 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 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 that is the majority of the urban public realm.

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

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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.

Defining Terms

These linear facilities, i.e., greenways, trails, 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.

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,

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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. This is especially true for greenway corridors including 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 diversity 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

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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.

Trails

Trails are marked or signed travel ways for use primarily by pedestrians or human-powered vehicles.⁵ According to one source, trails can be characterized as three types: park trails, connector trails, and special-purpose trails.⁶ Park trails are generally multi-purpose trails 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 trails are also generally multi-purpose, but differ from park trails primarily by location. They enable travel to and from parks, recreation areas, natural resource preservation areas, or greenway corridors.

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

Park and connector trails 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 trails.

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

Type III trails 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 trail is self-explanatory, the marking of a trail can take many forms. A trail 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 trail can be marked by painted markings on the paved surface – the red stripe of the Freedom Trail⁷ is a prominent example – or by hard-surfaced materials embedded in the pavement continuously or at intervals.

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Bikeways

As the name implies, bikeways are travel ways for bicycling. Transportation planners and managers posit three types of bikeways: off-road bike paths, bike lanes, and bike routes.⁸ As off-road bike paths are considered trails (see Trails above), park planners and managers are likely to consider only two types of bikeways: bike lanes and bike routes.⁹

Off-road paths, i.e., paved trails, were considered in the discussion of trails above. On-road/on-street bike lanes are portions of the roadway marked off by pavement striping. The 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.

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." 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 Clare Saltonstall Bikeway, a signed route from Boston to Provincetown on Cape Cod, and the section of Columbia Road from Franklin Park to Ceylon Playground, where there is an unsigned wide curb lane.

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THE LINEAR FACILITIES APPROACH

In the previous section that defined the terms greenways, trails, and bikeways, these three terms appeared to describe three distinct types of linear facilities. Yet in the reality of urban open space planning, design, and management, where each site's opportunities and constraints are often unique, such precise definitions may not adequately address the variety of conditions on the ground.

It is for this reason that we are taking the "linear facilities" approach. Through this approach, we will abandon, for the moment, the three terms – greenways, trails, and bikeways – and refer to all such facilities as linear facilities. From this point on, we will seek to look at the basic functional elements that make up linear open space/recreation facilities.

Back to Basics

The most basic functional element in the linear facility is its degree of separation from motor vehicle traffic. Therefore, the most basic division is off-road versus on-road facilities.

The next basic functional element pertains to off-road facilities – what is the degree of separation of different types of off-road users from each other. Associated with that is another element, the surface material used for the off-road travel way.

Another element should address the nature of the corridor within which the travel way is located, from on-street bike route on a busy boulevard to off-road boardwalk through a wetland.

Thus linear facilities can be identified and characterized by these basic elements. These basic elements can then be used to further characterize linear facilities into segments for a more specific understanding of the linear facility and how it fits into the overall open space system.

A New Integrated Hierarchy

The linear facilities approach does not, however, supplant the terms greenways, trails, and bikeways. Instead, they are incorporated into an integrated hierarchy in the linear recreational/open space facilities system concept (see Figure GTB-1). The spatial foundation of the hierarchy is the greenway corridor that includes the travel way or wildlife migration route, one or more of the resource types, and any scenic features or spatial/visual buffers desired or required.

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Greenway corridors can include roadways such as parkways and boulevards. This is because in addition to such greenway elements as travel ways and resource areas, scenic elements will also exist to differentiate these urban greenway corridors – parkways and boulevards – from the more functionally oriented arterials and highways.

The trail is the term for the separated non-motor vehicle transportation component within the linear facilities system hierarchy. It is the travel way within the greenway corridor, which may include more than one path to minimize user conflicts.

Trails can exist apart from greenways, supported solely by the open space within which they are located. Over the long term, however, most if not all urban parks which can support a trail or trail network will likely be linked to a greenway corridor.

The bikeway is the non-motor vehicle travel way that can be either outside or inside the greenway corridor. Bikeways, however, are located on the road surface as either bike lanes or bike routes. Bikeways outside greenway corridors can serve to connect users from residential and non-residential areas to greenway corridors and their trail system. Bikeways outside greenway corridors and parklands are generally part of the more functionally oriented transportation system of streets, arterials, and highways.

Developing a Geographic Database

Using the approach of analyzing linear open space/recreation facilities by their basic functional elements, the Policy and Resource Development Unit of the Parks and Recreation Department has developed a preliminary database using the Microsoft Access software and has geocoded these facilities through the MapInfo-based geographic information system used by the Unit. Table GTB-1 shows the preliminary listing of linear facilities that are of open space/recreational importance. Figure GTB-2 shows the location of the linear facilities identified in Table GTB-1.

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Assessment

At the outset, it should be mentioned that this section of the Open Space Plan would not be complete without discussing the May 2001 Boston Bicycle Plan. Issued by the Boston Transportation Department as part of its AccessBoston 2000-2010 citywide transportation plan, it seeks to address the issues surrounding safe bicycling in the city. It looks at safety, traffic rules and enforcement, bicycle parking and other support facilities, transit and intermodal connections, and tourism. The section of greatest importance to this section of the Open Space Plan is the one on “Bicycle Transportation Facilities.” The bicycle plan and particularly the “Bicycle Transportation Facilities” section are hereby incorporated by reference into this plan. Figures 1 and 2 of the Boston Bicycle Plan are included in this section of the open space plan by reference.

The preliminary listing of linear facilities that are of open space/recreational importance, shown in Table GTB-1, includes some facilities shown on Figures 1 and 2 of the Boston Bicycle Plan. It also includes other facilities not shown on these figures, but determined by Parks Department staff to be of open space/recreational importance. At some point in the future, as the preliminary database becomes more fully developed, more of the facilities considered in the bicycle plan will be incorporated into the database.

This Assessment section will briefly consider several of the 64 linear facilities so far identified in the preliminary database.

Emerald Necklace

Treated as parks and areas of environmental sensitivity 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 greenways¹⁰, 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 role. 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 major parks of Boston proper: the 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 was based on the water body known as the Muddy River.

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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.

Rivers and streams, ponds, lakes, woodlands, rock outcrops, and salt, brackish, and freshwater marshes were among the resource areas featured in this system. Through 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 or for many years after the 1986 President's Commission report popularized the term "greenway." The term "Emerald Necklace Greenway" arose only recently 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 DEM 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 gaps are usually 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 Boston Parks and Recreation Department, the Boston Transportation Department, and the Brookline Public Works Department, in addition to the pertinent state agencies.

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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 Boston 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 was 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 recently 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 has just been completed for a 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 stormwater pollution control measure, a 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. This element, the connection between two of the city's most significant greenway corridors, led to the project's name, Connecting the Corridors.

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Once this project is complete, the two major outstanding greenway issues for the Emerald Necklace will be the closing of the gaps and the clean-up of its major natural resource area, the Muddy River.

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 salt-water estuary with a fresh-water 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.

Dr. Paul Dudley White, President Eisenhower's personal doctor, advocated for the use of bicycles on the Esplanade, which was first allowed in 1960. "A continuous bicycle path was finally established around the entire Basin a decade later and named in honor of Doctor White."¹¹

Over the past few years, there has been planning for essentially an extension of the Reservation, known as the New Charles River Reservation. Below the old Charles River Dam, a series of linked parks are in the works: one is already completed, the Paul Revere Landing Park in Charlestown. The New Charles River Reservation will therefore link the "old" Charles River Reservation with the Harborwalk and city and federal parks in Charlestown and the North End, providing extensive continuous waterfront access along

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the two major water bodies, the Inner Harbor and the Charles River, that surround much of Boston. It is to be constructed with mitigation funds from the Central Artery/Tunnel Project.

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. "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 recently completed DCR Master Plan. The Reservation needs \$31 million over five years for basic improvements and restoration. 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

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.

Other Linear Facilities

At 64 entries in a preliminary listing, the number of existing and potential linear facilities in Boston is quite sizeable. A brief overview of several key facilities follows.

Neponset River Greenway

Using funding from the ISTEPA Enhancement Program, the DCR has completed a 2-mile segment of the Neponset River Greenway from Commercial Point to the new Pope John Paul II Park. This greenway is based on existing and new parklands linked by a path system on an abandoned rail bed. Subsequent phases will take this path system an additional 4 miles into the Mattapan and Hyde

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Park sections of the Neponset River Reservation. Based on the heightened community interest from local groups and the Neponset Greenway Coordinating Council, prospects look good for renewed planning work on the further development of the Neponset River Reservation as an active greenway.

In the meantime, some small steps toward achieving this vision have taken place. A new condominium project that is part of the Baker Square Factory complex in Dorchester Lower Mills has led to additional access to the river with a connection to the greenway. The DCR has acquired property west of Mattapan Square for future park development (aka Edgewater Park) per its Lower Neponset River Reservation Master Plan. It will form part of the corridor for the Neponset River Greenway. Thanks to the Wetlands Protection Act and the Rivers Protection Act, the Boston Conservation Commission was able to secure access to and protection of the Neponset River Reservation in the Hyde Park area for three recent projects. As development continues to heat up in Boston due to economic conditions and a general housing shortage, the regulatory oversight provided by the Conservation Commission will pay dividends in the future as the DCR begins to implement its plan for the extension of the path system into Mattapan and Hyde Park. An early action step of bike lanes along Truman Highway has begun the planning phase.

East Boston Greenway

A neighborhood greenway linking old and new parks is being created in East Boston. Thanks to strong community advocacy by long-standing neighborhood groups and the East Boston Greenway Coordinating Council, a vision of a continuous series of waterfront and inland parks and open spaces is being realized. These community groups and city officials have made significant progress toward realizing this 3 1/2 mile urban greenway in the heart of one of the densest neighborhoods in the city. The Parks Department, making the first use of the Mayor's Open Space Acquisition Fund, acquired the first section of the East Boston Greenway in 1998. The Department oversaw a design process with community input for this first section of the greenway, located between Jeffries Point and Maverick Square, and near the East Boston waterfront close to Piers Park. The federal/state ISTEA Enhancements Program has helped support design and construction funding for this project. Passive areas have been mixed with separated walking and biking paths in this grade-separated abandoned rail corridor in the heart of East Boston.

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Eventually, the East Boston Greenway will extend from the Piers Park area past East Boston Stadium through the 12-acre Bremen Street Park to its northern terminus at the Belle Isle Marsh Reservation. This will thus benefit several sub-neighborhoods in East Boston.

Mother Brook Greenway

As America's first canal, built to divert some flow from the Charles River to the Neponset, Mother Brook has considerable industrial and commercial development on it. The DCR in years past had purchased acreage at Mill Pond where River Street meets the Stony Brook Reservation and along much of the steeply sloping banks of Mother Brook. Thanks to Fairview Cemetery, a Parks Department property, and the DCR Stony Brook Reservation, there is some buffering to the north of Mill Pond.

While small in length, Mother Brook, which connects to the Charles River in Dedham just west of Route 1, is important in the long term. A map of metropolitan Boston will show that by Mother Brook's linking of the Charles to the Neponset, most of Boston is encircled by water – to the north and west by the Charles, to the south by the Neponset, and to the east by the Atlantic Ocean. Water is a prime connecting "tissue" for greenway corridor planners. The ultimate loop is this encirclement of Boston – with the assistance of the other Charles River communities of Dedham, Newton, Needham, Waltham, and Watertown, and the other Neponset River community, Milton. Mother Brook is thus a key link in a potential regional loop water-based trail.

In addition to its role as a missing link in a necklace of water around Boston, Mother Brook at Mill Pond is at a crossroads in the DCR system. It is where Turtle Pond Parkway crosses Mother Brook and becomes the Neponset Valley Parkway, which connects to the Blue Hills Reservation. The recreational facilities of the Stony Brook Reservation are immediately north of this crossroads; heading north from Mill Pond on Turtle Pond Parkway and Enneking Parkway through the Stony Brook Reservation, a recreation enthusiast can connect to the Emerald Necklace via West Roxbury Parkway and VFW Parkway to the Arnold Arboretum. The value of this connecting node in the emerging system of greenways in the city is highly significant, such that Mother Brook should be an important planning focus.

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Yet there has been little attention paid in recent years to Mother Brook, in part due to the efforts in the Lower Neponset River Reservation and the various Charles River Reservations: old, new,

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and the upper reaches in Newton, Watertown, and Waltham. The most significant activity in Mother Brook in recent years, in addition to periodic clean-ups of the river, has been the city's effort to create a new park at a brownfield site along the Brook. The park, completed in 2000, is called the Reservation Road Park. It contains an artificial turf soccer/football field, a skateboard facility, a small parking area, brookside paths, overlooks, and riparian banks restored with native plantings. It has been well used since its inception, attracting people to the water's edge, and perhaps creating public interest in further exploring the Brook in both directions.

Fort Point Channel Walk/South Bay Harbor Trail/Melnea Cass Boulevard

Thanks to community activism, a potential urban greenway system is emerging to connect the inner city to the waterfront. In the mid 1990s, on behalf of community activists in the South End, the Boston Transportation Department applied for and was awarded an ISTEA planning grant for what was then called the South Cove Harbor Trail. Seeing the potential to connect an existing bicycle/pedestrian path system along Melnea Cass Boulevard with the emerging open space system based on Harborwalk along Fort Point Channel and the South Boston waterfront, their vision called for a linkage to be made in the area called the South Bay.

The conceptual plan was completed in January 2002. The plan calls for enhancing the CA/T project improvements such as sidewalks in this area as they have reconstructed the Melnea Cass Boulevard/I-93 interchange and are reconstructing the roadways around and including the above-ground portions of I-93 south of Chinatown. The southernmost end of Fort Point Channel reaches into this area. Thanks to inter-agency coordination, the planning that is occurring for the proposed open space system around Fort Point Channel will incorporate a linkage to what is now known as the South Bay Harbor Trail.

The Boston Transportation Department is working on developing design funding for the South Bay Harbor Trail. This will be a first step to submitting a TEA-21 Enhancement Program grant application in the years to come.

Melnea Cass Boulevard bicycle and pedestrian paths will also be a focus of attention as some gaps have occurred in the path system in recent years due to development projects occurring in this corridor. The value of Melnea Cass Boulevard as a crossroads and connector, like Mother Brook, is highly significant. The western

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terminus of the Boulevard provides a connection to the Southwest Corridor Park. Thanks to the Connecting the Corridors project, this western terminus will also connect to the Emerald Necklace and even to the Charles River Reservation if the Charlesgate connection is restored. With the MBTA construction of the Silver Line on Washington Street to include bicycle accommodation (via the 11 foot wide bus/bike reserved lane), its crossing at Melnea Cass Boulevard will connect the South End and Roxbury to regional linear facilities.

Turnpike Air Rights

This is discussed more fully in the applicable neighborhood chapters of Fenway/Kenmore, Back Bay/Beacon Hill, and the South End. In general outline, the plan produced by the BRA calls for a series of improvements for pedestrian and bicyclists to be associated with the development of air rights parcels over the Massachusetts Turnpike Extension in these neighborhoods of Boston. A system of on- and off-road paths paralleling the highway can help connect various dense city neighborhoods with each other and existing and proposed greenways. These would include the Emerald Necklace, the Charles River Reservation, the Southwest Corridor Park, the South Bay Harbor Trail, Fort Point Channel Walk, and the Rose Fitzgerald Kennedy Greenway. Much of this work will be dependent on the pace of development, which can vary considerably given national and local economic conditions.

Columbia Road

Frederick Law Olmsted, Boston's first greenway planner, had an even grander vision for Boston than just the Emerald Necklace. He also saw the opportunity to link the Necklace to the new system of parks along the South Boston shoreline via an attractively landscaped parkway. This vision was not fully realized in his lifetime or subsequently. However, the beginnings of the realization of this vision began in the late 1980s and early 1990s. The planning, design, and reconstruction of Columbia Road from the Midlands Tracks/Ceylon Park area to Franklin Park allowed for a landscaped median to be built, an on-road bike route to be provided, and a series of street trees to be planted. This collaboration of the city's Public Works, Transportation, and Parks Departments created a significant improvement in the quality of life in this area.

However, over the years, it became clear that more was needed. In the past few years, the Parks Department has implemented a beautification effort providing accent plantings in the medians at key intersections, a row of trees planted in the center line of the

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medians, and a concerted effort to improve turf conditions on all the medians.

While the city waits for future federal/state funding for the reconstruction of Columbia Road from the Midlands Tracks to Edward Everett Square, the Parks Department has provided floral displays in the concrete planters that have graced the concrete medians in this section for many years. This has provided some relief from the expanse of concrete and asphalt that dominates this section of Columbia Road.

The section of Columbia Road from Everett Square to Joe Moakley Park/Day Boulevard is under the jurisdiction of the DCR. No median exists in this section, which is especially narrow between Edward Everett Square and Dorchester Avenue. Here trees planted in grass strips between the curb and the sidewalk are the landscaping for this parkway section.

Funding and coordination of various agencies will be needed to continue the greenway improvements from the Midlands Tracks northward. Continuing this connection between Franklin Park and the sea would fulfill Olmsted's original vision and reach a vast potential audience of regional and local users.

Veterans of Foreign Wars Parkway

With the opening of Millennium Park in November 2000, a window on the Charles River has been created. A new handicapped-accessible canoe/kayak launch on the Charles and a bridge from the park over Saw Mill Brook to the Brook Farm portion of the DCR's Charles River Reservation are now available. The Rivermoor urban wild and the DCR's Havey Beach also provide informal access to the Charles in this area.

However, while automobile access to Millennium Park and its environs is excellent thanks to the DCR's Veterans of Foreign Wars (VFW) Parkway, pedestrian and bicycle access was until recently more difficult. Along much of the VFW Parkway from Centre Street to Spring Street, there were sizable cracks and bumps in the asphalt sidewalks due to age/weathering and the growth of tree roots. This made walking, in-line skating, and bicycling on these sidewalks difficult if not hazardous. Along much of this stretch, a narrow paved shoulder exists that only experienced cyclists can handle who are used to the high speeds of motorists on this recreational road-cum-regional highway. However, at major intersections where a third turning lane exists, the shoulder

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disappears, putting cyclists in the same right-of-way as high-speed motorists.

Given that Millennium Park has become a regional destination for recreation enthusiasts and nature lovers throughout the city, these issues need to be addressed in a comprehensive fashion. An initial step taken was the restoration of the sidewalk surfaces of VFW Parkway. The DCR has also designed and is awaiting an appropriation for a pedestrian bridge over VFW Parkway in the Millennium Park/West Roxbury High School vicinity.

Rose Fitzgerald Kennedy Greenway

By virtue of state legislation in 1996, the surface restoration to be 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 in the North End (from 1890-1897) neighborhood now abutting the Central Artery. She was the daughter of John "Honey Fitz" Fitzgerald, Mayor of Boston from 1906-08 and 1910-14 (the Central Artery itself is formally known as the John Fitzgerald Expressway).

The greenway corridor will contain sidewalks, up to three lanes in each direction, and parcels that will accommodate tunnel ramps, open space, and new development. The corridor master plan was issued in 2001. Parks, gardens, and plazas are proposed on the open space parcels.

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, can serve to connect users to the New Charles River Reservation, Harborwalk, Fort Point Channel Walk, the Turnpike Air Rights corridor, and the South Bay Harbor Trail. It will be an important feature for residents in abutting neighborhoods, downtown workers, tourists, and regional recreation enthusiasts. Funded by the CA/T Project, its completion has whetted the appetite for the parks that will come on line in the area between the north- and southbound thoroughfares.

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East Coast Greenway

Since 1991, a group of greenways 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 3000 miles long, from Key West, Florida to Calais, Maine, for use not only by hikers, but also bicyclists, in-line skaters, skateboarders, etc.: in other words, to serve the full range of non-motorized users. 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 one-fifth complete as of November 2006. 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, www.greenway.org.

[Note: Harborwalk, a significant linear recreation facility, is covered in the Neighborhood chapters of this plan. Other facilities shown on the preliminary linear facilities database, though important, are not further discussed here due to space limitations. Many are mentioned in the relevant Neighborhood chapters.]

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THE NEXT FIVE YEARS

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

Providing 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. It can also provide opportunities for city residents to explore other areas of the city and to appreciate their built and natural beauty, thus naturally breaking down social barriers. It 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.

The Linear Facilities Approach

- Refine the preliminary linear facilities database to include bikeways under study by BTM. Amend the preliminary database to better convey information about basic functional elements, segment each facility, and categorize each facility in accordance with the linear facilities integrated hierarchy of terms.
- Develop a linear facilities network plan to provide the vision and prioritization needed to protect existing facilities and to 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.

Emerald Necklace

- Complete design for the Connecting the Corridors ISTEIA project. Urge the Massachusetts Highway Department (MHD) to quickly provide construction funding via early inclusion in the Transportation Improvement Plan (TIP) once design is completed.

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- Support the effort by BikeBoston and the DCR to “close the gaps” in continuity in the Emerald Necklace system created by current road and parkways configurations. Support the process of revisiting the alignment of the Arborway between Jamaica Pond and Centre Street that has been initiated by the DCR and the Arborway Coalition. 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.
- Pursue actively the Muddy River Restoration Project to restore the key natural resource conservation area in the Emerald Necklace greenway system.

Charles River Reservation & Dr. Paul Dudley White Bike Path

- Support the DCR Master Plan recommendation for \$31 million in state capital funding over five years for basic restoration and improvements. Support the recommendation for additional management and maintenance personnel dedicated to the Reservation’s care.
- Support the DCR Master Plan specific 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 for the extension of the Neponset River Greenway and Trail into Mattapan and Hyde Park. Survey current conditions including encroachments on the currently held DCR corridor and prioritize potential acquisitions needed for a trail alignment. Coordinate planning with the work of the Boston Parks Commission and the Boston Conservation Commission as they regulate development activity abutting the existing and potential corridor.
- Work with the DCR on the extension of the Greenway to Constitution Beach and Belle Isle Marsh.
- Urge the DCR to begin planning for the Mother Brook Greenway in concert with the extension of the Neponset River Greenway southward to Hyde Park. Urge the Boston Parks and Conservation Commissions to protect Mother Brook with the Greenway concept in mind in their decision-making. Support the Mother Brook Coalition in their efforts

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- to protect this resource. Work with Dedham on coordination, planning, and implementation as the DCR progresses on this project.
- Complete fund-raising for the design of the South Bay Harbor Trail. Work to link this trail to the Melnea Cass Boulevard path system and the proposed Fort Point Channel Walk. Support efforts to improve the Melnea Cass Boulevard path system in light of nearby development projects.
 - Support the BRA plan for the Turnpike air rights parcels, especially the recommendations for encouraging bicycle and pedestrian uses to knit these parcels into the city's fabric. Build a system of on- and off-road paths for pedestrians and bicyclists based on the incremental development of the air rights parcels.
 - Continue the beautification of Columbia Road by replicating the median and streetscape treatment now present between Franklin Park and Ceylon Park to the segment from Ceylon Park to Edward Everett Square as part of a future Urban Systems project. Work with the DCR to improve the section between Edward Everett Square and Day Boulevard.
 - Support DCR improvements to connect its holdings along the Charles River to promote greenway use.
 - 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.
 - Explore the feasibility of "heritage" trails or greenways that support the theme of promoting and connecting a neighborhood's open space, cultural, and historic features. Support efforts to create such heritage trails or greenways for Roxbury and other neighborhoods as sufficient interest is expressed.

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.

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“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 trails 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 It should be pointed out that the trail types of park trails, connector trails, and special-purpose trails all refer to the concept of the park, i.e., an off-road area where these travel ways are located or to which they are designed to connect. Yet here in Boston, we have examples of trails that are part of the right-of-way – that is, the sidewalk: the Freedom Trail and the Black Heritage Trail are both located on the sidewalks of Boston. While both are “off-road” and have park areas on or adjacent to their routes, parks do not define them. If the only landmarks on them were structures, they would still be validly termed “trails.”

⁸ American Association of State Highway and Transportation Officials, 1999. *Guide for the Development of Bicycle Facilities*.

⁹ National Recreation and Park Association, *Guidelines*, pp. 116-117.

¹⁰ Fabos, J. Gy., “The Greenway Movement,” p. 3.

¹¹ Metropolitan District Commission, 2000. *Charles River Basin: The Second Century* (poster).

¹² *Ibid*.

¹³ *Ibid*.