

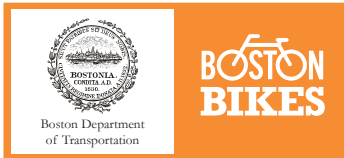


Boston Bike Network Plan



Boston Department
of Transportation

**BOSTON
BIKES**



In Collaboration with:

Members of the Citizens Working Group

City of Boston
Mayor's Office
Boston Redevelopment Authority
Boston Police Department
Boston Transportation Department
Department of Information and Technology
Boston Public Health Commission
Boston Emergency Medical Services
Department of Innovation & Technology
Environment and Energy Services
Mayor's Office of Neighborhood Services
Office of Budget Management
Parks and Recreation Department
Public Works Department

Commonwealth of Massachusetts
Department of Conservation and Recreation
Massachusetts Bay Transportation Authority
Massachusetts Department of Transportation
Massachusetts Port Authority

Metropolitan Area Planning Council
Town of Brookline
City of Cambridge
City of Newton
City of Somerville

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**Bostonians
young &
old, get
out and
ride ...**



Three years ago I declared “The car is no longer king in Boston” and since then Bostonians have taken more than one million rides on New Balance Hubway and nearly doubled their daily ridership to work. I’m proud of the 65 miles of bike facilities we have installed in the last three years and of our Silver Bicycle Friendly Community designation.

This Bike Network Plan will improve the quality of life for every Bostonian and help keep Boston strong by improving our health, our air quality, and reducing congestion on our city streets.

I know that this Bike Network Plan will help to transform Boston into a world-class bicycling city and make it possible for every Bostonian, young and old, to get out and ride.

—Mayor Thomas M. Menino

OVERVIEW

Vision

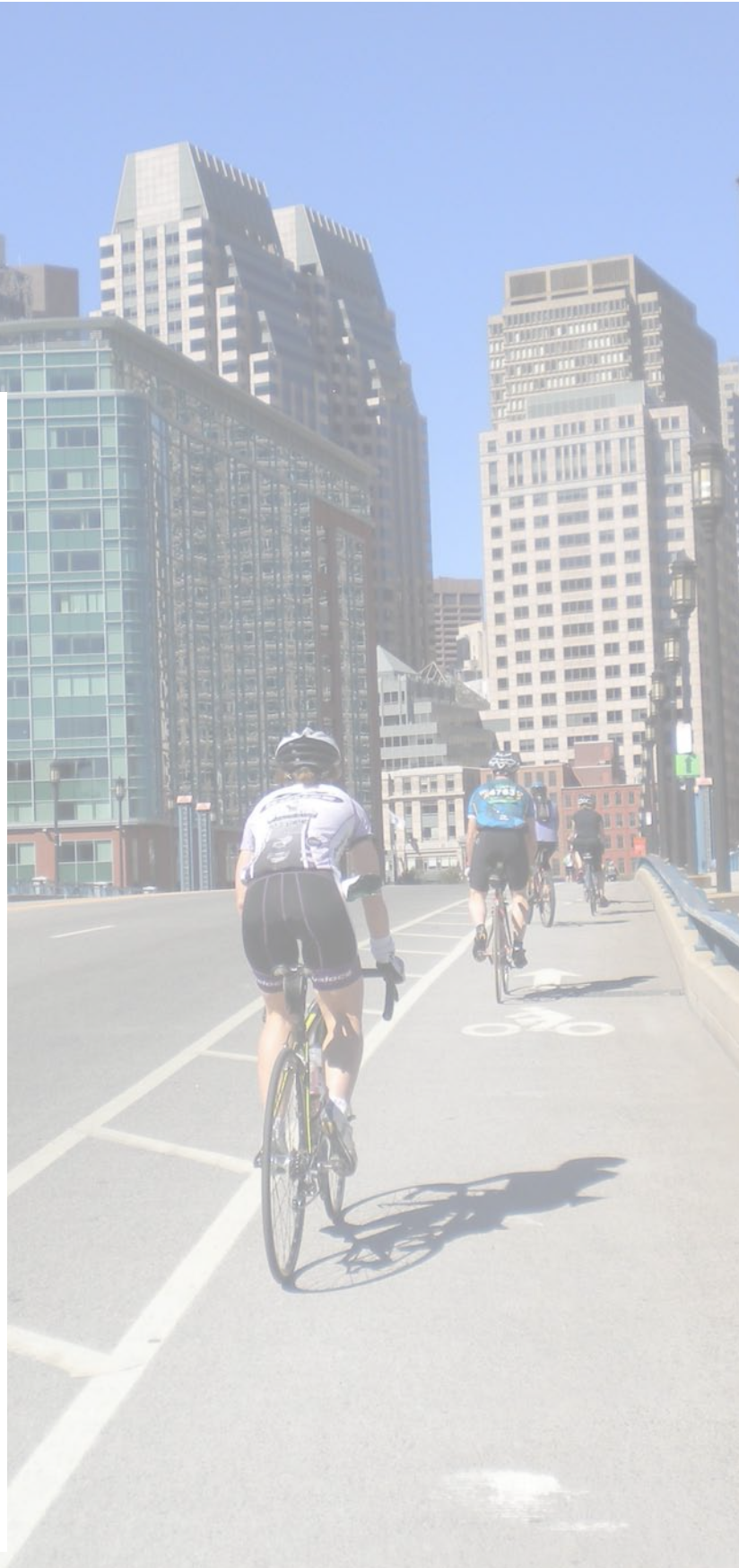
By every measure, bicycle use in Boston is growing rapidly. Biking to work soared by 82 percent between 2008 and 2011, and other surveys show double-digit increases in all types of bicycling each year. The New Balance Hubway system is making it easy for almost anyone to get on a bicycle.

The City of Boston is committed to helping more residents and visitors to get on bikes and to making it safer to ride. Encouraging more bicycle trips is an important component of the City's Climate Action Plan, which sets a 2020 target of increasing the share of commute trips by bike to 10 percent. The 2013 Cyclist Safety Report sets a goal of decreasing bicycle crashes by 50 percent in the same timeframe.

The Boston Bike Network plan is intended to support the growing number of bicyclists and help the city reach its sustainability and safety goals.

The Boston Bike Network Plan:

- Was developed with the input of city departments, state agencies, and hundreds of citizens who spoke up at open houses, made suggestions through an online mapping tool, or served on a Citizens Working Group.
- Lays out a plan for creating safer streets for bicycling that will attract and support new riders while improving the safety and comfort of all bicyclists.
- Identifies 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 356 miles within 30 years.
- Will be used by city departments, state agencies, and developers so that as they modify city streets they are helping to create a world-class bicycling city.



Boston Bikes Initiative and the City's Sustainability Commitment

Boston Bikes is Mayor Menino's citywide program to encourage citizens and visitors to use bicycles for fun, exercise, and transportation. Since 2007, Boston Bikes has laid down 65 miles of bicycle facilities, launched the Hubway bikeshare, distributed over two thousand bikes through Roll It Forward, sponsored education through its Youth Cycling Program, and engaged in many other activities to promote bicycling in Boston. The Boston Bike Network Plan will help Boston Bikes broaden its reach by setting out an ambitious vision for a safe and inviting bicycle network that can then guide the work of all city departments, state agencies, and the public as they improve bicycle infrastructure in Boston.

Boston Bikes' efforts are just one part of the City's commitment to reduce transportation-related greenhouse gas emissions 28 percent. Boston's new Complete Streets guidelines also provide general standards for how to routinely build safer, smarter multi-modal streets that serve people walking, bicycling, driving, and taking public transportation.

The Boston Bike Network Plan prioritizes bicycle treatments on a network of primary and secondary streets so that people who choose to bike will be able to safely reach every corner of the City. The heart of the plan is a Geographic Information System database, a sophisticated map with many layers of information that will be integrated with other city maps so that every agency that touches the streets can help with implementation. This will make for a collaborative and cost-effective approach to creating this network over the next few decades.



Year	2008	2013	2018	2043
Network Miles	55	120	195	356

30-YEAR VISION

The Boston Bike Network Plan proposes a seamless network of on and off-street routes linking destinations from one end of Boston to the other. Two key principles were identified during the public process and these guided the development of the Boston Bike Network Plan.

The network must provide:

1. Direct connectivity to destinations such as workplaces, schools, parks, and public transportation
2. Comfortable and safe bicycle paths, lanes, and shared streets that appeal to new and existing riders

Connectivity is an obvious criteria if residents are to use bicycles to reach destinations, instead of just for recreation. Dedicated space on the roadway encourages more riding – the 65 miles of bike lanes added to the city streets since 2007 have already helped spur the increase in bicycle use. Recent research has confirmed that comfort and safety are essential in attracting new riders to using bicycles, and that means increasing the separation between bicycles and cars.

A new generation of bicycle facilities provides greater comfort and safety for people of all ages and riding abilities, and this plan draws on all of them. The Boston Bike Network Plan envisions a network of routes that will include high quality separated cycle tracks, and 'neighborways' that prioritize bicycle travel along quiet residential streets. Traditional bike lanes, shared streets, and wayfinding are also important parts of the network.

Primary Routes

Primary routes connect neighborhood centers, regional multi-use paths, transit hubs, major employment centers, and institutional destinations.

Primary routes:

- Are the "spine" of the network and provide long distance routes across the city.
- Carry the highest volumes of bicyclists.
- Have as much separation from traffic as possible in order to provide a comfortable, low-stress experience that will welcome riders of all ages and abilities.
- Utilize the existing paths along the City's linear parks and waterways.
- Include all major bridges connecting neighborhoods and adjoining municipalities.

Secondary Routes

Secondary routes stretch into neighborhoods and provide access to local businesses and neighborhood destinations.

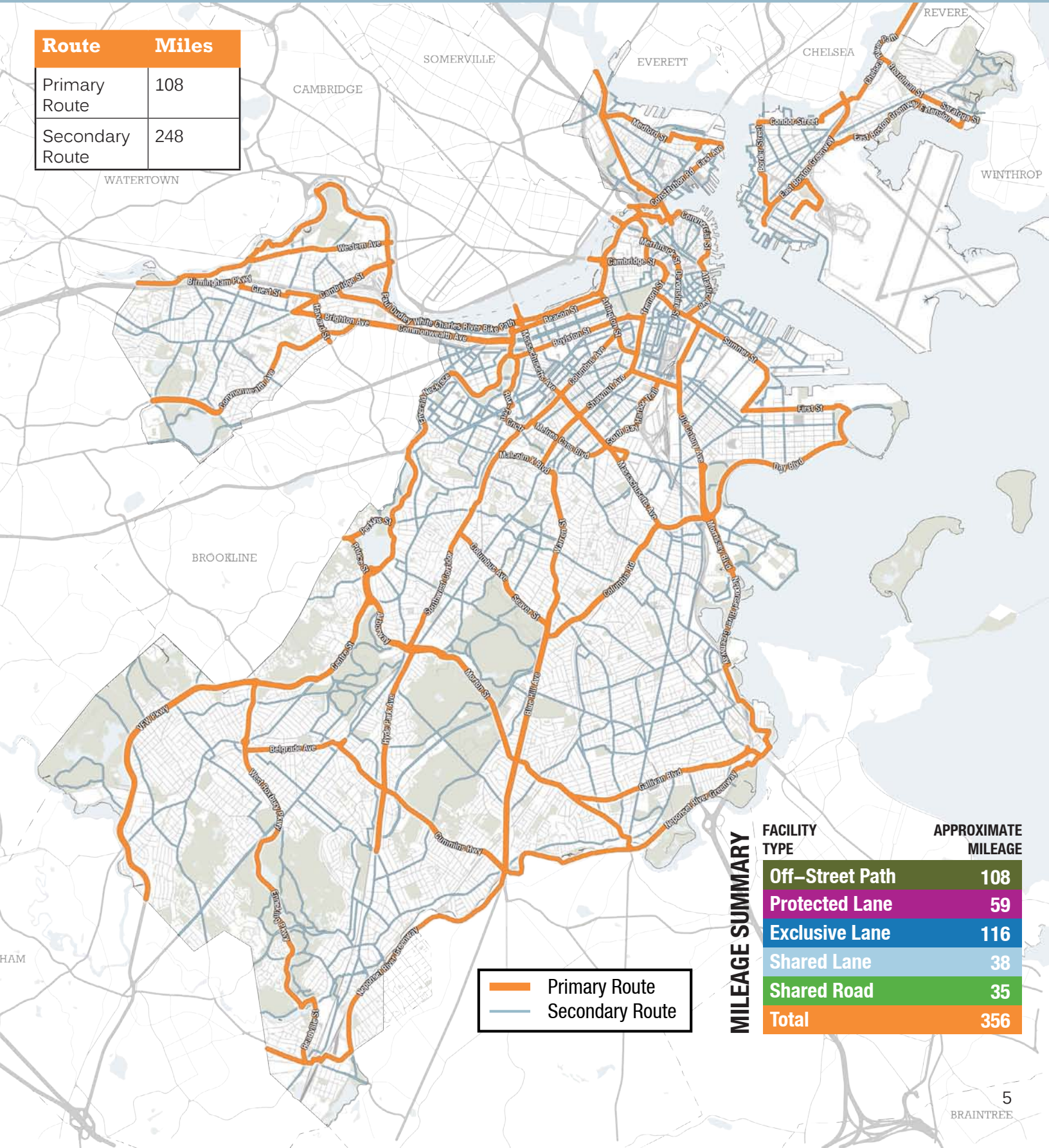
Secondary Routes:

- Connect to schools, neighborhood stores, parks, transit hubs, and primary network routes.
- Carry varying volumes of bicyclists depending on the population density and destination.
- Have varying levels of separation from traffic depending upon the context and character of the street.
- Are mainly comprised of bike lanes, contra-flow lanes, and priority shared lanes.

In each neighborhood, the buildout of the network will be shaped by the context of individual projects, community input, and the goals of this plan. A network of this size and scope will require many years of coordination and commitment. The network will be constructed incrementally as the city rebuilds and constructs new infrastructure. Some recommendations are tied to the reconstruction of major roads which generally occur on a 20-30 year cycle.

30-Year Vision

Route	Miles
Primary Route	108
Secondary Route	248



— Primary Route
— Secondary Route

MILEAGE SUMMARY

FACILITY TYPE	APPROXIMATE MILEAGE
Off-Street Path	108
Protected Lane	59
Exclusive Lane	116
Shared Lane	38
Shared Road	35
Total	356

INFRASTRUCTURE TOOLKIT

The following facility types are drawn from the Boston Complete Streets Guidelines, the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide, and the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities.

Off-Road Path

Shared Use Path

Off-road pathway physically separated from traffic and designated for shared use or with an adjacent separated paths for bicyclists and pedestrians.

Protected Bicycle Lane

Cycle Track

Exclusive bicycle facility separated from motor vehicle lanes and sidewalks by fixed objects such as parked cars, curbing, bollards or flexposts.

Exclusive Lanes

Bicycle Lane

On-road bicycle facility designated for exclusive use by bicyclists through pavement markings and signs.

Buffered Bicycle Lane

Bicycle lane with an additional painted buffer to provide more separation from motor vehicles.

Contraflow Bicycle Lane

Bicycle lanes installed on a one-way street that allow bicyclists to travel in both directions while vehicular traffic remains one-way only.

Climbing Bike Lane

Bicycle lane in the uphill direction and shared lane markings in the downhill direction. Used on hills where there is insufficient space for a bike lane in both directions.

Shared Lanes

Bus-Bicycle Lane

Shared on-road facility designated only for bus and bicycle use.

Shared Lane

Shared bicycle and motor vehicle travel lanes denoted using pavement markings (commonly referred to as “sharrows”) and signs. Used in constrained corridors where the speed limit is no more than 35 MPH.

Advisory Lanes

Roadway with dashed bike lanes on both sides and no center line. Motor vehicles share the middle of the street and are permitted to enter the bike lane to give way to oncoming motor vehicles.

Priority Shared Lane

Shared lane with additional visual cues to denote bicycle priority and encourages motor vehicles to pass bicycles by switching lanes.

Shared Roads

Shared Street

Street with very slow speeds that allow all modes of travel to share one space (sidewalks are often blended with the roadway).

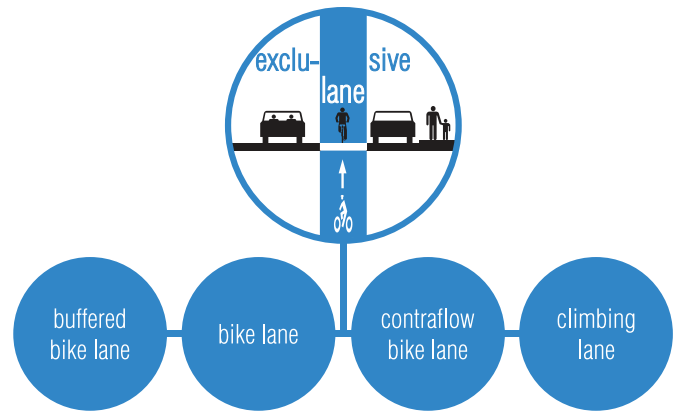
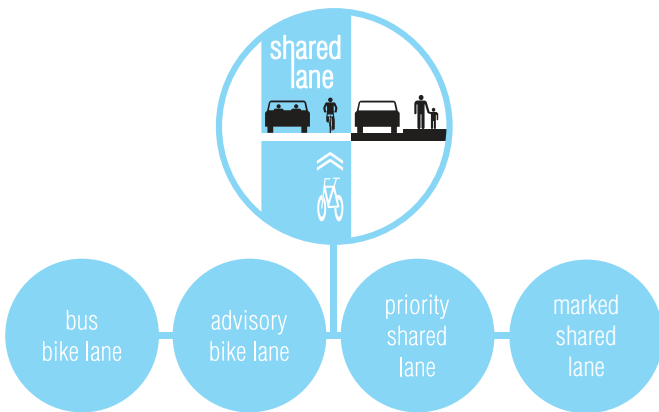
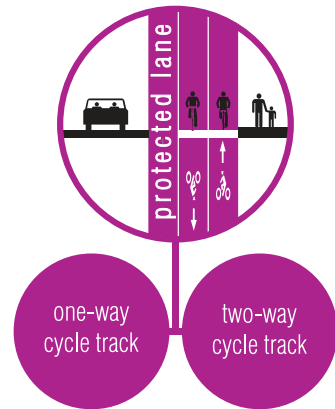
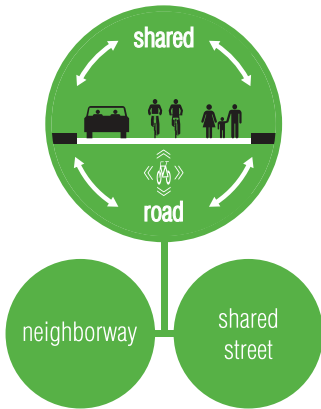
Recommended Local Route

Unimproved quiet residential street that provides connectivity to neighborhood destinations and primary routes.

Neighborway

Also known as a bicycle boulevard, a neighborway is a quiet, low-volume residential street with added traffic calming. This type of slow street gives priority to bicyclists and pedestrians.

FIVE TYPES OF BICYCLE FACILITIES



Examples of New Types of Bicycle Facilities



Two Way Cycle Track



Contraflow Bike Lane



Advisory Lane



Neighborway

INTERSECTIONS

The following infrastructure tools can be used to improve bicycling in Boston. These designs can improve safety and efficiency at intersections, tailor wayfinding to bicycles, and modify the built environment to increase access for bicyclists.

Bike Boxes

Bike boxes provide a dedicated space between the crosswalk and stop line to wait during the red light at signalized intersections. Bike boxes allow bicyclists to wait ahead of traffic to be more visible and aid in making turning movements.



Two-Stage Left Queue Boxes

A two-stage left queue box provides a place for bicyclists to turn without merging across lanes by staying to the right of the initial lane and then stopping at the far side of the intersection on the right hand side of the perpendicular lane to wait for the subsequent light.



Bicycle Markings through Intersections

Dashed lines and/or green paint alert motorists and bicyclists to potential conflicts and indicate that turning vehicles should give precedence to bicyclists going straight just as they would yield to pedestrians in a parallel crosswalk.



Bicycle Friendly Traffic Calming

Traffic calming measures should be designed to accommodate bicyclists. Particularly along neighborways, traffic calming is strongly encouraged by the Boston Bike Network Plan and the Boston Complete Streets Guidelines. Examples of traffic calming treatments include curb extensions, speed tables, chicanes, stormwater plantings, cut-throughs, and diverters.



Bicycle Signals

Bicycle-specific signal heads use a bicycle symbol lens at signalized intersections to indicate when bicycles may travel through the intersection. Similar to a pedestrian walk signal, bicycle signals can help minimize conflicts between bicyclists and other modes of transportation.



Signal Detection

In the Commonwealth of Massachusetts, design standards require that additional loop detectors and pavement markings be installed at signalized intersections to indicate where bicyclists should wait in order to be detected by the sensor. Consideration should be given to new technologies in detection for bicyclists, such as infrared and video detection.



Signal Timing

Along streets within the network, changes to signal timing should take into account minimum green times and clearance times for bicyclists to safely cross an intersection. Signal progression should also consider bicyclist speeds (typically 12 mph).



Spot Improvements

Small scale improvements help to eliminate hazards and obstacles for cyclists.

- Non-skid steel plates for construction zones
- Bicycle friendly drainage grates
- Stair rails
- Perpendicular trolley track treatments
- Surface treatment on operable bridges



Wayfinding

Boston will continue to work with other agencies and municipalities to coordinate regional wayfinding and signage.

Wayfinding will help guide people to key destinations such as:

- Primary routes
- Transit stations
- Neighborhood centers and squares
- Parks and institutions
- Other major destinations



ABOUT THE BIKE NETWORK PLAN

How was the plan developed?

Boston Bike Network Plan Process

The Boston Bike Network Plan was developed over three years and included an extensive consultation process with citizens, City staff, and specific stakeholder groups. Boston Bikes staff also reviewed existing plans, conducted site visits, and collected data.

All of these sources helped determine which routes to include in the proposed network. Facility type recommendations were developed by taking into account the existing conditions and characteristics of each individual route and its role within the overall network.



Outreach and Coordination

Groups involved in outreach and coordination included:

- **Residents**, through public open houses and an online mapping tool that gathered initial input on the draft network.
- **A citizens working group** made up of representatives from neighborhood organizations, local advocacy groups, universities, and business associations.
- **An interdepartmental committee** of individuals from eight City departments.
- **Key City departments** such as the Public Works Department, the Boston Redevelopment Authority, and the Parks and Recreation Department.
- **Neighboring communities and state agencies.**

Outreach and coordination will continue during the implementation phase of the plan through a standing committee of representatives of critical City departments and ongoing citizen input.

Data Sources

Data sources used to create the plan included:

- The MassDOT road inventory, which provides information on road classification, and formed the basis of the GIS database.
- In-person observation of every street in the network to collect details such as width, parking, bus routes, speed limit, and neighborhood context.
- Relevant local and regional transportation, land-use and neighborhood plans and roadway designs from agencies including MassDOT, the Department of Conservation and Recreation, the Boston Redevelopment Authority, the Public Works Department, and the Boston Transportation Department.

IMPLEMENTATION

How will the plan be realized?

Implementation

The vision for implementing the Boston Bike Network Plan is two-fold. First, bicycle infrastructure will be incorporated into existing transportation and infrastructure projects to the greatest extent possible. The design, public review, funding and construction of the majority of bicycle infrastructure miles will be implemented as a component of other projects, according to the funding and review procedures of each department or agency managing the project. Working within existing projects is cost effective, promotes complete streets, and is the most efficient use of design resources and public process. Secondly, Boston Bikes will initiate key projects that fall outside of work planned by other departments and agencies.

The City of Boston, MassDOT, Massport, Department of Conservation and Recreation, private institutions, and developers will all participate in the buildout of the network. Repair, reconstruction, bridge projects, real estate development, and capital projects are all opportunities to implement segments of the network, using the existing resources for road repair and infrastructure projects. Boston Bikes staff will continue to provide technical assistance, research, traffic analysis, peer review, and outreach as needed for these projects.

A smaller portion of the bicycle infrastructure miles will be completed as independent projects, designed, funded, and developed as bicycle-exclusive improvements. These will mainly be retrofit projects where bicycle improvements are

critical but more comprehensive infrastructure projects are infeasible or not warranted. Funding for these project could come from the Boston Transportation Department's Capital Improvement Plan in addition to other local and state sources.

Design and Review Process

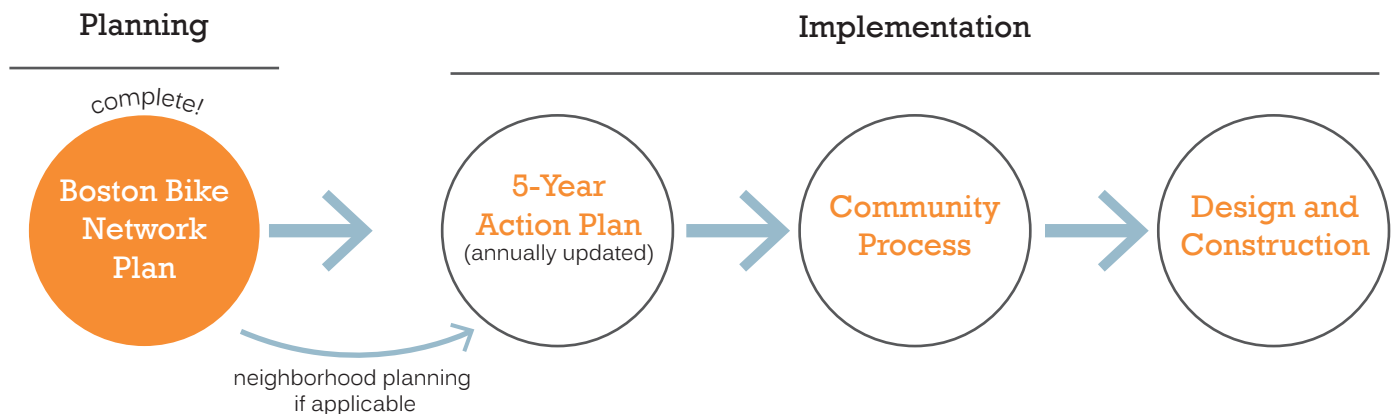
As a segment is scheduled for implementation it will go through a complete design and review process. This may include traffic analysis, parking utilization studies, neighborhood planning, and community outreach.

The steps of the design and review process will depend on the procedures of the project lead — whether a City of Boston department, state agency, developer, or other organization.

Ideally, the bicycle facility will be considered at the beginning of the design and public review process so that it is developed in the context of the entire street or project.

Neighborhood Studies

Between the citywide Bike Network planning and implementation stages, some neighborhoods or districts may require further analysis and neighborhood input on routes and coordinating transportation improvements with transit, parking, or open space planning.



Inputs and outputs

Gradual Growth

Boston Bikes' strategy for funding and implementing this 30-year vision is incremental. The bike network will be steadily expanded over the next 30 years. Each year, multiple agencies and departments and other actors will dedicate funds to construct a portion of the network. These various actors will draw from many sources including budgets from annual repair and maintenance, discrete capital projects, federally funded projects, and private investment.

The Boston Bike Network Plan includes a cost calculator for planning purposes. The calculator estimates the construction cost of each type of bicycle facility either as an addition to an existing project or as a stand-alone infrastructure project.

Implementation budgeting must take into consideration more than just construction costs. While bicycle infrastructure construction cost is relatively low compared to other types of construction, design, review, and project management time can be comparable to other types of infrastructure projects. For these reasons, wrapping bicycle infrastructure into other projects is the most cost effective and practical approach to implementing the Bike Network.

Maintenance

Boston Bikes will coordinate with the Boston Transportation Department, Public Works Department, and other partners to manage routine maintenance of bicycle facilities including:

- Snow plowing
- Street sweeping
- Pothole repair and grate resetting
- Flexpost installation or removal
- Signage replacement
- Pavement markings restriping (approximately every 5 years)

Boston Bikes has a budget in the City's operating and capital plan to support a portion of design, implementation, and maintenance.

Outputs

Reaching the City's goal of 10 percent of trips by bicycle will have a positive effect on Bostonians' every day lives across a range of areas from the economy to public health.

- **New jobs**
In 2012, two international bike leaders opened offices in Boston and six other small bicycle related businesses were launched. Between 2007 and 2012, local businesses added 650 new jobs related to the bicycle industry.
- **Retail success in proximity to bicycle facilities**
Research in Boston, Minneapolis, and Washington D.C. has documented increased sales for local businesses adjacent to bikeshare stations. In New York, sales receipts increased by 50 percent along 8th and 9th Avenues following the installation of cycle tracks on these streets.
- **Increased property values**
A 2008 study estimated a \$5,500 greater sales price for homes located along bicycle boulevards (or neighborways). Commercial rents along new bicycle infrastructure in New York jumped 71 percent in one year.
- **Reduction in health care costs**
International studies have shown that every \$1.50 spent on bicycling that increased physical activity can result in over \$6.00 in savings in health care expenditures.
- **Congestion relief**
More trips by bicycle will relieve congestion on city streets and transit systems. This can have a big impact on reducing neighborhood traffic and overcrowding on the T.
- **Reduction in facility maintenance**
Bicycles trips cause less wear and tear on infrastructure than motor vehicles.

How do we use the plan?

Plan Products

The Boston Bike Network Plan will be a reference for city builders, citizens, and planners.

The Boston Bike Network map and recommendations will be conveniently accessible to the public and government staff via an online interactive mapping tool and published maps.

The Boston Bike Network Plan is built in GIS (Geographic Information System) and includes a database with information about every segment in the network. This database can be shared and queried to create maps and analysis at any scale.

The GIS data will be publicly available through the City's DataHub. At least semi-annually, Boston Bikes will update the data with any changes to status or recommendations.

Maps of the network will be published on the City of Boston's website and available for download.

Published maps will include:

- A citywide map designating Primary and Secondary Routes in the 30-Year Plan.
- A citywide map of the facilities planned for installation during the current 5-Year Action Plan.
- A jurisdiction map denoting which agencies/entities manage/operate transportation facilities such as roadways, paths, and transit hubs.
- Neighborhood scale maps that include existing facilities and details.

The online maps will allow users to click on a segment to see detailed information about the proposed facility such as parking and operations, the recommended bike facility, the jurisdiction and the status.



Data for Citizens, Government, and Technical Users

The Public:

Citizens, consultants, advocates and others will be able to consult the published and online mapping tool to find out about what streets and paths are part of the Boston Bike Network, what type of facilities are proposed, and when they may be installed.

Staff:

Project managers, planners, neighborhood liaisons, and other staff of the City of Boston and state agencies will be able to reference the Boston Bike Network Plan to coordinate installation with their own projects. The Boston Bike Network data will be compatible with the systems that track Boston Redevelopment Authority development review, road and utility work, and other types of mapped project management tools so that the bike recommendations appear alongside on-going projects of all types. Printed maps can be customized by geographic area of interest, type of project, project lead, demographics or statistics relevant to their work.

GIS Users:

The geodatabase will be published on the City's DataHub for download and regularly updated. Data managers for other agencies, municipalities, application developers, or consultants will be able access the latest data to make their own maps or integrate with proprietary data.

5-Year Action Plan

Opportunities

Each year, Boston Bikes will work with City of Boston departments, MassDOT, Department of Conservation and Recreation, and private developers and institutions to anticipate, prioritize, and coordinate projects that present an opportunity to implement segments of the Boston Bike Network Plan. These network segments will be collected in a 5-Year Action Plan that shows work “on the drawing boards.”

Priorities for the next 5 years

The City plans to complete 75 miles of the Bike Network. These segments were selected according the following criteria:

- Improvements planned along roads slated for other design projects or scheduled before 2019
- Improvements that address the greatest needs in the network as determined by existing bicycle volume counts and crash data
- Segments that establish long distance connections between neighborhoods
- Segments closing gaps and completing partial segments in the existing network, along primary routes
- Segments that help ensure equitable distribution of bicycle facilities to all neighborhoods within Boston

Cycle Tracks

The 5-Year Action Plan includes 21 miles of cycle tracks. Of these, the highest priority cycle track projects are:

- Arlington, Boylston, South Charles, and Beacon Streets around the Public Garden
- Boylston Street, Back Bay
- Malcolm X Boulevard, Roxbury
- Massachusetts Avenue (Melnea Cass Boulevard to Columbia Road), Roxbury
- Mt. Vernon Street, South Boston
- Summer Street, South Boston
- Tremont Street, Downtown

5-Year Implementation and Budget

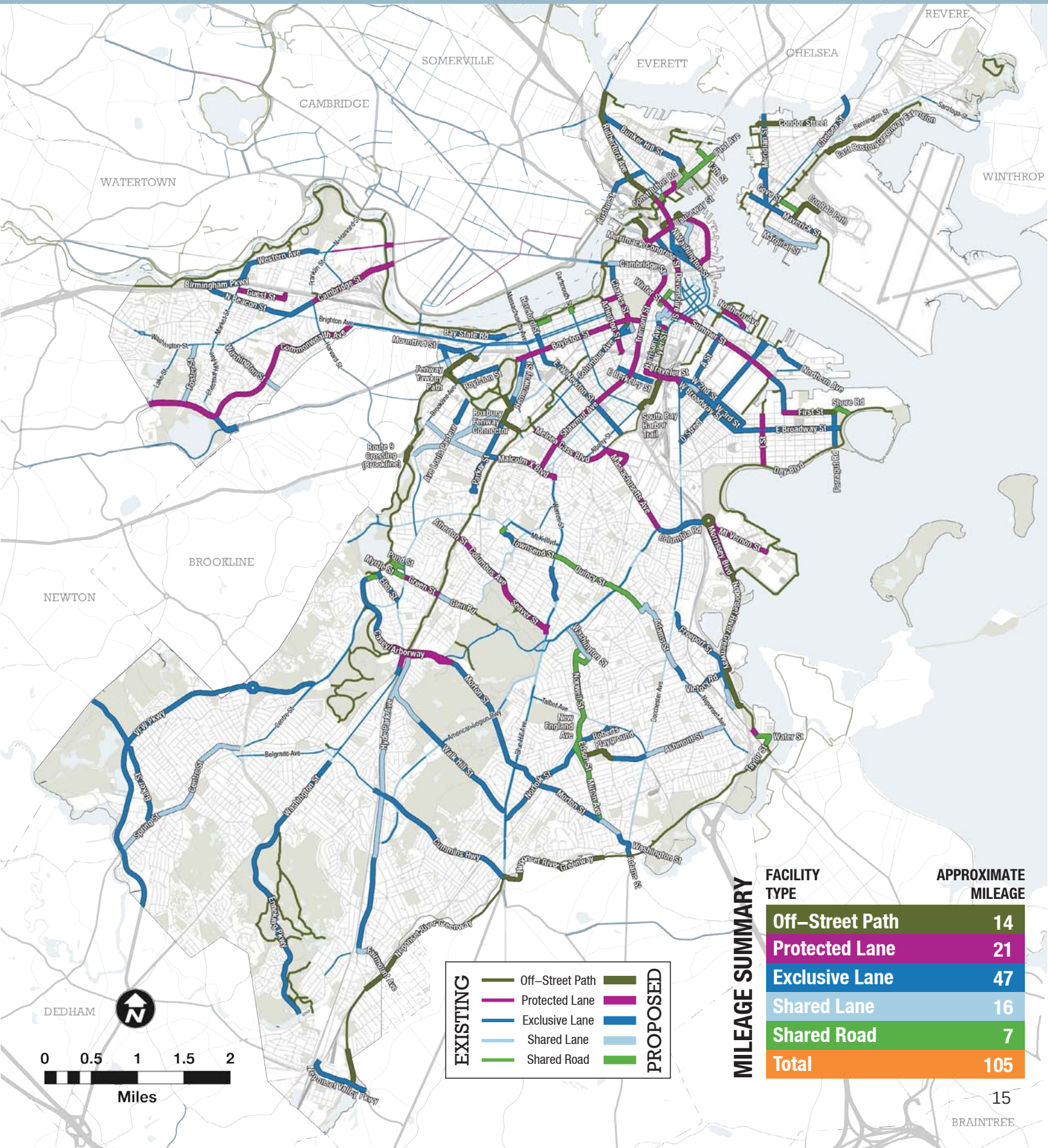
The Boston Bike Network Plan includes a cost calculator that estimates the construction cost of each bicycle improvement based on the recommended facility type, length, and means of implementation. Other variables for understanding the distribution of implementation costs are jurisdiction and whether the proposed bicycle improvement is associated with an existing infrastructure or development project.

PART OF EXISTING PLANS	
50% of estimated construction costs	<ul style="list-style-type: none"> • Includes approximately \$5 million dollars' worth of opportunities for public-private partnership
18% of mileage (19 miles)	<ul style="list-style-type: none"> • Bicycle infrastructure is already a component of the design in most cases • Includes Connect Historic Boston TIGER Grant projects
RETROFIT (NO RECONSTRUCTION)	
25% of estimated construction costs	<ul style="list-style-type: none"> • Can be installed as part of annual resurfacing, restriping, and regular maintenance
72% of mileage (75 miles)	<ul style="list-style-type: none"> • Cost estimate accounts for the expense of adding pavement markings, flexposts, and bicycle signage
RECONSTRUCTION	
25% of estimated construction costs	<ul style="list-style-type: none"> • Will be initiated by Boston Bikes • Includes most cycle tracks listed in the opposite column
10% of mileage (11 miles)	<ul style="list-style-type: none"> • Requires reconstruction in locations where it is not otherwise planned

In total, the cost estimate for the 100 miles identified in the 5-Year Action Plan is approximately \$30 Million dollars in construction expense. Actual costs of implementation will vary depending on how and by whom segments are completed. The implementation of the 5-Year Action Plan requires the continued coordination and cooperation among all jurisdictions: the City of Boston, MassDOT, Department of Conservation and Recreation, Massport, MBTA, the National Park Service, private institutions, and landowners.

5-Year Action Plan

As projects are always subject to delay or modification, Boston Bikes anticipates that approximately 75 percent of the segments identified for the 5-Year Action Plan will be accomplished during that timeframe for a total of approximately 75 completed miles. Note: Map includes 105 miles to compensate for this factor.



THE LONG VIEW

Transportation Trends

Boston streets, sidewalks, and paths will look very different from today as the City moves toward achieving its Climate Action Plan goals and as residents and visitors have more choices in how to travel. Some of the more ambitious recommendations of this plan will be implemented closer to the 2043 date, aligned with anticipated changes in local conditions and demand. Major changes anticipated that the Boston Bike Network Plan will adapt to include:

- **Changes to modeshare and public support for bicycling**

Recent trends show car ownership and vehicle miles traveled are on the decline in Boston. Some recommendations in the Boston Bike Network Plan that require travel lane reductions and or parking consolidation may not be practical in 2013; however, the Boston Bike Network Plan anticipates that these operational changes will be possible in the future.

- **Transit expansion**

Some bike network infrastructure demand will be closely tied to transit infrastructure and capacity; this includes bus rapid transit projects and Hubway expansion as a component of public transit.

- **Growing demand exceeding network capacity**

Demand for existing sidewalk and bicycle infrastructure and projects implemented in the next five years may exceed capacity as modeshare increasingly shifts to walking, biking, and transit. Recommendations in the Boston Bike Network Plan should be reviewed every two years to adjust for changing transportation patterns.

Healthy Corridors

In order to achieve 10 percent or higher bicycle modeshare, broad, continuous, long distance routes will be an essential part of the Boston Bike Network. These Healthy Corridors, also known as Green Links, are the next phase of bicycle infrastructure. Similar projects are already being implemented in Europe and some US cities.

Several long-standing, multi-use paths are candidates for upgrades into major, continuous routes. These corridors may need to be upgraded and reconstructed to accommodate higher volumes of all types of active transportation and recreation including biking, walking, running, rollerblading, etc. Master planning efforts for segments and the entire system are underway or will be undertaken in the coming years.

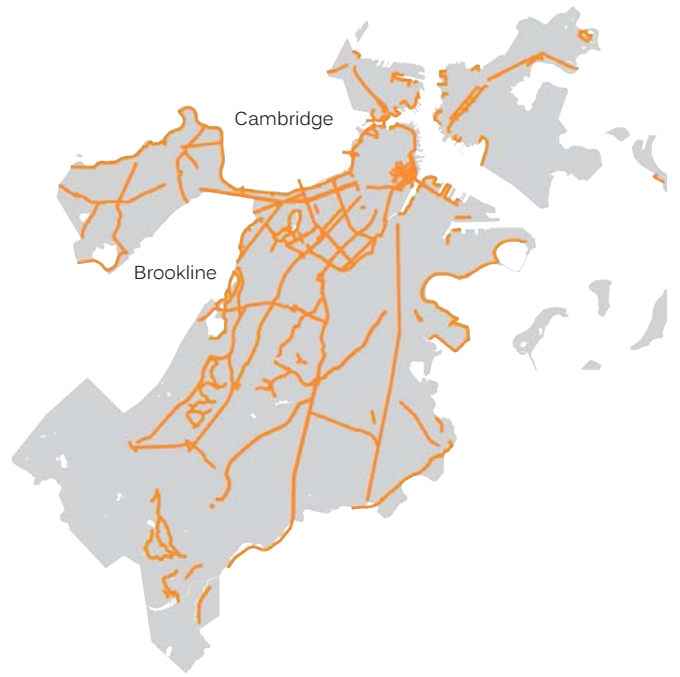
Potential Healthy Corridors include:

- The Charles River Basin Paths
- The Southwest Corridor
- The Neponset River Greenway
- The Rutherford Avenue Paths
- The South Bay Harbor Trail
- Commonwealth Avenue (Allston-Brighton)





2008 55 miles



2013 120 miles



2018 195 miles



2043 356 miles

