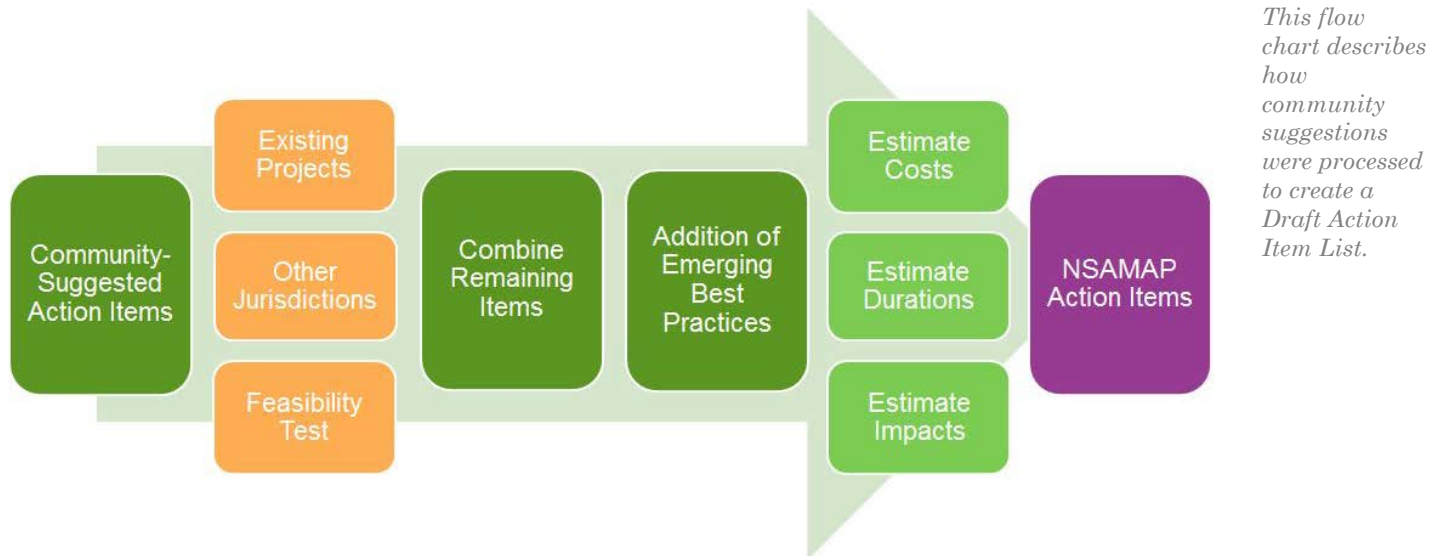


North Station Area Mobility Action Plan Draft Action Item List & Appendices

The following list of Draft Action Items was prepared from a much larger list of community suggestions collected from public meetings, pop-up meetings outdoors in the North Station Area, via an online wikimap, and from other emails and communications as well as an exploration of emerging best practices across the country. The Draft Action Item List below is presented for public feedback and are not necessarily projects of the City of Boston.

APPENDICES:

- Appendix A: Existing Projects List – Action Items that were suggested but are already under design or construction.
- Appendix B: Other Jurisdictions – Action Items that were suggested but are under jurisdictions outside of the City of Boston’s.
- Appendix C: Feasibility Issues – Action Items that were suggested but have been determined to not be feasible or to be cost prohibitive.
- Appendix D: Action Items that were suggested but are outside of the scope of the North Station Area Mobility Action Plan.



Draft Action Item List

*Please note that all improvements requiring reconstruction also include ADA improvements.

1 Pedestrian Environment

*Please note that all Pedestrian Environment Improvements also include ADA improvements.

1.1 Canal Street Full or Partial Pedestrianization with Commercial Delivery

- Estimated Cost: High
- Estimated Duration: 1.5 years design + 2 construction seasons
- Estimated Impact: High
- Shared Goals: More Choices

Some ADA improvements are already underway on Canal Street, but Pedestrian volumes on the Corridor will increase significantly to more than 3,000 in the peak hour due to the Boston Garden and Government Center Garage developments, which are both designed to funnel pedestrians onto Canal St. Pedestrians already outnumber motor vehicles on the street, and the space could be made more flexible for inviting for holding events to support local businesses and provide services for a more 24/7 residential neighborhood.

1.2 Cardinal O’Connell Way Shared Street

- Estimated Cost: High
- Estimated Duration: 1.5 years + 2 construction seasons
- Estimated Impact: High
- Shared Goals: Safety, More Choices, Less Congestion

While plans are underway to resolve curbside pickup and drop-off issues at the corner of Staniford and O’Connell Way (See Existing Projects Appendix A, also addressed by Action Item 3.5, West End/Bulfinch Triangle Curb Use Reorganization), many other conflicts happen between vehicles, pedestrians, and bicycles along O’Connell Way. The side street is a common cut-through for trucks and shuttles, and has very narrow sidewalks that are difficult for people with disabilities. A larger project could make the street safer for pedestrians by slowing down traffic and providing a better surface to walk on, while still accommodating truck and other traffic.

1.3 West End Pedestrian Crossing Improvements Project

- Estimated Cost: Low to Medium
- Estimated Duration: 1 year design + 1 construction season
- Estimated Impact: High
- Shared Goals: Safety, More Choices, More Understandable

Some existing pedestrian crossings are ignored by motorists and need to be more prominent, and some locations where people cross all the time have no crossing accommodation whatsoever. This project could address this existing need with a toolbox of crossing improvements, potentially including signal phase improvements, raised crossings, rectangular rapid flashing beacons, and/or curb bumpouts as appropriate to each location.

Some potential locations identified by the community include:

- Nashua Street at the parking lot to EZ Ride and North Station
- Across Merrimac Street near Lancaster Street

- Across Merrimac Street near Portland Street
- Across entrance of Blossom at Charles Street
- Across New Chardon Street at Canal Street
- Across Blossom Street at Parkman Street
- Lomasney Way, Nashua Street, Martha Road Intersection

NOTE: The Government Center Garage is rebuilding the intersection of Canal Street and New Chardon Street. In addition, the Connect Historic Boston project is improving crossings of Causeway and Staniford Street, and the Garden Garage Project is improving crossings of Lomasney Way.

1.4 West End Signal Timing Improvement Project (Duplicated in Motorized Traffic as 7.4)

- Estimated Cost: Low
- Estimated Duration: 6 months design + half construction season
- Estimated Impact: Low
- Shared Goals: Safety, More Choices, Less Congestion

Some improvements to motor vehicle or pedestrian delay could be possible through adjustments to the timing of traffic signal cycles. Some signals may still need accessibility improvements; other options could include emergency preemption, traffic management cameras, countdown timers, or other small improvements. Dozens of signals are being improved by local development projects. The following signals could be looked at for improvements in addition to those already taking place:

- Cambridge Street at Bowdoin Street /New Chardon Street
- Cambridge Street at Somerset Street
- Leverett Circle
- Offsets of Martha Road signals (reports of speeding to make signals)

Note: Nearly every signal in the West End is currently due to be reviewed and optimized in relation to the Government Center Garage, Garden Garage, and Connect Historic Boston projects currently underway. The signals in this project are the remaining signals in the project area.

1.5 West End Sidewalk Improvements Project

- Estimated Cost: High
- Estimated Duration: 1.5 years design, 2 Construction Seasons
- Estimated Impact: High
- Shared Goals: More Choices

This project would tie together Martha Road and Charles Street sidewalk improvements that the community has reported via public meetings, pop-ups, and the Mobility Action Plan WikiMap.

1.5.1 MARTHA ROAD SIDEWALK IMPROVEMENTS

Martha Road’s sidewalk feels narrow and uncomfortable, including crossings of several driveways. This could be addressed by a toolbox including raised crossings, geometry improvements, and widening of the sidewalk where space allows. The Leverett Circle Pedestrian Bridge includes some improvements near the intersection with Charles Street, but this project would raise crossings, improve geometry, and widen the sidewalk where space allows.

1.5.2 CHARLES STREET SIDEWALK IMPROVEMENTS

Charles Street sidewalks feel narrow and uncomfortable, and they lack points of interest and other features of welcoming pedestrian environments. Charles Street and Storrow Drive both run adjacent and are heavily trafficked, reinforcing the unpleasant environment. This area also includes the walk from MGH to Science Park, an important commuter corridor and a future access point to the Green Line Extension. This project could take advantage of excess width on Charles Street to widen the sidewalk, add a stronger and visually interesting buffer from traffic, and add plantings and other amenities to create a pleasant and encouraging pedestrian environment.

1.6 West End Wayfinding Project

- Estimated Cost: Low
- Estimated Duration: 6 months design + half construction season
- Estimated Impact: High
- Shared Goals: More Understandable

A variety of wayfinding needs have been identified in the neighborhood. The Boston Planning and Development Agency has developed a strong model for wayfinding with the Downtown Crossing Business Improvement District. The kiosks are attractive, solar powered, and well-used. Replicated in the West End with the addition of transit and bus information, similar kiosks could address many West End wayfinding needs, including highlighting routes from North Station to MGH, directions to local parks and paths, and local shuttle and tour bus stops.

1.7 Charles Circle Pedestrian Improvements

- Estimated Cost: High
- Estimated Duration: 1.5 years design + two construction seasons
- Estimated Impact: High
- Shared Goals: Safety, More Choices, More Understandable

Access to the Charles/MGH MBTA Station in the middle of Charles Circle is described as difficult to dangerous by pedestrians of all ages and abilities. A significant problem exists with one exit which does not provide any safe crossing off of the traffic island the station sits on. Audible signals are described as confusing. Bicyclists complain of dangerous conditions. Pedestrians fear quick moving traffic and high traffic volumes. This project would seek to address all existing concerns with the circle and make it a friendlier place for all.

2 Placemaking

2.1 Bulfinch Triangle Tactical Urbanism Pilot

- Estimated Cost: Low - Medium
- Estimated Duration: 6 months design + half construction season
- Estimated Impact: High
- Shared Goals: More Choices

Improvements to the pedestrian sphere do not have to begin as large-scale and permanent; they can start as experiments that immediately turn a street into a much more inviting space. Working with local businesses and their patrons, a tactical urbanist approach could be used to try out various improvements, and determine which elements may work best as permanent changes. For example, parklets can be used to expand outdoor seating for local restaurants, and similar changes can temporarily expand sidewalks for other uses—including walking, sitting, games, plants and foliage, art, performance, and many others.

2.2 Parklet on Blossom Street

- Estimated cost: Low
- Estimated Duration: 6 months design + half construction season
- Estimated Impact: High
- Shared Goals: More Choices

A parklet is a place for people created by permanently or temporarily replacing a parking space. Parklets on Blossom Street could help enhance the street environment and provide a place for people to sit with their food from the food trucks that park there every day. Parklets could also house bike racks, plants, and other street furniture. Seeing more people relaxing and hanging out on Blossom Street would also provide a more pleasant experience people passing through, and help encourage them to stop and enjoy the street.

2.3 West End Chair Placements and Seating Improvements

- Estimated cost: Low
- Estimated duration: 6 months design + half construction season
- Estimated Impact: High
- Shared Goals: More Choices

The West End benefits from a variety of spaces that could become more vibrant public places with the simple addition of more places to sit, such as the Portal Park on Causeway Street, the Thoreau Path, and Canal Street. With this project, the community could help designate locations where placement of chairs and tables would benefit their daily routines; then, the city could enact some as pilots and monitor the results. By measuring the effect of

these placements, the city could find popular locations for permanent benches or other places to sit. The cost estimate of this project includes the costs of tables and chairs, monitoring their use, and buying permanent benches.

3 Flex Zone (Curb Space) and Parking

3.1 Permitted Shuttle Stop Network

- Estimated Cost: High
- Estimated Duration: One Year Pilot
- Estimated Impact: High
- Shared Goals: More Choices, More Understandable, Less Congestion

This strategy to organize shuttle buses has been successful in San Francisco where shuttle buses were becoming annoyances to local residents. The proposal would include a network of shared shuttle stops that could only be used by shuttles that are permitted by the city or the MBTA. Such a shuttle stop on Causeway could help organize the current chaos of double parking and bus loading. Other Shuttle behavior could also be monitored with GPS and regulated. The fee for the permit would be based on the number of stops shuttles make at the locations, and calculated to include the cost of monitoring the program.

3.2 West End Dynamic/Increased Parking Pricing Pilot

- Estimated Cost: Low
- Estimated Duration: One Year Pilot
- Estimated Impact: Medium
- Shared Goals: Less Congestion

This project would charge variable prices for on-street/city-owned parking with the goal of consistently maintaining some level of open spaces. Drivers seeking parking in urban areas comprise as much as 30 percent of traffic by some estimates; encouraging some level of open spaces at all times could reduce this circling movement, and help reduce congestion and overall traffic levels in the study area. In this scenario, parking would be more expensive during events other busy times, and range from less expensive to free when parking utilization is unusually low. Increased revenue could be directed back to local improvements guided by this action plan. This project could also incorporate an in-depth look at pricing of private parking

3.3 Parking Garage Wayfinding and Occupancy Data

- Estimated Cost: Low
- Estimated Duration: 6 Months for initial selection process
- Estimated Impact: High
- Shared Goals: More Understandable, Less Congestion

Drivers seeking parking in urban areas comprise as much as 30 percent of traffic by some estimates. Modeling on the MBTA’s partnership with Transit App, this project could involve the city selecting the best parking-finding app that serves Boston, and partnering with that company to improve and promote the app in exchange for access to data on parking occupancy. The agreement would include a commitment to accurate real-time occupancy data from all participating garages and lots. The data could then inform city planning decisions, highlight opportunities for partnerships and parking shuttles, and shed light on any future plans for citywide parking management.

3.4 Open data on the Downtown Boston Parking Freeze

- Estimated Cost: Medium
- Estimated Duration: One Year
- Estimated Impact: High
- Shared Goals: More Understandable, Less Congestion

The Downtown Boston Parking Freeze was created in the 1970s as an air pollution improvement measure, aimed at encouraging the drivers who have a choice to take transit to do so. Currently, the Downtown Boston Parking Freeze allows 35,556 parking spaces downtown, including the North Station Area. While data on the Parking Freeze is public, it is not easily accessible. This action item would create a BostonMaps Open Data website where people could find information about the freeze and permits. Opening data regarding the parking freeze would help encourage compliance with the freeze ceiling and make future analyses easier, and in turn help keep traffic congestion at a minimum. It might also be used by third parties to improve wayfinding to parking resources.

3.5 West End/Bulfinch Triangle Curb Use Reorganization

- Estimated Cost: Medium
- Estimated Duration: One Year
- Estimated Impact: Medium to High
- Shared Goals: More Choices, More Understandable, Less Congestion

This project would include a survey of the neighborhood’s needs for “flex space” at curb side and use that data to create designated space for pick-up and drop-off, truck delivery, valet, taxi and shared mobility, and much more. Some of this work is already occurring as part of local developments, but a neighborhood-wide study could pull everything together and suggest changes. In addition, the legibility of curb use regulations could be enhanced by Parking Guide signs, similar to some new configurations being piloted in Los Angeles.

4 Bicyclist Environment

4.1 Blossom Street Road Diet and Bike Lane

- Estimated Cost: Low

- Estimated Duration: 1 year design + 1 year construction
- Estimated Impact: Medium
- Shared Goals: Safety, More Choices, More Understandable

While Blossom Street is not a major bicycling route, it does connect to a footbridge to the Charles River and serves MGH employees. Enacting a road diet here would help create a safer condition for pedestrians, bicyclists, cars, and shuttles. Bumpouts could also be added to enhance pedestrian crossings. On Blossom Street traffic volumes are relatively low. However, to move forward with a road diet, at least one lane currently used as a travel lane would need to be repurposed. This change would require study to ensure feasibility.

4.2 Cambridge Street Protected Bike Lane

- Estimated Cost: High
- Estimated Duration: 1.5 years design + 2 years construction
- Estimated Impact: High
- Shared Goals: Safety, More Choices, More Understandable

Cambridge Street’s design has long been lamented by the cyclists who travel it every day seeking connections to Kendall Square over the Longfellow Bridge from all points south. Building a protected bike lane here would require a full reconstruction of the street and the loss or narrowing of the center median. Further study would be required to see if it would also involve trade-offs in parking or traffic flow. The Strava App, an app used by cyclists to track their daily and recreational rides, indicates that Cambridge Street is a key route for cyclists, an improvement in safety would help more people feel comfortable riding.

4.3 Charles Street Protected Bike Lane

- Estimated Cost: Low
- Estimated Duration: 1 year design + 2 construction seasons
- Estimated Impact: Medium
- Shared Goals: Safety, More Choices, Less Congestion

A protected bike lane from Cambridge Street to the Pedestrian Bridge at Blossom Street would help create a connection to the Charles River Dam Bridge (which may have bike lanes in the future) from all points south. To the South, Charles Street could connect to Columbus Avenue and the Southwest Corridor Path, and to the North, the Charles River Dam Road could connect to the NorthPoint development, the McGrath Boulevard design, and the Green Line Extension’s Somerville Community Path. On parts of Charles Street, there is enough width to provide a bike lane. On other parts of Charles Street there would be some trade-offs to consider, such as some encroachment on a travel or parking lane.

4.4 Connect both sides of Longfellow Bridge to Esplanade via Existing Tunnel

- Estimated Cost: Low
- Estimated Duration: 6 months design + half construction season
- Estimated Impact: Medium
- Shared Goals: More Choices

The original plan for the Longfellow Bridge included a path that would connect both sides of the bridge to the footbridge over Storrow Drive to the Esplanade, via an existing tunnel underneath the bridge (see original plan above). It was taken out of the plan due to fears about homeless encampments there, but with enforcement and heavy use, perhaps this concern can be mitigated?

4.5 Lomasney Way/Nashua Street Protected Bike Lane

- Estimated Cost: Medium
- Estimated Duration: 1 year design + 1 construction season
- Estimated Impact: High
- Shared Goals: Safety, More Choices, Less Congestion

Many community members requested a way to connect the Esplanade to the Connect Historic Boston protected bike lane. Currently bicycles have no good option to make this connection: they are unwelcome on the Thoreau Path, threatened by speeding traffic on Nashua Street or Martha Road, and threatening to pedestrians on Martha Road's sidewalk. A two-way protected bike lane on Lomasney Way and Nashua Street could be achieved by reducing median space on Lomasney Way and removing an underused inbound travel lane on Nashua Street. Connecting this bikeway to Connect Historic Boston at Lowell Square would present a challenge, but bikes clear very quickly through intersections, so this move may be possible to accommodate without significant trade-offs in parking or congestion. At a highly visible location along Nashua Street, the path could connect both to the existing Nashua Street Park, and to the future bike lane on the Charles River Dam Road.

4.6 Merrimac/Congress Street Protected Bike Lane

- Estimated Cost: Low
- Estimated Duration: 1 year design + 1 construction season
- Estimated Impact: High
- Shared Goals: Safety, More Choices, Less Congestion

According to bicycle tracking data from Strava app, Merrimac and Congress Streets are well traveled by bicyclists. These streets connect the two halves of downtown Boston. A Merrimac Bike Lane and a potential bus/bike lane connecting North Station and South Boston (included on this list as part of 5.2: "Bus Priority Lane Connections

between North Station Area and South Boston”) would help create a safer condition for bicycling. More study would be needed to determine if trade-offs in parking or travel lanes would allow room for a bike lane.

4.7 West End Expansion of Boston’s Bicycle Wayfinding System

- Estimated Cost: Low
- Estimated Duration: 6 months design + half construction season
- Estimated Impact: Low
- Shared Goals: More Understandable

Bicyclists report a need for wayfinding to the shared-use bridge over to the Charles River located at the end of Blossom Street, as well as wayfinding from the Charles River to locations like the Rose Kennedy Greenway, North Station, Paul Revere Park, the North End and the Bulfinch Triangle. Expanding the Bicycle Wayfinding system already in use in Downtown Boston to the West End could provide a low-cost answer to these problems.

4.8 West End Hubway Expansion

- Estimated Cost: Medium
- Estimated Duration: One year to plan for and acquire new stations
- Estimated Impact: High
- Shared Goals: More Choices, Less Congestion

This project would add one to four new Hubway stations to the neighborhood. Community members have requested new locations at Blossom Street and Haymarket Station (the latter is already being provided by the One Congress development), but others could be added to bus locations such as the Edward Brooke Courthouse, Canal and Valenti streets, and/or the Thoreau Path. When ferry service is added to Lovejoy Wharf, demand might rise for a station there as well. Tight clustering of stations around the area could help with Hubway’s persistent demand at that location, the system’s busiest. A location to store extra bikes for the rush hour could also be included.

4.9 Bike Parking in the Bulfinch Triangle

- Estimated Cost: Low
- Estimated Duration: One Construction Season
- Estimated Impact: Medium

Community members left comments indicating the need for bike parking in the Bulfinch Triangle. Technically, cyclists are not legally allowed to lock bicycles to signs and other street furniture, and bike racks are more secure. Adding bike racks to the area would be very low cost and ensure a benefit for cyclists.

5 Transit Environment

5.1 Consolidation of local MBTA routes, local shuttles, and tourist bus loop/shuttle stop consolidation study

- Estimated Cost: Medium
- Estimated Duration: 1.5 years
- Estimated Impact: High
- Shared Goals: More Choices, Less Congestion

The Mobility Action Plan’s community engagement platforms yielded comments directed at improving the operation of the Route 4 Bus and providing direct service to City Point and South Boston from North Station. Combining aspects of the Route 4, Route 7 and Route 11 bus routes could potentially help increase their frequency and provide better service. In a public-private partnership, this combination could also consolidate the many private shuttles serving the area and even serve tourists visiting downtown. To study the options and potential impacts of these changes, this action item could call for a feasibility and development study to measure local demand, help determine needed route(s), and compile new mobility options and best practices. The action item would also explore creation of a consolidated bus and shuttle stop near North Staiton.

5.2 Bus Priority Lane Connections between North Station Area and South Boston

- Estimated Cost: Medium
- Estimated Duration: 1 year design + half construction season
- Estimated Impact: High
- Shared Goals: More Choices, Less Congestion

This project would analyze local traffic to identify a bus priority route between North and South Station. Such a transit lane would help shuttles and the MBTA move faster, which could encourage more people to choose the bus for their commute. It could also help the city encourage many private shuttles to consolidate by allowing shuttles that are high occupancy to use the lane – helping to lower congestion. An example of one potential path, Congress Street was built in the 1960s when much more traffic was expected. Three lanes on each side may be more than are required to carry existing traffic.

5.3 North Washington Bus Stop Improvements Project

- Estimated Cost: Low
- Estimated Duration: 6 months design + half construction season
- Estimated Impact: Low
- Shared Goals: More Choices

Members of the community have requested curb extensions at bus stops to provide a larger area to wait in. When boardings are quick, this can help buses maintain their position in traffic rather than having to merge back in. In peak hours, this can represent a significant time savings. The extension can also provide more room for bus shelters and electronic signage showing arrival times for the next bus. The project could improve the following stops, identified by the community:

- NB North Washington at Thacher
- SB North Washington at Valenti Way (This would involve moving the bus stop to Valenti Way from its current location near Causeway Street)

5.4 North Washington Street Inbound Transit Lane Keany Square to Haymarket

- Estimated Cost: Medium
- Estimated Duration: 1 year design + 1 construction season
- Estimated Impact: High
- Shared Goals: More Choices, Less Congestion

North Washington Bridge is being constructed with an inbound transit lane in order to help MBTA buses and other permitted buses cross into Boston with less delay due to traffic. The number of passengers on the many buses on the bridge rivals the number of single occupancy vehicle drivers, and increasing their speed may help encourage more conversion to bus travel and thus lower congestion. Extending a dedicated bus lane further down North Washington Street to Haymarket could further benefit those who are traveling to Haymarket Station or the Financial District on the 4, 92, 93 or 111 buses. Incorporation of a transit lane on North Washington may include trade-offs including parking or travel lanes.

5.5 Create Public Transit App Kiosks at Major MBTA Stations (including “fastest route to the airport”)

- Estimated Cost: Low
- Estimated Duration: One Year
- Estimated Impact: Medium
- Shared Goals: More Choices, More Understandable, Less Congestion

Transit App – now officially the MBTA’s recommended transit app – provides an up-to-the-minute measure of the fastest way to get anywhere including via the MBTA, Uber, or Hubway. Yet, it is only available to those with smartphones. This action item would install kiosks linked to the Transit App, allowing anyone to explore their transportation and transit options.

5.6 Lovejoy Wharf Ferry

- Estimated Cost: High

- Estimated Duration: 2 years
- Estimated Impact: High
- Shared Goals: More Choices, Less Congestion

Creating a new water transit connection to destinations such as East Boston, Charlestown and South Station from the Lovejoy Wharf would help increase mobility options and offer an easy and novel north-south connection for commuters.

5.7 Airport Shuttle from North Station

- A Estimated Cost: High
- Estimated Duration: 2-3 years
- Estimated Impact: High
- Shared Goals: More Choices, Less Congestion

A direct shuttle from North Station to the airport was suggested as an Action Item, useful especially for those taking the Commuter Rail from north of the city. At peak hours, drive time is between 12-20 minutes, compared to transit times ranging from 28-45 minutes. Off-peak, transit trips can range from 30-45 minutes, and drive times from 10-18 minutes. In addition to removing transfers during the trip, a shuttle would likely be able to outpace the average existing transit trip and help alleviate congestion on the route to the airport from all points north served by the MBTA's Commuter Rail.

6 Shared Mobility

6.1 Expand DriveBoston for New Carsharing Locations in the North Station Area, and Pilot One-Way Car Share

- Estimated Cost: Low (or free)
- Estimated Duration: Unknown
- Estimated Impact: High
- Shared Goals: More Choices, Less Congestion

Image: Drive Now and Car2Go

Studies have indicated that every shared car replaces 7 to 10 private cars. As part of the DriveBoston pilot program, the City of Boston hosts parking on two dedicated carshare sites in the study area. Ten other cities, including Minneapolis, New York and Seattle have allowed carshare parking (for a fee) on all city-owned parking areas (on-street and off-street) within a specified service area. This project could study the possibility of bringing this model of car share to Boston. On-street one-way car share would utilize curbside public parking, meaning the city could allow

cars to use public meters or business parking throughout the city. This would allow the user greater flexibility and could increase overall mode-share for the car-sharing sector and reduce private car ownership.

6.2 North Station Mobility Hub Enhancements

- Estimated Cost: High
- Estimated Duration: One Year
- Estimated Impact: Medium
- Shared Goals: More Choices, More Understandable, Less Congestion

A Better City TMA has identified North Station as a mobility hub in Boston. It serves tens of thousands of transit users daily, but further design could increase this transit hub's connectivity to other modes, including the latest in shared mobility options such as bikeshare, carshare and rideshare services. Services like free phone charging, a kiosk allowing public access to the Transit App (also listed in Item 5.5), and grocery pick up as well as common services such as dry cleaning and pharmacy access would help more people choose not to drive.

7 Motorized Traffic

7.1 Adaptive Signal Technology (AST) Study

- Estimated Cost: Medium
- Estimated Duration: Six Months
- Estimated Impact: Low
- Shared Goals: More Choices, Less Congestion

This study would examine the potential use of Adaptive Signals in Downtown Boston. Adaptive Signals use real time information to adjust signal cycles to provide more efficiency. The last Adaptive Signals signals also detect pedestrians and bicyclists, and connect to other signals to react to fluctuations in walking and biking traffic. They can allow for more time for pedestrians to cross, or provide more or less time to different streets in reaction to changing traffic patterns.

7.2 Bulfinch Triangle Traffic Circulation Improvements

- Estimated Cost: Low
- Estimated Duration: Six Months to One Year
- Estimated Impact: Medium
- Shared Goals: More Understandable, Less Congestion

The reconstruction of Causeway Street has limited certain turning movements into and out of the Bulfinch Triangle. Plans to change the direction of Valenti Way date back to the Central Artery Project. Certain sections of Valenti Way's one-way regulation are regularly flouted by drivers to access I-93. Additionally, more pedestrians will be

utilizing Canal Street when future developments increase pedestrian demand. A comprehensive look at traffic circulation in the neighborhood could produce solutions that would benefit pedestrians, bicycles and motor vehicle circulation at a relatively low cost.

7.3 Don't Block the Box Markings and Signage at Key Locations

- Estimated Cost: Low
- Estimated Duration: 3 months design + 1/3 construction season
- Estimated Impact: Medium
- Shared Goals: More Understandable, Less Congestion

When Don't Block the Box markings and signage were installed and enforced in the Longwood Medical Area, gridlock fell by 50%. A similar campaign at key intersections in the North Station Area could have a similar impact. To maximize impact, this action item could include both the study and installation of new markings at key intersections, and a campaign for enforcement.

7.4 West End Signal Timing Improvement Project (Duplicated in Pedestrians)

- Estimated Cost: Medium
- Estimated Duration: 6 months design + half construction season
- Estimated Impact: Low
- Shared Goals: Less Congestion

Some improvements to motor vehicle or pedestrian delay could be possible through adjustments to the timing of traffic signal cycles. Some signals may still need accessibility improvements; other options could include emergency preemption, traffic management cameras, countdown timers, or other small improvements. Dozens of signals are already being improved by local development projects. In addition to those improvements, the following signals could be looked at for improvements to complement those already occurring:

- Cambridge Street at Bowdoin St. /New Chardon St.
- Cambridge Street at Somerset Street
- Leverett Circle
- Martha Road

7.5 New Signal for left-hand turn into Charles River Plaza

- Estimated Cost: Low – Medium, depending on solution
- Estimated Duration: 6 months design, 1½ construction seasons
- Estimated Impact: Medium
- Shared Goals: Safety, More Understandable, Less Congestion

The community has reported that entering the Charles River Plaza with a left turn from Cambridge Street is exceedingly difficult in the peak hour. This may be solved with a Don't Block the Box marking, or a signal may be needed. This action item could explore either option, and the relative impacts and costs of both, and recommend one or both for implementation.

7.6 Residential Permit for Neighborhood Access During TD Garden Events

- Estimated Cost: Free
- Estimated Duration: Ongoing
- Estimated Impact: High
- Shared Goals: More Understandable

A major complaint of residents at Lovejoy Wharf and in the Bulfinch Triangle is that they are unable to access their parking garages when events are in progress at TD Garden, due to traffic management street controls and closures. This issue will continue to grow as the neighborhood continues to implement residential development, and more residents call the Bulfinch Triangle and Lovejoy Wharf their home. A special resident permit distributed by City Hall could be used to give local residents access to their homes during events, enforced in partnership with traffic management police officers.

7.7 Encourage Employers to form Partnerships for Transportation Demand Management (TDM) and Perform Annual TDM Reporting (Including TD Garden)

- Estimated Cost: Medium
- Estimated Duration: Ongoing
- Estimated Impact: High
- Shared Goals: More Choices, Less Congestion

The biggest reductions in car-use result when companies lead and design their own programs. Requiring employers of 100 or more people to have single occupancy vehicle reduction goals and report on them annually can be a powerful tool for reducing congestion, while retaining flexibility for every participant. A policy or guideline could simply require that companies move toward goals they set themselves (reviewed by the Transportation Department), and TDM progress can be reviewed when companies need approvals for projects or other permits. The program could evolve and expand over time, learning from employers' successes and shortcomings.

7.8 Lomasney Way/Nashua Street/Martha Road Intersection Improvements – Near and Long-Term

- Estimated Cost: Low (near-term), High (long-term)

- Estimated Duration: Near-term (in conjunction with development, Long-term 6 months design, 1½ construction seasons)
- Estimated Impact: Medium/High
- Shared Goals: Safety, More Understandable

In conjunction with private development, this intersection will have improved signalization and lane assignments to improve traffic flow, as well as crosswalk and safety improvements for pedestrians. A longer term realignment/adjustment to simplify the intersection can be explored that would improve traffic flow and make pedestrian/public realm improvements. Both efforts will tie into the newly created publicly accessible pedestrian connection through the Nashua Street residential project property and directly into North Station.

Appendix A: Existing Projects

This list includes community suggestions that are already being addressed by existing projects. They are listed under the project or agency that is taking the lead on these improvements.

Boston Garden Development

- Traffic and Event Management Plans
 - Are already in use as part of TD Garden Event Management Plan.
- Pedestrian tunnel from North Station to MGH
 - As part of TD North Garden development
- Improve pedestrian access to and within North Station
 - Part of TD Garden Tower development project

City of Boston

- Friend Street ADA Improvements
 - Existing DPW Project, ensuring ADA access including flatter sidewalks (not more than 2% grade). Note that utility poles are not controlled by the city, and could be complicated to move given property lines and air rights easements.
- Connect Historic Boston
 - Move Pole at Haverhill & Causeway to reduce ped. conflict and increase ADA access
 - ADA Ramps and APS Signals at Keany Square, stronger ped. crossings
 - Signal Timing Improvements at Staniford St. & Cambridge St.
 - Crossings of Causeway Street
 - N. Washington Bridge Connection at Keany Square
 - A conversation around improving bike and pedestrian conditions at Keany Square is ongoing in the city, though a full protected intersection is not possible given space constraints.
 - Improved Crossing of Lowell Square

Department of Conservation and Recreation

- South Bank Bridge
 - Under design by DCR
- Improve Beverly Street near the Charlestown Locks
 - Under design as DCR Project, in addition to Lovejoy Wharf and 88 Beverly developments.

Equity Development at 50 Staniford St.

- Pick up and Drop off Space/Loading Zone at Cardinal O’Connell Way
 - Long-term improvements are discussed in Action Item #1.2. In the near term, the Equity development project will engage in improvements to loading zones along the street.

Government Center Garage

- Sudbury Street Improvements
 - The Government Center Garage project is helping to add new pavement markings to Sudbury Street and a new signal at Bowker Street.
- Ramp improvements, New Chardon & New Sudbury
 - Pavement markings and signage upgrades on New Chardon and New Sudbury Streets at the entrances to the highway ramps, to improve clarity and better align drivers into the correct lanes. Part of the Government Center Garage project
- Haymarket Sq. Signage and Markings
- Sudbury Street bike lane
- new signal at Bowker
- Update APS signals and ramps at all intersections
- Improved Pedestrian Crossing of Sudbury st. over The Rose Kennedy Greenway

MassDOT

- Charles River Dam Road Bike Accommodations
 - Bike Lanes exist on plans for MassDOT Charles River Dam Road Reconstruction for post-Longfellow Bridge Reconstruction.
- Bike and pedestrian access across MBTA Drawbridge
 - Under design as part of MBTA Drawbridge Replacement Project.
- Leverett Pedestrian Bridge
 - The Leverett Pedestrian Bridge will connect the Science Park MBTA Station and both sides of Charles Street including nearby access to the Charles River and the Thoreau Path.

MGH

- More Bike Parking around campus near entrances (New bike rack coming to Yawkey Way).

Appendix B: Other Jurisdictions

These projects are either out of the scope of the study, and/or would require larger conversations with other agencies and jurisdictions.

Department of Conservation and Recreation

- Separate Bike and Ped Paths along Charles River
- Boston Underpass beneath Charles River Dam Road

Congestion Pricing for the West End

The experience of New York City's 2007 congestion pricing proposal has shown that such a scheme is fraught with political difficulties. At that time, a broad spectrum of business and government entities supported it, but a small group of very vocal advocates were able to effectively stop the plan. In Boston's case, the city does not have the power to levy tolls on state owned bridges, such a proposal would need to come from MassDOT and the Commonwealth.

Government Center Garage

- Raised Crossing for Canal st. across New Chardon

Government Services Center

- Open staircase between central courtyard and corner of Merrimac and Staniford
- Convert Parking on corner of Merrimac and Staniford to public space

Longfellow Place

- Consider opening sightlines in outdoor areas (removing brick walls) to enhance safety.

MassDOT

- Bus Lane over Charles Dam Bridge

MBTA

- Red-Blue Connector
- North-South Rail Link
- North Station Expansion
- Improve Speed from North Station to Brighton
- Charles River Ferry Service

MGH

- Access to the Thier Building rear entrance and wayfinding for the same

TD Garden

- Shuttle Service to Remote Parking for Events

Appendix C: Feasibility Issues

BlindSquare Partnership for Visually-Impaired Wayfinding

Much of the area is already mapped in Open Street and FourSquare. A more specific suggestion for the need for partnership may be needed.

Keany Square Protected Intersection

Engineers and planners working on the Connect Historic Boston and North Washington Bridge projects have gone through several iterations to find a way to better protect cyclists through this intersection. However, due to the constraints of buildings and the new southbound bus lane provided on the bridge, a full or even partial protected intersection is not possible at the current time.

Narrow turning radius at southeast corner of Congress and Haymarket

This wide radius is needed by the MBTA buses that serve Haymarket Station at this corner.

New Chardon Street Protected Bike Lanes

Existing conditions are already congested along New Chardon Street, with many vehicles not able to clear a signal in one cycle. Removing a lane would make this issue worse; expected queues going westbound would extend to North Washington Street, and eastbound would extend to Hawkins St, blocking driveways and access to Bowker Street. Staniford Street can be used as an alternative.

Restore 6-lane Width on North Washington Street Bridge

For the southbound direction, even if three lanes are provided at the bridge, that additional lane would still either have to turn right or left because there are only two lanes on N Washington Street south of the Causeway Street intersection. For the northbound direction, a City of Boston future project will reduce Rutherford Avenue down to two lanes, thus making the third lane on N Washington Street northbound have to turn left or right, similarly to the southbound direction.

Roundabout at Lowell Square

There is not enough room in the right-of-way to provide a roundabout at Lowell Square. To do so would require building demolition.

Second Story Pedestrian Bridge over Causeway

A pedestrian bridge would require an ADA friendly landing on the south side of Causeway Street. Currently there is no vacant land or wide enough sidewalk area to provide this landing. However, an underground walkway between North Station and the Orange Line MBTA station is being provided as part of the Boston Garden project and would also provide a way to avoid crossing traffic on Causeway St.

Staniford Street Median Replacement / Removal

Medians encourage speed. The removal of the median was enacted as a traffic calming measure.

Staniford Street Mid-Block U-Turns

This roadway was recently reconstructed. Currently, this can only be approached via enforcement.

Time signals at Canal/New Chardon to eliminate cars blocking the crosswalk

This is not a signal issue. The I-93 on-ramp at this location causes major backups in the PM peak hour. A stronger crosswalk marking may help alleviate the problem, and this is part of the Govt. Center Garage mitigations.

West End Crossing Improvements: At Thacher Street across North Washington

This diagonal crossing is difficult to provide with the current signal operations. It would conflict with left-turns from N. Washington Street Northbound.

West End Crossing Improvements: Medford across North Washington

This location is too close to Keany Square for a Rectangular Rapid Flashing Beacon treatment, which may cause confusion to drivers and pedestrians and would disrupt progression of traffic.

Wider Pathway Crossing the Charlestown Locks

For safety reasons, the Department of Conservation and Recreation is not in support of increasing pedestrian traffic over the locks.

Appendix D: Out of Scope

Rose Kennedy Greenway Bike Accommodations

The Rose Kennedy Greenway is outside of the geographic scope of the North Station Area Mobility Action Plan.

Temple Street Pedestrianization

Temple Street is outside of the geographic scope of the North Station Area Mobility Action Plan.