FEASIBILITY STUDY

02

2.1 Feasibility Study Summary

The scope of this project includes four parts:

1. An inventory and analysis,
2. A feasibility study of alternative path alignments,
3. The development of the preferred plan, and
4. A final report

A Feasibility Study is the process used to assess the practicability, the pros and cons, and the viability of a proposed plan. It was used to identify a preferred shared-use path alignment. Many factors were considered in this study to ensure that the selected route would be accessible, safe, convenient, and least impactful to natural and cultural resources as possible.

Initial input into the Feasibility Study included several factors. The identification of initial alternative routes to be studied was included in the DCR's Request For Proposals (RFP) and are shown in Figure 6. Initial input also included the DCR's Mission, the Project Goal and the agreed-upon Objectives as described in the previous section. The existing conditions inventory and site analysis, as well as initial input from meeting with the DCR staff and operations personnel, local and state representatives, stakeholders and the general public were all considered.

Figure 6: Potential Alternative Routes from DCR RFP

2.2 Existing Conditions Inventory and Initial Input

During the months of May to June an existing conditions inventory for the Project Area was completed, which included each of the subjects listed below.

- Land Use
- Circulation
- Crash Data
- Significant Landscape Features
- Hydrology
- Protected Areas
- Soils and Soil Conditions
- Archaeological Sensitivity
- Historical Resources
- Other Related Local/Regional Projects

The project team conducted field visits to assess the existing conditions and gathered existing documents and GIS data for mapping. An inventory of environmental resource areas, as well as archaeological and cultural resources was prepared.

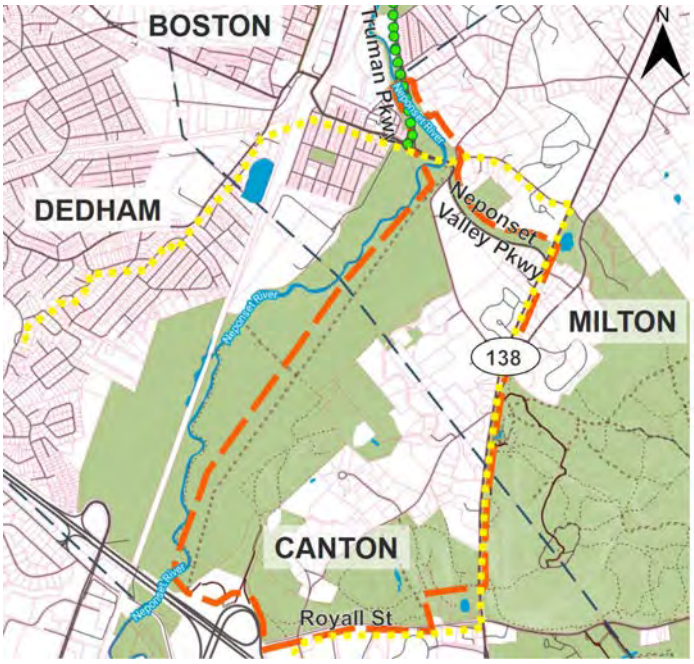


Figure 7: Project Area

Below are summary diagrams of only the most significant opportunities & challenges observed in the project area. The full Existing Conditions Inventory and Site Analysis Report can be found in Attachment E.

Community Connections

The primary goal of the project is connectivity - to enhance community connections and the active transportation network.

In and around the project area there are many opportunities to connect to community destinations shown as various icons on Figure 8, such as libraries, schools and colleges, places of worship, museums, and in the village of Readville in Boston there is an MBTA station.

Another important opportunity is for the Greenway to make connections to the Environmental Justice Neighborhoods shown in yellow on Figure 8. These neighborhoods include the following environmental justice populations: Minority and English Isolation, as defined by the Commonwealth.

Additionally, the project considers connections to other related plans and projects as shown in Figure 9. Two DCR projects north of the project area include: The extension of the Neponset River Greenway from Tenean Beach to Morrissey Blvd, which will create a safer route to North Dorchester, South Boston, and Downtown; and the Edgewater Trail project along the NRG in Mattapan.

South of the project area is DCR's Ponkapoag Pond & Fisherman's Cove Master Plan to which the Greenway may connect in the future; and, Canton's Warner Trail Design Study aims to eventually link that historic trail to the Blue Hills Reservation (potentially through the southern part of this Project Area).

LEGEND

- Library
- K- 12 School
- College or University
- Place of Worship
- Museum
- Environmental Justice Neighborhoods

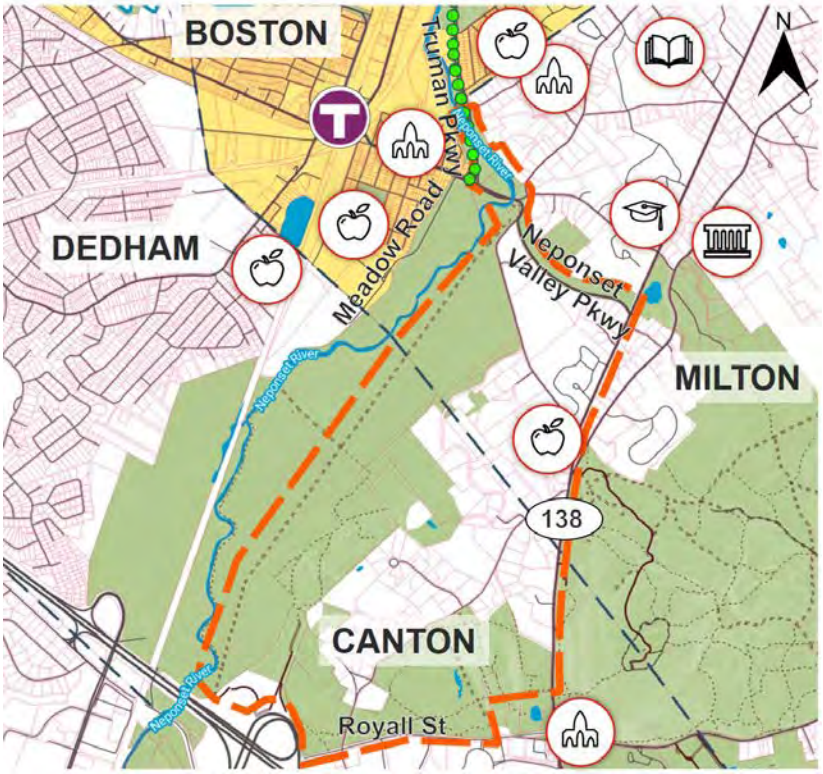


Figure 8: Site Analysis - Community Destinations

MassDOT and the City of Boston are proposing new pedestrian and bicycle facilities along Meadow Road just west of the Project Area which can help close the gap between Fowl Meadow and Camp Meigs Memorial Park.

Within the study area are two ongoing projects: the Neponset Valley Pkwy/ Brush Hill Rd /Milton St Intersection which is being studied by the DCR. The conditions at this intersection are important considerations for the shared-use path alignment.

Finally, the Route 138 Priority Corridor Study being conducted by MassDOT proposes a shared-use path along its eastern side passing the Trailside Museum. That shared-use path will be used as a link in the connections being proposed as part of this project.

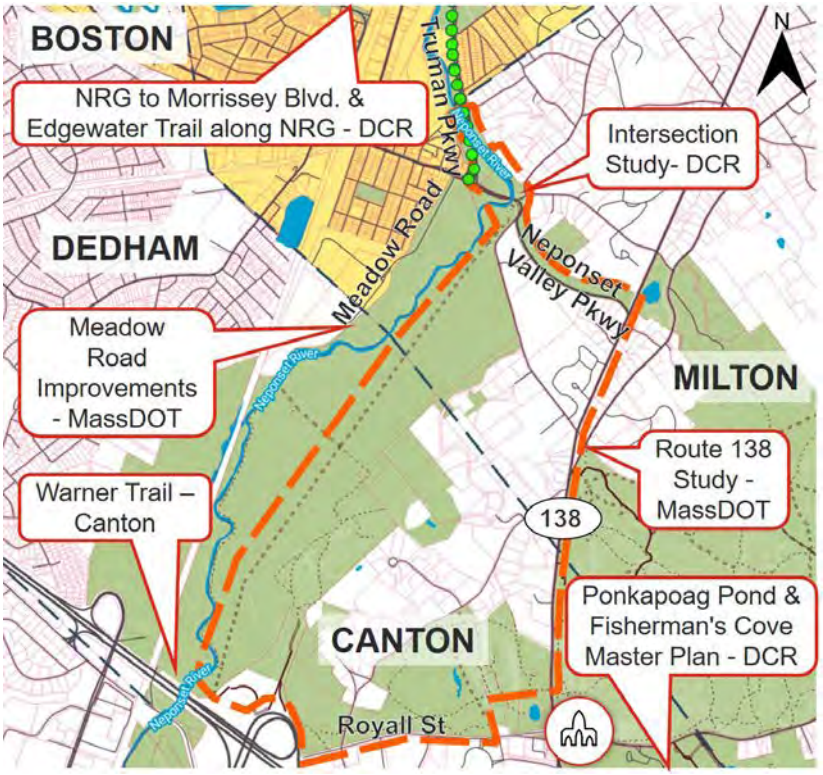


Figure 9: Site Analysis - Summary Diagram of other local/regional projects and plans

Circulation and Safety

The roads within the study area each present unique challenges and opportunities for this project. Major roads include Truman Parkway, Neponset Valley Parkway, Milton Street, Brush Hill Road, and Route 138. Green Street and Royall Street are also included in the study area.

As is common in the Boston area, many of these roadways, or segments of these roadways, have Right-of-Way challenges. A right-of-way indicates how far beyond the pavement or sidewalk ownership or jurisdiction extends. In this project it is further defined as: a right of way is granted or reserved public land for transportation purposes. And as such, it is available as a potential location for a shared-use path.

Neponset Valley Parkway runs over Paul's Bridge and a drainage culvert near the intersection of Milton Street and Brush Hill Road, limiting the available space at those locations.

Route 138 also has portions of limited right of way throughout the entire study area. Brush Hill Road and Green Street both have a very narrow rights-of-way, possibly restricting any type of path.

Traffic safety in this area is a significant factor in this project. Figure 8 shows all fatal and injury crashes that occurred within the study area in the last 3 years. The yellow and red dots being bicycle or pedestrian crashes resulting in injury and/or fatality. The gray and black dots are vehicular crashes.

Crashes resulting in injury occur throughout the study area, with a concentration around the intersections of Truman Parkway at Neponset Valley Parkway, Neponset Valley Parkway at Milton Street/Brush Hill Road, and Route 138 at Royall Street.

Truman Parkway at Neponset Valley Parkway is classified as a crash cluster, indicating that the location falls within the top 5% of high crash locations in the Metropolitan Area Planning Council (MAPC) area.

Neponset Valley Parkway runs underneath a railroad bridge (as Hyde Park Avenue), over Paul's Bridge and a drainage culvert near the intersection of Milton Street and Brush Hill Road, limiting the available space at those locations.

To address circulation and safety from Truman Parkway to Readville Station along Neponset Valley Parkway, several countermeasures can be incorporated. The four lane cross-section of Neponset Valley Parkway can likely be narrowed to two lanes, creating a safer environment for drivers with slower vehicle speeds and the ability to reallocate space to other uses. Curb extensions could be added to the Meadow Road intersection to narrow the crossing distance and slow turning vehicles. The crossing of Forestvale Road is riddled with pot holes and should be repaved to create an accessible pathway. The unsignalized crosswalk at Wolcott Square could be raised to allow people crossing to be more visible to turning vehicles, as

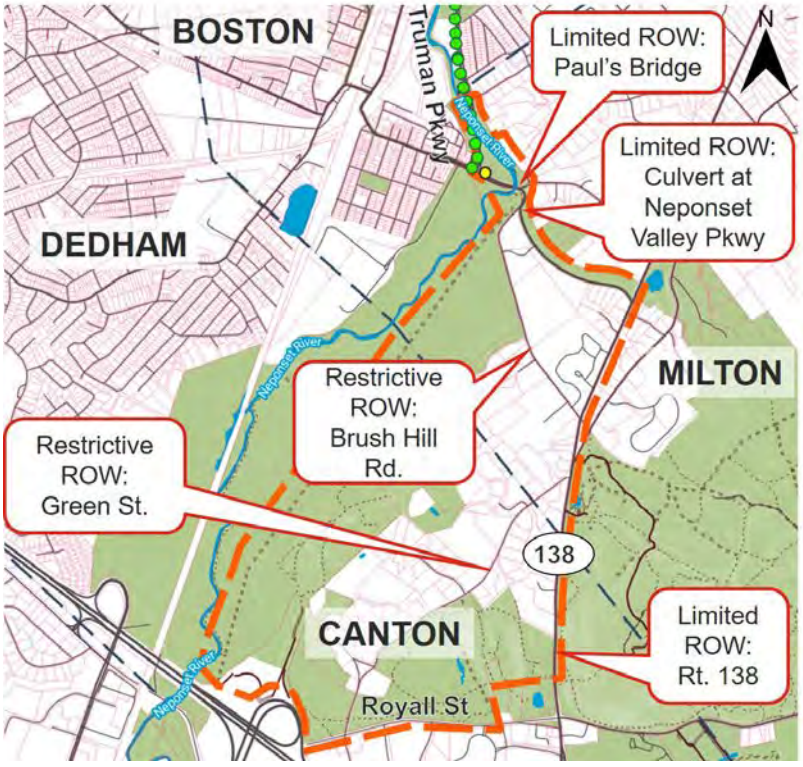


Figure 10: Site Analysis - Circulation Summary Diagram, NRG to Blue Hills

well as create a gateway treatment into the square and the neighborhood, prompting drivers to modify their driving speed with the change in context. Any changes or modifications to the Wolcott Square intersection would be dependent on which side of Neponset Valley Parkway the shared use path is proposed.

While the shared use path is proposed on Neponset Valley Parkway, community connections to create safe and comfortable routes to Camp Meigs and other neighborhood destinations can be utilized. Within the neighborhood, all crosswalks should be striped and all curb ramps should be updated to be ADA compliant as needed to promote walking and rolling for all abilities. Prescott Street was noted to have narrow sidewalks, less than the recommended width for ADA compliance. The sidewalk should be expanded to meet minimum width requirements. Restricting parking to one side of Prescott Street may be necessary to achieve this. Additionally, consider restricting parking on Prescott Street near Wolcott Square to enhance sightlines.

Stanbro Street runs parallel to Neponset Valley Parkway and fronts Camp Meigs. Traffic calming is recommended to ensure the safety and comfort of all roadway users. A shared use path through the woods on the eastern end of Stanbro Street to Meadow Road would create a connection for people walking and biking to the new sidewalks and look out into Fowl Meadow, currently in design by the City of Boston.

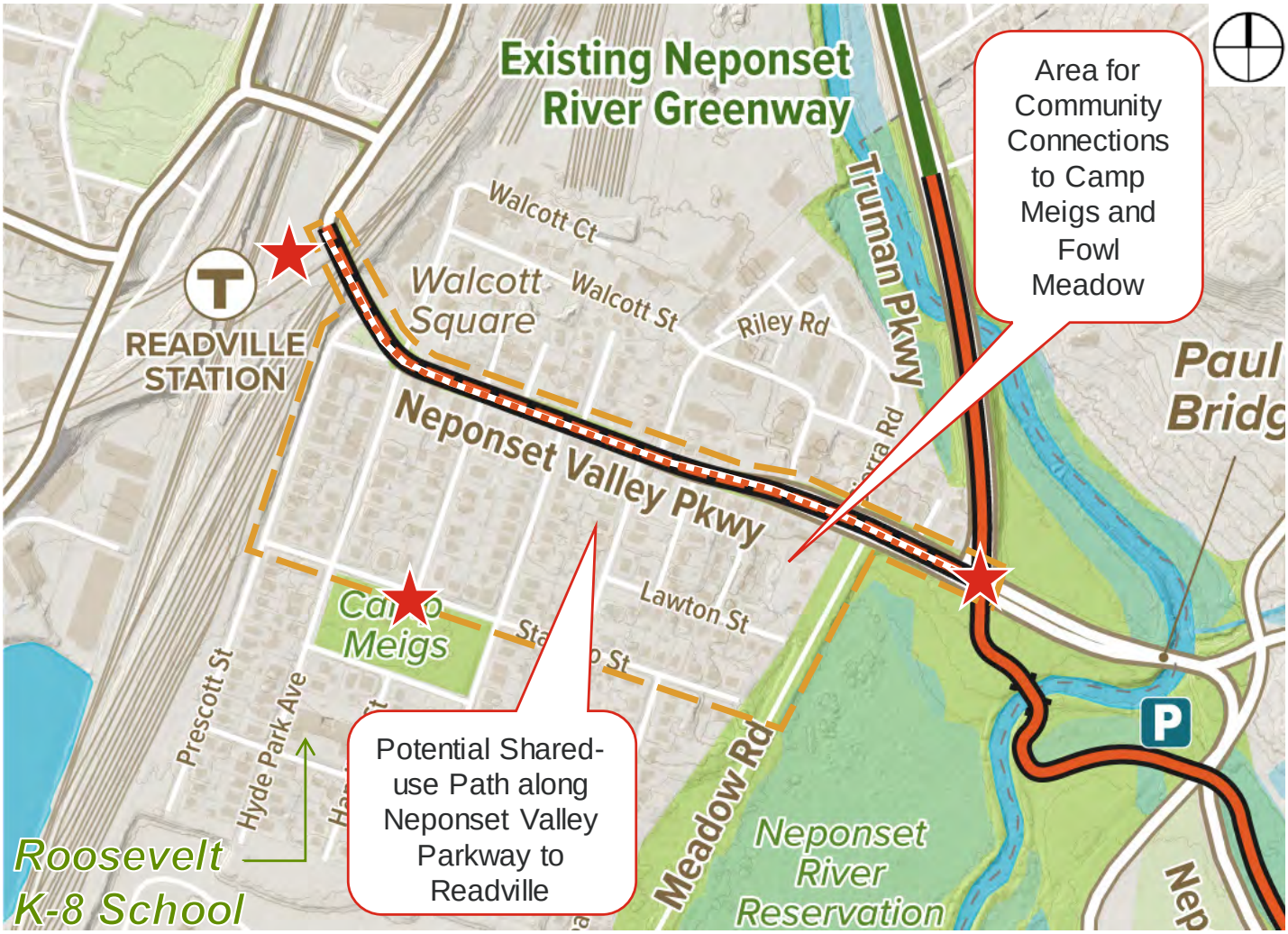


Figure 11: Site Analysis - Circulation Summary Diagram, NRG to Readville

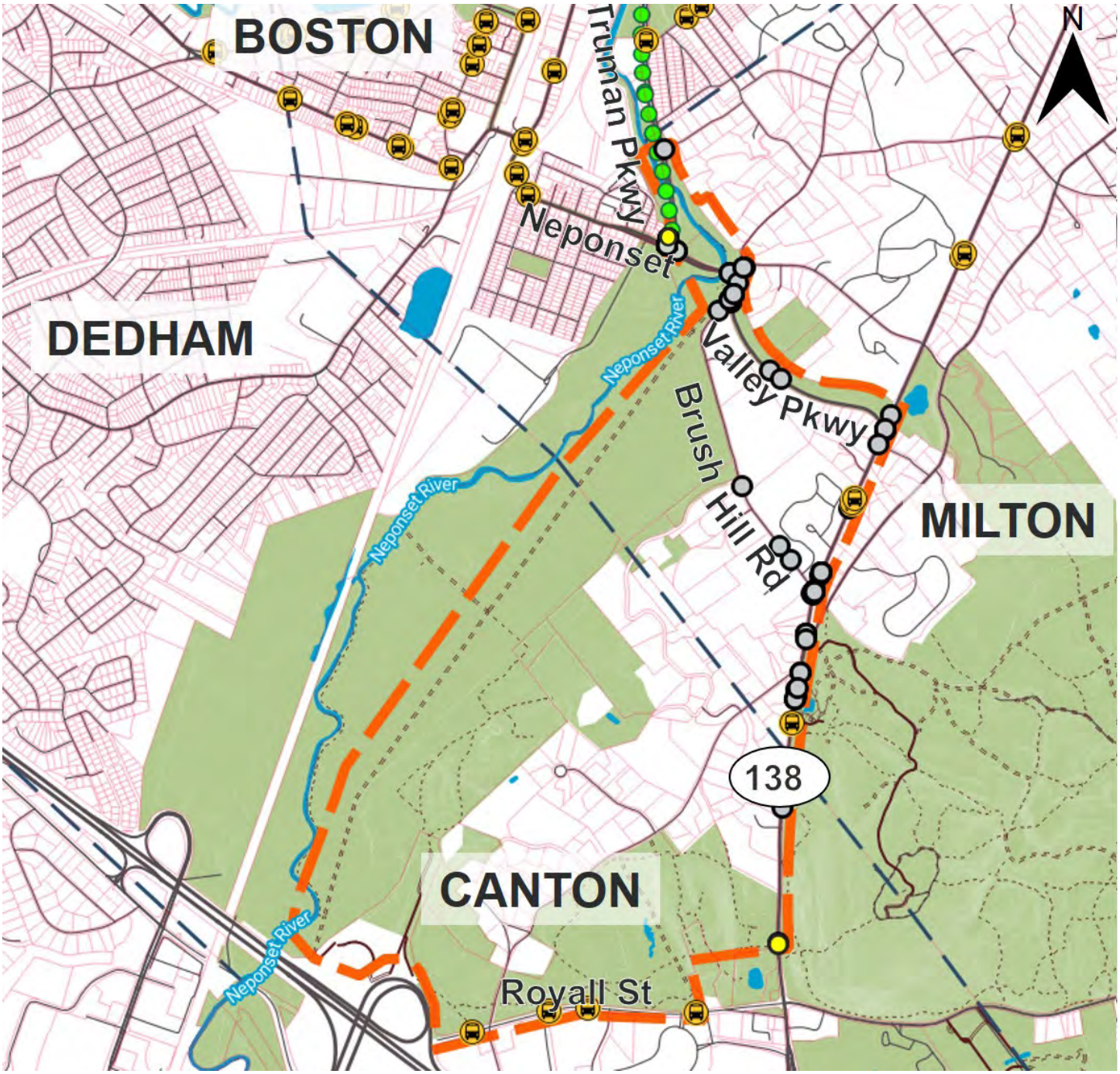


Figure 12: Site Analysis - Safety Summary Diagram

Environmental Resources

The Neponset River Greenway is an opportunity to experience the unique open water of the Neponset River. However, the attributes that make it such a unique experience, are also its greatest challenges. The following is a very brief summary of this challenge illuminated by the findings of the environmental due diligence.

With the exception of the northwestern corner along the Truman Parkway, the majority of the study area is located within the boundaries of the Fowl Meadow and Ponkapoag Bog Area of Critical Environmental Concern (known as an ACEC) for its extensive diverse wetland resources. The ACEC description also notes the area is very important for flood attenuation and storage, aquifer protection, cultural resources, education, recreation and wildlife habitat.

Existing conditions mapping includes all Environmental Resources Areas such as water bodies, wetlands and their various buffer zones which are considered Inland Resource Areas as defined and regulated by the Massachusetts Department of Environmental Protection. It also includes FEMA Flood Zone A/E and Zone A (areas most likely to be flooded), and protected under the Massachusetts Wetland Protection Act and US Army Corps of Engineers Program of the Clean Water Act.

Mapping specifically in the Fowl Meadow area found four Certified Vernal Pools and several Potential Vernal Pools. Most of Fowl Meadow is Priority Habitat of Rare Species, is a Wellhead Protection Area, and the included Neponset River is categorized as Impaired Water requiring restoration.

But what truly speaks to the challenge of routing a new shared use path through the project area are the significant Environmental Protected Areas. All of Fowl Meadow and the Blue Hills Reservation has been identified as one of the most extensive, undeveloped areas of wildlife habitat remaining in the greater Boston Area.

Any project within this ACEC will likely require extensive environmental permitting.

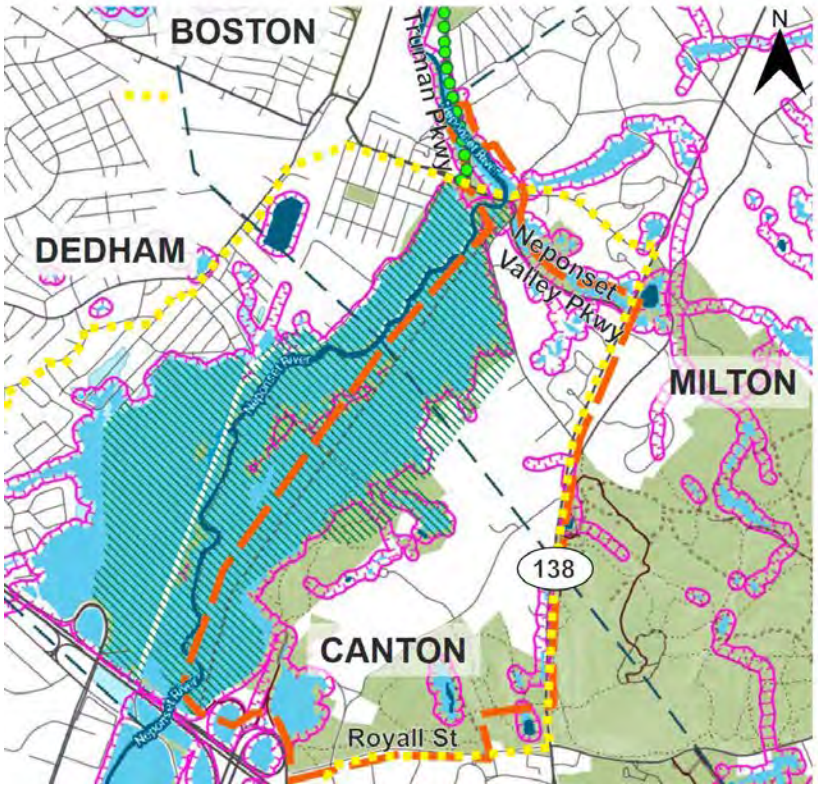


Figure 13: Site Analysis - Environmental Resources Summary Diagram

Archaeological Sensitivity

Cultural resources due diligence, including an archaeological sensitivity assessment and identification of above-ground historic resources was conducted.

The due diligence found that within and in the vicinity of the study area there are six historic districts and individual properties listed in the National Register and four areas and individual properties included in the national inventory.

The archaeological sensitivity assessment found zones of high and moderate sensitivity with the potential to contain unrecorded pre- and post-contact period archaeological sites.

Archival research found 13 pre-contact Native American and six post-contact Euro-American archaeological sites.

Of particular historical significance in the project area is the site of Camp Meigs. Now owned by DCR, it occupies a 139 acre area along the west side of the Neponset River. The camp site was used for training during the Civil War by the Massachusetts 54th Infantry in 1863. This Infantry included some of the first men of African descent mustered into the US Army. They used the Neponset river for cooking and bathing.

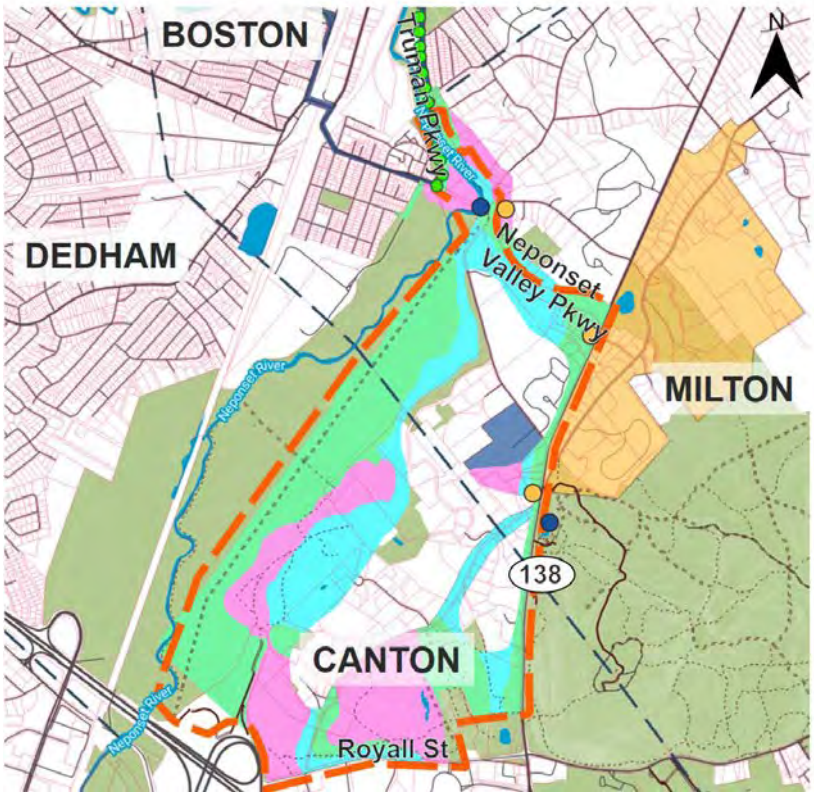


Figure 14: Site Analysis - Archaeological Resources Summary Diagram

2.3 Neponset River Greenway to Blue Hills: Feasibility

NRG to Blue Hills: Evaluation Process

The Evaluation Process considered potential alignments for shared-use path Segments and potential Routes. The evaluation first used accessibility and safety design standards to identify which Segments were viable. The agreed-upon objectives were the basis for the evaluation criteria. The viable Segments were then scored according to the evaluation criteria. The tally of the scores of each Segment were combined for each potential Route. This resulted in the ranking of the Routes and identification of the preferred shared-use path alignment.

Design Standards

The Design Standards were initially used to evaluate the potential Segments included in the RFP (Segments 1 through 8 shown in Figure 16). This initial evaluation showed that Segments 6 (Brush

Figure 15: Evaluation Process

Figure 16: Segments 1 through 8 based on the RFP potential alternative routes

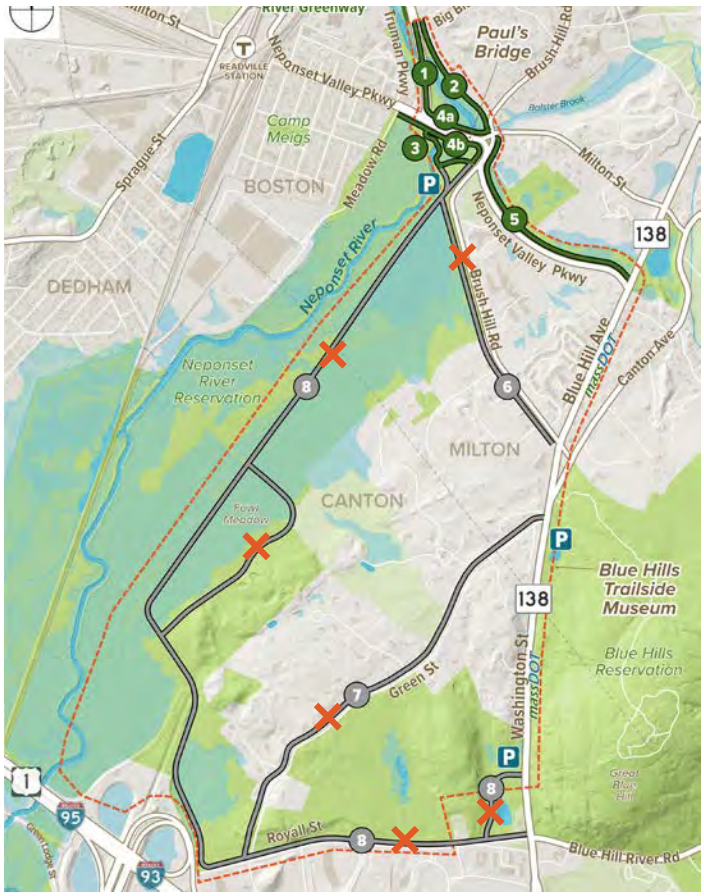


Figure 17: Segments 6, 7 and 8 do not meet the minimum Design Standards

Hill Road), 7 (Green Street), and 8 (Fowl Meadow) could not support a trail that would meet the minimum Design Standards.

Segment 6 along Brush Hill Road and Segment 7 along Green Street could not support the required trail widths, shoulders, or minimum landscape buffer width without the use of property beyond the right-of-way or significantly impacting the character of these residential streets.

Along Segment 8 Burma Road Trail the implementation of a shared-use path meeting the minimum Design Standards would significantly impact the very sensitive context of Fowl Meadow. Other improvements to enhance community connections along these Segments are discussed in Section 2.3 Recommendations.

Objectives

1. Enhanced community connectivity
2. Improved access to recreation and healthy living for all
3. Safety and convenience
4. Preservation of natural resources
5. Protection of historic and archaeological areas
6. Climate resiliency
7. Straightforward implementation and maintenance

Evaluation Criteria

In order to evaluate which Segments may be the best as a shared-use path, the evaluation process outlined above was used. After confirming that the minimum Design Standards can be met for the remaining Segments 1 through 5 as shown in Figure 18, Criteria were developed by which each Objective could be met.

The degree to which the Criteria are met determined the extent to which a path Segment supports the agreed-upon Objectives. The evaluation Criteria for each of the seven Objectives are as follows:

Figure 18: Viable Segments 1 through 5

Whatever the outcome of the evaluation, the shared-use path will be designed to current and applicable dimensional standards for safety and will be universally accessible. It will provide opportunities for enhanced amenities, and be direct and easy to navigate. Because these are requirements, they are not included as evaluation criteria.

Objective 1

Provides connections to community destinations. The quantity of and distance to community destinations the Segment can make by non-motorized means or by public transportation.

Welcomes and serves adjacent Environmental Justice communities. The number of direct connections to Environmental Justice neighborhoods and transit stops.

Object 2

Provides access to existing trails. The number of connections the Segment has to the Neponset River Greenway or to existing trails within the Blue Hills Reservation.

Provides a variety of active transportation opportunities and natural landscape experiences. The degree of variety of active transportation types such as walking, bicycling, and rolling; and the degree variety of natural landscape types such as forested, riverine, or grassland.

Provides a sense of personal comfort. Distance from uncomfortable conditions such as heavy traffic, loud noise, or foul odor.

Objective 3

Provides users with a strong sense of personal security. Distance from a roadway

Minimizes vehicular conflicts and road crossings. The quantity and quality of road and driveway crossings.

Provides easy patrolling and emergency response. Degree of access by emergency responders; the degree of sight-lines to the Segment and seclusion from aid.

Objective 4

Minimizes impacts to vegetated wetlands, perennial streams, vernal pools, FEMA Flood Zones, Areas of Critical Environmental Concern (ACEC), Threatened and Rare species, the quality of drinking water and undeveloped land and riparian zones. Degree of avoidance of or impacts to Environmental Resource Areas and other protected environments.

Protects the quality of drinking water. Degree of avoidance of activities such as fill or excavation along or in areas with Activity and Use Limitations (AUL's) due to hazardous soil conditions.

Objective 5

Minimizes impacts to sensitive archaeological areas. The degree to which a Segment avoids high, medium, and low archaeological sensitive areas.

Preserves historic features. The degree of potential impact to a Historic District or property.

Connects to publicly accessible historic resources. The quantity of connections to historic resources.

Objective 6

Tolerates flood waters. Degree to which path surface material or construction could withstand moving

waters and/or inundation for an extended period.

Minimizes stormwater runoff and includes green infrastructure. The degree to which the Segment will reduce impervious areas and to which the Segment should accommodate green infrastructure to manage stormwater

Preserves existing tree canopy. The degree of impact to existing forested land cover that would need to be cleared for the construction of the segment

Objective 7

Maintains current traffic operations. The degree to which a Segment requires roadway reconfigurations or impacts current traffic operations.

Is easy to construct and maintain. Existing physical challenges or the need for extensive or comp[located construction materials or techniques.

Has reasonable estimated construction costs. Probable construction cost per linear foot relative to the benefit of the Segment

Is easy to permit. The number or complexity of environmental permits necessary

Evaluation Matrix

A matrix was developed for scoring the Segments. Scores between 1 to 5 were given for each Segment for each criteria indicating lesser or greater conformance, respectively, with the criteria. Members of the project team across different areas of expertise evaluated each of the Segments to develop a rating that was well-informed, and considered multiple perspectives. These results will be discussed in section 2.3 Recommendations.

Evaluation Criteria	1	2	3	4a	4b
Objective 1: Enhanced Community Connectivity					
Provides connections to community destinations					
Welcomes and serves adjacent Environmental Justice communities					
Subtotals					
Average					
Objective 2: Improved access to recreation and healthy living for all					
Provides access to existing trails					
Provides a variety of active transportation opportunities and natural landscape experiences					
Provides sense of personal comfort					
Subtotals					
Average					
Objective 3: Safety and Convenience					
Provides users with a strong sense of personal security					
Minimizes vehicle conflicts and road crossings					
Provides easy patrolling and emergency response					
Subtotals					
Average					
Objective 4: Preservation of Natural Resources					
Minimizes impacts to vegetated wetlands					
Minimizes impacts to perennial streams					
Minimizes impacts to vernal pools					
Avoids contaminated soils during construction					
Minimizes impacts to FEMA Flood Zones					
Minimizes impacts to Areas of Critical Environmental Concern (ACEC)					
Minimizes impacts to Threatened and Rare species					
Minimizes impacts to the quality of drinking water					
Minimizes impacts to undeveloped land and riparian zones					
Subtotals					
Average					

Objective 5: Protection of historic and archaeological areas					
Minimizes impacts to sensitive archeological areas					
Preserves historic features					
Provides connections to publicly accessible historic resources					
Subtotals					
Average					
Objective 6: Climate resiliency					
Tolerates flood waters					
Minimizes stormwater runoff and includes green infrastructure					
Preserves existing tree canopy					
Subtotals					
Average					
Objective 7: Straightforward implementation and maintenance					
Maintains current traffic operations					
Is easy to construct and maintain					
Has reasonable estimated construction costs					
Is easy to permit					
Subtotals					
Average					
TOTALS					
AVERAGED TOTALS					
Segments:	1	2	3	4a	4b

Figure 19: Evaluation Matrix

Feasibility Study Opinions of Probable Construction Costs

To understand the degree to which a Segment met Objective 7, the relative probable construction costs were determined. Below is a summary of the cost estimating process at the Feasibility Study level. The actual Feasibility Study Opinion of Probable Construction Costs are included in Attachment F.

Because there is no existing conditions survey at this point in the project, estimating costs for potential trail alignments was based on several assumptions and generalizations about modifications to the existing environment that would cover a wide range of site conditions. The preliminary cost estimates are as detailed as possible to make them grounded in real-world conditions, and to allow future planning, design, and implementation.

The following section describes the process used for calculating the various trail segments and routes.

Process

Final construction costs will vary based on the ultimate project scope, timing, and economic conditions. The cost estimates are based on itemized unit costs calculated by the linear foot for each identified typical cross-section trail type. The cross-section trail type is then applied to the lengths of the Segments. The estimates do not include future design fees, survey costs, costs associated with building removal or redevelopment of private property, and right-of-way acquisition costs. Refer to the table Cross-Section Trail Type below and typical trail cross-sections on the next page.

Cross-Section Trail Type

Category	Type	Cross-Section Description
Shared-use Path along a road	A	Side path at the existing curb: 8’ landscape buffer (including 2’ shoulder) + 12’ paved path + 2’ landscape buffer
	A-1	Side path with new curb location: New curb line (vertical granite curb, drainage, pavement patch) + 8’ landscape buffer (incl. 2’ shoulder) + 12’ paved path + 2’ landscape buffer
	A-2	Side path with new curb and wall: New 4’ ht retaining wall with 4’ ht chain link fence + 2’ landscape buffer + 12’ paved path + 2’ landscape buffer with wood guardrail + new vertical granite curb
	A-3	Side path narrow: New vertical granite curb + 3’ landscape buffer with wood guardrail + 10’ paved path
	A-4	Side path very narrow: New vertical granite curb + 8’ paved path
Shared Use Path	B	Shared use path on-grade: 5’ re-graded landscape (incl. 2’ shoulder) + 12’ paved path + 5’ re-graded landscape (incl. 2’ shoulder)
	B-1	Share use path on a slope: 15’ re-graded landscape (incl. 2’ shoulder) + 12’ paved path + 15’ re-graded landscape (incl. 2’ shoulder) (assumed balanced cut/fill)
Shared Use Path Boardwalk	C	Shared use on a boardwalk: 16’ wide boardwalk, on helical piers, with 42’ ht. guardrail/handrail on both sides (H20 loading)
	C-1	Shared use path on a boardwalk: 10’ wide boardwalk, on helical piers, with 42’ ht. guardrail/handrail on both sides (H20 loading)
Shared Use Path Soft-Surface	D	Shared use path soft-surface: 2’ landscape shoulder + 10’ stabilized aggregate path + 2’ landscape shoulder

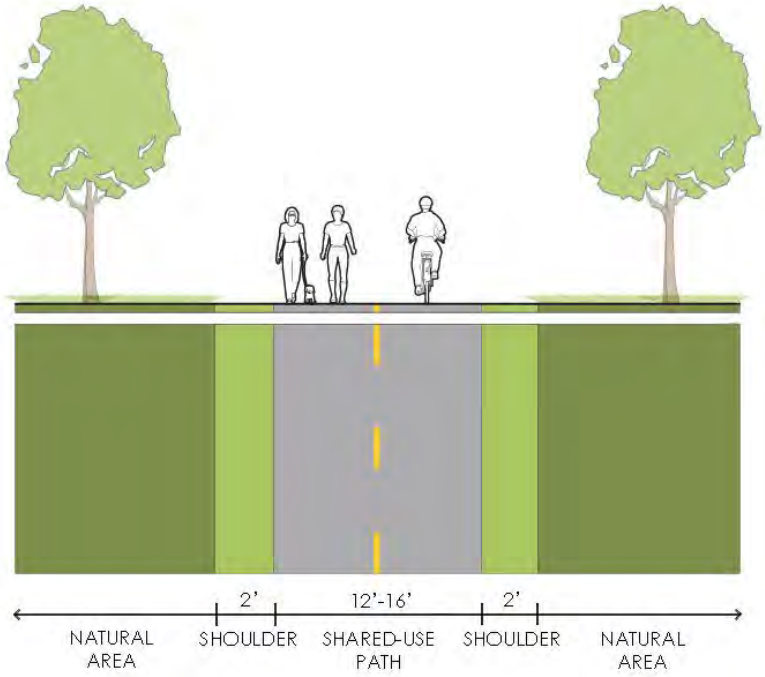
Linear Foot Costs

For each cross-section trail type, itemized and unit costs are based on MassDOT average weighted bid prices, DCR unit prices, unit prices from comparable projects of this magnitude. The sum of the items provided a linear foot subtotal cost for each cross-section trail type.

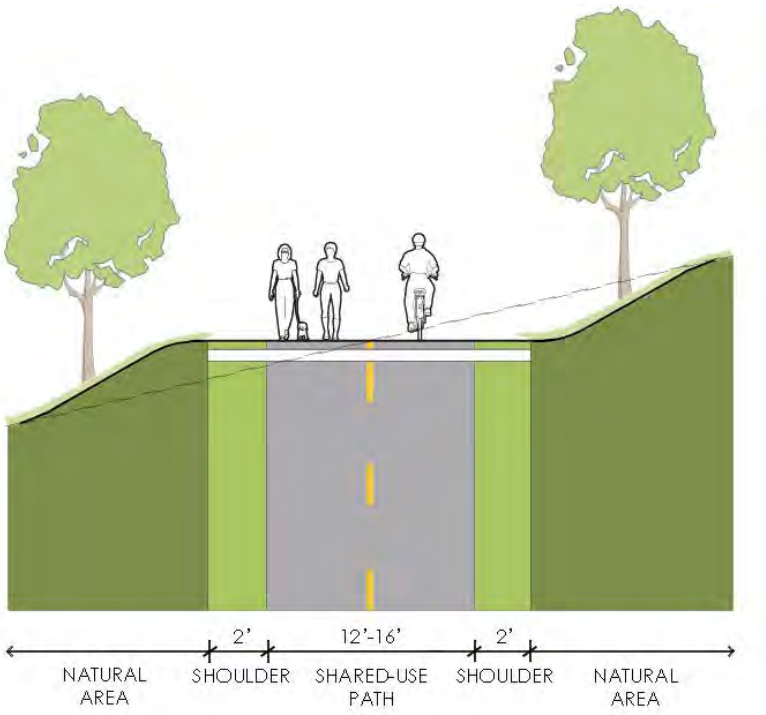
Segment	Cost per LF	Total Cost	LF
1-1	$ 2,062	$ 3,031,489	1,470
1-2	$ 972	$ 1,428,988	1,470
2	$ 939	$ 1,627,057	1,733
3	$ 891	$ 1,100,854	1,235
4a	$ 667	$ 603,399	904
4b	$ 647	$ 1,010,088	1,560
5	$ 718	$ 2,270,009	3,160
6	$ 1,398	$ 6,149,280	4,400
7	$ 521	$ 492,235	944
8	$ 432	$ 7,293,534	16,876
8+9	$ 458	$ 7,460,346	16,298
8+10	$ 546	$ 8,816,848	16,147

Allowances

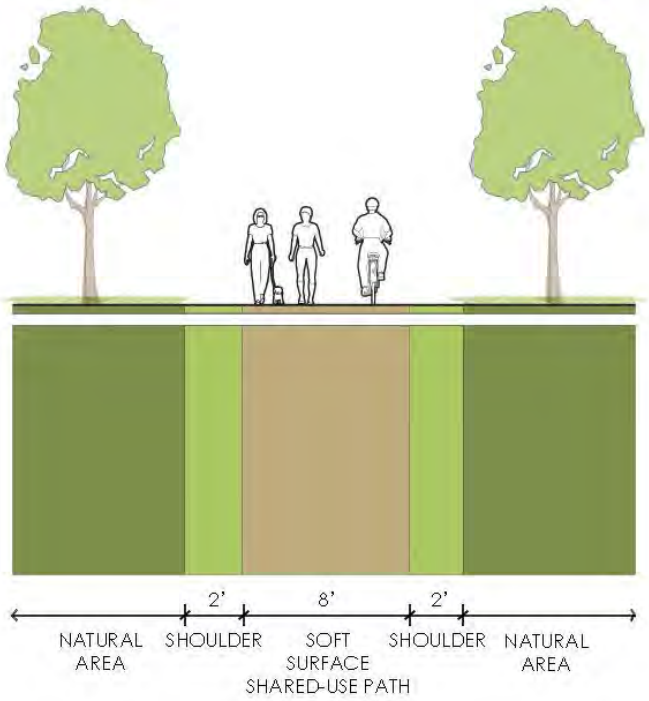
For each cross-section trail type, allowances included items that cannot be accurately estimated at this level of design but are anticipated costs associated with this cross-section trail type. The placeholder percentages calculated vary by cross-section trail type and provide a realistic average budget anticipated for these factors. Totaling the linear foot cost subtotal and adding the allowance percentages to the subtotal of items provide an accurate opinion of probable construction costs for each cross-section trail type that can be applied to each segment at this phase of the project.



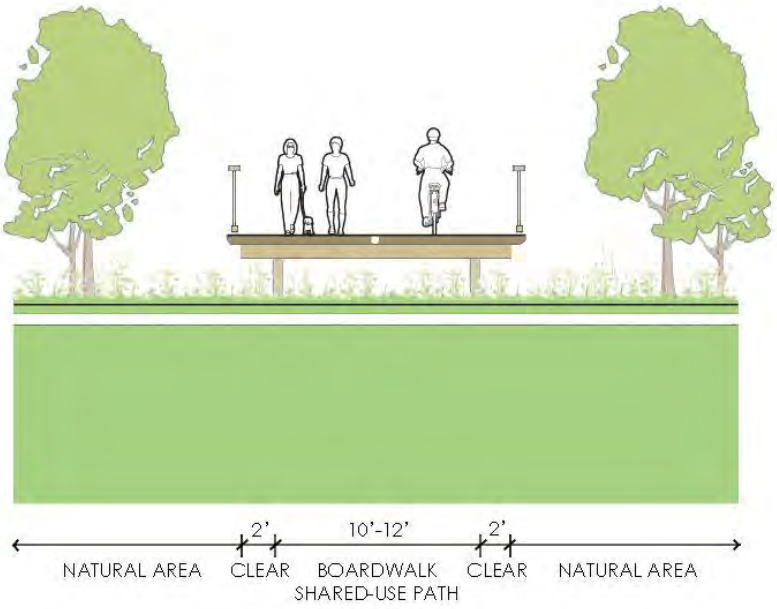
Section - Typical shared-use path at grade



Section - Typical shared-use path on slope



Section - Typical soft-surface shared-use path



Section - Typical shared-use path as boardwalk

NRG to Blue Hills: Shared-use Path Alternatives

Potential Segments

As described in Section 2.1, the initial evaluation based on the minimum Design Standards resulted in five remaining Segments, shown in Figure 20.

Segment 1 runs along Truman Parkway. Segment 2 is to the east of Truman Parkway. Segment 3 runs to the south of the Neponset Valley Parkway. Segments 4a and 4b cross Paul's Bridge along the north and south sides respectively.

Segment 5 runs along Neponset Valley Parkway east of Brush Hill Road. Segment 5 was not evaluated as it is the only remaining Segment that makes the connection to the planned shared-use path along Route 138, thus completing the connection to the Trailside Museum.

The following pages briefly describe each Segment that was evaluated. See Route 138 Priority Corridor Study at the end of this section.

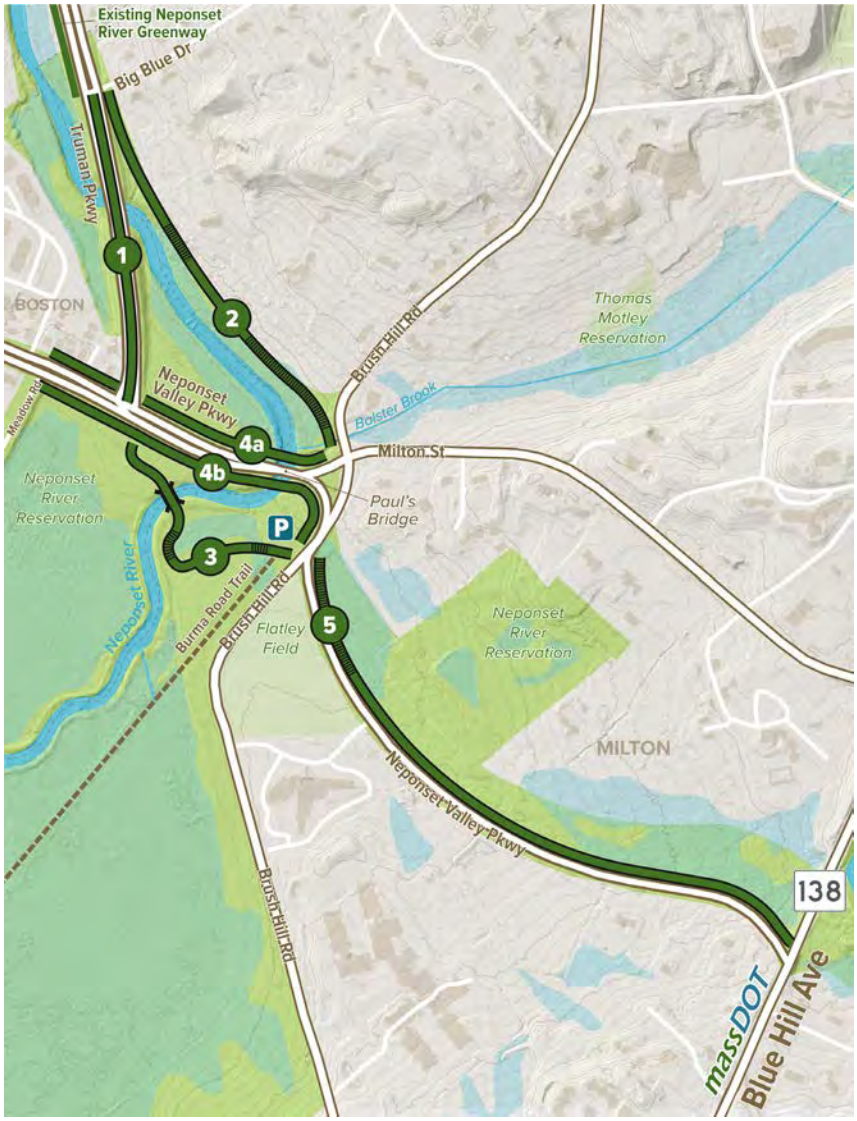


Figure 20: Potential Shared-use Path Segments

Segment 1 – Truman Parkway

Segment 1 along Truman Parkway serves as one option for connecting to the existing Neponset River Greenway at Big Blue Drive.

Photo: Truman Parkway looking south

Photo: Intersection of Truman Parkway & Neponset Valley Parkway

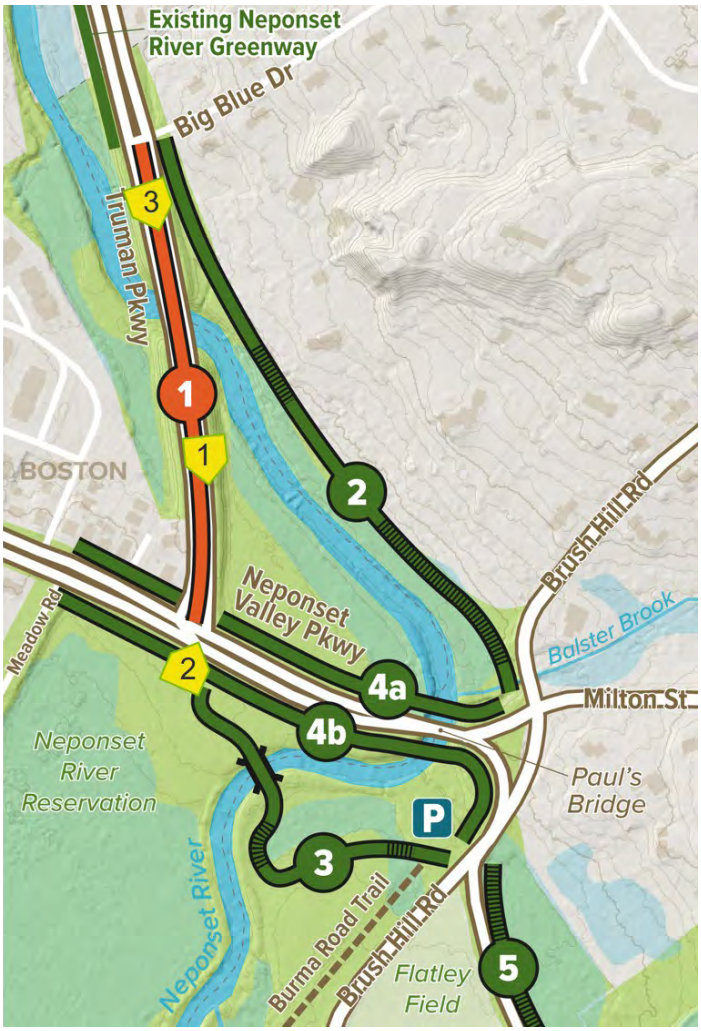


Figure 21: Segment 1 - Truman Parkway

Photo: Neponset River Greenway looking south

The areas adjacent to Truman Parkway include several environmental resource areas and low to high archaeologically sensitive areas (see Figure 22 and Figure 23). However, since shared-use path Segment 1 uses previously disturbed land there should not be any additional impacts to these sensitive areas. See Attachment E for a full description of these sensitive areas.

Current bicycle and pedestrian infrastructure along this stretch of Truman Parkway includes a 10' wide shared-use path, 2' buffer with guardrail, a bike lane on the west side, and a 5' sidewalk without buffer from the road on the east side (See Section A-A').

One option for a shared-use path along the east side of the parkway reduces shoulder widths to accommodate a 12' shared-use path with a 6' landscaped buffer with guardrail and shade trees on the east side (see Section A-A'). Additional shared-use path options are discussed later in this section.

Truman Parkway Sections - Key Plan

Figure 22: Segment 1 - Diagram of Key Environmentally Sensitive Areas

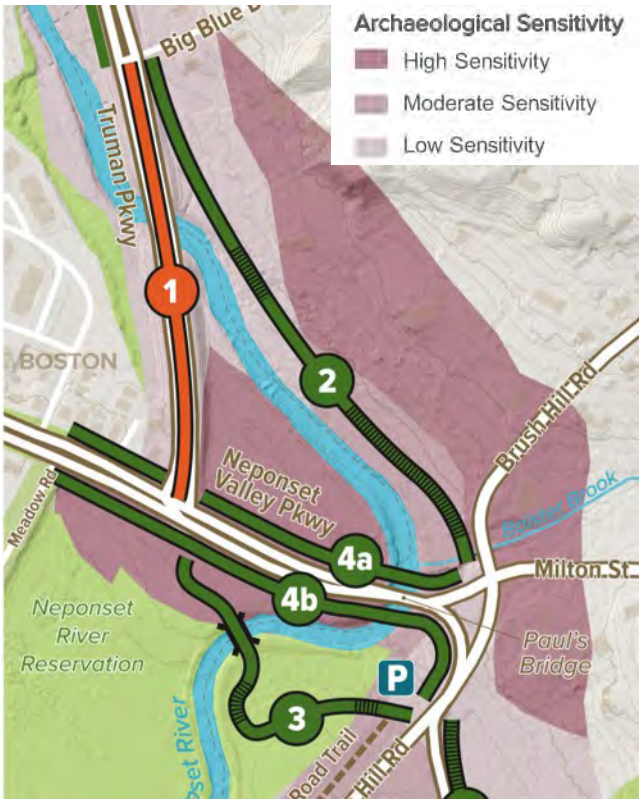
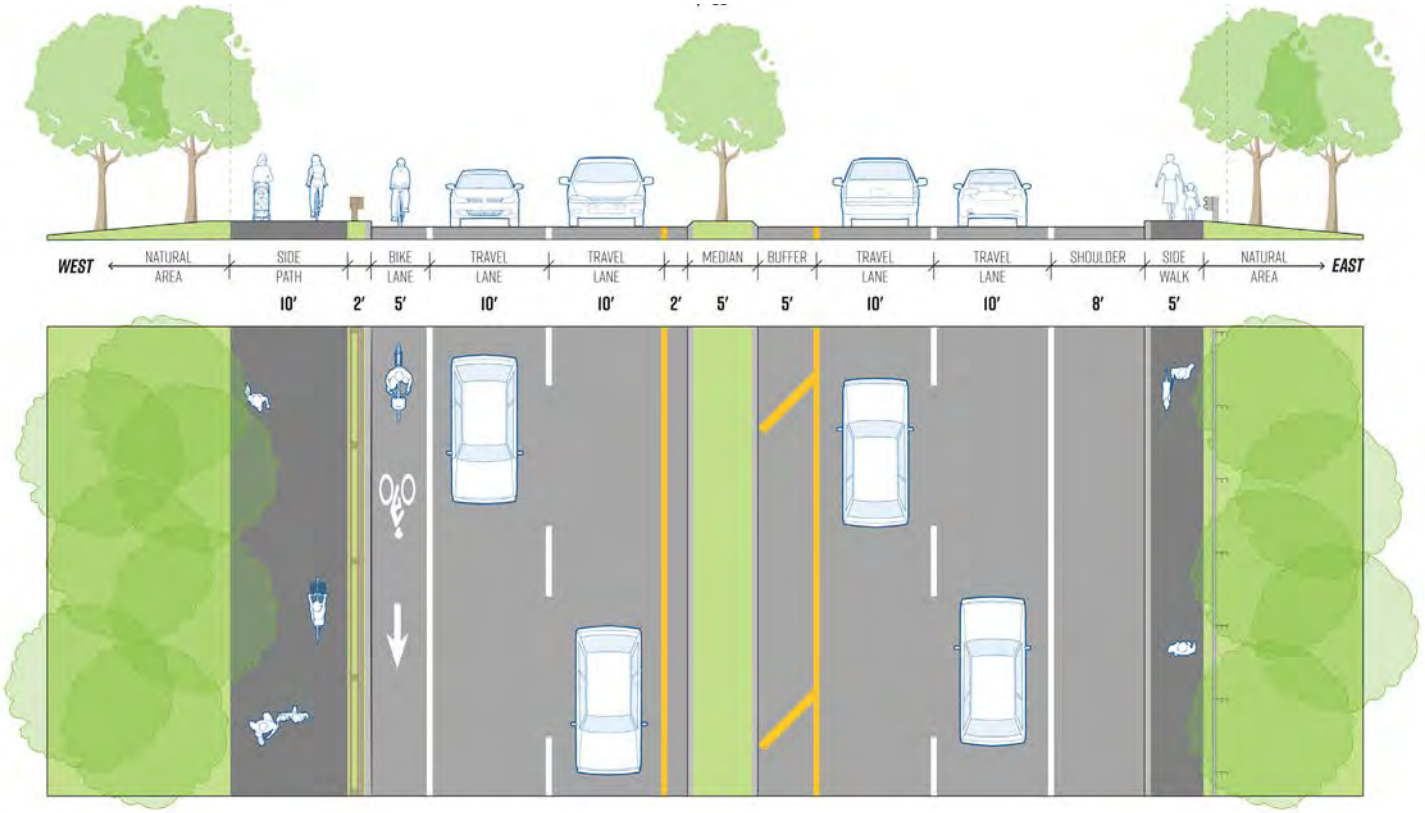
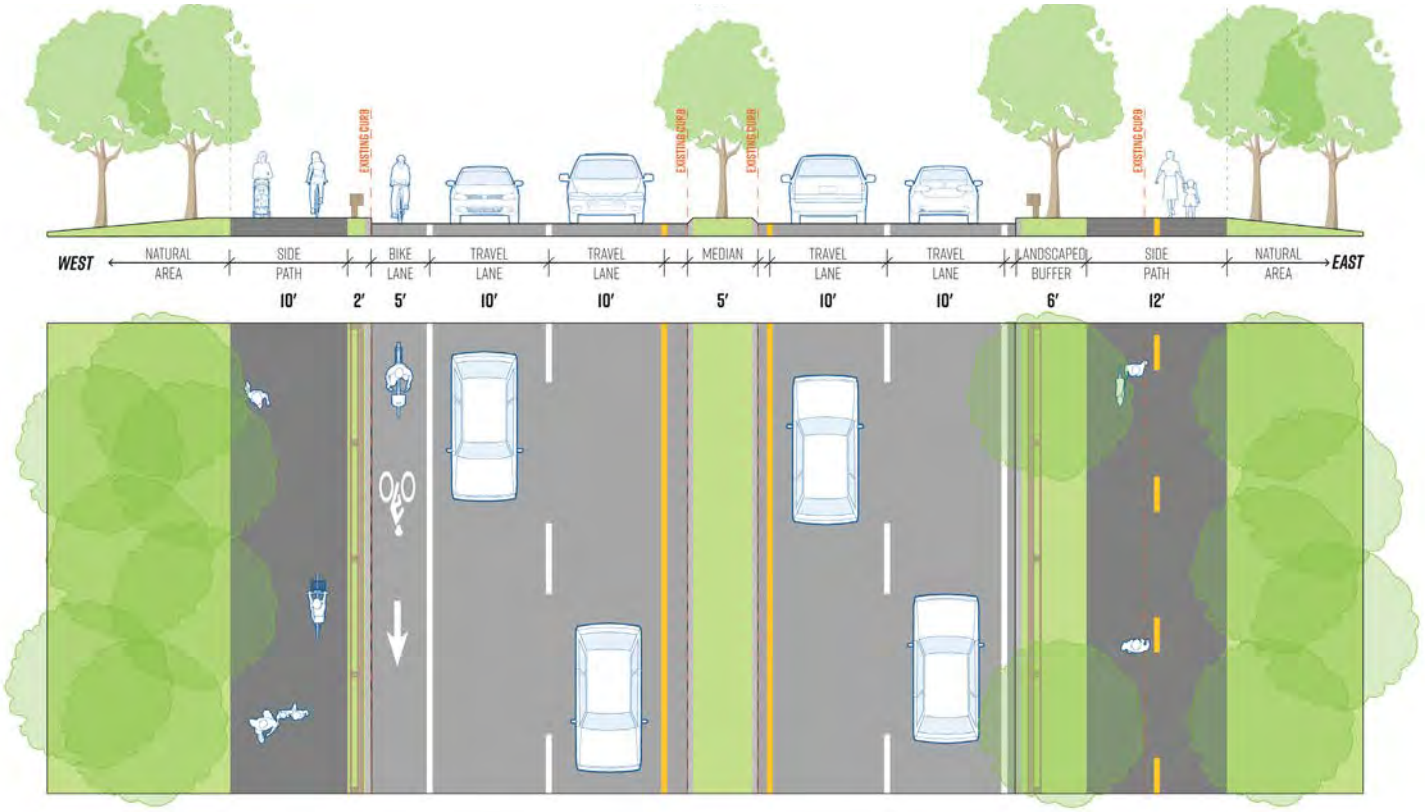


Figure 23: Segment 1 - Diagram of Key Archaeologically Sensitive Areas



Section A-A': Truman Parkway - Existing Conditions



Section A-A': Truman Parkway - Proposed Option for a Shared-use Path

Improvements to the intersection at Truman Parkway and Neponset Valley Parkway include curb extensions, landscaping and tree planting along medians and buffers, median extensions to provide additional protection for crosswalk users, and repositioning of the eastern crosswalk on Neponset Valley Parkway farther east out of traffic flows in the intersection.

Segment 1 - Intersection Key Plan

Intersection B - Potential Configuration at Truman Parkway and Neponset Valley Parkway

Segment 2- East of Truman Parkway

Segment 2 runs to the east of Truman Parkway along the Neponset River. Segment 2 serves as a second option for connecting to the existing Neponset River Greenway at Big Blue Drive.

This area exists in a natural condition with the exception of a short segment of paved driveway that crosses part of this the public land. There are some steep slopes and a culvert that needs to be traversed at Brush Hill Road near Milton Street.

There are several environmentally sensitive areas including, but not limited to the Neponset River, wetlands and flood plain (see Figure 26). See Attachment E for a full description of these sensitive areas. There are also substantial invasive species.

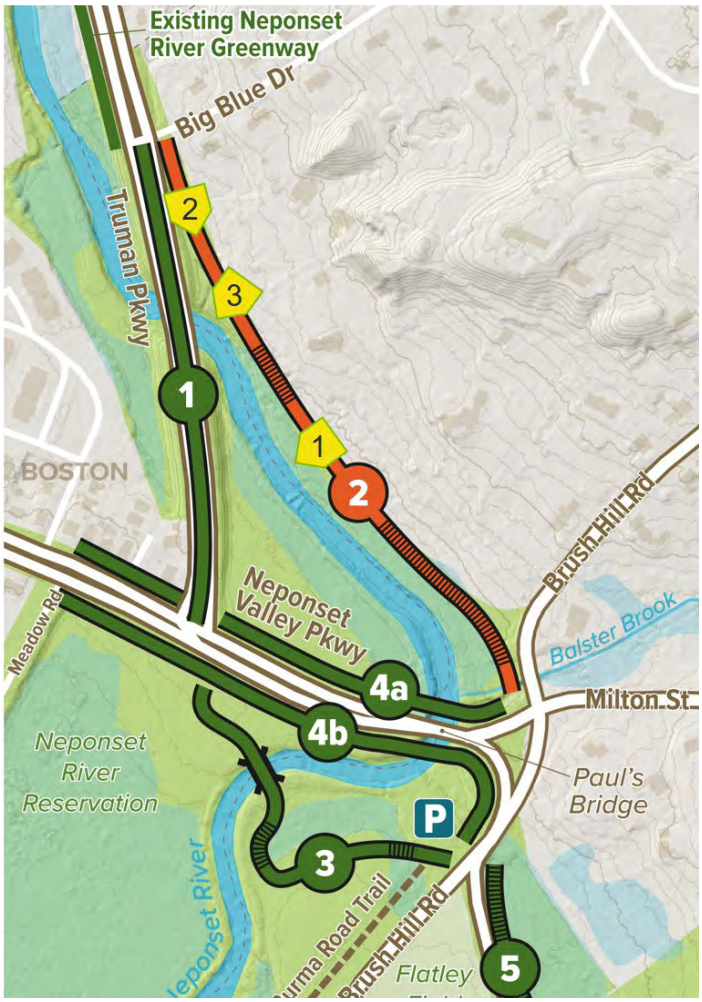


Figure 24: Segment 2 - East of Truman Parkway

Photo: Neponset River east of Truman Pkwy

Photo: Existing drive east of Truman Pkwy

Photo: View of Truman Parkway bridge

Segment 2 passes through areas that have been identified as having low and medium archaeologically sensitive land (see Figure 26). See Attachment E for a full description of these sensitive areas.

Figure 25: Segment 2 - Diagram of Key Environmentally Sensitive Areas

Figure 26: Segment 2 - Diagram of Key Archaeologically Sensitive Areas

Segment 2 begins at the intersection of Truman Parkway and Big Blue Drive. Users of the existing portion of the Neponset River Greenway would need to cross Truman Parkway to access Segment 2. See Intersection C which shows a potential configuration for this intersection.

Segment 2 uses part of an existing paved drive from Truman Parkway and a new 12'-16' shared-use path, both on grade and on slopes (see Section D-D' and Section E-E').

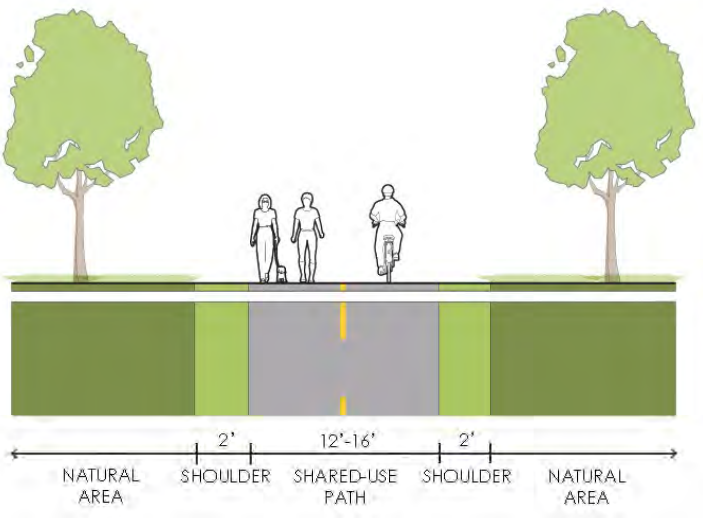
Segment 2 - Sections and Intersection Key Plan

Intersection C - Potential Configuration at Truman Parkway and Big Blue Drive

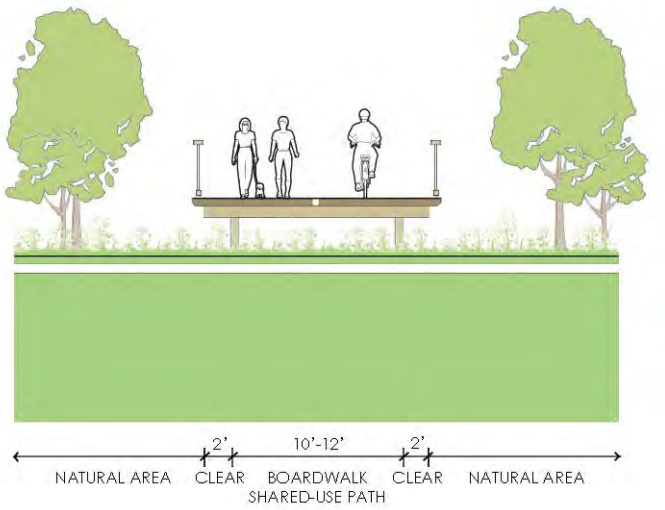
Sections of boardwalk are necessary where the trail would traverse wetlands. A boardwalk must also bridge the culvert at Brush Hill Road (see Section F-F').

Segment 2 routes the trail through the intersection at the convergence of Neponset Valley Parkway, Brush Hill Road, and Milton Street (See Intersection G sketch below).

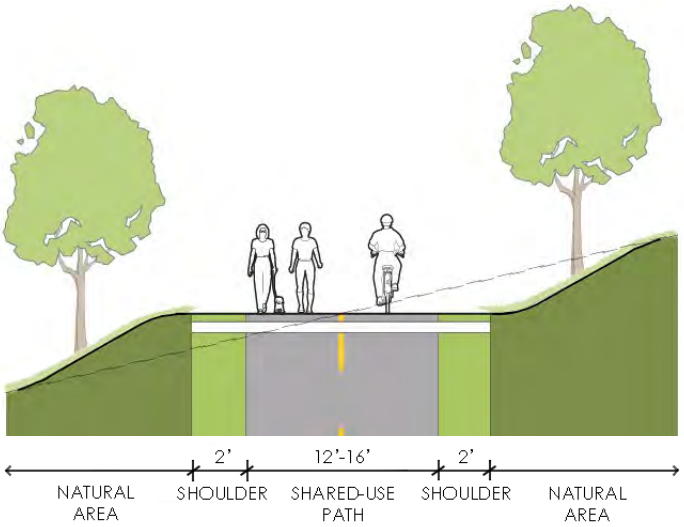
Segment 2 - Section and Intersection Key Plan



Section D-D' - Typical Shared-use Path on grade



Section F-F' - Typical Shared-use Path as Boardwalk



Section E-E' - Typical Shared-use Path on slope

Intersection G - Potential Configuration at Neponset Valley Parkway, Milton Street and Brush Hill Road

Segment 3 - South of Neponset Valley Parkway

Photo: Looking east at the intersection of TP and NVP

Photo: Looking South into Fowl Meadow ACEC

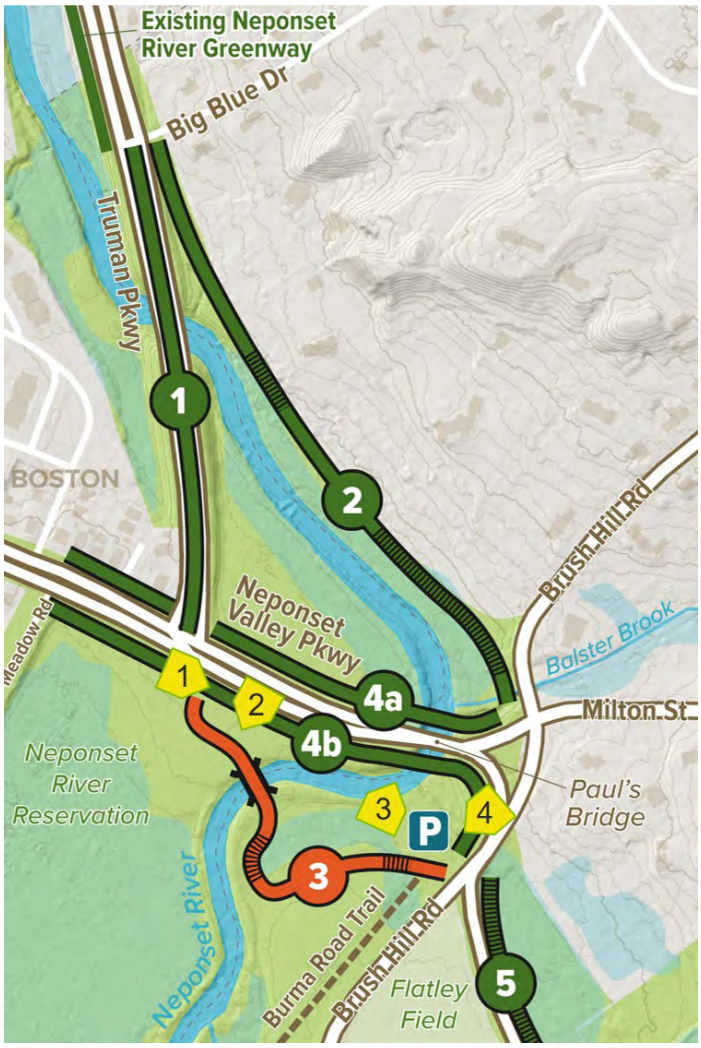


Figure 27: Segment 3 - South of Neponset Valley Parkway

Photo: Looking north at Paul's Bridge

Photo: Looking south to the Burma Parking Area

Segment 3 runs south of Neponset Valley Parkway from the intersection of Truman Parkway and Neponset Valley Parkway to the Burma Road Parking Area.

With the exception of the existing parking area, this Segment passes through undeveloped land of the Fowl Meadow ACEC. As such there are many sensitive environmental resources (see Figure 28). See Attachment D for a full description of these sensitive areas.

Segment 3 would also cross through areas that have been identified as having high archaeologically sensitive land (see Figure 29). See Attachment D for a full description of these sensitive areas.

Figure 28: Segment 3 - Environmentally Sensitive Areas

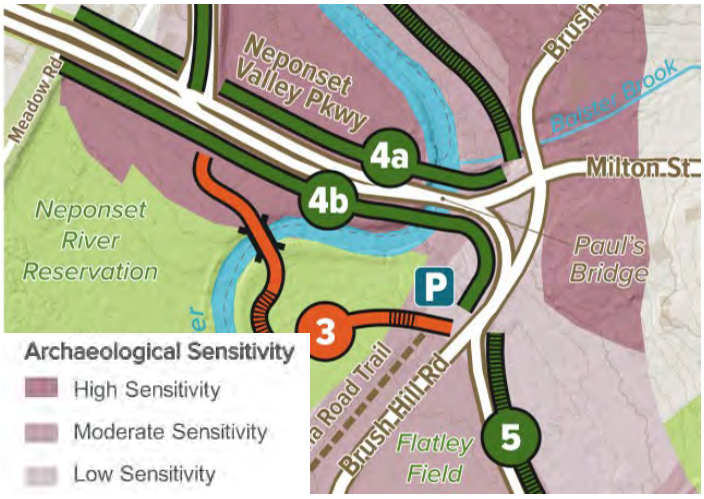
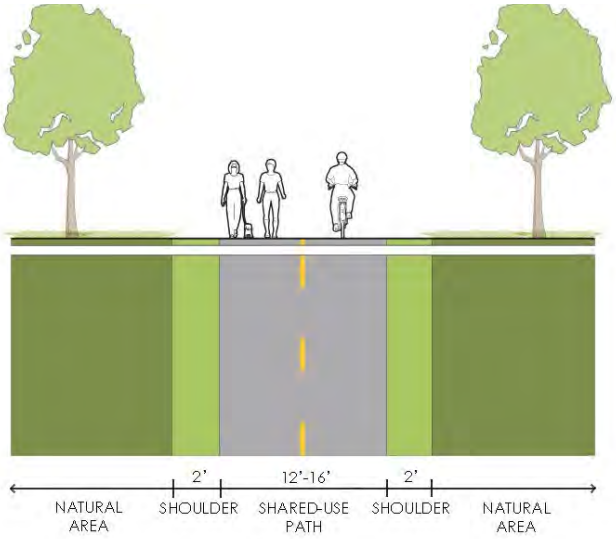


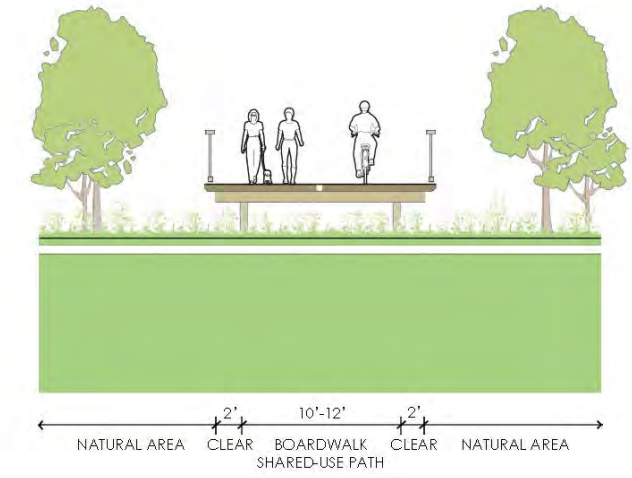
Figure 29: Segment 3 - Archaeologically Sensitive Areas

Segment 3 proposes constructing a 12'-16' shared-use path on-grade with sections of boardwalk through wetlands - only where they cannot be avoided (see Section H-H' and Section I-I'). A bridge would be required to cross the Neponset River (see Bridge Crossing J).

Segment 3 - Sections Key Plan

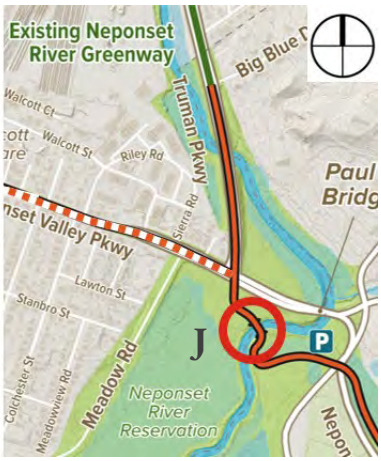


Section H-H' - Typical Shared-use Path on grade



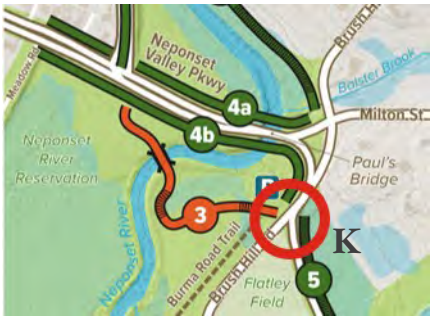
Section I-I' - Typical Shared-use Path as Boardwalk

The connection between Segment 3 and Segment 5 is an opportunity to greatly improve the intersection of Neponset Valley Parkway and Brush Hill Road. Design options will be developed with the preferred plan for safe shared-use path crossing and safe vehicular movements. See Intersection K sketch for one example.



Segment 3 - Bridge Key Plan

Photo: Bridge Crossing J - Example DCR Harvest River Bridge



Segment 3 - Intersection Key Plan

Photo: Bridge Crossing J - Example DCR Charles River Bike Path Bridges

Intersection K - Example Location at Brush Hill Road and Neponset Valley Parkway

Segment 4a - Paul's Bridge, North

Segment 4a runs east along the north side of Neponset Valley Parkway and Paul's Bridge.

The areas adjacent to Neponset Valley Parkway and Paul's Bridge include several environmentally sensitive areas and high archaeologically sensitive areas. However, since Segment 4a primarily uses previously disturbed land there will be minimal impacts to these sensitive areas (see Figure 30 and Figure 32). See Attachment D for a full description of these sensitive areas.

Figure 30: Segment 4a - Paul's Bridge, North

Photo: Looking north-east

Photo: Looking north-west

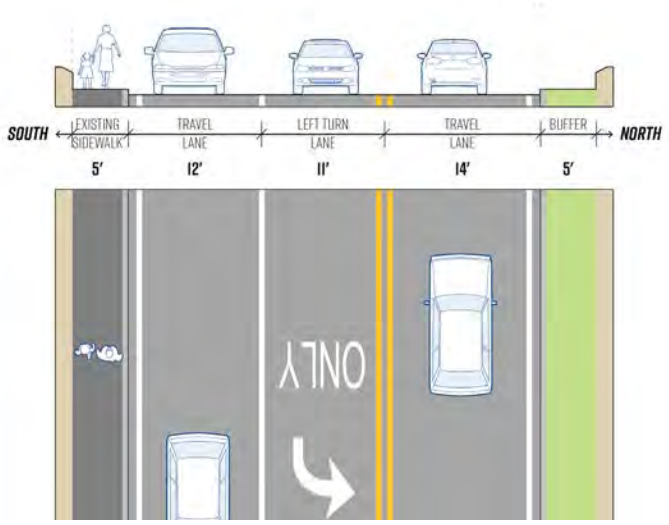
Figure 31: Segment 4a - Diagram of Key Environmentally Sensitive Areas

Figure 32: Segment 4b - Diagram of Key Archaeologically Sensitive Areas

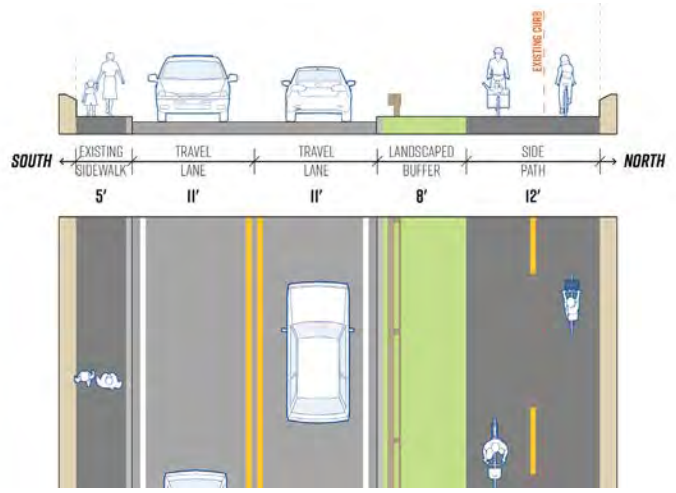
Segment 4a - Sections Key Plan

Currently the north side of Paul's Bridge has a five-foot buffer from the side wall and has recently been paved. The bridge's current configuration includes an eastbound travel lane, an eastbound left turn lane, and a westbound travel lane (see Section L-L').

Segment 4a removes the eastbound left turn lane to accommodate a 12' shared-use path and 8' buffer with guardrail on the north side of the bridge.



Section L-L' - Paul's Bridge Existing Conditions



Section L-L' - Paul's Bridge Proposed Conditions for Segment 4a

To connect with Segment 5, Segment 4a requires additional crosswalks and routing through the intersection of Neponset Valley Parkway, Milton Street, and Brush Hill Road (See Intersection M).

Segment 4a - Intersection Key Plan

Intersection M - Potential Configuration at Neponset Valley Parkway, Milton Street and Brush Hill Road

Segment 4b - Paul's Bridge, South

Segment 4b is another option to connect Segment 1 to the east along Neponset Valley Parkway.

The existing conditions are the same for Segment 4b as for Segment 4a. See Attachment E for a full description of the sensitive areas.

Photo: Looking west on Paul's Bridge

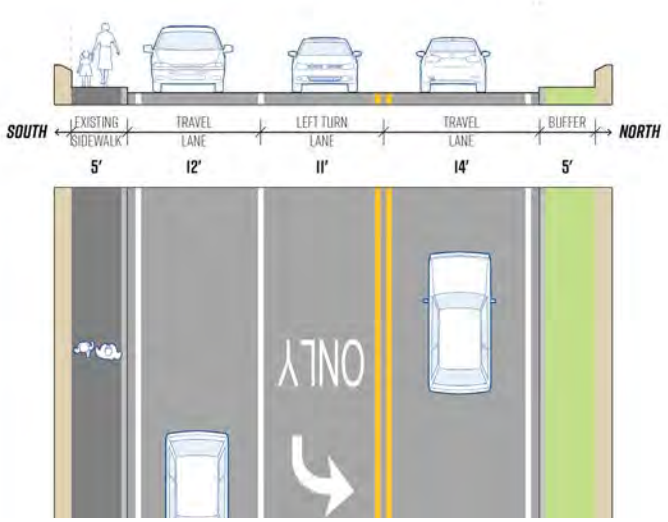
Photo: Looking North towards Paul's Bridge

Figure 33: Segment 4b - Paul's Bridge, South

Segment 4b - Sections Key Plan

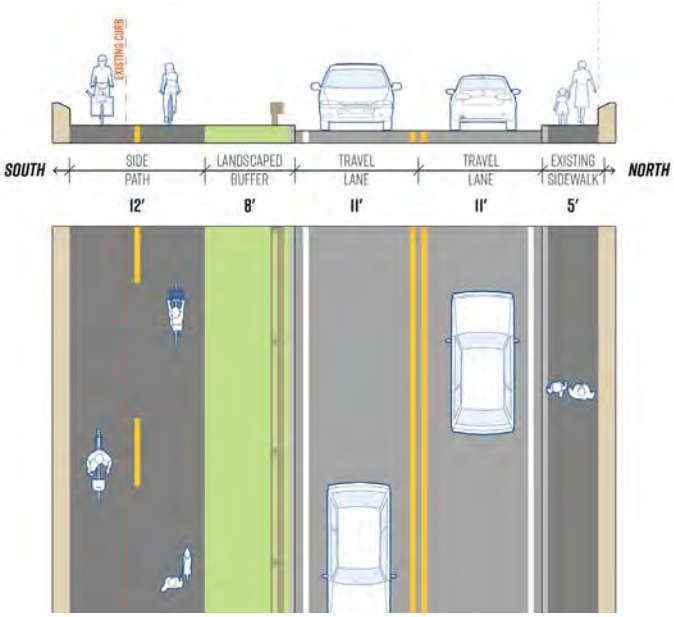
The south side of Paul's Bridge currently has a 5' sidewalk without buffer (see Section L-L'). Like Segment 4a, this alternative removes the eastbound left turn lane. Segment 4b includes a 12' shared-use path and 8' buffer with guardrail on the south side of the bridge (see Section L-L').

Segment 4b also traverses the Neponset Valley Parkway, Milton Street and Brush Hill Road intersection, and it requires an additional crossing to connect with Segment 5. Similar to Segment 3, connecting Segment 4b and Segment 5 is an opportunity to greatly improve the intersection of Neponset Valley Parkway and Brush Hill Road. Design options will be developed with the preferred plan for safe shared-use path crossing and safe vehicular movements (see Intersection M sketch below for one option).



Section L-L' - Paul's Bridge Existing Conditions

Segment 4b - Intersection Key Plan



Section L-L' - Paul's Bridge Proposed Conditions for Segment 4b

Intersection M - Potential Configuration at Neponset Valley Parkway, Milton Street and Brush Hill Road

Segment 5 - Neponset Valley Parkway, Southeast

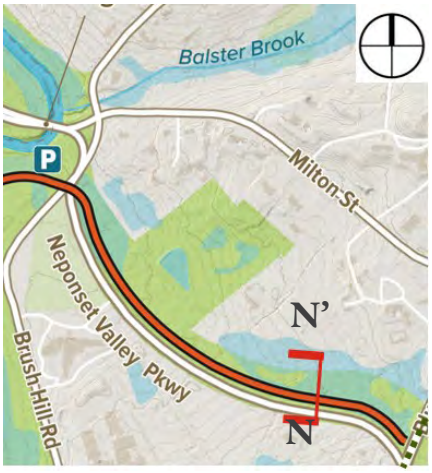
Segment 5 runs along the north side of Neponset Valley Parkway east of Brush Hill Road. DCR owns not only the parkway but also a large swath of land on the north side of the road. The additional land allows for this Segment to meander and potentially connect to a larger open space to the north-east.

With the exception of the existing walkway, this Segment passes through undeveloped lawn and wooded areas within the ACEC with wetlands and other environmentally sensitive areas. This Segment also passes through some low archaeologically sensitive areas. See Attachment E for a full description of these sensitive areas.

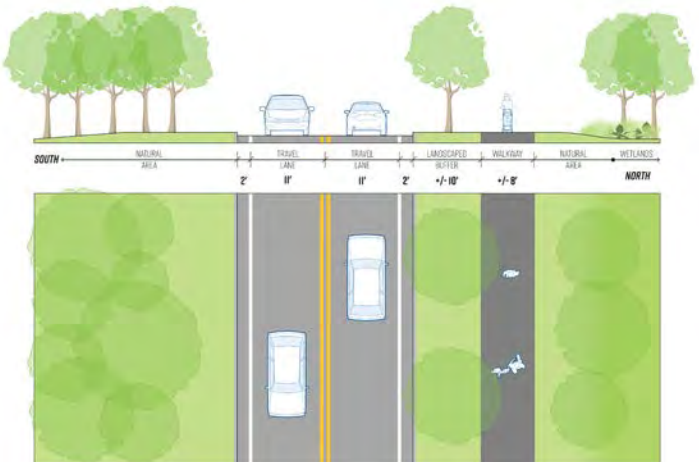
This Segment widens the existing walkway to 12'-16' with an 8' landscaped buffer. It also includes boardwalk in sections that traverse wetlands (See Section N-N'). Route 138 would be used to make the final connection to the Blue Hills Trailside Museum.

Figure 34: Segment 5 - Neponset Valley Parkway, Southeast

Photo: Looking northwest on Neponset Valley Parkway

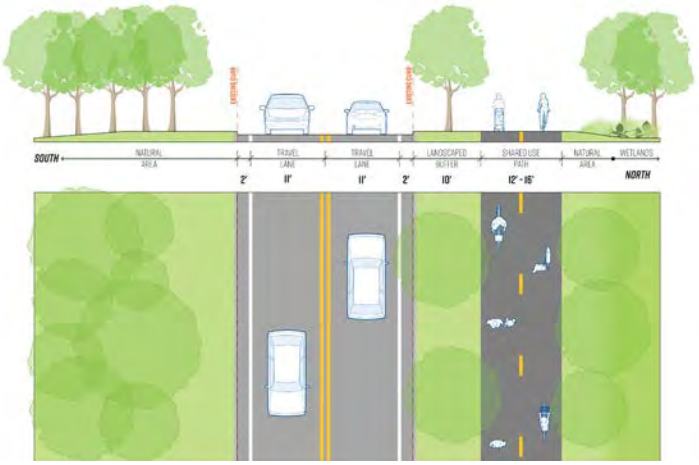


Segment 5 - Intersection Key Plan



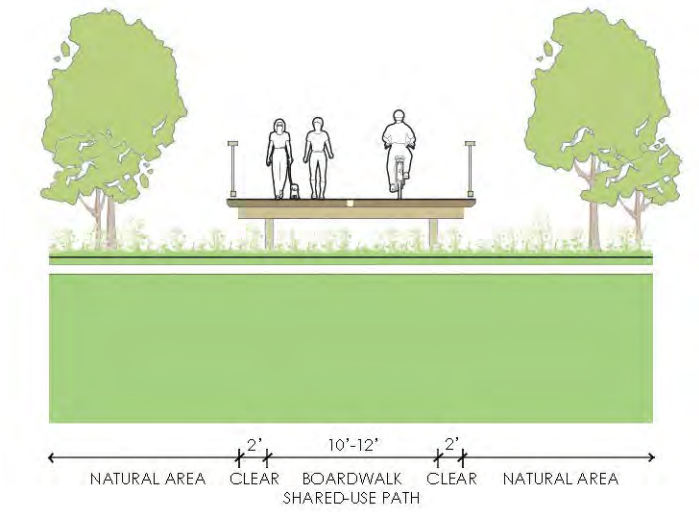
Section N-N' - Neponset Valley Parkway Existing Conditions

Photo: Segment 5 - Neponset Valley Parkway Existing Condition



Section N-N' - Neponset Valley Parkway Proposed Conditions

Photo: Segment 5 - Neponset Valley Parkway Proposed Condition



Section N-N' - Typical Shared-use Path as Boardwalk

Potential Routes

Possible Routes were developed by pairing sequentially located path Segments. Connection with the Existing Neponset River Greenway can be made with either Segment 1: Truman Parkway or Segment 2: East of Truman Parkway. Segment 2 can only be cohesively paired with Segment 5: Neponset Valley Parkway, southeast.

Segment 1: Truman Parkway can be paired with Segment 3: South of Neponset Valley Parkway, Segment 4a: Paul's Bridge North, or Segment 4b: Paul's Bridge South. Each of those can then connect with Segment 5: Neponset Valley Parkway, Southeast.

Altogether, four alternative Routes were identified from the different Segment combinations. The Routes were each given a color to be easily distinguished on the map (see Figure 35).

Orange Route: 1. Truman Parkway + 3. South of Neponset Valley Parkway + 5. Neponset Valley Parkway,Southeast

Yellow Route: 1. Truman Parkway + 4a. Paul's Bridge, North + 5. Neponset Valley Parkway,Southeast

Blue Route: 1. Truman Parkway + 4a. Paul's Bridge, South + 5. Neponset Valley Parkway, Southeast

Green Route: 2. East of Truman Parkway + 5. Neponset Valley Parkway, Southeast

Figure 35: Map of Potential Routes

Evaluation

The project team evaluated each of the Segments 1, 2, 3, 4a and 4b to develop a score that was well-informed, and considered multiple perspectives. Segment 5 was not evaluated as it is the only Segment that makes the connection to the planned shared-use path along Route 138.

Scores between 1 to 5 were given for each Segment for each criteria indicating lesser or greater conformance, respectively, with the Criteria and thereby the Objectives. The table below shows the final scores for each Segment. The scores were averaged for each Objective and then totaled for each Segment. See Figure 36 for the final tallies.

OBJECTIVES	SEGMENT 1 TRUMAN PKWY	SEGMENT 2 EAST OF TRUMAN PKWY	SEGMENT 3 SOUTH OF NEPONSET VALLEY PKWY (WEST)	SEGMENT 4A PAUL'S BRIDGE NORTH	SEGMENT 4B PAUL'S BRIDGE SOUTH
ENHANCED COMMUNITY CONNECTIVITY	3	2.5	3.5	3	3
IMPROVED ACCESS TO RECREATION AND HEALTHY LIVING FOR ALL	2	4	4.7	2	2
SAFETY + CONVENIENCE	3.7	3	3.7	3	3.7
PRESERVATION OF NATURAL RESOURCES	4.1	4.1	2.9	4.1	3.9
PROTECTION OF HISTORIC + ARCHAEOLOGICAL AREAS	2.7	2.3	2.3	3	3
CLIMATE RESILIENCY	4.7	2	2.7	3.3	3
STRAIGHTFORWARD IMPLEMENTATION + MAINTENANCE	3.5	3.5	3.25	2.5	2.5
TOTAL SCORE	23.6	21.4	23	21	21.2

Figure 36: Table of Evaluation Results

Scores

The Segment scores were compared in light of the potential Routes discussed in section 2.2 Potential Routes.

Connections to Neponset River Greenway were compared:

Segment 1 scored 23.6 and Segment 2 scored 21.4.

With Segment 1 having the higher score, connections between Segment 1 and Segment 5 were compared:

Segment 3 scored 23, Segment 4a scored 21, and Segment 4b scored 21.2.

Thus the **Orange Route** was identified as being the alignment that best meets the project Objectives and the Project Goal of providing a route with greater community connections between Neponset River Greenway's southern end and the Blue Hills Trailside Museum.

Pros and Cons

Segment 1: Truman Parkway is direct, uses previously impacted land, reduces impervious pavement, has room for trail amenities, and can easily be patrolled and accessed for maintenance or emergencies. The Segment does have the disadvantage of being along the road, which is a less comfortable condition, and requires two busy road crossings along with roadway reconfiguration.

Segment 3: South of Neponset Valley Parkway has the advantages of room for trail amenities, being located away from road noise and traffic, providing facilities for walkers, joggers, rollers and boaters, and providing a unique opportunity for users to experience up close the diverse environment of the Neponset River. The disadvantages of this Segment include being less direct, somewhat difficult to view and patrol, requiring a bridge over Neponset River, traversing ACEC and archaeological areas, having potential impacts to wetlands, and needing to cross busy Neponset Valley Parkway.

OBJECTIVES	SEGMENT 1 TRUMAN PKWY	SEGMENT 2 EAST OF TRUMAN PKWY	SEGMENT 3 SOUTH OF NEPONSET VALLEY PKWY (WEST)	SEGMENT 4A PAUL'S BRIDGE NORTH	SEGMENT 4B PAUL'S BRIDGE SOUTH
ENHANCED COMMUNITY CONNECTIVITY	3	2.5	3.5	3	3
IMPROVED ACCESS TO RECREATION AND HEALTHY LIVING FOR ALL	2	4	4.7	2	2
SAFETY + CONVENIENCE	3.7	3	3.7	3	3.7
PRESERVATION OF NATURAL RESOURCES	4.1	4.1	2.9	4.1	3.9
PROTECTION OF HISTORIC + ARCHAEOLOGICAL AREAS	2.7	2.3	2.3	3	3
CLIMATE RESILIENCY	4.7	2	2.7	3.3	3
STRAIGHTFORWARD IMPLEMENTATION + MAINTENANCE	3.5	3.5	3.25	2.5	2.5
TOTAL SCORE	23.6	21.4	23	21	21.2

FALLS SHORT → MEETS CRITERIA

Figure 37: Table of Evaluation Results

ROUTE 138 PRIORITY CORRIDOR STUDY

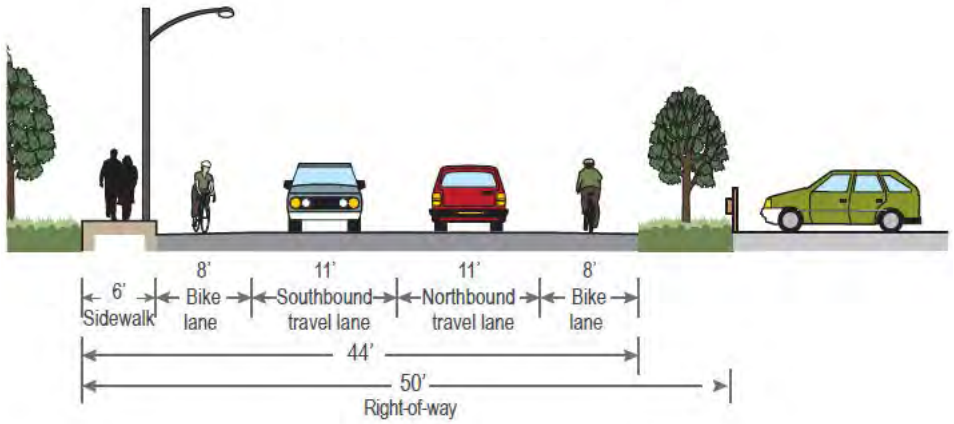
A study by the Boston Region Metropolitan Planning Organization (MPO) selected Route 138 in the Town of Milton to conduct a corridor study identified as part of the Long-range Transportation Plan, regional needs assessment. This corridor was selected based on the following factors: the need to address poor safety conditions and traffic congestion; the desire to enhance multi-modal transportation; the need to maintain regional travel capacity; the interest in ensuring that, over time, corridor studies secure funding, and recommendations from the study can be implemented.

Route 138 in Milton is a two-way, two-lane principal arterial under the jurisdiction of the Massachusetts Department of Transportation (MassDOT). The Town of Milton has jurisdiction of the majority of the crossing streets. The Department of Conservation and Recreation (DCR) has jurisdiction of Green Street and Neponset Valley Parkway; DCR also oversees the Blue Hills Recreational area.

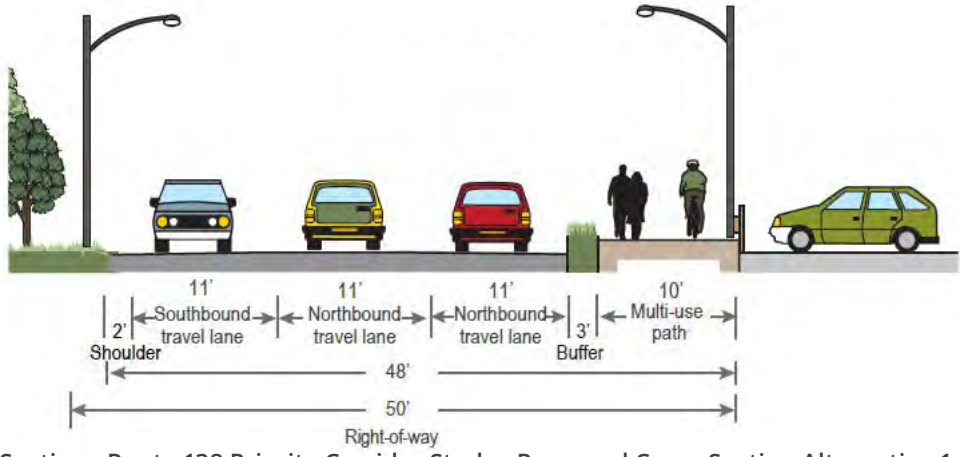
The MassDOT Highway Division, Town of Milton, and Boston Region MPO collected and assembled the data used to assess the existing conditions and identify problems in the corridor, which included vehicular, pedestrian, and bicycle volumes, traffic speeds, crashes, zoning and land uses, and community input data (community survey).

MPO staff, working with an advisory task force (representatives from MassDOT and Town of Milton), developed Complete Streets concepts for the corridor. As part of this study, two alternatives evaluated different roadway cross-sections to improve safety and, operations, and make the roadway more pedestrian and bicycle friendly. The existing 50' right-of-way from west to east includes a 6' sidewalk, an 8' bicycle lane, two 11' travel lanes, an 8' bicycle lane, and a 6' buffer. Alternative 1 re-purposes the existing 6' sidewalk and 8' bicycle lanes within the right-of-way to accommodate a 10' multi-use path on the east side with a 3' buffer. Alternative 1 also includes the addition of an 11' northbound travel lane. Alternative 2 re-purposes the right-of-way to include a 6' sidewalk on the east side and modifies the northbound / southbound bicycle facilities to on-road 5' bicycle lanes with 2' buffers. Refer to Figure X Cross Section Alternatives.

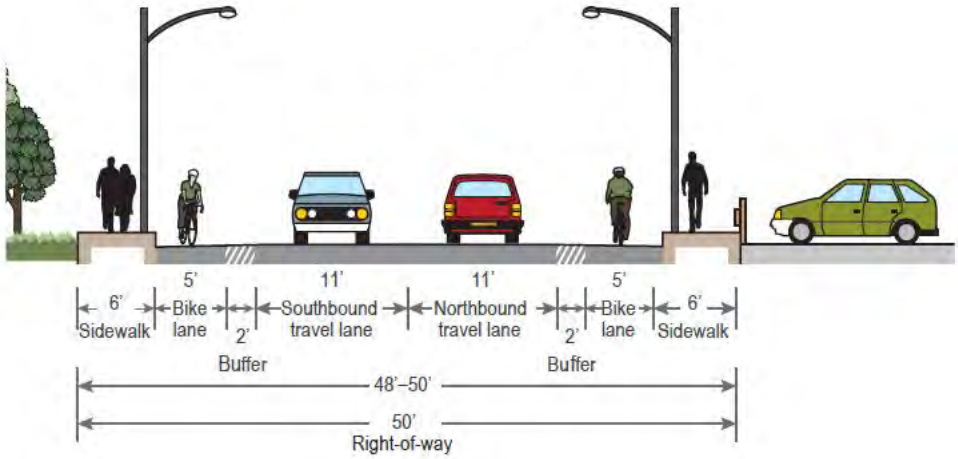
The proposed non-motorized facilities on Route 138 would be used to connect the new shared-use path to the Blue Hills Trailside Museum. A preferred alternative should be identified and will depend on collaboration between MassDOT, DCR, the Town of Milton, and the Boston Region MPO. The planning study provides necessary information for the project proponents to initiate corridor funding with the MPO and begin preliminary design and engineering with the preferred alternative.



Section - Route 138 Priority Corridor Study - Existing Cross-Section at Blue Hills Reservation Parking Lot



Section - Route 138 Priority Corridor Study - Proposed Cross-Section Alternative 1 at Blue Hills Reservation Parking Lot



Section - Route 138 Priority Corridor Study - Proposed Cross-Section Alternative 2 at Blue Hills Reservation Parking Lot

2.4 Neponset River Greenway to Readville: Feasibility

NRG to Readville: Evaluation Process

The Evaluation Process for potential routes to Readville Station followed a similar process as Neponset River Greenway to Blue Hills Museum. At a minimum, the preferred path must meet applicable design standards for accessibility and safety. The standards for this portion of the project include:

Design Standards

At a minimum the preferred path must meet applicable design standards as described in Chapter 1 and outlined in the chart below.

Evaluation Criteria

Criteria were developed to evaluate which Potential Route could best meet each of the stated objectives. The evaluation criteria from described for the Blue Hills connection were used as a starting point, the criteria were then modified to better value alternatives for a path next to a roadway.

Shared-use Path Design Standards:

- Two-way travel
- Meets accessibility guidelines, paved
- 12'-16' wide *
- 2'-3' clear shoulders
- 10' min. overhead clearance

The degree to which the Criteria are met determined the extent to which a path Route supports the agreed-upon Objectives. The evaluation criteria for each of the seven objectives are shown below and on the following page:

Objective 1

Provides relatively easy connections to community destinations. The distant and ease of connecting to community destinations the Route can make by non-motorized means.

Objective 2

Provides a sense of personal comfort. Distance from uncomfortable conditions, such as heavy traffic, as well as separation of modes.

Objective 3

Minimizes vehicular conflicts and road crossings. The quantity and quality of road and driveway crossings.

Objective 4

Minimizes impacts to environmentally sensitive areas. Degree of avoidance of or impacts to Environmental Resource Areas and other protected environments.

Objective 5

Minimizes impacts to archaeologically sensitive areas (except NVP). The degree to which a Route avoids a high, medium, and low archaeological sensitive area.

Provides direct connections to publicly accessible historic resources. The quantity of direct connections to historic resources.

Objective 6

Minimizes stormwater runoff and include green infrastructure. The degree to which the Route will reduce impervious areas and to which the Route should accommodate green infrastructure to manage stormwater.

Preserves existing tree canopy. The degree of impact to existing street trees that would need to be cleared for the construction of the segment.

Objective 7

Maintains current traffic operations. The degree to which a Route requires roadway reconfigurations or impacts current traffic operations.

Is easy to construct and maintain. Existing physical challenges or the need for extensive or complicated construction materials or techniques.

Has reasonable estimated construction costs. Probably construction cost per linear foot relative to the benefit of the Route.

Evaluation Matrix

A matrix was developed for scoring the Routes. Scores between 1 and 5 were given for each Route for each criteria indicating lesser or greater conformance, respectively, with the criteria. The results are described at the end of this Chapter.

Feasibility Study Opinions of Probable Construction Costs

To understand the degree to which a Route met Objective 7, the relative probably construction costs were determined. Below is a summary of the cost estimating process at the Feasibility Study level. The actual Feasibility Study Opinion of Probably Construction Costs are included in Attachment F.

Process

The process for construction costs for the Readville shared-use path was similar to the Neponset River Greenway to Blue Hills process: cost estimates for typical cross-section trail type were developed and then applied to the length of the Route as appropriate. These Cross-Section Trail Types and typical trail cross-sections are provided below.

Cross-Section Trail Type

Category	Type	Section	Route	Cross-Section Description	
Shared-use Path along Neponset Valley Parkway	1.1	A	Green	At existing curb: 7' landscape buffer + 12' paved path + 3' rehabilitated lawn, wood guardrail two sides	Section A West of Truman Green Route
	1.2	A	Orange	At existing curb: new drainage, 10' landscape buffer + 12' paved path, wood guardrail two sides	Section A West of Truman Orange Route
	2.1	B	Orange	New curb line (VGC, drainage, pavement patch), 6' landscape buffer + 12' paved path + 8' rehabilitated lawn, one row of new trees, wood guardrail two sides	Section B East of Riley Orange
	2.2	B	Yellow	New curb line (VGC, drainage, pavement patch), 6' landscape buffer + 12' paved path + 4.5' rehabilitated lawn, one row of new trees, wood guardrail two sides	Section B East of Riley Yellow
	2.3	C	Orange, Yellow	New curb line (VGC, drainage, pavement patch), 6' landscape buffer + 12' paved path + 5' rehabilitated lawn, two rows of new trees, wood guardrail two sides	Section C Fire Station Orange and Yellow Routes
	3.1	A	Blue	New curb line both sides (VGC, drainage, pavement patch), 6' landscape buffer + 12' paved path + 2' rehabilitated lawn, one row of new trees, wood guardrail two sides	Section A West of Truman Blue Route
	3.2	A	Yellow	New curb line both sides (VGC, drainage, pavement patch), + new drainage, 16' of landscape buffers + 12' paved path, one row of new trees, wood guardrail two sides	Section A West of Truman Yellow Route
	3.3	C	Blue	New curb line both sides (VGC, drainage, pavement patch) + 10' of landscape buffers + 12' paved path + 3' rehabilitated lawn, new trees one side, , wood guardrail two sides	Section C Fire Station Blue Route
	3.4	C	Green	New curb line both sides (VGC, drainage, pavement patch) + 2' landscape buffer + 12' paved path + 4' rehabilitated lawn, wood guardrail two sides	Section C Fire Station Green Route
	4.1	D	Orange	New curb line (VGC, drainage, pavement patch) + 10' of paver bands + 12' paved path, wood guardrail two sides, NO LANDSCAPING	Section D Underpass Orange
	4.2	D	Blue	New curb line both sides (VGC, drainage, pavement patch) + 9.5' of paver bands + 14' paved path, wood guardrail two sides, NO LANDSCAPING	Section D Underpass Blue

Linear Foot Costs

Route	Cost per LF	Total Cost	LF
Orange	$ 2,224	$ 5,839,249	2,625
Blue	$ 2,414	$ 6,337,387	2,625
Yellow	$ 2,557	$ 6,712,089	2,625
Green	$ 2,359	$ 6,191,622	2,625

NRG to Readville: Shared Use Path Alternatives

Potential Sections

The potential shared-use path from the Neponset Valley Parkway at Truman Parkway intersection to Readville Station was broken down into four sections to better convey the different alternatives along the corridor. As described in above, the initial evaluation based on the minimum Design Standards results in up to four alternatives for each section.

Section O-O' is a cross-section from west of Truman Parkway where there are four vehicle travel lanes separated by a landscaped median.

Section P-P's is a cross-section from east of Riley Road, where there are two vehicle travel lanes.

Section Q-Q' is a cross-section from outside of the Fire Station, showing the area where the two eastbound travel lanes merge down to one.

Section R-R' is a cross-section from the underpass of the MBTA rail bridge.

Section S-S' is a cross-section from Prescott Street that will further community connections in the neighborhood, further described below.

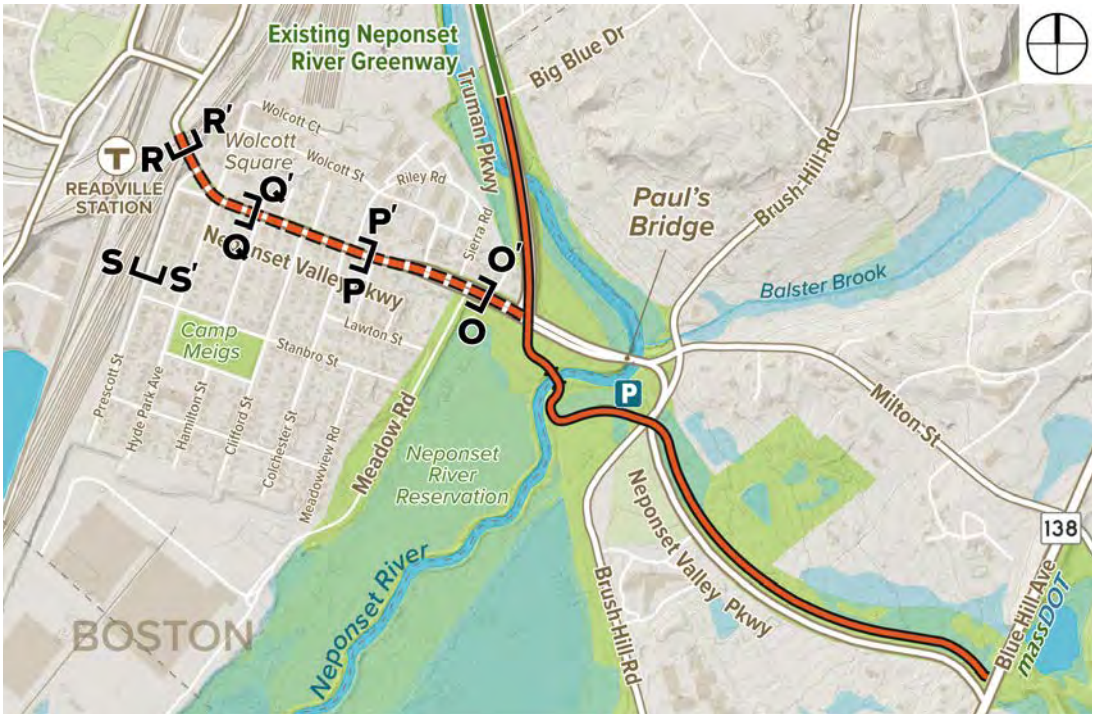


Figure 38: Neponset River Greenway to Readville: Sections Key Plan

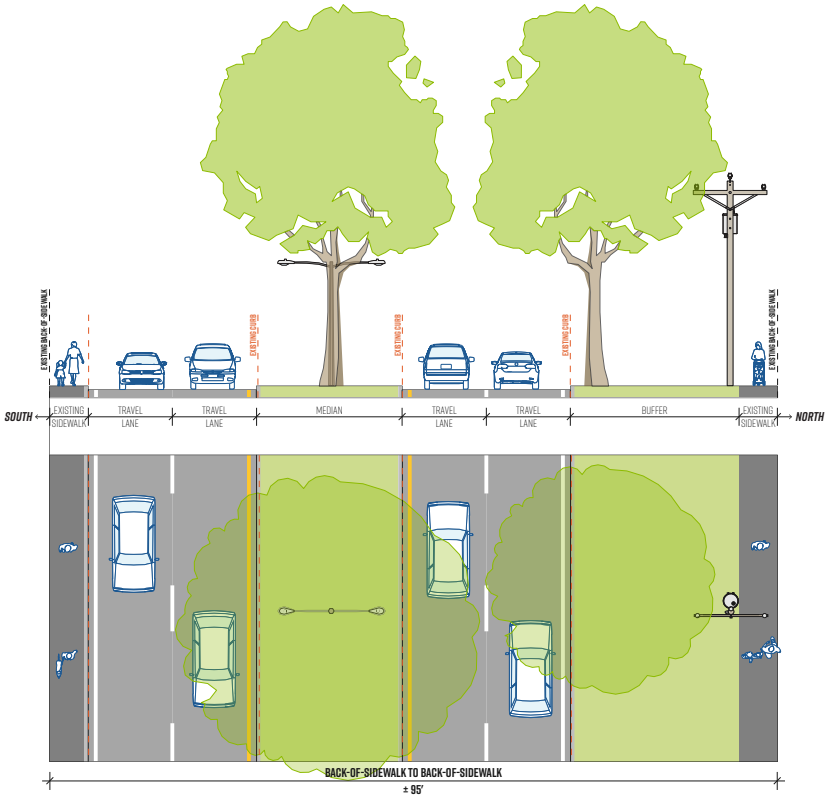
Section O-O' West of Truman

Existing

Section O-O' generally refers to the segment of Neponset Valley Parkway just west of Truman Parkway. This section consists of four vehicle travel lanes divided by a landscaped median, approximately 19 feet wide. Sidewalks are present on both sides of the road, approximately 5 feet wide. The northern sidewalk has a wide landscaped buffer separating it from the travel lanes, however the southern sidewalk has no buffer.

Photo: NVP west of Truman, looking east

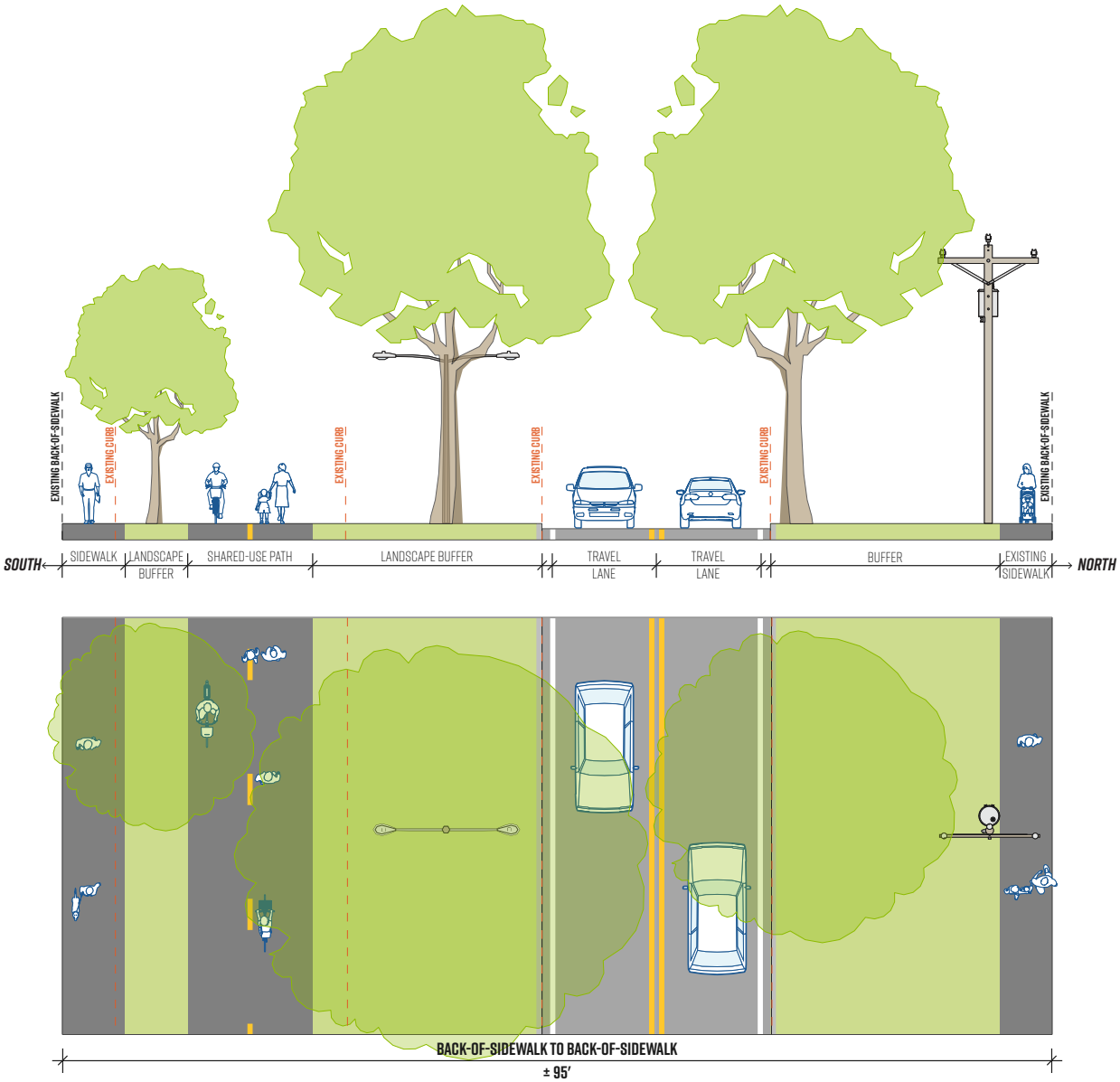
Photo: NVP west of Truman, looking west



Section O-O' - Neponset Valley Parkway West of Truman - Existing Section

Potential Orange Section O-O' West of Truman

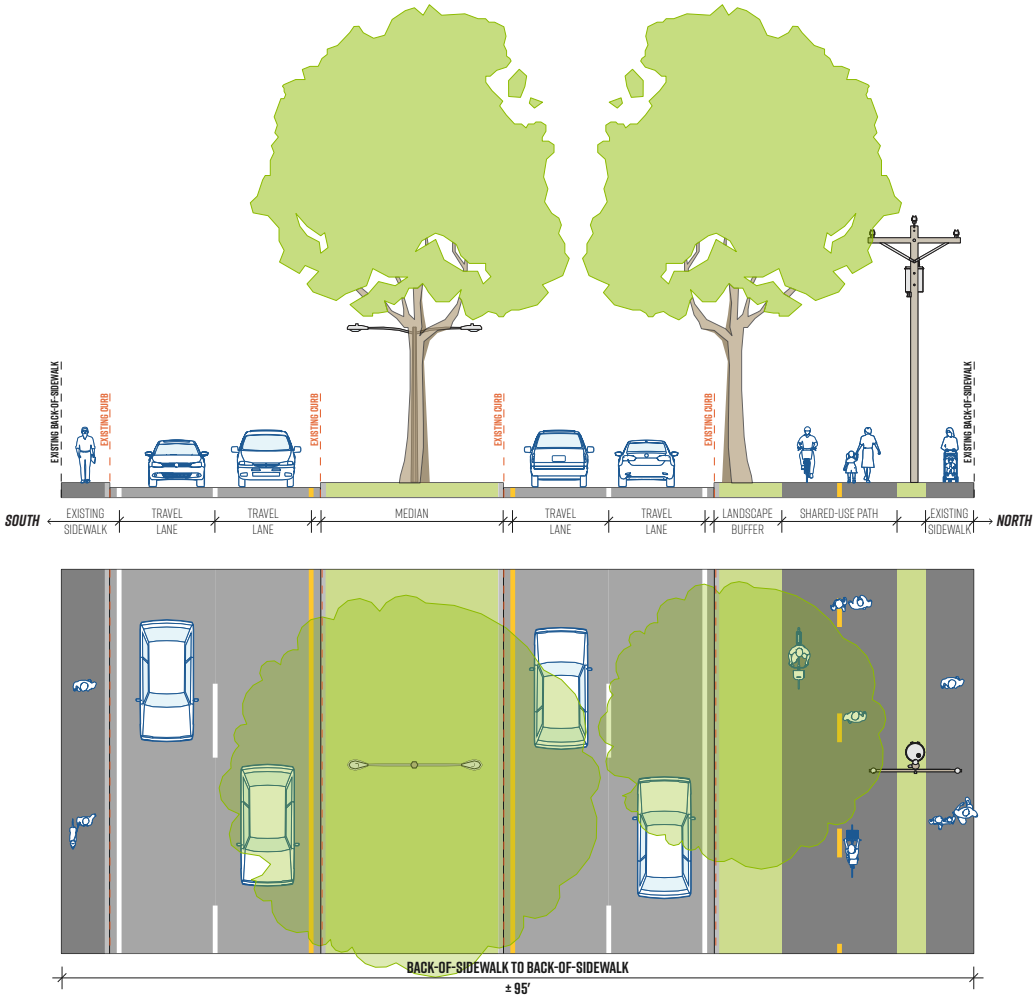
Potential Orange Section O-O' reallocates pavement south of the median for a shared used path, expanded sidewalk, and expanded landscaped buffers. Similar to Truman Parkway, all vehicle traffic would be moved to north of the existing median.



Section O-O' - Neponset Valley Parkway West of Truman- Potential Orange Section

Potential Blue Section O-O' West of Truman

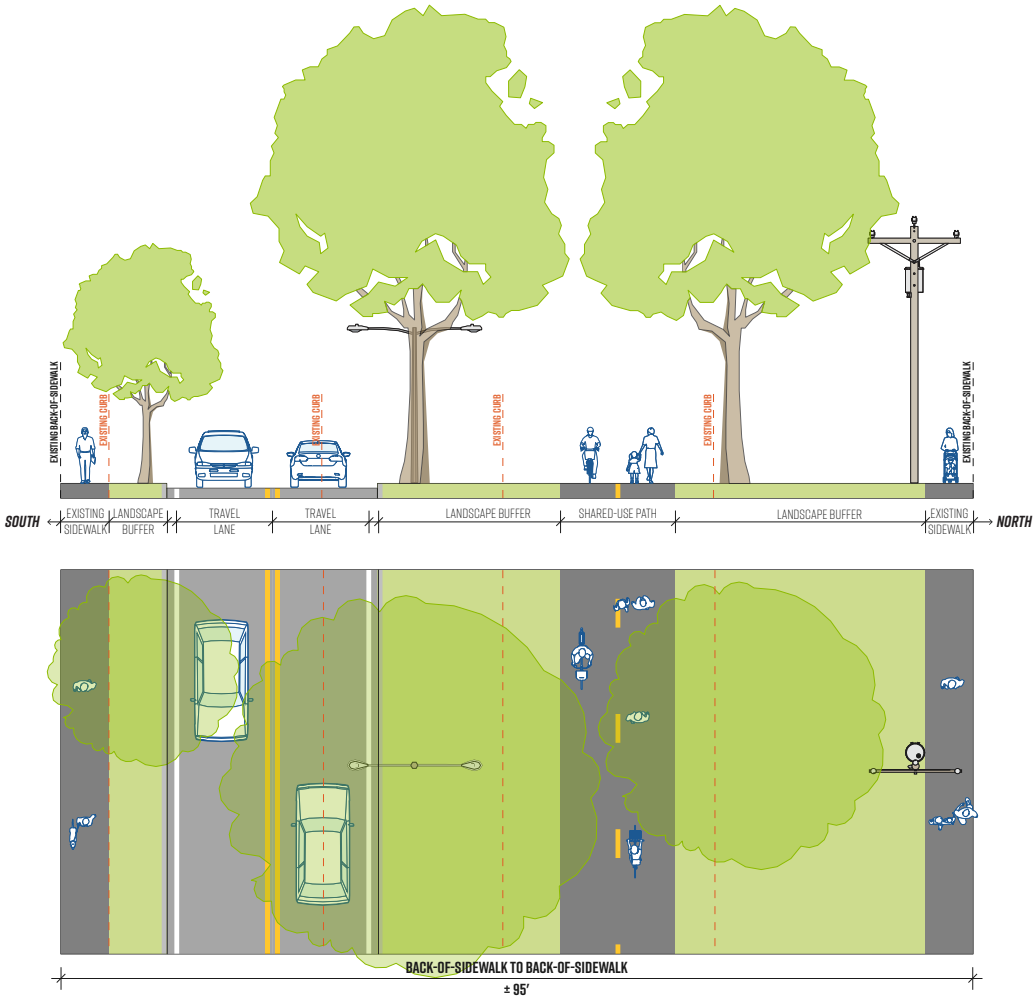
Potential Blue Section O-O' maintains four vehicle travel lanes. To provide a shared use path on the north side of the road, space is reallocated from the existing landscaped buffer to provide a path.



Section O-O' - Neponset Valley Parkway West of Truman - Potential Blue Section

Potential Yellow Section O-O' West of Truman

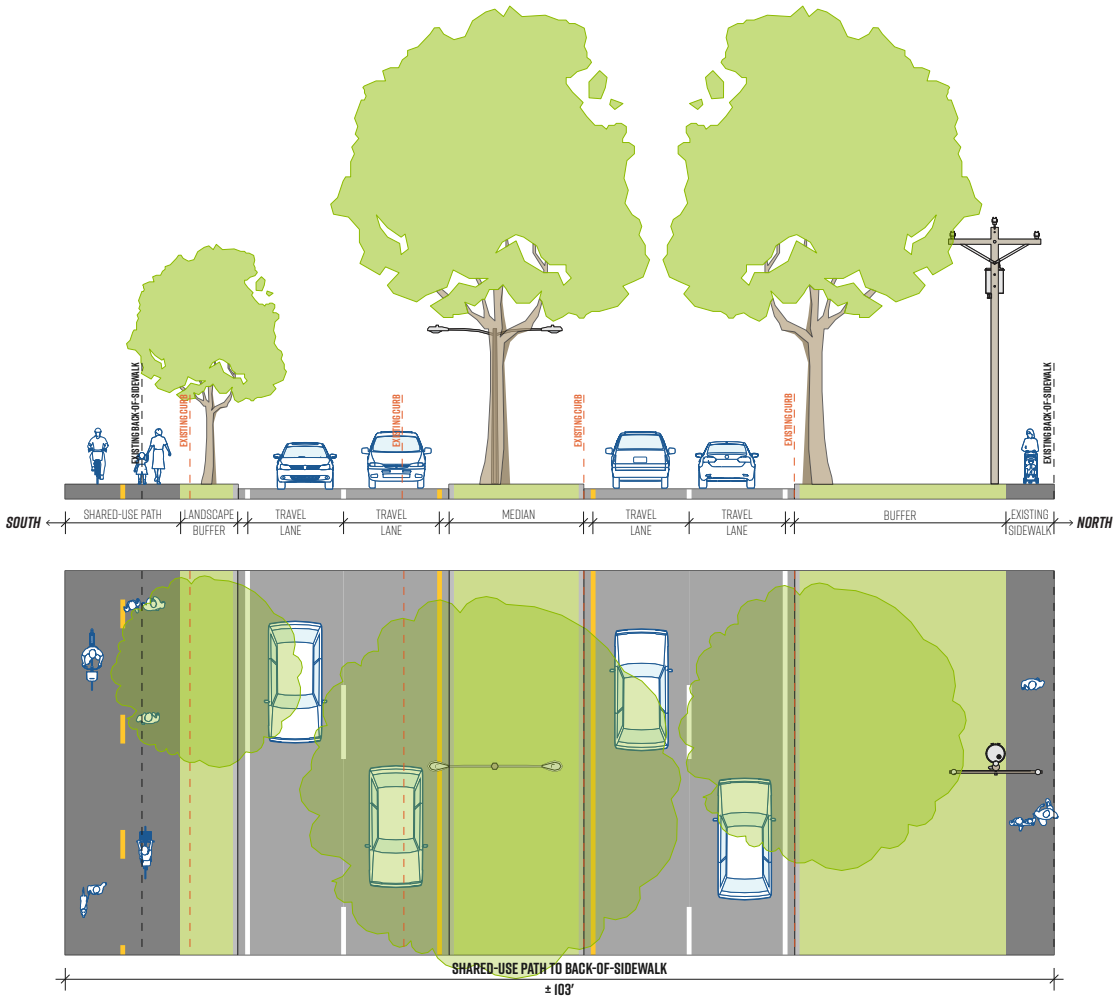
Potential Yellow Section O-O' reallocates pavement north of the median for a shared use path and expanded landscaped buffers. Similar to Truman Parkway, all vehicle traffic would be moved to south of the existing median.



Section O-O' - Neponset Valley Parkway West of Truman - Potential Yellow Section

Potential Green Section O-O' West of Truman

Potential Green Section O-O' maintains four vehicle travel lanes. To provide a shared use path on the south side of the road, space is reallocated from the existing median and sidewalk to provide a path and landscaped median. Additionally, space beyond the back of sidewalk on the south side would be needed to accommodate everything.



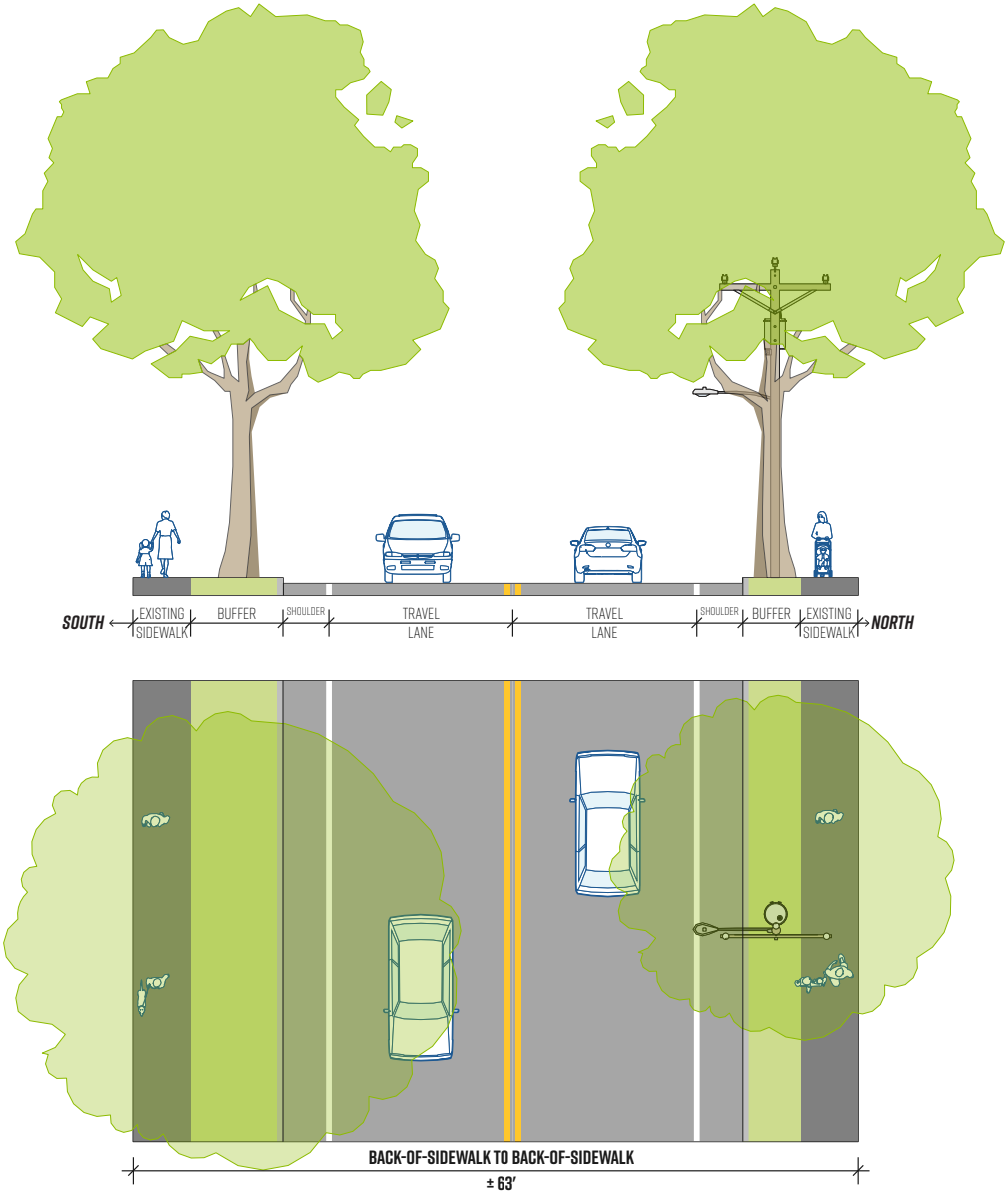
Section O-O' - Neponset Valley Parkway West of Truman - Potential Green Section

Section P-P' East of Riley Road

Existing

Section P-P' generally refers to the segment of Neponset Valley Parkway just east of Riley Road. This section consists of two 16-foot travel lanes and two 4-foot shoulders. Five-foot sidewalks are present on both the north and south side of the street, each with a landscaped buffer of 5 feet and 8 feet, respectively.

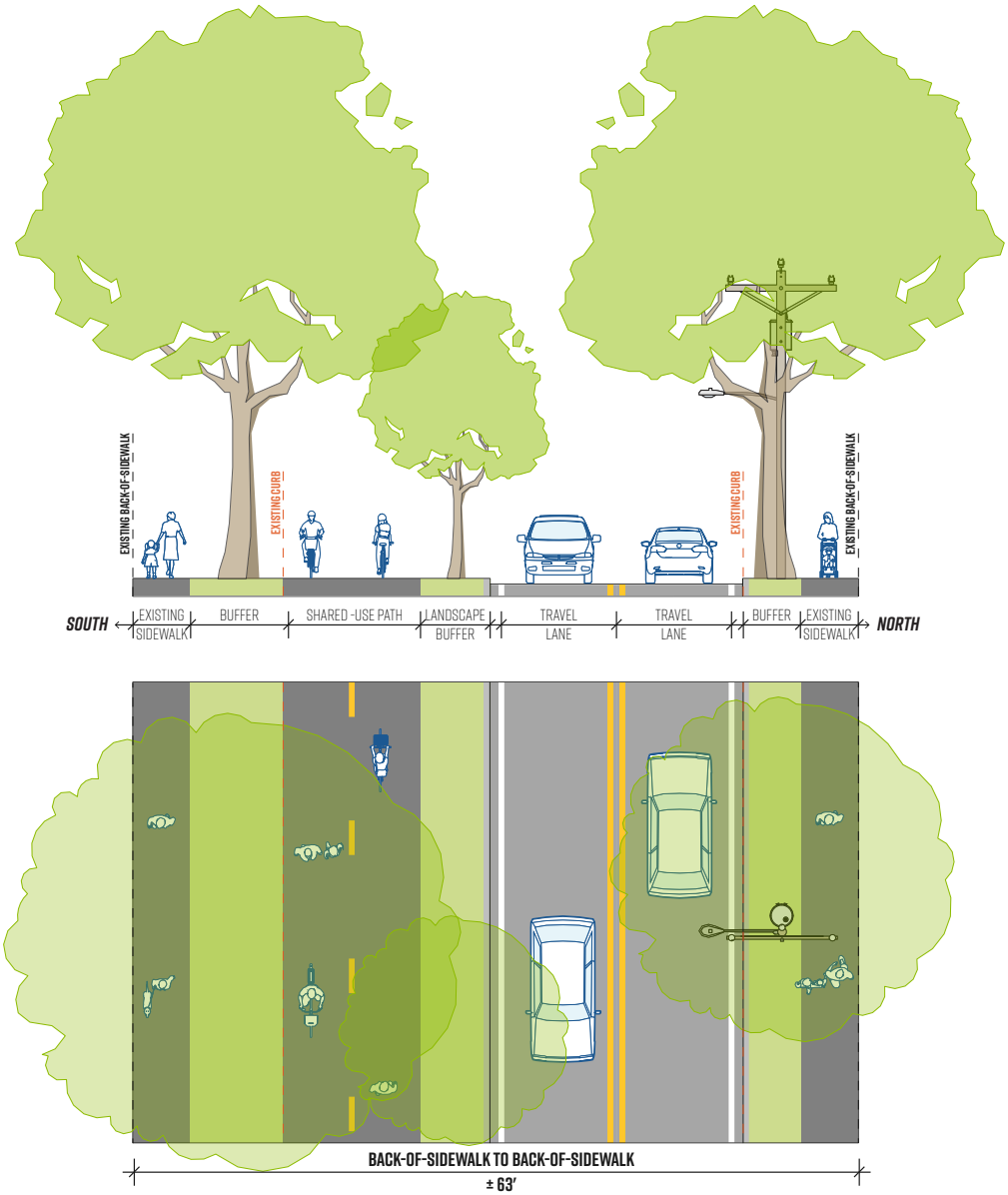
Photo: NVP East of Riley, looking east



Section P-P' - Neponset Valley Parkway East of Riley Road - Existing Section

Potential Orange Section P-P' East of Riley Road

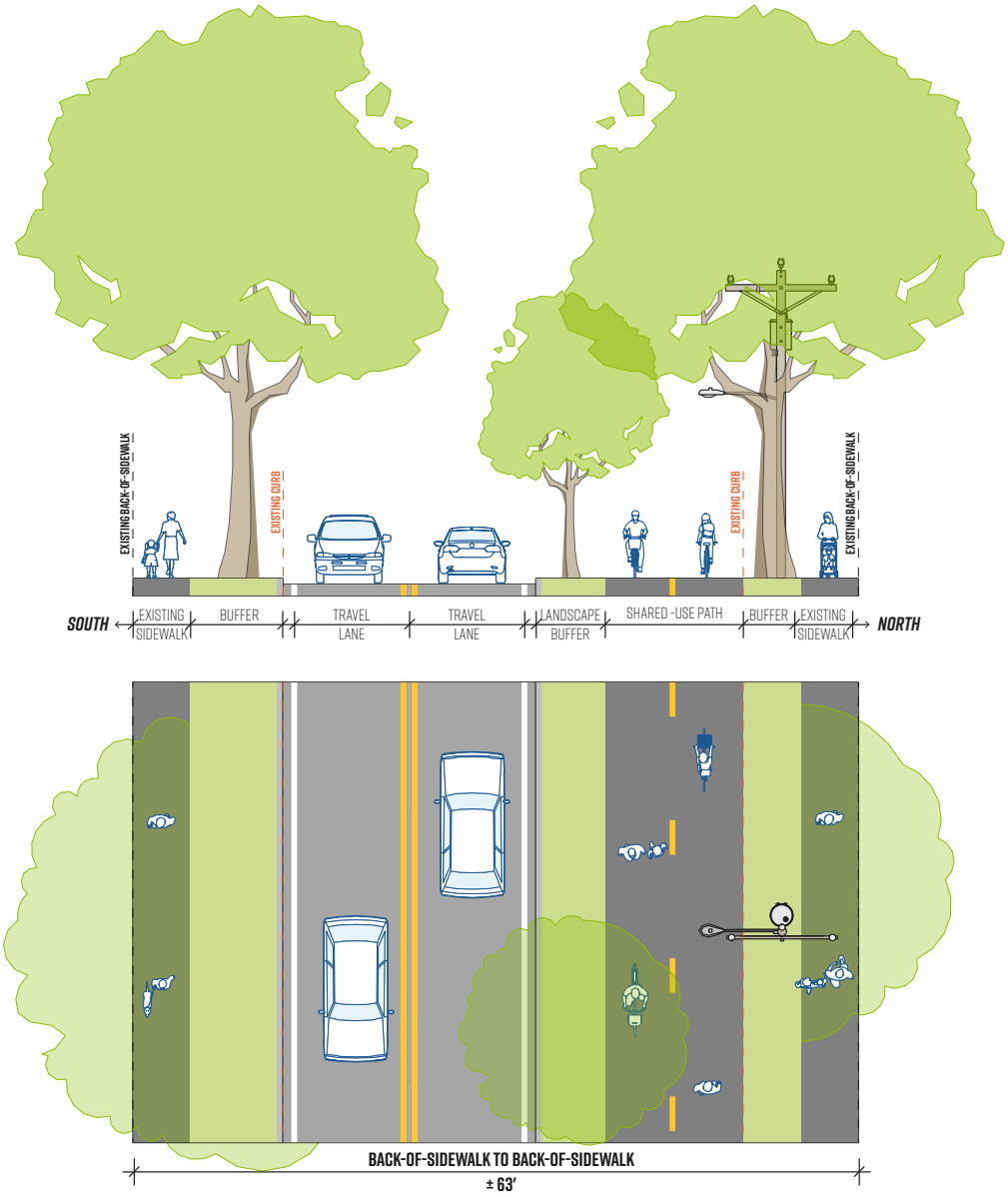
Potential Orange Section P-P' significantly narrows the travel lanes and shoulders to 10-feet and 1-foot, respectively, allowing for the installation of a shared use path on the south side of Neponset Valley Parkway with a 6-foot landscaped buffer.



Section P-P' - Neponset Valley Parkway East of Riley Road - Potential Orange Section

Potential Yellow Section P-P' East of Riley Road

Potential Yellow Section P-P' significantly narrows the travel lanes and shoulders to 10-feet and 1-foot, respectively, allowing for the installation of a shared use path on the north side of Neponset Valley Parkway with a 6-foot landscaped buffer.

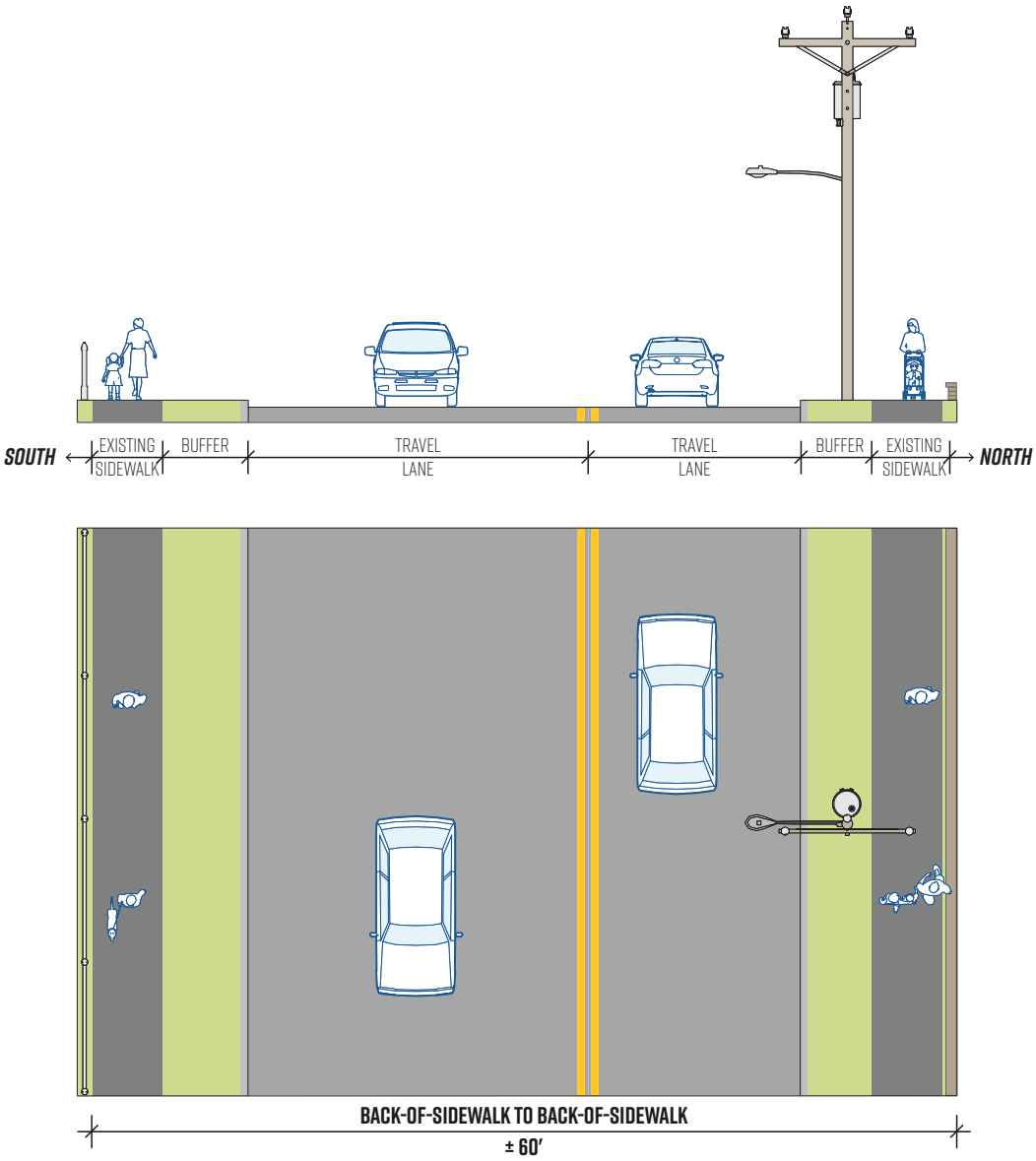


Section P-P' - Neponset Valley Parkway East of Riley Road - Potential Yellow Section

Section Q-Q' At the Fire Station

Existing

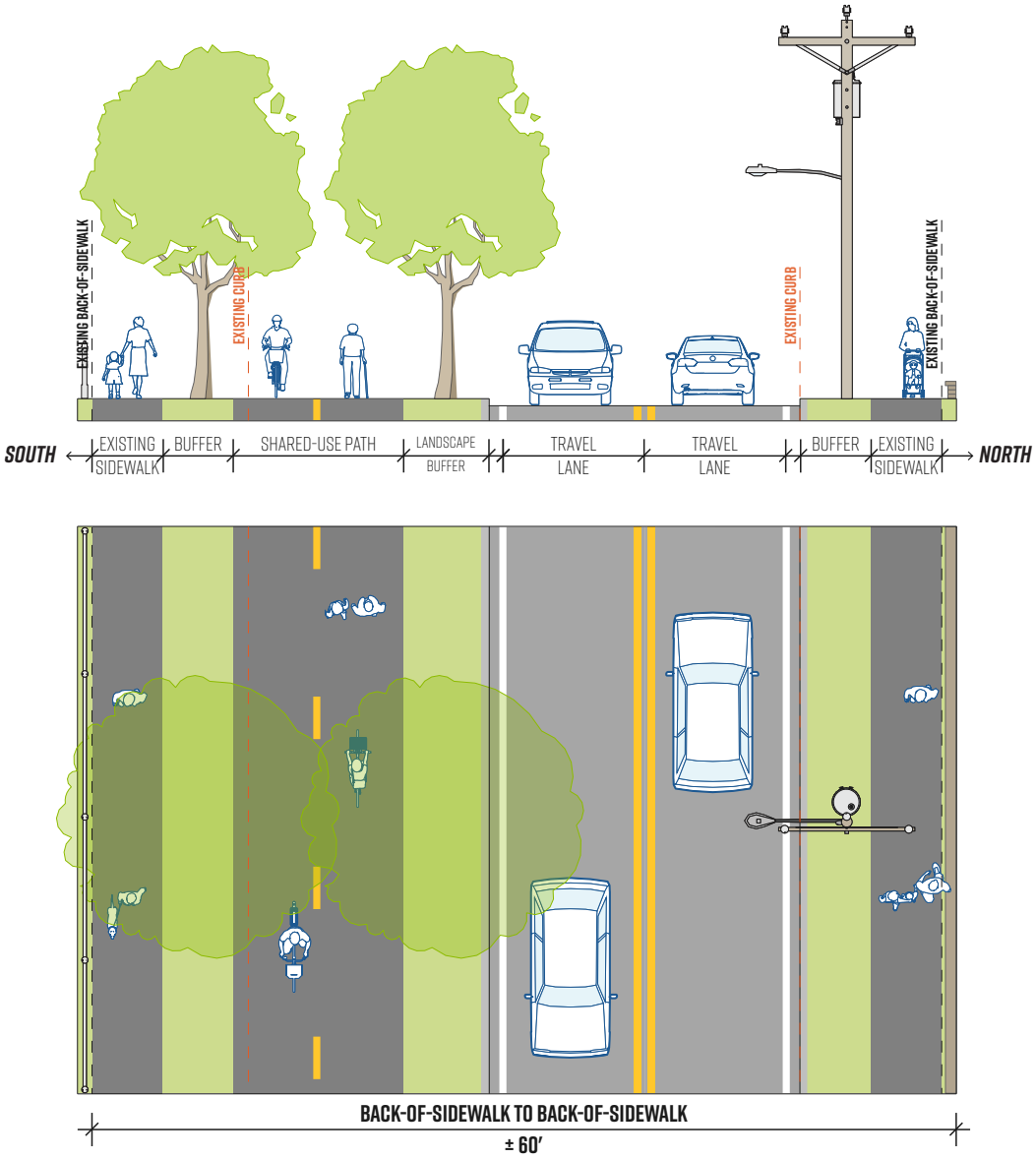
Section Q-Q' generally refers to the segment of Neponset Valley Parkway at the fire station, just after the two eastbound travel lanes merge into one. This section consists of an eastbound travel lane of 24-feet and a westbound travel lane of 15-feet. Five-foot sidewalks are present on both the north and south side of the street, each with a grass buffer of 5 feet and 6 feet, respectively.



Section Q-Q' - Neponset Valley Parkway At the Fire Station- Existing Section

Potential Orange Section Q-Q' At the Fire Station

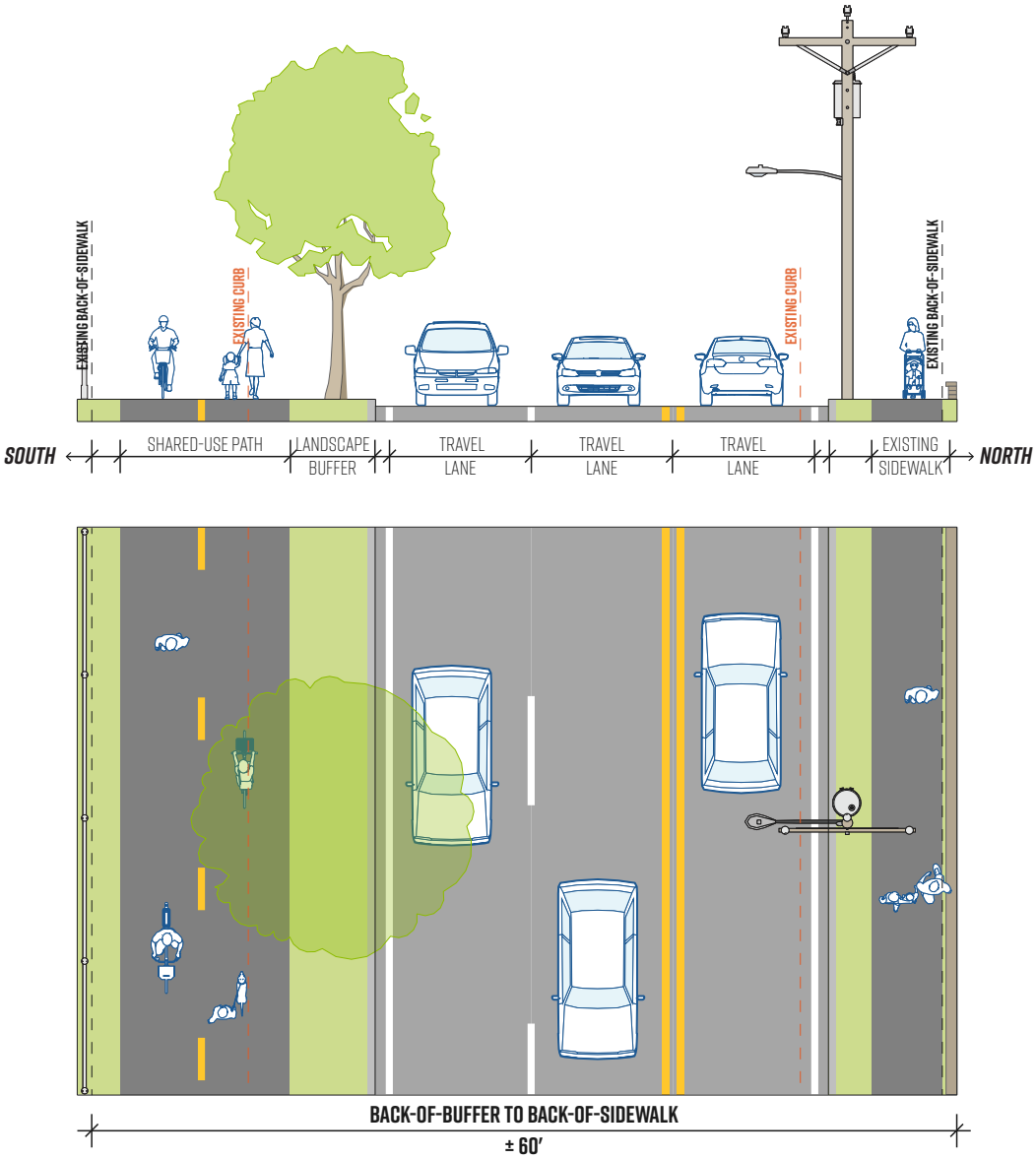
Potential Orange Section Q-Q' significantly narrows the travel lanes and shoulders to 10-feet and 1-foot, respectively, allowing for the installation of a shared use path on the south side of Neponset Valley Parkway with a 6-foot landscaped buffer. One of the existing two eastbound travel lanes on Neponset Valley Parkway would be removed to eliminate the need for the merge area.



Section Q-Q' - Neponset Valley Parkway At the Fire Station- Potential Orange Section

Potential Blue Section Q-Q' At the Fire Station

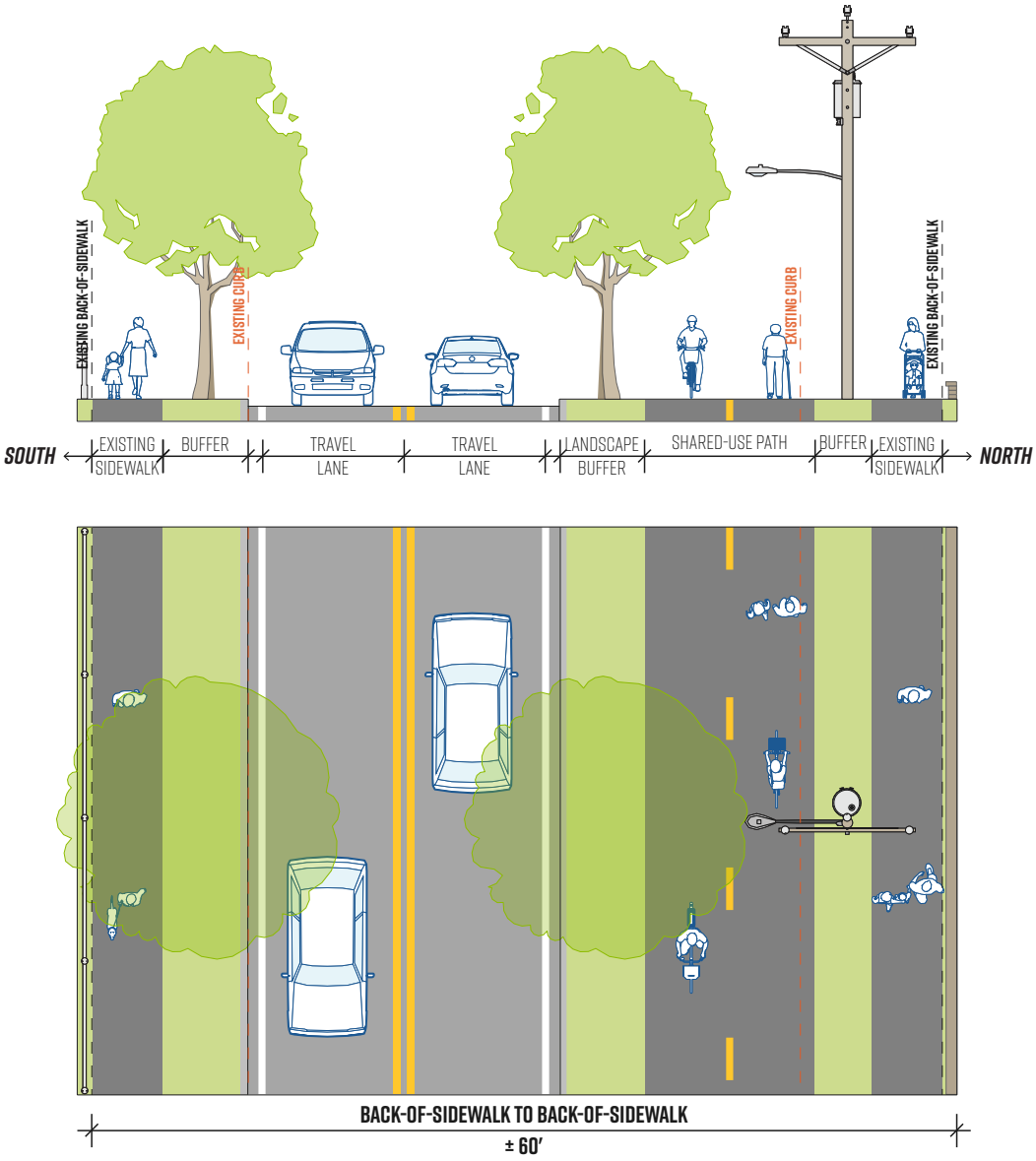
Potential Blue Section Q-Q' would maintain the merge area for the two eastbound travel lanes, but narrow the lanes to a more context appropriate width. This narrowing, along with combining the sidewalk with the shared use path, allows for a path on the southern side for the roadway with a 6-foot landscaped buffer.



Section Q-Q' - Neponset Valley Parkway At the Fire Station - Potential Blue Section

Potential Yellow Section Q-Q' At the Fire Station

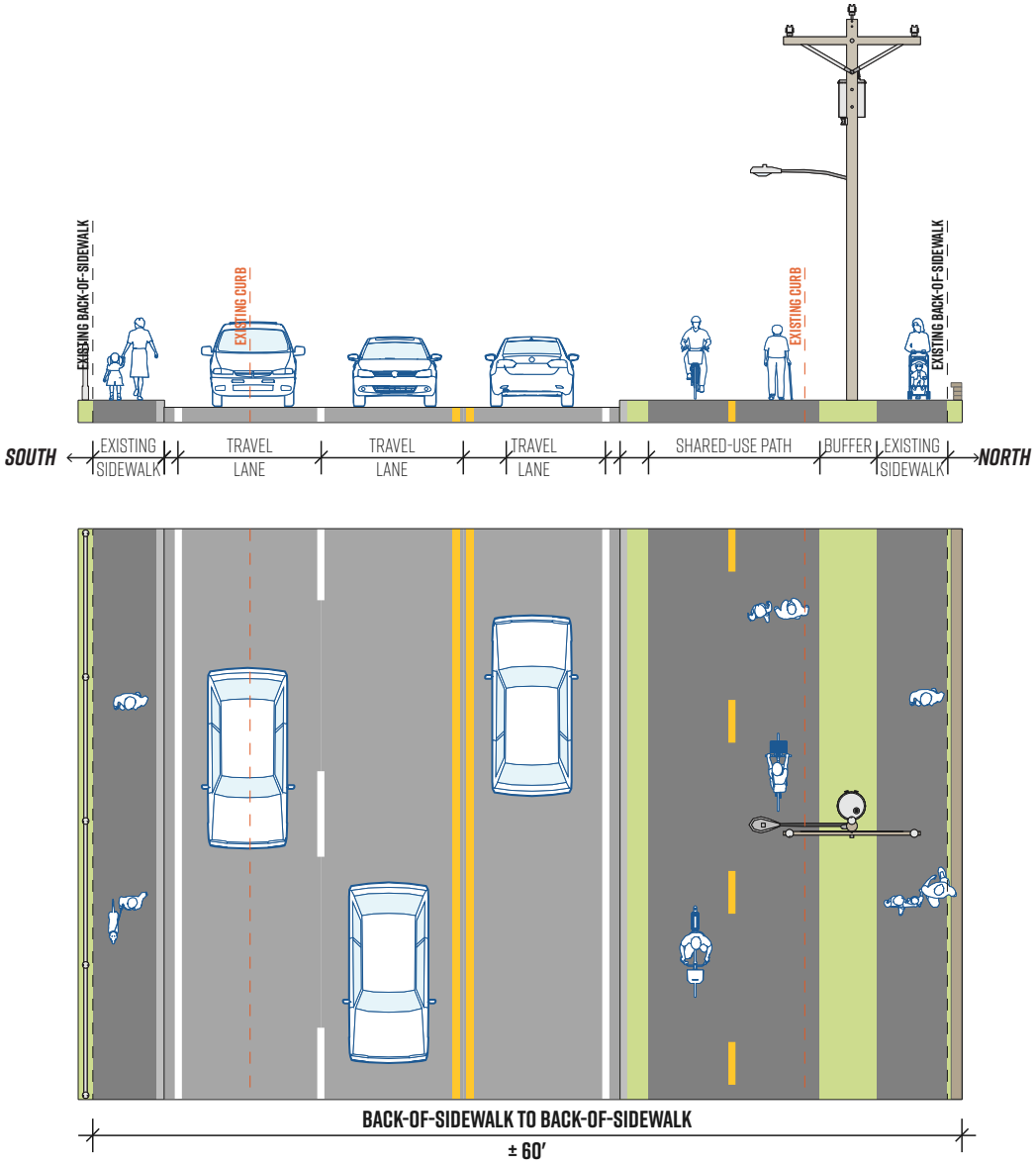
Potential Yellow Section Q-Q' significantly narrows the travel lanes and shoulders to 10-feet and 1-foot, respectively, allowing for the installation of a shared use path on the north side of Neponset Valley Parkway with a 6-foot landscaped buffer. One of the existing two eastbound travel lanes on Neponset Valley Parkway would be removed to eliminate the need for the merge area.



Section Q-Q' - Neponset Valley Parkway At the Fire Station - Potential Yellow Section

Potential Green Section Q-Q' At the Fire Station

Potential Green Section Q-Q' would maintain the merge area for the two eastbound travel lanes, but narrow the lanes to a more context appropriate width. This narrowing, along with removing the buffer between the southern sidewalk and travel lanes, allows for a path on the northern side for the roadway with a 2-foot buffer.



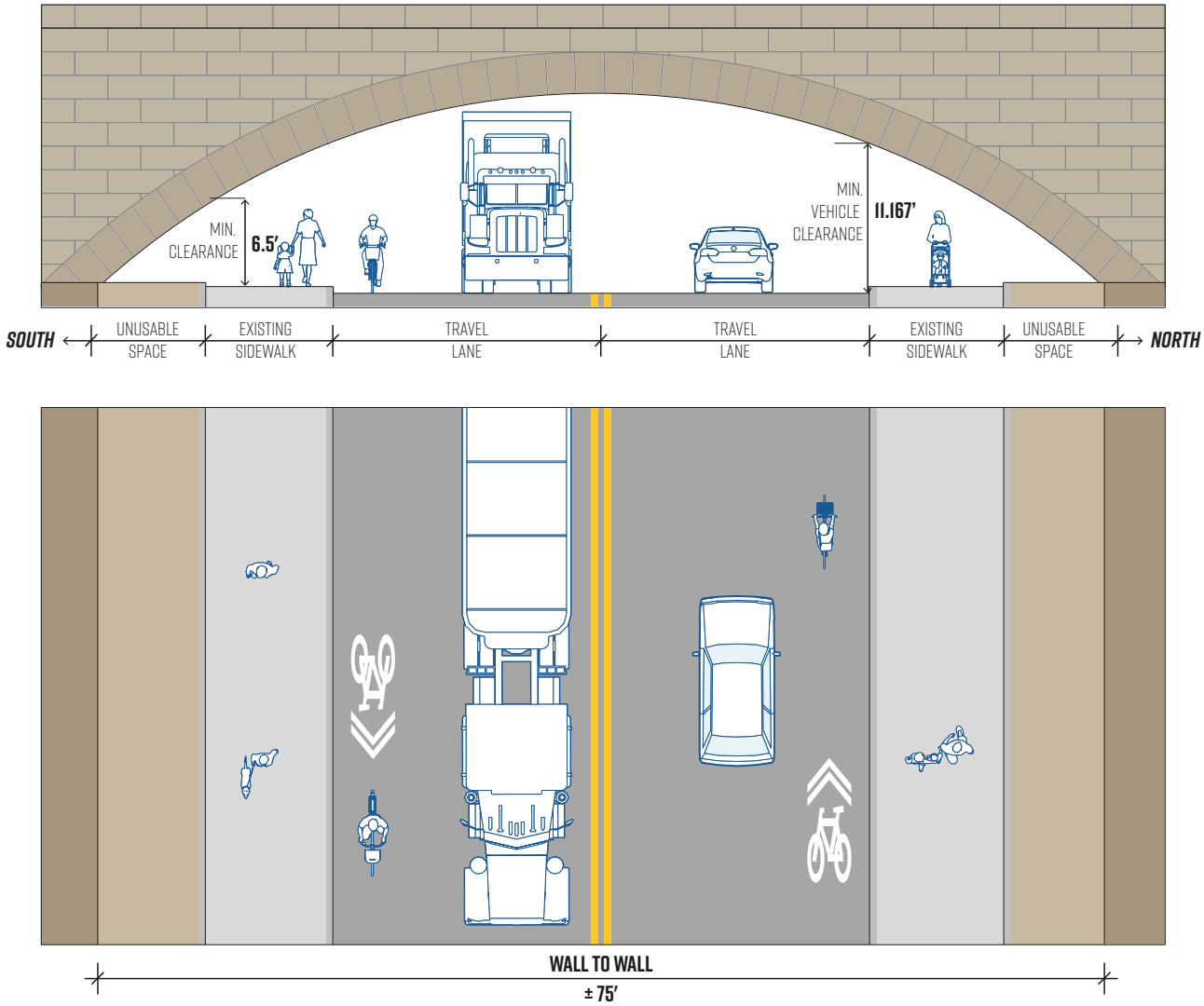
Section Q-Q' - Neponset Valley Parkway At the Fire Station- Potential Green Section

Section R-R' MBTA Rail Underpass

Existing

Section R-R' generally refers to the segment of Hyde Park Avenue under the MBTA railroad bridge. This section consists of two 20-foot travel lanes with sidewalks of 9.5-10-feet on each side of the street. There is approximately 7.5-8-feet of unusable space just past the back of sidewalk on each side of the road. Shared lane markings are present in this section.

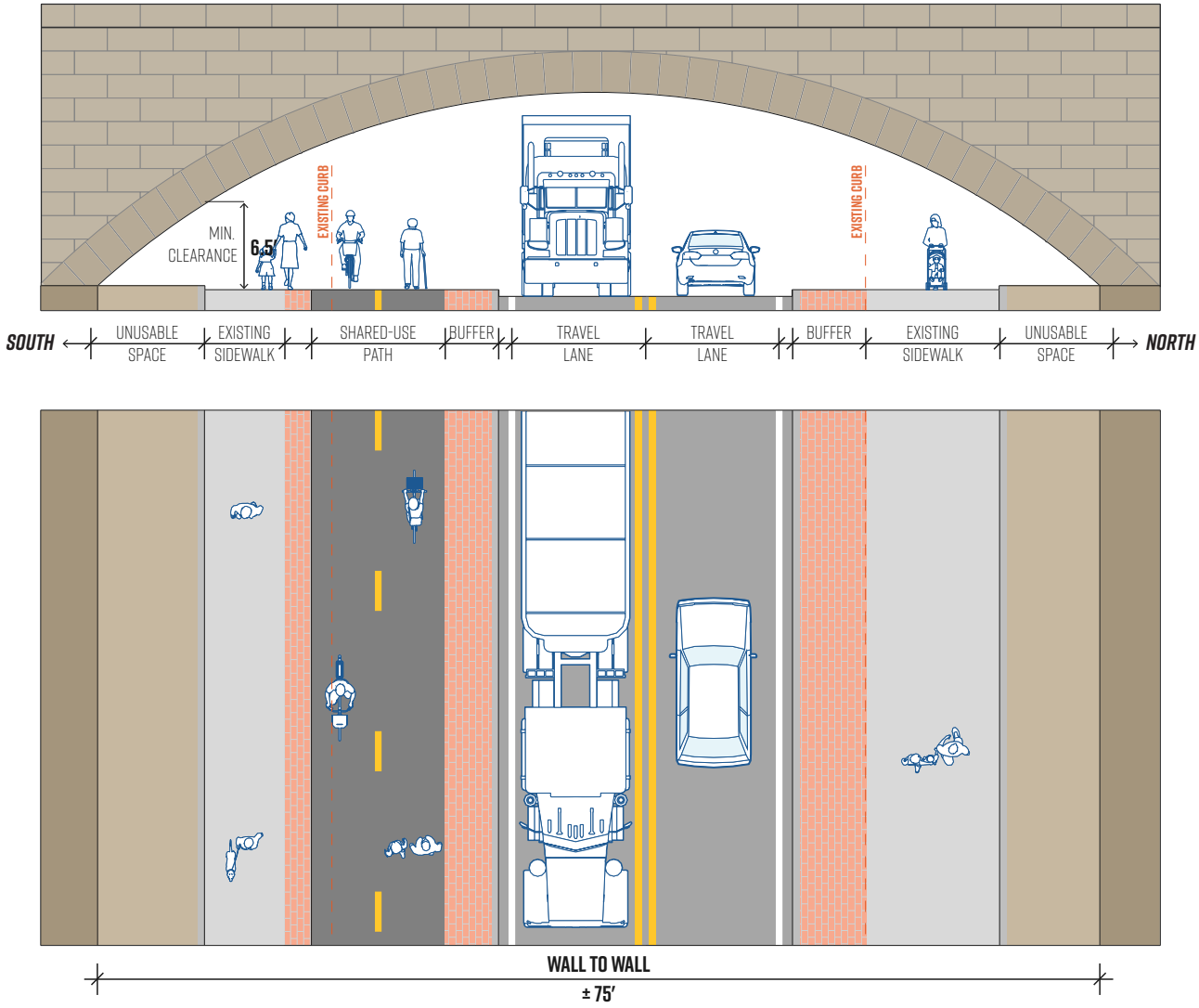
Figure 39: MBTA Rail Underpass



Section R-R' - Neponset Valley Parkway MBTA Rail Underpass- Existing Section

Potential Orange Section R-R' MBTA Rail Underpass

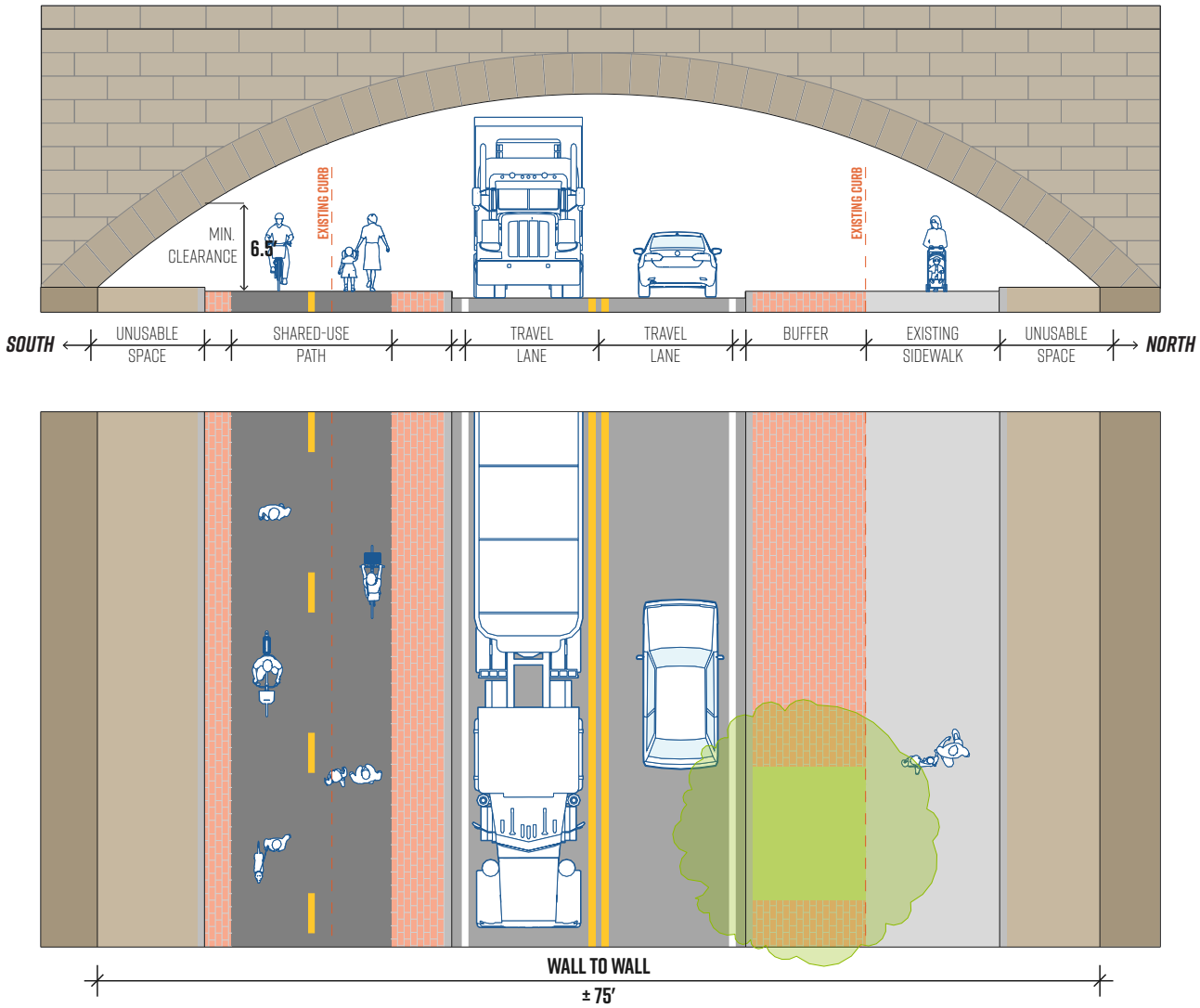
Potential Orange Section R-R' significantly narrows the travel lanes to 10-feet with 1-foot shoulders on each side, reallocating pavement space to a shared use path on the south side of Hyde Park Avenue. A 2-foot buffer between the sidewalk and the shared use path would be added, along with a 6-foot buffer between the shared use path and the travel lanes.



Section R-R' - Neponset Valley Parkway MBTA Rail Underpass- Potential Orange Section

Potential Blue Section R-R' MBTA Rail Underpass

Potential Blue Section R-R' significantly narrows the travel lanes to 12-feet with 2-foot shoulders on each side, reallocating pavement space to a shared use path on the southern side of Hyde Park Avenue. To accommodate the larger travel lanes, the sidewalk is combined with the shared use path, with a buffer next to the travel lanes of 6 feet.



Section R-R' - Neponset Valley Parkway MBTA Rail Underpass- Potential Blue Section

Potential Routes

Route 9

Route 9 consists of all the potential orange sections, culminating in a shared use path on the southern side of Neponset Valley Parkway fully separated from the sidewalk. Neponset Valley Parkway would be a consistent two-lane road, reallocating space for green infrastructure, landscaping, and amenities.

Route 10

Route 10 consists of mainly potential blue sections, culminating in a shared use path on the southern side of Neponset Valley Parkway. The number of existing vehicle travel lanes are maintained, necessitating the shared use path to be combined with the sidewalk in portions.

Route 11

Route 11 consists of all the potential yellow sections, culminating in a shared use path on the northern side of Neponset Valley Parkway fully separated from the sidewalk. Neponset Valley Parkway would be a consistent two-lane road, reallocating space for green infrastructure, landscaping, and amenities.

Route 12

Route 12 consists of a mix of potential green and yellow sections, culminating in a shared use path on the northern side of Neponset Valley Parkway. The number of existing vehicle travel lanes are maintained, necessitating the loss of landscaped buffers in segments.

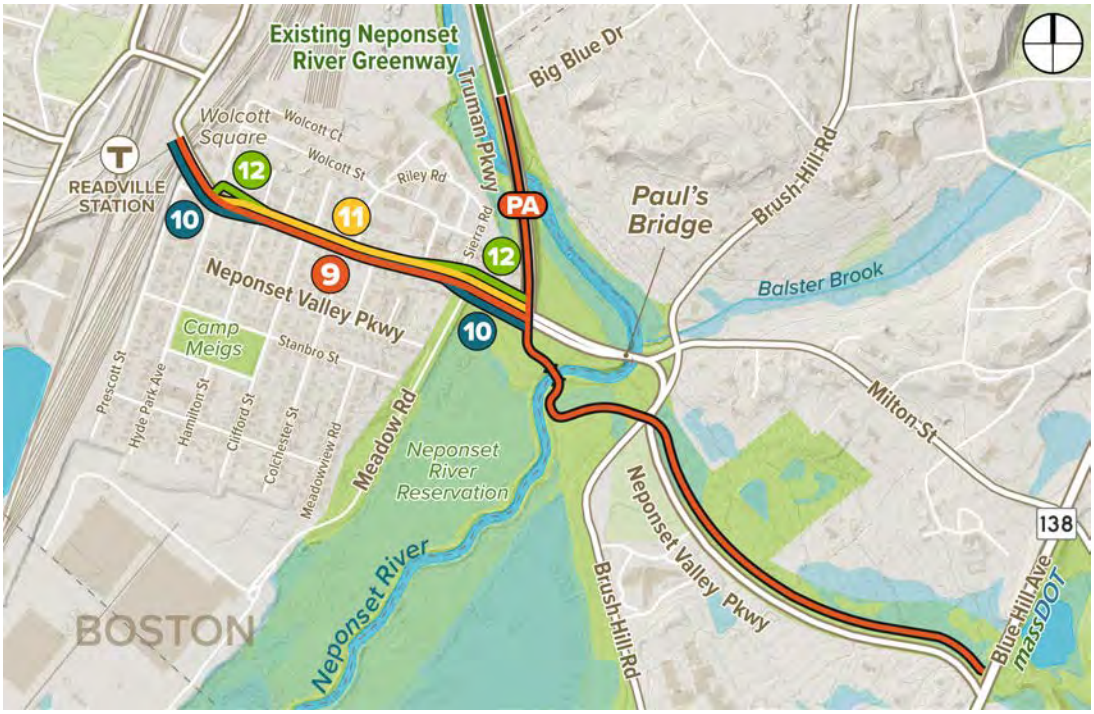


Figure 40: NVP to Readville Potential Routes

Evaluation

The project team evaluated each of the Routes 9, 10, 11, and 12 to develop a score that was well-informed, and considered multiple perspectives.

Scores

Scores between 1 and 5 were given for each Route for each criteria indicating lesser or greater conformance, respectively, with the Criteria and thereby the Objectives. The table below shows the final scores for each Route. The scores were averaged for each Objective and then totaled for each Route. See Figure 41 for the final tallies.

Route 9, which consists of all Orange Sections, was identified as being the Route that best meets the project Objectives and the Project Goal of providing a route with greater community connections between the Neponset River Greenway and Readville Station.

Pros and Cons

Route 9 will greatly reduce the amount of impervious pavement on Neponset Valley Parkway, provides direct access to Camp Miegs and Fowl Meadow, has room for trail amenities, and allows for a separate sidewalk the entire length. This Route does have the disadvantage of needing to cross Meadow Road and the Fire Station, as well as the need to make modifications to the Wolcott Square intersection.

Objectives	Route 9	Route 10	Route 11	Route 12
Enhanced Community Connectivity	5	5	3	3
Improved access to recreation and healthy living for all	5	2	5	2
Safety and Convenience	3	3	2	2
Preservation of Natural Resources	5	1	5	3
Protection of historic and archaeological areas	4	3	3	3
Climate resiliency	5	3	3.5	2
Straightforward implementation and maintenance	3	3	1.67	3
Total Score	30	20	23.17	18

Figure 41: Table of Evaluation Results