NEEDHAM - NEWTON
COMMUNITY WAY

FEASIBILITY STUDY

NEEDHAM AND NEWTON, MASSACHUSETTS

Prepared For:

Town of Needham
City of Newton

GPI
www.gpinet.com

SEPTEMBER 2023

ACKNOWLEDGEMENTS

We wish to thank the Needham – Newton Community Way Working Group for their dedication of time, knowledge and expertise which was valuable guidance for the preparation of this feasibility study:

Kate Fitzpatrick	Town Manager (Needham)
Shane Mark	Asst. Director of DPW (Needham) / Project Manager
Cecilia Simchak	Director of Finance/Admin for Public Services (Needham)
Stacey Mulroy	Director of Parks & Recreation (Needham)
Lt. John McGrath	Police Department (Needham)
Tyler Gabrielski	Management Analyst, DPW (Needham)
Duncan Allen	Needham Resident and MBTA Advisory Board Member
James Goldstein	Needham Resident and Rail Trail Advisory Committee Member and President – Bay Colony Rail Trail Association
Jennifer Steel	Chief Environmental Planner (Newton)
Joshua Ostroff	Director of Transportation Planning (Newton)
Deborah J. Crossley	City Councilor (Newton)
George Kirby	Newton Resident, Rail Trail Advocate and Newton Upper Falls Greenway Co-founder

We also wish to thank the residents of Needham and Newton who provided input to the team through participation in the community meetings and the online survey.

This feasibility study was funded through an ARPA (American Rescue Plan Act of 2021) grant allocation co-sponsored by State Senators Cynthia Creem and Becca Rausch.

Consultant Team:

Greenman-Pedersen, Inc.
John Diaz, PE, PTOE, Project Director
Carolyn Radisch, AICP, Project Manager
Kim Armstrong, PE, Director of Structural Engineering
Mike Shustack, PE, Structural Engineer
Nicole O'Connor, EIT, Structural Designer
Matt Kearney, PE, LEED AP, Engineer
Nicole Rogers, PE, Engineer, GIS Analyst
Christopher Saras, Landscape Designer

LEC Environmental
Ann Marton, President, Director of Environmental Services
Andrea Kendall, PWS, Senior Environmental Scientist

Brown, Richardson and Rowe
David Andrews, RLA, Principal
John Latham, PWS, Senior Landscape Designer

Table of Contents

List of Figures

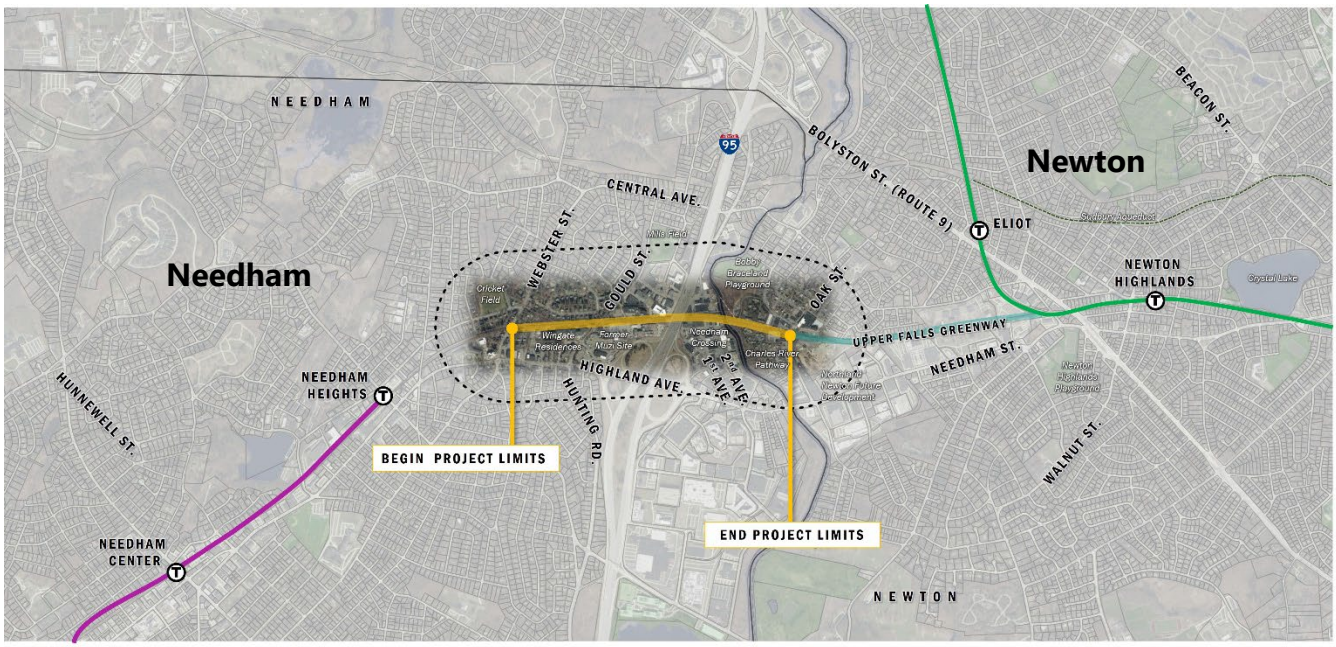
List of Photos

List of Tables

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The Needham-Newton Community Way Feasibility Study was initiated to assess the feasibility of repurposing the Massachusetts Bay Transportation Authority (MBTA) right-of-way from the Needham Heights commuter rail station to the Upper Falls Greenway for a multi-modal 'way' that would accommodate pedestrians, bicyclists and possibly transit shuttles. This feasibility study was made possible through the allocation of an earmark grant under the American Rescue Plan Act (ARPA). In accordance with the earmark provisions, the project assessed the feasibility of an ADA accessible multi-modal 'way' that spans over I-95 / Route 128 and the Charles River to connect with the Upper Falls Greenway. The scope of this feasibility study was defined in the grant to evaluate two options, specifically "…*a way designed to accommodate only bicycles and pedestrians versus a way designed to accommodate bicycles, pedestrians and electric shuttle buses…*" and detailed in a Scope of Services. Key findings from the study are summarized in the following sections.



Study Area Limits

Project Limits

The study area project limits were refined through discussions with the MBTA and MassDOT to extend between Webster Street in Needham and Oak Street in Newton. The length of the study area is approximately 5000 linear feet (LF), or 0.9 mile and the rail right-of-way is 82.5-feet in width throughout the study area. These limits reflect the fact that the MBTA uses the right-of-way beyond the Needham Heights station and would therefore not entertain the

possibility of a lease between the Needham Heights station and Webster Street. In addition, the Community Way must connect with a paved accessible walkway on either end which determined the Oak Street terminus in Newton.

The right-of-way in Needham is undeveloped; rails and ties remain, and the corridor is overgrown with vegetation, brush, and trees. A railroad bridge over I-95/Route 128 was removed in 2015 as a part of MassDOT's 128 Add-a-Lane project. A separate bridge over the Charles River consists of a steel girder structure on concrete and masonry abutments. The rails have been removed but the timber ties are in place and are decaying. Minimal wooden deck and railing improvements to the easterly half of the bridge were made by the City of Newton; however, the bridge is presently fenced off to prevent public access.

Public Outreach

Engagement with the Needham and Newton communities was undertaken throughout the study process through the following activities.

Community Way Working Group

The development of this feasibility study was guided by a working group composed of representatives from various Needham and Newton town and city departments as well as Needham and Newton residents who are knowledgeable and active with respect to trail and multi-modal transportation planning. The working group reviewed progress on the feasibility analysis, provided feedback and led public outreach efforts for the study.

Project Webpages

Dedicated webpages for the Community Way Feasibility Study were provided on both the Town of Needham and City of Newton municipal websites.

- https://www.needhamma.gov/communityway
- https://www.newtonma.gov/communityway

Public Informational Meetings and Online Survey

In April 2023, two public meetings were hosted by Needham and Newton to inform the public about the feasibility study and to obtain feedback on community interests, ideas, desires, and concerns about the two alternatives which would be studied for the Community Way. Both events were well attended, and the team received input that will be useful as the Community Way advances.

Based on the results of the online survey, which included 445 responses, most community members believe that they will use the Community Way for recreational purposes, with 87%

responding that there were 'Very likely' or 'Somewhat likely' to use the Community Way for that purpose. Conversely, community members anticipated that they were least likely to use the path for commuting to work or school, with 12% of respondents responding that they were 'Very likely' or 'Somewhat likely' to use the Community Way for commuting purposes.

Over two-thirds of survey respondents (68%) believed that the Community Way should be developed to accommodate pedestrians and bicyclists only.

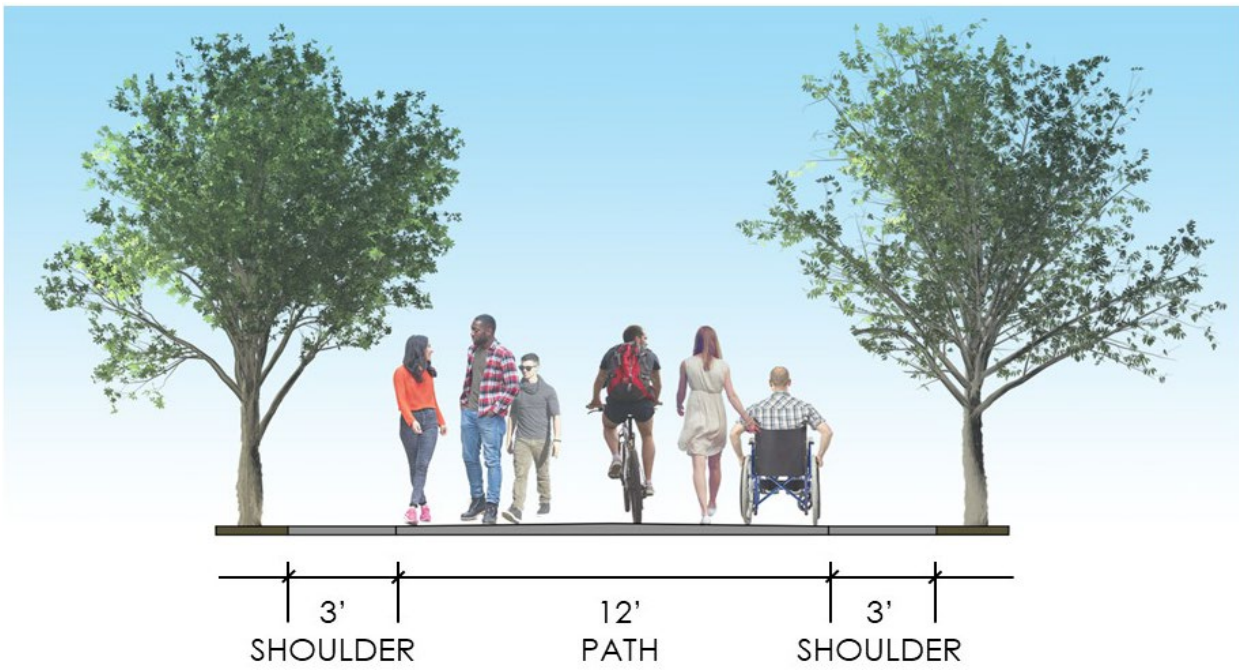
A summary of the responses to the online survey are in Appendix C. An interactive link to the survey can be found here:
https://forms.office.com/Pages/AnalysisPage.aspx?AnalyzerToken=nW6JrdIfVFGP3vyy119WM2bdFLuRKrOP&id=tNP9RtICIUGlYh9R7lhItIuaV_2d-GVAlzKHX7tJ0jRUMlVBQ0hCSDRVWFgwSVNZVkozVzJCVkVOWCQlQCN0PWcu

Study Alternatives

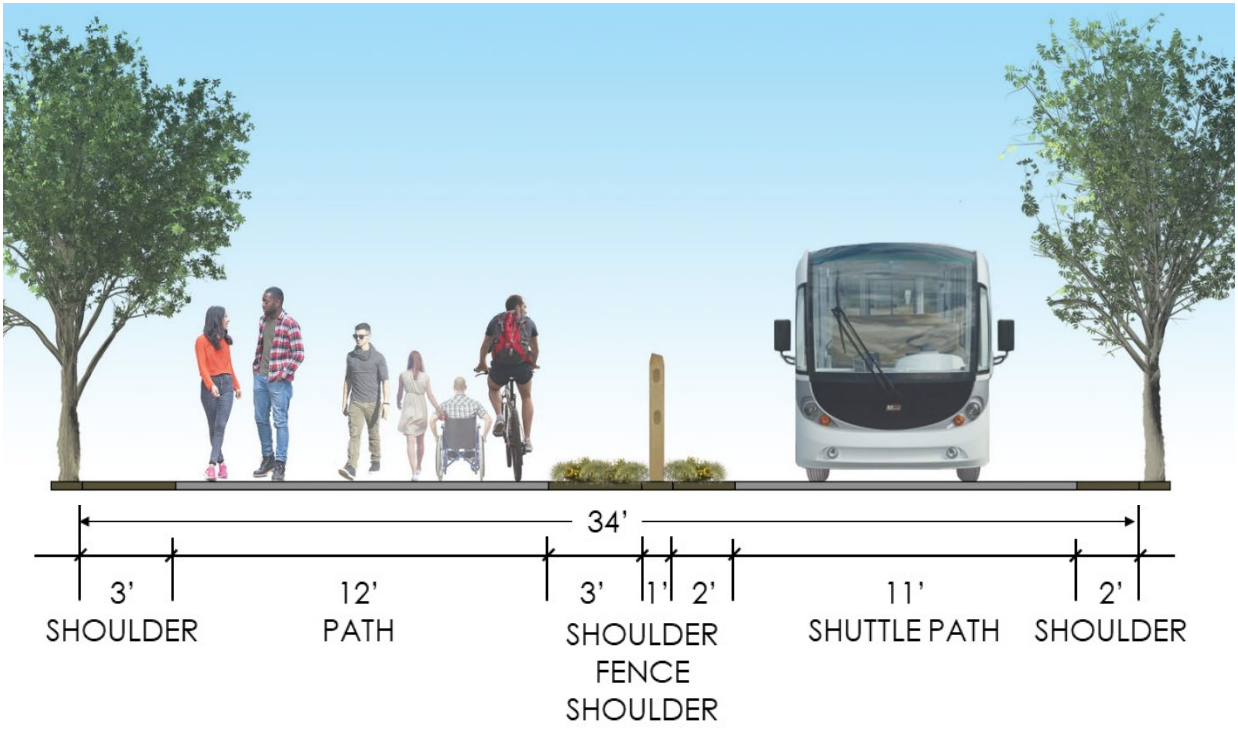
Two alternatives were evaluated as a part of this study.

Alternative 1: A **shared-use path to accommodate pedestrians and bicyclists** (12-foot path with 3-foot shoulders); and

Alternative 2: A **shared-use path (as described above) and an 11-foot shuttle way** with 2-foot shoulders. Three configurations (2A, 2B, and 2C) were evaluated for the Charles River Bridge crossing (see below). Questions regarding transit operations, service design and ridership are beyond the scope of this study. This study evaluates only the feasibility of constructing the infrastructure to accommodate a shuttle within the defined study area. It is assumed that the project will require some level of state and/or federal funding such that federal and state design standards for shared-use paths, bridge design and travel lanes will apply to this project. There are no established standards for a shared-use path with a transit shuttle component, therefore standards for shared-use paths and travel lanes were used.



Alternative 1 - Pedestrian and Bicycle Shared-use Path (18-feet) Typical Section



Alternative 2 – Pedestrian/Bicycle/Electric Shuttle Path (34-feet) Typical Section

I-95/Route 128 Bridge Crossing

A new bridge would have to be constructed over I-95/Route 128 to accommodate the Community Way. A two-span bridge with a central pier in the median of I-95/Route 128 is the most feasible option to span the width of the highway. The bridge would consist of an approximate 145-foot west span and an approximate 125-foot east span. For each alternative, profile adjustments on the easterly side for about 175-feet would be required to raise the elevation of the bridge enough to meet bridge clearance requirements over the highway. If a steel girder bridge is selected during the design process, it is likely that a pedestrian/cyclist-only bridge would have four beams, and a shuttle-inclusive bridge would have six beams. Increased foundation capacity may be required for the shuttle option to account for the increased width and loading conditions.

Charles River Bridge Crossing

The existing beam and abutment structures are in satisfactory condition and can be reused to accommodate a pedestrian/cyclist-only Community Way by constructing a new deck over the existing beams. The overall width of a bridge that can be constructed without widening the abutments is limited to a maximum of 26-feet. This option would include reusing the existing two beams as well as installing three additional beams and building out the front face of the abutment to support them, but it does not require widening and constructing new wingwalls. This can easily accommodate a pedestrian and bicyclist path however it provides a constraint to accommodating the 34-foot shuttle inclusive path.

Three options for the shuttle-inclusive crossing of the Charles River were evaluated, as follows.

Alternative 2A: A constrained width bridge (26-feet rather than 34-feet) accommodated on the existing beams and abutments with some alterations to erect additional beams for the larger width (this option would require design exceptions);

Alternative 2B: A new full-width (34-foot) bridge on all new beams supported by expanded abutments and new wingwalls;

Alternative 2C: A pedestrian and bicycle bridge built upon the existing beam and abutment and a separate adjacent bridge for the shuttle on new beams and expanded abutments.

Corridor Improvements

Improving the path would involve removing the rails and ties, clearing vegetation, and constructing surface improvements. The rail bed is situated on a raised embankment with a level area that is approximately 15-feet in width for much of the length of the study area.

Accommodating the 34-foot shuttle path option would entail more extensive clearing and construction of retaining walls, and filling and lowering the grade.

Conceptual Cost Estimate

A planning-level cost estimate was developed for each of the alternatives using conceptual plans, the latest pricing information from MassDOT and recent project experience. This cost estimate is provided to understand the approximate costs for implementing the Community Way alternatives and to assist with the advancement of the project for future decision making, planning, funding, and design. The costs are preliminary and will change as more detailed design is undertaken for the Community Way. The costs to construct improvements for each Community Way alternative are summarized below.

The costs include contingencies reflecting the early stage of planning and allowances for utility relocations, traffic management, construction inspection, and project design. An adjustment for inflation, 4% over 7 years, was applied because it will be several years before the Community Way would be funded, designed, permitted, and ready for construction.

Conceptual Construction Cost Estimate Summary

Segment	Alternative 1	Alternative 2A	Alternative 2B	Alternative 2C
Trail Improvements	$ 2.9 M	$ 7.1 M	$ 7.1 M	$ 7.1 M
Bridge over I-95 / Route 128	$ 10.9 M	$ 21.3 M	$ 21.3 M	$ 21.3 M
Bridge over Charles River	$ 1.4 M	$ 3.0 M	$ 11.1 M	$ 8.4 M
Engineering Design (15%)	$ 1.6 M	$ 4.8 M	$ 6.0 M	$ 5.6 M
Total Cost 2023 Dollars	**$16.8 M**	**$ 36.2 M**	**$ 45.5 M**	**$ 42.4 M**
Inflation (4%, 7 Years)	$ 5.4 M	$ 11.5 M	$ 14.4 M	$ 13.4 M
TOTAL PROJECT PLANNING COST	**$22.2 M**	**$47.7 M**	**$59.9 M**	**$55.8 M**

Alternatives 2A-C, the shuttle-inclusive options, would cost $25 to $38 million more than Alternative 1 to construct within the project limits. It must be noted that these costs do not reflect additional construction of improvements to the Upper Falls Greenway that would be necessary to accommodate the shuttle, nor any operational costs associated with transit service. The full cost of a shuttle option is not known at this time.

Benefits

The Community Way would provide benefits to the communities including:

- Contributions to the local economy due to potential increases in tax revenues from increased property values, and due to spending by Community Way users at local businesses;

- Improved health and wellness related to increased physical activity and recreational opportunity for area residents and employees;

- Transportation benefits related to safety improvements and crash reductions for pedestrians and bicyclists using the Community Way in place of Highland Avenue/Needham Street or Central Avenue, and travel time savings for pedestrians, bicyclists and possible transit patrons using the Community Way in place of Highland Avenue/Needham Street;

- Environmental benefits related to emission reductions to the extent that trips by foot, bike or transit replace vehicle trips;

- Accessibility and equity benefits related to providing an attractive accessible facility that accommodates individuals who cannot drive or do not have access to a vehicle and in close proximity to a neighborhood that has been identified as an Environmental Justice community by the Massachusetts Office of Energy and Environmental Affairs.

Implementation

Implementation steps to improving the Community Way will depend on the Alternative that is selected by the community.

Alternative 1: Pedestrians and Bicyclists Only – Improving the Community Way for pedestrian and bicyclist use would follow steps similar to those taken for prior rail trails in Massachusetts. Needham would need to negotiate a lease with the MBTA to use the corridor for a rail trail. The term of such leases are typically 99 years. Due to the regional significance of the Community Way spanning two communities and comprising a segment of the larger Bay Colony Rail Trail, it is recommended that Needham and Newton pursue funding through the State Transportation Improvement Program (TIP). New TIP projects are initiated by MassDOT through a formal three-step process using the Massachusetts Project Intake Tool (MaPIT). The first step involves identifying the project need; the second step would be working with MassDOT District 6 staff to define the project scope, costs, timeline, impacts and responsibilities; and the third step

involves the MassDOT district office submitting the project to the Project Review Committee for consideration. This feasibility study includes much of the information needed for the first two steps. With a TIP project for a municipally owned and maintained facility, the communities would be responsible for funding the engineering design costs.

Projects submitted for funding through the TIP go through scoring process related to system preservation, mobility, safety, economic impacts, environmental effects, social equity, policy support and cost effectiveness and therefore it is a competitive process. To strengthen the standing of this project, it is recommended that Needham and Newton consider undertaking additional connectivity planning with respect to the developing Bay Colony Rail Trail and the MBTA stations. The Bay Colony Rail Trail (including this Community Way segment and the Upper Falls Greenway) has been identified as a priority corridor by MassTrails.

As a first step in implementing this alternative, community representatives should meet with staff from the MassDOT District 4 office and the Boston Region MPO to provide and overview of the project and receive feedback regarding implementation considerations and steps.

Alternative 2: Pedestrians, Bicyclists and Transit Shuttles – At this time the true full costs and benefits of this alternative cannot be determined. There is insufficient information regarding the transit service itself and the cost of improvements to the Upper Falls Greenway necessary to accommodate the shuttle service is unknown. GPI believes that prior to seeking funding for Alternative 2 the following issues must be resolved.

Identification of the Transit Service Provider. If the Community Way is constructed with public funding, the transit service on the Community Way must be available to the general public. The Needham Shuttle, which was used as the basis for a previous ridership analysis, is operated by the 128 Business Council and is only available to Transportation Management Association (TMA) members. This is not a feasible public transit operation scenario if public funds are used for the shuttle improvements.

Transit Service Routing. The previous ridership analysis assumed that a shuttle would use the Upper Falls Greenway, which was not a part of this study area. If the Upper Falls Greenway is part of the transit route, the feasibility and cost of extending Alternative 2 would need to be examined. An additional question is how much of the right-of-way would be required for transit service. The previous ridership study did not extend the shuttle service west across I-95/Route 128.

Alternative Evaluation. We note that there are constraints that would obstruct a direct shuttle connection along the right-of-way to the Needham Heights commuter rail station and to the MBTA's Green Line light rail in Newton. For a shuttle service anchored at these two key points, and operating on the Community Way at speeds compatible with close proximity to pedestrian and bicycle traffic the utility of running a shuttle service on the Community Way may be reduced. A transit service routing and ridership evaluation should consider the feasibility and cost/benefit evaluation of the Community Way shuttle option versus an alternative which uses Needham Street/Highland Avenue. With the completion of the ongoing construction work and upgraded traffic signals along Needham Street and Highland Avenue, there is a potential opportunity to install a transit signal priority (TSP) system with minimal additional infrastructure costs and within a relatively short time frame. (TSP modified signal timing to prioritize transit buses by providing an 'early' green phase or holding a green phase when buses are approaching the signal).

Phased Approach: The question has been raised regarding the possibility of implementing the pedestrian and bicycle option as the first phase, and the transit option as a later phase. In this approach, the Bridge over I-95/Route 128 would be sized for the transit inclusive option, at a cost of an additional $12.5 million dollars. The path improvements, which would involve a much greater extent of retaining walls and fill to provide the wider path, would require an additional $5 million dollars of costs. The two-bridge option over the Charles River would accommodate a phased approach without the need to "front load" the transit related costs. Because of the significant expenditure over and above the costs for the pedestrian and bicyclist only shared-use path, and because the transit service and provider are unknown at this time, we would expect the phased approach to present significant challenges in terms of securing funding.

Next Steps

The first step is for the Town of Needham and the City of Newton to develop a cooperative process to work together to decide on a path forward regarding Community Way. This may involve obtaining further community input, staff level recommendation, and/or creating a cooperative bi-jurisdictional task force to develop a recommendation for consideration by the Needham Select Board and Newton City Council.

There are three basic scenarios that should be considered.

1. Pursue improvements of the Community Way for bicycle and pedestrian use only. The information provided within this feasibility study would provide the basis for pursuing funding for a rail trail. Additional planning to connect the Community Way within Newton and to the larger Bay Colony Rail Trail would enhance the use of the

Community Way corridor and would improve the cost to benefit standing of this project with respect to other shared use path priorities.

2. Undertake additional studies regarding a shuttle option before deciding on an alternative to pursue. This includes the following at a minimum:

    - The cost and feasibility of accommodating transit shuttles on the Upper Falls Greenway;
    - Identification of the transit route and projected ridership;
    - Identification of a transit operator for public service.

3. Do not pursue any improvements to create the Community Way at this point in time.

01 || PROJECT CONTEXT

1.0 PROJECT CONTEXT

1.1 Introduction

The Town of Needham and the City of Newton have long expressed interest in developing a multimodal transportation connection along a segment of former railway owned by the MBTA between the Needham Heights train station and the Newton Highlands area. This connection would be established by constructing dedicated multimodal transportation infrastructure that would extend over Route 128 and the Charles River, ultimately joining with the existing Upper Falls Greenway.

The project offers several benefits including providing recreational opportunities through an extended greenway. It would also create another link between transit hubs and commercial centers spanning the municipalities' borders. Furthermore, the project has the potential to offer a secure and attractive off-road alternative for active transportation, especially in an area undergoing rapid growth and facing increasing traffic congestion.

The scope of this study was informed by the federal grant to develop: '…*a feasibility and preliminary design study for a multi-modal way from Newton into Needham via a new "Community Bridge" spanning state highway Route 128, the existing rail bridge spanning the Charles River, and connecting to the Newton Upper Falls Greenway and Needham Heights, including an evaluation and cost benefit analysis of a way designed to accommodate only bicycles and pedestrians versus a way designed to accommodate bicycles, pedestrians and electric shuttle buses*…"

1.2 Project Limits

The study area is within a portion of the unused right-of-way owned by the MBTA which runs between the Needham Heights commuter rail station and the Newton Highlands Green Line station. The City of Newton entered into a 99-year lease with the MBTA for the portion of the right-of-way in Newton between Easy Street and the Charles River and improved the corridor as a 12-foot-wide rail trail for bicycle and pedestrian use. This trail is known as the Upper Falls Greenway and is approximately one mile in length. It is improved with a crushed stone surface and the City is responsible for management and maintenance of the greenway pursuant to the terms of the lease. The right-of-way within the Town of Needham is currently unimproved.

Through coordination meetings with the MBTA and MassDOT during this feasibility study process, the specific limits of the Community Way were defined as Webster Street in

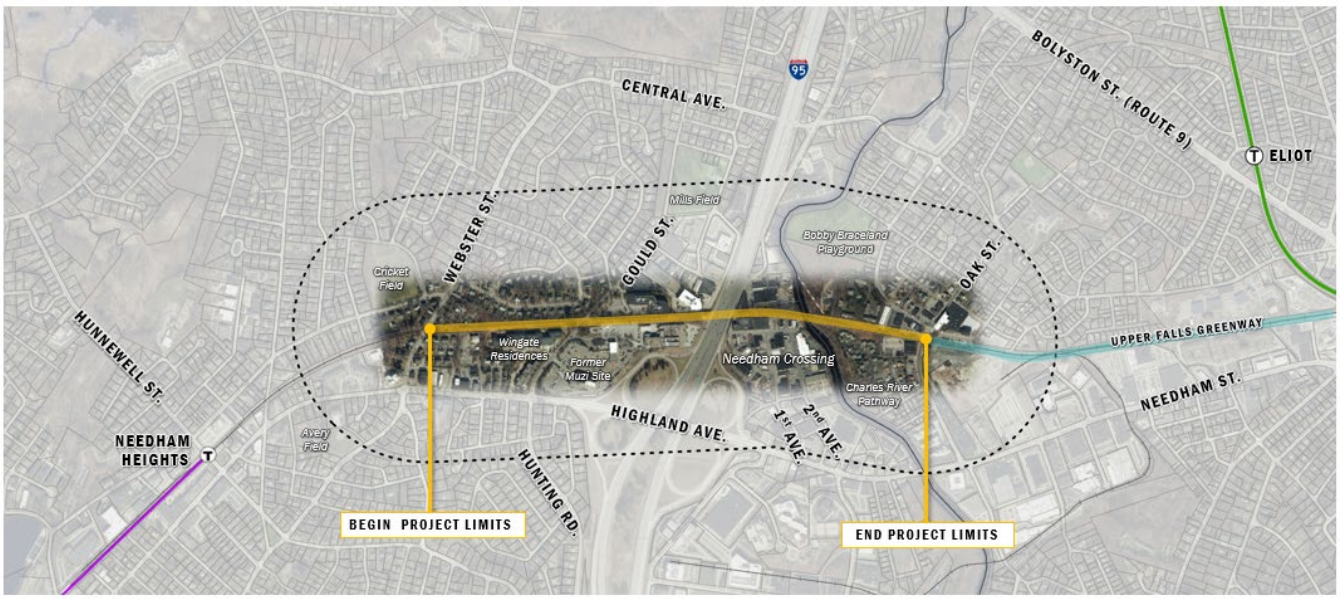


Figure 1: Study Area Limits

Needham and Oak Street in Newton. These limits reflect that the MBTA uses the right-of-way beyond the Needham Heights station and would therefore not entertain the possibility of a lease beyond Webster Street. In addition, the Community Way must connect with a paved accessible walkway on either end which results in the Oak Street terminus on the Newton end. In total the length of the study area is just under a mile, or approximately 5,000 linear feet (LF). The right-of-way is 82.5-feet in width through the study area. The project area is shown in **Figure 1.**

1.3 Relevant Plans and Studies

The desire to repurpose this segment of rail right-of-way dates back over a decade. To further understand the context of this feasibility study and align it with the principles of both communities, previous planning documents were researched and reviewed and are summarized below.

1.3.1 Focus 40: Positioning the MBTA to Meet the Needs of the Region in 2040 (2019)

"Focus 40" is the long-term plan for investment in the MBTA's transit system to ensure that transit service is reliable, robust, and resilient. The Focus 40 Plan identified 'Priority Places' that may warrant new or improved transit service and 'Big Ideas' that are organized into programs. The three 'Priority Place' types identified in Focus 40 are as follows.

> Major Employment Districts – Kendall Square, Longwood Medical Area, South Boston Waterfront, and East Boston/Logan Airport

Inner Core Communities Lacking Rapid Transit – Everett/Chelsea/Revere, Brighton, South Boston, Roxbury/Mattapan/Dorchester, Roslindale

Urban Gateways – Haverhill, Lawrence, Lowell, Salem, Lynn, Woburn/Wakefield/Melrose/Stoneham, Waltham, Framingham

There are no initiatives identified in the plan that would conflict with the use of the Community Way for bicycle, pedestrian, and shuttle services within the 2040 planning time horizon. With respect to the Green Line, one plan objective seeks to increase capacity by 50% through redesigned larger vehicles and modernized infrastructure. "Big Ideas" include Green Line extensions to Hyde Square in Jamaica Plain and Mystic Valley Parkway in Somerville/Medford. Extension of the Green Line from Newton Highlands to Needham is not envisioned within the Focus 40 planning timeframe.

1.3.2 Newton Comprehensive Plan (2007)

The Transportation and Mobility Chapter of the Newton Comprehensive Plan promotes several strategies to strengthen alternatives to drive-alone automobile transportation including strengthening walking, bicycling and public transit infrastructure. The plan identified this rail corridor as a potential opportunity for expanded transit service.

> *"…An existing but unused rail right-of-way paralleling Needham Street could possibly be utilized to extend light rail from Newton Highlands to Needham Heights, cost-effectively making possible innovative transit-oriented development near new stations…."*

1.3.3 Newton-in-Motion, A Transportation Strategy for Newton (2017)

This plan provides a prioritized investment strategy to improve walking, bicycling, driving and transit in Newton. The most relevant strategies to this project include the following.

Action 2.3A: Invest in first mile/last mile connections to transit. *The Community Way / Upper Falls Greenway can provide an enhanced first mile/last-mile connection to the Newton Highlands MBTA station.*

Action 3.3A: Create off-road connections in parks and aqueducts. *The Upper Falls Greenway is noted as a dedicated off-street bicycle facility that provides '…a safe, scenic alternative to city streets for recreational and commuting trips by bicycle…'*

The plan also identified the need to re-envision major transportation corridors including Needham Street which runs parallel to the Upper Falls Greenway / Community Way right-of-way. The Highland Avenue / Needham Street reconstruction project is discussed below.

1.3.4 Needham/Newton Rail Right-of-Way Transit Concept (2013)

The Metropolitan Area Planning Commission (MAPC), working with the Town of Needham and the City of Newton, developed a concept of operations for providing a transit service using the MBTA right-of-way that stretches from the Needham Heights Commuter Rail Station to the Newton Highlands Green Line Station. The goal of the study was to determine whether the right-of-way could be used to provide a shuttle service that supports future growth and economic development in the area. The study examined several factors such as existing public transportation, traffic operations, ongoing construction projects, demographics, commuting patterns, and future development in the area. The MAPC also consulted with the 128 Business Council, a Transportation Management Association (TMA) which operates employer funded shuttle services in the area, to develop ridership estimates for the shuttle service.

The study analysis found that much of the congestion along Highland Avenue / Needham Street, which runs parallel to the right-of-way, is pass-through traffic with many origins that occur outside the study area in places inaccessible via the Green Line which would make it difficult for the shuttle service to have a significant impact on mode shift, i.e., replacing car trips on Highland Avenue / Needham Street with shuttle trips.

The ridership analysis suggested that there is an opportunity to capture a modest number of reverse commuters off the MBTA Green Line at the Newton Highlands station and shuttle them to employers in the area. More specifically, the ridership projections estimated up to 154 passengers per day (roughly half in the AM and half in the PM) could be served with 3 shuttles in the AM and PM peak hours running on 13-to-15-minute headways on weekdays. The shuttle route was primarily accommodated on the Upper Falls Greenway and traveled over the Charles River before tuning south on the east side of I-95 / Route 128 to serve the New England Business Center area. The hypothesized shuttle route did not cross I-95 / Route 128 on the right-of-way.

The improvement concept for the use of the right-of-way assumed the shuttles, bicycles and pedestrians would be accommodated within the existing approximately 15-foot level area rather than undertaking improvements, such as earthwork and constructing retaining walls to widen the usable cross section width. The study noted numerous limitations associated with transit, pedestrians and bicyclists all sharing a 15-foot cross section, including hindered shuttle operations and pedestrian and bicyclist conflicts with shuttle vehicles. The need to rehabilitate / replace bridge structures was identified as well. No costs were developed related to improvements to the corridor to accommodate multi-modal users.

The study concluded by providing the recommendation to conduct a feasibility and cost/benefit analysis to further understand the usable width of the right-of-way and how the construction and operational challenges may be addressed. This Needham-Newton Community Way Feasibility Study addresses some of the questions posed by that study, especially with respect to physical feasibility and cost.

1.3.5 Bay Colony Rail Trail

The Community Way and Upper Falls Greenway are part of a larger vision for a potential 10-mile rail trail, the Bay Colony Rail Trail, that would connect Newton, Needham, Dover, and Medfield along the unused portions of the MBTA owned right-of-way. A map of the Bay Colony Rail Trail is shown in **Figure 2.** Portions of this trail that are open for trail use include the Upper Falls Greenway, the Needham Rail Trail, and the Medfield Rail Trail.

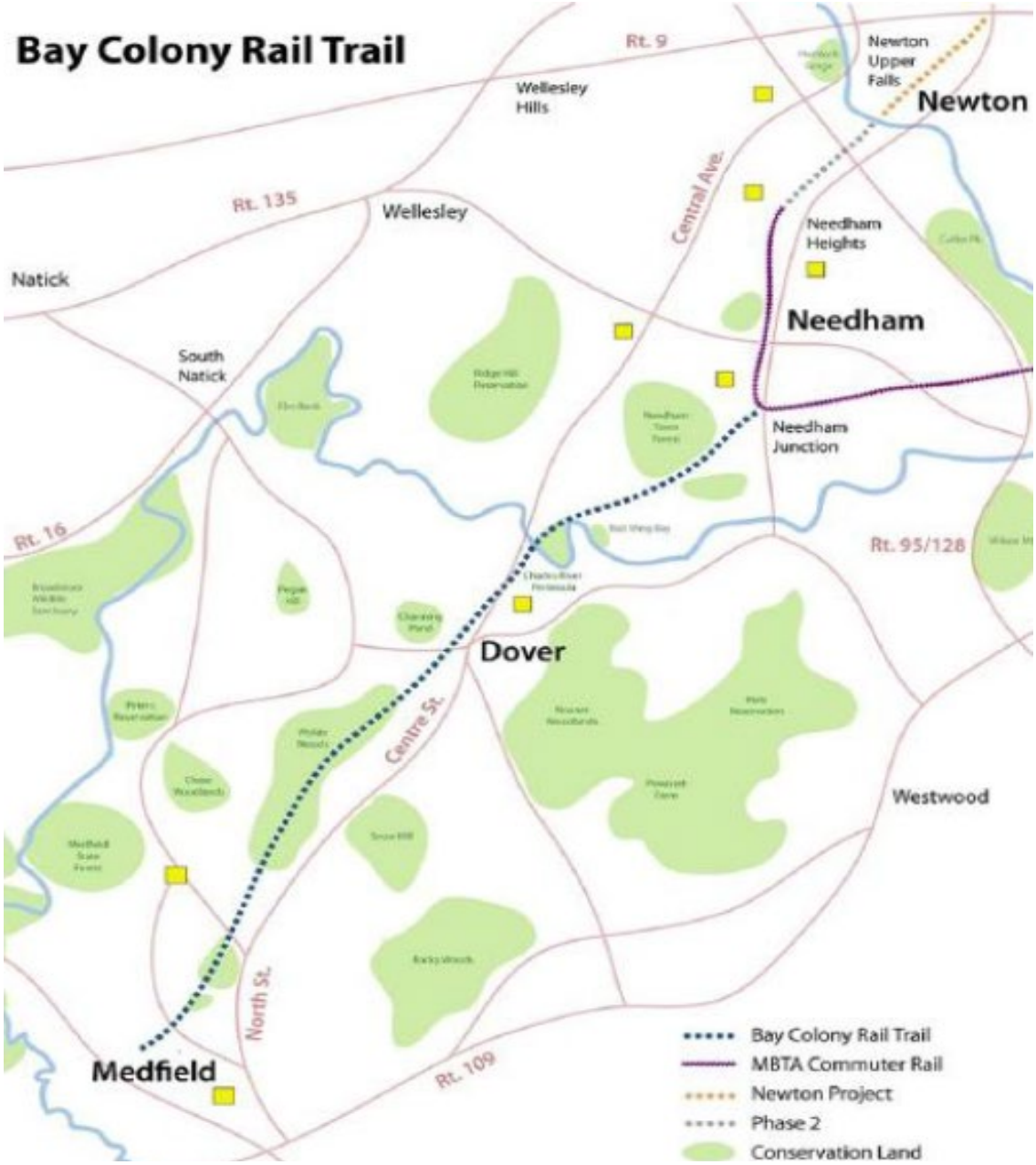


Figure 2: Bay Colony Rail Trail

1.4 Population and Demographic Context

Demographic data were extracted from Replica. Replica's population data is based on US Census demographic datasets (2021 American Community Survey, 2016 Census Transportation Planning Products, and 2019 Longitudinal Employer-Household Dynamics (LEHD)) which are used to create a "synthetic population" that is statistically representative of the actual population in a region.

Within a ¼ mile radius of the corridor extents, there is an estimated population of 2,970 residents **(Figure 3).**

The population within the study area is predominantly white (approximately 69.4%). The remaining racial makeup of the study area is 18.3% Asian, 6.73% Hispanic or Latino, 3.10% two or more races, 2.09% Black, and 0.37% other races. The median age of the population within the study area is 47 years old, however there is a significant percentage of youth (under 18 years old) and senior citizens (65 years and older), comprising approximately 22% and 24% of the community, respectively. Therefore, any infrastructure improvements should be focused on providing safe and essential connections for people of all ages.

The median household income of the population residing within the study area is $186,000 compared to a median household income of $89,026 for the Commonwealth of Massachusetts and a U.S. median household income of $69,021. All improvements should be implemented with equity in mind, prioritizing efforts in locations where citizens rely most on active transportation modes (walking and biking) as well as public transportation and commuter rail stations, allowing broadened opportunities for economic growth.

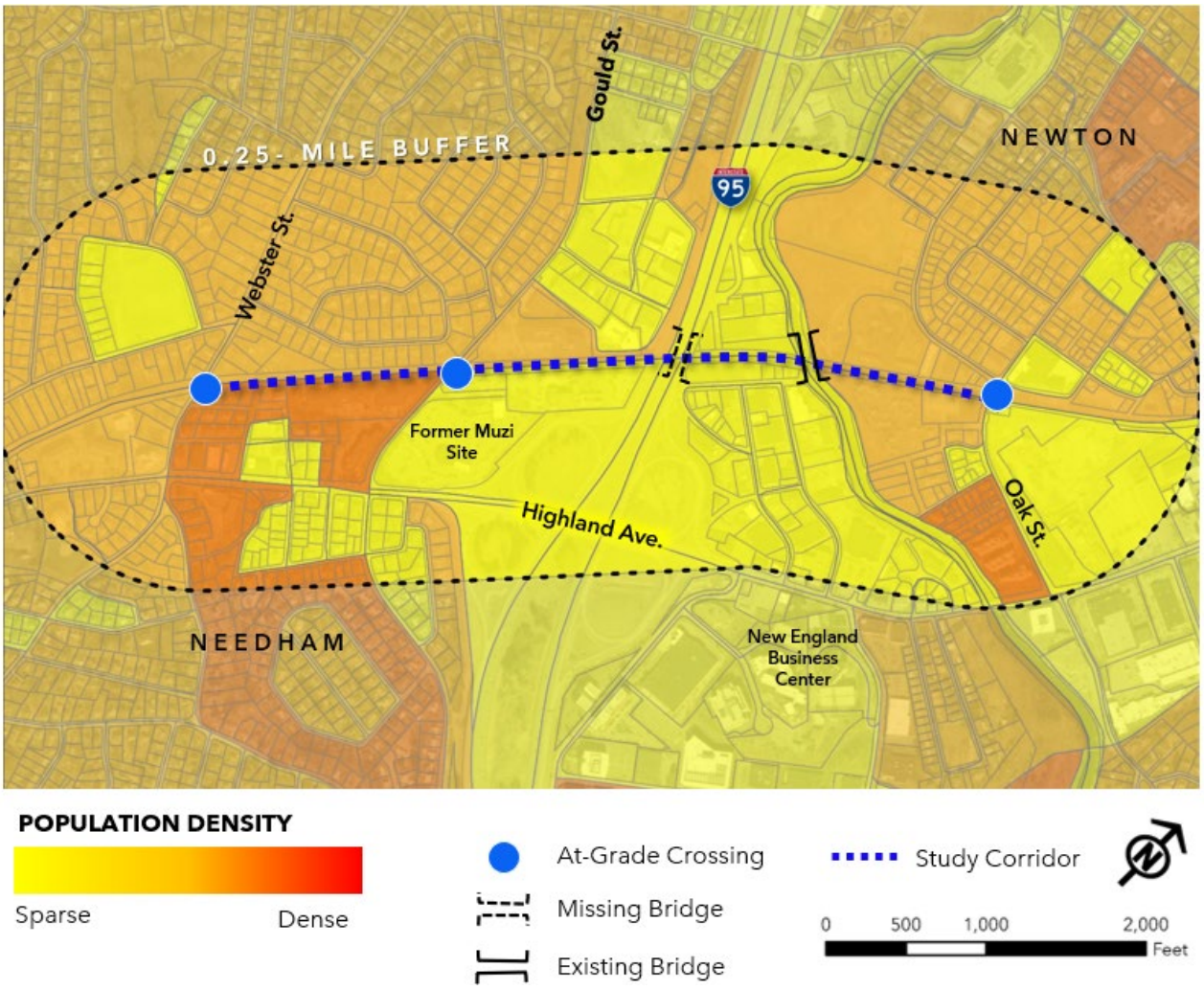


Figure 3: Population Density

1.4.1 Environmental Justice Communities

In 2021, the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) adopted an updated Environmental Justice (EJ) Policy. This update builds upon Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, which "directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations, to the greatest extent practicable and permitted by law." In accordance with the 2021 EJ Policy, the EEA Massachusetts 2022 Environmental Justice Population Maps were researched to identify potential EJ populations within a 1-mile radius of the project site. As shown in **Figure 4.** the following Minority EJ Populations fall within the 1-mile buffer of the project area.

- Block Group 1, Census Tract 3741, Middlesex County
- Block Group 2, Census Tract 3741, Middlesex County
- Block Group 3, Census Tract 3741, Middlesex County

The 'Minority' designation indicates that the block group minority population is greater than or equal to 40%, or the block group is in less than 150% of the Massachusetts median household income.

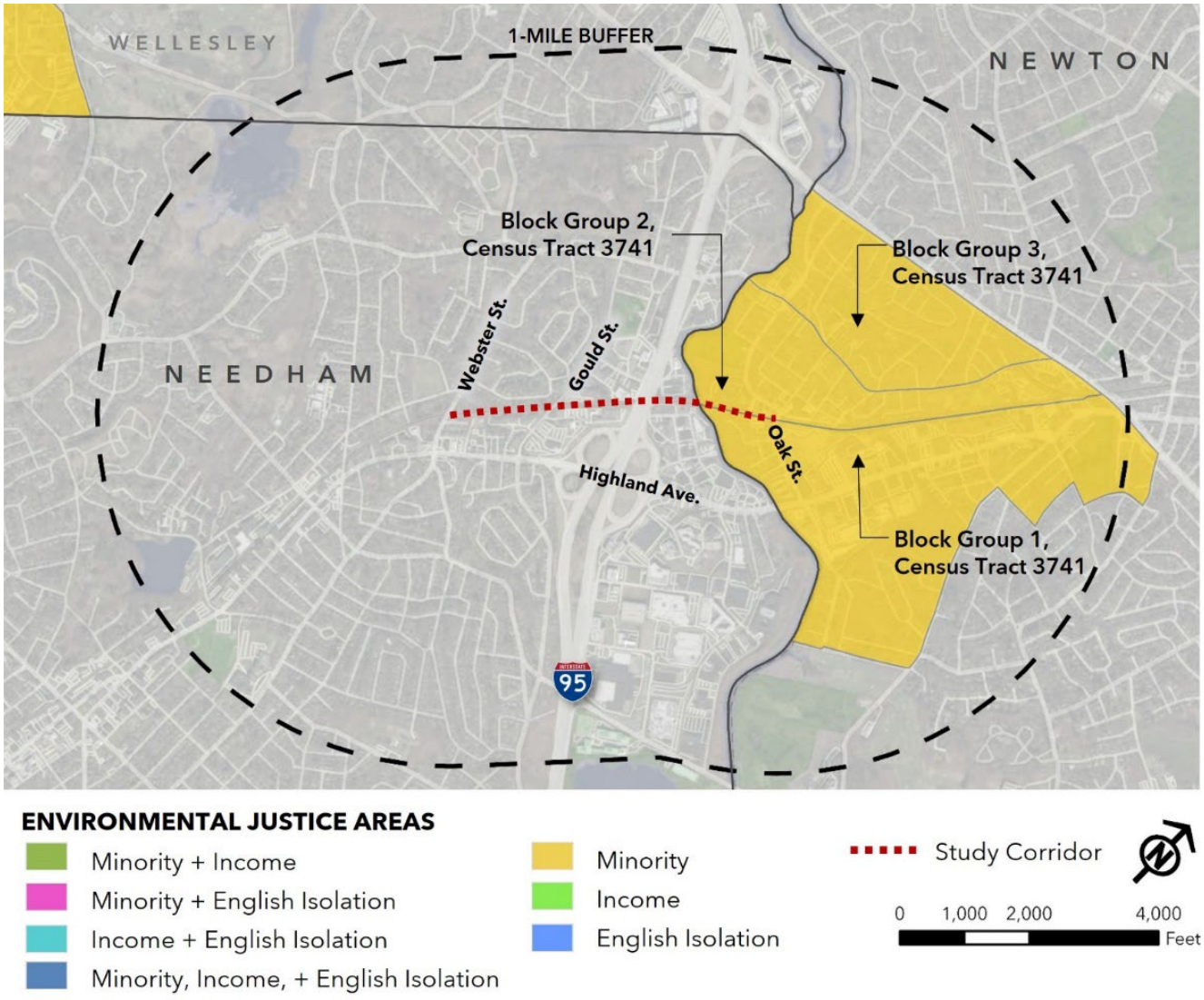


Figure 4: Environmental Justice Communities

1.5 Land Use and Development Context

Land uses within the project area include primarily residential, commercial, industrial, and open space (recreation). Notable abutting and surrounding land uses are listed below. **Figure 5** depicts the study area in relation to these important land uses. Two major redevelopment projects under construction directly abut the MBTA right-of-way: the Highland Science Center in Needham and the Northland Newton development in Newton (abuts Upper Falls Greenway adjacent to this project area).

- Highland Science Center (Permitted). Just south of the rail corridor to the south in Needham is the former Muzi Ford site, bordered by Highland Avenue to the south, Interstate 95 to the east, Gould Street to the west and TV Place to the north. In December 2022 the Needham Planning Board approved plans for the Highland Science Center, a 465,000 square foot lab and office development for the nearly 10-acre Muzi Ford site.

- Wingate Senior Housing. Just south of the right-of-way, between Webster Street and Gould Street, is the Wingate Residences of Needham which is a 91-unit assisted living senior housing development.

- Needham Crossing. The right-of-way also runs along the northerly edge of Needham Crossing area which is a mixed-use development offering residential, office and other commercial uses (including retail, restaurant, and consumer services) which spans north and south of Highland Avenue. Needham Crossing is currently home to multiple hospitality and tech businesses and is a significant destination in the area.

- Upper Falls Neighborhood. The right-of-way at Oak Street is situated in the center of the Upper Falls neighborhood which includes a mixture of residential and commercial development.

- Northland Newton Development (Under Construction). Abutting the Upper Falls Greenway on the easterly side of Oak Street (just beyond the project limits) a 22.6-acre site at the intersection of Needham and Oak Streets is undergoing redevelopment as a mixed-use development that will include 800 apartments, and approximately 200,000 square feet of office and retail development. The development will provide a free shuttle to the Newton Highland Green Line transit station.

- Parks and Open Space. The right-of-way is within a quarter mile of several parks and open space areas including Avery Field located on Webster Street in Needham, Cricket Field located on Hillside Avenue in Needham, Mills Field on Gould Street in Needham,

the Bobby Braceland Playground on Chestnut Street in Newton, and lastly, the Charles River Pathway in Newton off Saco Street.

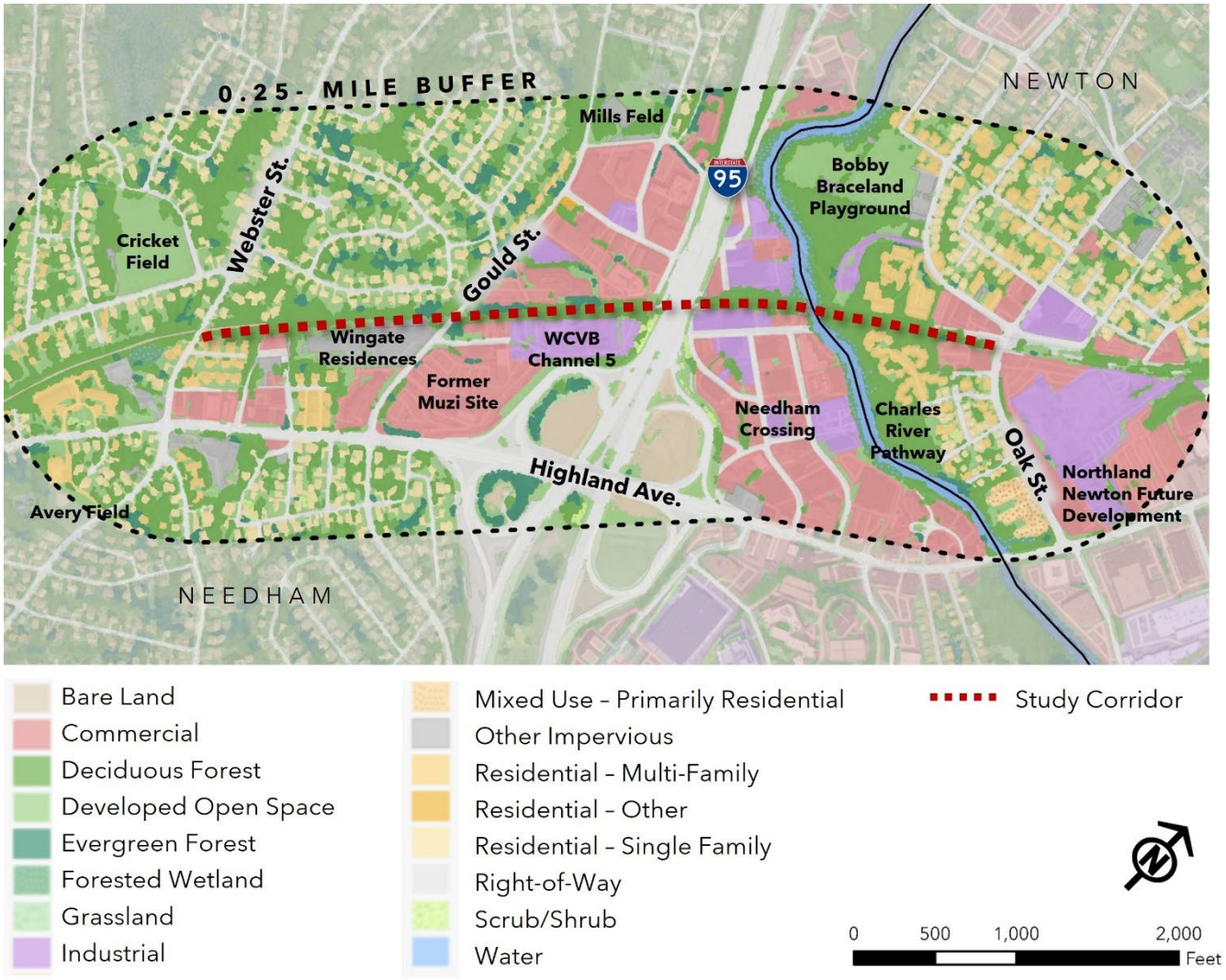


Figure 5: Land Use

1.6 Transportation Context

The Community Way is surrounded by local and regional street, pedestrian, transit and developing bicycle networks. Components of these networks are shown in **Figure 6** and described below.

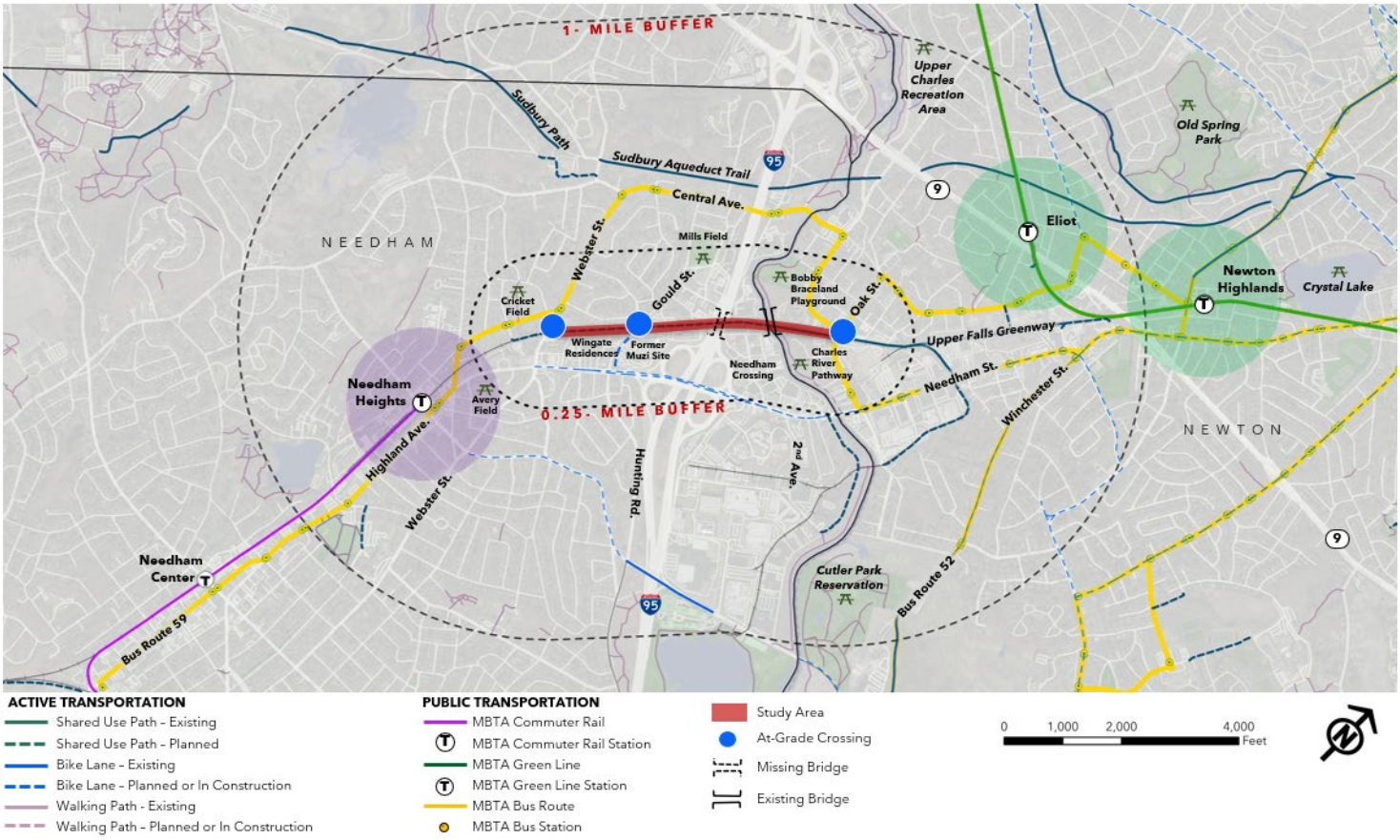


Figure 6: Local Connections Map

1.6.1 Street Network

The Community Way could be well integrated into the local and regional transportation network if it were to be improved for use. The corridor is surrounded by local street networks that serve surrounding residential and commercial development. The rail corridor is set between two major parallel arterial/collector streets: Highland Avenue / Needham Street which is one-quarter mile (or less) to the south and Central Avenue / Eliot Street which is approximately one-half mile (or less) to the north. Local access to the corridor is obtained by Webster Street, Gould Street and Oak Street.

1.6.2 Pedestrian Network

The Community Way is located within developed and redeveloping areas of Needham and Newton which are generally well served by a network of streets many of which have sidewalks. In Needham, sidewalks are provided on both sides of Webster Street and Oak Street, and a sidewalk is provided along the western side of Gould Street. In Newton, a marked crosswalk

with pedestrian warning signage is provided at the Upper Falls Greenway trail crossing at Oak Street.

Crosswalks are provided at all signalized intersections along Highland Avenue/Needham Street and Central Avenue/Eliot Street; most have pedestrian signals. Crosswalk ramps are provided for most crosswalk approaches, and tactical warning strips are provided for most ramps. Such safe streets will allow for a greater capture zone north and south of these parallel roadways, respectively.

1.6.3 Bicycle Network

Bicycle accommodations within both communities are limited. On-street bicycle lanes are currently provided on both sides of Highland Avenue between Wexford Street in Newton and Gould Street/Hunting Road in Needham, on Hunting Road south of Highland Avenue. Separated bicycle lanes and shared-use paths are under construction along Highland Avenue and Needham Street between Webster Street in Needham and Winchester Street in Newton as a part of the Highland Avenue / Needham Street Corridor project described below.

1.6.4 Upper Falls Greenway

The existing Upper Falls Greenway in Newton is an approximately one-mile rail trail which extends from the Charles River to Easy Street in Newton Highlands Village. A spur trail connecting to Needham Street is provided at about the mid-point of the trail just north of Tower Road. The Upper Falls Greenway can be accessed from Easy Street, Eliot Street, Needham Street and Oak Street in Newton with limited on-street parking available on Chestnut Street adjacent to the Depot Coffee Shoppe. In recent months (April 2023), a trail organization group developed an informal staircase at the western terminus at the Charles Street bridge down to a footpath along the river which provides access to the Bobby Braceland Playground north of the study corridor.

1.6.5 Transit Network

1.6.5.1 MBTA Commuter Rail Line

The MBTA provides public transportation services within the Greater Boston Metropolitan Area, which includes Needham and Newton. The Needham Heights train station is the terminal stop on the MBTA's Needham Commuter Line and is located about 0.5 miles south of the project limit at Webster Street. The line provides hourly service between Needham and South Station in Boston. The average travel time between South Station / Needham Heights is 40-45 minutes. On a typical weekday, this service operates between 6:05 AM and 10:47 AM for inbound travel, and between 6:47 AM and 12:00 AM for outbound travel. On Saturday and Sundays this service operates between 8:05 AM and 12:05 AM for inbound travel, and between 7:10 AM and 11:25 PM for outbound travel.

1.6.5.2 MBTA Green Line

The MBTA – Green Line D (Riverside) service operates between Union Square in Somerville to Riverside in Newton via Government Center in Boston. The Newton Highlands Green Line station is located approximately 1.2 miles east of the Oak Street terminus of the Community Way. The average scheduled travel time between Union Square and Newton Highlands is 55 minutes and between Government Center and Newton highlands is 40 minutes, however individual travel times are highly variable depending on passenger traffic and congestion that occurs in the MBTA's Central Subway in Boston. Peak hour headways (the scheduled times between trains) are 6-8 minutes during the peak and 7-12 minutes during off-peak hours, however intervals between trains can be quite variable in the peak periods. On a typical weekday and Saturday, this service runs between 4:51 AM and 12:34 AM. On a typical Sunday, this service runs between 5:25 AM and 12:39 AM.

1.6.5.3 MBTA Bus

The MBTA also provides public transportation services within the vicinity of the Community Way via the Route 59 (Needham Junction – Watertown Square) bus line. This bus route runs along Needham Street, Oak Street, Chestnut Street, Eliot Street/Central Avenue and Webster Street through the project area. On a typical weekday, this service runs from 6:20 AM to 8:22 PM, with a typical travel time from one end to another of 35-40 minutes.

1.6.5.4 128 Business Council Shuttle Service

The 128 Business Council provides shuttle service through the Town of Needham via the Needham Shuttle bus route. This route connects the Newton Highlands Green Line station with the Needham Crossing area including Needham Street, Second Avenue, First Avenue, A Street, B Street, and Kendrick Street which are all located on the easterly side of Interstate 95. This service operates Mondays through Fridays from 7:30 AM to 5:50 PM. This service is offered to TMA members only when requested ahead of time and is accessible for persons with disabilities.

1.6.6 Related Transportation Construction Projects

1.6.6.1 Needham-Newton Corridor Project (MassDOT Project # 606635)

The corridor from Highland Avenue and Webster Street in Needham to Winchester Street and Route 9 In Newton (1.7 miles) is currently under reconstruction to improve traffic safety and operations and provide multimodal (transit, bicycle, and pedestrian) accommodations. The project also includes widening the bridge over the Charles River to accommodate all modes of travel. This project excludes the segment over I-95/Route 128 which was part of an earlier project. Once complete, the project will provide continuous pedestrian and bicyclist

accommodations through new sidewalks, raised bike lanes, and shared-use side paths. This project is currently under construction and anticipated to be completed in 2024.

1.6.6.2 Pettee Square /Chestnut-Oak Intersection Improvement Project

The City of Newton is preparing plans to improve safety and accessibility for all users, improve the streetscape, enhance traffic operations, implement traffic calming and improve stormwater where feasible at the intersection of Chestnut Street and Oak Streets near the easterly project limit. An RRFB (Rectangular Rapid Flashing Beacon) is proposed to improve the safety of the pedestrian crossing of the Upper Falls Greenway at Oak Street as a part of this project.

1.6.6.3 Gould Street Improvements

Improvements to Gould Street under discussion to be provided as part of the Highland Science Center (Muzi Ford site) include the following:

- Bi-directional sidewalk level bicycle lanes on the east side of the street from Highland Avenue to the rail corridor;
- A marked crosswalk across Gould Street with an LED warning sign or RRFB (rectangular rapid flashing beacon) at the rail corridor.
- The sidewalk on the west side of Gould Street between Highland Avenue and Noanett Road will be reconstructed; and
- A 4-foot bicycle accommodating shoulder on the west side of the street will be provided.

02 || EXISTING CONDITIONS

2.0 EXISTING CONDITIONS

2.1 Study Area

The study area spans approximately 5,000 feet of the unused MBTA right-of-way beginning in Needham at the at-grade Webster Street crossing, extending over I-95 / Route 128 and the Charles River, and terminating at the Oak Street at-grade crossing in Newton. The corridor right-of-way is 82.5 feet in width. The ROW crosses I-95 / Route 128 in Needham, although the rail bridge was removed in 2015 as part of the 128 Add-a-Lane project. The right-of-way also includes a bridge over the Charles River which is currently fenced off to prevent public access. The study area slightly overlaps and abuts the Upper Falls Greenway in Newton, a 15-16-foot-wide stone dust path that is used by cyclists and pedestrians and extends from Easy Street (near the intersection of Needham Street and Winchester Street) to the Charles River. The Upper Falls Greenway is approximately one mile in length and is maintained and managed by the City of Newton. The study area is shown in **Figure 1**.

2.2 Historical Use of the Corridor

The study area right-of-way was originally a part of rail line initiated in the mid-1800's to connect greater Boston to the Rhode Island border. Work on this line was initially undertaken by the Charles River Branch Railroad and the section of track from Boston to Needham was completed in 1853. From this time, through the 1880's, the railroad was used to haul gravel from quarries in Needham to fill the developing Back Bay area of Boston. Following this industrial service, the railroad went through a succession of ownership changes and portions of the line were converted to passenger service in an attempt to stay solvent and respond to changing demand. Service between Newton Highlands and Newton Upper Falls ended in 1927 and service between Needham Heights and Newton Upper Falls ended in 1932. In 1958 the Boston and Albany Railroad ended passenger service on the Highland Branch which included the Newton Highlands station. The rail corridor was transferred to the Metropolitan Transit Authority (now the MBTA) which converted the Highland line to trolley service and established what is now the D branch of the Green Line which began service in 1959.

2.3 Community Way Corridor Existing Conditions

2.3.1 Webster Street ROW Crossing

The right-of-way crosses Webster Street at grade approximately 600 feet north of Highland Avenue and 390 feet south of Hillside Road. Webster Street is a two-lane, two-way collector street under the jurisdiction of the Town of Needham. Webster Street provides north-south connectivity to neighborhoods through the Town of Needham. Traffic volumes on file with MassDOT indicate an average annual daily traffic volume of 2,300 vehicles per day. The speed limit is 30 MPH. There are sidewalks on both sides of Webster Street. There are no bicycle accommodations. Railroad tracks remain in place through the intersection.

Photo 1: MBTA ROW crossing of Webster Street

2.3.2 Webster Street to Gould Street

The segment from Webster Street to Gould Street is approximately 1,550 feet in length. Railroad tracks and ties remain in place but are not in serviceable condition. Through this area the railroad grade is situated on fill and is elevated above abutting properties to the north and somewhat below abutting properties to the south. There is vegetative overgrowth established across the corridor.

Photo 2: Webster Street to Gould Street

The segment is bordered on the north by single-family homes along Evelyn Road and Webster Street and on the south by approximately eight townhouses on Guild Road, and commercial equipment and service businesses accessed via Arbor Road and the multi-family Wingate Residences senior living community.

2.3.3 Gould Street ROW Crossing

The community way corridor crosses Gould Street at grade approximately 900 feet north of Highland Avenue. Gould Street is a two-lane, two-way urban minor arterial street under the jurisdiction of the Town of Needham. Gould Street provides north-south connectivity parallel to I-95/Route 128 between Highland Avenue to the south and Central Street to the north. Traffic volumes on file with MassDOT indicate an average annual daily traffic volume of 11,300 vehicles per day. The speed limit is 30 MPH. There is a sidewalk on the westerly side of Gould Street. There are no bicycle accommodations. Railroad tracks remain in place through the intersection.

Photo 3: MBTA ROW Crossing at Gould Street

2.3.4 Gould Street to I-95 / Route 128

The segment from Gould Street to I-95/Route 128 is approximately 1,200 feet in length. Railroad tracks and ties remain in place within this segment however they are not serviceable; there is a remnant of a second track within the easterly portion of the right-of-way. Through this area the railroad grade is situated on fill and is elevated above abutting properties. There is dense vegetation established in the ROW. There is a billboard structure at the easterly end of the ROW oriented to I-95/Route 128.

Photo 4: MBTA ROW Behind TV Place Includes Double Tracks and Dense Vegetation

The segment is bordered by office buildings to the north and lower density office and parking areas (WCVB TV Station) to the south. The former Muzi Ford site, which is currently undergoing redevelopment, is adjacent to the WCVB TV station to the south but does not abut the rail corridor.

2.3.5 I-95 / Route 128 to Charles River

The segment from I-95/Route 128 to the Charles River is approximately 700 feet in length. Railroad tracks and ties are in place within this segment. Through this area the railroad grade is situated on fill and is elevated above abutting properties by approximately 10 to 20-feet. There is dense vegetation established in the ROW.

The segment is bordered by commercial and light industrial buildings and parking areas along Reservoir Street and Fremont Street north and south of the corridor right-of-way.

There is storage of materials associated with abutting businesses encroaching into the right-of-way at the easterly end of Fremont Street.

2.3.6 Charles River to Oak Street – Upper Falls Greenway

The segment from the Charles River to Oak Street is approximately 1,150 feet in length. This segment is within the city of Newton and has been improved as a rail trail with a stone dust surface approximately 15-16 feet in width. Through this area the railroad grade is situated on fill at the westerly end and descends to grade at Oak Street. There is dense tree cover established on both sides of the path.

The segment is bordered on the north by a large telecommunications tower, an apartment complex and commercial buildings and parking areas oriented to Chestnut Street and by apartments and an office building to the south.

Photo 5: Upper Falls Greenway Between the Charles River and Oak Street

2.3.7 Oak Street Crossing

The Upper Falls Greenway crosses Oak Street approximately 1300 feet north of Needham Street and 90 feet south of Chestnut Street. Oak Street is a two-lane, two-way urban collector street under the jurisdiction of the City of Newton. Oak Street provides north south connectivity between the Upper Falls neighborhood and Needham Street. Traffic volumes on file with MassDOT indicate an average annual daily traffic volume on Oak Street of 6,500 vehicles per day. There is a sidewalk on both sides of Oak Street. There are no bicycle accommodations. The Upper Falls Greenway crossing is improved with a striped crosswalk, high visibility pedestrian crossing warning signage and accessibility ramps with detectable warning panels.

Photo 6: Upper Falls Greenway Crossing of Oak Street (looking southwest)

2.4 Right-of-Way Licenses and Encroachments

The MBTA issues licenses for citizens, municipalities or companies that wish to access or lease MBTA property. Within the project area licensees primarily include utility companies as well as WCVB TV in Needham.

Based on review of the 2023 aerial mapping of the right-of-way and field reconnaissance it appears that there are encroachments along the right-of-way at the following locations in Needham.

Location	Encroachment Description
Arbor Road businesses	Material and Equipment Storage
235 Gould Road, Wingate Residences	Landscaping
Fremont Street businesses	Material and Equipment Storage

To obtain federal funding to improve the Community Way, all encroachments would be required to be licensed or removed. The MBTA has a process for licensing encroaching uses which entails paying a fee (currently $150 per square foot up to $5000 per year) or removing the encroaching use.

Based on preliminary review of 2023 aerial photography the only encroachment that may conflict with the proposed path is the landscaping at the Wingate Residences. It does not appear that licensed uses would conflict with the shared use path or the shuttle inclusive path, however utilities often have access requirements, and this would need to be investigated further during project design.

2.5 1-95/Route 128 Bridge

Up until the end of 2015, there was a railroad bridge crossing I-95/Route 128 It was fully demolished and removed to accommodate roadway widening and a higher clearance over the highway.

Photo 7: MBTA Right-of-Way at I-95 / Route 128

2.5.1 Existing Conditions

The old railroad bridge was fully demolished during the I-95/Route 128 expansion project in 2015. The 2013 design plans for the project (MassDOT project #603711) indicate that all substructure elements were removed and replaced with structural fill. The existing highway consists of four northbound lanes, four southbound lanes, two northbound entrance ramp lanes, and two southbound exit ramp lanes. There is a 2-foot concrete barrier in the median of the highway and 10-foot shoulders on both sides of the barrier **Figure 7.** The total roadway width at the proposed bridge is approximately 200 feet, or approximately 225 feet along the bridge skew.

There are two existing retaining wall structures on each side of the roadway retaining the railroad grade. Both walls are soldier pile retaining walls with concrete lagging. The east (northbound) wall has an exposed height of 9 feet and the west (southbound) wall has an exposed height of 14 feet. The ground rises behind the walls at approximately a 2:1 slope, and the top of slope elevation on both sides is 120 feet.

Figure 7: Current I-95/Route 128 Configuration (3D Model from Drone Flight)

Photo 8: The rail bridge across I-95/Route 128 prior to demolition (Google Earth, October 2011)

2.5.2 Site Constraints

2.5.2.1 Traffic Volumes and Roadway Width

The location of a new bridge has a few challenges that will drive the potential design choices for this project. I-95/Route 128 is a heavily traveled road, so any construction on it will create major traffic impacts. Therefore, critical parts of the bridge construction such as casting the foundations and placing beams will likely need to be completed during overnight shutdowns and/or lane closures. The width of the roadway also poses challenges in design because crossing twelve lanes of traffic will require deeper bridge structures and higher profiles to achieve the required clearance under the bridge.

2.5.2.2 Clearance over I-95/Route 128

I-95/Route 128 is travelled by trucks as well as passenger vehicles, and there are strict height requirements for new structures over the highway. Per MassDOT design guidelines, pedestrian bridges must have a minimum vertical clearance of 17 feet.

The existing southbound (west) side of the highway is at a lower elevation than the northbound (east) side, while the old railroad profile is at a higher elevation to the west than the east **(Figure 8).** Therefore, the clearance over the northbound lanes is the critical height and will require profile changes on the east bridge approach. To achieve the minimum clearance, the east end of the bridge would need to be raised and have a top of deck grade that is higher than the existing ground surface. This increased height would need to extend well beyond the limits of the east bridge abutment to meet the existing ground surface. The exact value of grade increase will depend on the bridge type and beam depth determined during the design process, and therefore the distance east of profile changes will also depend on the bridge type. Because the existing trail is already sloped on the sides to have a higher elevation than the surrounding buildings, any profile increase will require retaining walls to support the new surface.

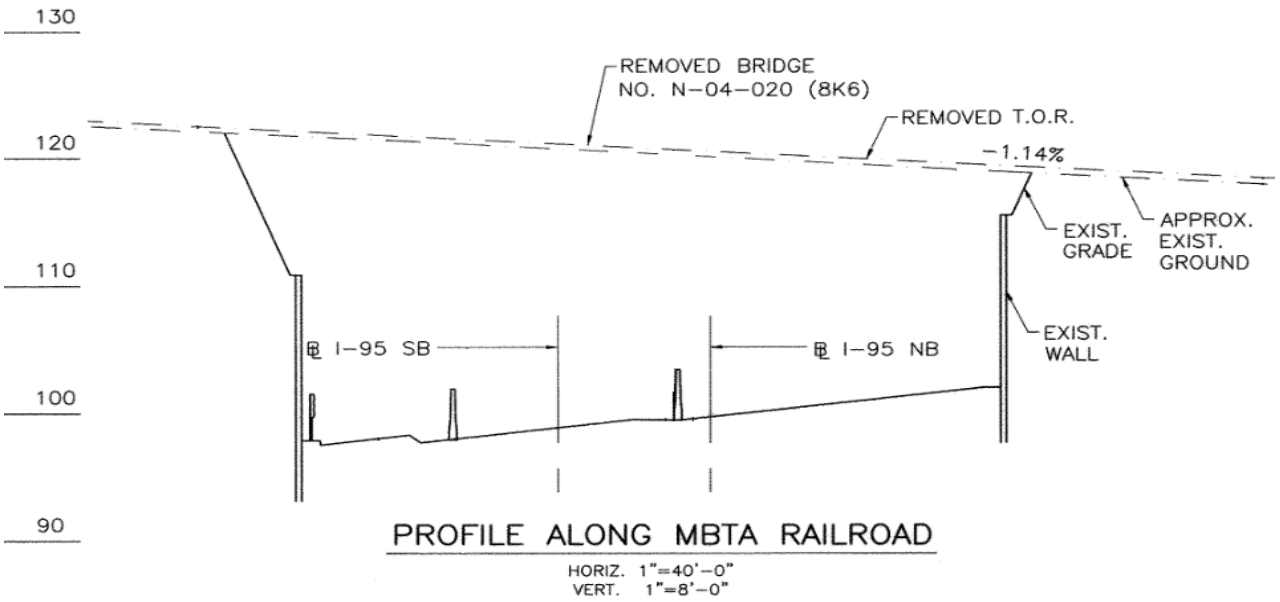


Figure 8: Roadway Slope, Ground Profile, and Removed Bridge Profile along the MBTA Baseline (Image Simplified from the N-04-20 (8K6) Bridge Demolition Plans)

2.5.2.3 I-95/Route 128 Median Shoulder Width

The existing median of I-95/Route 128 at the project location has limited room for constructing a bridge pier. A pier would likely be 3'-0" wide and will require 42" high concrete barriers (approximately 24" wide) on both sides to protect the structure from vehicular impact. It is preferred by MassDOT standards and engineering directives that the barriers be offset from the face of the pier, although it is possible to place them against the pier if there is limited room. **Figure 9** compares the existing condition with two potential barrier options and indicates the resulting shoulder widths. Both possible barrier arrangements would reduce the existing 10-foot shoulder width and would require a design exception from MassDOT, and acceptance by the FHWA (Federal Highway Administration).

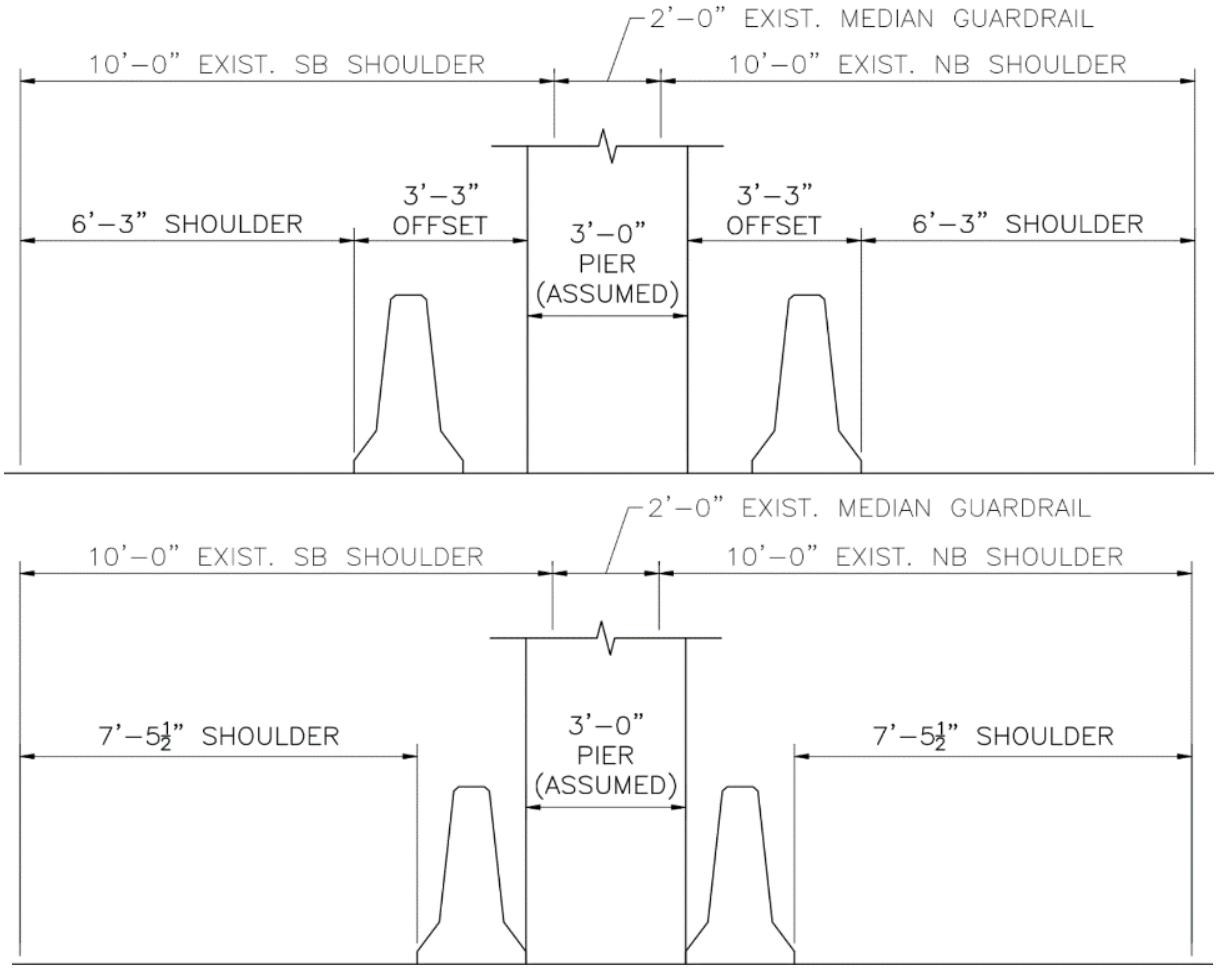


Figure 9: Potential Median Sections: a 3-foot Pier with Offset Barriers (top) or Flush Barriers (bottom)

2.5.2.4 Existing Retaining Walls

The existing soldier pile retaining walls along I-95/Route 128 pose structural and geometrical challenges. The walls were designed as a part of the 2013 highway expansion project and were likely designed to only support the loads of a sloped backfill and not those of a bridge abutment behind it. To prevent surcharge loads from being applied to the existing walls and potentially causing structural failure, pile supported foundations should be used at both bridge abutments.

Assuming the bridge abutments are supported on piles with the front pile driven at a 10-degree batter, there is a potential geometric constraint due to both structures having deep foundations **(Figure 10).** This will control how far back the bridge abutments must be, and therefore be a determining factor in the span lengths of the bridge. Based on preliminary abutment geometry, to maintain approximately 5 feet of clearance between the bottoms of the proposed and existing piles, the centerline of bearing of the proposed beams should be 16 feet behind the face of the existing retaining walls. This results in a preliminary total bridge length of 270 feet.

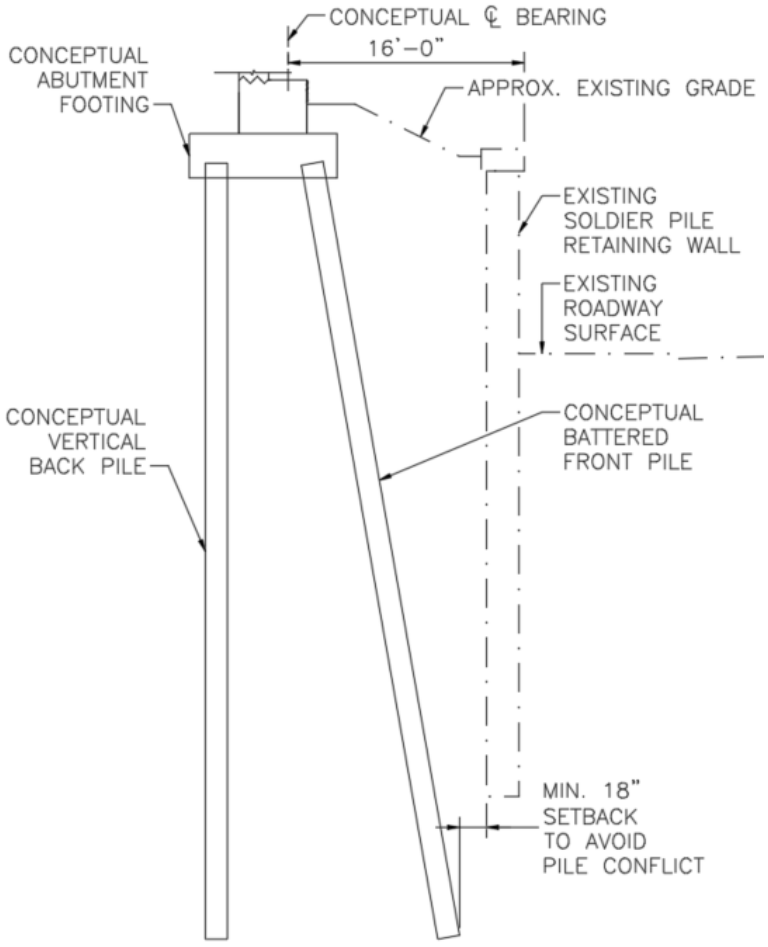


Figure 10: Conceptual Cross Section of New Abutments Behind Existing Retaining Walls

2.6 Charles River Bridge

There is an existing steel girder railroad bridge spanning the Charles River along MBTA ROW approximately 750 feet northeast of the proposed bridge over I-95/Route 128. Around 2015, the City of Newton constructed timber decking and rails to the approximate midspan of the bridge, although it is currently fenced off to prevent access on the bridge (see Photo 9). The structure consists of two 7'-8 3/8" deep steel plate girders spaced at 7'-6" (9 feet out-to-out width) and two abutments and wingwalls made of concrete and stone masonry. The overall

bridge length is 73'-2". The east wingwalls are both concrete (Photo 9) and the west wingwalls are stone masonry, along with a section of abutment set back from the main concrete abutment (Photo 10). Both abutments are protected from scour by steel sheet pile walls and the concrete poured between them.

Photo 9: East Elevation of Charles River Bridge (looking northwesterly)

2.6.1 Existing Conditions and Assessment

The Charles River bridge was inspected on November 17, 2015, by the MBTA and on February 16, 2023, by GPI. The superstructure and substructure were found to be in satisfactory condition according to the MBTA bridge inspection report.

2.6.1.1 Substructure Conditions

The stone masonry sections of abutments and wingwalls have areas of missing mortar and voids throughout. Both the west and east abutments are in similar condition. As shown in Photo 10, the concrete abutments have several areas of spall on the backwalls and bridge seats. There is also minor map cracking and efflorescence on the faces of the abutments, and the wingwalls have some areas of spalling, a full height diagonal crack, and map cracking and

efflorescence. Superficial repairs would likely be included as part of the project, but it is assumed the abutments have sufficient capacity because they previously supported railroad loads that were much heavier than the proposed pedestrian and shuttle loading.

Photo 10: West Abutment

2.6.1.2 Superstructure Conditions

The two main structural steel girders have held up well and remain in satisfactory condition (Photo 11). There is light rust throughout and some section loss in the angle connections between the web and bottom flanges. The coating is worn throughout the bridge.

Photo 11: Elevation of West Beam

Throughout the entire superstructure, there is light to mild rust and some accumulation of debris. The bearing stiffeners have heavy rust and section loss. The intermediate stiffeners, lateral bracing, and diaphragms are all in satisfactory condition with minor rusting (Photo 12).

Photo 12: Underside of Bridge

In total, the bearings have two loose anchor bolts and one anchor bolt missing but are otherwise in fine condition (Photo 13). Some rivet heads throughout the bridge have 50-100% section loss.

Photo 13: Condition of Bearings

While the superstructure has signs of wear, with sufficient rehabilitation as described below, the structural components have a viable life span to support the reuse for a new deck.

2.6.1.3 Deck Conditions

The old rails and connection plates were entirely removed from the bridge, but the timber ties and curbs were left in place. The ties and curbs are both in poor condition, with decay and splits. About a third of the ties have areas of full section loss. There are many areas of missing or askew ties and curbs (Photo 14).

Photo 14: Existing Topside of Bridge

The west side of the bridge has an open deck with the old rail timber left as described above, while the east side has timber decking and rails that were installed on top of the existing timber rail ties (Photo 14). Some of the timber rails are tilting outwards, and because the deck was built around 2015, the timber is lightly weathered. The deck is currently closed to pedestrians by a chain-link fence at the north approach.

2.6.1.4 Anticipated Repairs

GPI anticipates that the following repairs to the existing bridge will be necessary for rehabilitation to convey the proposed path:

Substructure repairs:

- Concrete spall repair of the spalls in the abutment stems, backwalls, and bridge seats, and the east wingwalls.
- Concrete crack repair for any large cracks as identified by the engineer.
- Fill voids in the masonry walls.

Superstructure repairs:

- Tighten all loose anchor bolts and replace the missing anchor bolt at the bridge bearings.
- Clean and paint the entire superstructure.
- Repair to deteriorated bearing stiffeners.
- Installation of new bridge joints.

Deck removals:

- Fully remove and dispose of all existing timber ties, curbs, decking, and rails.

03 || COMMUNITY ENGAGEMENT

3.0 COMMUNITY ENGAGEMENT

3.1 Community Way Working Group

A Needham-Newton Community Way Working Group, composed of representatives from both communities as well as active transportation advocates, guided the preparation of the feasibility study. The working group met periodically through the feasibility study process and provided guidance for the study by reviewing and providing feedback on relevant data, including community input, engagement efforts, cross section elements, and mode service options. The working group also supported the project team by distributing information and communication materials to the public. The working group was comprised of the following individuals:

Kate Fitzpatrick	Town Manager (Needham)
Shane Mark	Asst. Director of DPW (Needham) / Project Manager
Cecilia Simchak	Director of Finance/Admin for Public Services (Needham)
Stacey Mulroy	Director of Parks & Recreation (Needham)
Lt. John McGrath	Police Department (Needham)
Tyler Gabrielski	Management Analyst, DPW (Needham)
Duncan Allen	Needham Resident and MBTA Advisory Board Member
James Goldstein	Needham Resident, Rail Trail Advisory Committee Member and President – Bay Colony Rail Trail Association
Jennifer Steel	Chief Environmental Planner (Newton)
Joshua Ostroff	Director of Transportation Planning (Newton)
Deborah J. Crossley	City Councilor (Newton)
George Kirby	Newton Resident, Newton Upper Falls Greenway Co-founder

3.2 Project Webpages

Both communities created project webpages hosted on their respective municipal websites. Both pages provided an overview of the project, opportunities for the public to provide feedback, and communicated upcoming events. These webpages are as follows.

- https://www.needhamma.gov/communityway
- https://www.newtonma.gov/community-way

3.3 Outreach Efforts

As part of the data collection process and study development, the project team solicited input from the residents, workers, and visitors in the study area. Community feedback was collected over the course of the project in two primary phases. The first phase was geared towards

informing the public of the project and its contents and the second was geared towards presenting the findings of the feasibility study.

3.3.1 Online Survey

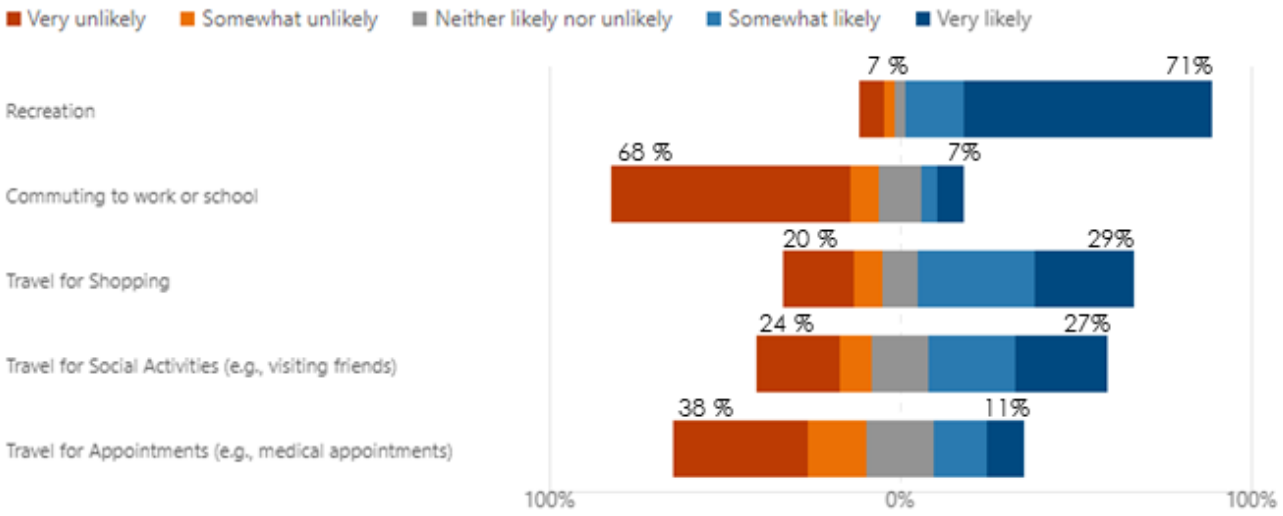
An online survey was distributed to the public in April of 2023 to gage the public's interest in the Community Way and to understand how the community would use the Community Way. The survey was open for several weeks in April before and after the first public information meetings (discussed below).

The Community Way is of significant interest to the community as indicated by the 445 responses received on the online survey. The following summarizes the key take away results of the online survey. The full results are provided in Appendix C.

Overview of respondents to online survey:

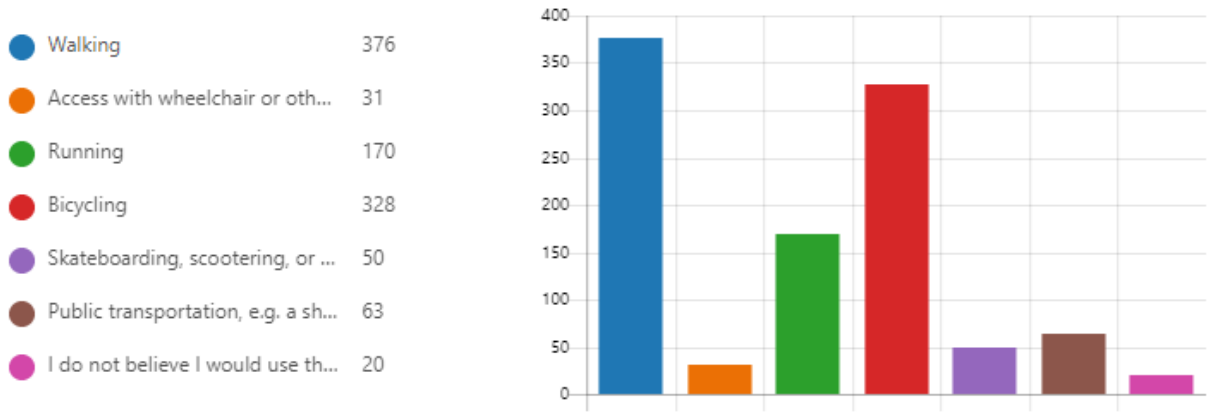
Total Responses	445
Percent of respondents that attended the public informational meetings	14%
Percent Needham residents	46%
Percent Newton residents	52%
Percent of Needham and Newton residents that reside near the Community Way or the Upper Falls Greenway	48%
Percent of respondents that visit the Community way daily or weekly	79%

Travel Purpose: If the Community Way was created how likely would you be to use the path for each of the following?



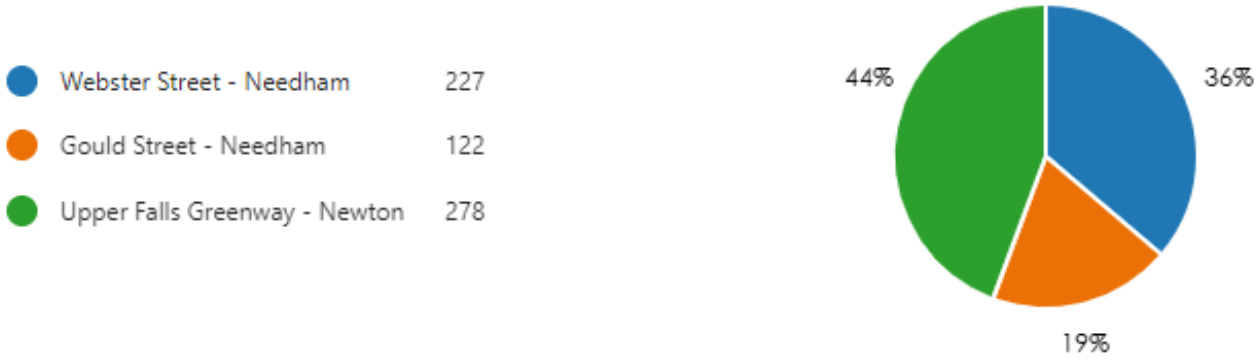
Most respondents reported that they were most likely to use the Community Way for recreation (87% responded 'somewhat likely' or 'very likely') and least likely to use it for commuting to work or school (12% responded 'somewhat likely' or 'very likely').

Use of Community Way: If the Community Way were created, what activities do you believe you would use it for (Check all that apply):

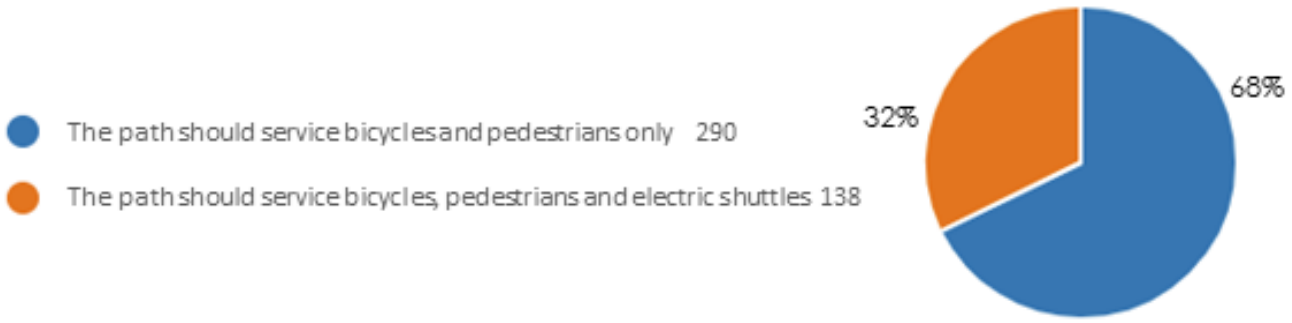


Most respondents believe they would use the Community Way for walking (85%), bicycling (74%), and running (38%). Only 14% believed they would use Community Way electric shuttles.

Access to Community Way Path: If the Community Way were created, at which locations would you be likely to access it (check all that apply)?



Use of Community Way Path: Select that statement with which you agree:



The majority (68%) of respondents felt that the path should service bicycle and pedestrian use only, no electric shuttles. 32% of respondents felt the path should service bicycles, pedestrians, and electric shuttles.

A summary of the responses to the online survey are in Appendix C. An interactive link to the survey can be found here:
https://forms.office.com/Pages/AnalysisPage.aspx?AnalyzerToken=nW6JrdIfVFGP3vyy119WM2bdFLuRKrOP&id=tNP9RtICIUGlYh9R7lhItIuaV_2d-GVAlzKHX7tJ0jRUMlVBQ0hCSDRVWFgwSVNZVkozVzJCVkVOWCQlQCN0PWcu

3.3.2 Public Informational Meetings – April 18 and 23, 2023

As part of the overall community engagement efforts, public workshops were held during both phases of the feasibility study; the informational phase and presenting the results phase.

During the first phase, two public workshops were held; one hosted by the Town of Needham on April 18, 2023, which was held at Needham Town Hall and another hosted virtually by the City of Newton on April 26, 2023. Both workshops were well attended, and the audience was engaged. The following themes were articulated by the community:

- **Design & Construction**
  - Amenities – Participants voiced the desire for amenities along the corridor including lighting, public bathrooms, food trucks, water, trash receptacles etc. Participants asked if there would be parking for the community way.
  - Abutters – Some asked if screening/fencing for privacy would be provided next to residential back yards.
  - Encroachments – There are several observed encroachments along the corridor that will need to be addressed.
  - Stability/ Grading – Questions were raised about how the path would be widened and the stability of slopes and grading along the corridor.
  - Parking – Participants asked if parking would be provided.

  - Surface Type and Width – Some expressed a preference for a stone dust path. Some raised questions about the minimum path width as it related to MassDOT design standards.
  - Separating Bikes/Pedestrians from Shuttles – Some asked how shuttles would be separated from bikes and pedestrians.

- **Historic & Environmental Concerns**
  - Historic Resources – It was noted that the Upper Falls Greenway is in an historic district.
  - Hazardous Materials – A question was raised about hazardous materials along the corridor resulting from the old rail activities.
  - Tree Removal – Several participants voiced concern about potential tree removal along the corridor.

- **Connectivity & Safety**
  - Accessibility (Entrances and Exits) – Participants expressed desire for multiple access points.
  - Overall Support – Several participants supported safe connections for bike and peds along the Community Way as an alternative to busy and congested Highland Avenue/Needham Street.
  - Future Connections – Some asked about future connections to other trails in the area.

- **Bike/Pedestrian vs. Shuttle Service**
  - The majority of the public preferred a pedestrian and bicyclist path for the Community Way. Questions pertaining to the shuttle service included:
    - Would the service be one-way or bi-directional?
    - Is there an example of this (shared shuttle and bike/ped path)?
    - Can the design ensure that the option to extend the Green Line is preserved?

- **Funding & Timeline**
  - Funding – Some voiced concern regarding future funding considering this is the first step in many. They don't want to see this be a "dead end" effort.
  - Timeline – Residents voiced concern and general curiosity about the potential timeline of the completed project, asking when they would be able to use the path.

04 || COMMUNITY WAY ALTERNATIVES

4.0 COMMUNITY WAY ALTERNATIVES

4.1 Design Standards

It is presumed that the project scale will require some level of state and/or federal funding, and therefore all proposed designs will be required to adhere to the guidelines and regulations set forth by the Massachusetts Department of Transportation (MassDOT) and the Federal Highway Association (FHWA). These standards are contained primarily within the following documents:

- *Massachusetts Highway Department Project Development and Design Guide* (2006) (PDDG), MassHighway [Massachusetts Department of Transportation (MassDOT)]
- Load and Resistance Factor Design *(LRFD) Bridge Manual,* 2013 Edition, MassDOT
- *LRFD Bridge Design Specifications*, 9th Edition, 2020, AASHTO (American Association of State Highway and Transportation Officials (AASHTO)
- *Guide for the Development of Bicycle Facilities*, (2012), AASHTO
- *Public Right-of-way Accessibility Guidelines* (2011), FHWA
- Rules and Regulations of the Massachusetts Architectural Access Board (AAB)
- *Manual of Uniform Traffic Control Devices* (2009 with revisions and interim approvals), Federal Highway Administration (FHWA)
- *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* (STEP Guide), 2018, FHWA
- Applicable MassDOT Engineering Directives

The alternatives for this feasibility study were identified in the funding grant as a "… *way designed to accommodate only bicycles and pedestrians versus a way designed to accommodate bicycles, pedestrians and electric shuttle buses*…"

Based on this guidance, the following alternatives were developed and analyzed:

- **Alternative 1**: A shared-use path accommodating pedestrians and bicycles.

- **Alternative 2**: A multimodal 'way' accommodating pedestrians, bicycles, and electric shuttle buses. There are three options for the Charles River Bridge related to Alternative 2.

4.2 Community Way Alternatives

4.2.1 Alternative 1: Pedestrian and Bicyclist Shared-use Path (18-feet)

The recommended typical section for the pedestrian and bicycle path is shown in **Figure 11** and includes the following elements.

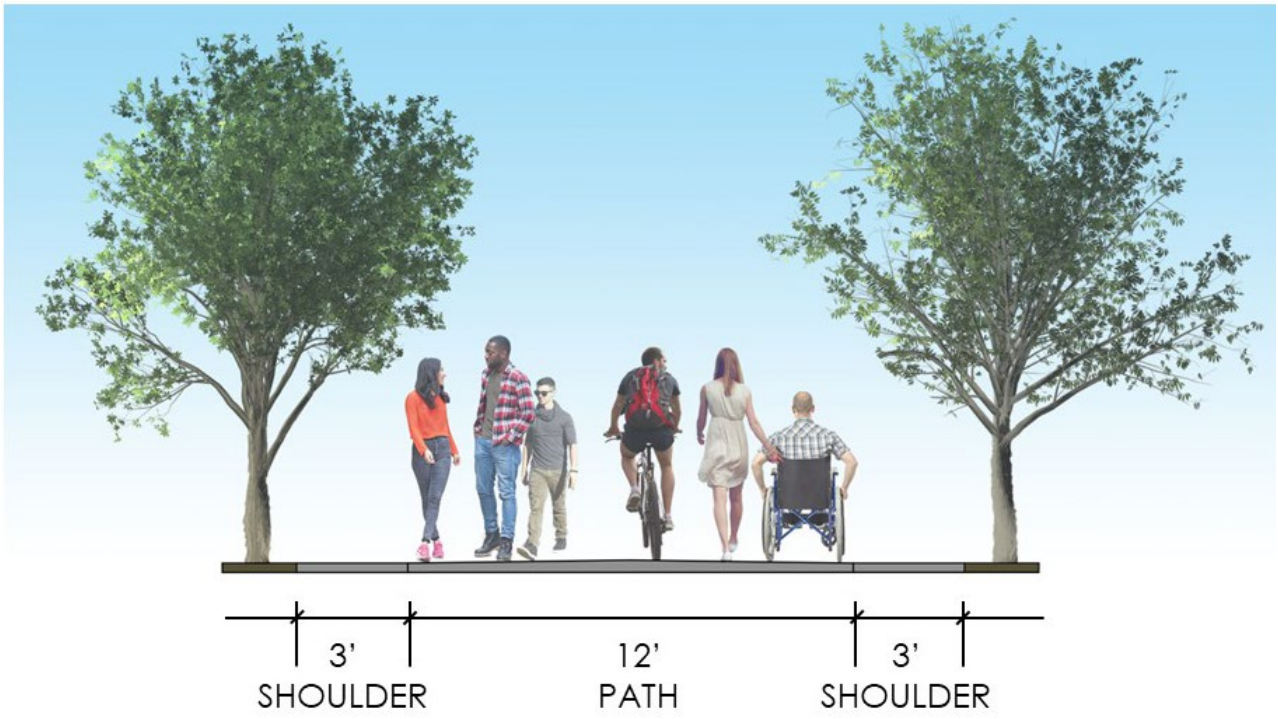


Figure 11: Alternative 1 - Pedestrian and Bicycle Shared-use Path (18-feet) Typical Section

Path Width: Guidance for shared-use path design is found within the MassHighway Project Development and Design Guide (PDDG) and AASHTO's Guide for the Development of Bicycle Facilities. Both manuals recommend a minimum path width of 10-14 feet with 2–3-foot shoulders. The PDDG (which is tailored to conditions in Massachusetts) states that "…*Under most conditions it is desirable to increase the width of a shared-use path to 12 feet, or even 14-feet to accommodate substantial use…and to provide access for maintenance vehicles. In certain instances, a reduced width of 8 feet may be acceptable where there are severe environmental, historical and/or structural constraints.*" The PDDG requires 2-foot shoulders, however 3-foot offsets to vertical elements such as railings, signs, trees, etc. are required; for planning purposes a 3-foot shoulder is assumed. A path width less than the 10-foot minimum and shoulder widths less than 3-feet (to vertical elements) would require the granting of a design exception by MassDOT. Based on project experience, a 12-foot path with 3-foot

shoulders is recommended for the Community Way to comfortably accommodate pedestrian and bicyclist demand.

Shoulder Width: MassDOT requires a 3-foot minimum lateral clearance to walls, railings, and vertical elements such as trees and signs. Shoulders are typically unpaved along the path and paved over bridges.

Surface: To meet Massachusetts and Federal ADA requirements for an inclusive path that accommodates the broadest range of users, the path is recommended to be paved with asphalt.

4.2.2 Alternative 2: Shared-use Path with Shuttle Path (34-feet)

There is no official guidance from MassDOT or FHWA for a combined pedestrian, bicycle, and shuttle facility. The recommended design, shown in **Figure 12**, combines elements of shared-use path design standards and roadway design guidance as follows.

Pedestrian/Bicycle Path: This includes the 12-foot path with 3-foot shoulders described above.

Shuttle Path: The shuttle path includes an 11-foot travel lane with 2-foot shoulders. The shuttle path is separated from the shuttle path by fencing.

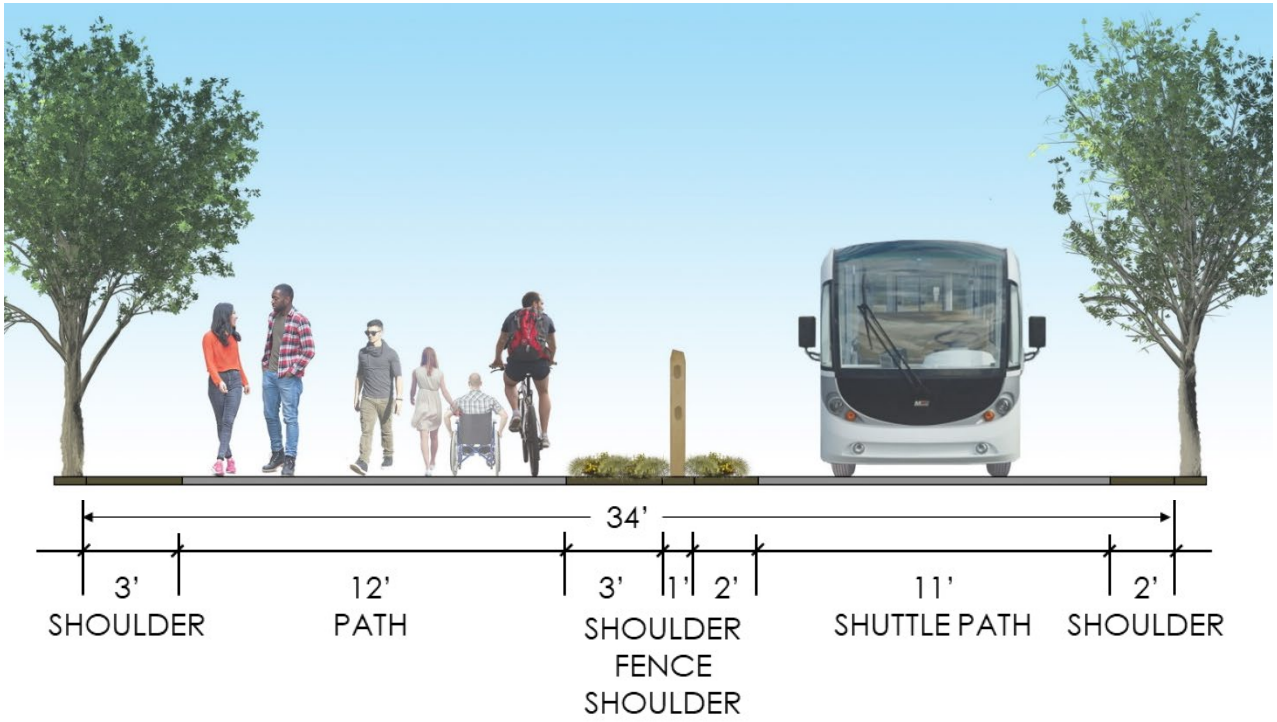


Figure 12: Alternative 2 - Pedestrian/Bicycle/Electric Shuttle Path (34-feet) Typical Section

4.3 I-95 / Route 128 Bridge Alternatives

The bridge crossing of I-95/Route 128 for this project is proposed to be in the same location as the former railroad bridge, but with higher clearance and longer span lengths. The proposed crossing is approximately 750 feet southwest along the right-of-way from the existing bridge over the Charles River.

It is assumed that the project will require federal / state funding and therefore will require an in-depth bridge type selection study, as required by MassDOT. The purpose of this report is not to provide that level of analysis and evaluation; however, this report will briefly discuss the differences between a two-span bridge and single-span bridge, and the different geometry for a pedestrian/cyclist only path and a shuttle-inclusive path.

4.3.1 Two-Span Bridge

One option for crossing I-95/Route 128 is to construct a two-span bridge with a pier at the existing highway median. The bridge would consist of a 145-foot west span and 125-foot east span. The benefit of any two-span bridge to cross I-95/Route 128 is that the overall structural depth can be shallower than a single-span bridge, allowing sufficient clearance over the highway with fewer profile adjustments at the approaches and not creating issues with overhead utilities. The challenge of a two-span bridge is that it requires construction of a pier in the median of the highway (see Section 2.5.2.3 above) which would involve closure of the medians and either closure of shifting of the left lanes of the highway for excavation and construction of the pier footing and repaving the impacted sections of roadway.

While the final decision of the bridge type will be a result of the formal bridge type selection study as noted above, to provide a preliminary cost and potential bridge sections for this feasibility study, it is assumed that the bridge will be a steel girder bridge with a reinforced concrete deck. It is anticipated that the difference of costs and constraints when comparing this structure type compared to other types (such as a prefabricated truss) would be marginal.

Based on MassDOT and AASHTO guidelines for preliminary span length to beam depth ratios, the depth of a continuous steel girder including the deck thickness would be approximately 5.25 feet. To maintain the 17-foot minimum clearance required for pedestrian bridges by MassDOT, the east bridge approach will need to be raised approximately 6 feet higher than the existing grade, resulting in profile adjustments for approximately 175’ behind the bridge abutment. **Figure 13** shows a rendering of the conceptual bridge elevation with a center pier and profile adjustments to the east.

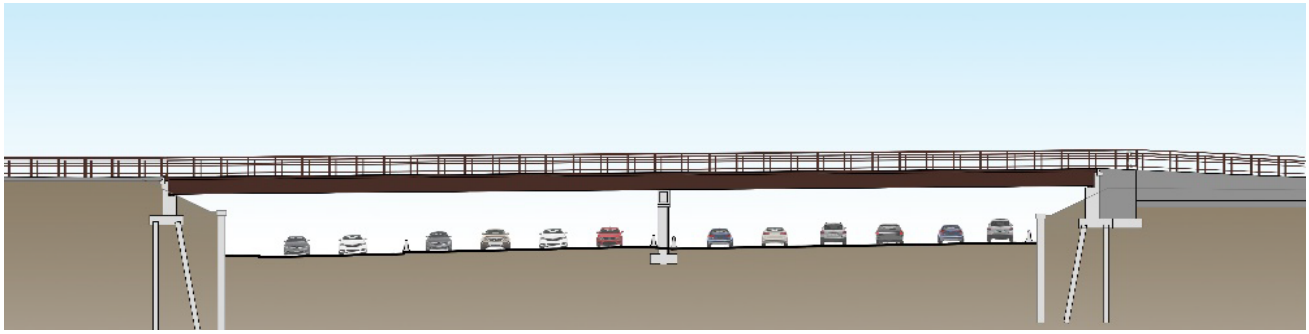


Figure 13: Conceptual Elevation of Two-Span Bridge over Route I-95 / Route 128

The design of the bridge over I-95/Route 128 will be similar for the pedestrian/cyclist path option and the shuttle-inclusive path option. Because there is no existing bridge structure to work around, there is no limit to the path width at this crossing. If a steel girder bridge is selected during the design process, it is likely that a pedestrian/cyclist only bridge would have four beams, and a shuttle-inclusive path would have six beams. See **Figure 14** for the comparison of bridge cross sections for the two path alternatives. These cross sections are assumed for the bridge cost estimates. A pedestrian/cyclist only bridge would have an out-to-out width of 20 feet, which includes the 18-foot path and a pedestrian bridge rail mounted on a curb on both sides. A shuttle-inclusive bridge would need to have an out-to-out width of

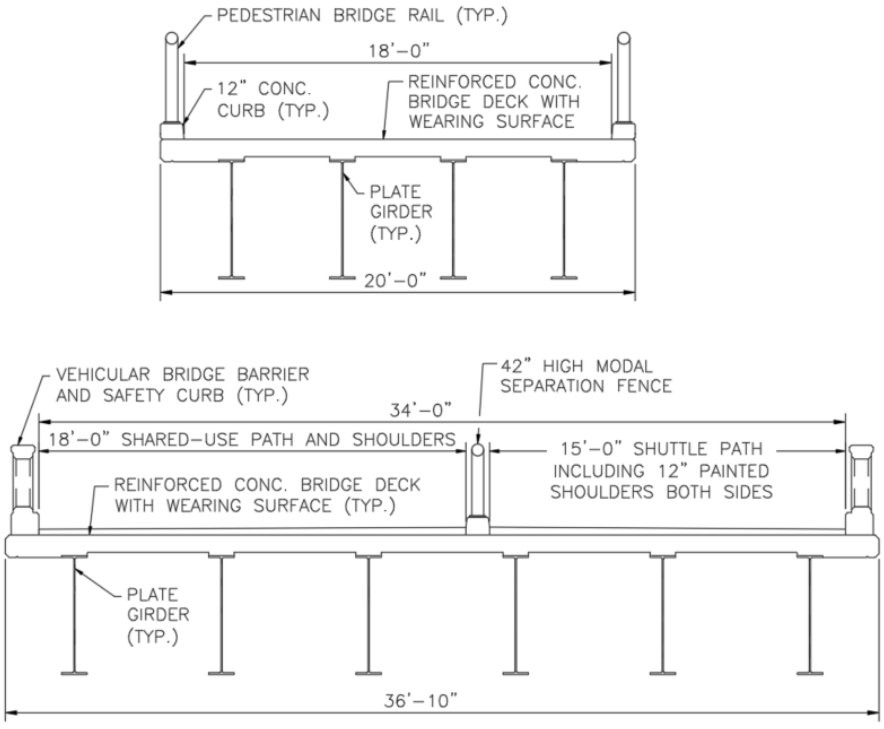


Figure 14: Conceptual Cross Section of a Two-Span Bridge for an 18-foot Path (Top) or a 34-foot Path (Bottom)

31 feet to accommodate a 34-foot path with MassDOT approved crash tested vehicular barriers. Depending on the barrier chosen, the width may vary, but most barriers have approximately 18" from face of curb to edge of deck, resulting in an approximately 37-foot-wide bridge.

The abutment and piers would have similar designs for either path alternative. Increased foundation capacity may be required for the shuttle-inclusive path to account for the increased width and loading conditions, but the size of exposed substructure elements above the ground (i.e., pier columns) would be similar for both alternatives Both path alternatives will require profile adjustments for approximately 175 feet from the east abutment of the bridge extending along the path to the east, resulting in about 165 feet of retaining walls on each side of the path. The retaining walls for the shuttle path would be approximately 3 feet taller down the full length to accommodate the path widening into the existing slope. The retaining walls needed to accommodate the path widening beyond the profile changes at the bridge approach are discussed in Section 4.4.4. Neither path alternative is likely to require substantial retaining walls at the west approach to the bridge.

4.3.2 Single-Span Bridge

To eliminate the need for a center pier and cross I-95/Route 128 in a single span, a larger bridge would have to be considered. Although a single-span steel girder bridge is possible in this location, in order to span the full 270 feet, a steel girder bridge would need a depth of approximately 11 feet. This would greatly increase the impacts to the approach path grades, create new constructability issues related to beam placement and handling, and be less cost-effective than a two-span steel girder solution due to the increased steel quantities and the need for larger abutments to handle a significantly higher capacity. Additionally, instead of using piles to support the foundations, it is likely that more costly and labor-intensive solutions such as drilled shafts would be needed to support the bridge weight. For spans over 200 feet, erection of steel girders is less stable and would require falsework for temporary support which would cause more interference to the highway traffic.

Other types of bridge structures (truss, arch, cable stay, suspension, etc.) are not practical for this area. Based on the AISC Steel Bridge Design Handbook, these types of structures are not cost-effective for spans under about 450 feet and require a significantly higher level of site preparation and construction duration.

Based on the information presented above, it is GPI's opinion that a single-span bridge at this location is infeasible. Although it may be structurally possible, there are many complications with this option that make it financially and operationally infeasible at this location. For a single-span steel girder bridge to span the full 270 feet, the beams would need to be approximately 10 feet deep. It would be extremely difficult and costly to construct a single-span bridge without major impacts to traffic on I-95/Route 128, and there would be significant difficulties in figuring out traffic staging and placement of cranes, construction equipment, and temporary shoring towers needed to construct the superstructure. It would furthermore

result in significant profile changes for approximately an additional 100 feet on both bridge approaches, resulting in steep slopes along the path. Because of the constructability challenges of a single-span bridge, further development of this option, including a cost analysis, was not undertaken.

4.3.3 Conclusion

It is certainly possible to cross I-95/Route 128 at this location for the purposes of either a pedestrian/cyclist only path or a shuttle-inclusive path. At this stage of development, a two-span bridge type is possible, and the specifics will likely be determined through the MassDOT Bridge Type Selection Worksheet process.

GPI believes that a two-span bridge is the only feasible option with respect to cost and constructability in this location and will therefore assume a two-span bridge with a center pier in the cost analysis of this project.

4.4 Charles River Bridge Alternatives

Unlike the bridge over I-95/Route 128, the bridge over the Charles River is not a 'blank slate'. Specifically, there are existing abutments and steel girders that can be reused to accommodate the Community Way, however there are also limitations that influence the options for the design of this bridge.

4.4.1 Bridge Widening for a Pedestrian & Cyclist Path

Because the pedestrian/cyclist path is narrower and has lower load requirements, it requires fewer changes to the existing bridge than the shuttle-inclusive path alternative. One solution for rehabilitating the bridge for pedestrian and cyclist use is to construct a reinforced concrete deck with large overhangs (**Figure 15**). This large overhang is possible with more steel reinforcement than a typical deck. Because of the current geometry of the bridge, a bicycle/pedestrian bridge over the Charles would likely have a 5'-6" overhang on the south side of the deck to meet up with the existing south wingwalls, and the opposite side could get up to 7'-0". Without further studies or adding additional beams on the north side of the existing beams (which would require alterations to the front face of the abutments as discussed in Option 2A), an 18-foot path is the largest that can be accommodated over the Charles River.

A pedestrian/cyclist bridge will require pedestrian railings. The lighter weight and demand of these railings makes it possible for large overhangs, because they add less dead load at the end of the cantilevered deck, do not rely on the connection with the concrete deck, and they take up less width on the bridge.

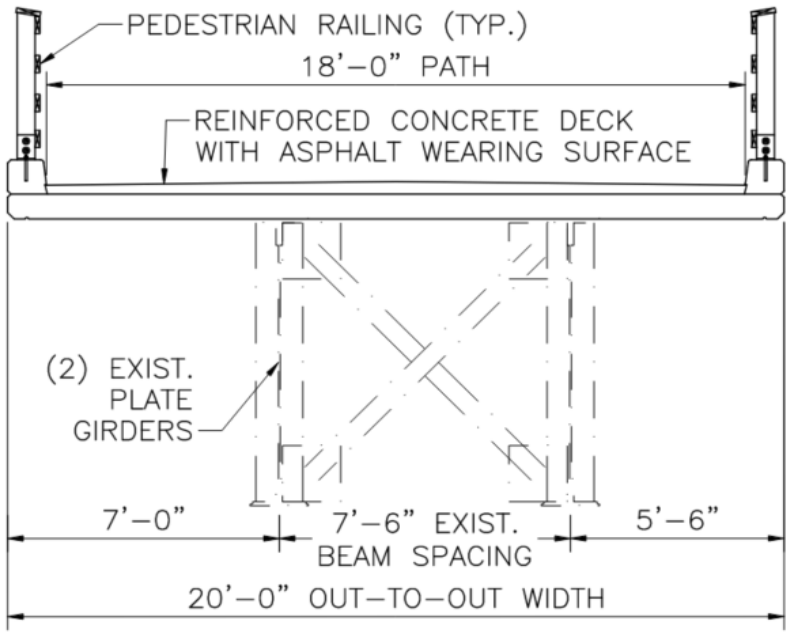


Figure 15: Conceptual Cross Section for Pedestrian & Cyclist Path on Existing Girders

4.4.2 Bridge Options for Alternative 2 (Shuttle-inclusive Path)

Due to geometry constraints at the abutments, the widest useable path over the bridge using the existing substructure would only be 26 feet wide. The existing bridge approaches have room for a 26-foot path, and the wingwalls and adjacent slope are so steep it would be difficult and costly to widen the structure (see Photo 9). Therefore, three options were developed for the Charles River Bridge crossing, as follows.

- Option 2A: Narrower Bridge on Existing Abutments with Additional Beams (26-feet)
- Option 2B: Full Width Bridge on Altered Abutments, New Wingwalls, and Fully Replacing the Beams (34-feet)
- Option 2C: Separate Pedestrian/Bicycle Bridge on the Existing Beams and a Shuttle Bridge on New Beams, Altered Abutments, and New Wingwalls (34-feet)

Note that the three options discussed in the following sections are conceptual for the purpose of discussion and supporting a preliminary cost estimate for the shuttle path alternative. In-depth bridge type recommendations will have to be explored at the MassDOT bridge type selection phase if this alternative is taken to design.

4.4.2.1 Option 2A: Narrower Bridge on Existing Abutments

Option A involves constructing a 26-foot facility on the existing abutments. A 26-foot shuttle-inclusive path would allow a 9-foot pedestrian and bicycle path with 2-foot shoulders (13-feet total) and a 10-foot shuttle path with 1-foot shoulders (12-feet) and a 1-foot railing to separate the two paths (**Figure 16,** below). This would be a pinch point in an otherwise 34-foot shuttle path and to proceed, this alternative would need MassDOT design exceptions for path widths and shoulder widths being less than those in the typical section. Both AASHTO and the PDDG allow for an 8-foot shared-use path and 2-foot shoulders in areas which have environmental,

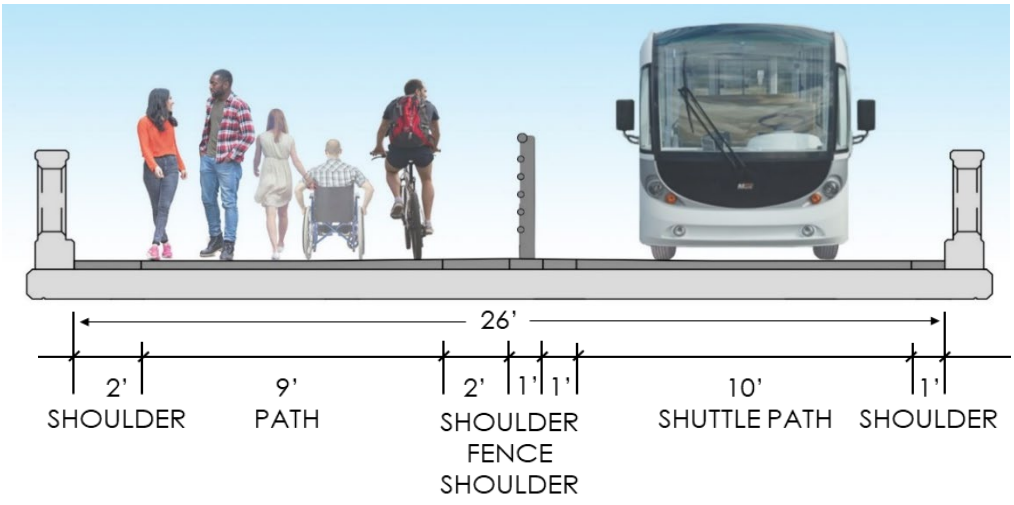


Figure 16: Alternative 2A - Constrained Width Bridge Typical Section

historical and/or structural constraints. Similarly, 10-foot travel lanes and 1-foot shoulders are allowed on constrained roadways.

The existing substructure consists of a concrete wall built against a cemented stone masonry abutment. The concrete portion of the abutment is not wide enough to accommodate more than one additional beam (Photo 15), but the stone masonry abutment has approximately 17 feet of additional length (Photo 10 in the Section 2.6.1.1 provides a full view of the west abutment). A new section of concrete abutment could be constructed to the west of the existing concrete to support additional new beams for a larger bridge deck. **Figure 17** highlights the sections adjacent to the existing concrete where a new bridge seat could be constructed. The approach sections at the wingwalls are both wide enough to accommodate an up to approximately 26-foot-wide path. To reduce the cost of steel, smaller stringers may be used at the new abutment section, with depths likely around 36". Therefore, the new abutment bridge seat would be built around 5.5 feet taller than the existing bridge seat to match the proposed with the existing top of beam elevations. Although we do not anticipate any global stability issues because the abutments supported railroad loads, to verify that the additional abutments would not cause issues with the existing substructures, subsurface exploration consisting of soil probes to determine the underground abutment geometry and a stability analysis of the existing walls

Photo 15: Existing South Bridge Seat

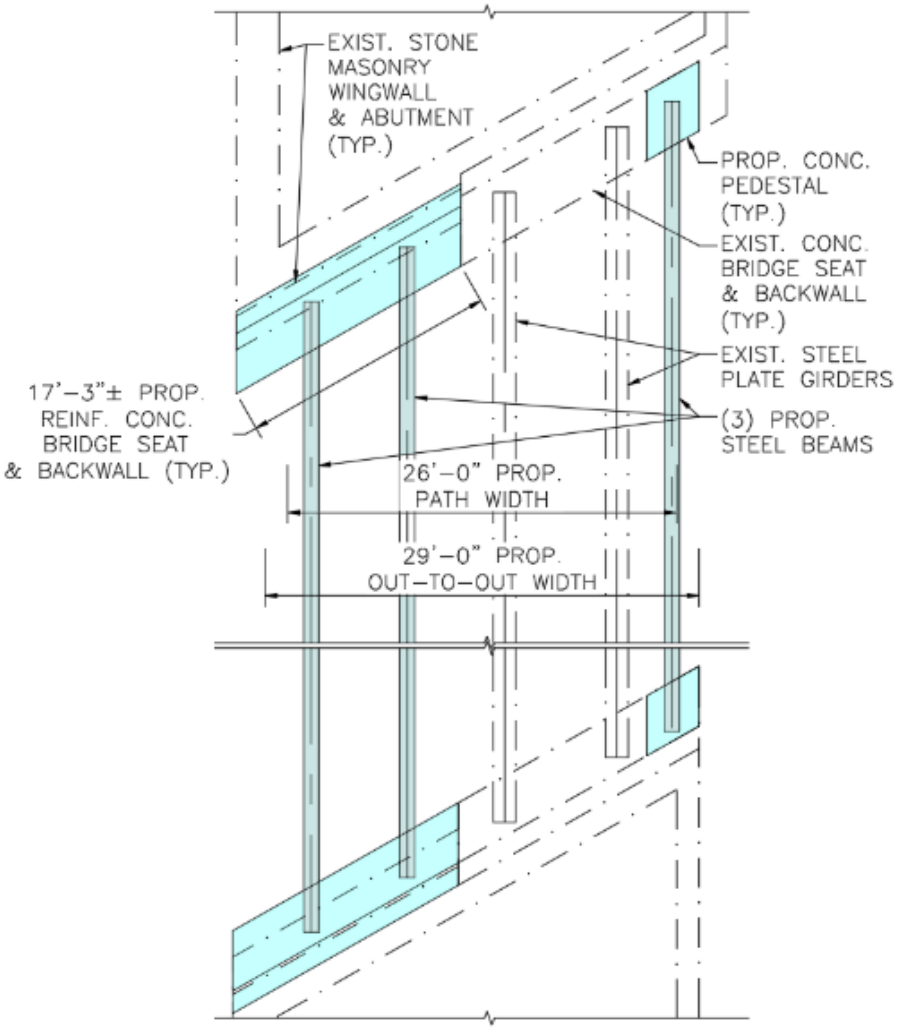


Figure 17: Conceptual Plan of Bridge Seat Widening for a 26-foot path (Alterations Shown in Cyan)

with the new loads should be performed before proceeding with this design. **Figure 18** shows a conceptual elevation of the east abutment to illustrate how the existing structures may be altered to accommodate additional beams.

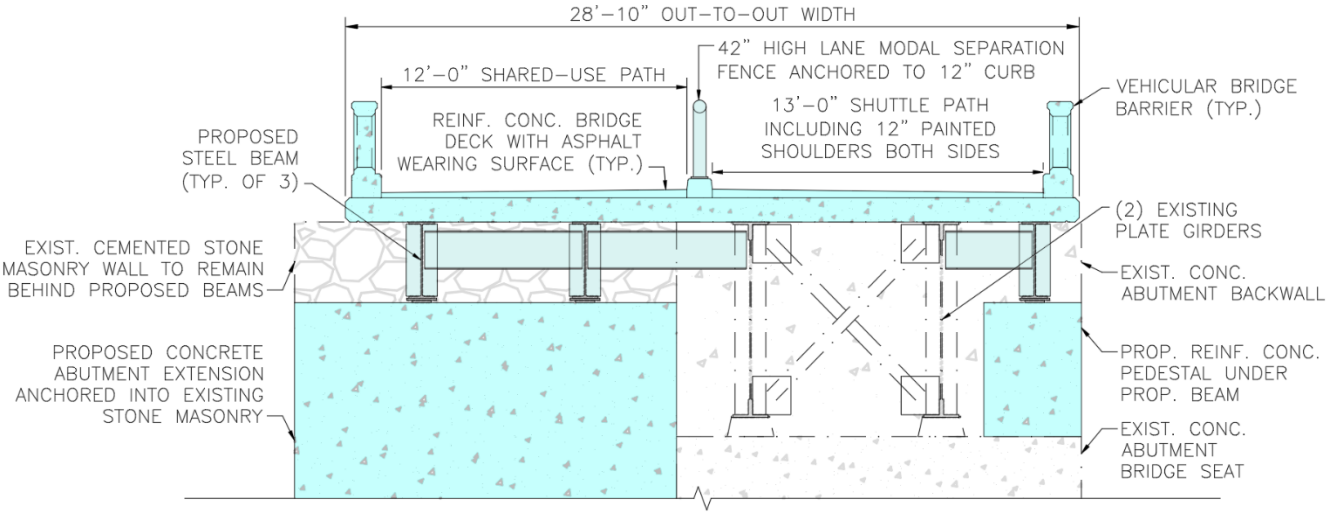


Figure 18: Conceptual Section at East Abutment to Add Beams for a 26-foot Path (Conceptual Proposed Alterations Highlighted in Cyan)

4.4.2.2 Option 2B: Full Width Bridge on Altered Abutments and New Wingwalls

To construct the full 34-foot shuttle-inclusive path over the Charles River **(Figure 19),** the existing abutments would need to be widened or fully replaced. Widening the existing substructure would require extensive testing and analysis to make sure it's suitable to support new sections of abutment, and full replacement would require much more labor intensive and costly construction. If the bridge were fully replaced, the new design would be relatively simple and follow the MassDOT guidelines for new bridge design. To widen the bridge, new concrete bridge seats would need to be constructed, anchored into the existing stone

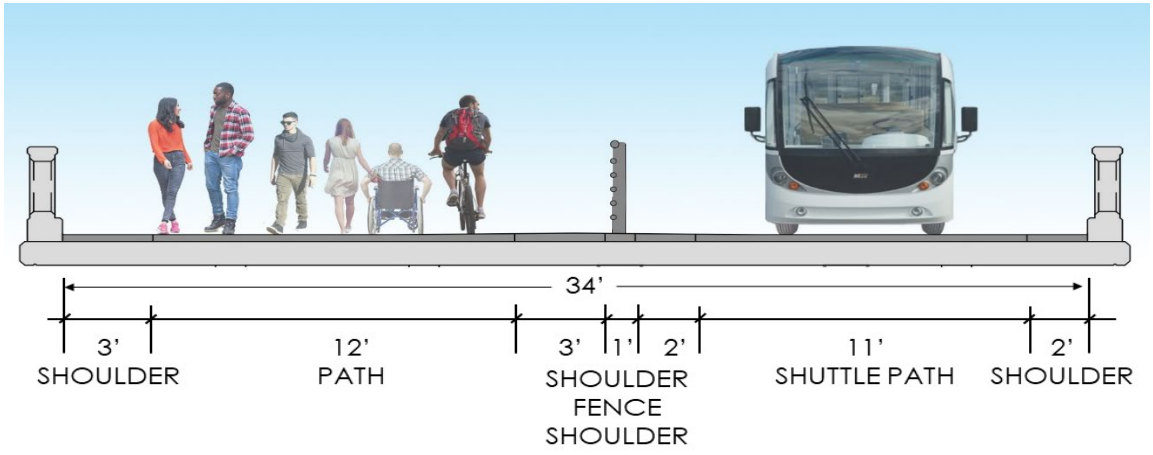


Figure 19: Alterative 2B - Full Width Bridge Typical Section

masonry and concrete abutment (similar to alternative 2A, in the previous section). The reason for anchoring into the existing concrete section as well is to raise the elevation of the bridge seat, since the existing beams are 7'-6" deep, and new beams would likely only be 30" deep. Depending on the proposed geometry, it is also possible that the new concrete to widen the sides of the abutment could be cast directly on the existing concrete footing retained by sheet pile walls. This would prevent issues of differential settlement of the abutment; however, the existing conditions would need to be surveyed and inspected in more depth to confirm that there is sufficient room on the existing footing.

To complete the widening, new wingwalls would be constructed in front of the existing walls. For the purpose of a preliminary estimate, reinforced concrete wingwalls were assumed, but other wall types, such as soldier piles or other walls that do not require footings, might be more appropriate if this alternative is taken to the design phase. A conceptual plan of the bridge widening is shown in **Figure 20,** below.

The full width bridge alternative is the costliest because it requires full removal of the existing steel girders and the most amount of new material to replace all four wingwalls and alter the full length of both abutments.

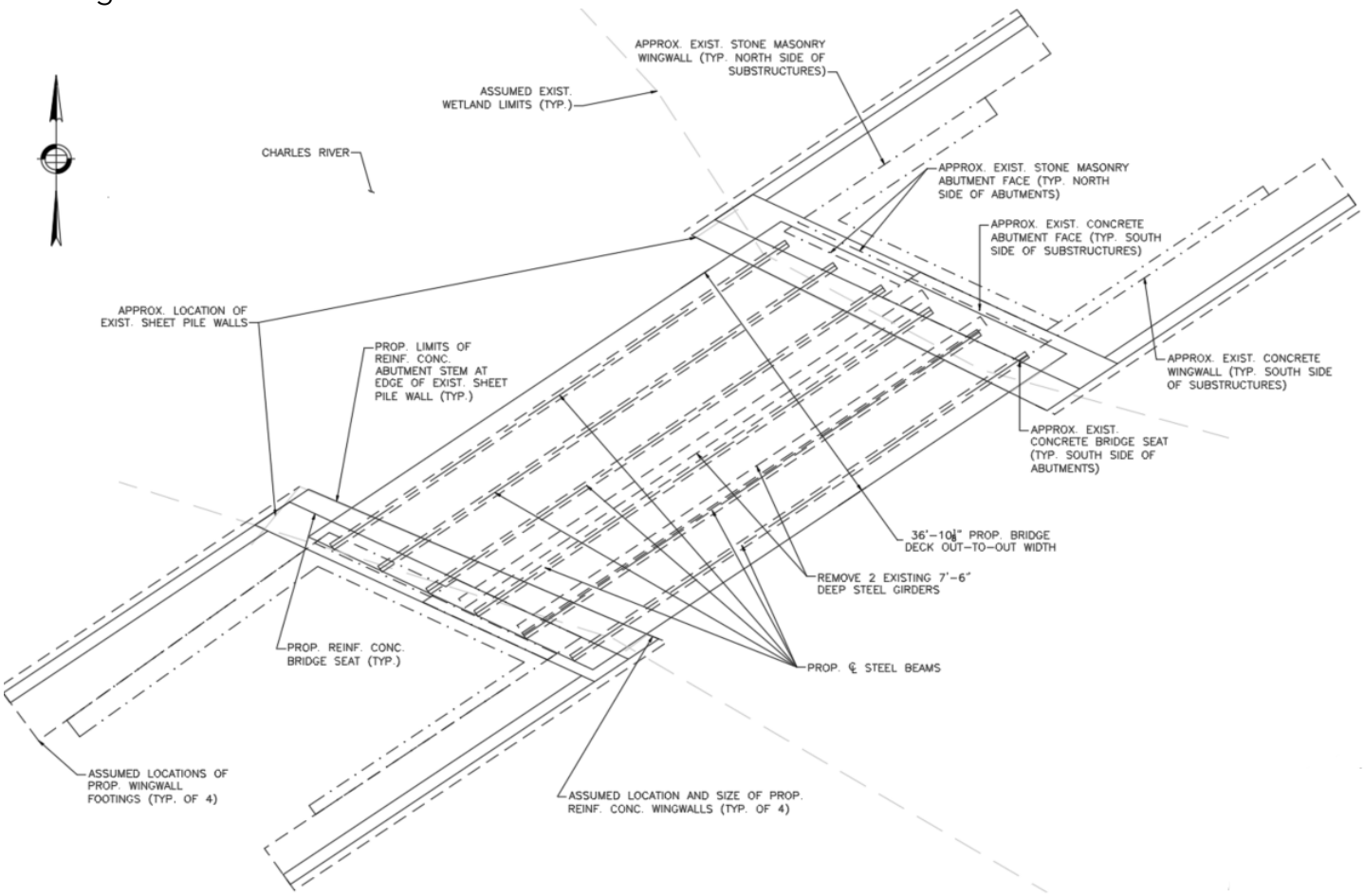


Figure 20: Conceptual Plan View of Option B

4.4.2.3 Option C: Two Bridges

The final option involves constructing the pedestrian and bicycle bridge by rehabilitating the existing steel girders and substructure (the same work required for Alternative 1) and constructing the shuttle bridge on new beams partially supported on the existing abutment and partially built on a pile supported abutment extension.

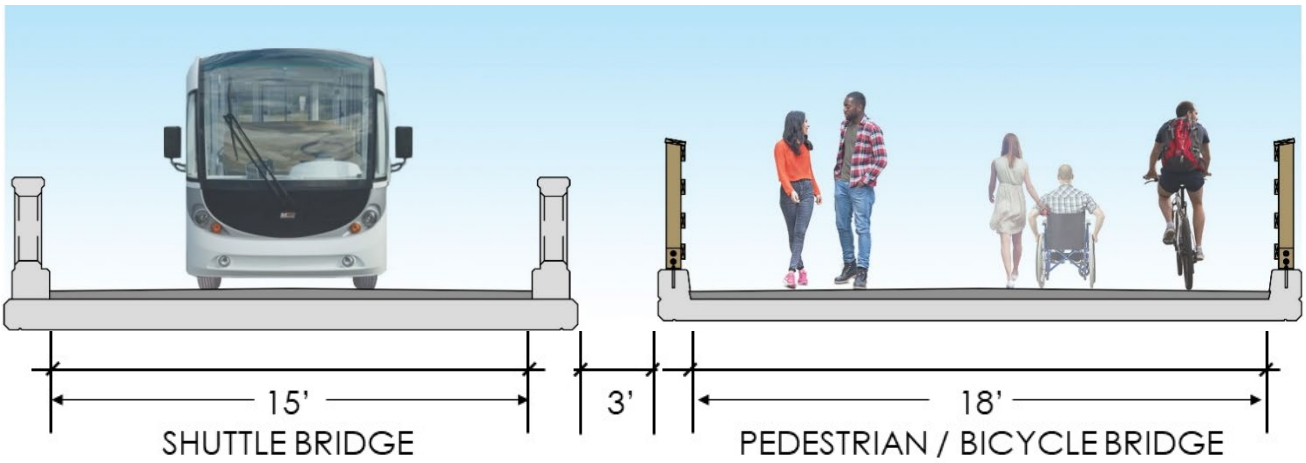


Figure 21: Alternative 2C - Two Bridge Typical Section

Due to the location of the existing bridge and beams in the right-of-way, the new shuttle bridge would have to be located on the northerly side of the right-of-way. The reason that the shuttle bridge could not be built on an entirely new substructure is because there is not enough room in the MBTA right-of-way for the full width on either side of the existing bridge.

Constructing the pedestrian/cyclist bridge would involve cleaning, painting, and repairing the existing beams and casing a reinforced concrete deck on the existing girders, with new settlement slabs cast behind the abutments. Because the bridges would need to be separated by a few feet for construction, maintenance, and inspection purposes, this alternative would require more pathway work leading up to the bridge to increase the separation between the paths.

The shuttle bridge abutments would consist of a section built onto the existing stone masonry abutments, as described in Alternatives 2A and 2B, and a section built on pile-supported footings to reduce the risk of differential settlement between the old and new sections of foundation. The bridge would require two new north wingwalls constructed in front of the old ones. The existing wingwalls would need to be shortened to accommodate an approach slab over them, and the rest of the wall heights could be buried in place. The shuttle bridge would likely include three 30" steel beams and a reinforced concrete deck, as is assumed for the preliminary estimate.

A preliminary plan view of this option for crossing the Charles River is shown in **Figure 22**, below.

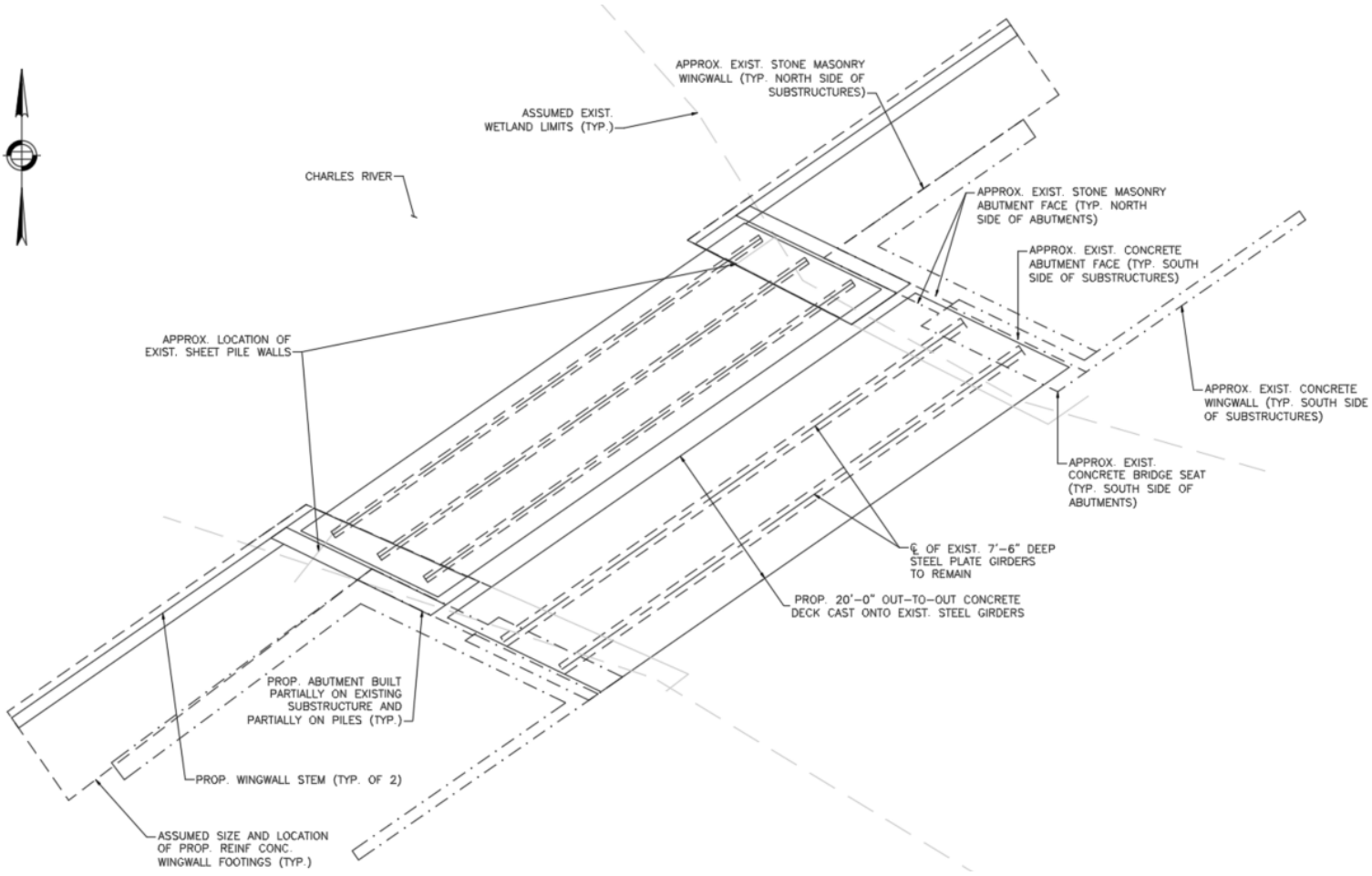


Figure 22: Conceptual Plan View of Option C

4.4.3 Roadway Crossings

The Community Way corridor crosses three roadways at grade. Improvements at these roadway crossings would be required to safely accommodate trail users. GPI reviewed the crossings and available traffic data for the crossings. Recommendations for each intersection, in consideration of sight distances and guidance provided in the STEP (Safe Transportation for Every Pedestrian) Guide are summarized below.

Photo 16 Bruce Freeman Rail Trail shared-use path crossing in Acton, with RRFB, signage, detectable warning plates and high visibility crosswalk.

4.4.3.1 Webster Street

- *Trail Approach*. Consider providing a raised median or other treatment in the trail to prevent errant vehicles from entering the trail and to slow bicyclists approaching the intersection and pavement markings to alert trail users of the approaching intersection.
- *Webster Street Crossing*. Clear and thin vegetation to improve sight distances at the trail intersection. Provide a high visibility crosswalk ('ladder' style markings), high-visibility pedestrian crossing warning signage, and RRFB, ADA compliant ramps with detectable warning panels and lighting. A raised crossing at this location could be considered due to the lower volume of traffic on Webster Street.
- *Intersection Control*. For Alternative 2, a STOP sign for the shuttle would be required in addition to warning signage and pavement markings to discourage access to the shuttle lane by unauthorized vehicles.

4.4.3.2 Gould Street

- *Trail Approach*. Consider providing a raised median or other treatment in the trail to prevent errant vehicles from entering the trail and pavement markings to alert trail users of the approaching intersection.
- *Webster Street Crossing*. Clear and thin vegetation to improve sight distances at the trail intersection. Crosswalk improvements and an LED warning sign or an RRFB (Rectangular Rapid Flashing Beacon) will be provided by the Highland Science Center developers.
- *Intersection Control*. For Alternative 2, a STOP sign for the shuttle would be required in addition to warning signage and pavement markings to discourage access to the shuttle lane by unauthorized vehicles.

4.4.3.3 Oak Street

There is an existing crossing which includes high visibility crosswalk markings, high visibility pedestrian crossing signage, ramps, detectable warning panels and lighting.

- *Trail Approach*. Consider providing a raised median or other treatment in the trail to prevent errant vehicles from entering the trail and signage to alert trail users of the approaching intersection.
- *Oak Street Crossing*. The sight distances could be enhanced by trimming and/or replacing vegetation next to the trail. An RRFB is proposed at this crossing as a part of the Pettee Square improvement project.
- *Intersection Control*. For Alternative 2, a STOP sign for the shuttle would be required in addition to warning signage and pavement markings to discourage access to the shuttle lane by unauthorized vehicles.

4.4.4 Retaining Walls Along Path

Because of grade differences between the top of the path and the adjacent land, several areas will require walls to retain an improved path. The 34-foot-wide path option would need more walls than a narrower pedestrian/bicycle only path.

4.4.5 Retaining Wall Needs for a Pedestrian & Cyclist Only Path

Based on preliminary cross sections, an 18-foot-wide path will require approximately 2,140 LF (linear feet) or 15,800 square feet of retaining walls, or approximately $1.5 million to construct retaining walls from Webster Street to Oak Street.

For pedestrian and bicycle safety, a pedestrian railing at least 42" tall will be needed behind each wall. Railings will also be needed at the tops of slopes steeper than 4:1.

4.4.6 Retaining Wall Needs for a Pedestrian, Bicycle, & Shuttle Path

A path designed to accommodate a shuttle will require approximately 3,700 LF or 44,500 square feet of retaining walls, meaning approximately $3 million to construct retaining walls for the shuttle path from Webster Street to Oak Street.

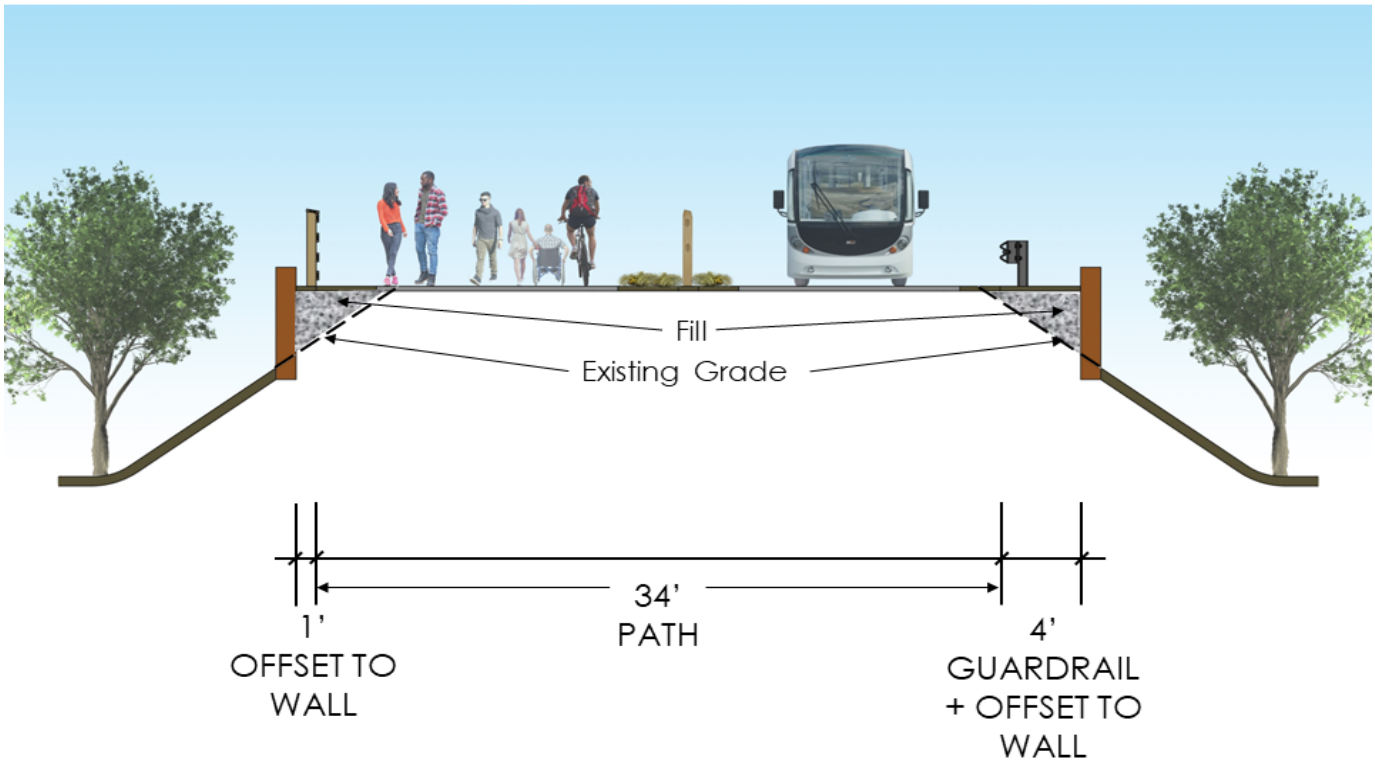


Figure 23: Path Widening with Retaining Walls – Illustrative Shuttle-Inclusive Section

Because of the presence of motorized vehicles, crash tested guardrails will be required behind all retaining walls in addition to a pedestrian railing. Guardrails also would be needed at the tops of slopes steeper than 4:1. This requires additional width in the cross section as shown in **Figure 23.**

Walls for the 34-foot path may require a more robust design to support surcharge loading applied from the shuttle bus.

05 || COSTS AND BENEFITS

5.0 COSTS AND BENEFITS

This section of the feasibility study provides a discussion regarding the costs and benefits of the two primary alternatives for the Community Way. A qualitative benefits assessment of the two alternatives follows the discussion regarding costs. At this time, many aspects of the shuttle-inclusive alternative are unknown; this precludes a full understanding of the benefits of Alternative 2.

5.1 Conceptual Project Cost Estimate

A conceptual cost estimate was developed for the two project alternatives and for three variants for the Charles River Bridge using the latest cost information available from MassDOT and GPI's recent project experience with shared-use path and bridge design costs. The costs include major work elements including removal of vegetation, tracks and ties; earthwork associated with widening the existing rail bed; modifying the path profile to accommodate the 18-foot pedestrian and bicycle path or the 34-foot shuttle-inclusive path; and bridge construction and rehabilitation. Also included would be path construction including paving, fencing, landscaping, pavement markings and signage.

In addition to the construction costs, the following contingencies and non-construction costs were applied to the construction costs:

- Estimate Contingency (25%): This reflects the preliminary nature of the design. The current feasibility concepts are based on a high-resolution aerial photography (2023) and LIDAR (Light Detection and Ranging) scans of the corridor overlaid with GIS property information.
- Construction Contingency (10%): This allowance provides for unexpected costs that arise during construction.
- Construction Inspection (10%): This allowance provides for construction inspection services.
- Utility Relocations (3%): This accounts for relocations of existing utilities.
- Traffic Management (2-5%): This includes an allowance for police details, flaggers, and other costs related to traffic management during construction. This cost is estimated at 2% of the construction costs for the trail and the Charles River Bridge which will have limited traffic impacts during construction. For the bridge over I-95/Route 128 this cost is estimated at 5% of construction costs to reflect greater costs associated with night work and traffic management on the interstate.
- Engineering Design (15%): This reflects the cost of preparing the engineering plans for the path and bridges.
- Inflation (4%, 7 years): Since the project is not ready for construction in 2023 an inflation factor of 4% was applied to project costs for a 7-year period to provide an estimate of project costs at the time of construction assuming at least a 7-year process to obtain

funding, design and permit the Community Way. Inflation rates have ranged broadly from 1% in 2020, to 8% in 2022, to the current rate of 3%. A 4% rate was used as an average of recent experience, although this is an unknown.

The cost estimates do not include any right-of-way acquisitions or easements necessary to construct the Community Way. The cost estimates also do not include costs associated with improvements that would be required to carry shuttles into Newton beyond Pettee Square/Oak Street. The bridges include H-10 loading to accommodate emergency vehicle access. Amenities including wayfinding signage and benches are assumed to be covered within the contingencies.

Table 1: Conceptual Project Cost Estimate Summary

Segment	Alternative 1	Alternative 2A	Alternative 2B	Alternative 2C
Trail Improvements	$ 2.9 M	$ 7.1 M	$ 7.1 M	$ 7.1 M
Bridge over I-95 / Route 128	$ 10.9 M	$ 21.3 M	$ 21.3 M	$ 21.3 M
Bridge over Charles River	$ 1.4 M	$ 3.0 M	$ 11.1 M	$ 8.4 M
Engineering Design (15%)	$ 1.6 M	$ 4.8 M	$ 6.0 M	$ 5.6 M
Total Cost 2023 Dollars	**$16.8 M**	**$ 36.2 M**	**$ 45.5 M**	**$ 42.4 M**
Inflation (4%, 7 Years)	$ 5.4 M	$ 11.5 M	$ 14.4 M	$ 13.4 M
TOTAL PROJECT PLANNING COST	**$22.2 M**	**$47.7 M**	**$59.9 M**	**$55.8 M**

As depicted in Table 1, the pedestrian and bicycle path alternative is estimated to cost $16.8 million (2023 dollars). The majority of the cost, approximately 70%, is the cost of constructing the bridge over I-95/Route 128. The cost of Alternative 2, which includes the electric shuttle path, ranges from $36.2 million to $45.5 million (2023 dollars) depending on whether the Charles River Bridge is reconstructed using the existing beam and abutments (Alternative 2A), whether a new full width bridge is constructed with new wing walls (Alternative 2B), or whether a bicycle and pedestrian bridge is constructed on the existing beam and abutments and a separate new bridge for the shuttle is constructed on new abutments (Alternative 2C).

Overall, the cost to accommodate electric shuttles in addition to pedestrians and bicyclists on the Community Way is more than double the cost to accommodate pedestrians and bicyclists only: (an additional $19 million (2023 dollars) for Alternative 2A (the constrained bridge option) and an additional $25 million (2023 dollars) for Alternative 2C (the two-bridge option). These construction costs do NOT include improvements to the segment of the Upper Falls Greenway outside of the study area (Oak Street to Easy Street in Newton) which was identified as the primary component of the shuttle route in 2013 MAPC study. The full cost associated with improvements to the Upper Falls Greenway to widen and pave the path to the 34-foot cross section identified for Alternative 2 to accommodate electric shuttles would need to be included *in addition to* the improvement costs identified above. Therefore, the full cost of the shuttle inclusive alternative is unknown.

5.2 Benefits

In 2021, MassTrails, an interagency collaboration between Executive Office of Energy and Environmental Affairs (EEA), the Department of Transportation (MassDOT), and the Department of Conservation and Recreation (DCR) issued a study of the benefits of shared-use paths in Massachusetts. The study, *Impacts of Shared Use Paths*, examined, analyzed, and quantified the benefits of shared-use paths across the Commonwealth as related to health, accessibility, equity, transportation, economic, environmental, and safety considerations. The study collected data and focused on four specific trails which represent a range of path contexts:

- the Minuteman Commuter Bikeway, a 10-mile path through the towns of Lexington and Arlington which provides direct access to the Alewife Red Line station;
- the Northern Strand Community Trail, a developing 8–12-mile path through the communities of Everett, Revere, Saugus, Malden and Lynn;
- the Norwottuck Rail Trail (Mass Central Rail Trail), an 11-mile path through the western Massachusetts communities of Northampton, Hadley, and Amherst, and
- the Cape Cod Rail Trail, a 26-mile trail through Cape Cod.

The following discussion provides a qualitative review of the benefits of the two Community Way alternatives, to the extent possible given the lack of specificity about Alternative 2, following the benefit categories identified in the MassTrails study.

5.2.1 Contributions to the Local Economy

Both Alternatives 1 and 2 would be expected to make contributions to the local economy through increased property values and tax revenues, and some level of increased spending at nearby businesses. For perspective, the MassTrails study found that the range of total economic impact to trail communities for a four-month time period (July-October 2019) ranged from $367,000 for the locally oriented Northern Strand trail to $9.2 million dollars for the tourism-oriented Cape Cod Rail Trail. The type of businesses that may see increased patronage (e.g., restaurants, cafes, sports equipment shops) are primarily located in the Oak Street area of Newton which currently enjoys the benefits of the Upper Falls Greenway. With a longer trail extending into Needham, businesses in the Oak Street area may experience a modest increase in the numbers of trail users and increased spending in the area. To the extent that the trail is connected to the larger Bay Colony Rail Trail, the longer trail will attract more users and spending.

5.2.2 Health Benefits

Both alternatives would be expected to provide significant community health benefits due to increased physical activity for residents and employees. (There are also benefits related to

pedestrian and bicycle safety that are discussed in the following Transportation section.) The MassTrails study reported that approximately 30% of surveyed trail users indicated that their physical activity had increased because of the presence of the path. Greater levels of physical activity translate to increased savings on healthcare costs and reduced mortality. For the path users who experienced a significant increase in physical activity due to the presence of the path, savings in individual health care expenditure was estimated at $700 to $1,300 annually. These overall health benefits would be provided primarily by the shared-use path element of both Alternatives 1 and 2.

5.2.3 Transportation Benefits

5.2.3.1 Safety Benefits-Crash Reduction

Safety benefits include the reduction in the likelihood of fatalities, injuries and property damage resulting from crashes that could be averted with the implementation of the project. The shared-use path element of both alternatives has the potential to make walking and cycling between Needham and Newton much safer.

With respect to crash reductions, we note that most cyclists in the project area travel along sidewalks, bike lanes or share busy streets with vehicles. Pedestrians must cross busy intersections along Highland Avenue/Needham Street and Central Avenue/Eliot Street as these are the two parallel east-west connections that would be utilized in place of the Community Way. Crash data was obtained from MassDOT's Crash Portal for the latest five complete years (2018-2022) with a focus on the area immediately surrounding the study area. This search indicated that there were six reported crashes involving a pedestrian or bicyclist along Highland Avenue/Needham Street and another on Central Avenue/Elliot. Both of these roadways represent the two parallel routes to the proposed corridor that currently service most of the bike and pedestrian travel across the Charles River, i.e., across the Needham-Newton municipal boundary. Five of the reported seven crashes resulted in injury while the remaining two resulted in property damage only. Some or all such crashes may be avoided through the availability of the Community Way. In addition, we note that Highland Avenue / Needham Street is currently under reconstruction and the reconstructed street will include sidewalks on both sides of the street, pedestrian signals at signalized intersections and protected bicycle lanes. These improvements would also be expected to reduce pedestrian and bicyclist crashes.

In looking at safety benefits for pedestrians and bicyclists, we note that the Community Way would be expected to attract new pedestrian and bicyclist trips along Webster, Gould and Oak Streets to access the path. Safe walking and bicycling connections to the Community Way along these streets will be critical to enhance overall pedestrian and bicyclist safety once the path is improved.

The shared-use path element of Alternatives 1 and 2 would be expected to have similar benefits with respect to pedestrian and bicyclist crash reductions. Shuttles would add vehicles

to the mix of traffic at path crossings, however they would reduce some traffic on nearby roadways. Providing safe pedestrian and bicyclist connections to the Community Way will be a critical element of improving overall safety.

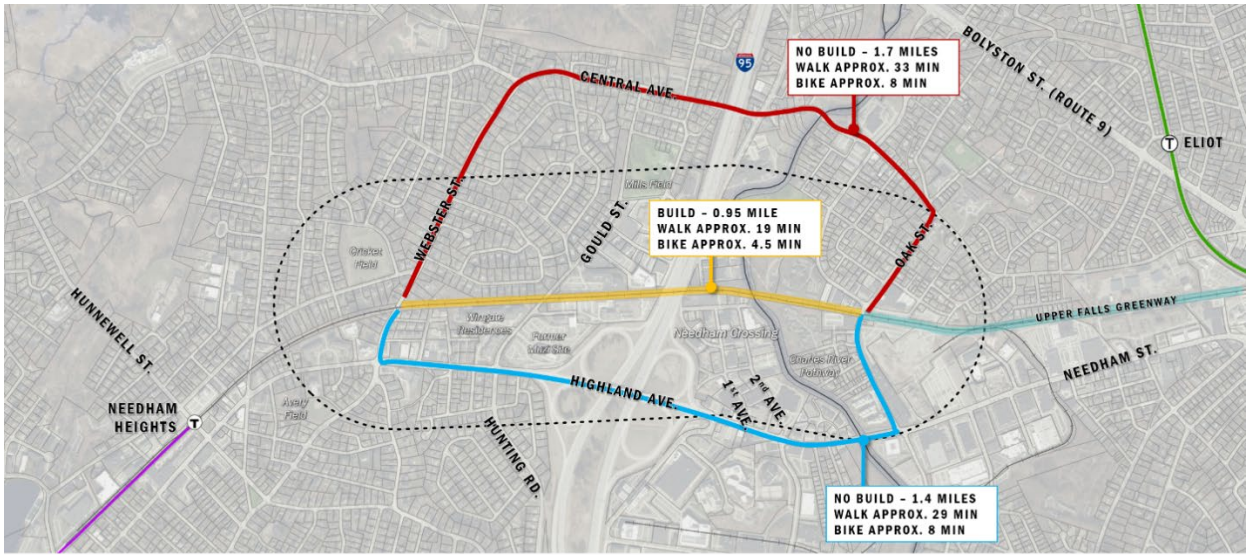


Figure 24: Travel Time Savings

5.2.3.2 Travel Time Savings

By constructing the Community Way, trip lengths for pedestrians, bicyclists and transit buses traveling between Oak Street and Webster Street will be shortened, however the travel time savings diminish for trip ends closer to Needham Street / Highland Avenue. Currently, users traveling from Oak Street to Webster Street must take either Highland Avenue/Needham Street or Central Avenue/Chestnut Street as depicted in **Figure 24**. The Community Way will provide a more direct route excluding vehicles and eliminating wait times at signals, etc.

Table 2: Estimated Travel Time Savings – Oak Street to Webster Street

Scenario	Walk Travel Time (Min)	Bike Travel Time (Min)	Transit Travel Time (Min)
No Build (Highland Avenue/Needham Street)	29	8	6
Build (Needham-Newton Community Way)	19	4.5	4
Total Time Savings	10 Min	3.5 Min	1-2 Min

Pedestrians and Bicyclists. The construction of the Needham-Newton Community Way would allow for trips of 0.95 miles. Without the Needham-Newton Community Way, the trip from Webster Street in Needham to Oak Street in Newton would take 1.4 miles via Highland Avenue/Needham Street or 1.7 miles via Central Avenue/Eliot Street. To provide a conservative approach, the Highland Avenue/Needham Street comparison was utilized. Google routing was analyzed to get estimated walk and bike travel times for the "no-build scenario", as depicted in **Figure 24**. Since the Needham-Newton Community Way is yet to exist, average walk (3 miles per hour) and bike (12.5 miles per hour) speeds were utilized to calculate potential travel times along the 0.95-mile Community Way corridor. This analysis concluded that with the implementation of the Needham-Newton Community Way, pedestrians and bicyclists could see travel time savings of 10 minutes and 3.5 minutes, respectively, as shown in Table 2.

Transit. One of the key components which underlies the shuttle-inclusive alternative is the ability to improve transit times by providing transit buses an exclusive facility that would keep them out of street congestion and enable them to provide faster service, which may attract additional riders.

The MAPC study estimated that use of this MBTA right-of-way would reduce travel time by approximately 5 minutes in the morning peak hours and approximately 10 minutes in the evening. This conclusion was predicated on a specific shuttle route that is a modified version of the Needham Shuttle Route provided by the Route 128 Business Council which provides service between the Newton Highlands Green Line station and businesses in the Needham Crossing area. This potential route, however, primarily utilized the Upper Falls Greenway, which is not included in this feasibility study. The 2013 travel time savings estimate also predated improvements to Highland Avenue/Needham Street which may have changed travel times.

More information is needed regarding the transit service provider and transit routing to make a good estimate of transit travel time savings. At this time, we can say that the proposed Community Way route would provide a travel time savings of approximately 1-2 minutes for transit due to the shorter route between the end points.

Finally, we note that the travel time analysis above compares trips between Webster and Oak Streets (the project area) and therefore represents the greatest potential travel time savings. Given that many trips originate or end closer to Needham Street/Highland Way the travel time savings for many users would be much less than that estimated above. For example, a trip from the Newton Highlands Green Line station to the Muzi Ford site using the Upper Falls Greenway and the Community Way is 2.04 miles versus 2.12 miles using Needham Street/Highland Avenue. This would result in a travel time savings of 2 minutes for a pedestrian, 1 minute for a bicycle and less than a minute for the shuttle.

5.2.3.3 Pedestrian and Bicyclist Journey Quality Improvements

The Community Way will improve the quality and comfort of pedestrian and bicycle trips by shifting pedestrians and bicyclists from busy roadways to a high-comfort facility that is wider than sidewalks, bike lanes or shoulders, is separated from vehicular travel, has amenities such as trees, benches, and has wayfinding signage which improve the utility and enjoyment of the trail.

5.2.4 Environmental Benefits

The Community Way would be expected to contribute to environmental benefits primarily related to emissions reductions related to a modest level of vehicle trips that would be shifted to pedestrian, bicyclist, and transit trips. After reviewing regional travel models and relevant census data, the MAPC study found that the Community Way would not yield a significant level of mode shift due to the dispersed origins and destinations of vehicles traveling through the area, in addition to the high rate of vehicle ownership adjacent to the study area. For the transit inclusive options, the MAPC study estimated up to 150 trips per day Monday through Friday would use the shuttles. The emission reduction benefits of the shuttle riders would be somewhat attenuated by the fact that 60% of these riders (90 riders) were already using shuttles that are routed along Needham Street. Although not a statistically valid sample, the on-line community survey conducted as a part of this feasibility study indicated that most respondents envisioned using the Community Way for recreation rather than commuting. Some level of shopping and social trips via the Community Way were envisioned by survey respondents. Over time, if the Community Way were to be improved, additional low-stress pedestrian and bicycle connections linking the Community Way with other destinations would further support shifting vehicle trips to pedestrian, bicycle, and transit trips. A modest level of vehicle trips would be shifted to pedestrian, bicycle and transit modes which would result in emission reduction related to the development of the Community Way. Both Alternatives 1 and 2 would yield environmental benefits related to emission reductions, with Alternative 2 providing somewhat greater benefits.

5.2.5 Accessibility and Equity Benefits

The Community Way would play an important role in providing safe, healthy, and accessible transportation options for underserved groups such as people who cannot drive (i.e., youth,

elderly or disabled persons) or have limited access to an automobile. Within a one-half mile radius of the Community Way the individuals and households with these characteristics are summarized as follows.

- Age 8-18: 2,710 persons
- Age 65+: 3,740 persons
- Disabled: 1,214 persons

- Households with no vehicles: 885
- Households with one vehicle: 3,820

As previously discussed, the Community Way is adjacent to a neighborhood in Newton that has been identified as an Environmental Justice Community by the State of Massachusetts. Both Community Way alternatives would provide improved transportation accessibility benefits to this community.

06 || IMPLEMENTATION

6.0 Implementation

6.1 Permitting

The following section describes further planning and permitting considerations for the Community Way within the study area based on a review of available online mapped data provided by the Massachusetts Office of Geographic Information (MassGIS). This is useful for identifying stakeholders and the likely permitting requirements for the Community Way alternatives. This initial assessment will require refinement as more detailed site information and plans are developed.

6.1.1 Environmental Resources

6.1.1.1 Existing Conditions and Wetland Resource Areas

The main hydrologic feature associated with the project corridor is the Charles River located east of Interstate 95/128. The Needham and Newton municipal boundary corresponds to the centerline of the river, so wetland resource areas are located in both municipalities. Mapped by the USGS Topographic Map as a perennial waterway, the Charles River is approximately 60-feet wide and flows northwesterly within the project area. While no other wetlands or streams are mapped by MassGIS, a site reconnaissance is recommended to confirm that no additional wetland resource areas are located on or within 100 feet of the project corridor.

6.1.1.2 Wetland Resource Areas

Based on a desktop review of on-line mapping resources, LEC determined that the Wetland Resource Areas associated with the Charles River includes Land Under Waterbodies and Waterways (Land Under Water), Bank-Mean Annual High Water (MAHW) line, and Bordering Land Subject to Flooding. As a result, the project corridor adjacent to the Charles River is located within the 100-foot Buffer Zone to Bank and 200-foot Riverfront Area. In addition, according to the *City of Newton Ordinance Regulations*, a 25-foot Naturally Vegetated Buffer extends from the Bank boundaries and according to the T*own of Needham Bylaw Regulations,* the 100-foot Buffer Zone is also a Resource Area subject to protection.

In accordance with the *Act*, *Bylaw*, and *Ordinance,* the 100-foot Buffer Zone extends from the Bank boundaries. Under the *Ordinance*, the 25-foot Naturally Vegetated Buffer extends from the Bank boundary. *Bylaw* protection of the 100-foot Buffer Zone is similar to the protection provided by the *Act.*

6.1.1.3 Floodplain Designation

According to the June 4, 2010, *Federal Emergency Management Agency Flood Insurance Rate Map* (FIRM) for the City of Newton, Middlesex County, Massachusetts (Map Numbers: 25017C0561E) and July 17, 2012 FIRM for the Town of Needham, Norfolk County, the Charles River is located within Zone AE [el. 89-90, NAVD 88]: *1% Annual Chance Flood Hazard* (*Special Flood Hazard Areas), Base Flood Elevation determined*. Select areas adjacent to the Charles River are located within Zone X [shaded]: *Areas determined to be within the 0.2% annual chance flood hazard, areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile.* The remaining portions of the project corridor are located within Zone X [unshaded]*: Areas of minimal flood hazard*. Based on the FIRMs, a regulatory floodway is not associated with the Charles River.

6.1.1.4 Outstanding Resource Water

As defined in 314 CMR 4.02, Outstanding Resource Waters (ORW) include Class A Public Water Supplies (314 CMR 4.06(1)(d)1 and their tributaries, certain wetlands as specified in 314 CMR 4.06(2), certain surface waters designated in 314 CMR 4.06(6)(b), and other waters as determined by MassDEP based on their outstanding socio-economic, recreational, ecological, and/or aesthetic values. According to 314 CMR 4.06, the Charles River, from South Natick Dam to Watertown Dam (i.e., mile point 40.3 to 9.1) is designated as Class B (Warm Water) waterbody. According to MassGIS, the Site is not mapped as an ORW. As such, ORWs do not occur within the project corridor.

6.1.1.5 Natural Heritage and Endangered Species Program (NHESP) Designation

According to the 15th Edition (effective August 1, 2021) of the Natural Heritage Endangered Species Program (NHESP) *Massachusetts Natural Heritage Atlas* and the MassGIS data layer, no portion of the project corridor is located within *Estimated Habitat of Rare Wildlife* and *Priority Habitat of Rare Species*. In addition, there are no mapped Certified Vernal Pools or Potential Vernal Pools on or in proximity to the project corridor.

Figure 25: Existing Environmental and Cultural Resources

6.1.1.6 Area of Critical Environmental Concern

No portion of the project corridor is mapped within an Area of Critical Environmental Concern (ACEC).

6.1.2 Preliminary Environmental Permitting Analysis

This section provides a preliminary environmental permitting analysis based on review of on-line mapping resources and the four concept design alternatives; Alternative 1, Alternative 2A, Alternative 2B, and Alternative 2C. Based on a desktop review of on-line mapping resources, the study site is subject to jurisdiction under one or more the following statues and regulations:

- *Massachusetts Wetlands Protection Act* (M.G.L. c. 131, s. 40, the *Act*, its implementing *Regulations* (310 CMR 10.00, the *Act Regulations*).
- City of Newton Floodplain Protection Ordinance (*Ordinance*).
- Newton Conservation Commission's 25-foot Naturally Vegetated Buffer Policy.
- Town of Needham Wetlands Protection Bylaw (Bylaw) and its implementing Regulations (the *Bylaw Regulations*)
- *Massachusetts Environmental Policy Act* (*MEPA*; M.G.L. c 30, s. 61-62H) and the *MEPA Regulations* (301 CMR 11.00).
- Massachusetts Clean Water Act (M.G.L. c 21, s 26-53) and the *401 Water Quality Certification Regulations* (*WQC Regulations*; 314 CMR 9.00).
- Section 404 of the *Clean Water Act* (*CWA*; 33 U.S.C. §1344, *et seq.*).

The following analysis addresses environmental permitting considerations for each design alternative.

6.1.2.1 Alternative 1- Pedestrians and Bicyclist Shared-use Path-18 feet

Alternative 1 includes a 20-foot-wide out-to-out concrete deck (18-foot-wide useable path) cast onto the existing steel plate girders (i.e., superstructure) with no temporary and/or permanent alterations to Bank and Land Under Water. However, the project includes activities within Riverfront Area, 25-foot Naturally Vegetated Buffer, 100-foot Buffer Zone and may be located within Bordering Land Subject to Flooding (i.e., 100-year floodplain).

- *MA Environmental Policy Act Environmental Notification Form/Environmental Impact Reports.* Alternative 1 is not anticipated to require the filing of an Environmental Notification Form (ENF) with MEPA seeking a Certificate issued by the Secretary of the Executive Office of Energy and Environmental Affairs (EEA) since none of the review thresholds appear to be exceeded. Alternative 1 is estimated to create less than 1.5 acres of impervious surface, which is less than the Land threshold of five or more acres of impervious surface (11.03(1)). In addition, activities within Wetland Resource Areas (i.e., Riverfront Area) do not exceed the review thresholds for Wetlands, Waterways, and Tidelands (11.03(3)). Review thresholds should be further evaluated based on final project details and regulatory review/feedback. It is important to note that a project is subject to MEPA review if it requires State Agency Action (e.g., MassDEP Superseding Order of Conditions, 401 Water Quality Certification, Chapter 91 Waterways License, etc.) and exceeds a review threshold.

- *MA Wetlands Protection Act Regulations and Local Bylaw and Ordinance.* Trail construction and bridge rehabilitation over the Charles River will require filing a NOI Application with the Needham and Newton Conservation Commissions and MassDEP seeking an Order of Conditions (OOC) under the WPA Regulations, Bylaw, and Ordinance from each municipality. The NOI should address applicable Performance Standards for proposed work activities within Riverfront Area, Bordering Land Subject to Flooding (if applicable), 25-foot Naturally Vegetated Buffer, and the 100-foot Buffer Zone, as briefly described below.
    - Riverfront Area: To the extent that the project meets the Limited Project provisions at 310 CMR 10.53(6), the Riverfront Area performance standards may not apply. Otherwise, the

project would need to comply with the performance standards at 310 CMR 10.58(4) for 'undeveloped' Riverfront Area (i.e., pervious areas) and/or 310 CMR 10.58(5) for Redevelopment within Previously Developed Riverfront Areas (i.e., paved or otherwise existing "degraded" areas).

  - Bordering Land Subject to Flooding [Performance Standards at 310 CMR 10.57(4)]: Compensatory storage shall be provided for all flood storage volume that will be lost as result of the proposed project.

- *Water Quality Certification*. Cumulative impacts to Bordering/Isolated Vegetated Wetland (if present) and Land Under Water exceeding 5,000 square feet will require an Individual Water Quality Certification from MassDEP in accordance with the *Massachusetts Water Quality Certification Regulations* [314 CMR 9.04(2)]. Prefile consultation with MassDEP NERO Wetlands Division is strongly encouraged to confirm jurisdiction; alternatives to avoid, minimize, and mitigate; and the appropriate permitting pathway.

- *Chapter 91 Waterways License*. If the existing railroad crossing over the Charles River was previously authorized through a Chapter 91 Waterways License or Legislative Authorization, then the proposed concrete decking on the existing superstructure and abutments may qualify as a maintenance activity under 310 CMR 9.22 and not require a new Chapter 91 Waterways License. If the railroad crossing was not previously authorized, then a Chapter 91 Waterways License will be required. Consultation with DEP Waterways is recommended to verify applicability of the maintenance provision.

- *U.S. Army Corps of Engineers (USACE).* Based on the concept plans, Alternative 1 will not involve temporary or permanent alteration within jurisdictional Waters of the United States (i.e., Charles River), and will not require permitting with the U.S. Army Corps of Engineers.

- *Federal Environmental Protection Agency (EPA).* The project will result in over one acre of land disturbance and will require filing a NOI Application with the EPA National Pollution Discharge Elimination System (NPDES) Program to receive a NPDES Permit. This permit application is typically prepared by a registered engineer and will require preparation of a Stormwater Pollution Prevention Plan (SWPPP). This Permit functions as a federal nexus and will require endangered species habitat (specifically related to the Northern Long-Eared Bat) consultation with the U.S. Fish & Wildlife Service (USFWS). The USFWS may impose Time of Year (TOY) restrictions for tree clearing to protect Northern Long-Eared Bat. Additional outreach and consultation are required with State and Tribal Historic Preservation Officers and Massachusetts Board of Underwater Archaeological Resources.

6.1.2.2 Alternative 2- Pedestrian, Bicycle and Shuttle Path

Alternative 2A includes a single 28'-10" wide reinforced concrete bridge deck on top of the existing superstructure and proposed superstructure and requires the expansion of the abutment stem. Temporary and/or permanent alteration of 700± square feet of Land Under Water is anticipated to establish the work zone for casting the new abutments. The project includes activities within Riverfront

Area, 25-foot Naturally Vegetated Buffer, 100-foot Buffer Zone, may include alteration of Bank (i.e., vertical sheet pile wall), and is likely located within Bordering Land Subject to Flooding (i.e., 100-year floodplain).

Alternative 2B includes a single 36'-10 1/8" wide bridge deck on top of proposed steel beams and includes the removal of the superstructure and expansion of the abutment stem to the edge of the existing sheet pile wall. Temporary and/or permanent alteration of 2,200±square feet of Land Under Water is anticipated to establish the work zone and casting the new abutments to support the new superstructure. The project includes activities within Riverfront Area, 25-foot Naturally Vegetated Buffer, 100-foot Buffer Zone, may include alteration of Bank, and is likely located within Bordering Land Subject to Flooding (i.e., 100-year floodplain).

Alternative 2C includes a separated shared-use path (20-foot wide) and shuttle lane (17'-10" wide) supported by the existing and proposed superstructure. Temporary and/or permanent alteration of 1,250± square feet of Land Under Water is anticipated to establish the work zone and casting the new abutments to support the new superstructure. The project includes activities within Riverfront Area, 25-foot Naturally Vegetated Buffer, 100-foot Buffer Zone, may include alteration of Bank, and is likely located within Bordering Land Subject to Flooding (i.e., 100-year floodplain).

- *MA Environmental Policy Act Environmental Notification Form/Environmental Impact Reports*. Alternative 2, as proposed, may require the filing of an Environmental Notification Form (ENF) with MEPA seeking a Certificate issued by the Secretary of the Executive Office of Energy and Environmental Affairs (EEA). The project is subject to MEPA review as it requires State Agency Action (e.g., Chapter 91 Waterways License), and presumably will exceed the threshold at 301 CMR 11.03(6)(b)1. for construction of a new roadway one-quarter or more miles in length. Alternatives 2A, 2B, and 2C are each estimated to create approximately 3.5 acres of impervious surface, which is less than the Land threshold of five or more acres of impervious surface (11.03(1)). In addition, activities within Wetland Resource Areas (i.e., Riverfront Area and Land Under Water) do not exceed the review thresholds for Wetlands, Waterways, and Tidelands (11.03(3)). Review thresholds should be further evaluated based on final project details and regulatory review/feedback. It is important to note that a project is subject to MEPA review if it requires State Agency Action (e.g., MassDEP Superseding Order of Conditions, 401 Water Quality Certification, Chapter 91 Waterways License, etc.) and exceeds a review threshold.

  The project corridor is mapped within one mile of the *Environmental Justice (EJ) Block Groups 2 and 3 (Criteria = Minority*), *Census Tract 3741, Middlesex County, Massachusetts*; as such, the project also is required to file an EIR in accordance with 301 CMR 11.07(b) and comply with the EJ 45-day Notice and the EJ Policy. The ENF/EIR process is anticipated to take approximately nine to 12 months to complete, is required to comply with the EJ 45-day notice and EJ Policy and involves circulating the project plans to multiple state agencies and a public involvement process. It is strongly encouraged that consultation with the MEPA UNIT occurs in the early design phases to understand MEPA applicability. If MEPA review is required, a pre-

application meeting with MEPA is highly recommended following confirmation that the project exceeds one or more thresholds at 301 CMR 11.03.

- *MA Wetlands Protection Act Regulations and Local Ordinance*. Trail and shuttle construction and bridge rehabilitation over the Charles River will require filing a NOI Application with the Needham and Newton Conservation Commissions and MassDEP seeking an Order of Conditions (OOC) under the *WPA Regulations*, *Bylaw*, and *Ordinance* from each municipality. The NOI should address applicable Performance Standards for proposed work activities within Land Under Water, Riverfront Area, Bordering Land Subject to Flooding, 25-foot Naturally Vegetated Buffer, and the 100-foot Buffer Zone, as briefly described below.

    - Bank [Performance Standards at 310 10.54(4)]: Proposed alterations shall not impair the physical stability of the Bank; the water carrying capacity of the existing channel; groundwater and surface water quality; and the capacity of the Bank to provide breeding habitat, escape cover, and/or food for fisheries.
    - Land Under Water [Performance Standards at 310 CMR 10.56(4)]: Proposed alterations shall not impair the water carrying capacity within the channel; ground and surface water quality; the capacity to provide breeding habitat, escape cover, or food for fisheries; and the capacity to provide important wildlife habitat functions.
    - Bordering Land Subject to Flooding [Performance Standards at 310 CMR 10.57(4)]: Compensatory storage shall be provided for all flood storage volume that will be lost as a result of the proposed project.
    - Riverfront Area [Performance Standards at 310 CMR 10.58(4) for 'undeveloped' Riverfront Area and 310 CMR 10.58(5) for Redevelopment within Previously Developed Riverfront Areas (e.g., footprint of railroad tracks and bed, pavement (i.e., abutments and other areas lacking topsoil (if present)]:
        - Undeveloped Riverfront Area: A thorough Alternatives Analysis is required; work may alter up to 5,000 square feet or 10% of the undeveloped Riverfront Area within the lot (whichever is greater); the first 100 feet of undisturbed vegetation from the Bank/MAHW Line must be preserved; and stormwater management is provided to comply with the Massachusetts Stormwater Standards.
        - Previously Developed Riverfront Area: Work shall result in an improvement over existing conditions; stormwater management is provided to comply with the Massachusetts Stormwater Standards; proposed work shall not be closer to the river than existing conditions or 100 feet, whichever is closer; proposed work/expansion of structures shall be outside the Riverfront Area or toward the Riverfront Area boundary and away from the river; proposed work shall not exceed the amount of degraded area. Mitigation for any work not conforming to Performance Standards will be required at a ratio in square feet of at least 2:1.

  - Wildlife Habitat Evaluation [provisions at 310 CMR 10.60]: Permanent alteration thresholds are anticipated to be exceeded for proposed activities within Riverfront Area. As such, a Wildlife Habitat Evaluation (WHE) may be required for Riverfront Area impacts.

- *Water Quality Certification.* Cumulative impacts to Bordering/Isolated Vegetated Wetland (if present) and Land Under Water exceeding 5,000 square feet will require an individual Water Quality Certification (WQC) from MassDEP in accordance with the Massachusetts Water Quality Certification Regulations [314 CMR 9.04(2)]. Prefile consultation with MassDEP NERO Wetlands Division is strongly encouraged to confirm jurisdiction; alternatives to avoid, minimize, and mitigate; and the appropriate permitting pathway.

- *Chapter 91 Waterways License.* Expansion of structures (bridge, abutments) in, on, over, or under waterways (Charles River) requires a new Chapter 91 Waterways License in accordance with 310 CMR 9.05(1). A pre-application meeting with DEP Waterways is recommended.

- *U.S. Army Corps of Engineers (ACOE).* The proposed in-water activities will require a General Permit ("GP" 23: Linear Transportation Projects and Wetland/Stream Crossings; "GP" 24: Temporary Construction, Access, and Dewatering) with the ACOE through a Self-Verification Notification (SVN), a Pre-Construction Notification (PCN), or an Individual Permit (IP). If permanent impacts result in less than 5,000 square feet of cumulative impact to Waters of the United States (i.e., Charles River), stream relocation resulting in loss of streambed that is less than 200 linear feet of Bank (including both sides of the stream), and structures in navigable waters of the U.S. are left in place no more than 30 days, the project is likely eligible for an SVN. If the cumulative impacts to the Charles River are between 5,000 square feet and one acre, greater than or equal to 200 linear feet of Bank, or structures in navigable waters of the U.S. are in place for more than 30 days, the project is likely eligible for a PCN. A project proposing cumulative alterations greater than one acre to the Charles River will require an IP. Consultation with the ACOE is recommended to determine if any previous permits have been issued, and to confirm the appropriate permitting avenue. This permit or the EPA National Pollution Discharge Elimination System (NPDES) Permit functions as a federal nexus and will require endangered species habitat (specifically related to the Northern Long-Eared Bat) consultation with the U.S. Fish & Wildlife Service (USFWS). The USFWS may impose Time of Year (TOY) restrictions for tree clearing to protect Northern Long-Eared Bat. Additional outreach and consultation are required with State and Tribal Historic Preservation Officers and Massachusetts Board of Underwater Archaeological Resources.

- *Federal Environmental Protection Agency (EPA).* The project will result in over one acre of land disturbance and will require filing a NOI Application with the EPA National Pollution Discharge Elimination System (NPDES) Program to receive a NPDES Construction General Permit. This permit application is typically prepared by a registered engineer and will require preparation of a Stormwater Pollution Prevention Plan (SWPPP).

The permitting requirements for each design alternative are summarized in Table 3.

Table 3: Environmental Permitting Requirements by Alternative

Environmental Permit Requirements	Alternative 1	Alternative 2
MEPA ENF/EIR Filing	No	Maybe
Notice of Intent Application (Needham and Newton)	Yes	Yes
MassDEP Water Quality Certification	No	No
MassDEP Chapter 91 Waterways License	Maybe	Yes
Department of the Army Permit	No	Yes (SVN or PCN)
EPA NPDES Construction General Permit	Yes	Yes

6.1.3 Cultural Resources

The historic resources considered in the analysis are those included in the Massachusetts Cultural Resource Information System (MACRIS) maintained by the Massachusetts Historical Commission (MHC). These resources include buildings and structures as well as areas and districts recognized by the National Register of Historic Places and local historic and preservation agencies. The MACRIS database indicates there are several structures and properties located as indicated in **Error! Reference source not found.**. There are two inventoried properties along the corridor and several inventoried properties adjacent to the study corridor.

The following inventoried properties are within the Community Way corridor:

- the Charles River Railroad bridge over Route 128 (which was demolished in 2012); and
- the Charles River Railroad bridge over the Charles River.

The following inventoried properties and districts are adjacent to the study area but are not likely to be affected by the project.

- the Kasrofian Store, 1201-1207 Chestnut Street, Newton;
- the Hagopian Store, 1209-1213 Chestnut Street, Newton; and
- The Upper Falls Historic District, a Local Historic District, is located north and east of the Oak Street terminus of the study area. A portion of the Upper Falls Greenway corridor which is east of Oak Street is within the district.

The following properties . are adjacent to the study area and listed on the National Register of Historic Places but are not likely to be affected by the project.

- the Newton Upper Falls Railroad Depot, now known as Little Luke's Café, is located along the study corridor just off of Oak Street, is listed on the National Register of Historic Places as well as within the Local Upper Falls Historic District.
- the Marcy Willard House, 1173 Chestnut Street, is a structure designated within the National Register of Historic Places is located slightly north of the study corridor within the Chestnut Grove apartment complex; and
- the Saco-Pettee Machine Shops property (the current Northland Newton site) which is east of Oak Street and south of the Upper Falls Greenway is listed on the National Register.

Both alternatives would reconstruct the bridge over the Charles River which is an inventoried property with no eligibility determination regarding the National Register. Neither alternative would be expected to have impacts on adjacent resources within the current study area, however, should Alternative 2 be selected and extended east across Oak Street along the Upper Falls Greenway there is the potential for impacts to the Newton Upper Falls Depot building. Should the Community Way project have the potential to impact cultural resources a full review would need to be conducted during design phases and appropriate avoidance or mitigation measures would need to be identified and implemented.

6.2 Hazardous Materials Sites

Releases of oil and/or hazardous material to the environment are required to be reported to the Massachusetts Department of Environmental Protection's (MassDEP) Bureau of Waste Site Cleanup (BWSC), in accordance with procedures established within the *Massachusetts Oil and Hazardous Material Release Prevention and Response Act* (MGL Chapter 21E) and the *Massachusetts Contingency Plan* (MCP 310 CMR 40). GPI reviewed the Massachusetts Department of Environmental Protection (MassDEP) Bureau of Waste Site Cleanup (BWSC) online database of disposal sites to identify OHM (Oil and Hazardous Materials) concerns located at properties abutting or within the Project Area. Those active MassDEP Chapter 21E sites and Activity and Use Limitations (AUL) are identified on **Figure 25.**

While there are some materials adjacent to the ROW, a review of the databases did not reveal any identified sources of contamination within the corridor itself. Prior to construction phases of the Project, MassDEP Rail Trail guidance requires an MCP Phase I level of investigation be conducted for the Project Area to identify sources of contamination outside of typical railroad contaminants. As such, the project design will be required to follow the MassDEP guidance for Best Management Practices for controlling exposure to soil during the development of rail trails and measures to protect the Charles River during repainting and reconstruction of the Charles River Bridge.

6.3 Air Quality

There will be temporary impacts to air quality during construction of the project. In the future, the installation of Needham-Newton Community Way is expected to have a beneficial effect on air quality by promoting walking and biking as alternatives to driving.

6.4 Noise

Construction activities are expected to increase noise levels depending on the types and quantities of equipment being used at given times. A majority of the adjacent land use is commercial and industrial and therefore, areas of construction near residential areas can likely be limited to certain times of day to minimize major disturbances.

6.5 Utilities

There is one existing overhead electric transmission line located along the southerly edge of the right-of-way from Gould Street behind the Channel 5 property on TV Place, across the I-95/Route 128 highway, behind the Clariant Corporation property at 32 Fremont Street. At this location, the overhead utilities cross the right-of-way and connect to the property at 320 Reservoir Street on the northerly side of the right-of-way. There are also two abandoned utility poles in the right-of-way in the vicinity of TV Place.

Photo 17: Existing Overhead Utility Lines

Based on the field review construction of a bridge over I-95/Route 128 and the path immediately east of the highway may require some modification to the utility lines. As part of a new bridge structure, it is assumed the utility lines would be accommodated via conduit under the bridge.

6.6 Funding Opportunities

The successful implementation of the Needham-Newton Community Way will rely on identifying and securing adequate funding to support its various stages from initial planning to long-term maintenance. Funding may come from a combined source of local, private, state and federal funding as described below.

6.6.1 Federal Funding Programs

6.6.1.1 Rebuilding America's Infrastructure with Sustainability and Equity (RAISE)

RAISE grants support muti-modal surface transportation projects of local and/or regional significance that are difficult to support through traditional DOT programs. RAISE grants can provide capital funding directly to any public entity, including municipalities, counties, port authorities, tribal governments, MPOs, or others. In the last funding cycle, 70% of the grants were allocated to projects in regions defined as an Area of Persistent Poverty or a Historically Disadvantaged Community.

6.6.1.2 Reconnecting Communities and Neighborhoods (RCN) Program

A new planning and construction program is designed to remove barriers to connectivity created by transportation facilities such as roads, streets, parkway, or rail lines that create a barrier to mobility, access, or economic development due to high speeds, grade separation, or other design factors. This grant program is open to state, local and tribal governments, MPOs, and non-profit organizations. This grant program places a priority on disadvantaged communities; aims to improve access to daily needs such as jobs, education, healthcare, food, and recreation; foster equitable development and restoration; and reconnecting communities by removing, retrofitting or mitigating highway or other transportation facilities that create barriers to community connectivity including to mobility, access, or economic development.

6.6.1.3 The Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP) funds safety improvement projects to reduce the number and severity of crashes at hazardous locations (90 percent federal / 10 percent non-federal). The HSIP is guided by a data-driven state Strategic Highway Safety Plan that defines state safety goals, ranks dangerous locations, and includes a list of projects. Under MAP-21, the safety plan is required to improve data collection on crashes and updates to identify dangerous locations more accurately. Any project on a public road, trail or path that is included in a state's Strategic Highway Safety Plan and corrects a safety problem (such as an unsafe roadway element or a hazardous location) is eligible for HSIP funding. Eligible

projects include but are not limited to the following: intersection improvements, construction of shoulders, high risk rural roads improvements, traffic calming, data collection, and improvements for bicyclists, pedestrians, and individuals with disabilities.

6.6.1.4 Land and Water Conservation Fund

The LWCF provides matching grants to States and local governments for the acquisition and development of public outdoor recreation areas and facilities. Over its first 49 years (1965 - 2014), LWCF has provided more than $16.7 billion to acquire new Federal recreation lands as grants to State and local governments. Projects can include acquisition of open space, development of small city and neighborhood parks, and construction of trails or greenways.

6.6.2 State Funding Programs

6.6.2.1 MassTrails Grant Program

MassTrails provides matching grants to communities, public entities, and non-profit organizations to design, create, and maintain the diverse network of trails, trail systems, and trail experiences used and enjoyed by Massachusetts residents and visitors. Eligible grant activities include project development, design, engineering, permitting, construction, and maintenance of recreational trails, shared-use pathways, and the amenities that support trails. Applications are accepted annually for a variety of well-planned trail projects benefiting communities across the state. The award maximum depends on the project type and needs and is generally $60,000 for "local" projects and up to $500,000 for projects demonstrating critical network connections of regional or statewide significance.

6.6.2.2 MassWorks Infrastructure Program

The MassWorks Infrastructure Program provides a one-stop shop for municipalities and other eligible public entities seeking public infrastructure funding to support economic development and job creation and retention, housing development at density of at least 4 units to the acre (both market and affordable units) and transportation improvements to enhancing safety in small, rural communities. The MassWorks Infrastructure Program is administered by the Executive Office of Economic Development, in cooperation with the Department of Transportation and Executive Office for Administration & Finance.

6.6.2.3 State Transportation Improvement Program (TIP)

The TIP is the five-year capital funding program for transportation projects. Needham and Newton are part of the Boston Region MPO (Metropolitan Planning Organization) which is responsible for developing a list of projects which will receive federal funding including for surface transportation projects including bicycle and pedestrian facilities (including shared-use paths), complete streets, intersection improvements, roadway construction, and transit improvements.

6.6.3 Local Funding Programs

6.6.3.1 City/Town General Funds

The Town of Needham and the City of Newton could utilize funds allocated in their general budgets to fund trail design and development or could provide the local matches for state or federal grant programs.

6.6.3.2 Chapter 90

The Chapter 90 program entitles municipalities to reimbursement for capital improvement projects for highway construction, preservation, and improvement that create or extend the life of capital facilities. The funds can be used for maintaining, repairing, improving, or constructing town and county ways and bridges that qualify under the State Aid Highway Guidelines issued by the Public Works Commission. Items eligible for Chapter 90 funding include roadways, sidewalks, right-of-way acquisition, shoulders, landscaping and tree planting, roadside drainage, street lighting, and traffic control devices. A municipality seeking Chapter 90 reimbursement for a project must complete a Chapter 90 Project Request Form and an Environmental Punch List for each proposed project and submit it to the appropriate MassDOT District Office. Each municipality in Massachusetts is granted an annual allocation of Chapter 90 reimbursement funding that it is eligible for, and the municipality can choose among any eligible infrastructure investments. Therefore, the Chapter 90 program provides municipalities with a high level of local control over infrastructure spending.

6.6.3.3 Community Preservation Act Funds

The Community Preservation Act provides communities an opportunity to create a Community Preservation Fund for open space protection, historic preservation, affordable housing, and outdoor recreation. Both Needham and Newton are CPA communities – meaning both communities have voted to adopt surcharge on property taxes to generate the fund. The Community Preservation Act requires that at least 10% of each year's Community Preservation revenues be spent or set aside for each of the three Community Preservation categories. The remaining 70% is available for spending on any one or more of the categories as the Committee and Town Meeting see fit.

6.6.3.4 Developer or Transportation Impact Fees

Local transportation impact fees generated by new developments may be utilized for the design and development of the Needham-Newton Community Path. In this case, a developer would pay into a fund that would be used to build the transportation infrastructure that their business would ultimately benefit from.

6.6.3.5 Local Organizations, Individual, and Non-Profit Donations

Occasionally local organization and non-profits will help fund portions of trail projects. These funding groups may sponsor improvement or maintenance projects, apply for grant funding, and provide volunteer labor. Non-profit trail organizations, such as "friends" groups or trail coalitions, are typically composed of trail users and often focus on rail trails within a specific geographic area and form partnerships with trail management entities. These organizations collect funds via private donations, local business sponsorships, and private grants and also hold fundraising events.

6.7 Next Steps

6.7.1 Community Process for Identifying the Preferred Alternative

The first step involves the Town of Needham and the City of Newton developing a cooperative process to work together to decide on a path forward regarding Community Way. This may involve a cooperative bi-jurisdictional task force that develops a recommendation for consideration by the Needham Select Board and Newton City Council after obtaining community input or coordination at a staff level to develop a recommendation for consideration by the Select Board and City Council.

At this time, although implementation associated with Alternative 1 is fairly well understood, there are many outstanding questions regarding Alternative 2 that would require further study prior to pursuing funding for implementation. Some considerations are discussed below.

6.7.1.1 Alternative 1: Pedestrian and Bicycle Path Alternative

Improving the Community Way for pedestrian and bicyclist use would follow steps similar to those taken for prior rail trails in Massachusetts. Needham would need to negotiate a lease with the MBTA to use the corridor for a rail trail. The term of such leases are typically 99 years. Due to the regional significance of the Community Way spanning two communities and comprising a segment of the larger Bay Colony Rail Trail, it is recommended that Needham and Newton pursue funding through the State Transportation Improvement Program (TIP). New TIP projects are initiated by MassDOT through a formal three-step process using the Massachusetts Project Intake Tool (MaPIT). The first step involves identifying the project need; the second step would be working with MassDOT District 6 staff to define the project scope, costs, timeline, impacts and responsibilities; and the third step involves the MassDOT district office submitting the project to the Project Review Committee for consideration. This feasibility study includes much of the information needed for the first two steps. With a TIP project for a municipally owned and maintained facility, the communities would be responsible for funding the engineering design costs.

Projects submitted for funding through the TIP go through scoring process with respect to the project's relationship to system preservation, mobility, safety, economic impacts, environmental effects, social equity, policy support and cost effectiveness. To strengthen the standing of this project, it is recommended that Needham and Newton consider undertaking additional connectivity planning with respect to the developing Bay Colony Rail Trail and the MBTA stations. The Bay Colony Rail Trail (including this Community Way segment and the Upper Falls Greenway) has been identified as a priority corridor by MassTrails. Further information regarding initiating a project for TIP funding can be found here: https://www.mass.gov/info-details/massdot-highway-initiating-a-project

As a first step in implementing this alternative, community representatives should meet with staff from the MassDOT District 4 office and the Boston Region MPO to provide an overview of the project and receive feedback regarding implementation considerations and steps.

6.7.1.2 Alternative 2: Pedestrian, Bicycle and Shuttle Alternative

This study has illustrated that Alternative 2 is more than twice the cost of Alternative 1, excluding improvements to the Upper Falls Greenway, and the benefit of the shuttle path is largely unknown. There are significant unanswered questions about the transit component that would need to be addressed in order to understand its cost and benefits. These include, but may not be limited to, the following:

Updated Ridership and Routing. Updated ridership estimates and service routing would be necessary to allow funders to evaluate the utility of the service relative to the cost of construction and operation. The service plan should identify routes, including how, and to what extent, the service would operate on the Community Way and the Upper Falls Greenway.

One key question with respect to routing revolves around the fact that under current conditions it is not possible to connect to the Needham Heights and Newton Highlands MBTA Stations along the MBTA right-of-way. This would seem to limit the utility of a transit component along the Community Way. The transit ridership estimates contained in the MAPC study were based on a shuttle route that transported reverse commuters from the Newton Highlands Green Line station to the Needham Crossing employment area. This projected route was largely accommodated on the Upper Falls Greenway, which is outside of this study area and the feasibility of accommodating transit along the Upper Falls Greenway, and the associated cost, was not examined as a part of this feasibility study so the full cost of the shuttle option is unknown at this time.

The transit ridership estimates developed by the MAPC are now 10 years old and should be updated to reflect new development in the area, the reconstruction of Needham Street/Highland Avenue and changes in commuting patterns, including

higher levels of remote work. Ridership along the Community Way should be compared with an alternative parallel shuttle route that uses the street system.

Finally, given that Alternative 2 is more than twice the cost of Alternative 1 and the transit shuttle cannot directly link to the Needham Heights and Newton Highlands stations along the MBTA right-of-way, implementing transit signal priority (TSP) on Needham Street/Highland should be considered. TSP would be expected to provide modest time saving benefits and schedule reliability than non-TSP operated transit service along these same roadways without TSP. With the completion of the ongoing construction work and upgraded traffic signals along the corridor, there is an opportunity to install a TSP system with minimal additional infrastructure costs and within a short time frame.

Identification of a Shuttle Service Operator. One issue that would need resolution before pursuing funding for this alternative revolves around identifying a transit service provider. In the concept and ridership estimates developed by the MAPC, the routing and ridership assumptions were based on a modification of the existing Needham Shuttle service operated by the 128 Business Council, a TMA (transportation management association) supported by businesses in the area. The Needham Shuttle transit service, however, is only open to TMA members. If public funding is used to construct the shuttle path, transit service must be open to the general public, so under current conditions, this arrangement would not be feasible. It may be possible for the Town of Needham and City of Newton to join the TMA and contribute funding to operate an appropriately 'public' transit service, or it may be possible for the City and the Town to establish a separate entity to operate the service. Another option would involve the MBTA providing the shuttle service. In order to obtain the funding for the facility, the identification of a satisfactory transit service operator would certainly be a consideration.

6.7.2 Phased Approach

The question has been raised regarding the possibility of implementing the pedestrian and bicycle option as the first phase, and the transit option as a later phase if shuttle service were to become viable. In this phased approach the bridge over I-95/Route 128 would need to be sized for the transit inclusive option, at a cost of an additional $12.5 million dollars. The path improvements, which involve much greater levels of retaining walls and fill to provide the wider path, could be developed at a later phase if shuttle service were to become viable. The two-bridge option over the Charles River would accommodate this approach without the need to "front load" the shuttle-related costs.

Due to the significant additional cost ($12.5 million) to size the bridge over I-95/Route 128 we would expect this approach to encounter challenges in terms of securing funding due to the level of uncertainty about the transit service.

6.8 Estimated Timeline

The timeline for the implementation for the Needham-Newton Community Way is currently unknown as it is contingent upon various factors such as final design determination, funding, permitting, and planning/engineering. We would estimate that Alternative 1, which represents a rail to trail conversion that would follow a known implementation funding and implementation path, would likely take 7 to 15 years due to the following.

- **Funding:** Securing funding for Alternative 1 would take at least 3-5 years. Alternative 2 would be expected to take longer due to the need to develop further information regarding the transit service (see below).

- **Planning, Design, and Permitting:** Once funding is secured, the planning/design phase will require coordination of many elements such as survey, preliminary and final design, bridge type selection, permitting and engineering. This phase of work will also include stakeholder engagement and public input on the plans. This phase of work would be expected to take 4 to 5 years.

- **Construction:** The project could take 2-3 years to construct. It would not be unusual for a project of this length to be constructed in a single phase.

6.9 Conclusions

This study has found that both alternatives for the Community Way appear to be feasible from an engineering and permitting point of view.

Alternative 1, although costly due to construction and rehabilitation of the bridges, would be expected to follow a well-established implementation path for rail trails in Massachusetts. Due to the expense of constructing a new bridge across I-95/Route 128 a plan for greater connectivity of the Community Way within Newton and through Needham to the developing Bay Colony Rail Trail would strengthen the regional significance and cost to benefit calculation for this path.

Alternative 2 is not viable to advance for funding at this time due to the significant uncertainties regarding the transit service. The following questions about the transit component would need to be addressed to evaluate the feasibility of this alternative for funding:

- How would shuttles be routed? Would the full right-of-way between Webster Street in Needham and Easy Street in Newton be utilized? Does the shuttle component of the

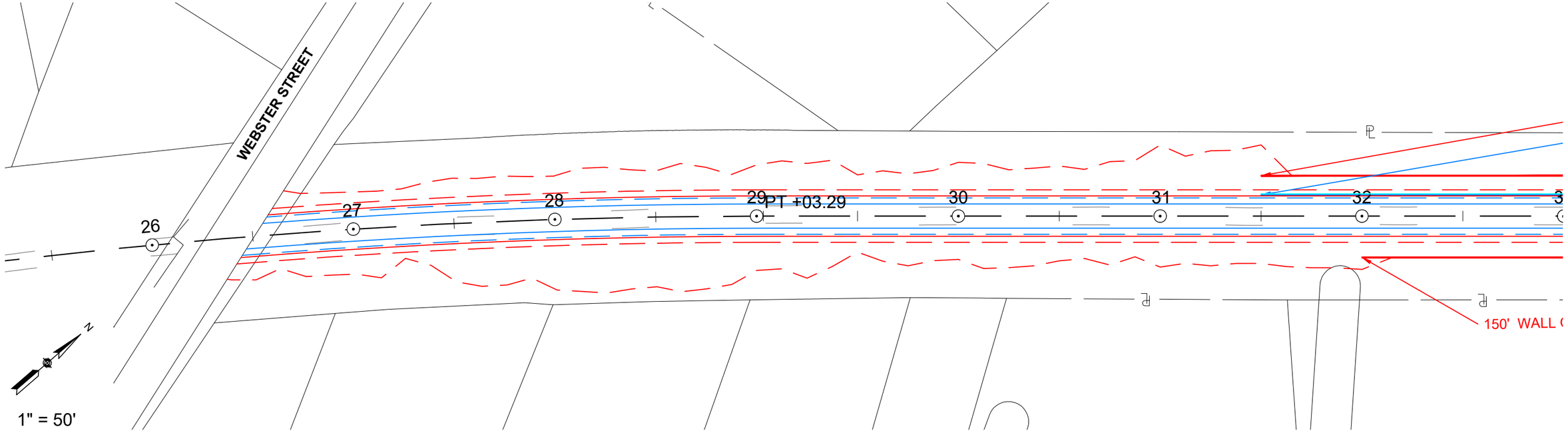
Community Way remain desirable and viable without a direct connection to the Newton Highlands and/or Needham Heights MBTA stations?

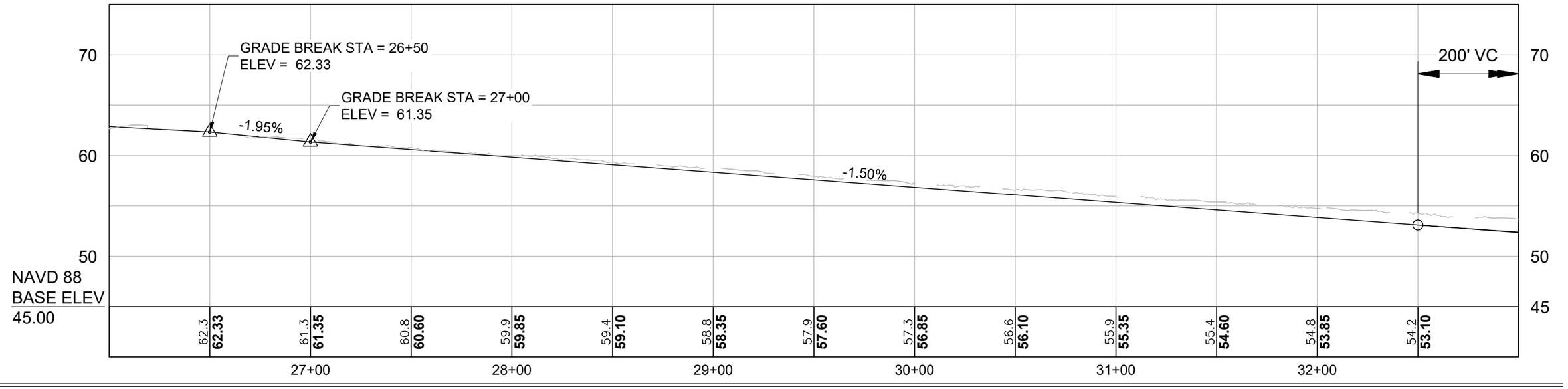
- What is the cost of extending the shuttle-inclusive path along the Upper Falls Greenway?
- Who would operate an appropriately public transit service along the Community Way?
- How do the transit travel time and capital improvement costs of Alternative 2 compare with the transit travel time and costs of a shuttle along a TSP equipped Needham Street / Highland Avenue?

7.0 APPENDICES

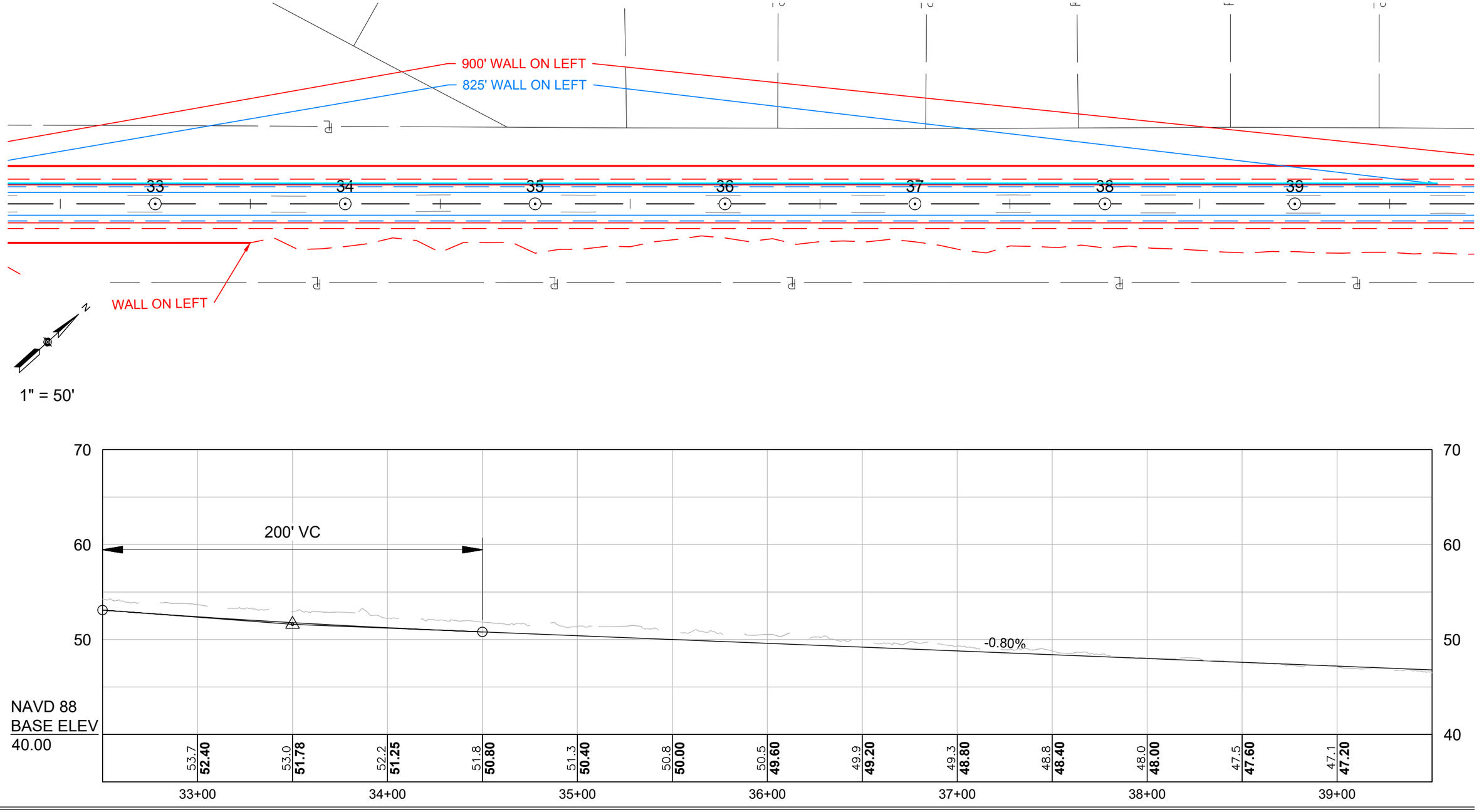
A. Community Way Plans
B. Cost Estimate
C. Public Outreach Summaries

APPENDIX A – COMMUNITY WAY CONCEPTUAL PLANS (NOT FOR CONSTRUCTION)

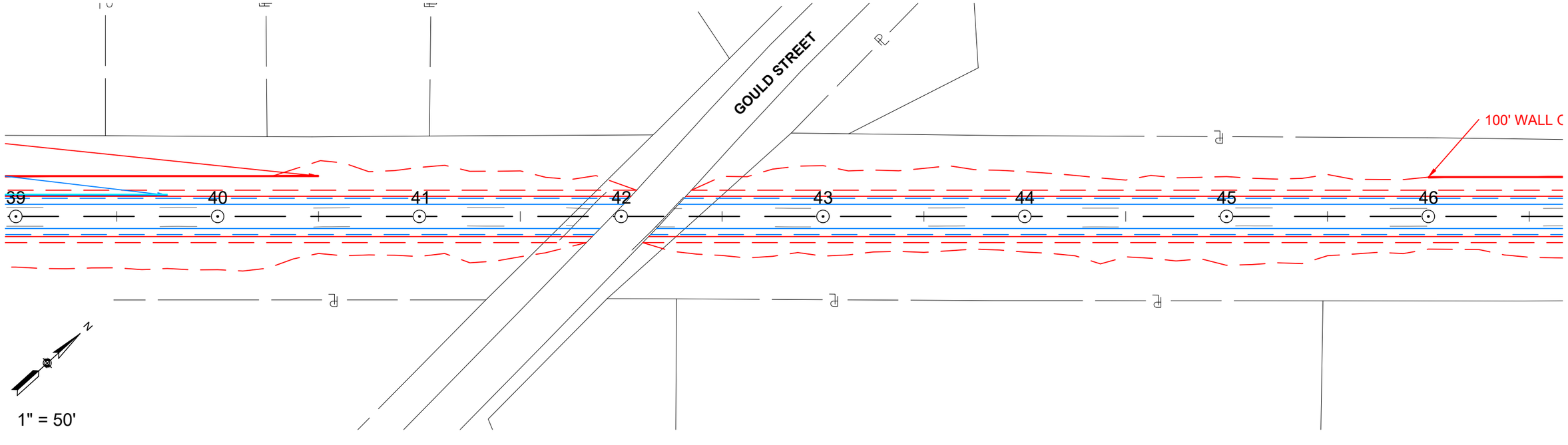


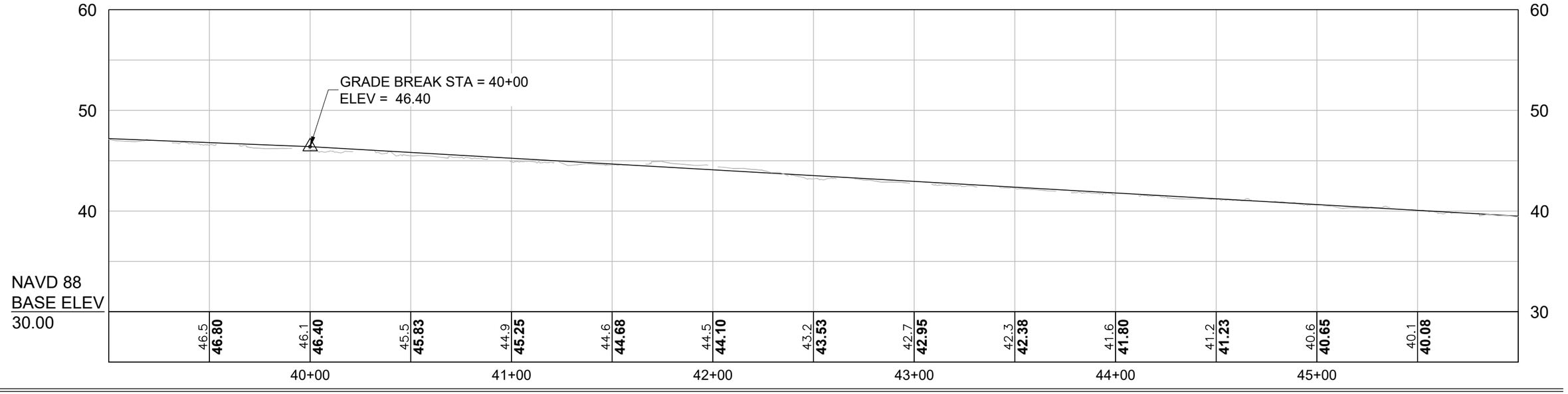


GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street
Suite 202
Wilmington, MA 01887

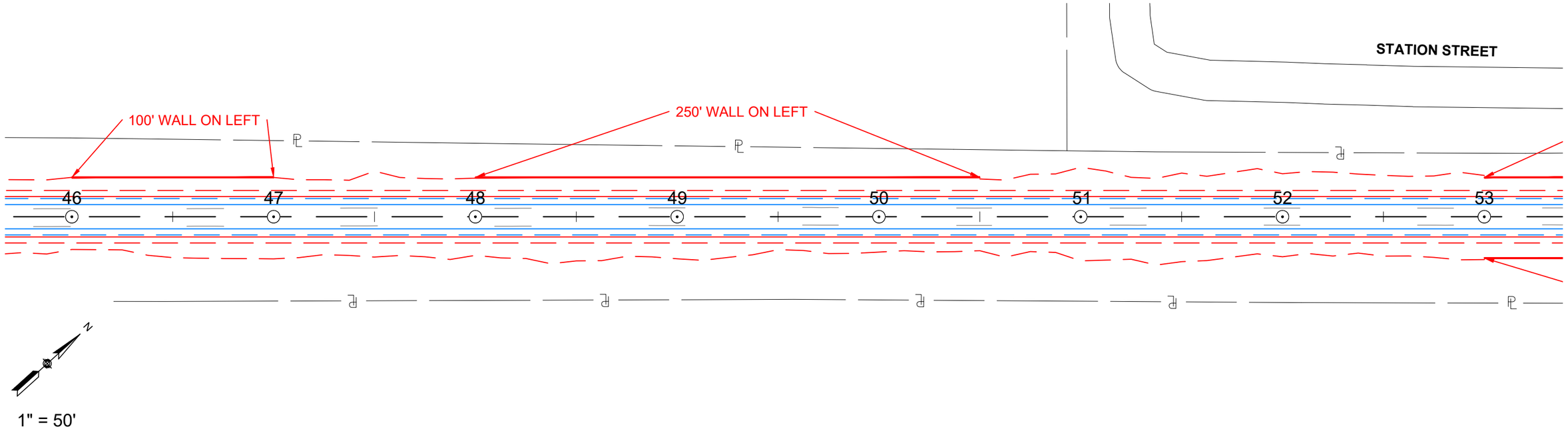


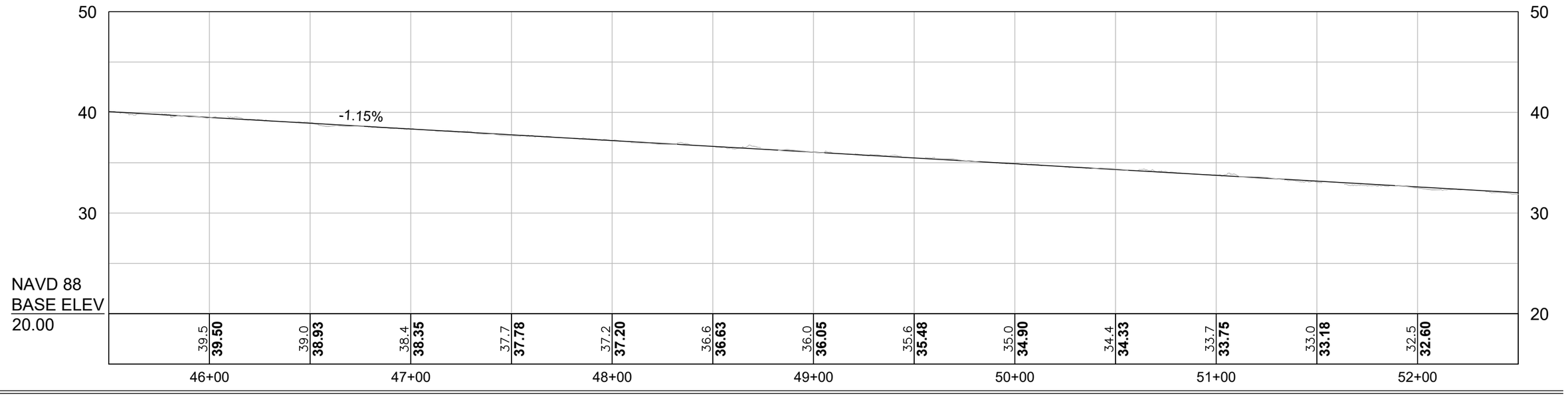
GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street
Suite 202
Wilmington, MA 01887



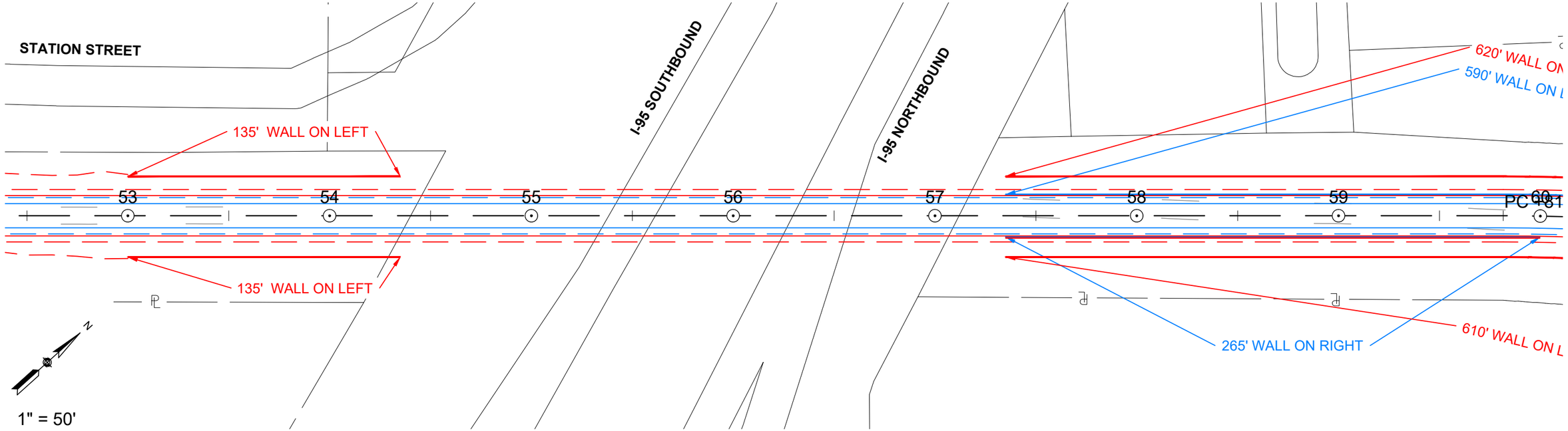


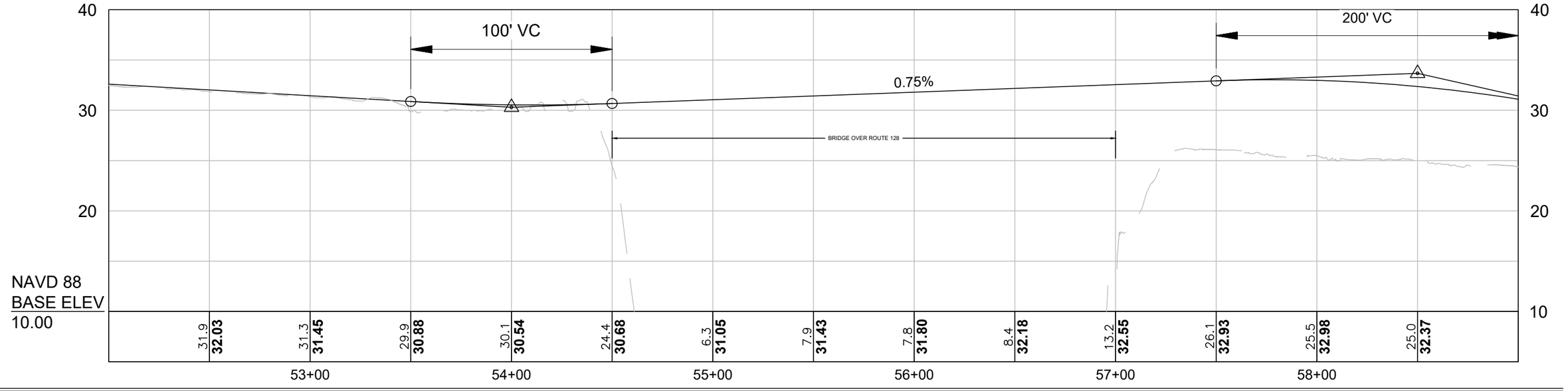
GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street
Suite 202
Wilmington, MA 01887



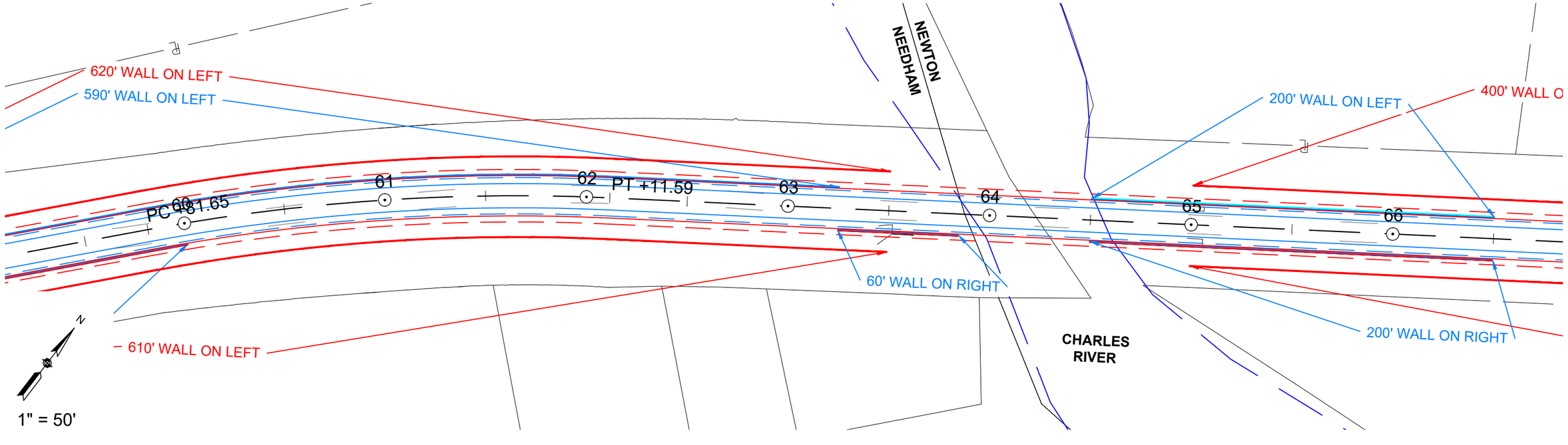


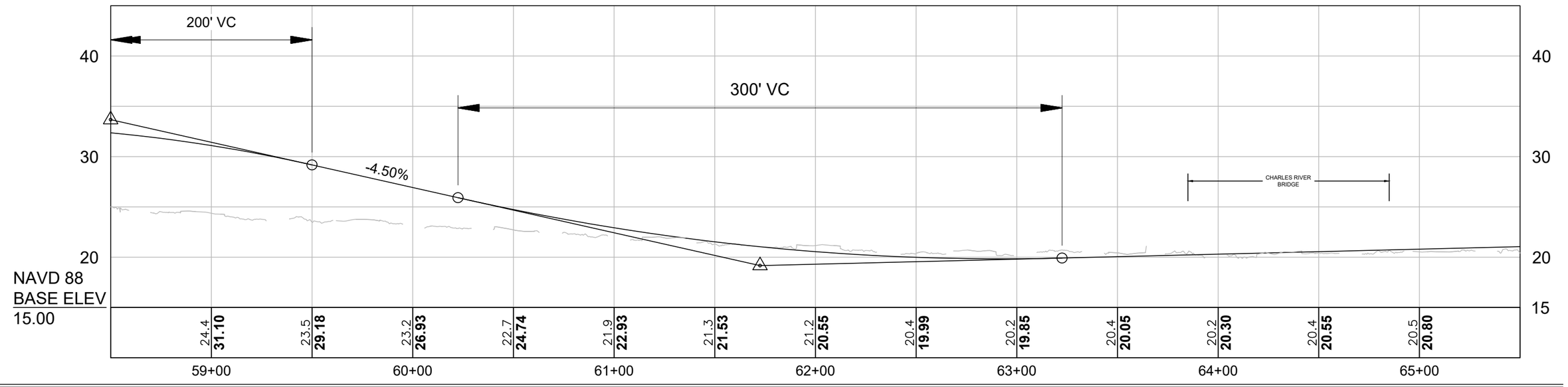
GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street
Suite 202
Wilmington, MA 01887



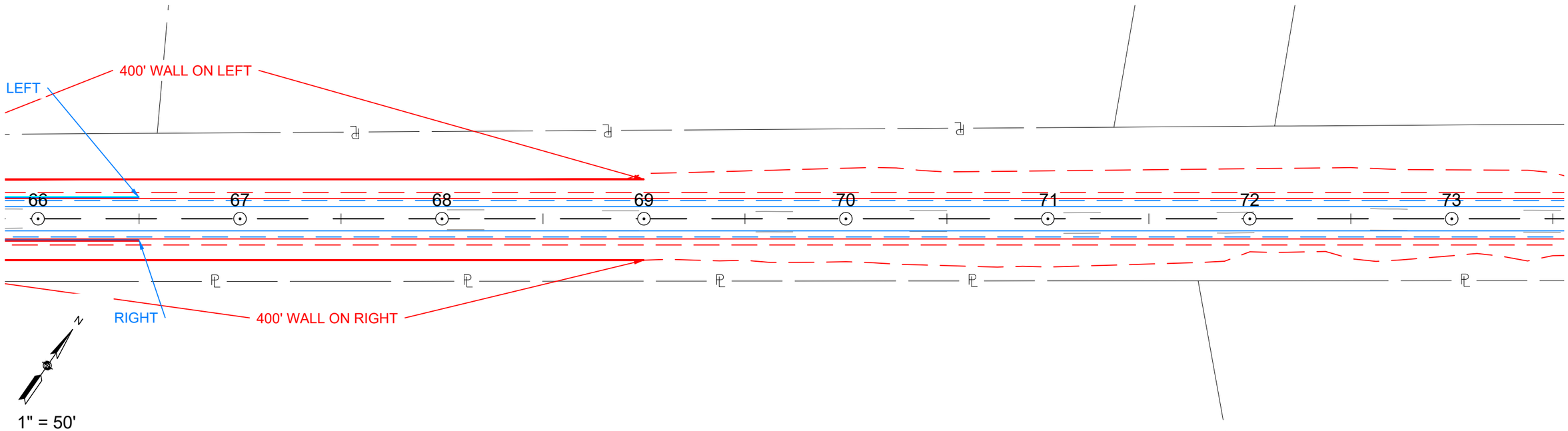


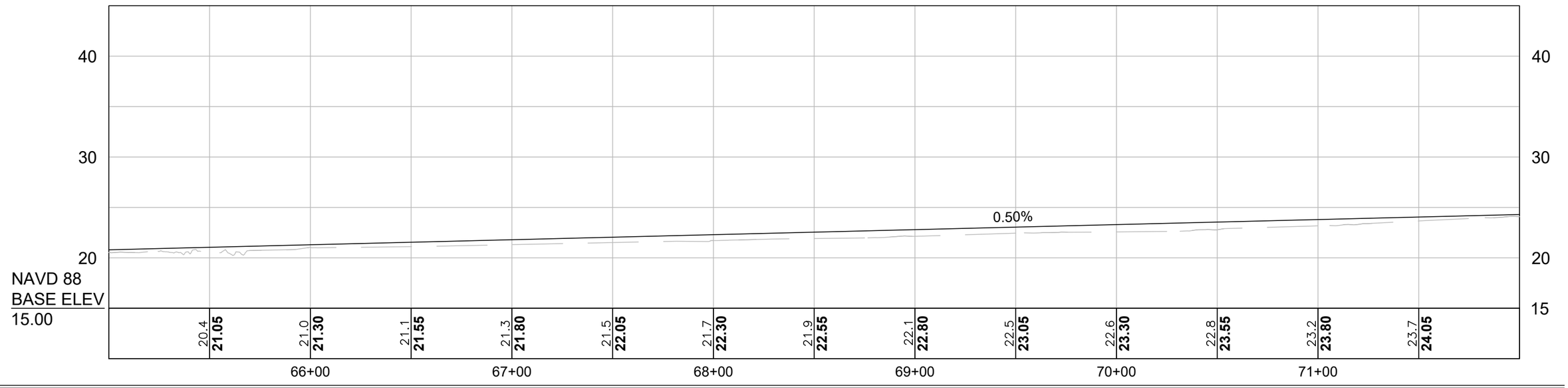
GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street
Suite 202
Wilmington, MA 01887



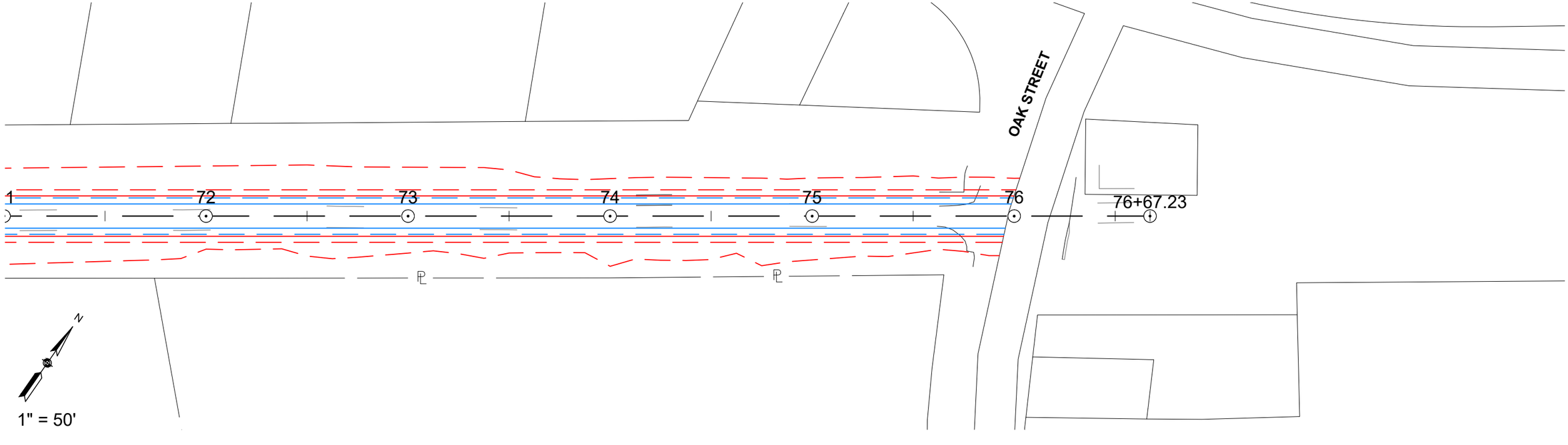


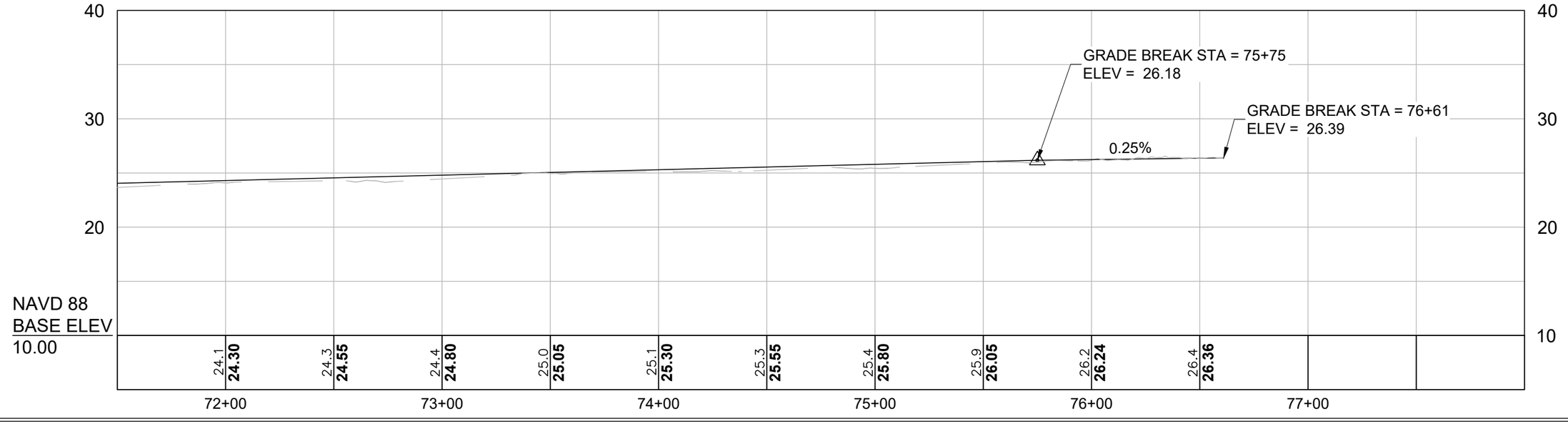
GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street
Suite 202
Wilmington, MA 01887



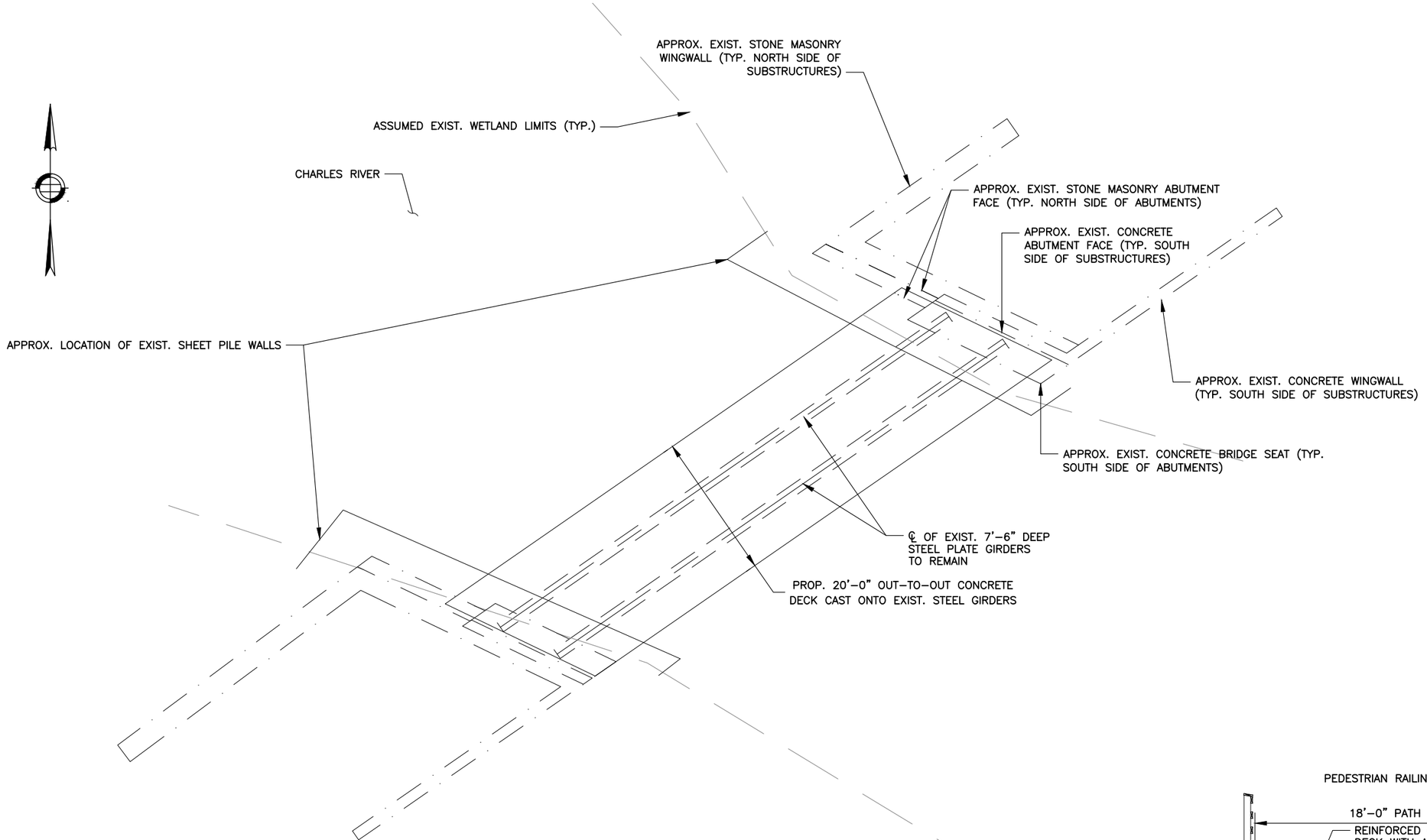


GPI Engineering Design Planning Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street
Suite 202
Wilmington, MA 01887



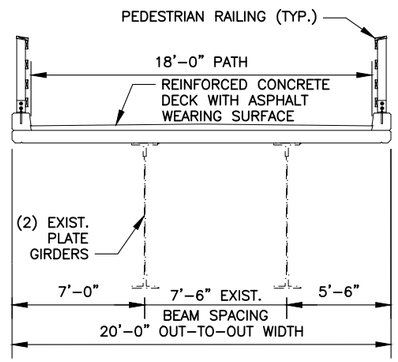


GPI
Engineering
Design
Planning
Construction Management
978.570.2999 GPINET.COM
Greenman-Pedersen, Inc.
181 Ballardvale Street
Suite 202
Wilmington, MA 01887



CONCEPTUAL PLAN VIEW – ALTERNATIVE 1
(PEDESTRIAN/CYCLIST PATH)

SCALE: $\frac{1}{16}$" = 1'–0"



CONCEPTUAL CROSS SECTION –
ALTERNATIVE 1 (PEDESTRIAN/CYCLIST PATH)

SCALE: $\frac{1}{8}$" = 1'–0"

NOTES

1. THE LOCATIONS AND SIZES OF ALL EXISTING OBJECTS ARE APPROXIMATE AND ARE BASED OFF OF THE FOLLOWING SOURCES: FIELD MEASUREMENTS, ORTHOGRAPHIC IMAGERY, AND THE 2015 MBTA INSPECTION REPORT. ALL EXISTING AND PROPOSED DIMENSIONS AND LOCATIONS ARE NOT GUARANTEED, AND WOULD NEED TO BE CONFIRMED THROUGH SURVEY AND STRUCTURAL DESIGN IF THIS PROJECT PROCEEDS.

BR_WORKING FILE.DWG 8/2/2023

GPI Engineering Design Planning Construction Management
617.812.7295 GPINET.COM
Greenman-Pedersen, Inc.
179 South Street, Second Floor
Boston, MA 02111

PREPARED FOR
TOWN OF NEEDHAM
500 DEDHAM AVENUE
NEEDHAM, MA 02492

COMMUNITY WAY FEASIBILITY STUDY
NEEDHAM/NEWTON, MASSACHUSETTS

REVISIONS		
NO.	REVISION	DATE

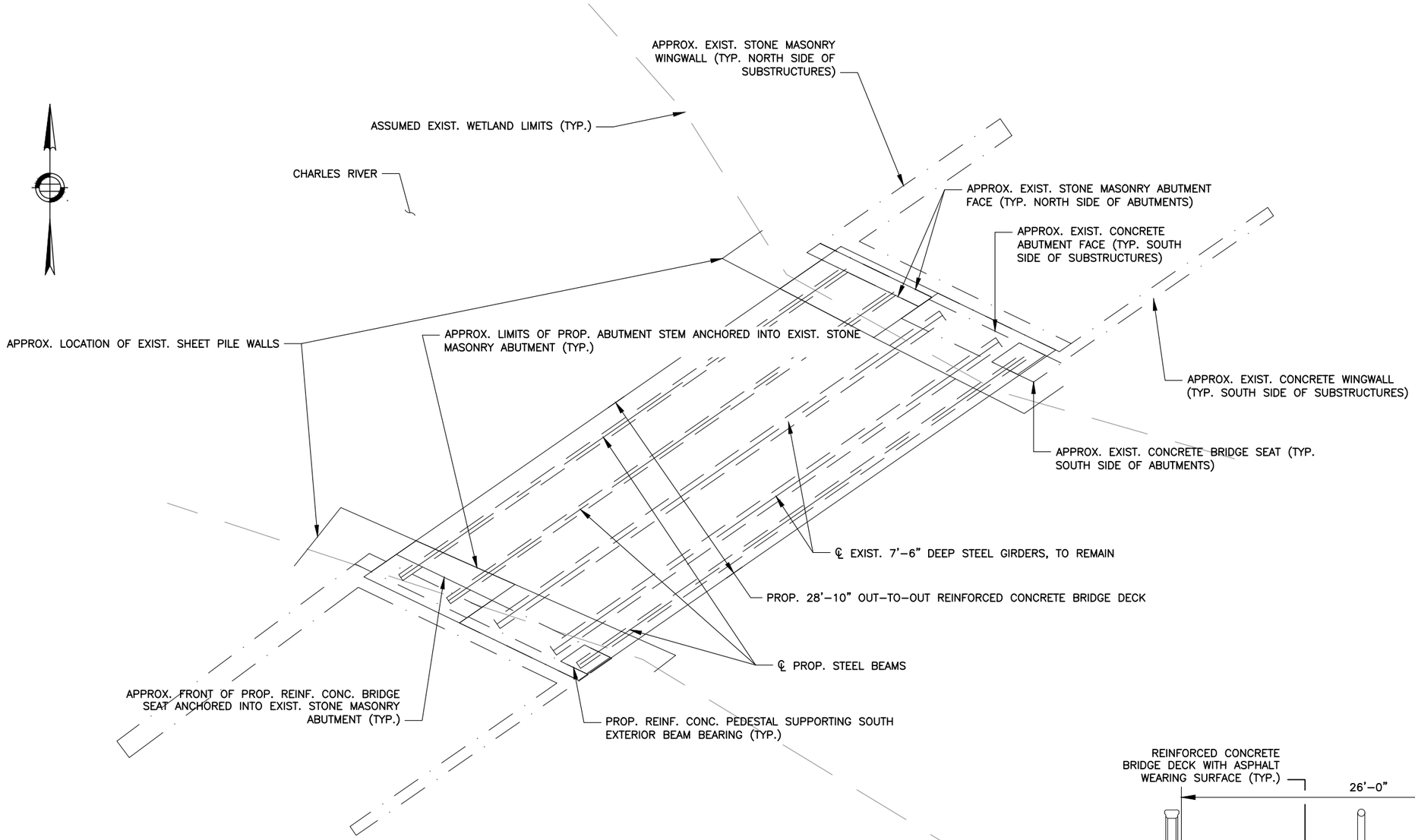
02/08/2023

DRAWN/DESIGN BY	CHECKED BY
NRO	XXX

ALTERNATIVE 1
N-04-025=N-12-088
MBTA OVER
CHARLES RIVER

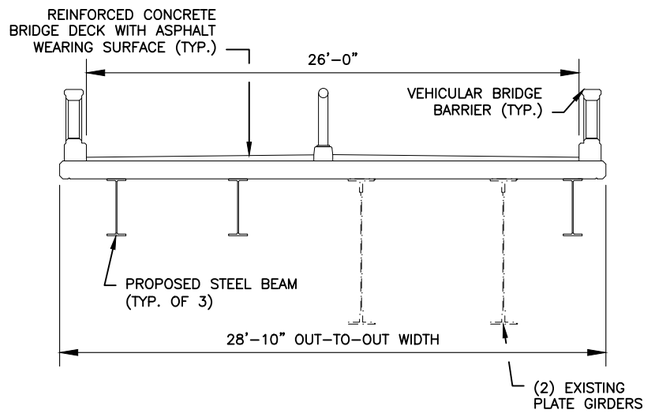
SCALE: AS SHOWN

NEX-2200363



CONCEPTUAL PLAN VIEW – ALTERNATIVE 2A
(SHUTTLE INCLUSIVE PATH WITH 26' WIDE BRIDGE)

SCALE: $\frac{1}{16}$" = 1'–0"



CONCEPTUAL CROSS SECTION –
ALTERNATIVE 2A (SHUTTLE PATH)

SCALE: $\frac{1}{8}$" = 1'–0"

NOTES

1. THE LOCATIONS AND SIZES OF ALL EXISTING OBJECTS ARE APPROXIMATE AND ARE BASED OFF OF THE FOLLOWING SOURCES: FIELD MEASUREMENTS, ORTHOGRAPHIC IMAGERY, AND THE 2015 MBTA INSPECTION REPORT. ALL EXISTING AND PROPOSED DIMENSIONS AND LOCATIONS ARE NOT GUARANTEED, AND WOULD NEED TO BE CONFIRMED THROUGH SURVEY AND STRUCTURAL DESIGN IF THIS PROJECT PROCEEDS.
2. ALTERNATIVE 2A IS THE PROPOSED SHUTTLE INCLUSIVE PATH WITH NO SUBSTRUCTURE WIDENING, LEAVING A PINCH POINT OF 26 FEET OVER THE CHARLES RIVER.

BR_WORKING FILE.DWG 8/2/2023

GPI Engineering Design Planning Construction Management
617.812.7295 GPINET.COM
Greenman-Pedersen, Inc.
179 South Street, Second Floor
Boston, MA 02111

PREPARED FOR
TOWN OF NEEDHAM
500 DEDHAM AVENUE
NEEDHAM, MA 02492

COMMUNITY WAY FEASIBILITY STUDY
NEEDHAM/NEWTON, MASSACHUSETTS

REVISIONS		
NO.	REVISION	DATE

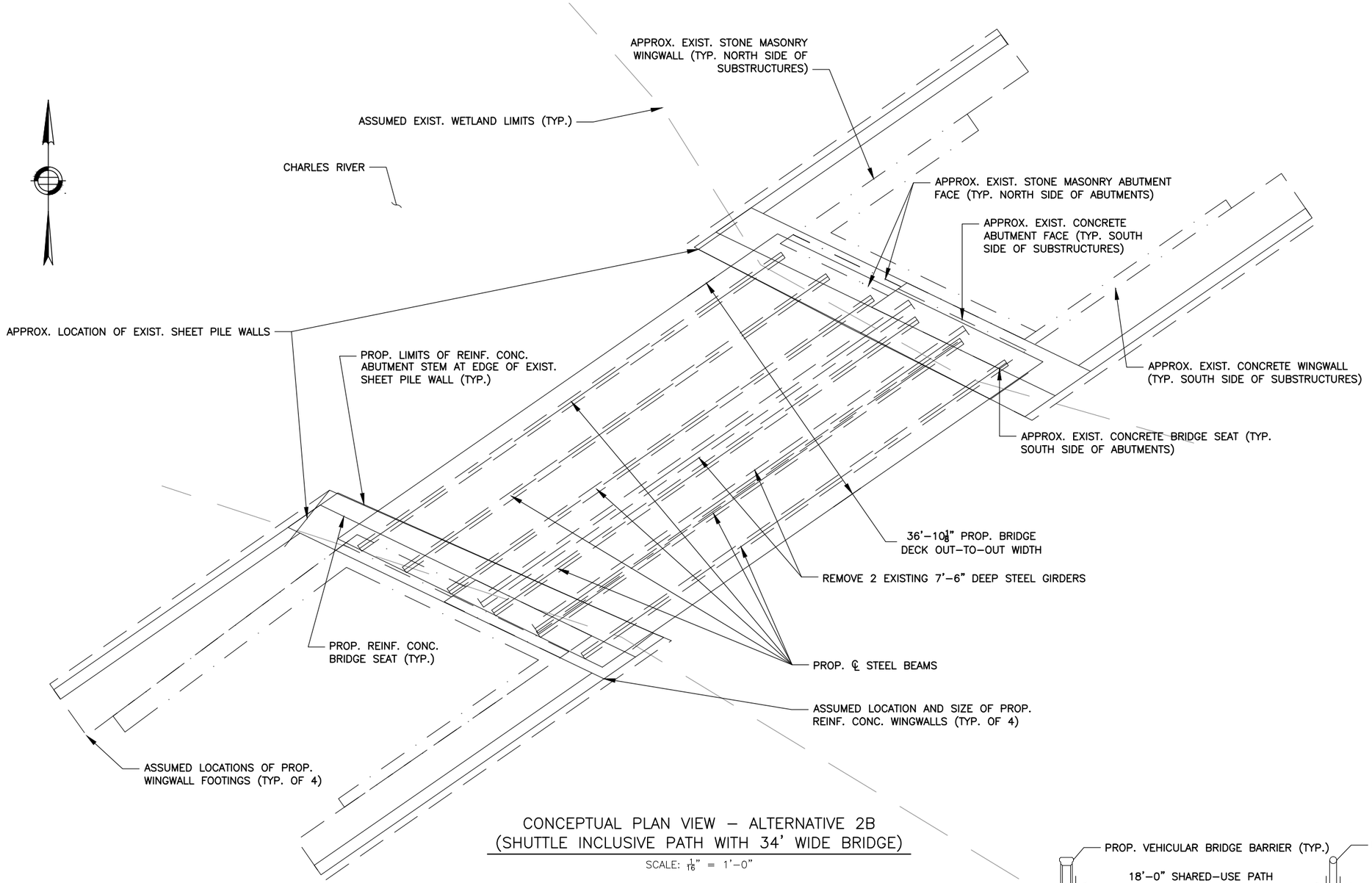
02/08/2023

DRAWN/DESIGN BY	CHECKED BY
NRO	XXX

ALTERNATIVE 2A
N-04-025=N-12-088
MBTA OVER
CHARLES RIVER

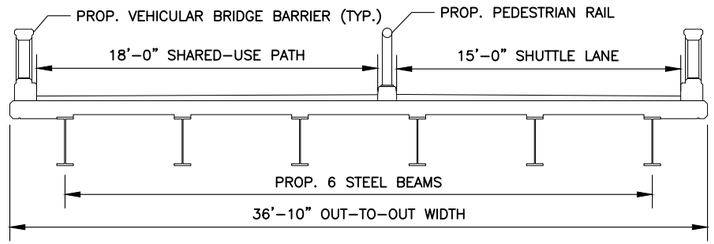
SCALE: AS SHOWN

NEX-2200363



CONCEPTUAL PLAN VIEW – ALTERNATIVE 2B
(SHUTTLE INCLUSIVE PATH WITH 34' WIDE BRIDGE)

SCALE: 1/16" = 1'–0"



CONCEPTUAL CROSS SECTION –
ALTERNATIVE 2B (SHUTTLE PATH)

SCALE: 1/8" = 1'–0"

NOTES

1. THE LOCATIONS AND SIZES OF ALL EXISTING OBJECTS ARE APPROXIMATE AND ARE BASED OFF OF THE FOLLOWING SOURCES: FIELD MEASUREMENTS, ORTHOGRAPHIC IMAGERY, AND THE 2015 MBTA INSPECTION REPORT. ALL EXISTING AND PROPOSED DIMENSIONS AND LOCATIONS ARE NOT GUARANTEED, AND WOULD NEED TO BE CONFIRMED THROUGH SURVEY AND STRUCTURAL DESIGN IF THIS PROJECT PROCEEDS.
2. ALTERNATIVE 2B IS THE PROPOSED SHUTTLE INCLUSIVE PATH THAT INCLUDES FULL SUPERSTRUCTURE REPLACEMENT OF THE BRIDGE OVER THE CHARLES RIVER, AND ABUTMENT WIDENING FOR THE 34' PATH. FOR A PRELIMINARY COST, REINFORCED CONCRETE WINGWALLS WERE ASSUMED FOR THIS OPTION AND ARE THEREFORE SHOWN HERE, BUT ANOTHER WALL TYPE MIGHT BE MORE APPROPRIATE GIVEN THE LIMITED SPACE FOR FOOTINGS, WHICH WOULD BE DECIDED IF THIS PROJECT IS TAKEN TO THE DESIGN PHASE.

BR_WORKING FILE.DWG 8/2/2023

GPI Engineering Design Planning Construction Management
617.812.7295 GPINET.COM
Greenman-Pedersen, Inc.
179 South Street, Second Floor
Boston, MA 02111

PREPARED FOR
TOWN OF NEEDHAM
500 DEDHAM AVENUE
NEEDHAM, MA 02492

COMMUNITY WAY FEASIBILITY STUDY
NEEDHAM/NEWTON, MASSACHUSETTS

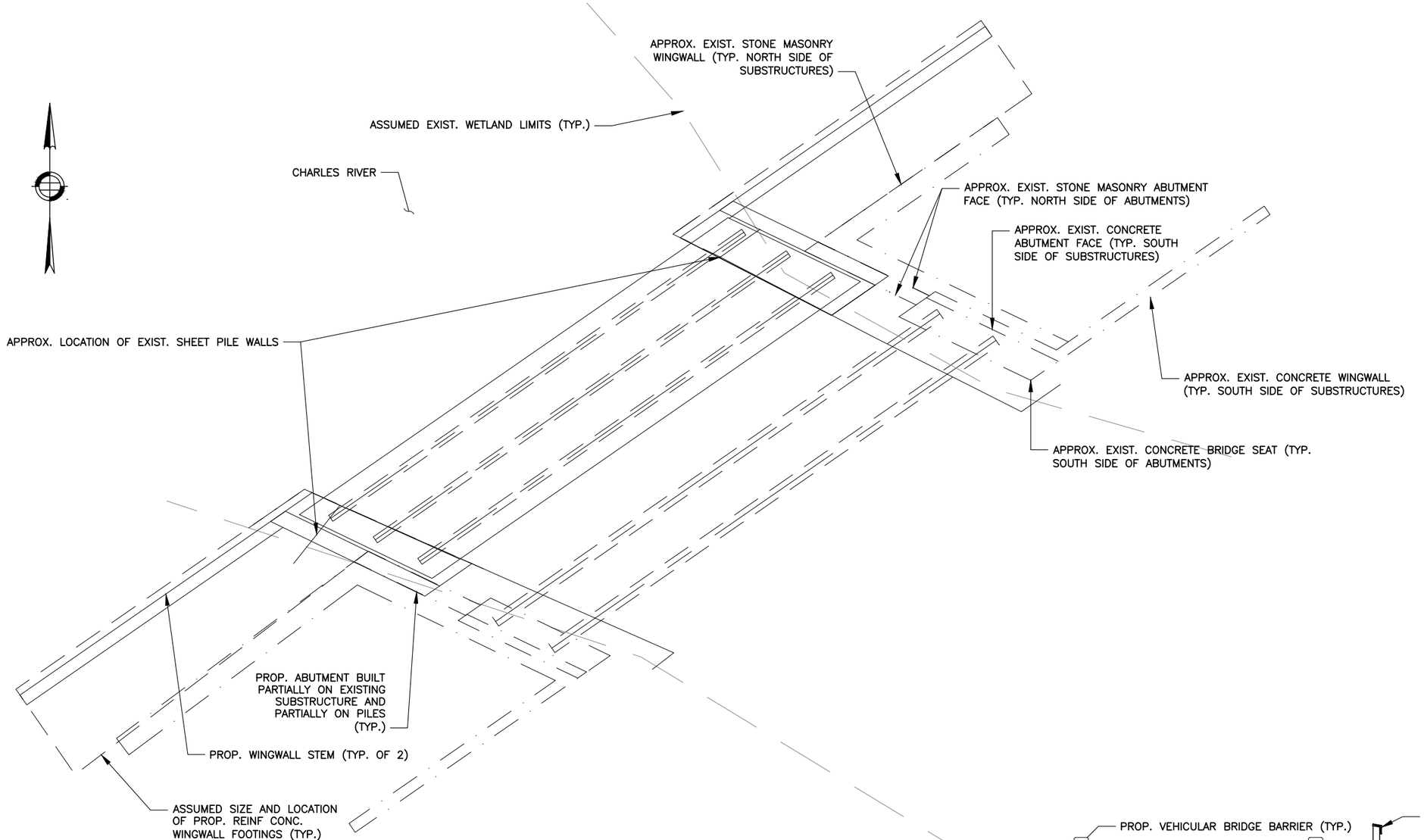
REVISIONS		
NO.	REVISION	DATE
		02/08/2023

DRAWN/DESIGN BY	CHECKED BY
NRO	XXX

ALTERNATIVE 2B
N-04-025=N-12-088
MBTA OVER
CHARLES RIVER

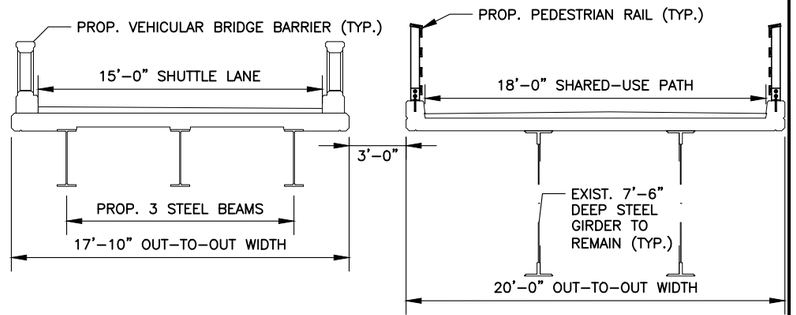
SCALE: AS SHOWN

NEX-2200363



CONCEPTUAL PLAN VIEW – ALTERNATIVE 2C (SHUTTLE INCLUSIVE PATH WITH 2 BRIDGES)

SCALE: $\frac{1}{16}$" = 1'–0"



CONCEPTUAL CROSS SECTION – ALTERNATIVE 2C (SHUTTLE PATH)

SCALE: $\frac{1}{8}$" = 1'–0"

NOTES

1. THE LOCATIONS AND SIZES OF ALL EXISTING OBJECTS ARE APPROXIMATE AND ARE BASED OFF OF THE FOLLOWING SOURCES: FIELD MEASUREMENTS, ORTHOGRAPHIC IMAGERY, AND THE 2015 MBTA INSPECTION REPORT. ALL EXISTING AND PROPOSED DIMENSIONS AND LOCATIONS ARE NOT GUARANTEED, AND WOULD NEED TO BE CONFIRMED THROUGH SURVEY AND STRUCTURAL DESIGN IF THIS PROJECT PROCEEDS.
2. ALTERNATIVE 2C IS THE PROPOSED SHUTTLE INCLUSIVE PATH THAT INCLUDES REHABILITATION OF THE EXISTING STRUCTURE FOR A SHARED–USE PATH BRIDGE (SEE ALTNERNATIVE 1) IN ADDITION TO A NEW SUPERSTRUCTURE FOR THE SHUTTLE BRIDGE THAT IS PARTIALLY ON THE EXISTING SUBSTRUCTURE AND PARTIALLY ON NEW PILE SUPPORTED ABUTMENTS.

BR_WORKING FILE.DWG 8/2/2023

GPI Engineering Design Planning Construction Management
617.812.7295 GPINET.COM
Greenman-Pedersen, Inc.
179 South Street, Second Floor
Boston, MA 02111

PREPARED FOR
TOWN OF NEEDHAM
500 DEDHAM AVENUE
NEEDHAM, MA 02492

COMMUNITY WAY FEASIBILITY STUDY
NEEDHAM/NEWTON, MASSACHUSETTS

REVISIONS		
NO.	REVISION	DATE
		02/08/2023

DRAWN/DESIGN BY	CHECKED BY
NRO	XXX

ALTERNATIVE 2C
N-04-025=N-12-088
MBTA OVER
CHARLES RIVER

SCALE: AS SHOWN

NEX-2200363

APPENDIX B – PRELIMINARY CONSTRUCTION COST ESTIMATES

Needham-Newton Shared Use Path Segments
Engineers Opinion of Feasible Design & Construction Costs
July 2023

12' Standard SUP

SUP SEGMENT & DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
Section 1 - Webster Street to Gould Street				
Shared Use Path Section Length	**LF**	**1550**		
Clear & Grub	AC	1.0	$40,000.00	$40,000.00
Rail and Components Removal	LF	1550.0	$30.00	$47,000.00
Sediment & Erosion Control	LF	310	$5.00	$1,550.00
12' HMA Shared Use Path	LF	1550	$75.00	$116,250.00
11' HMA Shuttle Path	LF	0	$130.00	$0.00
Timber Rail Fence	LF	908	$35.00	$31,762.50
Timber Guardrail	LF	0	$65.00	$0.00
Retaining Walls	SF	5675	$65.00	$368,875.00
Signs & Pavement Markings	LS	1	$1,500.00	$1,500.00
Landscaping and Amenities	LS	1	$14,700.00	$14,700.00
SECTION 1 SUBTOTAL				**$621,637.50**
Section 2 - Gould Street to I-95				
Shared Use Path Section Length	**LF**	**1200**		
Clear & Grub	AC	0.8	$35,000.00	$27,000.00
Rail and Components Removal	LF	1200.0	$30.00	$36,000.00
Sediment & Erosion Control	LF	240	$5.00	$1,200.00
12' HMA Shared Use Path	LF	1200	$75.00	$90,000.00
11' HMA Shuttle Path	LF	0	$130.00	$0.00
Timber Rail Fence	LF	0	$35.00	$0.00
Timber Guardrail	LF	0	$65.00	$0.00
Retaining Walls	SF	0	$65.00	$0.00
Signs & Pavement Markings	LS	1	$1,500.00	$1,500.00
Landscaping and Amenities	LS	1	$11,400.00	$11,400.00
SECTION 2 SUBTOTAL				**$167,100.00**
Section 3 - I-95 to Charles River Bridge				
Shared Use Path Section Length	**LF**	**665**		
Clear & Grub	AC	0.4	$35,000.00	$15,000.00
Rail and Components Removal	LF	665.0	$30.00	$20,000.00
Sediment & Erosion Control	LF	133	$5.00	$665.00
12' HMA Shared Use Path	LF	665	$75.00	$49,875.00
11' HMA Shuttle Path	LF	0	$130.00	$0.00
Timber Rail Fence	LF	1007	$35.00	$35,227.50
Timber Guardrail	LF	0	$65.00	$0.00
Retaining Walls	SF	7163	$65.00	$465,595.00
Signs & Pavement Markings	LS	1	$1,500.00	$1,500.00
Landscaping and Amenities	LS	1	$6,300.00	$6,300.00
SECTION 3 SUBTOTAL				**$594,162.50**

Needham-Newton Shared Use Path Segments
Engineers Opinion of Feasible Design & Construction Costs
July 2023

12' Standard SUP

SUP SEGMENT & DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
Section 4 - Charles River Bridge to Oak Street				
Shared Use Path Section Length	**LF**	**1150**		
Clear & Grub	AC	0.7	$35,000.00	$26,000.00
Rail and Components Removal	LF	1150.0	$30.00	$35,000.00
Sediment & Erosion Control	LF	230	$5.00	$1,150.00
12' HMA Shared Use Path	LF	1150	$75.00	$86,250.00
11' HMA Shuttle Path	LF	0	$130.00	$0.00
Timber Rail Fence	LF	440	$35.00	$15,400.00
Timber Guardrail	LF	0	$65.00	$0.00
Retaining Walls	SF	2950	$65.00	$191,750.00
Signs & Pavement Markings	LS	1	$1,500.00	$1,500.00
Landscaping and Amenities	LS	1	$10,900.00	$10,900.00
SECTION 4 SUBTOTAL				**$367,950.00**
Intersections				
Sediment & Erosion Control	LF	400	$5.00	$2,000.00
Concrete Sidewalk	SF	2400	$10.00	$24,000.00
Signs	LS	1	$1,000.00	$1,000.00
Signal Equipment (per location)	EA	2	$30,000.00	$60,000.00
Pavement Markings	LF	2500	$5.00	$12,500.00
Maintenance & Protection of Traffic	LS	1	$30,000.00	$30,000.00
SECTION 4 SUBTOTAL				**$129,500.00**

COST OPINION TOTALS		
SHARED USE PATH CONSTRUCTION		**$1,880,350.00**
ESTIMATE CONTINGENCY	25.0%	**$470,100.00**
ENGINEERING DESIGN	20.0%	**$376,100.00**
CONSTRUCTION CONTINGENCY	10.0%	**$188,100.00**
CONSTRUCTION ENGINEERING	5.0%	**$94,100.00**
UTILITY RELOCATIONS	3.0%	**$56,500.00**
TRAFFIC POLICE (at crossings)	1.5%	**$28,300.00**
FLAGGERS	0.2%	**$3,800.00**
TOTAL		**$3,097,350.00**

Needham-Newton Shared Use Path Segments
Engineers Opinion of Feasible Design & Construction Costs
July 2023

Shuttle SUP

SUP SEGMENT & DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
Section 1 - Webster Street to Gould Street				
Shared Use Path Section Length	**LF**	**1550**		
Clear & Grub	AC	1.6	$40,000.00	$65,000.00
Rail and Components Removal	LF	1550.0	$30.00	$47,000.00
Sediment & Erosion Control	LF	310	$5.00	$1,550.00
12' HMA Shared Use Path	LF	1550	$75.00	$116,250.00
11' HMA Shuttle Path	LF	1550	$130.00	$201,500.00
Timber Rail Fence	LF	2705	$35.00	$94,675.00
Timber Guardrail	LF	150	$65.00	$9,750.00
Retaining Walls	SF	13065	$65.00	$849,225.00
Signs & Pavement Markings	LS	1	$3,000.00	$3,000.00
Landscaping and Amenities	LS	1	$14,700.00	$14,700.00
SECTION 1 SUBTOTAL				**$1,402,650.00**
Section 2 - Gould Street to I-95				
Shared Use Path Section Length	**LF**	**1200**		
Clear & Grub	AC	1.2	$35,000.00	$44,000.00
Rail and Components Removal	LF	1200.0	$30.00	$36,000.00
Sediment & Erosion Control	LF	240	$5.00	$1,200.00
12' HMA Shared Use Path	LF	1200	$75.00	$90,000.00
11' HMA Shuttle Path	LF	1200	$130.00	$156,000.00
Timber Rail Fence	LF	682	$35.00	$23,870.00
Timber Guardrail	LF	135	$65.00	$8,775.00
Retaining Walls	SF	5215	$65.00	$338,975.00
Signs & Pavement Markings	LS	1	$3,000.00	$3,000.00
Landscaping and Amenities	LS	1	$11,400.00	$11,400.00
SECTION 2 SUBTOTAL				**$713,220.00**
Section 3 - I-95 to Charles River Bridge				
Shared Use Path Section Length	**LF**	**665**		
Clear & Grub	AC	0.7	$35,000.00	$25,000.00
Rail and Components Removal	LF	665.0	$30.00	$20,000.00
Sediment & Erosion Control	LF	133	$5.00	$665.00
12' HMA Shared Use Path	LF	665	$75.00	$49,875.00
11' HMA Shuttle Path	LF	665	$130.00	$86,450.00
Timber Rail Fence	LF	1353	$35.00	$47,355.00
Timber Guardrail	LF	615	$65.00	$39,975.00
Retaining Walls	SF	17320	$65.00	$1,125,800.00
Signs & Pavement Markings	LS	1	$3,000.00	$3,000.00
Landscaping and Amenities	LS	1	$6,300.00	$6,300.00
SECTION 3 SUBTOTAL				**$1,404,420.00**

Needham-Newton Shared Use Path Segments
Engineers Opinion of Feasible Design & Construction Costs
July 2023

Shuttle SUP

SUP SEGMENT & DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
Section 4 - Charles River Bridge to Oak Street				
Shared Use Path Section Length	**LF**	**1150**		
Clear & Grub	AC	1.2	$35,000.00	$42,000.00
Rail and Components Removal	LF	1150.0	$30.00	$35,000.00
Sediment & Erosion Control	LF	230	$5.00	$1,150.00
12' HMA Shared Use Path	LF	1150	$75.00	$86,250.00
11' HMA Shuttle Path	LF	1150	$130.00	$149,500.00
Timber Rail Fence	LF	880	$35.00	$30,800.00
Timber Guardrail	LF	400	$65.00	$26,000.00
Retaining Walls	SF	8816	$65.00	$573,040.00
Signs & Pavement Markings	LS	1	$3,000.00	$3,000.00
Landscaping and Amenities	LS	1	$10,900.00	$10,900.00
SECTION 4 SUBTOTAL				**$957,640.00**
Intersections				
Sediment & Erosion Control	LF	400	$5.00	$2,000.00
Concrete Sidewalk	SF	2400	$10.00	$24,000.00
Signs	LS	1	$3,000.00	$3,000.00
Signal Equipment (per location)	EA	2	$60,000.00	$120,000.00
Pavement Markings	LF	2500	$5.00	$12,500.00
Maintenance & Protection of Traffic	LS	1	$30,000.00	$30,000.00
SECTION 4 SUBTOTAL				**$191,500.00**

COST OPINION TOTALS		
SHARED USE PATH CONSTRUCTION		**$4,669,430.00**
ESTIMATE CONTINGENCY	25.0%	**$1,167,400.00**
ENGINEERING DESIGN	20.0%	**$933,900.00**
CONSTRUCTION CONTINGENCY	10.0%	**$467,000.00**
CONSTRUCTION ENGINEERING	5.0%	**$233,500.00**
UTILITY RELOCATIONS	3.0%	**$140,100.00**
TRAFFIC POLICE (at crossings)	1.5%	**$70,100.00**
FLAGGERS	0.2%	**$9,400.00**
TOTAL		**$7,690,830.00**

TOWN	Needham-Newton			CLASS	N/A
STA.		ROAD	Rail Trail	OVER	Charles River
TYPE	Built-up steel girder	ROADWAY	N/A	SIDEWALKS	None
SPANS	1	LENGTH	73'-2" CL to CL Bearings	VERTICAL CL.	23'

< PRELIMINARY ESTIMATE OF QUANTITIES AND COST OF BRIDGE REPAIR >
< REPAIRS TO EXISTING SUBSTRUCTURE AND SUPERSTRUCTURE >

ITEM	QUANTITY	UNITS	DESCRIPTION	UNIT PRICE	AMOUNT
			BREAKDOWN OF ITEM 995.011 BRIDGE STRUCTURE REPAIR, BRIDGE NO. N-04-025=N-12-088		
184.10	15	TON	DISPOSAL OF TREATED WOOD PRODUCTS	$ 400.00	$ 6,000.00
905.01	10	CF	4000 PSI, 3/8 IN., 660 CEMENT CONCRETE	$ 500.00	$ 5,000.00
960.10	500	LB	STRUCTURAL STEEL - COATED STEEL	$ 20.00	$ 10,000.00
961.2	1	LS	CLEAN (FULL REMOVAL) AND PAINT STEEL BRIDGE NO. N-04-025=N-12-088	$ 330,000.00	$ 330,000.00

SUM =	$	351,000.00
CONTINGENCY FOR ADDITIONAL REPAIR ITEMS =		10.00%
TOTAL =	$	390,000.00

ESTIMATED BY: N. O'Connor 5/17/2023 CHECKED BY: MS 8/3/2023 APPROVED BY:

TOWN	Needham			CLASS	H-10/Ped
STA.		ROAD	Rail Trail	OVER	Route 128/I-95
TYPE	2 Span Steel Girder	ROADWAY	18'-0"	SIDEWALKS	None
SPANS	2	LENGTH	270'	VERTICAL CL.	17'-0"

< PRELIMINARY ESTIMATE OF QUANTITIES AND COST OF BRIDGE CONSTRUCTION >
< STEEL GIRDER BRIDGE FOR PEDESTRIAN & CYCLIST USE >

ITEM	QUANTITY	UNITS	DESCRIPTION	UNIT PRICE	AMOUNT
140.	790	CY	BRIDGE EXCAVATION	$ 65.00	$ 51,350.00
144.	90	CY	CLASS B ROCK EXCAVATION	$ 155.00	$ 13,950.00
450.60	49	TON	SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5)	$ 300.00	$ 14,700.00
450.70	49	TON	SUPERPAVE BRIDGE PROTECTIVE COURSE - 9.5 (SPC-B - 9.5)	$ 300.00	$ 14,700.00
942.124	1480	FT	STEEL PILE HP 12X84	$ 225.00	$ 333,000.00
995.01	1	LS	BRIDGE STRUCTURE, BRIDGE NO. N-04-XXX (XXX)	$ 4,826,000.00	$ 4,826,000.00

SUM =	$	5,260,000.00
CONTINGENCY FOR COSTS NOT QUANTIFIED =		35.00%
	$	7,101,000.00

Note: Costs note quantified include traffic control, support of excavation, and other miscellaneous items.

ESTIMATED BY: N. O'Connor 8/3/2023 CHECKED BY: MS 8/3/2023 APPROVED BY:

TOWN	Needham-Newton			CLASS	H-10/Ped
STA.		ROAD	Rail Trail	OVER	Charles River
TYPE	Built-up steel girder	ROADWAY	18'-0"	SIDEWALKS	None
SPANS	1	LENGTH	73'-2" CL to CL Bearings	VERTICAL CL.	23'

< PRELIMINARY ESTIMATE OF QUANTITIES AND COST OF BRIDGE CONSTRUCTION >
< REHAB FOR PEDESTRIAN/BIKE USE OF BRIDGE NO. N-04-025=N-12-088 >

ITEM	QUANTITY	UNITS	DESCRIPTION	UNIT PRICE	AMOUNT
127.12	8	CY	SUBSTRUCTURE DEMOLITION	$ 800.00	$ 6,400.00
140.	10	CY	BRIDGE EXCAVATION	$ 65.00	$ 650.00
450.60	15	TON	SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5)	$ 300.00	$ 4,500.00
450.70	15	TON	SUPERPAVE BRIDGE PROTECTIVE COURSE - 9.5 (SPC-B - 9.5)	$ 300.00	$ 4,500.00
482.31	46	FT	SAWING & SEALING JOINTS IN ASPHALT PAVEMENT AT BRIDGES	$ 40.00	$ 1,840.00
660.1	200	FT	PEDESTRIAN HANDRAIL	$ 175.00	$ 35,000.00
904.4	60	CY	4000 PSI, 3/4 IN., 585 HP CEMENT CONCRETE	$ 2,400.00	$ 144,000.00
910.1	14000	LB	STEEL REINFORCEMENT FOR STRUCTURES - EPOXY COATED	$ 3.25	$ 45,500.00
965.	1460	SF	MEMBRANE WATERPROOFING FOR BRIDGE DECKS	$ 20.00	$ 29,200.00
995.01	1	LS	BRIDGE STRUCTURE REPAIR, BRIDGE NO. N-04-025=N-12-088 (See separate estimate, same cost for all bridge alternatives)	$ 390,000.00	$ 390,000.00

SUM =	$	670,000.00
CONTINGENCY FOR COSTS NOT QUANTIFIED =		25.00%
	$	837,500.00

ESTIMATED BY: N. O'Connor 8/3/2023 CHECKED BY: MS 8/3/2023 APPROVED BY:

TOWN	Needham			CLASS	HL-93
STA.		ROAD	Shared-Use Path	OVER	Route 128/I-95
TYPE	2 Span Steel Girder	ROADWAY	34'-0"	SIDEWALKS	None
SPANS	2	LENGTH	270'	VERTICAL CL.	17'-0"

< PRELIMINARY ESTIMATE OF QUANTITIES AND COST OF BRIDGE CONSTRUCTION >
< STEEL GIRDER BRIDGE FOR PEDESTRIAN, CYCLIST, & SHUTTLE USE >

ITEM	QUANTITY	UNITS	DESCRIPTION	UNIT PRICE	AMOUNT
140.	1090	CY	BRIDGE EXCAVATION	$ 65.00	$ 70,850.00
144.	125	CY	CLASS B ROCK EXCAVATION	$ 155.00	$ 19,375.00
450.60	92	TON	SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5)	$ 300.00	$ 27,600.00
450.70	92	TON	SUPERPAVE BRIDGE PROTECTIVE COURSE - 9.5 (SPC-B - 9.5)	$ 300.00	$ 27,600.00
942.124	2430	FT	STEEL PILE HP 12X84	$ 275.00	$ 668,250.00
995.01	1	LS	BRIDGE STRUCTURE, BRIDGE NO. N-04-XXX (XXX)	$ 9,437,000.0	$ 9,437,000.00

SUM =	$ 10,260,000.00
CONTINGENCY FOR COSTS NOT QUANTIFIED =	35.00%
	$ 13,851,000.00

Note: Costs note quantified include traffic control, support of excavation, and other miscellaneous items.

ESTIMATED BY: N. O'Connor 8/3/2023 CHECKED BY: MS 8/3/2023 APPROVED BY:

TOWN	Needham-Newton			CLASS	HL-93
STA.		ROAD	Rail Trail	OVER	Charles River
TYPE	Built-up steel girder	ROADWAY	26'-0"	SIDEWALKS	None
SPANS	1	LENGTH	73'-2" CL to CL Bearings	VERTICAL CL.	23'

< PRELIMINARY ESTIMATE OF QUANTITIES AND COST OF BRIDGE CONSTRUCTION >
< REHAB FOR SHUTTLE USE OF BRIDGE NO. N-04-025=N-12-088 >

ITEM	QUANTITY	UNITS	DESCRIPTION	UNIT PRICE	AMOUNT
127.12	10	CY	SUBSTRUCTURE DEMOLITION	$ 800.00	$ 8,000.00
140.	75	CY	BRIDGE EXCAVATION	$ 65.00	$ 4,875.00
450.60	21	TON	SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5)	$ 300.00	$ 6,300.00
450.70	21	TON	SUPERPAVE BRIDGE PROTECTIVE COURSE - 9.5 (SPC-B - 9.5)	$ 300.00	$ 6,300.00
482.31	60	FT	SAWING & SEALING JOINTS IN ASPHALT PAVEMENT AT BRIDGES	$ 40.00	$ 2,400.00
904.4	220	CY	4000 PSI, 3/4 IN., 585 HP CEMENT CONCRETE	$ 2,400.00	$ 528,000.00
910.1	35500	LB	STEEL REINFORCEMENT FOR STRUCTURES - EPOXY COATE	$ 3.25	$ 115,375.00
913.3	440	EA	CORING AND GROUTING DOWELS	$ 120.00	$ 52,800.00
960.10	44100	LB	STRUCTURAL STEEL - COATED STEEL	$ 9.00	$ 396,900.00
965.	2100	SF	MEMBRANE WATERPROOFING FOR BRIDGE DECKS	$ 20.00	$ 42,000.00
995.01	1	LS	BRIDGE STRUCTURE REPAIR, BRIDGE NO. N-04-025=N-12-08 (See separate estimate, same cost for all bridge alternatives)	$ 390,000.00	$ 390,000.00

SUM =	$	1,560,000.00
CONTINGENCY FOR COSTS NOT QUANTIFIED =		25.00%
	$	1,950,000.00

ESTIMATED BY: N. O'Connor 8/3/2023 CHECKED BY: MS 8/3/2023 APPROVED BY:

TOWN	Needham-Newton			CLASS	HL-93
STA.		ROAD	Rail Trail	OVER	Charles River
TYPE	Steel Stringer	ROADWAY	34'-0" with separated median	SIDEWALKS	None
SPANS	1	LENGTH	73'-2" CL to CL Bearings	VERTICAL CL.	23'

< PRELIMINARY ESTIMATE OF QUANTITIES AND COST OF BRIDGE CONSTRUCTION >
< REHAB FOR SHUTTLE USE OF BRIDGE NO. N-04-025=N-12-088 >

ITEM	QUANTITY	UNITS	DESCRIPTION	UNIT PRICE	AMOUNT
114.10	1	LS	DEMOLITION OF SUPERSTRUCTURE OF BRIDGE NO. N-04-025=N-12-088	$ 150,000.00	$ 150,000.00
127.12	159	CY	SUBSTRUCTURE DEMOLITION	$ 800.00	$ 127,200.00
140.	690	CY	BRIDGE EXCAVATION	$ 65.00	$ 44,850.00
184.1	15	TON	DISPOSAL OF TREATED WOOD PRODUCTS	$ 400.00	$ 6,000.00
450.60	27	TON	SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5)	$ 300.00	$ 8,100.00
450.70	27	TON	SUPERPAVE BRIDGE PROTECTIVE COURSE - 9.5 (SPC-B - 9.5	$ 300.00	$ 8,100.00
482.31	91.5	FT	SAWING & SEALING JOINTS IN ASPHALT PAVEMENT AT BRIDGES	$ 40.00	$ 3,660.00
991.1	1	LS	CONTROL OF WATER - STRUCTURE NO. N-04-025=N-12-088	$ 150,000.00	$ 150,000.00
995.01	1	LS	BRIDGE STRUCTURE, BRIDGE NO. N-04-025=N-12-088	$ 5,358,000.00	$ 5,358,000.00

SUM =	$	5,860,000.00
CONTINGENCY FOR COSTS NOT QUANTIFIED =		25.00%
	$	7,325,000.00

ESTIMATED BY: N. O'Connor 8/3/2023 CHECKED BY: MS 8/3/2023 APPROVED BY:

TOWN	Needham-Newton			CLASS	HL-93
STA.		ROAD	Rail Trail	OVER	Charles River
TYPE	Steel Stringer	ROADWAY	15'-0" Rdwy and 18'-0" Path	SIDEWALKS	None
SPANS	1	LENGTH	73'-2" CL to CL Bearings	VERTICAL CL.	23'

< PRELIMINARY ESTIMATE OF QUANTITIES AND COST OF BRIDGE CONSTRUCTION >
< REHAB FOR BIKE/PED USE OF BRIDGE NO. N-04-025=N-12-088 AND
CONSTRUCTION OF BRIDGE NO. N-04-XXX=N-12-XXX FOR SHUTTLE USE >

ITEM	QUANTITY	UNITS	DESCRIPTION	UNIT PRICE	AMOUNT
127.12	79	CY	SUBSTRUCTURE DEMOLITION	$ 800.00	$ 63,200.00
140.	340	CY	BRIDGE EXCAVATION	$ 65.00	$ 22,100.00
450.60	12	TON	SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5)	$ 300.00	$ 3,600.00
450.70	12	TON	SUPERPAVE BRIDGE PROTECTIVE COURSE - 9.5 (SPC-B - 9.5	$ 300.00	$ 3,600.00
482.31	49	FT	SAWING & SEALING JOINTS IN ASPHALT PAVEMENT AT BRIDGES	$ 40.00	$ 1,960.00
995.01	1	LS	BRIDGE STRUCTURE, BRIDGE NO. N-04-025=N-12-088 (see Alt 1-Ped/Bike Only Estimate - work will be the same)	$ 670,000.00	$ 670,000.00
991.1	1	LS	CONTROL OF WATER - STRUCTURE NO. N-04-XXX=N-12-XX	$ 100,000.00	$ 100,000.00
995.02	1	LS	BRIDGE STRUCTURE, BRIDGE NO. N-04-XXX=N-12-XXX	$ 3,562,000.00	$ 3,562,000.00

SUM =	$ 4,430,000.00
CONTINGENCY FOR COSTS NOT QUANTIFIED =	25.00%
	$ 5,537,500.00

ESTIMATED BY: N. O'Connor 8/3/2023 CHECKED BY: MS 8/3/2023 APPROVED BY:

APPENDIX C – PUBLIC OUTREACH SUMMARIES

NEEDHAM - NEWTON
COMMUNITY WAY

About this Project

The Town of Needham and City of Newton are developing a feasibility study regarding creating a community "way" along the former rail right of way between Webster Street in Needham and the Upper Falls Greenway in Newton. The study will examine options for a multi-modal path designed to accommodate bicycles and pedestrians or a facility designed to accommodate bicycles, pedestrians and electric shuttle buses.

The Community Way project would construct a bridge over I-95/Route 128 and rehabilitate the bridge over the Charles River to accommodate the multi-use path.

As part of the feasibility study we are reaching out to community members to learn their perspectives and interests regarding this community way.

Online Survey

Use the following link https://forms.office.com/r/B0dkVpcDNb or scan the QR code to the left with your phone to access an online survey regarding the Community Way study.

SURVEY OPEN UNTIL APRIL 30, 2023.

GPI
Greenman-Pedersen, Inc.

In-Person / Virtual Meeting

Tuesday, April 18, 2023
6:00 PM - 8:00 PM

Powers Hall
Needham Town Hall
1471 Highland Avenue

Zoom Link: https://us02web.zoom.us/s/89063821196

Virtual Meeting

Wednesday April 26, 2023
7:00 PM to 9:00 PM

Zoom Link: https://us02web.zoom.us/j/86744973932

All meetings will provide the same presentation.

Questions? Contact Us:

Tyler Gabrielski:
tgabrielski@needhamma.gov

Josh Ostroff:
jostroff@newtonma.gov

For More Information:

Town of Needham:
www.needhamma.gov/CommunityWay

City of Newton
www.newtonma.gov/communityway

Needham-Newton Shared Use Path Feasibility Questionnaire

445 Responses 06:08 Average time to complete Closed Status

1. PROJECT AREA

2. Did you attend one of the public informational meetings (in person or virtual)?

Yes	62
No	374

3. Where do you live?

(For purposes of this question, “near” means within a half mile, or within about 10 minutes walk.)

I live in Needham near the rail...	108
I live in Newton near the Uppe...	109
I live in elsewhere in Needham	97
I live in elsewhere in Newton	121
I do not live in Newton or Nee...	10

11. **Use of Path**
Select the statement with which you agree.

12. **Is there anything else you would like us to know as we develop this feasibility study?**

217
Responses

Latest Responses
"I answered a survey earlier where I indicated I'd use the el...

13. **Name and email**
(Optional)

205
Responses

Latest Responses

4. **Where do you work, visit or shop?**
(Please check all that apply.)

I work near the proposed proj...	70
I visit or shop near the propos...	362
I do not work near the propos...	91
I do not visit or shop near the ...	22

5. **Location(s) where you work, visit and/or shop.**
(Optional)

226
Responses

Latest Responses

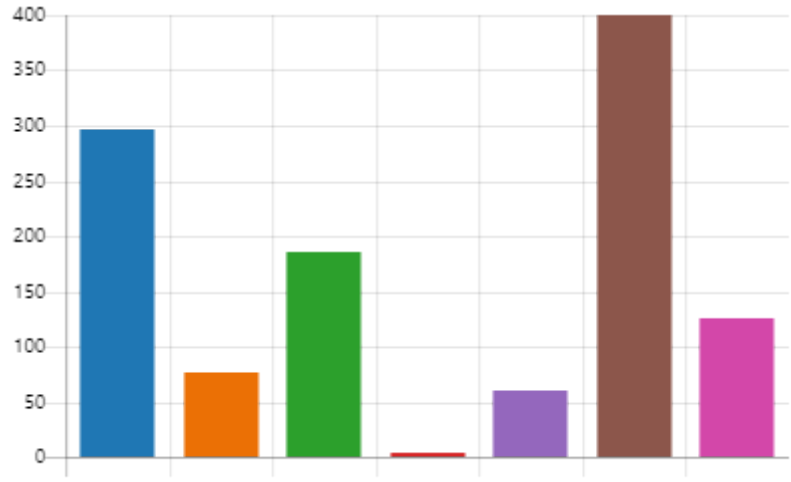
6. **How often are you in the Needham - Newton Community Way area?**
(Please choose the answer that best represents your current travel habits.)

Daily	169
Weekly	183
Monthly	73
Less than once a month	20

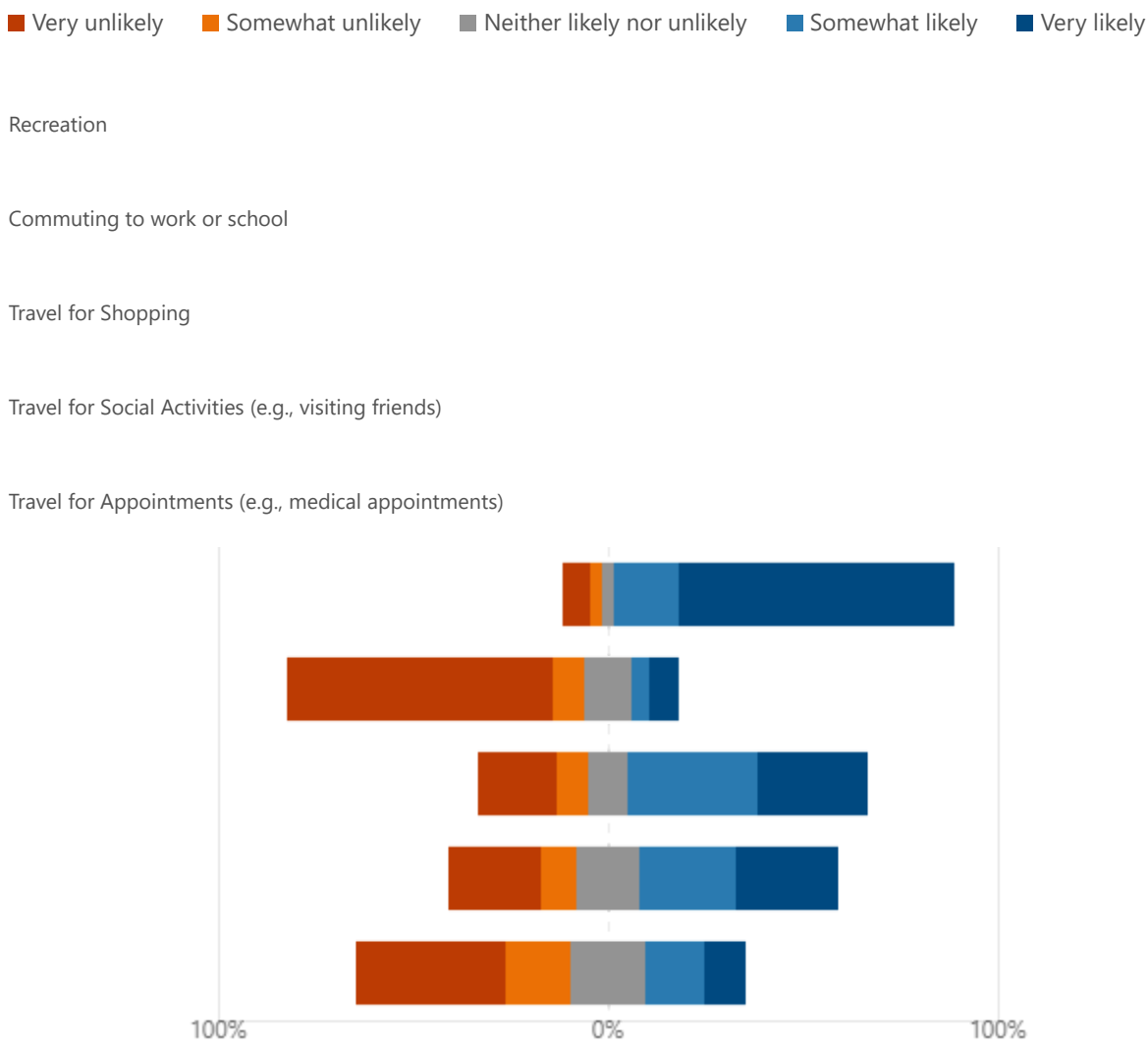
7. **Current mode(s) of travel**

Please indicate which of the following you generally do once a week or more. (Check all that apply)

Walk	297
Run	76
Bicycle	185
Skateboard, scooter, or rollerb...	4
Take public transportation	60
Drive a car	400
Ride as a passenger in a car	125

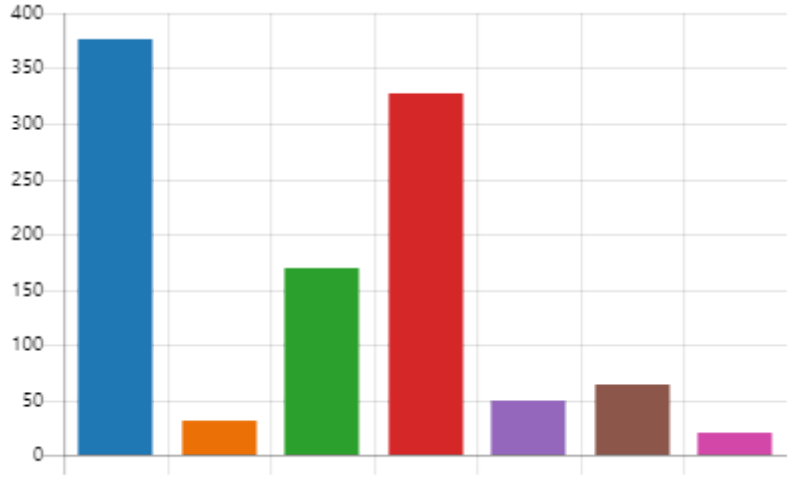


8. Travel Purpose: If the Community Way was created how likely would you be to use the path for each of the following?



9. **If the Community Way were created, what activities do you believe you would use it for?**
(Check all that apply)

Walking	376
Access with wheelchair or oth...	31
Running	170
Bicycling	328
Skateboarding, scootering, or ...	50
Public transportation, e.g. a sh...	63
I do not believe I would use th...	20



10. **If the Community Way were created, at which locations would you be likely to access it ?**
(Check all that apply)

Webster Street - Needham	227
Gould Street - Needham	122
Upper Falls Greenway - Newton	278

NEEDHAM - NEWTON
COMMUNITY WAY

PUBLIC COMMENTS FROM THE ONLINE SURVEY

April 2023

Is there anything else you would like us to know as we develop this feasibility study?

I love the idea.

I'm fine if it includes electric shuttles, but bikes and walkers are a must. The plan must include an ample parking area where people can park on one end and use the full length and then come back.

This is fabulous - so happy this is being considered. I live less than 1/4 mile from the Webster St. tracks and would LOVE this to become reality.

LOVE this idea - I was very disappointed when the bridge was not replaced during Rt. 95 reconstruction. Needham residents could use it as a safe way to access businesses along the corridor and to bike to the end and get on the T at Newton Highlands. I would also be in favor of shuttles but that will be a battle with abutters. Filling this out before the hearings but will be attending.

We need to move away from roads being hogged by cars and buses. We need to encourage people to walk, run and bike

This project does not solve or even address any of Needham's pressing transportation problems. The site is in an infrequently accessed area, rather than being near shopping or public facility buildings or any mainstream private residences. I would NOT devote Needham tax dollars toward such a project. It's only purpose is for recreation, but Needham already has enough luxurious and elaborate recreation facilities. The cost if bridging the Charles River and I95 is too expensive to even imagine. Needham has some complex problems needing resolution. This is NOT one of them.

This is a powerful and important project that links communities and businesses, provides an ideal substitute to driving in an already high traffic zone, and creates more opportunities for community engagement and wellness. As an addendum to this feasibility study, please consider a phase 2 of the project that extends the electrified bus route to Needham Heights station and possibly all the way to Needham Junction. This would continue to provide the access currently provided by the Commuter Rail from Needham Heights to Needham Junction, however electrified buses can do so without toxic or noise pollution. In fact, this electrified bus extension to Needham Junction would eliminate all train horns in Needham, as well as add a recreational path that could be joined with the existing and popular Dover-Needham rail trail. Thank you for your consideration.

Great idea!

Wonderful idea to revive this path

We should work to build this corridor and then connect it to other trails to enhance safe commutability and recreation/healthy lifestyles. Our family enjoys biking the Minuteman Trail on the weekends. It would be wonderful if Metrowest could have a similar option closer to home.

This would open up a whole new world to the entire neighborhoods along Needham and Highland Ave. Could eliminate many of the vehicles traveling along those corridors and relieve congestion in the area.

This is such an important regional connection and is necessary as a safe walk/jog/bike connection to Needham! Thank you for making it happen.

As more cars come to the area with the Northland project in Newton and Muzi and Wexford rebuilding, it's important to provide a path for walking and biking but also an electric shuttle to move people between all of the business districts and get people out of cars. Not everyone can walk or bike effectively. Multimodal is the solution!

For the shuttle, please consider the model of Little Rhody. There will be a ton of community opposition to motorized vehicles but these might be an easier sell. A logical strategy would be to get the path resurfaced for pedestrian and cyclist use ASAP, then propose these an optional add-on at a later time - https://www.wgbh.org/news/local-news/2019/05/14/little-roady-takes-to-the-streets-of-providence

Also, if you initially commit to electric vehicles then the bridge across 128/I-95 is going to take forever to get built. If the bridge were pedestrian/cyclist only, then there are prefab options that could (just barely) span the width of the highway via the median.

This project has been under consideration for so long and should have been completed a decade ago, so the goal should be to get it done as realistically and as soon as possible. There are significant economic and social losses incurred by the continued delay.

I live in Newton Highlands and don't have a safe way to bicycle to the Greenway, but the proposed extension to Needham is a wonderful idea to encourage more safe bicycling paths. I would use it if I could bicycle to it safely. I have driven to the path several times in order to walk it with friends.

I am strongly in favor of developing this way. It would be a major boost the the community (and my company and employees), it would take traffic off the streets, and promotes healthier living. I hope this is something that can get done quickly.

It would be short sighted to construct a better pathway only for bikes and peds. These are critical - but the residences and development along this corridor would benefit tremendously, and more over time, if better connected to the public transit options at both ends.

I am a regular walker. It might be nice if there were electric shuttles but that would require a much wider pathway. As it is if two people pass two people walking in the opposite direction that is just about how wide the current greenway is. I am not opposed to the electric shuttles but not if the greenway remains the same width. Also, I would like benches put at intervals for older or less than able bodied people can walk further. Also, there should be well constructed pathways off to access shops. There also should be one of those blinking pedestrian signs at crosswalks where a pedestrian needs to cross an actual road that cuts across the walking path. I would also like to see a widening of the bridge over the Charles where people might sit a minute and perhaps take a picture or just admire the view. I would like the pathway to be paved if there are electric shuttles and if not those "wooden" walkways that are raise about the walking area for good drainage.

path should be well lit, include benches and restrooms

Encourage Dover to allow their connection to extend the usability further.

I'd also like to see the MBTA Greenline extension go through there to Needham. What can be done to extend at least a walking /biking trail from Easy St. to Newton Center?

Electric shuttles would provide very little benefit to the community, particularly to Newton. They would not directly serve the busy Needham Street corridor or alleviate congestion and would instead provide a by-pass for little used Needham office park shuttles and would be a hazard for recreational users.

Extending a bike-pedestrian Greenway would connect our communities with a recreational resource and would also help shape the way the land along the corridor is developed to encourage walking and bicycling. This would create new bicycle and walking connections to both the green line and commuter rail for both communities, as well as connecting to other walking paths and parks.

It's unfortunate that one of the public meetings was planned for a school vacation week. The other option is on my wife's birthday, so I will be unable to attend.

In the past, I have been harassed by John Bulian, former Needham Selectman, for speaking out against the electric shuttle proposal. Should he have access to this survey, I ask that he not contact me.

This is an excellent opportunity and I sincerely hope the communities can come together in support. We desperately need more protected/off-road recreational paths.

This would be so nice especially for youth in the Heights area where there just isn't much interesting retail/restaurants for them to walk or ride safely to. I'm on the fence a bit about the use of electric shuttles. But, with the Wingate near the Gould St access point, maybe that would be a nice option for those residents. With the Bullfinch development going in where the Muzi site was, I imagine there might be employees who would walk across for lunch/shopping etc.

More protected bike/running areas!

This would be a terrific addition to the available bike and hiking routes in the area, and allow cyclists and walkers to bypass heavily trafficked streets.

While I support public transportation and understand the role electric shuttles might play, I believe we are unlikely to get shuttles in the foreseeable future and should pursue the walking/bike path option now.

This will be a huge boost to our quality of life in Newton and Needham. Please get it done!

Build more bike paths in Newton! Make it safe to ride to Brookline too!

This survey is too biased. Does not give an option to disagree with all. For instance you say use of path. two options either bicycle or all options. Does not say none. The assumption is to build something there. While as my house is behind this path, any construction and usage would impact me and my family negatively. It would violate our privacy and safety. I disagree in total.

We must connect the towns with a safe and protected pathway.

We need more bike paths!

I hope this helps. Unfortunately, the planning board and other town and state leadership groups are horribly corrupt, and motivated by self-interest rather than community benefit and quality of life for those who live in Needham. The morons who put bike lanes on Highland Ave is a prime example. This walking path, away from high volume traffic actually makes sense, and should be a no- brainer.

No electric shuttles

At a bare minimum, let's try to connect the existing Upper Falls Greenway to the other side of the Charles and across I-95 with pedestrian/cyclist access. I-95 creates a terrible boundary on Newton's western edge, with almost every crossing being dangerous for pedestrians and cyclists: Route 30/Comm Ave, Route 16/Washington St, Route 9, Highland Ave/Needham St, Kendrick St. All of these are dangerous for anyone outside of a car. (Only Central Ave/Elliot St is remotely safe for humans, but its location doesn't connect commercial centers the way Newton's Needham Street could be connected to Needham's central locations.)

This would be a huge quality of life improvement for anyone who lives near these regions and improve the vitality of these commercial centers.

Please build the bridges!

This sounds very dangerous; the path is very narrow with steel hills on each side. Has anyone who even came up with this idea been to the site?

I'd love it if the path were paved, more like the minuteman trail and if not, it would be good to know why that choice was made. Feels like a paved path is much better for biking and running, esp for families.

I'd love to see this extended. It's too short now!

There is no need for this, waste of taxpayers money

This is bad for the people who live along those lines. You are putting a lot of traffic in their backyard!

This is a bad idea

There are already plenty of options to get to from Newton and Needham and vice versa

This is awful to create this and destroy the privacy of the residents there.

This is an invasion of privacy for the residents in the area that this will be built.

I would never use this. There are much better options.

This is a waste of taxpayer money

This is a fantastic idea that I fully support!

I support this project and am very excited about its potential! The Community Way would also provide a link of safer bike access from Newton to the Needham Heights commuter rail station. The Upper Falls Greenway is an amazing resource and I visit it often for recreation & transportation; expanding the path into Needham would be incredible, especially with the additional housing units being added to Needham Street in Newton. I would love to use the path to visit friends and restaurants in Needham.

This project is a significant opportunity for Needham and Newton to partner on development of both of recreational asset as well as high-density, clean transportation to facilitate future build-out of higher-density, affordable housing and supporting businesses along the corridor. Please keep an eye on the generational opportunity this presents rather than focusing on the inevitable short-term funding discussions and NIMBYism that will be raised as a challenge to this project by a limited number of constituents. At present, this is an underutilized and in many places derelict corridor that would help transform the adjacent neighborhoods and the communities and towns as a whole.

I think this is a great idea. I do not know enough about the electric shuttle idea to share an opinion on them. I am in favor of reducing congestion in Needham St if the shuttles would help with that.

I think this should be the HIGHEST priority for our local government.

How might it be connected to other paths in the future

It would be a great extension of the Greenway. I enthusiastically support it.

Please thought carefully about cost and how return will be. I know Newton takes many project but sometime you need to say No to good ideas. If this goes on live, please do not just stop at this project, consider if this pass can be connected with other commuter/recreation depends on the residents how they utilize. Think though connect with Bus, Train, Zip car, Park-and-Ride, rent bicycle. Other parks, local shops, make the road tree/flower friendly etc. Newton/Needham invested the project then not many people uses are sad things to see. Ether say no or invest for grater good. Think though if this is worth it even though we are not investing enough to school and road etc.

This project should not harm the Upper Falls Greenway, which is one of the best things to happen to Upper Falls in years!

Please consider connection(s) and/or easier access(es) to other nearby rail-trail bicycle path network(s).

This seems like a great idea to provide more healthy recreational and transportation options!

We see electric bikes on the Greenway & sometimes motor scooters, + electric scooters. It is very dangerous to combine because someone or a pet is going to get hurt. The places where people enter the greenway need to be improved (behind fire station, at New TV, at Mechanics St, at end of chestnut St & behind Especially for Pets need to be improved so accessible to all.

make it future proof for electric shuttle buses

This could be such a great resource, but please keep it for pedestrians and bikes only. And the bikes should be limited as to speed, right now often they go far too fast and with their speed intimidate people walking slowly such as families out with strollers or children and/or dogs.

There are better places to spend money than build a new bridge over 12 lanes of Rte 128 traffic for a pedestrian path, right? Sharing a single-lane rail-trail with electric buses is unrealistic. And who is paying for operating these electric buses? This all seems like unrealistic, fanciful dreams.

Newton and surrounding towns need more safe biking routes. Many would be willing to opt out of driving if biking (including with children) could be done more safely.

No

The path is 12 feet wide. It is already crowded at times with people walking side by side, people walking several dogs, pushing stroller or in walkers, or bikers riding next to each other. There is no way to safely add a shuttle bus of any kind safely.

It would be great to one day connect the Bay Colony Rail Trail from Newton to the existing Needham Rail Trail.

The path is a calm, beautiful, forest walk. I strongly oppose allowing shuttle buses on the path in any way. Adding such vehicles would destroy the ambiance.

I am hearing impaired and electric shuttles would create a danger for me as I am currently unable to hear such vehicles approaching from behind me when walking.

It would be super to create this connection between Needham and Newton for walkers and cyclists! We've been hoping for this for years and it would make this part of Newton so much more inviting.

There are many walkways without cars in this area. Newton should focus on pedestrian and bikeways in parts of Newton where there are fewer and the current situation is dangerous to pedestrians. A corridor along cheesecake brook from Watertown (or Washington) st to the Charles River would serve a part of Newton greatly in need of more walking and biking opportunities. It is also a growing part of Newton with the new Washington st development which would be far better served by cheesecake brook development.

This should be an outdoor quiet sanctuary for non-electric or vehicle access. Walking and bicycles, only, please!

I hope it will before too long extend south to the Needham bike path

we are enthusiastic if it is a pedestrian and bicycle use only path!

The idea of the Greenway was for recreation as a safe passage for pedestrians and cyclists. Vehicles of any type should NEVER be allowed. By allowing vehicles, this becomes another dangerous roadway. It is great to connect Needham and Newton with this passageway but DO not allow vehicles!!!

I feel very strongly that such a path be used only by pedestrians—biking only if there is a designated bike lane. Bikers can pose a serious danger to pedestrians. Definitely no vehicles or motorized modes of transport of any kind. This pathway should not become a shortcut to bypass Needham St. Or Central Ave. This will surely happen if a shuttle is put in place. There are roads available for that.

Electric shuttles are incompatible with pedestrian and cyclist use. This path has the potential to become part of a larger emerging network of safe and separate off road facilities that link the region and allow pedestrians and cyclists to move safely without danger of vehicular traffic. Emphasis should be on planning and implementing safe connections to other non-vehicular uses like transit (eg, Needham commuter rail and Newton Green Line stations) and other multi use trails.

A wonderful idea for the general community and to elevate some pressure off traffic on Needham St.
Great for biking. And I would shop more / access various local Restaurants more if I had this path open to my family.
LOVE the idea of an electric shuttle bus.

Need to know more about shuttle, size of vehicle and frequency of run and stops. Walkway should be beautiful with garden berm as in CA and Ireland.

Wasn't a feasibility study already completed several years ago? What has changed and created the need for another feasibility survey?
I strongly disagree with the idea of adding any public transportation use to the pathway. We need to maintain this as a pathway for bicycle and pedestrian use only - like all of the other rail trails in the state.

It would be a lot safer to have a dedicated multiuse path/trail even with shuttles than to navigate the Highland St 128 overpass as a pedestrian or bicyclist. I said yes to shuttles for the benefit of the elderly population who may no longer have the ability for active transportation, but the shuttle should extend to regular streets on both ends to get reduced mobility people to destination (CATH/Needham Heights, etc) and to connect to MBTA trains.

Electric shuttles are an awesome idea! I would love to ditch my car and not have to deal with the hassles of driving and parking along Needham Street.

I don't understand the electric shuttle aspect - would that block pedestrians and bikes? I would use a shuttle but not at the expense of a nice wide walk/bike-way

I use the Upper Falls Greenway quite frequently for dog walking. I didn't see any reference to dogs in this survey. There should be.

Also, there is no mention of the side path, the Upper Falls Riverwalk, which extends south to Williams St, and north past the Bobby Braceland park to a dead-end at private land. The Riverwalk skirts around the base of the bridge at the end of the Greenway at the Charles. That part of the Riverwalk definitely needs improvement. I use the Riverwalk frequently for dog walking also.

The Community Way should extend to Avery if at all possible to allow safer access for the large community of families south of Cricket Field.

Please consider a connection to the Green Line. This is an easy connection, and it would provide an alternative to the commuter rail, which could then be converted to the Orange Line terminating at Needham Junction. While this is likely decades away, we need to future proof this new path and allow the ability to add rail, not just an electric shuttle. If people are serious about cutting greenhouse emissions, we must increase public transportation options.

No one is going to really use this to commute. We don’t live in that type of area or have that type of people. It’s purely for recreation and more paths without traffic stops would be ideal. Webster woods gets used a ton and a road bike option would be nice.

An access point should be added east of I95 and west of the Charles. Many people live and work east of I95 and south of Highland, and more stay in hotels in the same area. There is currently no safe way for pedestrians to cross the Charles to get to the Upper Falls Greenway access point from this area.

Love the idea of extending the existing path! With the new residential construction, the path will get even more pedestrian, bike, dog walking use and it seems that electric shuttles would be an issue

I would love to see this project extend to Newton Lower Falls!

If there was a "Darwin Award" for infrastructure projects, then removing the former rail bridge over rt 128 would win, hands down. Constructing a new one would be intelligent. Turning the entire route of the former Charles River RR into a rail trail would also add significant value to Newton, Needham, and all the communities which it would serve.

We try to walk the area proposed once a month, in addition to my partner working in Needham and my child begging to walk to Panera alone like he used to before they took out our sidewalk. But it's so dangerous most of the time we just give up and have stopped going to Needham unless absolutely necessary.

We need access across the river at BOTH sides of Needham Street, and soon. The intersection on highland/Needham is too dangerous for us to walk with kids (especially for kids walking without adults and wheelchair users- as both are short and slower.)

There is a pedestrian setting at the highland Christina intersection, but it doesn't work - left-turning cars are allowed to ignore it and don't stop for the pedestrian signal. Past construction on highland and Needham for about half a mile, there just isn't a crossing light.

Our side of Needham st has always been an afterthought - previously the bridge sidewalk had a sign pole smack in the middle of the sidewalk making it impossible to use with wheelchairs and strollers.

So even though we live in Christina st, we can't safely get to the proposed walkway since there are no real pedestrian crossing signals, with unprotected crosswalks that drivers completely ignore or lights actively tell turning drivers to disregard.

With the rail bride on Christina closed and not due for repair anytime soon, and the copious poison ivy and lack of sidewalk on Nahanton st, only people with cars are allowed to cross from Newton to Needham

Newton needs to be a walkable city with safe routes for bicycles. The Newton/Needham Corridor project is $31Million dollars to improve cars access. a few dollars can be dedicated to bring these communities together that has been destroyed by the monstrosity of RT128 cutting through.

What is feasibility of converting new car lanes across highway for electric buses or transit priority? Plenty of existing asphalt for vehicles.

I can see this Community Way being an excellent contribution to reducing traffic congestion between Newton and Needham, particularly if electric shuttle is introduced, but also as a bike path. With the new commercial and residential developments in the N2 corridor and Muzi bringing new workers and residents, increased commuting/residential traffic could be managed better with more options including biking and shuttle.

I don't think this would be used much.

Nature should be a heavy priority. PLEASE prioritize making this area friendly for birds and pollinators (i.e. appropriate flowers to help hurting butterfly and honeybee populations). Thank you!

A great idea to connect the communities and offer accessible and "green" use. Makes it feel more like a community and human scale, hope this will happen.

Love this proposal! We need more bikeways for all!

In my opinion, the most important decision is whether to pave the path. I'm *strongly* in favor of paving. Unpaved paths are unavailable to roller-bladers and many (most?) cyclists.

Make sure to keep the trees on both side of the trail...just like the Upper Falls Greenway currently has. It is beautiful and provide shades in summer time.

Land sitting idle is wasted. Cycling improves health, and access to safer pathways improves cycling.

Explore extension into Needham Center (if MBTA could be enticed to end commuter rail service to Needham Heights) and make certain the trail system extends through Newton almost to Route 9

Shuttle use would depend on type of shuttle, shuttle impact on total space use and hours of operation. Please make it rollerblade accessible.

I think the engineering requirements for electric shuttles would slow the whole thing down.

And extend it to Winchester Street.

Should be an extension of the Green line. Over 1,200 housing units coming in Newton. Unknown number from Muzi

The Upper Falls Greenway is already heavily used by community and abutting office workers. Let's keep up the usage and extend the trail to allow more people to access it. While a shuttle service would be nice, a Needham-commissioned transit study several years ago showed that it would get little usage. Ask Jerry Reilly, George Kirby, or Jim Lerner for a copy if you need one.

I regularly bike to this area for recreation, doctors appointments, shopping etc. and use the Upper Falls Greenway whenever possible. I try as much as possible to avoid Needham Street - it is a meat grinder for bikes! And as an older person who likes to bike, I use bike lanes and multi-user pathways whenever possible. This particular bikeway is very appealing as it opens up the possibility of loop trips that avoid car roadways (and particularly Needham Street!!!) I don't mind sharing the trail with electric shuttles as long as the trail is wide enough that I don't have to get off my bike to let them pass. My feeling toward multi-user paths is the more the merrier! (The only thing I don't like are electric bikes or scooters speeding along at unsafe speeds and/or being operated irresponsibly. There should some signage to encourage safe operation by these users if they are going to be allowed.) Please let's get on with this trail and get it open so I can still use it during my lifetime!!!!

This is a great project!

I live on Davenport Road in Needham, very close to the Gould Street entrance to the Community Way. My family and I would use this path daily and I think it would be an excellent resource for the neighborhood. I fully support this idea and would be thrilled if it became a reality!

I travel by bicycle often and getting over 128 to access Newton, Brookline, and Boston is a major challenge, with the dangers of riding on Highland Avenue past the 128 on/off ramps. This path would solve that problem in a way that is safe for everyone to use.

I've walked the proposed path and I don't think there is enough room for a bus lane and a pedestrian/bicycle greenway, without significant expansion of the existing path. I have children and the greenway would become much less appealing for use with children if there were a bus running back and forth in the same lane as pedestrians/bicycles. This should be a greenway for pedestrians, runners, dog walkers, and bicyclists to enjoy without the threat of motorized vehicles.

Active transportation has so many benefits to physical health, the environment, and the overall livability of the area. Please do all you can to make this happen!

Thank you

I live in Needham and commute to Newton. There is not a great bike path to get there at the moment. Crossing over 128 (which does have a bike lane) and then highland avenue is very busy. A dedicated bike lane here would be an incredible way to get to and from work and also access shops along Needham Street.

Any path should include lots of trash receptacles to keep it as clean as possible. Both a paved and unpaved options would be ideal. Separate walkers from bicycles.

I feel conflicted on the shuttle question vs. no-shuttle. I love the wooded pathway that's away from cars, particularly for the kids to have a safe space to run around and explore. I can also see the practicality of adding more public transportation to the area.

I also live in Newton and drive a car 2x a week to get to the Crossfit gym. Having the bridge right there, but not usable is something I notice often per being able to easily walk to a business right across the bridge.

It is important to support the full range of low-speed transportation: cycling, ebikes, and other new battery applications that are now appearing. I am not sure how electric shuttles fit in. If they are high-speed or too large, they should be separated. But I would be open about allowing novel low-speed human-scale vehicles (say, electric scooters or delivery robots or other weirder items)

Create better spurs for walking to dog park and Cutler Park.

It's rather unclear what an "Electric Shuttle" would be, so I'm saying no to them at the moment. But could be easily convinced if I knew what they were. eg is it the size and scale of a golf cart or is it bigger, would it be autonomous etc?

I am unclear what an electric shuttle is... is it a scooter? an electric bus-like thing?

I'm the more paths there are, the more likely people will be to make a habit of biking places, like for errands along Needham St. I would love to see Winchester St. Be viable for bikes to connect this project with Newton Center.

This trail is an important link for anyone who bikes in Newton, and for encouraging more people to get around without cars.

I love to bike, but never bike in Newton, the town I live in. It would be such an asset to have this walking and biking path for both cities to enjoy for recreation mostly. Lexington has a bike path but we don't want to drive our bikes in our cars to get there. Old railroad track bike paths are common in other towns and are used a lot. This is exciting!

Electric shuttle transportation should be a free service to community members

It's very exciting to hear about this as the Cochituate Rail Trail, Bruce Freeman Rail Tail, and Central Mass Rail Trail are all making tons on progress to the north side of MetroWest. I'm really excited for a non-road based way to cross over route 95 south of highway 90 (Mass Central Rail trail would be a north of I-90 I-95 crossing).

more bicycles/electric scooters/non-car commuting are better for people and for traffic!!

I support any pathway that will remove carbon producing vehicular traffic

I think this would be an important asset for the community

Often when these paths are created they are too narrow. In order to have walkers, runners and bikers all use the pathway, they need to be as WIDE as possible. NO, NO to electric shuttles. Not enough room for those.

I am only okay with electric shuttles if they are small and low speed, like golf carts, and the path is sufficiently wide.

If it is for both bikes and pedestrians then it should be very wide (so people can walk 3 abreast and bikes can safely pass them)

the only transit that makes sense is green line extension. I don't believe there is enough demand even with the large developments to have a separate shuttle running, any shuttles should run on Needham street itself to be useful

I think the Community Way is great idea for bicycle and pedestrian use but not electric shuttles. It would run on the back of my property, and I'm concerned about people potentially throwing garbage off it. I would like to see garbage cans maintained at the access points.

I would prefer no electric shuttle. There will be enough noise and traffic from the increased traffic at the new Muzi development

If transit service is provided, how would those vehicles be separated safely enough from pedestrians, cyclists, etc. so that parents would feel it is at least as safe as it is now for older kids (say 10 yrs and up) ride bikes on the path without adult companions?

I am strongly in favor of this project. I bike the Upper falls greenway nearly daily and I am always sorry it is not extended

I think this would be a great project that would alleviate traffic in the area and provide a meaningful recreation and commuting opportunity for Needham Heights residents, including hundreds of residents of the two Needham Housing Authority properties nearby and the Needham Heights Senior Center. As this area becomes increasingly congested, having off-road recreational opportunities will become much more important for the health and safety of our community.

We have no safe paths from Needham to Newton for cyclist, runners, and walkers. I cycle everywhere — thousands of miles a year — and even I find the Needham St / Highland St and Kendrick St overpasses dangerous and intimidating. It's time to build a path that is ONLY for cyclists, pedestrians and other non-motorized transportation. Please do not include a bus — just run that bus down Needham St.

This is a great idea! We should figure out a way to link this proposed community way, through designated bike lanes on local streets or other means, with the Needham rail trail.

I think it would be a great help to people living in East Needham Heights and the new apartment complex in Newton to get close to the commuter rail in Needham.

An electric shuttle could worsen traffic on Webster St leading up to the intersection of webster and Highland Ave, which already is a dangerous intersection when cars are dropping kids off at TBS in the morning. Having an electric shuffle would also make it unsafe for pedestrians and bikes on that trail. This area of Needham is severely lacking in pedestrian walkways-- walking along the highway is unpleasant-- and a trail would be an aesthetic improvement. The abandoned rail on Webster feels unsafe.

Can it extend further into Newton? Would love to have it go all the way to National Lumber. That would help take traffic off of Needham St.

Wonderful to create paths. They're a real benefit to the community.

It's important to think about the Easy St end. How does northbound traffic cross to the other side of Winchester? Do they ride north on the sidewalk to the intersection at Dedham St? Ideally the path goes around the back of the cemetery to connect with Newton highlands. Having lights at Rt 9 will improve the dynamic, I can see.
(I guess the far end of the greenway is out of the study area. Nevertheless :-))
Being able to take the bike path to the Nexus from Needham would be awesome

These paths are great for recreation, but understand they are not practical for work/shopping. The Needham Street corridor is a mess because it's not being properly for vehicular traffic on account of misguided expectations that if you make it inconvenient to drive, people will look to other transportation methods. They won't - they'll just go elsewhere. However, most roads in the area are not safe for biking, so any dedicated rights-of-way for such activities are good ideas.

The more opportunities to walk and bike on such paths, the better. And the land is there, just waiting to be used in this way. It's a wonderful opportunity.

Ultimately this should connect up with other multi use trails —Needham rail trail, Wellesley path system.

Extend the shuttle to the Eliot Green line station.

Allowing motorized vehicles on the path would simply create another street, eliminating the safe and relaxed path. Effective public transport is already available on the 59 bus and this route should be supplemented instead of motorizing the foot and bike path.

I am not really sure about how electric shuttles would work on the path but as long as they are similar speed as a bike that should work fine. I hope they can build this trail. Thanks!

I would be SO SO excited for this! I live probably two-tenths of a mile from the proposed Webster Street origin point, and have long wished that there was a nicer way to get to the Needham Street area of Newton than traipsing along Highland Ave over the highway.

and I said I hadn't attended an information session - that's because they have not yet taken place.

It would great if there was a way it connect to the MBTA or help provide access to the T

I would be a daily user.

N/A

this is great and over due.

This would be FANTASTIC to have!

Community Way has the ability to alleviate car traffic on Highland Ave. and Needham Street if there are easy ways to access the stores. There should be ample signage encouraging people to use it rather than driving their cars from parking lot to parking lot. I recommend separate lanes clearly marked for pedestrians, bikes and electric shuttle. Or the electric shuttle could be on Highland Ave where the bike lane is now and move all bikes over to the path.

For us in Needham, this bicycle path would enable us to get to the green line without having to travel on busy Highland Ave or hilly Westchester street. This would be HUGE!

I would love an electric shuttle/walk and bicycle path to connect us to public transportation hubs

Please develop public pathways for people to access without direct contact with motorists fighting for right of way. These pathways are critical for encouraging families to get out and about without worrying about motor vehicles. I would use these types of pathways every day if it could connect town to town that would encourage safe " biking "

This project represents the future and will position Needham and Newton as progressive, desirable communities. Let's go for it!

I'd like to think that I would use it for commuting to Newton, but believe I'd only use it for recreational purposes

There are lots of recreational bicyclists and walkers that would use this path; but not sure you'll get them via a Facebook post

I would love this bike path!

Peter Sutton, MA DOT, sees a potential to extend this bicycle path to Rhode Island. A path out to Medfield would be as long as the Minuteman Bike Path (7 miles) and would go by the Charles River Peninsula. It would be safer than biking on Central Avenue. It also has similarities to the Central Mass Rail Trail in Wayland, Weston, (under construction) Waltham, (perhaps) Sudbury.

I find it very interesting that Massachusetts "supersized" this section of the 128/95 (including the demolition of the RR Bridge) on a State Level yet is burdening the Needham and Newton with the restoration of this important and comparatively easy and inexpensive project.

The corridor should be used to extend the Green line between Newton Highlands and Needham Heights. Prior MBTA studies showed that >8000 transit riders would utilize the corridor as a light rail extension. A prior study found that nobody would use a shuttle bus on the corridor.

I am glad to see this project moving forward, we pay way too much deference to cars for transportation

The trail would be unusable to elderly pedestrians if there were electric vehicle use on it.

The path would offer a great improvement in human mobility and recreation

Thank you! Very excited to have more walking paths

I have lived near the Monon trail in Carmel IN. It is awesome! Adds value to the town. A cyclists can be in downtown Indianapolis faster than a car. This type of trail adds great value to the community.

Multi modal is very important for linking access to the Green Line. This is true both for residents of Needham and Newton especially along Needham Street. It also helps open up businesses in this area to offer other means of getting to work using public transit. This is true both for commuter rail and Green Line passengers.

There are many businesses in Needham I would love to be able to bike to and not being able to bike to them means I go to them less frequently.

Not only is the shuttle version less safe for children riding bicycles alongside, it seems much more costly to create a path that includes a shuttle. The Engineering Company admitted that they are unaware of a bike/shuttle path anywhere else.

Adjacent to our Community Way study area, the Highland Ave bridge is a major new multi-lane high-speed vehicular structure with highway entrance and exit ramps, perfect for cars and buses but very dangerous for cyclists. The Community Way along with the Upper Falls Greenway should be the safe refuge for cyclists and pedestrians between Newton and Needham.

I would need to know more about the electric shuttles. If it interfered with bicycle and pedestrian access, I would not like it. Otherwise this is a fantastic idea.. I didn't realize there was a meeting until after it was over tonight. I was sorry to miss it.

A pedestrian/bicycling only path could be constructed much more easily and cheaply than a multi-modal way that includes an electric shuttle bus. As was pointed out at the Needham public meeting, there are multiple existing roadway connections between Needham and Newton and no truly safe connection for pedestrians and bicyclists. While the long-term vision of a busway connection from the Needham Heights station to the Newton Highlands station is laudable and attractive theoretically, given various land-use constraints, financial constraints, MBTA's disinterest in a transit connection, and substantially greater potential impacts on abutters, inclusion of a shuttle bus connection would likely significantly delay, if not completely derail, the project.

supportive of recreational - bike, running, walking.

Most all rail trails offer parking, for those not close enough to bike to the trail. Parking should be considered when considering feasibility of project. Also, with the increase in the number of electric bikes, will this not negate the need for electric transportation, such as golf carts, as was mentioned at the meeting?

The cost of building a new bridge over Rte 95 that supports electric buses will be extremely expensive.
The recently constructed bridge over Rte 95 that runs from Highland Ave in Needham can certainly support additional bus traffic.

While I chose "include electric shuttles" above, I would support either option, depending on which was more feasible. The changes required to support the shuttles would cost considerably more, however the economic support this would provide for our industrial area might offset that.

A think a protected route for bicycles/pedestrians to Newton is sorely needed and long overdue. The other bridges have bike paths and sideways but are terrifying with so many cars flying by.

This path would be a boon to abutters property value and huge asset to the town of Needham and Newton. If relevant the feasibility study/design should include safety entrances, exits and crossings (@ webster, gould and oak st).

The most logical would be to extend the green line along that way. That would take a lot of traffic pressure off of Needham Street especially when new housing is built towards the Charles River! It should be considered a no brainer to restore light rail to that corridor.

If path connects to MBTA green line then electric shuttle a good idea and I would use that to get to T vs drive and park at Eliot

Get the Railroad bridge rebuilt and continue the path past Needham Centre.

Motorized vehicles should be limited to the roads running adjacent to the trail. There is no reason to add buses that would endanger pedestrians on a recreational path. The whole point of bike & walking trails is that they are not roads.

Electric shuttle would be more useful if it connected Needham Center with the D line

Would pedestrians be separated from electric vehicles? Otherwise it could be a conflict. Bikes and pedestrians are sometimes a conflict, but should be made compatible.

It's very important to have climate safe options to cars. Walking or biking on Needham St is not safe or pleasant. The Community Way would be a wonderful addition to bike safety in the area.

If the path on the Needham end starts at Webster Street there should be some thought given to vehicle parking for walkers and people wishing to use electric shuttles.

The path should include electric shuttles "if" it connects to the Newton Highlands T Station.

Safety is an issue due to the steep elevation change between the existing rail way and Evelyn Rd

I feel a bike path would be great. I do not support a bike path with an electric shuttle. The cost to build and the cost to maintain the shuttle vehicles and road maintenance due to wear from car-type tire use and snow plowing etc would be cost prohibitive. In addition, if the path can't go all the way to a green line t station, then it doesn't make sense overall. I think I put from Wingate (900 ft) and Bulfinch (1,250 ft) would be critical since they are a abutting neighbors to large portions of the path.

Given that the already paved Needham St/Highland Ave runs parallel only 1/4 mile way it makes no sense to run electric buses on this corridor since this would seriously detract from the recreation uses for no significant gain.

Consider how this path, if constructed for electric shuttles, would serve employees of office, lab and institutional buildings in Newton and Needham in the vicinity of Highland Avenue/Needham Street.

I like the idea of electric shuttles but think this isn't a good route for them. I would like to see the corridor extended as close as possible to Avery Square in Needham.

You all rock!

There appear to be too many unanswered questions that the feasibility study does not intend to address. Cost should be a paramount decision and it seems secondary at best. What are the options if Needham moves forward separately from Newton? Will you move forward with the project if moving over the highway is not an option?

this path could & should connect to Newton Highlands and the Needham commuter rail and greenway as possible!

Preference to using asphalt on the paths and adding a restroom/portapotty. Need a safer crossing of Needham Street, Newton to get to the path.

If electric or any other vehicles are allowed to use this, it will destroy the experience for walkers. Safety will be compromised and nature will be discouraged.

As an avid bicyclist and a walker, it is important to create this safer wy to get from Newton to Needham.. It currently is very dangerous to bicycle to the area. I often bike to and from Newton to and through Needham and would love to have a safer way to get there. I also would love to volunteer to be involved with this process

Electric shuttles will put both bicyclists and pedestrians at risk. There will be good intentions, but the vehicles are too large to safely mix. Electric vehicle space will cause bicyclists to be too close to pedestrians.

The electric shuttles should be speed limited to 8 mph and max every 15 minutes. They should be a narrow as possible, not standard electric vans. Possibly the right design doesn't exist yet.

The surface should be suitable for inline skating.

Electric shuttles will absolutely destroy what is already an important community green space in Newton Upper Falls. We have places for buses - they're called roads. The Greenway is a peaceful, safe place for walkers, runners, bikers, families, and dogs. It's an attractive place for recreation and nature time precisely because it is not a road. It's not a place for motor vehicles.

I like the possible use of the path for walking, biking, running. The introduction of electric shuttles would, in my view, severely diminish the path's attractiveness for walking or running.

Adding a shuttle/large vehicle to this path will destroy the safety of pedestrians, pets, and non-motorized users and completely undermine the entire point of the project. If you want to add a shuttle, add them to Needham Street which will be directly parallel. If you want to be green and do something novel add electric bike charging infrastructure.

I would not want the electric shuttle to be used for the route.

Strict rules that are enforced to reduce electric shuttle and bike/pedestrian interaction- if a problem emerges, vehicles should be removed. Otherwise no motorized vehicles

I think this would be a great/safe addition to the travel corridor between Needham and Newton. I was part of a group many years ago that tried to get this done in association with the widening of 128. Hopefully, with a new Select Board, this will have better luck at seeing the finish line and getting the connection made.

A bike path would be a good idea, but an electric shuttle should NOT be included. No matter what, it would cause some potential for danger for walkers/bikers/people with strollers and young kids. It would also be disruptive to houses on the path, even if it is electric.

Needham street is very crowded and any alternate form of access is important.

Please increase the number of electric shuttles within Newton connecting the villages. Also consider something similar along Commonwealth Avenue to connect the most western part or Newton to the Boston College T stop!

I am not agree with any developer

I didn’t attend the meetings but watched the recording. I find Question 9 mixing public transportation and electric shuttle misleading as it appears the shuttle may not be public as most people understand it.

Sense of safety and serenity for pedestrians is key. Quiet electric vehicles may sneak up on folks. Strongly suggest keeping this to pedestrian use.

In creating this community way, please do not preclude a future Green Line Extension to Needham along this stretch (https://amateurplanner.blogspot.com/2019/12/everything-is-interconnected.html).

The Greenway is a beautiful space that would be enhanced by extending it over the scenic and serene Charles River, and I would love to see this happen. The Greenway is a valuable space in a nature where people engage the outdoors away from vehicles and roadways peacefully and safely. Adding vehicles will eliminate what little natural space we have. Please do not pave the pathway. If a shuttle is needed, one can be added on Needham Street.

Please build in public restrooms along the route - too many public spaces have been developed without them, and we all suffer for it. It's also the empathetic, humane way to design a recreation path and will 100% drive more use. I don't see how you can call a path "accessible" without meeting this basic need. We absolutely factored in restroom availability in setting our weekend plans when our children were very young.

If this cost to Newton I would disagree. You should use the tax dollars to education to support schools before adding more projects.

I answered a survey earlier where I indicated I'd use the electric shuttle regularly. That's not true. I would, however, bike over from Newton with some frequency.