

MASSDOT - HIGHWAY DIVISION
Project Need Form

This form is intended to provide preliminary information about the proposed project. It is not expected that all information that is asked for is available or known but applicants are encouraged to complete the form as fully as possible.

Proponent: Glenn R. Clancy, P.E. Title: Director of Community Development
Municipality: Town of Belmont Email: gclancy@belmont-ma.gov
PNF completed by: Amy Archer, P.E. Title: Project Manager, Feasibility Study
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Date: June 12, 2018 Organization: Pare Corporation

Part I – Facility Location and General Information

Municipality: Town of Belmont

Primary Roadway(s) or Facility: Belmont Community Path/Belmont Component of the MCRT – Phase 1

MassDOT District: District 4 MPO Region: Boston Region

Estimated project limits by mile marker, station or other distinguishing landmarks such as cross street(s).
Please include a locus map of the potential project location.

Route/Street ID	Begin	End	Total Mileage
<i>North-South Connector</i>	Alexander Avenue	Concord Avenue	0.18
<i>Community Path</i>	Clark Street Bridge	Brighton Street	1.11

Is the location in an urban or rural area? ☒ Urban ☐ Rural

What is the federal functional classification of the road? Identify each section.

☐ Interstate ☐ Urban Collector ☐ Rural Major Collector
☐ Urban Principal Arterial ☐ Rural Principal Arterial ☐ Rural Minor Collector
☐ Urban Minor Arterial ☐ Rural Minor Arterial ☒ Other Classification Off-Road

Is the proposed project on the National Highway System? ☐ Yes ☒ No

Who owns the roadway/facility? If multiple owners, please give the ownership percentage for each.

☐ MassDOT _____ % ☒ City or Town (incl. BCF*/HS) 79 %
☒ Other State Agency MBTA 12 % ☒ Other Hittinger Street LLC 9 %

Note: The Belmont Citizen's Forum (BCF) purchased part of the abandoned RR ROW with the intent of donating the land to the Town for the proposed use.

Project Need: Briefly describe or characterize, in general terms, the primary project need or goal (e.g. rehabilitate a roadway, improve safety at an intersection, reduce corridor congestion, improve pedestrian facilities, or provide bike accommodation).

The Belmont leg of the Massachusetts Central Rail Trail (MCRT) will be implemented in a two phase approach, with Phase 1 being the stretch between the Fitchburg Cutoff Path at the Cambridge line to Belmont Center, and Phase 2 being Belmont Center to the Waltham line.

The proposed project constitutes Phase 1 of the Belmont leg of the MCRT, and will be an off-road, shared-use path, which includes two components: a north-south connector between the terminus of Alexander Avenue and Concord Avenue (A), inclusive of an underpass which will provide a non-vehicular, grade-separated rail crossing allowing access to many of the town's resources and amenities; and an east-west corridor from the Clark Street Bridge through town center to Brighton Street (B). The north-south connector will create a safer and more direct connection for communities within Belmont currently divided by the active rail line, inclusive of access to the high school campus (soon to be middle/high through an MSBA project currently underway) and resources and amenities along Concord Avenue such as the pool, library, post office, music school and numerous churches, while the east-west path will serve as a segment of the Mass Central Rail Trail and further off-road connections to transit (Belmont Center Station and Alewife Station) for bicyclists and pedestrians.

Part II: Project or Program Description

Provide whatever information is available to characterize the existing, general attributes of the facility.

CHARACTERISTIC	DATA	Comments
Number of Lanes	N/A	
Lane Width	N/A	
Shoulder Width	N/A	
Sidewalk Availability/Width	N/A	
Existing Right of Way	30' +	BCF: ~30' avg; HS: extensive ROW, easement to be designated for trail
Annual Daily Traffic (ADT)	N/A	
Percent Truck Traffic	N/A	
Daily Bicycle Traffic	UNK	Though a formal path does not yet exist, individuals walk the path daily.
Daily Pedestrian Traffic	UNK	
Traffic Control (signal, flash, signs, etc.)	Actuated Gate	Rail crossing gates are present at Brighton Street
Roadway Lighting	N/A	
Posted Speed Limit	N/A	
Transit Routes & Facilities	Prop. MCRT Route	Adjacent to MBTA Fitchburg Line

In what type of area is the project located: *Project limits may include more than one type of area. For a definition of areas, please refer to Chapter 3 of the Guidebook.*

- | | |
|---|--|
| <input type="checkbox"/> Rural Natural | <input type="checkbox"/> Suburban High Density |
| <input type="checkbox"/> Rural Village | <input checked="" type="checkbox"/> Suburban Village/Town Center |
| <input type="checkbox"/> Rural Developed | <input type="checkbox"/> Urban Residential or CBD |
| <input type="checkbox"/> Suburban Low Density | |

How does the roadway/facility function in the community?

- ☐ High-speed, primary corridor with limited access
☐ Moderate speed, major corridor between towns/regions
☐ Low to moderate speed corridor between towns/regions

- ☐ Moderate speed, major street connecting residential areas to a town center or major connector
- ☐ Low to moderate speed street connecting residential areas with other streets
- ☐ Primarily or exclusively a residential street
- ☒ Exclusive pedestrian/bicycle facility

Regional Considerations: Identify any regional use of the roadway (Characterize how neighboring communities use the roadway, what kind of link it provides to major arterials or highways).

The facility will extend the proposed regional network, providing additional pedestrian and bicycle accommodations/recreational space for immediate neighboring communities, with user base expected to continue to expand as other communities further their components of the MCRT.

Part III: Identification of Problem, Need or Opportunity

A. Condition of Existing Facilities - Problem, Need, or Opportunity

1. **Primary Asset:** Please describe the condition of the roadway, path, or other horizontal facility, such as type and extent of cracking, ride-ability, utility patching or other surface defects such as rutting, raveling, shoving, bleeding, etc. This may be based on visual inspection or automatic detection methods. Describe any roadway sub-base issues. Include any PMS (Pavement Management System) ratings, PCI (Pavement Condition Index) data and/or photos, if available.

The corridor north of the Fitchburg Line is primarily a previously abandoned rail right-of-way, with no existing roadway or formal facility. The proposed corridor south of the Fitchburg Line (east of the Alexander underpass) is currently vegetated area on the high school property, which is proposed for redevelopment through the MSBA contract.

2. **Preventive Maintenance:** Describe any repair or preventive maintenance to the roadway or appurtenances. Include the extent of the work (resurfacing, rehabilitation, reconstruction or replacement) and when the last repair was done.

N/A

3. **Other Existing Assets:** Please describe the condition of facility appurtenances, such as signs, signals, lighting, median barriers, retaining walls, noise barriers, guardrail, pavement markings, curbing, landscaping, fences, ITS components, etc.

N/A

4. **Drainage System:** Please describe any specific concerns related to the existing drainage system. If there is a history of flooding in the project area, describe the potential solutions under consideration, such as increased maintenance, repair/replacement of drainage infrastructure, raising the vertical profile, or culvert replacement, etc. List any opportunities for improving storm water management, including drainage outfalls, within the project limits.

The area of the proposed Alexander Underpass is at low elevation, hardly above sea level. It is anticipated that a sump pump and associated drainage improvements will be required to minimize ponding within the tunnel.

5. **Bridges:** If the project/program includes a bridge or bridges, please describe the condition, such as bridge ratings, dates of inspection, weight restrictions, closings, structural adequacy, functional obsolescence, condition of other bridge elements, etc. Identify the bridge location and ID number (if known).

The proposed route will utilize the existing bridge structure at town center. This historic bridge used to carry two parallel rail lines, and now carries only the active Fitchburg rail line. It is therefore capable of bearing

the additional load of the path, and improvements will be surface reconstruction only with no changes to the superstructure or façade.

6. Existing Utilities: Identify and locate any underground utilities (water, sewer, gas, other) and overhead utilities (electric phone, cable). Identify any larger utility appurtenances, above ground or underground, such as cabinets or vaults. Identify any active or inactive railroad crossings.

The proposed Alexander Underpass will be a grade separated crossing of the active Fitchburg Line. As they do today, users will cross the active rail at-grade at Brighton Street and via the existing grade-separated crossing at the Clark Street Bridge. The proposed alignment is anticipated to have minimal utility crossings. The official location and depth of all utilities will be included in the survey procured as part of the preliminary design.

B. Mobility - Problem, Need, or Opportunity

1. Motor Vehicle Mobility and Congestion: Please describe any existing or prospective highway congestion issues or bottlenecks. Identify the nature and extent of congestion, including when it occurs and whether there is queuing. Include any traffic analysis, including LOS (Level of Service) data or travel times, if available. Please describe any need or opportunity for greater connectivity or improved access along the corridor or to particular points along the facility. Identify any missing connection or constraint in access that could be improved for greater motor vehicle mobility.

The active railroad corridor currently running east/west bisects the Town. With the Town's population density and few existing options for traversing north/south (Trapelo Road on the west side of town, Concord Avenue in town center and Brighton Street on the east side of town) these roads experience congestion throughout the day with extensive queues and delays during the peak hours. The proposed path (B) would greatly improve mobility by providing an off-road connection from the Clark Street Bridge through town center to and beyond the east end of town, connecting to the existing Fitchburg cut-off path. Additionally, the proposed project (A) would construct a grade-separated rail crossing at Alexander Avenue, providing a safe connection for students and families north of the rail to the middle/high school campus and to resources and amenities along Concord Avenue including the town pool, the library and the music school. This connection is expected to reduce school-related vehicular trips on Brighton Street and Concord Avenue.

2. Pedestrian Mobility and Accommodations: Please describe the condition of any existing pedestrian facilities. Include the limits and width of any existing sidewalks and identify any obstructions. Note if the existing sidewalks are ADA/AAB compliant. In addition, please characterize the pedestrian need, including any indication that pedestrians use the corridor beyond existing sidewalks (rutted paths, pedestrian using the roadway shoulder, etc.).

Pedestrian accommodations do not currently exist along the proposed corridor. Individuals trying to travel from the Clark Street Bridge through town center to Brighton Street or to and from the school campus/Concord Avenue amenities without a vehicle would have to walk partially on sidewalk and partially on-road. Sidewalks exist on Concord Avenue, Pleasant Street, Underwood Street and a portion of Channing Road (from town center to just west of Alexander Avenue) and Royal Road, but not along the east portion of Channing Road, the west portion of Royal Road or Hittinger Street. These routes with partial accommodation are adjacent to high-volume roadways and offer only a roundabout means of accessing the desired destinations. This has resulted in several individuals crossing the active rail tracks as an alternative, particularly near the school campus.

3. Bicycle Mobility and Accommodations: Please describe the existing bike accommodation (5' minimum shoulder width, bike lane, or shared use path), including the limits and width of any existing facility. In addition, please characterize existing bike traffic, and condition of any bike racks or other associated appurtenances. Identify if project location is included in any local, regional or state bicycle routes.

Bicycle accommodations are more scarce than pedestrian accommodations. There are 5-foot wide bike lanes present on Concord Avenue from town center to Cambridge, sandwiched between vehicular travel

lanes and on-street parking. Accommodations beyond this roadway consist of infrequent sharrows symbols. These accommodations are only used by avid roadway cyclists, due to the combination of accommodation type and the level of congestion, with over 17,000 ADT recorded by MassDOT over 20 years ago (count ID 202605). The proposed path (B) will provide an entirely off-road accommodation within this area, as proposed for the Mass Central Rail Trail, connecting Belmont Center and residential neighborhoods in the vicinity of the proposed route with Alewife Station, the Minuteman Bikeway and additional destinations in Cambridge, Boston and beyond.

4. Transit Mobility and Accommodations: Please describe the existing transit accommodations (bus stops, bump outs, shelters, transit signal prioritization), include known bus routes and providers. In addition, please characterize existing transit usage, and other known obstructions.

In addition to stops along Brighton Street for the MBTA's Route 78, there are bus stops for Routes 74 and 75 present along Concord Avenue and in Belmont Center, as well as a rail station along the Fitchburg Line in Belmont Center. However, the lack of bicycle and pedestrian accommodations to and from, ADA compliant access and parking currently make this an underutilized station/system. The addition of the path (B) would provide an alternate mode to and from the station as well as begin the construction of ADA compliant access, allowing many more individuals the opportunity to utilize the existing transit.

5. Connectivity: Please describe any need or opportunity for greater connectivity or improved access along the corridor or to particular points along the facility. Identify any missing connection or constraint in access that could be improved for greater bicycle or pedestrian mobility.

The project is aimed solely at providing and improving connectivity for pedestrians and bicyclists. Currently there is no safe, accessible route from the Clark Street Bridge through town center to Brighton Street. The project will also provide access to the Belmont (Middle/)High School site and amenities along Concord Avenue, which will help reduce vehicular traffic by providing improved pedestrian and bicycle accommodation, as well as reduce and hopefully eliminate all unsafe crossings of the active rail. Finally, the proposed path (B) will connect to the existing Fitchburg cut-off path, providing access to additional off-road networks in Cambridge and beyond, and will serve as one portion of the MCRT through Belmont, with western connections from town center to Waltham and beyond planned for later phases.

C. Safety - Problem, Need, or Opportunity

1. Motor Vehicle Safety: Please describe any safety concerns on the facility. Please note the presence of any MassDOT crash clusters, regionally identified high-crash locations, or any other documented need for improvements. Provide any crash history within the project limits, including number and severity of crashes, type of crashes and whether there have been any fatalities. Include the calculated crash rate, if available. If the project location contains any MassDOT identified crash clusters, a Road Safety Audit will need to be conducted prior to making a 25% submission.

The proposed corridor clearly does not have these issues. Though the construction of the project would offer many an alternate to traveling along Concord Avenue which currently is not listed as a top HSIP cluster, but experienced 90 incidents within the latest five-year period assessed during the feasibility study (0.72 mi stretch from town center to Underwood Street).

2. Safety for Other Users: Please describe adjacent significant activity centers (schools, senior centers, places of assembly, industrial operations, or parks) and describe any safety issues for other users such as pedestrians, bicyclists, persons with disabilities, transit riders, trucks, school children, etc. Please note the presence of any MassDOT bike or pedestrian clusters, or any other documented need for improvements. If the project location contains any MassDOT identified crash clusters, a Road Safety Audit will need to be conducted prior to making a 25% submission.

In addition to the safety improvements noted above, the construction of the proposed path would include a pedestrian and bicycle underpass under the active Fitchburg Line (A). This will alleviate the current situation of individuals, particularly students, crossing the active rail to the get to the (middle/) high school campus

that is adjacent to the rail line and to the amenities and town resources along Concord Avenue, just south of the school campus.

3. Evacuation Routes: Please describe whether there are any known evacuation routes identified at the state, local or private level.

The proposed route is not an existing evacuation route.

D. Economic Development - Problem, Need, or Opportunity

1. Economic Impact on a City, Town, or Village Center: Identify if the project is located within a city/town/village center, an area ≥ 5000 population per square mile, or if the roadway provides an important connection to a city/town/village center or population center. If the roadway is a high truck ADT corridor, please note and provide documentation. Identify any economic needs or opportunities that can benefit from the project.

The project will connect directly to the town center, providing access to the rail station and all of the businesses within this major commercial district of Belmont. On the east and west ends of the proposed alignment, the path will also connect to a smaller commercial district along Brighton Street and businesses along Pleasant Street respectively. Finally, the path will connect to the existing Fitchburg cut-off path, providing access to the town center to those outside of Belmont.

2. Priority Development Areas: Identify any Priority Development Areas (PDAs) that benefit from the project. (Examples of PDAs are Designated Growth Districts, 43D Priority Development Sites, Brownfields Redevelopment Sites, Mill Revitalization Districts (MRD), or Undeveloped Land Zoned Industrial or Commercial). Identify any needs for improved access to services, industry clusters, or job creation in the project area or opportunities for improvement.

N/A

3. Local Economic Considerations: Identify needs or opportunities to fill vacant storefronts or office spaces in city/town/village center, or the need for any amenities that improve accessibility, wayfinding, pedestrian accommodations, or beautification of a city/town/village center with the intent of attracting consumers.

As noted in D.1., the proposed path has much potential to help the town center thrive.

E. Environmental & Health Effects - Problem, Need, or Opportunity

1. Air Quality and Greenhouse Gases: Describe any opportunities to meet the State goals of improving Air Quality and reducing Greenhouse Gas emissions in the area. Please note any bottlenecks or congestion corridors that can be improved via improved traffic operations, as well as transit, bicycle, and pedestrian infrastructure that can be expanded (please reference section B: Mobility). For more information on MassDOT Greenhouse Gas Reduction and Air Quality standards, please use the following link: [MassDOT Greenhouse Gas Reduction](#)

The proposed path (B) will provide an alternate mode of transportation between the Clark Street Bridge through Belmont Center to Brighton Street, connecting to and beyond the Alewife Station in Cambridge via the existing Fitchburg cut-off path, as well as provide a new, non-vehicular access from Channing Road and the Winn Brook neighborhood to the (middle/) high school campus and amenities on Concord Avenue (A). This will reduce vehicular traffic within the identified neighborhood, as well as along the congested roadways of Concord Avenue and Brighton Street.

2. Stormwater Improvements/Impaired Waterbodies: Identify any impaired waterbodies or TMDL watersheds for nutrients near the project, and any stormwater runoff issues associated with the project.

There is no existing stormwater management of impaired waterbodies along the proposed corridor.

3. Wetland(s) and Resource Areas: Identify any wetlands, watersheds, or resource areas adjacent to the project, along with their current condition. Identify any opportunities to provide wetland restoration to a degraded wetland resource area.

There are no wetlands or resource areas within the proposed corridor between town center and Brighton Street.

4. Wildlife Habitat(s): Identify any priority habitats within a ½ mile of the project limits. (Examples of priority development areas include: Core Habitat and Critical Natural Landscape, Coldwater fisheries, diadromous fish runs, Vernal Pools, and NHESP Priority and Estimated Rare species habitat).

The eastern limits of the project area are within a half mile (0.42 mi) of an NHESP priority habitat of rare species (PH 1387). There are not expected to be any impacts to this habitat. No other wildlife habitats exist within a half mile of the proposed project.

5. Resiliency: Indicate whether the project is located in a 100-year flood zone. Identify any failing culverts or headwalls, and any evidence of stream bed or stream bank erosion, scour, or any hydraulic restrictions at bridges or culverts.

The project area is not within any 100-year flood zone based on FEMA mapping. The area on the south side of the rail approaching and crossing Brighton Street is abutting a 500-year flood zone.

6. Historic/Cultural/Archaeological Resource(s): Identify any National Register listed or eligible properties in the area, any nearby Open Space, or any potential 4(f) or Article 97 protected land in the area.

As noted, the existing bridge over Concord Avenue at town center is a NR historic structure. The integrity of this existing bridge will remain, with surface improvements only. The path would end at the existing NR listed Clark Street Bridge, with no proposed improvements or alternations. Additionally, the project abuts the Municipal Light Building and the Police Station, which are contained in MHC's cultural resource database and is identified as being historically significant, and is just north of the Belmont Center Rail Station building, which is on the register. Finally, the project path (B) is within the Belmont Center area and the Centre Avenue Area and is within or abuts (pending final design location) the Clay Pit Pond Area, all of which are identified as being historically significant. The proposed north-south connector (A) would not touch any historic property and is not within a historic district.

7. Hazardous Materials: Identify any hazardous materials or sites adjacent to the project. Discuss if the project will involve handling hazardous materials or on any adjacent properties.

There are no AUL sites or underground storage tanks within the project limits, as recommended. The nearest AUL is the former Gulf Station located at 50 Brighton Street.

F. Social Equity - Problem, Need, or Opportunity

1. Environmental Justice: Identify if the project is located in, or within a ¼ mile of, an Environmental Justice area. Indicate any documented need to improve the environmental impacts, safety, sustainability, or mobility of the EJ community. Please note that the proponent is encouraged to fully engage any EJ communities to assess any problems, needs, or opportunities for improvement in the area.

The project is within a ¼ mile (directly adjacent) to a census 2010 minority environmental justice population. This population was included in the informational mailing regarding the project and all public meetings held for the feasibility study and will benefit from the construction of the proposed path as an alternate mode of transportation.

2. **Title VI:** Identify if the project is located in, or within a ¼ mile of, a Title VI area. Identify any documented need or opportunity to improve the access, safety, sustainability, or mobility to the Title VI community through public outreach. Please note that the proponent is encouraged to fully engage Title VI communities to assess any problems, needs, or opportunities for improvement in the area.

The project limits are entirely within an LEP area. As elaborated under Section G, this area was included in notification for all public outreach and all meetings were held in accessible venues. This area could also benefit from the improved mobility that would be gained by the proposed project, as both an alternate mode of transportation and access to the (middle/) high school.

3. **Regional Equity:** Please note the last project the proponent initiated seeking Federal Transportation Funds, along with the year initiated. If any projects have been constructed using Federal Transportation Funds in the last 5 years, please identify along with the year completed. If the area is located in a rural area, discuss the importance of any potential improvements to the community or region.

Trapelo Road, Belmont Street Corridor Project. MassDOT # 604688. Project completed 12/1/2017.

G. Planning and Public Outreach - Problem, Need, or Opportunity

1. Describe any Public Outreach that has occurred. Include any public informational meetings, local mailings, workshops, planning documents, etc., where the proposed improvements were specifically presented to abutters, businesses and/or the general public. Please note any local support or opposition to the project, including any local advocacy groups.

The Town's Planning Department has held several public meetings related to this project since the inception of the idea over 20 years ago. Notably, most recently, the feasibility study efforts were inclusive of 10 public meetings (including a workshop, presentations and public input), 2 site walks, an online survey for individuals that missed the workshop, documentation and consideration of all public comment received in writing over the course of the study, and a mailing to all Belmont addresses informing what the path was and what routes were being considered. Documentation further outlining these efforts can be found in the feasibility study (link below in G.3.).

2. Describe any special needs that need to be accommodated to fully engage the public with respect to public outreach.

Though no special needs were identified, all public meetings were held in an accessible venue with prior notice, in accordance with the state open meeting law.

3. Identify any local or regional planning documents that identify the problem, need or opportunity outlined within this PNF.

In reverse chronological order:

1. The Belmont Community Path Feasibility Study - <http://www.belmont-ma.gov/community-path-implementation-advisory-committee-cpiac/pages/community-path-feasibility-study>
2. The Belmont Community Path Advisory Committee Final Report - http://www.belmont-ma.gov/sites/belmontma/files/file/file/belmont-community-path-advisory-committee_final-report_2014-06-07.pdf
3. MPAC's Belmont/Waltham Community Trail Alignment Study - <http://www.mapc.org/wp-content/uploads/2017/11/Belmont-Trail-Alignment-Study-2012.pdf>
4. Belmont's 2010 Comprehensive Plan - http://www.belmont-ma.gov/sites/belmontma/files/file/file/comp_plan_final_0.pdf
5. Belmont Bikeway Preliminary Feasibility Analysis 1997- http://www.belmont-ma.gov/sites/belmontma/files/file/file/bikeway_analysis.pdf

6. Central Massachusetts Rail Trail Feasibility Study - 1997 - http://www.belmont-ma.gov/sites/belmontma/files/u151/1997_ctps_mcrf_feasibility_study.pdf

4. Identify efforts to coordinate with relevant government agencies, including RTA(s), DCR, regulatory agencies, or neighboring municipalities.

During the feasibility study, the Town, along with their consultant, reached out to MassDOT, MBTA, the Boston MPO and the MAPC to foster ongoing communication and understanding of the Belmont path.

Thank you for completing this form. Please submit the PNF to the Regional MPO/RPA and the MassDOT Highway Division District office.