

# LENOX SHARED USE PATH FEASIBILITY STUDY

MARCH 2020





# 01 INTRODUCTION

Walker Street in Lenox Dale





# INTRODUCTION

The purpose of this study is to provide a planning-level assessment for constructing a shared-use bicycle and pedestrian path in the town of Lenox between Lee and Pittsfield, MA. While several alternatives have been considered in the past, the preferred alternative identified within this study strikes the most positive balance between opportunities and challenges encountered, as well as connecting to the most logical termini practicable.

The town of Lenox provides an important cycling link through Berkshire County, and this project is potentially part of the Western New England Greenway (US Bike Route 7). In addition to the many historically and culturally significant destinations within the town limits, Lenox is an important gateway to connect South Berkshire County to the Pittsfield area and points north. Currently, there are few options available for the average cyclist to ride north from Lee into Pittsfield and North Berkshire County. A path that is designed for all ages and abilities will help to introduce more families to active recreation and transportation, and see their local area in a new way. More possibilities will open for tourism through the town of Lenox with its scenic downtown, historical structures, and natural landscapes. Locals and tourists alike will be invited to explore the town and greater Berkshire County via the multi-use trail through eastern Lenox.

This report highlights the many benefits that a trail can bring to locals and visitors, gives a summary of the area studied for the trail alternatives, and builds upon past initiatives to design and construct an off-road trail in the town. The report also looks ahead at ongoing and upcoming pedestrian and bicyclist projects in Berkshire County to which Lenox will be able to connect. Trail planning uncovers many opportunities and challenges for a successful project. This report summarizes some of the most relevant opportunities and challenges for the Lenox trail project. The preferred alternative route is illustrated, along with a planning cost estimate for consideration. Finally, an implementation strategy will be laid out in order for the route to be as successful as possible in cost-effectiveness, public reception, maintaining legality in permitting and property rights, and to be a good steward of the environment.



The Western New England Greenway route through Lenox (shown in purple)

# TRAIL BENEFITS

## HEALTH AND WELL-BEING

The Lenox trail will improve the health and wellbeing of local residents and visitors, as access to outdoor activities increases participation in healthy lifestyles and improves the academic performance of children. Regular exercise reduces the likelihood of heart and respiratory disease. People with access to trails exercise more regularly than those without access to similar recreational opportunities.

## TRANSPORTATION

Trails provide alternatives for those without access to cars or transit as well as for those wanting to choose a healthier transportation alternative. Construction of the Lenox trail will increase mobility and accessibility by providing a new recreational opportunity.

## SAFETY

Trails provide safe recreational opportunities for all users. They provide a designated space for bicyclists and pedestrians and minimize interactions with motor vehicle traffic. This is especially important for children and elderly people.

## ECONOMIC

The positive economic impacts of trails include recreation-based tourism, an increase in property values, an enhanced ability to attract new employers and employees, and development of new businesses, such as visitor services and outdoor related product sales, to accommodate the increase in recreational opportunities in the area.

## EDUCATION

Not only do trails provide outdoor learning opportunities, but children with access to open space resources demonstrate higher academic achievement, better attendance, and higher levels of concentration. They also provide children with the opportunity to discover local natural and cultural heritage.

## ENVIRONMENT

Trails benefit the environment as well as the people they serve. Trails provide opportunities for habitat protection and enhancement, stormwater and flood retention, improved water and air quality, conservation of natural and cultural resources, and scenic views.

## CIVIC ENGAGEMENT

Greenways provide opportunities for diverse groups of people to discover common interests and form a sense of community. Whether as a means of improving quality of life, our health, our children's well-being or our natural places, civic leadership springs from community engagement. When neighbors are engaged, employers are enthused, and visitors are attracted, the vitality of a community is boosted.





## STUDY AREA OVERVIEW

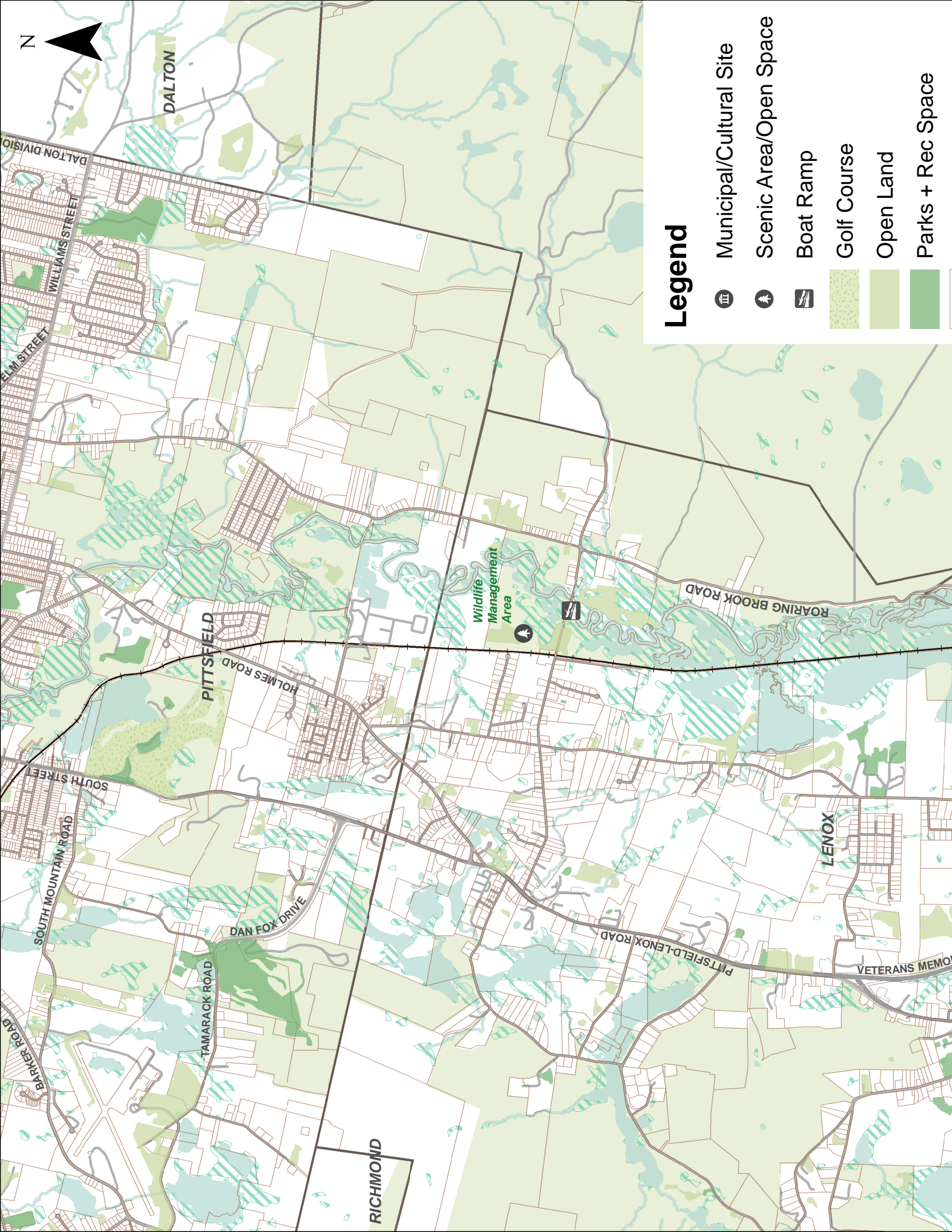
The project study area focuses on the east side of the town of Lenox, mainly following the Housatonic River basin in a north-south direction. At the northern end of the study area where the town of Lenox and the city of Pittsfield meet, open space and recreational opportunities around the Housatonic River provide desirable locations for trailheads and local points of interest. The village of Lenox Dale is a key location on the way to and from the southern terminus of the project. All potential alternatives will pass through this location. The Walker Street reconstruction project also terminates in Lenox Dale. This will provide an important east-west connection to downtown Lenox as well as possible links to institutions such as Tanglewood and Kripalu.

Also considered in this study are the city of Pittsfield and town of Lee. It is important to consider the neighborhoods in these municipalities that lie near the border with Lenox, in order to propose the most logical termini for the Lenox project and to set up for the success of future trail projects.

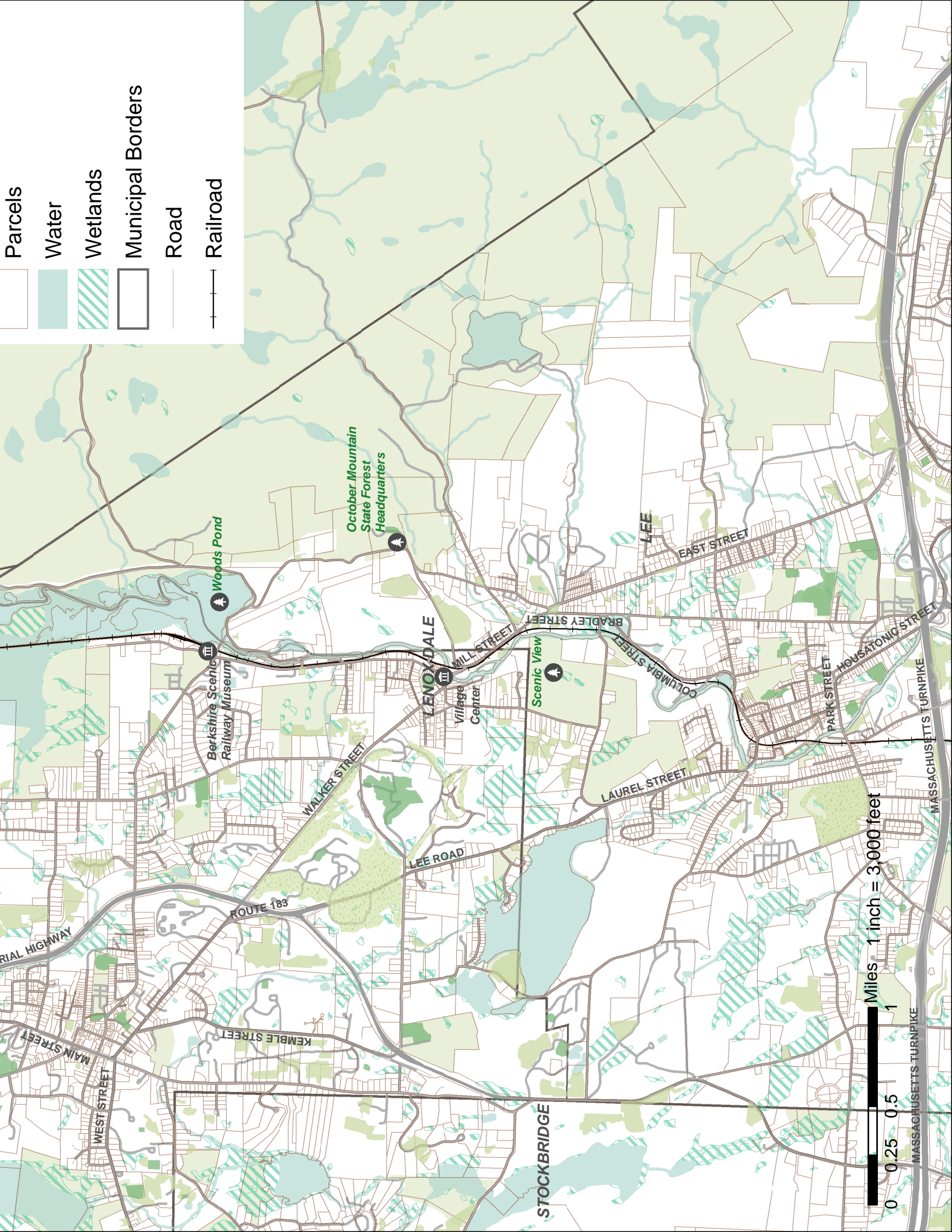
This feasibility study identifies the preferred alternative for the trail and includes the proposed location of the trail, any potential bridges, roadway crossings, and related features. While the goal is to keep as much of the trail off-road as possible, there are areas where the proposed trail route is located on existing roads.



Water Access







## SUMMARY OF PREVIOUS PLANS AND INITIATIVES

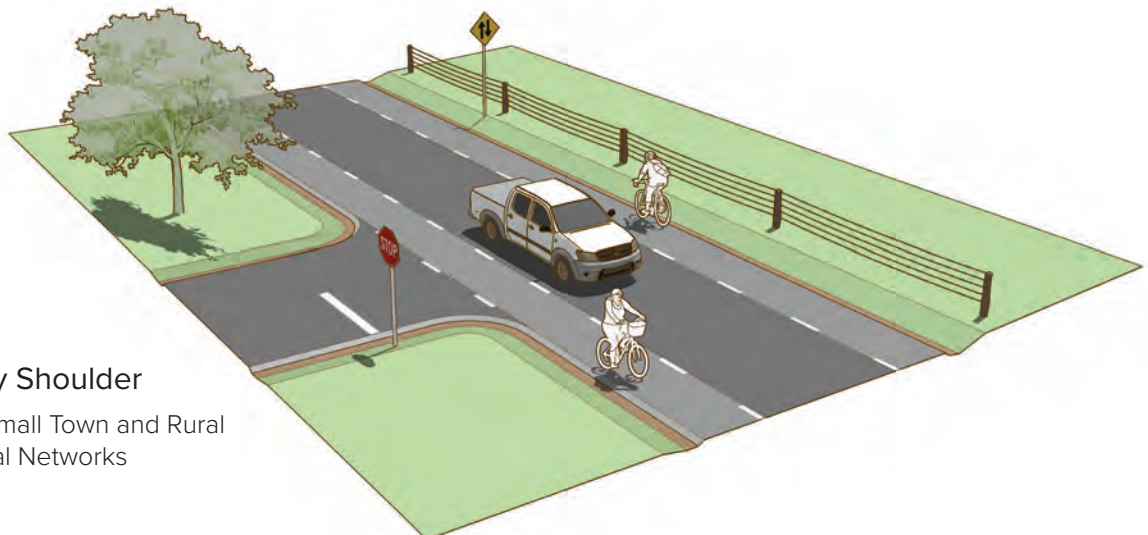
In order to make the most informed and prudent recommendation, it is important to see what initiatives were successful or unsuccessful in the past, and also what kinds of projects have the highest public support. Learning from this past information will help to set up the best chance for future success.

### TOWN OF LENOX COMPLETE STREETS NEEDS ASSESSMENT AND PRIORITIZATION PLAN (2017)

This assessment was prepared with goals of connectivity, safety, travel and tourism, livability, and equity for the residents of Lenox in mind. According to the final plan prepared by the Berkshire Regional Planning Commission (BRPC) and the Town of Lenox, the highest share of support from residents who provided feedback was for an off-road multi-use path, at 42% of respondents listing it in their top 3 projects. The Complete Streets working group that studied potential projects for funding also listed a side path on Crystal Street in Lenox Dale on their final Tier 2 prioritization list.

An additional treatment that was discussed in the plan was the potential use of Advisory Bike Lanes. While an experimental treatment identified by the Federal Highway Administration (FHWA), the plan recognizes that “advisory bike lanes could make up components of a robust bicycle network within Lenox, given the existing constraints imposed by topography, limited resources, and other existing conditions.”

According to the BRPC, the Lee Bikeway Committee is considering on-road cycling routes from downtown Lee to Mill Street in Lenox Dale, or a route to direct people toward Woods Pond and October Mountain State Forest. It is important to continue coordination with Lee to avoid gaps in a future bicycling route between the towns. The BRPC recommends that “the town [of Lenox] should reactivate plans for a shared-use path and explore whether existing plans could be modified to create bicycle/walking connections to Lee and Pittsfield.”



Advisory Shoulder

Source: Small Town and Rural Multimodal Networks





## LENOX OPEN SPACE AND RECREATION PLAN (REVISED 2015)

Among the many goals and objectives that are shared in the document, the Berkshire Regional Planning Commission (BRPC) noted that improving gaps and developing new opportunities for recreation were important, as well as the ability for residents to access open space amenities by foot and bicycle. According to a 2013 Open Space and Recreation Survey, “the most commonly supported town projects,” among others, were building bike trails and paths at 72% support, and more opportunities overall for “biking, boating, swimming, and community gardening.” Multi-modal access to open space in Lenox is important to residents surveyed:

“Residents support building an improved sidewalk system, developing more trails, and creating maps or brochures highlighting the town’s natural and recreational assets. The desire for increased connectivity is demonstrated by support for town projects including “Pedestrian walkways/sidewalks” (62 percent) and “Develop more public hiking trails” (61 percent). Residents who live in connected communities can move easily to a variety of destinations without the use of a vehicle. One resident noted: “I don’t like that I have to get into my car to get to another park.”

BRPC also highlighted its recommendation to create recreational amenities along the Housatonic River. It emphasizes the importance that “town officials to work in close coordination with officials in neighboring Lee and Pittsfield... to create an improved recreational system in conjunction with [Housatonic River] PCB cleanup activities.” A shared-use path that provides more intimate access with the river would help accomplish many of these goals.

### EAST STREET/HOUSATONIC STREET SIDEPATH

In 2010, consultant Foresight Land Services submitted engineering plans and profiles for a proposed sidepath project that would follow Housatonic Street from the Mountain View Cemetery in Lenox Dale to East Street, and then follow East Street for a short segment before terminating at Lenox Memorial Middle and High School. The plans did not progress to construction due to concerns from adjacent landowners.

### WILLOW CREEK ROAD/OFF-STREET TRAIL

In 2006, consultant Foresight Land Services submitted preliminary engineering plans and profiles for a 10’ multi-use path that utilized the abandoned trolley line corridor and National Grid electric utility right of way. The plan was not implemented, but the site visit by the Alta team to the same area thirteen years after its issuance again revealed the intuitive nature of this alignment, in terms of connection to Lenox Dale, and the “constructability” of a trail in this area.

# SUMMARY OF FUTURE PROJECTS AND CONNECTIONS

In coordination with the Berkshire Regional Planning Commission (BRPC), Alta has reviewed other previously approved, funded, and implemented bicycle and pedestrian projects around Berkshire county. These projects are important to consider when choosing the preferred Lenox trail route, to ensure a logical connection between projects and across town lines. They all represent an opportunity for more residents and visitors to find their way to Lenox and access the county at large. A map of these projects, produced by BRPC, is included on pp. 11 - 12 in this report.



Ashuwillticook Rail Trail - courtesy of Massachusetts Office of Travel & Tourism

## ASHUWILLTICOOK RAIL TRAIL

The Ashuwillticook Rail Trail extension is continuing to progress over multiple phases. This off-road multi-use trail currently runs from the Route 7/8 connector road in Lanesboro to Lime Street in Adams. Phases of expansion are listed below:

- Pittsfield city line to Crane Ave: The segment is currently in design with estimated completion in FY2020. (TIP #606891)
- Crane Ave to Merrill Road: Currently in design with estimated completion in FY 2024. (TIP #609298)
- Merrill Road to Williams Street: Funding is allocated for a planning study; no final timeline.
- Lime Street to Hodges Cross Road Currently in design with estimated completion in FY 2022. (TIP #606890)
- Hodges Cross Road to North Adams: Berkshire Regional Planning Commission is evaluating preliminary routes, which may include off-road or on-road segments.





## MOHAWK BIKE/PED TRAIL

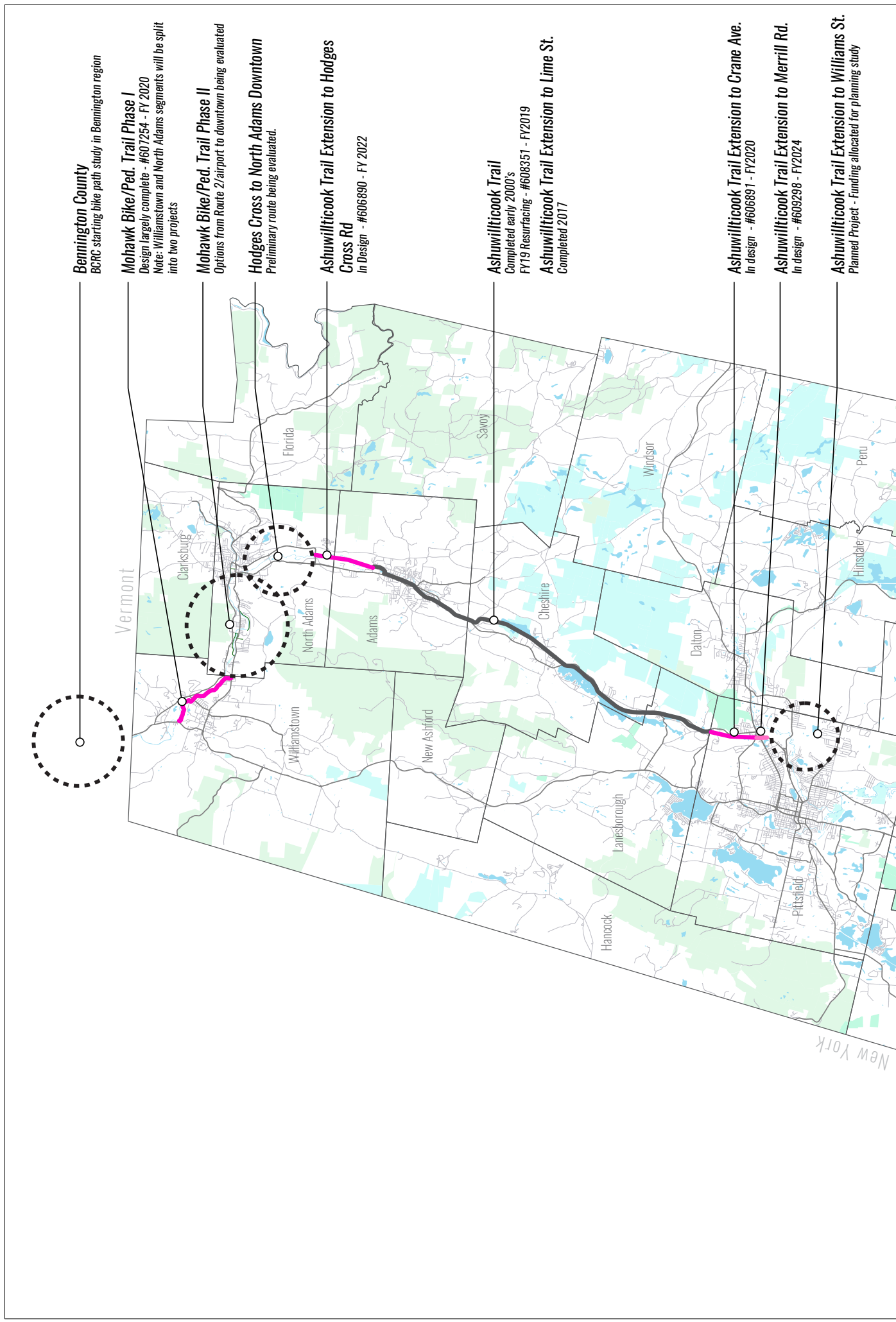
This two-phased project will connect the town of Williamstown and city of North Adams along the Route 2 corridor and Hoosac River, using a combination of off-road paths and on-street bike lanes and sidewalks. Current phases of the project are listed below:

- Phase I: The design for the Williamstown segment is nearing completion. It is expected to be complete by 2020. (TIP #607254). Williamstown's segment of the Mohawk Trail will end at the former Spruce's trailer park (now a town park) along Route 2.
- The North Adams segment (Phase II) is in the design/permitting process with no formal completion date at this time. It is planned to pick up where Phase I terminates and end at the Herriman and West Airport in North Adams.

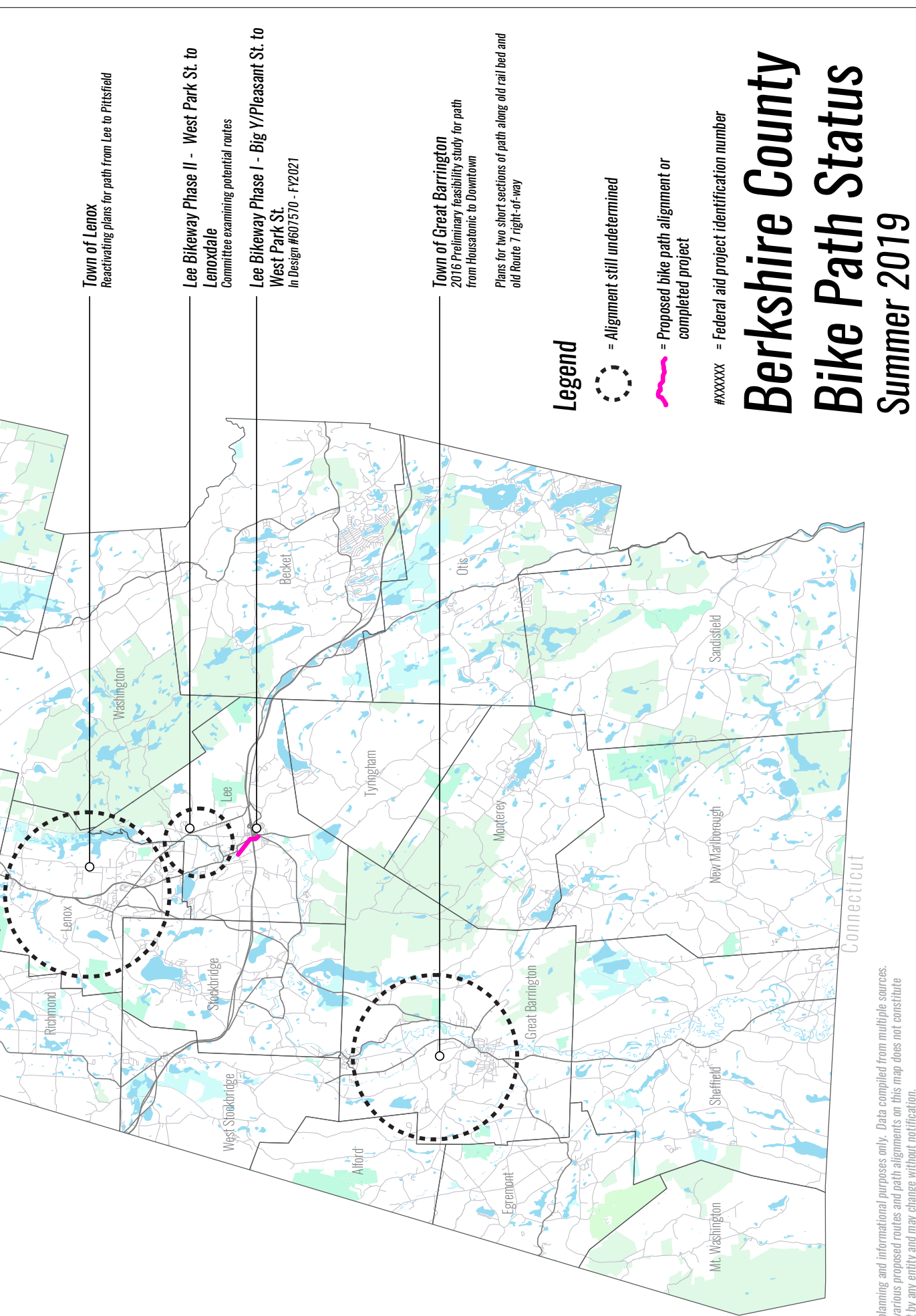
## LEE BIKEWAY

This two-phased project will provide a connection from the Lenox/Lee town line, where this proposed project terminates, to West Park St. in Lee.

- Phase I: Proposed plans will connect the Big Y supermarket/Pleasant St to West Park St in Lee. The new multi-use trail will run along the east bank of the Housatonic River, passing through town parks and under the Massachusetts Turnpike. It is currently at 25% design with estimated completion in FY 2021. (TIP #607570)
- Phase II from West Park Street to Lenox Dale is under consideration by committee. There is no formal timeline or funding.







## OPPORTUNITIES AND CHALLENGES

The recommended trail route capitalizes on the best opportunities that Lenox possesses, such as its scenic views and existing infrastructure, which will establish the trail as a community and regional asset. With any alternative explored, challenges will also need to be overcome. Some challenges encountered on this route include constrained rights-of-way, property ownership, and wetlands.

### SCENIC VIEWS

The proposed trail corridor offers an opportunity to be fully immersed in nature's bounty for a majority of the route. For the portions of trail that are on-road, local low-volume streets have been selected that either pass-by local points of interest or offer scenic views of the Berkshire Hills.

### WALKER STREET RECONSTRUCTION

Construction is currently in progress as of summer 2019 to improve the Walker Street corridor that connects downtown Lenox to the village of Lenox Dale. This will provide a vital connection for recreational and commuter cycling trips between the two population centers. The multi-use path alignment should connect as closely to this corridor as possible.



Walker St. reconstruction





Existing structure connecting Housatonic Street to Valley Street.

## EXISTING INFRASTRUCTURE

The abandoned trolley line provides an existing, well-defined, corridor to follow that would need minimal earthwork and grading for a majority of the route. The existing pedestrian bridge crossing over the Housatonic River would allow a connection to both sides of the waterway.

## CRYSTAL STREET LAYOUT

The sidewalk design of Crystal Street would allow for the opportunity to create an 8-10' wide multi-use path along Crystal Street while staying within the right-of-way and out of the existing roadway. However, existing parking and limited available right-of-way near the intersection of Walker Street and Mill Street, presents a challenge to providing pedestrian and bicycle infrastructure improvements.



View of Crystal Street heading northbound.





Wetlands east of the old trolley line towards the National Grid utility corridor.

## WETLANDS

There are extensive wetlands associated with the Housatonic River corridor through southern Lenox. These present a design constraint when following the National Grid electric corridor, as the power lines cross directly over the water. Permitting an elevated trail design through the wetland would be time-consuming and cost prohibitive.

## ROW CONSTRAINTS

As is common in historical towns, the existing roadways occupy a large portion, if not all, of major public rights-of-way. This makes sidepaths and off-street trails more challenging to design due to the need to acquire easements, or work within the physical roadway itself, which often has narrow or non-existent shoulders. This is most prevalent in making connections to the neighboring municipalities of Lee and Pittsfield.

## WILDLIFE

Given the rural nature of where the shared use path is desired, encountering wildlife throughout all seasons is a potential. While encountering wildlife in their native habitat can be an attraction, there are inherent risks during certain times of year where wildlife can be of a concern. Signage alerting trail users of potential wildlife activity could be implemented along the trail to alert unsuspecting trail users of increased activity areas.



## ADJACENT PROPERTY

Some property owners have been hesitant to work with previously proposed trail alignments. Overall, there are a small number of property parcels that the project would touch, but most are very large and still affect a sizable portion of the proposed corridor. The past proposals included actions such as acquiring easements to pass the trail through private property, building on the public way, while eliminating street parking; or abutting the rear lots of property, leading to privacy concerns.

## TOPOGRAPHY

The terrain through Lenox and Berkshire County overall is rolling, with ridges, lakes and rivers creating natural barriers between some towns. Most major roads passing into and out of Lenox have noticeable elevation gain/loss when on foot or bicycle.

## RAILROAD

Future use of the Housatonic Railroad corridor, which passes through Lenox, is uncertain. In 2015, it was announced that the Massachusetts Department of Transportation had purchased the Housatonic Railroad line between Canaan, Connecticut and Pittsfield, Massachusetts. While a perpetual freight easement was granted back to the Housatonic Railroad, the terms of the purchase, future plans for the corridor, and available right-of-way have not been readily accessible. Further, coordination with the Housatonic Railroad and the Massachusetts Department of Transportation has provided little in terms of allowed uses on the right-of-way, such as freight, passenger service, or rail-with-trail construction.

## RIVER CLEANUP

The settlement agreement between GE and Lenox finalized in February 2020 will present temporary challenges to trail users seeking to use Roaring Brook Road, as clean up efforts begin and continue. While it does not prevent Roaring Brook Road from being a viable alternative, it may increase safety concerns for users through this area. Once clean-up of the Housatonic River is complete, Roaring Brook Road may become a more viable route from Lee to Pittsfield. Additionally, the presence of GE and their cleanup efforts may open up some new opportunities in terms of funding and enhancements to existing infrastructure.



Housatonic Railroad corridor



# 02 PROPOSED ROUTE

Golden Hill Road near the Lee-Lenox town line







# INTRODUCTION

Several primary route alternatives for north-south travel through the town of Lenox from Lee to Pittsfield were evaluated. These alternatives each have their own opportunities and constraints to consider, as discussed in Chapter 1. Each of these routes were considered on their merits of safety, ease of use for all ages and abilities, constructability, construction cost, and permitting requirements. The primary north-south routes considered were:

- Alternative 1: Abandoned trolley line
- Alternative 2: National Grid electric corridor
- Alternative 3: Housatonic Railroad corridor
- Alternative 4: Roaring Brook Road

One of the defining features of a new shared use path in Lenox will be its interconnection with the neighboring town of Lee and city of Pittsfield. These links will be vital in allowing trail users to have a seamless experience through Berkshire County. There are several design possibilities each for the northerly connection in Pittsfield and the southerly connection in Lee. The preferred route through Lenox provides flexibility for Lee and Pittsfield to design future links to their town centers.



Segment of abandoned trolley line right-of-way in Lenox

## ROUTE ALTERNATIVES ANALYSIS

For each of the following alternatives, the trail route will utilize a common southern segment from the Lee town line to Crystal Street, and the same northern segment from New Lenox Road to the Pittsfield city line. The route alternatives between those two segments are described below.

### ALTERNATIVE 1: ABANDONED TROLLEY LINE

The section of right-of-way that this alternative follows would begin at the terminus of Willow Creek Road, in the Post Farm property, and travel north along the trolley line route for approximately 1.5 miles. The trail would traverse the Post farm property, as well as a group of parcels held by a single land owner, which would require a permanent easement. The trail would divert from the trolley line at the north edge of the northernmost property parcel, and turn northeast to join the National Grid electric right-of-way for approximately 0.7 miles until it meets the driveway of the Lenox Sportsman's Club. This alternative is discussed further on p. 30 as the preferred option.



Wetlands along the National Grid corridor

### ALTERNATIVE 2: NATIONAL GRID ELECTRIC CORRIDOR

National Grid maintains a transmission line easement along the west side of the Housatonic River through the town of Lenox. This alternative would follow the existing easement for approximately 2.4 miles from the terminus of Willow Creek Road to the driveway of the Lenox Sportsman's Club. While the majority of this route is cleared of major plant growth and gently graded, the route would require traversing large areas of wetlands (illustrated on p. 22), which would necessitate extensive environmental permitting and boardwalk construction for long sections of trail. Due to these factors, following the National Grid right-of-way was not considered further, except for a shorter section that is beyond the major wetlands, as discussed in the preferred option on pp. 30-31, and in the previous Alternative 1 description.

### ALTERNATIVE 3: HOUSATONIC RAILROAD CORRIDOR

A rail corridor owned by the Massachusetts Department of Transportation (MassDOT) and operated under a perpetual freight easement by the Housatonic Railroad Company (HRRC) runs north-south in close proximity to the western banks of the Housatonic River through Lenox. Utilizing this corridor with a rail-with-trail design (approximately 2.5 miles in length) would allow the trail to take advantage of the gentle, consistent



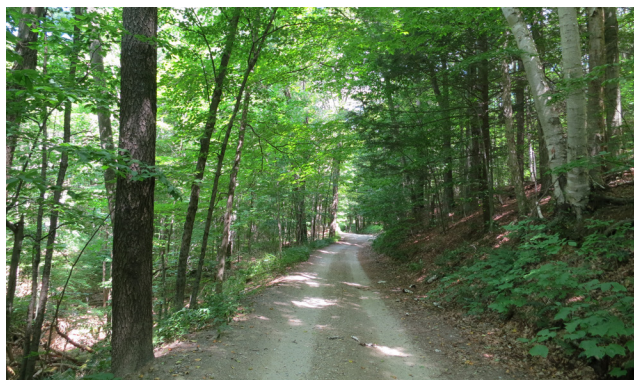


grading of the rail bed, and a route long cleared of major plant growth. Through outreach efforts to HRRC and MassDOT, it was determined that the future of the rail corridor is currently under evaluation with a strong emphasis on providing commuter rail. Given the intent to revitalize the rail system and increase both speed and frequency of rail traffic, both entities do not encourage a rail-with-trail design. While a rail-with-trail design has been successfully implemented in other locations across the country, this alternative is not recommended at this time. However, it is suggested that the community and Town of Lenox continue discussions with MassDOT and the HRRC regarding the benefits of the shared use path in relation to connections with the rail corridor could provide benefits to both commuters and trail users.

## **ALTERNATIVE 4: ROARING BROOK ROAD**

Roaring Brook Road is a low speed/low volume rural road that travels along the east side of the Housatonic River, and along the western boundary of October Mountain State Park. From the south, the roadway begins as Woodland Road in the town of Lee (on the south side of Woods Pond), before crossing the town line to Lenox and becoming Roaring Brook Road. The road terminates at the north at a four-way intersection of New Lenox Road and East New Lenox Road. To reach Roaring Brook Road from the south, trail users would cross the pedestrian bridge that spans the Housatonic River near the corners of Crystal Street and Housatonic Street.

While the road provides a continuous route through the majority of Lenox, it is remote from many points of interest in the town, and would require reconstruction on many sections of the mostly dirt surface due to ruts and washouts. Steep inclines/drops are also occasionally encountered, which could make for a strenuous cycling experience for some trail users. It serves as the main “spine” for the alternative option, shown on the map on pp. 33-34.



Roaring Brook Road



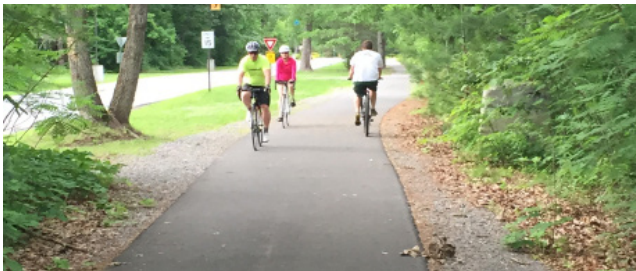
# TRAIL ELEMENTS

## SURFACE MATERIALS

The off-road path portions of the Lenox trail are recommended to be natural surface trail material to the maximum extent practicable, exclusive of petroleum-based products such as asphalt. However, topographic limitations may necessitate that the trail surface be a hardened surface. Should this be the case, it is recommended that the trail be hardened in higher-use areas, such as the village center of Lenox Dale and points of interest, as well as in areas at risk of erosion (i.e. profile grades in excess of 3%). For more rural locations along the right-of-way, which will experience less use, the shared use path can be comprised of a stone dust surface, a reinforced turf surface, or a Trail Surface Aggregate (TSA) surface, which is more stable and robust than traditional stone dust.. The adjacent images show typical applications of both paved asphalt and stone dust shared use paths.



Stone Dust Shared use Path Example



Asphalt Shared use Path Example

## DRAINAGE/STORMWATER

Where the trail will be constructed on top of the former trolley rail prism, water will drain to its edges. Throughout the entire design, existing drainage patterns will be maintained. Areas adjacent to the trail will be graded to maintain water sheet flow to the edge of the embankments. Where this drainage pattern cannot be maintained due to the edge conditions along the trail, the trail surface will be sloped to one side and water collected in a swale, and then transferred to a release point. Due to the linear nature of the trail, as well as its usage and construction, the runoff should not require treatment prior to entering adjacent water bodies.

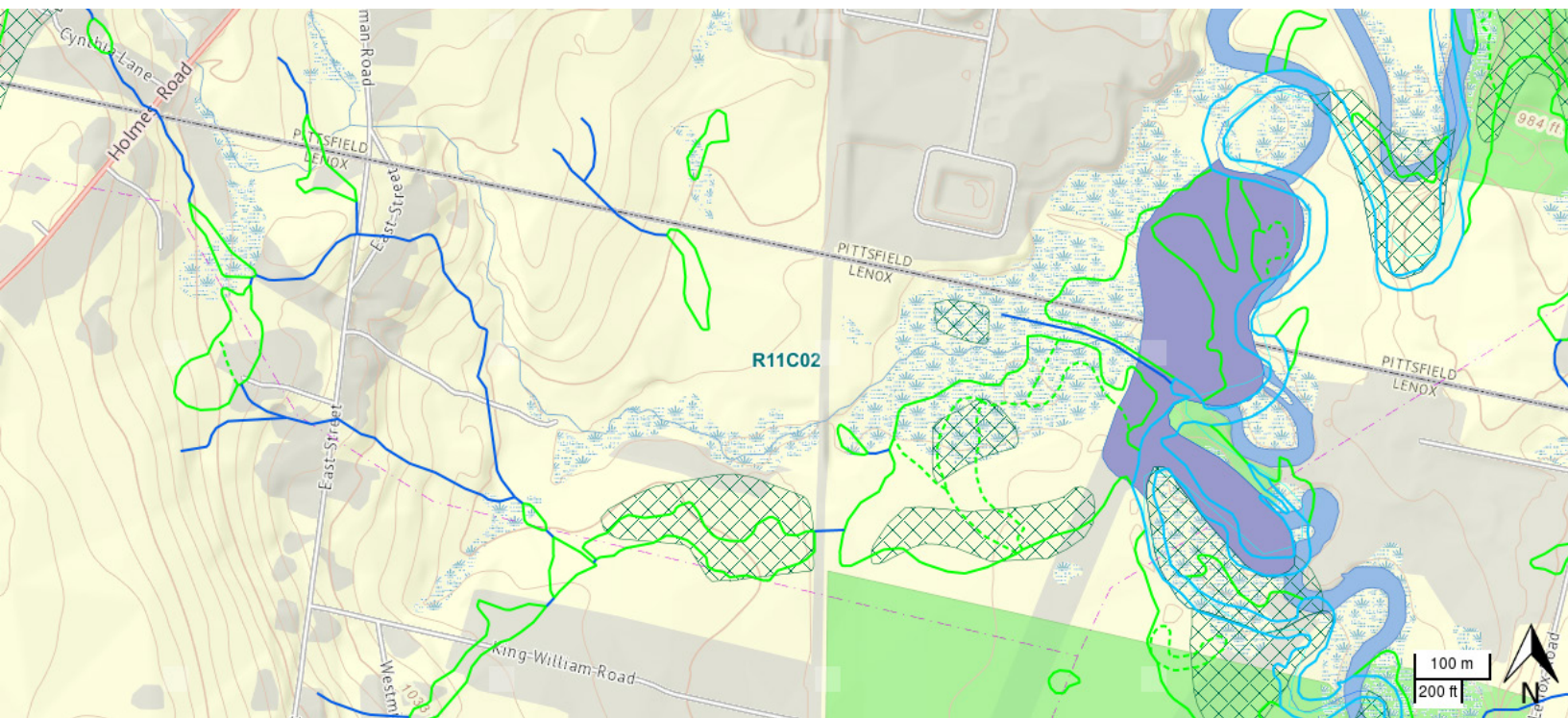
## BRIDGES

Along the preferred route option, there are several locations where a bridge crossing or culvert will be required to span waterways or other obstructions. The design intent at these locations is to provide a functional, efficient, and cost effective solution to re-establish the continuity of trail or to improve service life of the existing structures.

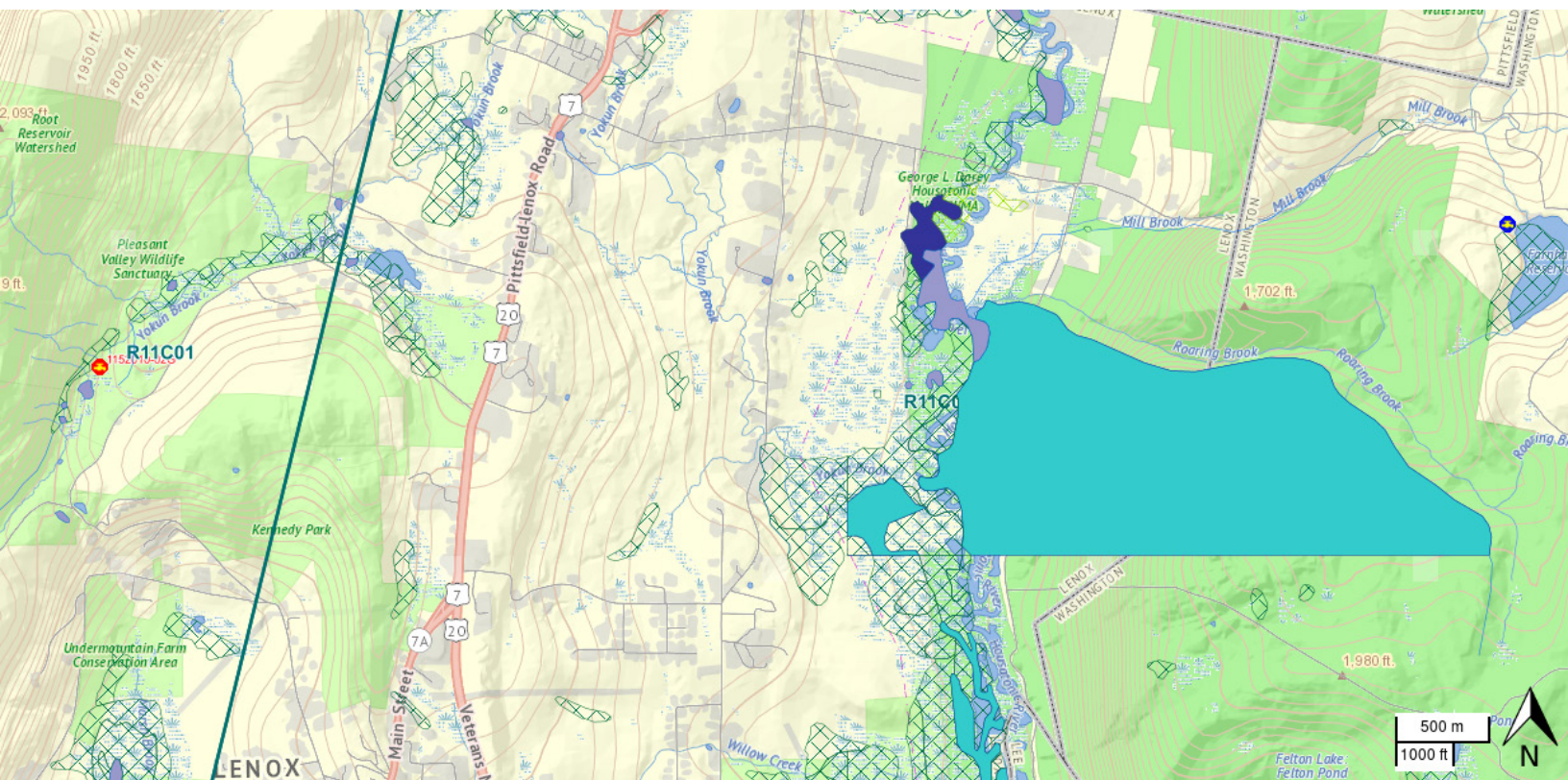


Pre-Fabricated Bridge Example





Wetlands in northern Lenox



Wetlands in eastern Lenox



One such location requiring a service life upgrade in the form of a bridge replacement is the existing wooden structure which carries the former trolley line over Willow Creek, which drains to the Housatonic River.

Approximately 1.5 miles north of this crossing, another bridge or short boardwalk will be required to cross the Yokun Brook. Beyond the Yokun Brook crossing there are identified wetlands that will require bridges or boardwalks to connect the trail from the trolley line corridor to the electric utility easement. Further field investigation and subsequent design work will be necessary to determine the full extent of the crossings through this area.

For the preferred route through the Housatonic Valley Wildlife Management Area, another short water crossing will be required approximately 750 feet south of the Pittsfield city line. The crossing or culvert will carry an unnamed tributary that connects two wetlands, which eventually travels to the Housatonic River. All stream and wetland crossings will require further field investigation to determine the appropriate crossing treatment.

## ROADWAY CROSSINGS

There are several road crossings throughout the proposed Lenox shared use path route. These crossings have been divided into two categories; major crossings and minor crossings. Those



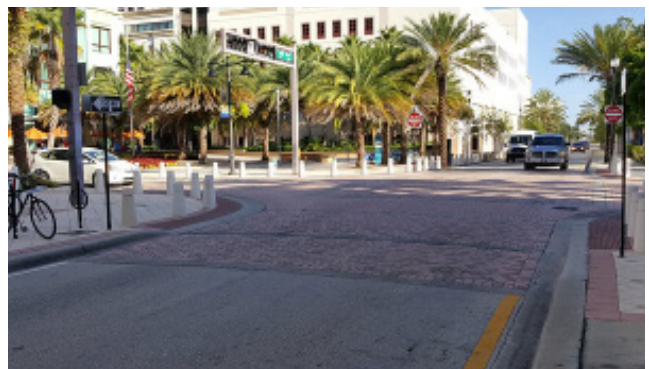
Rectangular Rapid Flashing Beacon (RRFB)



Marked Crosswalk with Yield Lines



Raised Crosswalk



Raised Intersection





Pedestrian bridge over the Housatonic River



Entrance to the Housatonic Valley Wildlife Management Area

categorized as major crossings were identified as needing additional evaluation and potentially enhanced crosswalk treatments, as they tend to have higher traffic volumes, higher speeds, and limited sight distances. Minor crossings primarily consist of local roads and driveways. They include signage and may include pavement markings,

## PROPOSED ON-ROAD ROUTES

There are several on-road sections along the proposed Lenox shared use path alignment. On-road recommendations were made based on an analysis of the roadway characteristics. On-road routes are recommended for locations where an off-road alternative was not achievable due to some of the challenges presented in Chapter 1. Recommendations for each roadway were determined using the Small Town and Rural Multimodal Networks Guide published by the Federal Highway Administration (FHWA). Roadway treatments consider the functional classification, speed limit, and average annual daily traffic (AADT) of each roadway to determine appropriate on-road facilities.

## TRAILHEADS

Trailheads are proposed to provide users easy access to the trail. They include parking areas, wayfinding signage, and can include various amenities such as bike repair stations, benches, picnic tables, and bike racks. Exact locations will depend on factors such as existing rights-of-way, consultation with involved local officials, and public input. The following locations provide examples of potential trailheads. Additional studies will be required to determine the final trailhead locations.

- Housatonic Street pedestrian bridge over the Housatonic River or the Berkshire Scenic Railway Museum (above)
- Existing trailhead on Crystal Street at Walker and Mill Street (1)
- Housatonic Valley Wildlife Management Area on New Lenox Road (2)
- East side of Crystal Street at Elm Street (3)
- Northern terminus of Willow Creek Road/ southern terminus of Post Farm (4)



1



3





2



4





## PROPOSED TRAIL ROUTE

The recommended Lenox shared use path route primarily follows the abandoned trolley line railbed. Due to the constraints along the alignment, various on-road and off-road connections south and north of the trolley route are recommended. These connections will provide continuous access from the town of Lee and to the city of Pittsfield. Transition recommendations are provided at these on-road/off-road crossings. A map of the entire route is shown on pp. 33 - 34.

### FROM LEE TO THE TROLLEY LINE

The recommended route begins at the intersection of Golden Hill Road approximately 0.4 miles south of the town line with Lee, as a sidepath located on the east side of Golden Hill Road, and proceeds north. At the intersection of Shaylor Hill Road the sidepath will transition to a shared roadway where trail users will follow Golden Hill Road until its terminus with Walker Street in the village of Lenox Dale. At the intersection with Walker Street, pedestrians will use the sidewalks built as part of the Walker Street project (see p. 13) while cyclists will use the existing shoulders. The route will follow Walker Street briefly, bearing left at the intersection of Walker, Crystal, and Mill Streets in order to stay on Crystal Street.



Shared Roadway

Once on Crystal Street, the trail continues north on-street using advisory shoulders for cyclists and sidewalks for pedestrians (see Typical Section 1, adjacent) until passing the intersection of Elm Street. Due to the relatively new implementation of advisory shoulders throughout the country, it is recommended that educational components be included prior, during, and post construction of the advisory shoulder treatment. This will prepare the public in advance of the changes to come and theoretically reduce conflicts between motorized and non-motorized traffic. The Crystal Street / Elm Street intersection will be enhanced for crossing safety, as trail users transition from using the advisory shoulders on each side of the street to using a sidepath on the west side of Crystal Street to proceed north. Currently a sidewalk and tree line exist on the western side of Crystal Street (See Typical Section 2, p. 29). The Elm Street crossing will be designed to replace the existing crosswalk that is striped in front of the Lenox Dale post office, and will also serve as a gateway to calm traffic and transition to Crystal Street between Walker Street and Elm Street. Possible gateway enhancements could include the following treatments:

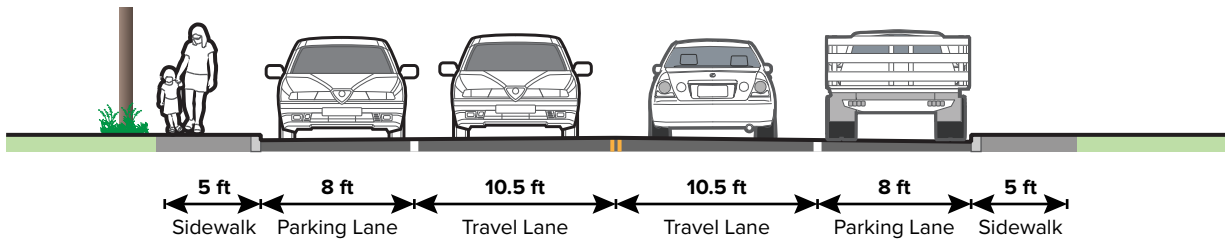
- Rectangular Rapid-Flashing Beacons (RRFB's) and raised crosswalks
- Raised intersection with or without colored and patterned pavement
- High-visibility crosswalk signage and pavement markings



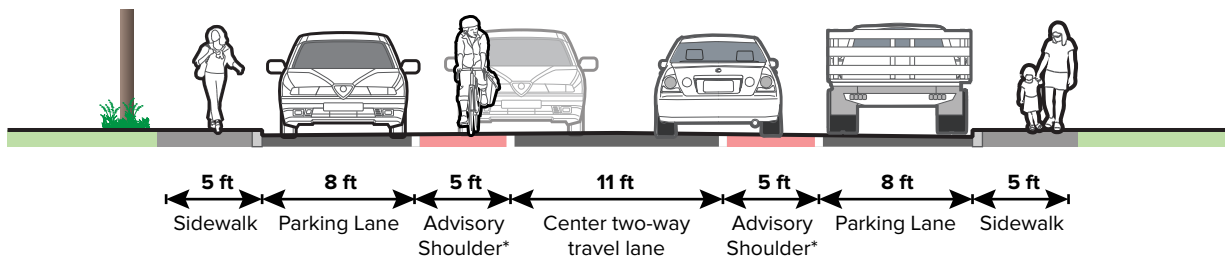


# TYPICAL SECTION 1 - CRYSTAL STREET

## WALKER STREET TO ELM STREET - EXISTING CONDITIONS

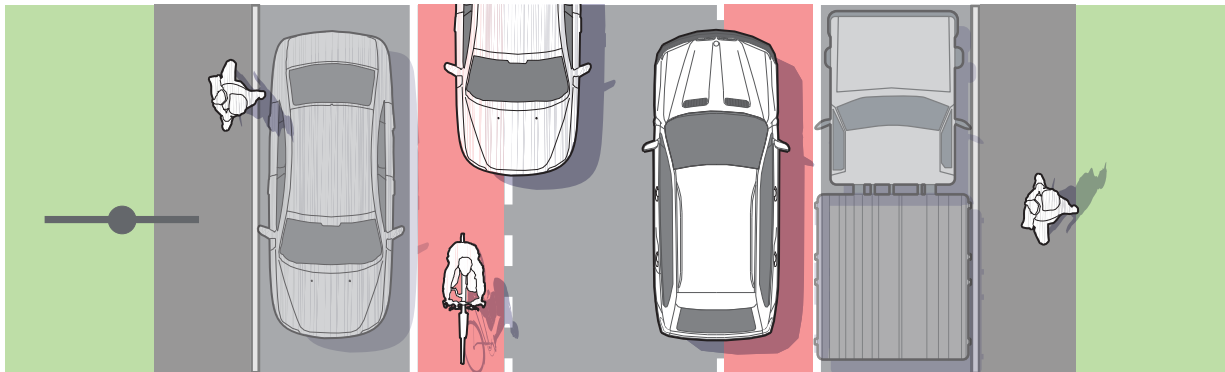


## PROPOSED

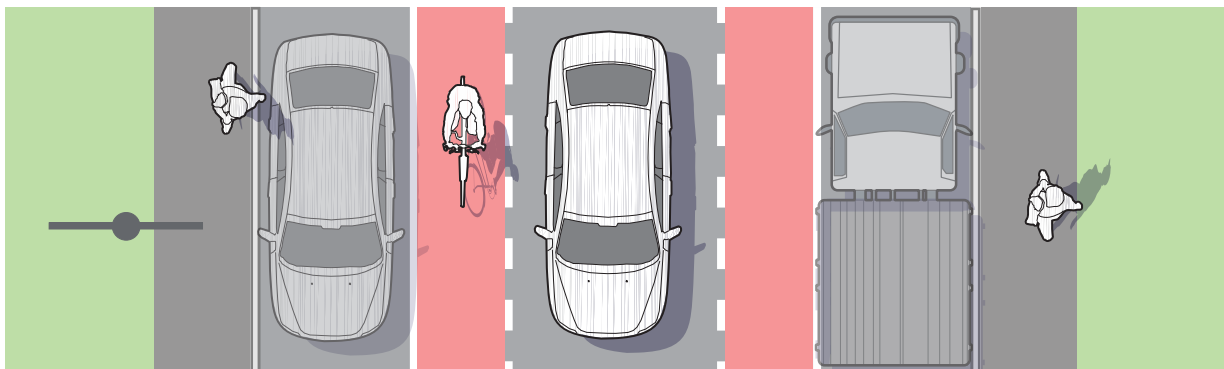


\*Advisory shoulders shown in optional colored pavement. Requires FHWA experimental approval.

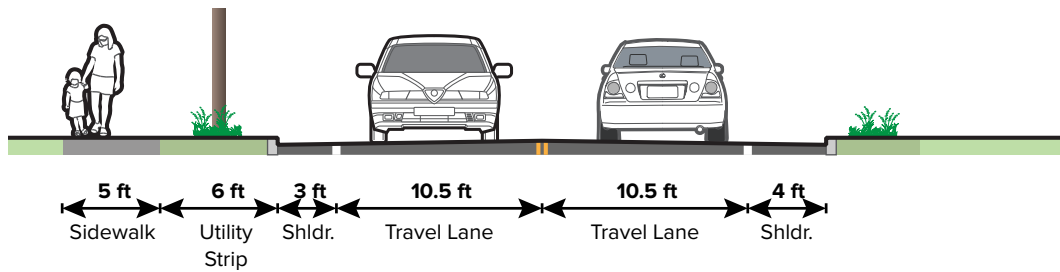
Driver yielding to oncoming traffic



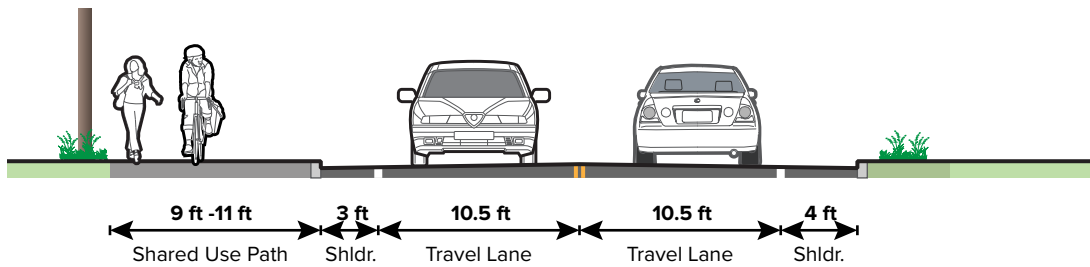
Driver passing when safe



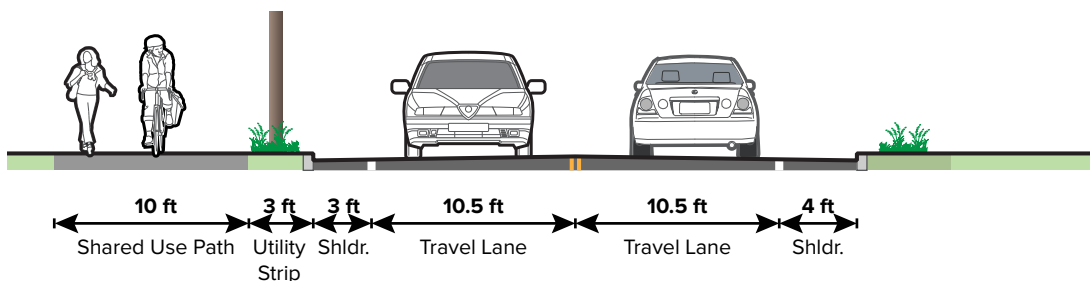
## TYPICAL SECTION 2 - CRYSTAL STREET ELM STREET TO HOUSATONIC STREET - EXISTING CONDITIONS



### PROPOSED - OPTION 1



### PROPOSED - OPTION 2



\*Strip land acquisitions will be determined during detailed design efforts once the highway boundary has been adequately located by a Registered Licenced Surveyor.





Beyond Elm Street, trail users will follow Crystal Street northbound along the shared use path for one mile until its terminus at the intersection of Housatonic Street and Willow Creek Road. It is possible that strip land acquisitions will be required through this area. A highway boundary survey will be required to accurately define what right-of-way will be needed to implement the alternatives north of Elm Street. The crossing at Housatonic Street will also be improved for safety, using high-visibility crosswalk markings, signage, and could include RRFB installations. North of Housatonic Street, the route will continue on-road using Willow Creek Road via a shared roadway treatment.

## **TROLLEY LINE ROUTE**

The former trolley line that passed through Lenox will be used as the main “spine” for the shared use path. Throughout this section of trail, rest areas are suggested at regular intervals for trail users to rest and take in nature’s bounty. This corridor begins at Post Farm, a 231-acre town-owned parcel dedicated for recreation and public use. Post Farm is located at the end of Willow Creek Road, near the Eversource solar field installation and is accessible for public use. The route crosses Willow Creek on an existing wooden bridge that will require replacement.

Once through the Post Farm parcel, trail users will then traverse a group of property parcels held by the same land owner for approximately 1.5 miles. This section of land is located east of the Eastover Estate and Eco-Village. There are existing natural surface trails through this area that currently connect to the proposed trail route.

To ensure the safety of both resort visitors and trail users, delineation of the proposed trail from private estate trails will be required. The design intent will be to discourage trail users from going onto private property through the use of signage, landscaping, and a delineation of trail type (such as stone dust to natural surface).

Beyond the Eastover Estate, the route will continue north crossing the Yokun Brook and a series of wetlands before connecting with the existing National Grid transmission line. As discussed previously, these crossings and wetlands will require bridges, culverts, and potential boardwalks to traverse through the naturally wet landscape.

## **TROLLEY LINE TO PITTSFIELD**

At or before the northerly property line of the parcels requiring an easement, the trail will divert to the northeast from the trolley line for roughly 800 feet, and join the National Grid electric right-of-way for approximately 3,700 feet before crossing the driveway of the Lenox Sportsman’s Club. East of the driveway, a new,

separated shared use path along a state-owned strip of land between the Sportsman’s Club driveway and Housatonic railroad corridor would be constructed. Coordination with the Sportsman’s Club will be required to ensure the safety of both trail users and members of the club. Past examples where trails have been successfully implemented near Sportman’s clubs have enacted rules and regulations about trail usage during rifle hunting season.

Northbound trail users will turn right at New Lenox Road and follow this street east for approximately 200 feet. In order to move trail users down the short stretch of New Lenox road safely, it is recommended to construct a sidepath on the south side of the road. The path would cross New Lenox Road in as close proximity to the railroad crossing as possible, in order to consolidate potential conflicts with vehicle traffic. The crossing would be designed to the latest standards of pedestrian and bicyclist safety, utilizing high-visibility pavement markings, advance warning signage, and could include the use of RRFB's. The railroad crossing will also be enhanced to better accommodate cyclists. At the driveway for the Housatonic Valley Wildlife Management Area, the trail will turn north onto this state property. This is one potential location for a trailhead as parking is already available and being used by residents of the area.

The trail will then continue north off-road, within the wildlife management area and bordering the east side of the Housatonic Railroad corridor. It would travel within a National Grid Electric right-of-way that branches off the main right-of-way that was utilized further south on the route. The trail would have the same character as the trolley line section: an off-road shared use path likely comprised of a stone dust surface. It would also need to traverse one privately owned parcel for 500 feet (remaining within the electric right-of-way) as it approaches the border of Pittsfield. This parcel is an enclave within the wildlife management area and does not have a direct connection to any public street. It borders the HRRC railroad corridor to the west. When the trail reaches the city line of Pittsfield, this location would position future work on Pittsfield city property, at the municipal wastewater treatment plant.

Segment of abandoned trolley line right-of-way in Lenox







## CONNECTIONS TO LEE

The town of Lee is progressing on the Lee Bikeway project that connects Pleasant Street in South Lee to downtown, beginning at Big Y and traveling from south to north. It is important, therefore, that the Lenox shared use path project sets up a logical future connection to downtown Lee. To do this, two alternatives were considered to bring the Lenox trail to the Lee town line:

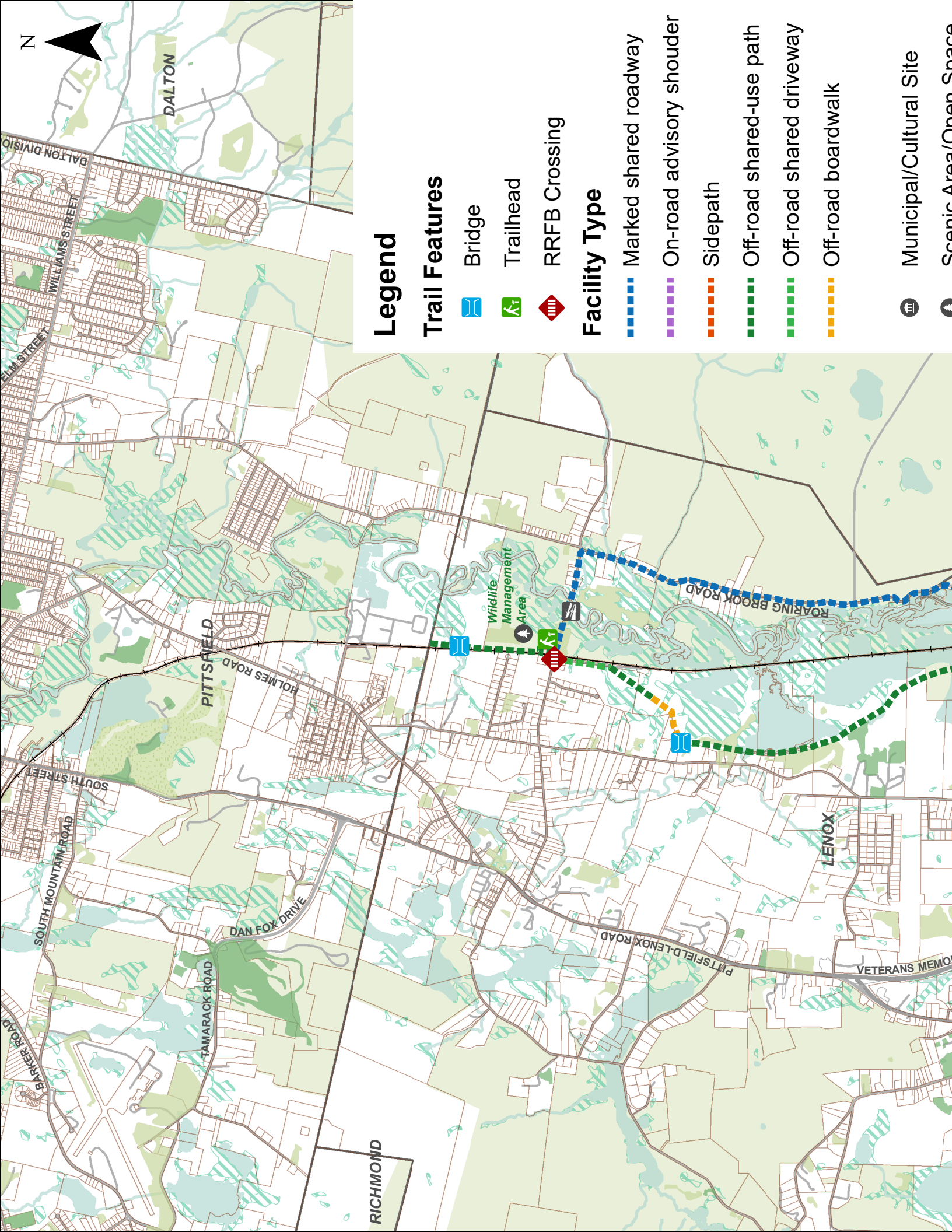
- Golden Hill Road via the Lee Town Forest
- Golden Hill Road to Bradley Street / Columbia Street / Greylock Street intersection

While specific infrastructure design recommendations are outside the scope of this study, it is recognized that the decision of where to end the Lenox trail will have future implications on the vision of a county-wide shared use route. While Golden Hill Road crosses the town line

before any directional decision points, the street comes to a T-intersection approximately 2,000 feet south of the Lenox / Lee town line, where travelers must decide to turn east towards the Bradley Street / Columbia Street / Greylock Street intersection or west towards US Route 20 via the Lee Town Forest path. The placement of either wayfinding signage or trail route signage directing trail users east or west would have an impact on the character of future bike access to downtown Lee, in terms of the type of infrastructure that could be provided, and the ease of access to different points of interest (for example, Laurel Lake or Lee Middle and High School).









Scenic Area Open Space

Boat Ramp

Golf Course

Open Land

Parks + Rec Space

Parcels

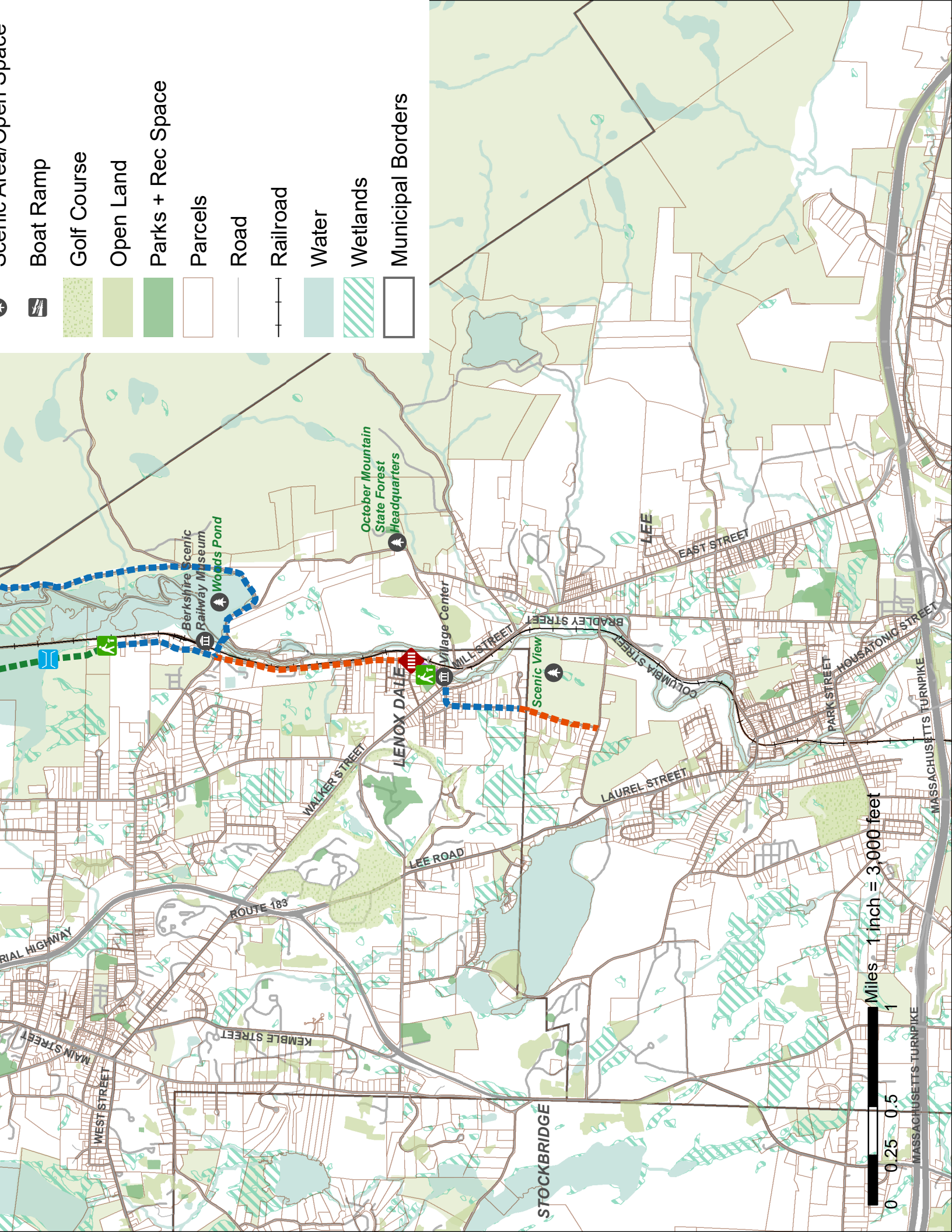
Road

Railroad

Water

Wetlands

Municipal Borders



Miles 1 inch = 3,000 feet

0 0.25 0.5 1

## CONNECTIONS TO PITTSFIELD

Lenox and Pittsfield share a border on the northern end of the project limits, and present several options for connection across it. These include both off-street and on-street connections.

### OFF-ROAD CONNECTION

The recommended route of the Lenox shared use path would connect to Pittsfield via an off-road connection, utilizing an existing utility easement that crosses into Pittsfield. When the trail crosses the city line into Pittsfield, it would encounter city-owned lands for the Pittsfield Wastewater Treatment Plant, where further collaboration with the city would be warranted in order to form a future connection to Utility Drive. This creates a logical terminus for this section of the trail. Beyond the intersection of Utility Drive and Holmes Road, the route could follow the existing National Grid utility corridor north towards Fred Garner River Park or transition to on-road.

## ON-ROAD CONNECTIONS

There are also public roads available to utilize as connections, and they are generally regional roads that are narrow in pavement width. East New Lenox Road and Holmes Road are the two connections closest in proximity to the preferred trail route. East New Lenox Road is more local in nature, whereas Holmes Road is a more well-traveled arterial way to connect southeast Pittsfield to Route 7 and 20. Holmes Road also features more residential development and side street connections.

Both roadways present limited opportunities for on-road treatments other than shared-lane markings. A larger investment would be needed to create a sidepath for one of these routes, for which Holmes Road would be a better candidate, given that a wide clear zone exists on the west side of the road for existing electric lines.



View of Holmes Road in Pittsfield heading south.





## COST ESTIMATE

A preliminary projection of probable cost has been prepared for the project, based on the level of design information and existing conditions data available at the time of the concept plan.

The estimate assumes two different levels of earthwork to fit the trail into the existing corridor: a simple section, where only a footprint of approximately twice the width of the trail is disturbed with minimal excavation and grading; and a complex footprint, which assumes a footprint of four times the trail width with greater excavation and filling requirements. These cross-sections were developed for a 10-foot wide trail using asphalt, concrete and stone dust surfacing. Added to these basic trail construction costs were:

- Replacement of the missing bridges;
- Trail amenities such as trailheads, site furniture, wayfinding signage, fencing, and other improvements;
- Drainage and utility work, including relocation of National Grid poles and guy wires;
- Improvements at road crossings; and
- The on-road segments of the trail.

A summary of the major items is provided below. The estimate also includes a number of multipliers to reflect the hard and soft costs of the total project as follows:

**Construction Escalation - 3% per year:** This allows for inflation of costs due to the overall time line for project delivery. Escalation is calculated at the midpoint of construction, which is assumed to be mid- to late-2021; hence 6% escalation has been applied to the total contract price.

**Engineering, Construction, Inspection, and Project Oversight - 26%:** include survey, geotechnical explorations and analysis and consultant fees for design, permitting, and construction inspection and other support services.

**General Contingency - 25%:** This reflects the basis of the estimate; at this point, only concept-level information is available for the trail design and existing conditions. The contingency will be reduced at each progressive stage of the design, ultimately being eliminated at the time of bidding.

The Lenox shared use path is estimated to cost between \$6.75 and \$8.25 million. The construction cost estimate will be refined during the engineering design phase of the project.

# 03 IMPLEMENTATION STRATEGY

Berkshire Scenic Railway Museum at the former Lenox rail station







## NEXT STEPS

The successful implementation of the Lenox shared use path will follow several steps after the publication of this report. These steps include:

- Programming and policy implementation (non-funding items)
- Identifying potential funding sources
- Implementing the project in a phased approach

This chapter will provide further detail and strategies to follow these steps.

## PROGRAMMING AND POLICY IMPLEMENTATION (NON-FUNDING ITEMS)

### ADOPT THIS STUDY

Adopting this Study will enable the Town of Lenox to move forward with implementing the identified improvements, programs, and policies outlined in the document. Adoption will create consistency in project design, community priorities and will improve the project's competitiveness for grant programs.

### UPDATE BY-LAWS

The Town of Lenox and Village of Lenox Dale should consider a revision to the 2018 Town of Lenox by-laws to allow the use of rollerblades, skateboards, and other non-motorized uses on sidewalks in the Village of Lenox Dale prior to the implementation of the advisory shoulders on Crystal Street.

### UPDATE ZONING POLICIES

The Town of Lenox and Village of Lenox Dale should revise the zoning by-law to require certain types of new development to provide active transportation amenities such as pedestrian or bicycle facilities, bicycle parking, benches, lighting or other amenities.

### DEMONSTRATION PROJECTS

Demonstration projects, sometimes referred to as "tactical urbanism," are temporary facilities designed to simulate proposed infrastructure improvements. The temporary facility can help gain public support and awareness while illustrating installation feasibility.

# IDENTIFYING POTENTIAL FUNDING SOURCES

Having sufficient funds is necessary for implementation of the Lenox Shared Use Path Study. Communities that are consistently successful in implementing these types of projects leverage funds from a variety of sources and are consistent, year after year, with making investments in capital and maintenance projects.

The Berkshire Metropolitan Planning Organization (BMPO), the MPO responsible for transportation policy, planning, and investment decision making in Berkshire County, distributes transportation funds from multiple funding programs throughout this region of western Massachusetts. A project of this size may apply for multiple funding sources at the local, state, and federal level. Capital funding for town infrastructure improvements and state or federal grants could be leveraged.

The community should work with BMPO to apply for appropriate funding opportunities. Grant opportunities that may be appropriate for the recommended shared use path project are listed to the right.

## FEDERAL FUNDING OPPORTUNITIES

- Transportation Alternatives (TA) Set-Aside
- Recreational Trails Program (RTP) (Reimbursement grants only)

Additional information about all federal funding opportunities can be found here: [https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/funding/funding\\_opportunities.cfm](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm)

## STATE FUNDING OPPORTUNITIES

- Complete Streets prioritization
- Surface Transportation Program (STP)
- TIP (Transportation Improvement Plan)
- MassTrails Grant Program

## LOCAL FUNDING OPPORTUNITIES

- Capital improvements
- Community Preservation Act (CPA)
- Public-Private Partnerships





# IMPLEMENTING THE PROJECT IN A PHASED APPROACH

Implementation of trail recommendations should be divided into multiple phases due to funding availability or other implementation challenges. The preferred alternative was broken down into the most logical phases that could be implemented successively, allowing the public to utilize the trail as it expands over time. The four distinct phases are described below.

## **PHASE 1: GOLDEN HILL ROAD TO WALKER STREET/MILL STREET/ CRYSTAL STREET**

This phase consists of mostly on-road improvements to take trail users from the Lee town line to the Lenox Dale village center. Work included in this phase would be a sidepath from the T-intersection of Golden Hill Road in Lee, and shared use pavement markings and signage for the remainder of Golden Hill Road.

## **PHASE 2: CRYSTAL STREET - WALKER STREET TO WILLOW CREEK ROAD TERMINUS**

This phase includes the implementation of advisory shoulders (See page 28) in the village center of Lenox Dale, construction of a sidepath for approximately one mile along Crystal Street, and shared use pavement markings and signage to the northern terminus of Willow Creek Road / southern point of Post Farm. Along with the proposed infrastructure improvements, an educational public outreach campaign should also be conducted in this phase for the advisory shoulders treatment on Crystal Street. Public outreach strategies are described in further detail on page 42.

Golden Hill Road in Lenox, looking south





### PHASE 3: OFF-ROAD TRAIL TO NEW LENOX ROAD

The majority of this phase is the construction of the off-road shared use path along the trolley line bed and electric utility corridor to bring trail users from Post Farm to the Wildlife Management Area on the north side of New Lenox Road. Outreach and coordination with several entities will be required in this phase, including landowners for easement negotiation, National Grid for trail construction along the electric easement, the state of Massachusetts Department of Conservation and Recreation (DCR) for trail improvements on state property, and the Housatonic Railroad and MassDOT for improving the railroad crossing to include a path.

Entrance to the Housatonic Valley  
WMA trail from New Lenox Road

### PHASE 4: NEW LENOX ROAD TO PITTSFIELD CITY LINE

Starting at the Wildlife Management Area on the north side of New Lenox Road, this phase includes new trail construction along the electric utility easement that passes through the Housatonic Valley Wildlife Management area. The Massachusetts Division of Fisheries and Wildlife (DFW) will need to be consulted for trail improvements through the wildlife management area.

It is important to note that the four phases could be implemented in any order; not necessarily the order listed. Phase 3 is recognized as the highest-benefit phase that will connect northern and southern nodes of Lenox overall. This phase would also include the alternative alignment of Roaring Brook Road, if it is determined that this route should be pursued. Therefore, it is recommended that Phase 3 should be given early consideration to determine the final route of this segment.







# PUBLIC OUTREACH

Continuous communication and outreach with the public at large will be important for each phase of the Lenox Shared use Path project. Recommended elements of a public outreach strategy are discussed below:

## STAKEHOLDER MEETINGS

An ongoing series of meetings should be held to keep elected officials, city and county staff, state and federal officials, civic leaders, and other identified individuals and groups up to date with the progress of the project. Sessions have and will include stakeholders from the communities and agencies involved in the delivery of the project. To date, there have been three coordination meetings with the trail project Steering Committee:

- March 14, 2019: Kickoff for the feasibility study and outlining of goals and objectives
- October 16, 2019: Presentation of preferred route option and alternative and collection of feedback
- October 24, 2019: Presentation of preferred route option and alternative and collection of feedback

Future stakeholder meetings will continue to involve the Steering Committee, as well as future public hearings to adopt the final feasibility study, kick off construction, and keep abutters and other stakeholders involved across different project phases.

## EDUCATION CAMPAIGNS

The Lenox shared use path project will introduce new pedestrian and bicycle uses through the town of Lenox. Informational and educational outreach before, during, and after construction phases are important tools to keep all users safe, and promote responsible usage of the facilities. Outreach efforts during the various stages of construction could include:

- Variable message boards (VMBs) erected at each end of a phase to warn of new traffic patterns
- Mailings to abutters and stakeholders to provide notice of impending construction activities
- Town hearings and meetings
- Video and graphic materials on the town website and social media platforms
- Ribbon cuttings and press releases



# ENVIRONMENTAL REVIEW AND PERMITTING REQUIREMENTS

## MASSACHUSETTS ENVIRONMENTAL POLICY ACT (MEPA)

Prior to issuance of permits, approvals, or award of construction contracts for construction of the trail, compliance with the regulations implementing the Massachusetts Environmental Policy Act (MEPA; thresholds at : 301 CMR 11.03) is required. The concept plan provides most, but not all information required for the town, which will serve as the lead agency under MEPA, to initiate environmental review. A more detailed review of the existing wetlands and proposed impacts to those wetlands is required prior to progressing with MEPA. Once this has been completed, the environmental review process, starting with the completion of the MEPA Environmental Notification Form (ENF) can commence.

## NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE

While several funding sources have been identified for further consideration, dedicated funding for this project is unknown. It should be assumed that some federal funding and associated compliance with federal permits or approvals will be required. Given the close proximity to the Housatonic River and its associated wetlands, it can be assumed that coordination with the U.S. Army Corps of Engineers will be required, meaning compliance with NEPA must also be addressed.

Housatonic River from Lenox Dale pedestrian bridge crossing







## PERMITS

Federal and Commonwealth permits typically do not allow for segmenting. In short, either the entire alignment will be permitted as one length or segmenting the trail will require a strong purpose and need statement to show that they are not reliant on any other segment(s) for functionality. Permitting individual sections may invite more scrutiny by agencies with jurisdiction. The preferred and alternative alignments contain resources which will require permitting prior to construction. The resources that may be present within the corridors are:

- Wetlands and waterways
- Vernal pools, a subset within the Wetlands Protection Act
- State Parks; and
- Natural Heritage and Endangered Species Program Priority Habitat.

Typically, approval of these permits will require certain construction methodologies, limits, and mitigations. The approvals and requirements would be included within the specifications in a bid package. The following is a list of the permits that were identified as potentially applicable for the project at the current stage of planning.

## COMMONWEALTH/AUTHORITY/ UTILITY PERMITS

- Massachusetts Department of Environmental Protection (MassDEP)
- Section 401 Water Quality Certification; Clean Water Act
- Wetlands Protection Act
- Chapter 91 Permitting and Licensing
- Protection of historic and archaeological sensitive resources under the federal Historic Preservation Act of 1966 (administered by the Massachusetts Historical Commission (MHC)).
- Highway work permit for any work near/ affecting highway right-of-way operated by MassDOT.
- Project work permit/licenses from National Grid/Eversource.

## COUNTY/LOCAL CONCURRENCE

The Town will collaborate with the involved county and local governments to seek their concurrence for road crossings, on-road trail sections, and the continuation of the trail to logical termini in both the town of Lee and city of Pittsfield.

## FEDERAL PERMITS

- Army Corps of Engineers Waters of the United States Joint Permit with Massachusetts DEP if disturbance to federally regulated wetlands is proposed.
- Section 7 of the Endangered Species Act
- Section 106 of the National Historic Preservation Act