Central CT Loop
ALT-FCHT Study

April 2025

RiverCOG Central Connecticut Loop Trail Study

Lower Connecticut River Valley
Council of Governments

vhb

FHI studio IMEG

ACKNOWLEDGEMENTS

Prepared For:

Lower Connecticut River Valley Council of Governments

145 Dennison Road
Essex, Connecticut 06426
Sam Gold AICP, Executive Director
Rob Haramut, Project Manager

Prepared By:

Steve O'Neill PE, Principal in Charge
Phil Goff AICP, Project Manager
Dan Amstutz AICP, Project Planner
Amy Vaillancourt LEP, Environmental Planner

Rory Jacobson AICP, Project Planner
Ron Gautreau Jr., Environmental Planner
Katherine Montgomery PLA, Landscape Architect
Dan Hageman PSS NHCWS, Soil Scientist

Technical Advisory Committee

State Senator Matthew Lesser, Deputy Majority Leader
Marek Kozikowski AICP, City of Middletown
Howard Weissberg PE, City of Middletown
Tom Nigosanti PE, City of Middletown
Dan Bourret, Town of Portland
Brian Ennis PE, City of Meriden
Emile Pierides PE, City of Meriden
Stuart Popper AICP, Town of Cromwell
Laura Francis, South Central Regional Council of Governments (SCRCOG)
Aaron Budris, Naugatuck Valley Council of Governments (NVCOG)
Kevin Ellis PE, NVCOG
Mark Nielsen, NVCOG
Anna Bergeron, Connecticut Department of Transportation
William Champagne, Connecticut Department of Transportation
Kim Bradley, Connecticut Department of Energy & Environmental Protection
Jocelyn Lahey, Connecticut Dept. of Resource Conservation & Development
Brendan Geraghty, River Valley Transit
John Hall, The Jonah Center for Earth and Art
Rosario (Riz) Rizzo, Air Line Trail Committee co-chair
Louis Pear, Air Line Trail Committee co-chair
Bruce Donald, East Coast Greenway Alliance

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1 INTRODUCTION

The VHB team (team) worked with the Lower Connecticut River Valley Council of Governments (RiverCOG) and the municipalities of Middletown and Portland to conduct a trail feasibility study to link the current terminus of the Air Line Trail (ALT) with the Meriden City Line. The team also took a more high-level look at the current and potential planning for the trail extension through both Meriden and Cheshire to connect with the Farmington Canal Heritage Trail (FCHT). Combined, the roughly 23-mile route will constitute a critical gap within the Central Connecticut Loop trail, a vision for a 111-mile loop trail in the middle of the state that incorporates the East Coast Greenway.

1.1: Purpose of Study

The purpose of this study is to identify a preferred alignment for the ALT through the Town of Portland and City of Middletown, continuing west through Meriden and Cheshire to the FCHT, using a collaborative process informed by coordination with municipal officials, state agencies, stakeholder input, and public engagement. This study is part of a larger vision for the Central Connecticut Loop Trail (CCLT). When complete, the CCLT would run through 22 cities and towns, forming a 111-mile trail loop that includes sections of the FCHT, the Charter Oak Greenway, the Hop River Trail, and existing and future portions of the Air Line Trail. Of the 23-mile gap between the ALT terminus in Portland and the FCHT in Cheshire, some of the trail exists in smaller segments or has already been studied. The east half of the 23-mile gap within Portland and Middletown requires further study to determine a preferred route. Ultimately, the CCLT may also provide an alternate off-road route in Connecticut for the East Coast Greenway, a 3,000-mile trail running from Florida to Maine.

This study evaluated a list of potential alternatives at a planning level, based on 1) results from previous planning work (e.g., the Middletown Plan of Conservation and Development) that informs the CCLT route planning, 2) a quantitative evaluation methodology to analyze alternatives, and 3) through qualitative input from the project team, stakeholders, and the public. **It ultimately recommends a greenway trail alignment to be endorsed by the RiverCOG Board and officials at the City of Middletown and Town of Portland** and will be further developed during the design development process using local, state, and federal funds.

Rather than propose a detailed design, this planning study aims to establish a framework for the future design process by highlighting the challenges and opportunities associated with the preferred alignment. This valuable insight will offer guidance for the subsequent phases of project development.

1.2: Study Area

Although the CCLT encompasses a number of communities in Central Connecticut and is used as a "brand" for other trail studies—e.g., the City of Meriden's recent trail study is also titled "Central Connecticut Loop Trail Study"[1]—for the purpose of the RiverCOG Study, the CCLT study area includes areas between the FCHT in Cheshire and the current west terminus of the ALT in Portland, just west of Jobs Pond Road. **Of this 23-mile stretch, the primary emphasis of this study is the 11–12-mile portion between the Meriden/Middletown line and the end of the ALT in Portland (i.e., the Core Study Area).** The FCHT provides off-road trail connectivity to New Haven and serves as the north-south spine of the East Coast Greenway through Connecticut, while the ALT creates an east-west connection with eastern and northeastern Connecticut and travels through more rural parts of the state. (See Figure 1 and Figure 2 on the following pages for a map of the broader CCLT context and the core study area, respectively)

[1] More information can be found on the Jonah Center's web site: https://thejonahcenter.org/meriden-trail-study-completed-please-comment/

Figure 1: Central CT Loop Trail Context Map Showing the 23-mile-long ALT-FCHT Study Area gap

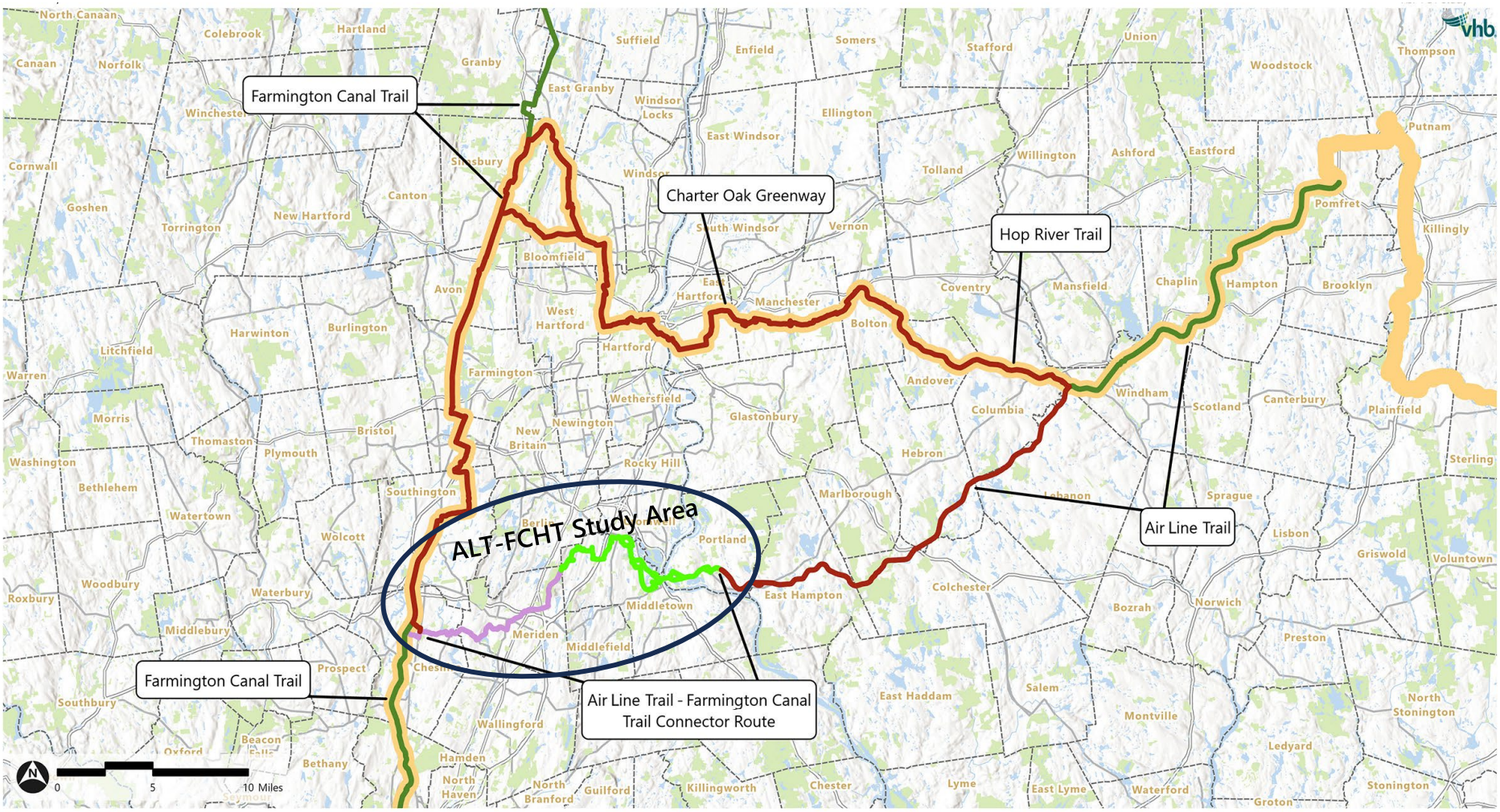
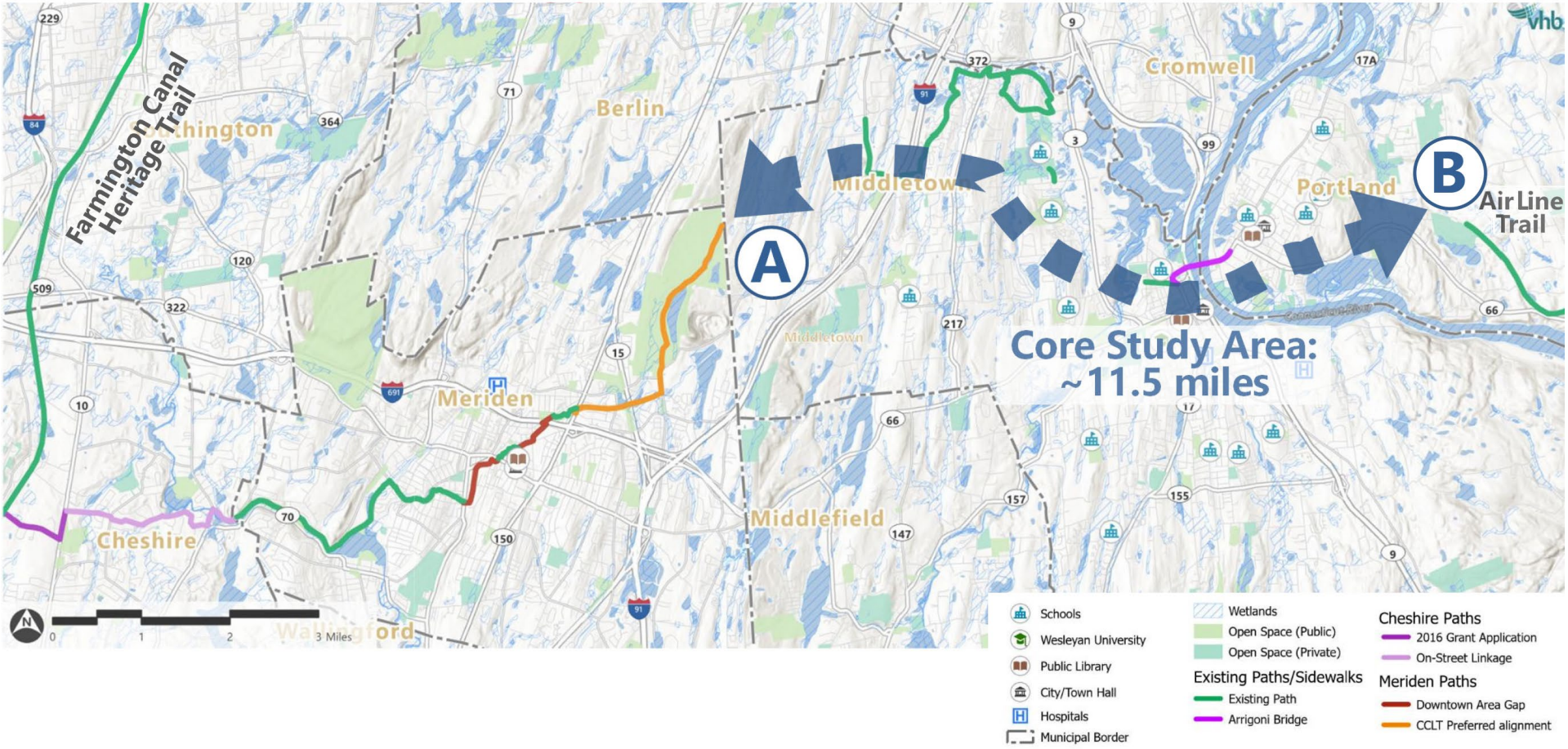


Figure 2: Central CT Loop Trail Context Map Showing the 11.5-mile-long Core Study Area between the Meriden/Middletown Line (A) and the Air Line Trail (B)



1.3: Benefits of Trails

Active transportation facilities such as the trails offer a wide range of direct and indirect benefits for communities. Implementation of the CCLT is anticipated to benefit Middletown, Portland, and surrounding communities with enhanced transportation options, increased safety, improved public health, and economic development benefits.

Transportation Benefits

Completion of the CCLT will allow people to encounter parts of Middletown and Portland that perhaps they have never seen before. Most people experience their communities from roadways and, at best, from paths within public parks and open spaces. Development of regional trail systems like the CCLT allow people to experience more places that are inaccessible to automobiles; places never seen before while walking, using a wheelchair, or bicycling. Portions of the Coginchaug River, the wooded slopes of Lamentation Mountain (both in Middletown and Meriden), and sections of the former Air Line rail corridor are three areas of the region that could expand area residents' sense of place.

More directly, the CCLT will provide an alternate mobility route for those who may not always have access to a personal automobile (per American Community Survey data, this includes 10.8% of the population in Middletown and 8.1% of the population in Portland). This includes economically disadvantaged households, those too young or too old to drive, people living with temporary and permanent disabilities, or those who simply prefer to use active transportation modes. For those who drive for most or nearly all of their trips, the presence of a well-connected trail will encourage some to make a trip without driving, thus reducing congestion and improving traffic conditions for others. Given that roughly half of average daily trips are less than three miles, this could become the reality within the communities along the entire 111-mile long CCLT corridor.[2]

Safety Benefits

Although Middletown and Portland are relatively safe communities for pedestrians and bicyclists, data shows that a number of crashes have occurred downtown, along the RT 3/Newfield St corridor, and on West Lake Drive (see Appendix for more detail). Development of the CCLT would provide an exclusive off-road link for people to travel within the city and minimize conflicts with motor vehicles. This is important not only along linear segments of the trail but at improved road crossings as well.

The recent increases in pedestrian fatalities nationwide and throughout the State of Connecticut underscores the future benefits that could result from ongoing investments in off-road trails and other pedestrian and bicycle facilities. RiverCOG has endorsed the State of Connecticut's "Vision Zero[3]" goals that aspire to reduce the number of road-based fatalities and serious injuries, ultimately to zero.

Photo of the Cobalt trailhead for the Air Line Trail which averaged 250 daily users in 2024 according to the Connecticut Trail Census.

[2] Distribution of Trips by Distance, Bureau of Transportation Statistics (2023-24)

[3] For more info, see: https://visionzeronetwork.org/about/what-is-vision-zero/ and/or: Connecticut Vision Zero Council

Environmental/Public Health Benefits

A well-designed trail that connects to common destinations can help to promote using active transportation modes rather than driving a motor vehicle. Although beyond the scope of this study to determine the exact impact, replacing some automobile trips with walking and bicycling will help reduce greenhouse gas emissions, reduce the impact to climate change, and improve local air quality.

Walking, riding a bicycle, or other active transportation modes on a more regular basis can help area residents integrate higher activity levels into their lives and meet the Centers for Disease Control and Prevention's recommended 150 minutes (2.5 hours) of weekly aerobic activity. Development of the CCLT can also reduce health care costs. According to a North Carolina Medical Journal study[4], for every $1 invested in trail construction, there is a $3 cost savings in direct medical expenses for users.

Economic Development Benefits

Research shows that trail networks can be powerful tools for encouraging a vibrant local and regional economy. Trails provide safe, affordable, attractive options for recreation and transportation, which can increase mobility, improving the health and quality of life of residents, and ultimately contribute to regional competitiveness. The development of the CCLT can support economic development by:

- increasing safe, affordable, active transportation options for residents nearby, improving their mobility and access to economic opportunity,
- providing a leisure and recreation destination for residents as well as out-of-town visitors. Day-to-day visitors to the CCLT can lead to additional spending at local restaurants and other businesses, bolstering economic activity in the area, and;
- Making the corridor a more attractive area to live, serving as a catalyst for future development and improving property value premiums for residential properties along the route.

Completion of the CCLT along North Main Street in Middletown could help to spur new residential and/or commercial development along the corridor.

1.4: Nearby Related Projects

Current and on-going investments in shared use paths and other pedestrian and bicycle facilities in the immediate area create opportunities to leverage other projects and help provide additional connectivity within the study area and potentially become part of the trail route. Projects that were identified as being under development during this study are:

Lawrence School Trail

- A trail is under design in Middletown that will connect from Mile Lane north along Kaplan Drive then continue north to Tuttle Road. It will

[4] Chenoweth, David. (2012). "Economics, Physical Activity, and Community Design." North Carolina Medical Journal 73(4): 293-294.

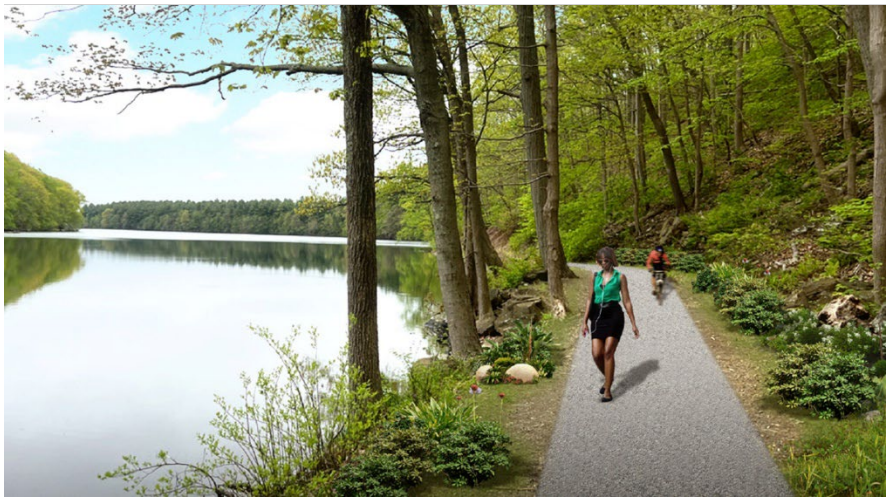
provide better bicycle/pedestrian connections to the Lawrence Elementary School on Kaplan Drive, as it will pass just to the east of the school. This 3/4-mile-long greenway is currently in design with construction anticipated in the next 3-5 years.

Giuffrida Park Trail - Meriden

The City of Meriden's preferred route for the trail connects through Giuffrida Park and goes north through the park on the west side of the Bradley-Hubbard Reservoir. This will end at the Meriden-Middletown line north of the Reservoir and be picked up to continue north along the ridgeline as the potential route to continue the Air Line Trail and part of the larger Central CT Loop Trail. Additional details include:

- This 3.5-mile-long multi-use trail begins at Brookside Park in Meriden and continues east along an existing historic railroad right-of-way to Bee Street. The trail continues north along Bee Street as a multi-use trail and through an existing utility easement to connect to the Doctor Francis Giuffrida Park parking lot.
- The Meriden trail will close a critical gap in the Central CT Loop Trail while connecting neighborhoods to the existing trail network, and improving connectivity between Brookside Park, Baldwins Pond & Park, and Giuffrida Park. At Giuffrida Park, local users will have the opportunity to explore the numerous trails and peaks associated with the blue blazed Mattabesett Trail.
- The City of Meriden has been awarded Recreational Trails Funding, which is being utilized to initiate the preliminary design of the City of Meriden's trail to a logical terminus at the Giuffrida Park parking area. The City is actively pursuing additional funding for the remaining design phases and construction of the trail. A construction schedule has not been established at this time.
- The City of Meriden and the City of Middletown are coordinating on the connection through Giuffrida Park, and the City of Meriden is committed to making this connection at the municipal border when the routing and funding is determined for the Middletown connection.

Proposed trail alongside the Bradley-Hubbard Reservoir in Meriden *(Source: City of Meriden's Central Connecticut Loop Trail Connection Study, 2023)*



1.5: Previous Planning Studies and Reports

As part of the assessment of existing conditions, the consultant team reviewed a selection of completed plans, studies, and reports related to short- and long-term transportation and trail improvements in the core study area. The review was intended to inform the team's understanding of the local context and to build off planning and design work completed prior to the initiation of this portion of the Central Connecticut Loop Trail study. As such, the team reviewed reports completed by RiverCOG, the City of Middletown, the Town of Portland, and the City of Meriden, including:

- RiverCOG Route 66 Transportation Study (October 2020)
- RiverCOG Hazard Mitigation Plan (May 2021)
- RiverCOG Bicycle and Pedestrian Master Plan (March 2022)

- RiverCOG Transit Study (July 2020)
- RiverCOG Regional Metropolitan Transportation Plan (March 2023)
- Connecticut Resource Conservation & Development's Air Line State Park Trail Region Master Plan (June 2023)
- Middletown Complete Streets Master Plan (March 2013)
- Middletown Newfield St. Corridor Trail Study Findings (January 2020)
- Portland Complete Streets Policy (September 2016)
- Meriden Central CT Loop Trail Connection Study (June 2023)
- Middletown Connection to Meriden Concept (January 2024, map graphic only)
- Middletown 2020-2030 Plan of Conservation and Development
- Middletown Return to the Riverbend Master Plan
- Historic Middletown Trolly Line Route Map (map graphic only)
- Middletown Plan for Newfield Street Corridor Trail (2020, map graphic only)
- Middletown Trail Plan along RR Line (2019 Transportation Alternatives grant application, graphic only)
- Middletown Multi-use Trail Concept: Downtown to Wesleyan Hills (2013, map graphic only)
- Portland Air Line Trail Concept Plan (July 2023, map graphic only)
- Portland Complete Streets Network Plan (2016, map graphic only)
- Portland Route 66 corridor study (undated, map graphic only)

A high-level summary of each report and map graphic can be found in the Appendix. A summary of the land-use based reports listed below can be found in the summary of land use and market conditions in Appendix C.

- RiverCOG Regional Plan of Conservation and Development, 2021-31
- RiverCOG Comprehensive Economic Development Strategy (2023)
- RiverCOG GrowSMART Regional Economic Growth Strategy (2016)
- RiverCOG Regional Housing Plan (July 2022)
- RiverCOG/City of Middletown Economic Development Resources

1.6: Study Vision and Goals

This study focuses on the 11.5-mile Air Line Trail gap of the CCLT between Camp Ingersoll in Portland (94 Camp Ingersoll Road) and the Middletown/Meriden city line near Lamentation Mountain State Park and Doctor Francis Giuffrida Park in Meriden (800 Westfield Road). **The vision for this study is to help expedite the completion of a continuous, multi-use trail within this gap—for both recreation and transportation—that is comfortable for users of all ages and abilities and enhances connections to downtown Portland, downtown Middletown, the Wesleyan campus, and the local parks, schools, and businesses along the corridor**.

The Mattabesset River Trail in Middletown is the ideal model for an off-road, multi-use path linking the ALT in Portland with the FCHT in Cheshire through the study area.

Supporting the Study's vision are nine goals. Sorted into categories, they are informed by feedback from RiverCOG, the study's Technical Advisory Committee and other stakeholders, and include:

1. **Off-road:** trail route is primarily off-road along old rail corridors, along waterways, or through open space (requiring coordination with CTDOT and DEEP)
2. **Traffic Safety:** on-road segments of the trail provide some separation from traffic, with special safety features at intersections
3. **Environment:** trail route minimizes impact to wetlands and avoids floodplains and critical wildlife habitat
4. **Security**: trail route has frequent access points, includes clearly-marked wayfinding signage, and is well lit at intersections and underpasses
5. **Cost:** both construction and annual maintenance costs are taken into account when evaluating trail routing
6. **Connectivity:** trail route is direct and includes links to nearby schools, parks, the Wesleyan campus, and passenger rail connections to New Haven and Springfield
7. **Economic Impact:** trail route helps to connect job sites, commercial areas, and potential redevelopment sites
8. **Equity:** trail route provides additional mobility, recreational benefits, and green infrastructure (e.g., more trees) to underserved neighborhoods
9. **Experience:** trail route avoids steep hills where possible and offers an aesthetically pleasing experience that provides visual access to nature and minimizes exposure to busy roadways

2 EXISTING CONDITIONS

Existing conditions data was gathered using GIS data—provided by RiverCOG, the City of Middletown, the Town of Portland, Connecticut Department of Transportation (CTDOT) and other statewide resources—a review of current plans and studies, and on-the-ground fieldwork performed by the consultant team. This work was supplemented by discussions throughout the project with the City of Middletown and Town of Portland staff, members of the Technical Advisory Committee, stakeholders, and members of the public. The existing conditions summarized in this chapter fall within three categories:

- Transportation facility context
- Land use context
- Environmental context

2.1: Transportation Facility Context

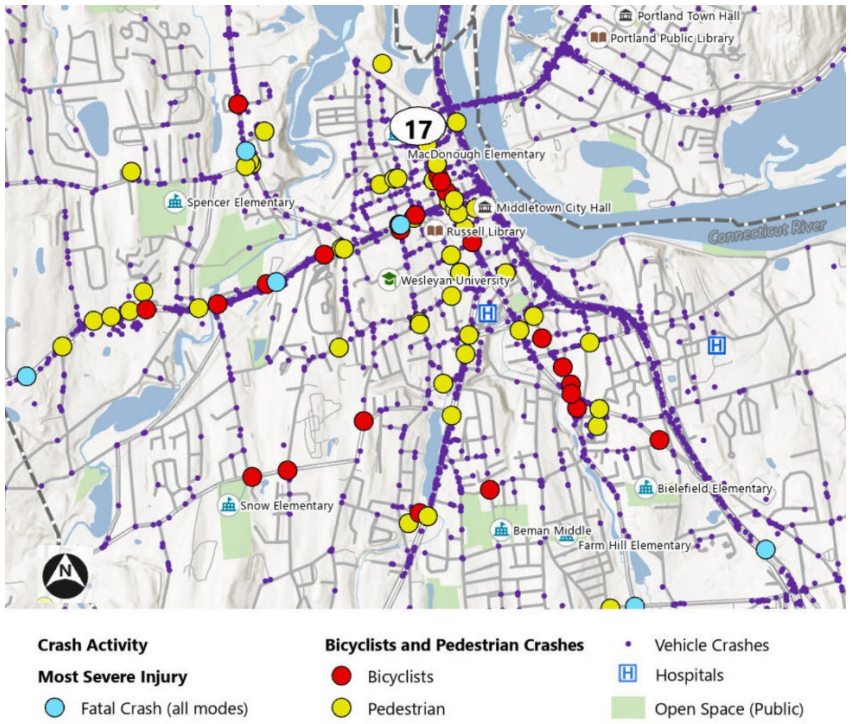
The study area is a hub of multi-modal transportation facilities. Historically, the Wangunk Tribe of Connecticut[5] settled in the immediate area based on close access to the oxbow bend in the Connecticut River, the fertile soils that lay adjacent, and the hunting grounds further east. Today, the Middletown/Portland area features multi-modal transportation facilities including nearby trails, a sidewalk network, roadways, local bus service provided by River Valley Transit, and rail lines (most of which are still active for freight rail purposes).

Trail Network

Key sections of the trail network include the Farmington Canal Heritage Trail (FCHT), the Mattabesset Multi-Use Trail, and the Westlake Pedestrian Bikeway. In addition, an existing sidepath—a shared use path adjacent to a roadway in place of a sidewalk—runs partly up Kaplan Drive from Mile Lane to the Lawrence School in Middletown. The pedestrian network within the study area is generally complete in the downtown areas of Middletown and Portland, but in the more suburban and rural areas, sidewalks may be present on only one side of streets or not at all. Crosswalks exist in various locations throughout the study area. The Arrigoni Bridge, a critical connection between Middletown and Portland, features 6' sidewalks on both sides of the bridge.

In terms of pedestrian and bicycle safety, pedestrian/bicycle crash clusters are evident along the length of Main St., South Main St., Washington St./Route 66, and near the intersection of Newfield St./Route 3 and Westfield St. in Middletown. Fatal crashes (all modes) are almost exclusively located on I-91, Route 9, and other state highways.

Figure 3: Map showing 2018-2023 crash locations in the core of the Study Area



[5] "Connecticut" is an Algonquin Indian word meaning "long river"

Roadways

The study area includes many key roadways that serve longer distance regional traffic including Newfield Street/Route 3 in Middletown, Route 66 and 17 in Middletown and Portland, Route 17A/Main Street in Portland, Route 217 in Middletown, Route 9 in Middletown, and Interstate 91. Significant Major Collectors and Minor Arterials include North Main Street, High Street, Spring Street, Prospect Street, Mile Lane, West Lake Drive, Smith Street, Middle Street, Westfield Street, and Country Club Road, all in Middletown. Major roadways such as Route 9 and I-91 can be crossed only in certain locations, making existing overpasses and/or underpasses critical for the trail route as it travels east-west.

Rail Corridors and Transit

Rail infrastructure in the study area features three state-owned rail corridors that are currently active with freight traffic. One east-west corridor runs just north of downtown Middletown and crosses over Route 9 and the Connecticut River on a historic swing bridge. The second corridor travels north-south along the west bank of the Connecticut River, adjacent to Route 9. The third corridor (referred to as the East Berlin Industrial Track) splits off from the second corridor just north of downtown Middletown and passes next to the historic Remington Rand building at the end of Johnson Street. The 1.1-mile-long rail corridor crosses the Coginchaug River as it continues northwest until terminating at a warehouse building and distribution facility just east of the Newfield Street/La Rosa Lane intersection.

Just west of the study area, the train station in Meriden provides passenger rail service. Ultimately, the extension of the CCLT through Middletown and Meriden will provide trail users access to Amtrak, commuter rail, and bus service. Amtrak serves Meriden with service as far north as Montreal and south to New Haven, where connections can be made to Boston, New York City, and Washington D.C. The Hartford Line commuter rail serves passengers from Springfield MA to New Haven, stopping in Meriden ten times each weekday in each direction.

Finally, local bus service in the Middletown-Portland area is provided by River Valley Transit (RVT), a rebranded service after the merger of Middletown Area Transit and 9 Town Transit provided by the Estuary Transit District. Bus routes run on one- or two-hour frequencies in the area and connect to the Connecticut shoreline and as far away as New London, Meriden, and Madison.

East Berline Industrial Track rail line northwest of downtown Middletown (facing north)

2.2: Land Use Context

There are many important open spaces within the study area. These include Guiffrida Park in Meriden but near the Middletown line; Lamentation Mountain State Park on the west end of Middletown; Veterans Memorial Park near downtown Middletown; the East Swamp Brook area; open space around the Lawrence School; and open space and wetlands by the Coginchaug and Mattabesset Rivers, north and east of the potential rail line route in Middletown.

Single-family residential is the predominant housing type in most parts of the study area, including Portland and the many areas of Middletown. Multifamily housing complexes of note include Carriage Crossing, Ridgefield Apartments, Windshire Terrace, and Peppermill Condominiums off W. Lake Drive. The east side of Newfield Street in Middletown hosts hundreds of apartments in 8-story towers and the Rose Garden and Willowcrest garden apartment complexes. Also on Newfield Street, just north of the Congdon Street intersection, a large-scale multi-family apartment complex of 414 units within 15 buildings is under construction on nearly 50 acres of land. In Portland, Brainerd Place, a large multifamily and mixed-use development, is currently under construction on nearly 15 acres of land at the Marlborough St/Route 66 intersection with Main Street. It includes 99 apartment units, with multiple retail spaces.

The study area's most significant commercial areas include downtown Middletown and downtown Portland. In Middletown near the Coginchaug River at the end of Johnson Street, the Remington Rand building has been redeveloped with a brewery and distillery and could become a destination for trail users in the future. Other commercial areas close to potential CCLT route options are more industrial in nature and do not include publicly accessible retail businesses.

Market Analysis

A market analysis was conducted to look at market conditions along potential trail routes in the study area and understand current and projected demographics. The key takeaways from this market analysis are:

- The residential population that currently resides near the trail routes is stable (approximately 64,400) but is aging, with a median age of 40 years (in 2020), with minimal growth in new families with young children expected.
- The population has grown more educated since 2010 and is becoming more diverse demographically.
- The Middletown Market Area (MMA) is a smaller area than the Primary Market Area (PMA) and includes less expensive housing stock. However, with smaller homes in more dense areas of Middletown, it is more expensive on a per square foot basis.
- Home sale prices are growing at a similar rate in both the PMA and the MMA near any of the trail route alternatives. Demand for multi-family apartments is relatively low as large scale projects have yet to open and will absorb much of the latent demand.
- Retail growth in the area has been slow but steady in the last decade, with higher growth rates since the pandemic. Institutional growth is anticipated to remain steady in the MMA.
- Because much of the land adjacent to the route alternatives is own by the City of Middletown, "institutional" use is the most predominant land use, followed by single family housing and industrial.

2.3: Environmental Context

Given the proximity of the Coginchaug River and East Swamp Brook along some segments of the future CCLT route, the prevailing environmental context is an important consideration. While the route must accommodate environmental constraints in this area, this study recognizes that the areas close to a river or wetland areas can be a valuable asset and destination for a future trail as well. Consideration of the environmental constraints within the study area and ways to mitigate potential impacts are important elements of this study. This includes consideration of flood zones, areas of steep grades

and elevation change, wetlands and other critical habitat areas, Coginchaug River hydrology requirements, and cultural resources concerns.

The Coginchaug River provides a verdant corridor through Middletown

For the recommended trail alignment in Middletown, flood issues are of greatest concern for the segment near the rail spur running from the north end of downtown to the northwest. Numerous wetlands flank the Coginchaug River and the Connecticut River, especially on the flatter west side. When the trail route crosses these areas, elevated boardwalks, in some cases hundreds of feet long, will be needed to minimize disturbances. Greater dependence on boardwalks will likely increase the costs of the trail, annual maintenance costs, and create additional permitting needs. As shown in the Environmental Issues map on the next page, a significant portion of the study area sits within critical habitat zones.

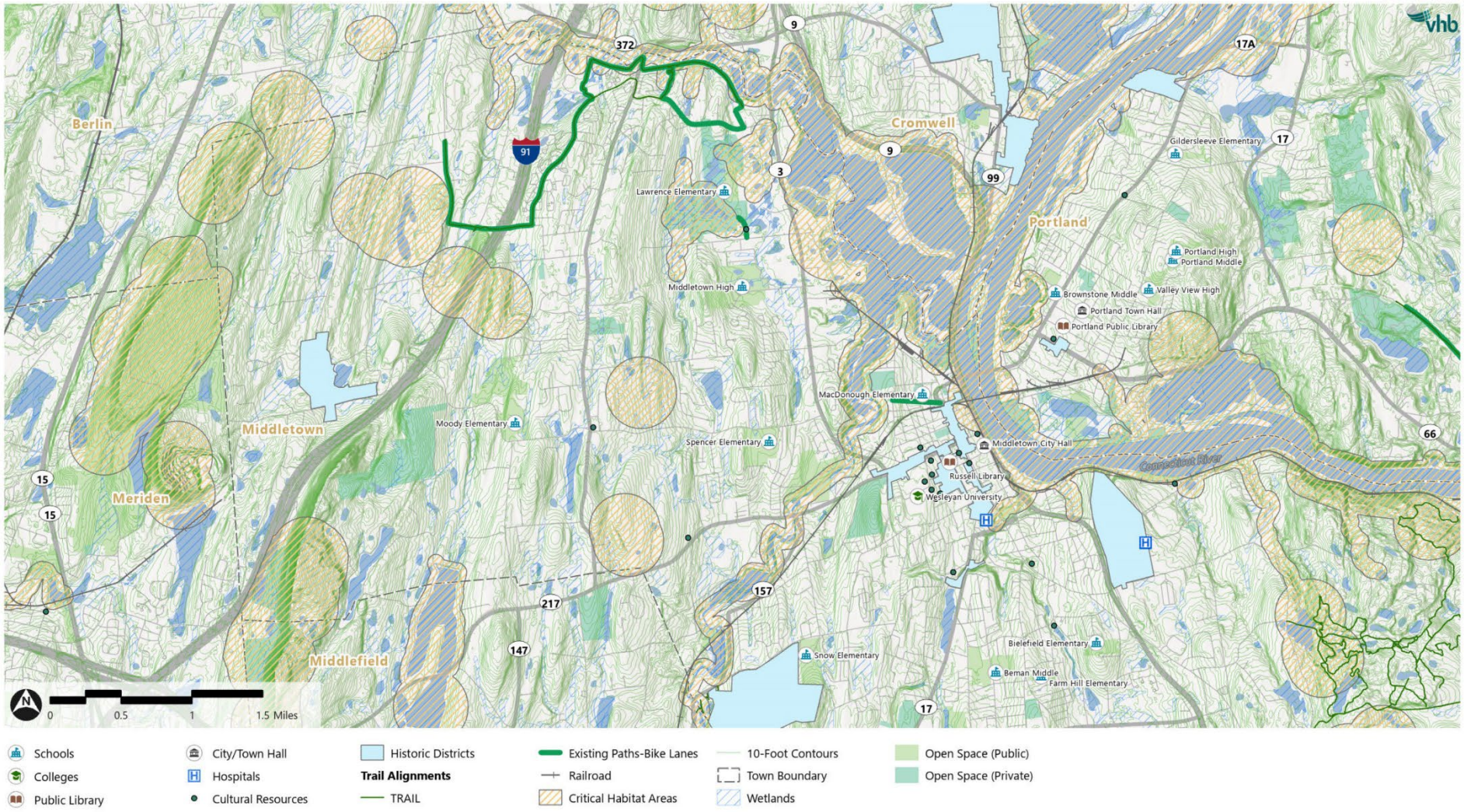
The alignment that runs along the Coginchaug River provides the opportunity to emphasize the environmental features of the area. The alignment, material choice, and branding/signing of the future route could emphasize sustainable design principles, eco-educational opportunities (geology, natural history, wildlife, and river flow dynamics), and habitat restoration.

In various parts of the study area, elevation change and steep grades need to be taken into account during the trail route-planning phase. Areas where topography is an important consideration include the trail route established by the City of Meriden near the Bradley-Hubbard Reservoir; the route in Middletown just over the ridge from Lamentation Mountain State Park down to Atkins Street; the alignment at the east edge of the I-91 right of way parallel to W. Lake Drive; some segments of W. Lake Drive itself; and Lower Main Street from Pickering Street up to the Arrigoni Bridge in Portland.

Although shared-use path design standards allow for segments steeper than a 5% grade chance for short distances, that is not an ideal condition for a regional trail system. To remain in compliance with the ADA and to promote a trail route that is comfortable for bicyclists of all ages and abilities, the route planning aspires to maintain trail segments below a 5% grade.

Portions of the existing sidewalk/path (at left) along W. Lake Drive includes some significant topographic change

Figure 4: Map of Environmental Issues in the Middletown-Portland Study Area



3 POTENTIAL ROUTE ALTERNATIVES

To arrive at a Preferred Alignment for the CCLT, the planning team used the Existing Conditions analysis as the foundation for developing a series of trail route alternatives. These options were worked out in coordination with the study's Technical Advisory Committee and later evaluated for suitability.

The potential route options for the CCLT Study focused on the roughly 11.5-mile section in Middletown and Portland between the Meriden/Middletown City line at Lamentation Mountain State Park and the current terminus of the Air Line Trail in Portland. Potential routes focused on locating the trail on public property, use of street right-of-way, and options that minimized environmental impacts when possible. Significant roadway barriers such as Interstate 91, steep topography, and various environmental constraints created challenges to finding suitable routes that would also provide a positive experience for future trail users.

A single route option for certain sections of the trail alignment were established because it was already in development or was clearly the most logical route. These segments included:

- A collection of City-owned parcels west of Middle St. in Middletown provided an opportunity to route the trail to Meriden; given the City's interest in that route, the planning team did not consider additional routes that would have impacted private properties.
- Crossing the Connecticut River via the Arrigoni Bridge, which has sidewalks on both sides for pedestrian and bicycle traffic, was deemed the only realistic route to cross the river.
- The old Air Line Railroad corridor, much of which still exists undisturbed in Portland (though sections are now in private hands), was the obvious choice in Portland and recommended as the route to use by the Town's Air Line Trail Committee.

However, other sections of the trail alignment had a variety of possible options for getting from one point to the next. This was the case where challenges existed for any route option and further evaluation was needed to analyze the preferred route based on key criteria. There were three primary locations where multiple route options were studied: 1) between W. Lake Drive and the I-91 Corridor in Middletown, 2) the area between downtown Middletown and Middletown High School, and 3) connecting the east end of the Arrigoni Bridge with the Air Line Railroad corridor in Portland.

The following sections will describe the possible route options in more detail, public engagement around the route options, the evaluation criteria, and the route scoring.

3.1: Alignment Alternatives: W. Middletown/I-91 Area

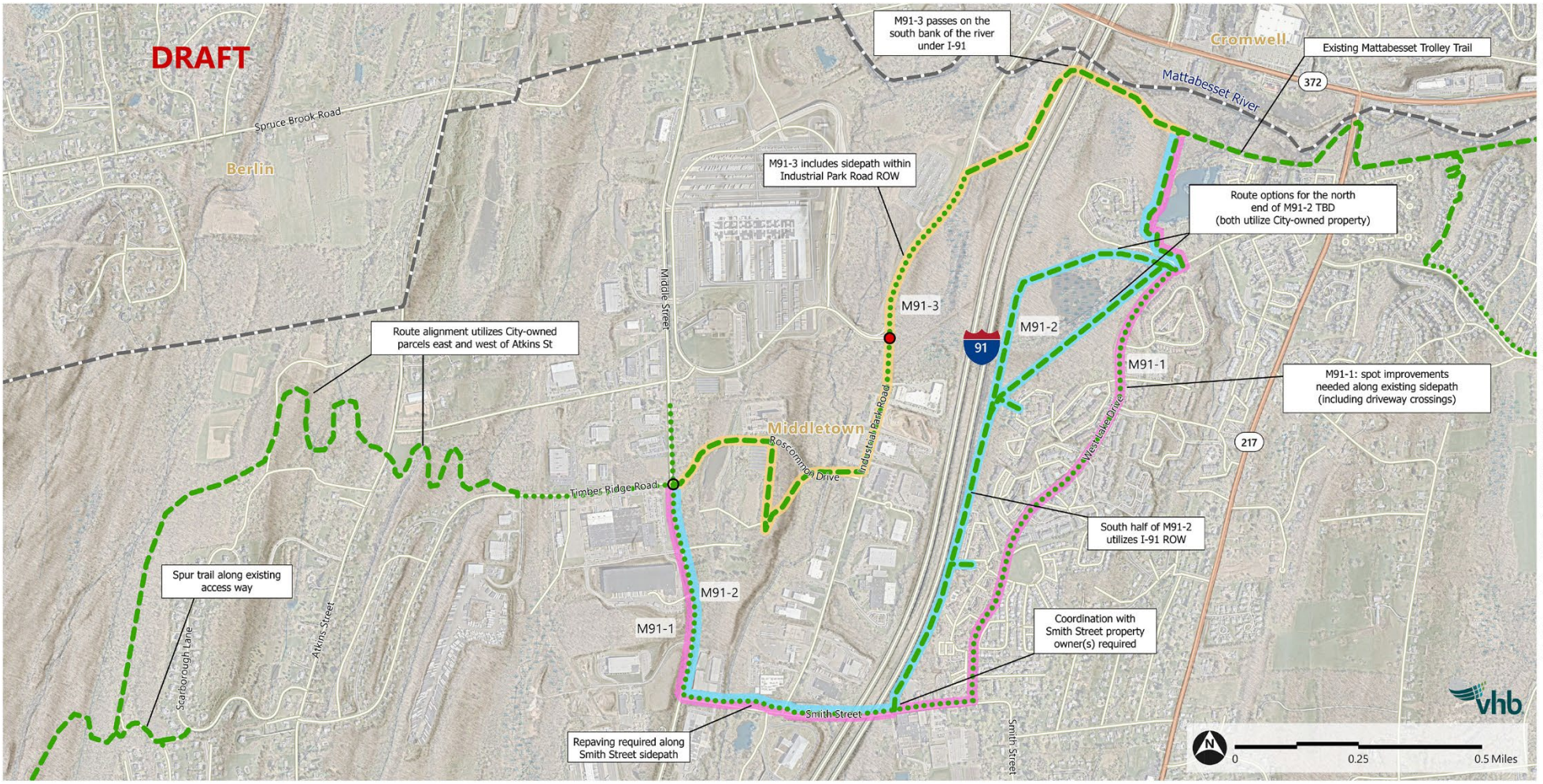
Three alignment alternatives were considered in the west Middletown area, in the vicinity of West Lake Drive and Interstate 91.

From Lamentation Mountain east, the singular trail alignment utilizes parcels owned by the City on either side of Atkins Street as a shared-use path before continuing as a wide sidewalk or sidepath (see section 5.5, Trail Design, for description and photo) along Timber Ridge Road to Middle Street. At this point, the trail alignment can either go south on Middle Street and turn east at Smith Street, utilizing an existing sidepath alignment along the road, or continue east through the woods as a shared use path before meeting up with Roscommon Drive and going north as a sidepath on Industrial Park Road. The Middle Street/Smith Street option splits again after the I-91 underpass on Smith Street to either travel along the east side of the I-91 corridor or follow the existing sidepath on West Lake Drive to the north.

These three alternatives include:

- M91-1: Middle Street, Smith Street, and West Lake Drive Route to the Mattabessett Trail
- M91-2: Middle Street, Smith Street, and following the I-91 Corridor to the Mattabessett Trail
- M91-3: Roscommon Drive, Industrial Park Road, the underpass area of I-91 to the Mattabessett Trail

Figure 5: West Middletown / I-91 Area Alignment Options



Alternative M-91-1

From west to east, the M-91-1 Alternative follows an existing 8'-9'-wide sidepath on the east side of Middle Street approximately 2,300' from Timber Ridge Road to Smith Street, then continues along the north side of Smith Street east to West Lake Drive for another 3,100'. Smith Street passes under I-91 in this section, providing a crucial crossing of the highway for the trail. The trail alternative crosses to the east side of West Lake Drive and follows the existing sidepath north approximately one mile to Russet Lane, connecting to the existing Mattabesset Trail next to this intersection. The final portion of the route follows the Mattabesset Trail north until it turns 90 degrees east, meeting up with the end of route alternative M91-3.

Existing sidepath on Smith Street passing below I-91

A major benefit of this route is that it follows an existing sidepath and is not expected to require property acquisition or substantial upgrades. The existing pavement along Smith Street and Middle Street needs repair however and would need to be widened to a minimum of 10' to be brought up to current multi-use trail standards. Spot improvements along the existing sidepath on West Lake Drive, including driveway crossings, would also need to be addressed to meet standards.

The most substantial drawback to this route is the presence of a large hill on West Lake Drive that could discourage trail users, particularly bicyclists. Since the route follows an existing path along a roadway, there would not be any opportunities to decrease the steepness of the trail, unlike other locations in undeveloped land where ramps and switchbacks can be included in the trail design. The trail also crosses several side roads and driveways that can create some stress for trail users.

Alternative M91-2

From west to east, this alternative initially follows the same route along Middle Street and Smith Street as alternative M91-1. Immediately east of the I-91 underpass on Smith Street, however, the route turns north and travels along the east side of the I-91 corridor for about 3,600', utilizing the I-91 right-of-way as much as possible to avoid encroaching onto private property. Shortly after passing the Northwoods Apartments – West complex, the trail includes the sub-option of continuing further north before turning east towards the intersection with West Lake Drive and Russet Lane or turning northeast in a more direct route towards the intersection. In either case, the trail uses City of Middletown property to bypass a large wetland in the middle of this wooded property. After reaching Russet Lane, the trail route meets up with the last portion of alternative M91-1 and follows the Mattabesset Trail north until it curves east.

The purpose of this alternative is to use the I-91 corridor and City of Middletown property to avoid the hill on W. Lake Drive that makes the M91-1 route challenging. This alternative also provides a more comfortable off-road trail between I-91 and the various condominium developments and also passes through a wooded area for a better user experience.

This alternative has several challenges. A residential property is very near the Smith Street underpass and may raise concerns with a trail running close to their property line. Additionally, City staff have noted that there may be topographic issues with this alternative and the hill traversed by W. Lake Drive may not be completely avoided. Environmental permitting may be

significant along this route, whereas there would be almost none for alternative M91-1. Finally, using the I-91 right of way requires close coordination with CTDOT for approval to use the state right of way for a trail.

Alternative M91-3

Unlike the first two alternatives, which go south to use Smith Street to cross I-91, this alternative takes a more northly route to pass under I-91 and connect to the Mattabesset River Trail. Coming east from Timber Ridge Road, the trail crosses Middle Street and continues through an undeveloped area northeast towards an office development at 100 Roscommon Drive. Due to the steep grade of Roscommon Drive down to Industrial Park Road, the alternative runs directly south on the east side of a ground-mounted solar facility before turning back northeast to return to Roscommon Drive and the intersection with Industrial Park Road. The route follows Industrial Park Road north as a sidepath for approximately 3,500' before turning northeast and traveling between I-91 and the Middletown/Cromwell Park & Ride lot. The trail travels about 500' further north to the south bank of the Mattabesset River and turns east to go along the riverbank under the I-91 bridge. About 1,000' further east through the woods, this route alternative meets up with the Mattabesset Trail and the end points of M91-1 and M91-2.

A portion of Alternative M91-3 utilizes an informal path close to the Mattabesset River, just east of I-91

This alternative utilizes the Industrial Park Road right-of-way and public properties where possible to reduce the amount of property impacts. It also takes advantage of an old trolley route west of the Mattabesset Trail that leads to an unused trestle over the river although the route alternative stays on the south side of the river to avoid crossing the river twice.

There are topographic challenges with this route, particularly around Roscommon Drive, that make it difficult to provide an ADA-accessible path. This alternative also is far from most of the existing residential properties as opposed to the other two alternatives, making it more isolated and lacking destinations for trail users. It requires more trail construction than the other two alternatives, which rely at least partly on existing sidepaths and multi-use paths to take advantage of existing infrastructure.

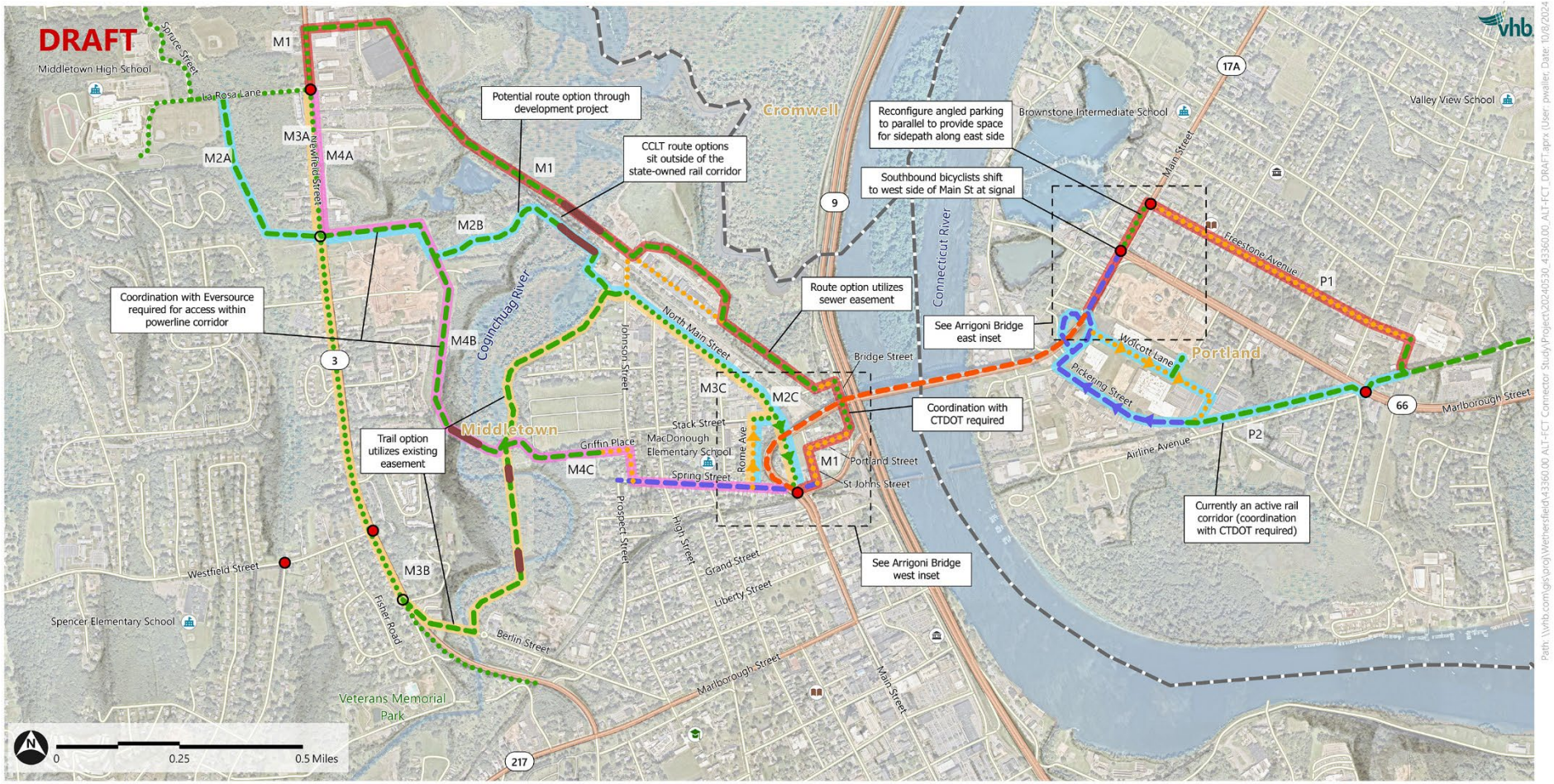
3.2: Alignment Alternatives – Central Middletown

On the north side of Middletown, the CCLT follows the existing Mattabesset Trail to Tuttle Road then continues south through a large, wooded area and past the Lawrence School, down along Kaplan Drive, Mile Lane, Spruce Street, and eventually La Rosa Lane near Middletown High School. From this point, four route alternatives to connect the high school area to the west end of the Arrigoni Bridge were studied (see map on the following page). Three of them are divided into sub-segments because they cross each other several times and could be combined in multiple, "mix and match" scenarios. The sub-segments also helped with the evaluation to understand how different routes could be combined to create a preferred alignment. Running from west to east, the alternatives included:

- M1: Sidepath along Newfield Street, Railway Corridor, and Sewer Easement near Remington Rand building (No sub-segments)
- M2: Power line corridor, Newfield Street housing development, and North Main Street
    - M2A: Follow power line easement south of La Rosa Lane and east to Newfield Street
    - M2B: Intersection of Newfield Street and power line easement through the Newfield Street housing development, and bridge over the Coginchaug River to Johnson Street/N. Main Street
    - M2C: Intersection of Johnson Street/N. Main Street down N. Main Street to St. Johns Square/Arrigoni Bridge
- M3: Newfield Street south to sewer easement next to Coginchaug River, then to North Main Street
    - M3A: Trail continues south from the intersection of La Rosa Lane and Newfield Street to power line easement
    - M3B: Trail follows Newfield Street south from the power line easement where M2B crosses the road, down to 106 Newfield Street
    - M3C: Alternative crosses the Coginchaug River a closed road bridge from Newfield Street to Berlin Street, continues northeast along sewer easement, crosses the Coginchaug River on a new bridge, and follows the same route as M2C along N. Main Street
- M4: Newfield Street to power line corridor and housing development, then cross to residential streets to continue east
    - M4A: Trail continues south from the intersection of La Rosa Lane and Newfield Street to power line easement (same as M3A)
    - M4B: Alternative goes east and south from the Newfield Street intersection, following the power line corridor, before crossing the Coginchaug River across from St. John's Cemetery
    - M4C: Alternative goes east from where it crosses M3C to Griffin Place, Johnson Street, and Spring Street to reach the Arrigoni Bridge

All Central Middletown route alternatives start from La Rosa Lane and provide a connection to the Arrigoni Bridge

Figure 6: Central Middletown & Downtown Portland Alignment Alternatives



Alternative M1

This alternative first runs 600' north on Newfield Street from the intersection with La Rosa Lane, turning eastward after passing the Dollar General at 750 Newfield Street. The trail uses an existing access driveway to get to the northern end of a spur railway, the East Berlin Industrial Track owned by CTDOT. Route M1 follows the rail line south but remains outside of the rail corridor itself[6], since is still an active rail line and used by commercial businesses in this area, specifically Kloeckner Metals. The route alternative would follow the rail line approximately 3,000' south to where the rail line crosses the Coginchaug River. Boardwalks through the wetlands and a new bridge over the river would need to be constructed, as the railway embankment and trestle is only wide enough for rail service. On the other side of the river, the route would curve around the northeast side of the Remington Rand building at 180 Johnson Street. On the south side of the building, the trail would continue through a sewer easement to Miller Street, Bridge Street, Portland Street, and St. Johns Street, arriving at the west end of the Arrigoni Bridge. The alternative would rely on coordination with CTDOT's ongoing design work and signal removal project on RT 9 to incorporate a shared use path segment adjacent to Bridge Street.

Alternative M2

Roughly 300' east of Spruce Street on La Rosa Lane, M2 turns south along the High School soccer and baseball fields to access the Eversource power line easement. The trail would follow the power lines south and east to where they cross Newfield Street. At Newfield, any future trail crossing would likely need a Pedestrian Hybrid Beacon due to the higher speeds and traffic volumes. The route would follow the power lines and into the Newfield Street housing development currently under construction. Moving east, the trail would pass through Phase 2 of the housing development (to be constructed) and turn south to parallel the rail line (though outside of the state's ROW). Elevated boardwalks and a bridge structure would be needed to cross the Coginchaug River to reach Johnson Street. Further south, the route would be a sidepath along the south side of N. Main Street to the Arrigoni Bridge access point at the intersection of Main St and St. Johns Sq.

View of the state-owned rail embankment from the east edge of the large development site on Newfield Street

Alternative M3

Alternative M3 starts at the intersection of La Rosa Lane and Newfield Street/Route 3 and follows Newfield Street for just over one mile as a 8'-10' wide sidepath—replacing the current 5'-wide sidewalk—primarily on the west side of the street. Where no sidewalks are present, the sidepath would

[6] After meeting with CTDOT Rail, the Department made clear that conversion of the rail line to a trail was not an option given that there are still users of the line. CTDOT expressed concern about using any of the state's right-of-way for a trail. As such, this trail would stay outside of the rail right-of-way, requiring easements from private property owners.

fill in the pedestrian/bicycle gap within the network. The sidepath facility in this alternative would improve bicycle and pedestrian access and safety along Newfield Street, which has been expressed as a need by the Technical Advisory Committee (TAC) and from the general public. Just south of 106 Newfield Street, the route would cross Newfield Street (with a traffic signal or pedestrian hybrid beacon) to the east side of the road and continue through a small, wooded area to the former Berlin Street bridge over the Coginchaug River. (Note that City staff indicated that the road bridge has been closed for decades and would need substantial rehabilitation to be a useable trail bridge over the river.) After crossing the river, the route turns north and follows a sewer easement on the edge of the river. After 800', the trail reaches a power line easement and turns directly north and crosses the Coginchaug River twice. The trail continues to follow the existing sewer line easement north-northeast along the bank of the Coginchaug River, requiring additional boardwalk sections, to the intersection of Johnson Street and N. Main Street. The final section of the trail follows the same Alternative M2 sidepath southeast on N. Main Street to the Arrigoni Bridge.

View of the Coginchaug River from old Berlin Street bridge

Alternative M4

Also starting at the intersection of La Rosa Lane and Newfield Street, M4 follows a sidepath on the west side of Newfield Street south roughly 1,500' to the Eversource power lines. From there the route crosses to the east side of easement via the same crossing proposed for the Alternative M2. Similar to M2, it follows the power line easement into the new housing development on Newfield Street, but in the middle of the development M4 continues south along the power line easement. The route passes to the east of large housing developments including the Stonycrest Towers and Meadoway Gardens. At a point along the Coginchaug River across from the St. Johns Cemetery, the route crosses the river with a bridge structure to the southwest corner of the cemetery. Alternative M4 continues east through a well-established utility corridor just to the south of the cemetery to reach the end of Griffin Place and come out on Johnson Street. From here, the route takes Johnson Street south to Spring Street and follows the existing bike lanes and sidewalks east to the Arrigoni Bridge.

Other Route Alternatives Considered in Middletown

During the planning process, additional trail routing alternatives in Middletown were considered and discussed with the TAC. These were removed prior to the more-detailed evaluation due to concern with impacts to local residents, steep slopes and topography, environmental impact, routing complexity, user experience, and overall feasibility. Routes discussed and ultimately not evaluated included:

Connections from Arrigoni Bridge to Newfield Street

- An on-street route using shared traffic lanes along High Street, Grand Street, and Liberty Street, to link the bike lanes on Spring Street with the Newfield Street pedestrian underpass at Berlin Court. After passing under Newfield Street, this alternative would have incorporated a sidepath along the west side of Newfield to reach La Rosa Lane. The Technical Advisory Committee noted the topographic challenges for bicyclists to complete this route and the concerns

about a potential trail route along shared streets in an existing residential area. As a result, this option was not pursued.

- Another alternative to reach the pedestrian underpass at Newfield Street was use of Prospect Street and Columbus Ave to access the Middletown DPW yard. From there, the route would run next to the rail line that crosses under Berlin Street to get to Berlin Court and ultimately the pedestrian underpass. Committee members raised similar concerns about this route as the previous on-road route, and thus it was eliminated from further consideration in this study.

Connections from Newfield Street Further West

- The planning team studied an on-road option that would connect Newfield Street with Giuffrida Park in Meriden. This would involve bicyclists riding on busier roadways including Country Club Road and Westfield Street, with a potential spur route from Smith Street via Middle Street. While some TAC members acknowledged that experienced bicyclists may wish to use this route to avoid the out-of-direction travel associated with some of the other alternatives, it was removed from consideration because of the small number of CCLT users that would feel comfortable on busy roadways.

Despite wide shoulders on some roads (e.g., Middle Street), TAC members did not favor CCLT route alternatives along busy roadways

- From Middletown High School (MHS) to the path network along W Lake Drive and Smith Street, a mixed on- and off-road route was considered. It would have entailed using the Eversource power line corridor adjacent to MHS along with a section of Route 217 and Miner Street to reach Smith Street. Steep topography along the powerlines, and the challenges of incorporating a path along the busy Route 217 corridor prompted the decision to remove this alternative from consideration.

3.3: Alignment Alternatives - Portland

The planning team determined that incorporation of the existing sidewalks on the Arrigoni Bridge was the only feasible alternative to link Middletown and Portland. On the Portland side of the Connecticut River, the CCLT route would bring users into the heavily trafficked Main Street corridor, with considerable amounts of traffic turning eastward on Marlborough Street/Route 66 towards East Hampton. North and east of Route 66 at its intersection with Air Line Ave, the abandoned Air Line rail corridor is still mostly intact and can be followed for most of the distance to Johnson Farm Road and east to William Street Extension, paralleling Route 66.

The roughly half mile-long gap between the abandoned portion of the Air Line rail corridor and the Arrigoni Bridge was the focus on the planning work in Portland. Two options were identified to close this gap. Alternative P1 follows Main Street north to Freestone Ave on surface streets. Alternative P2 runs through the industrial park area around Wolcott Lane and

Arrigoni Bridge sidewalks

Although 6'-wide sidewalks lie on each side of the Arrigoni bridge, they are two narrow to accommodate bicyclists riding in both directions and pedestrian traffic. As such, all route alternatives assume that westbound bicyclists will ride on the north side of the bridge and eastbound bicyclists will ride on the south side. Future signage and route alternatives are designed to encourage the "bikes one way and pedestrians two way" travel across the bridge.

Pickering Street to use the short section of rail corridor parallel to Airline Avenue and cross the intersection of Air Line Ave and Route 66.

Alternative P1

This route runs north on Main Street/Route 17A from the end of the Arrigoni Bridge to Freestone Avenue. Access from the bridge and the approach to the bridge considers the one-way nature of bicycle travel over the bridge. Bicycle traffic coming off the south sidewalk would stay on the east side of Main Street on a widened 10'-12' path to accommodate both pedestrian and bicycle traffic, with bicycles directed to go northbound only. The path crosses the slip lane from Main Street to Route 66 (installation of a crossing improvement would be needed here) and the busy intersection of Route 66 and Main Street/Route 17A. On the west side of Main Street, P1 incorporates a southbound bike lane by reducing the width of existing travel lanes and/or shifting traffic lanes slight east to accommodate the new bike lane. If a bicyclist needed to turn around at the Arrigoni Bridge, they could use Lower Main Street to loop around under the bridge, although this loop is fairly steep as it needs to pick up grade to reach the bottom of the bridge.

At Freestone Ave the trail continues as an on-street facility, ideally with traffic calming measures such as speed humps. Because of the relatively low traffic volumes, bicyclists could share the road with motor vehicles while pedestrians use the existing sidewalks. The route goes all the way to the east end of Freestone Ave, past its intersection with High Street, turning south between 151 and 251 Freestone Ave to link into the abandoned right-of-way of the Air Line rail corridor and heading further east.

Alternative P2

Instead of using Main Street, Alternative P2 has eastbound trail users turn right onto Lower Main Street at the bottom of the Arrigoni Bridge and then turn left onto Wolcott Ave. The route goes to the end of Wolcott Ave, turns right onto Pickering Street, and meets up with the existing rail line between Pickering Street and Air Line Ave. Bicycle traffic going westbound would go from the rail line to Pickering Ave west and use the Lower Main Street bridge underpass to get to the north side of the Arrigoni Bridge.

The existing state-owned rail line—which is still active—could in the long term be converted to a trail, as there is not enough space within the railroad right-of-way to incorporate both a trail and a rail line. The trail would follow the rail line roughly 1,750' east to Marlborough Street/Route 66 and cross the road at the existing traffic signal at Airline Avenue. On the other side of Route 66, P2 would proceed to the abandoned portion of the Air Line Rail corridor and continue east to meet with the current terminus of the Air Line Trail near Jobs Pond.

View of the state-owned rail corridor, looking north from Pickering Street

Other Route Alternatives Considered in Portland

With access from the Arrigoni Bridge to the current terminus of the Air Line Trail near Jobs Pond as the primary goal for the Portland route, different alternatives were discussed with the TAC. This included bringing the CCLT route to Route 66 and constructing a sidepath within the state right of way between Main Street and the Butler Construction Company or YMCA Camp Ingersoll (a distance of 2.0 – 2.5 miles). Because the Town of Portland and the Air Line Trail Committee's goal has been to use as much of the abandoned railroad right-of-way as possible, the Route 66 sidepath was not considered for the next stage of evaluation as part of this study. Accordingly,

the primary goal of the Alternatives P1 and P2 was to determine possible routes to get to the abandoned rail right-of-way and continue east. If, ultimately, use of the former Air Line rail corridor proves to be impossible, the Town, the ALT Committee and future planners may need to revisit Route 66 as a potential route for the CCLT, even if it is considered less than ideal. The immediate planning and property-owner negotiations should remain focused on the abandoned rail corridor as the preferred off-road route.

Members of the Technical Advisory Committee gather at the Air Line Railroad corridor at Williams St Extension in October 2023

3.4: Evaluation of Route Alternatives

After the CCLT route alternatives were established within the Study Area, the planning team scored each alternative based on common evaluation criteria. A complete description of the evaluation methodology and scoring rubric can be found in the Appendix.

Evaluation Criteria

The route alternative within the three areas described above were evaluated using prioritization criteria and a scoring rubric to help inform the selection of the Preferred Alignment. Route alternatives were assessed using both a **quantitative** methodology (i.e., use of GIS-based data) and a **qualitative** methodology (i.e., a more subjective interpretation). The criteria were weighted 1X-3X based on their relative importance within the framework of CCLT Study goals and the recommendations of the TAC. The Table on the following page displays the 9 “key issues” with their associated evaluation criteria along with the weighting.

Scores were established on a scale of 0 to 5 for each criterion (0 for conditions that did not meet the goals of the criterion relative to other routes, and 5 for conditions that met the goals of the criterion relative to the other routes). The weight was then applied to each criterion to emphasize issues important to the TAC and key stakeholders. After weighting, any trail route alternative could receive a maximum score of up to 80 points.

In general, the scores were based on the following metrics:

- **Off Road:** Percentage of the route alternative which is off-road (Quantitative)
- **Traffic Safety:** Route alternatives minimize conflicts with motor vehicles by avoiding crossing roadways and driveways (Quantitative)
- **Environment:** Route alternatives that minimize environmental impact (Qualitative and Quantitative)
- **Security:** Route alternative has frequent access points (Qualitative)
- **Cost:** Route length and/or engineering complexities can lead to high costs (Quantitative, using planning-level cost estimates)
- **Connectivity:** Route alternatives provide direct connections to housing and other destinations along the corridor (Quantitative)
- **Economic Impact:** Route alternatives that connect with job locations (Quantitative)
- **Equity:** Route alternatives that provide mobility and recreational benefits, and green infrastructure for underserved neighborhoods (Quantitative)
- **Experience:** Route alternatives that avoid hills, offer access to nature, and minimize exposure to busy roads (Qualitative)

Table 1: CCLT Route Alternative Evaluation Criteria

Key Issue	Criteria (up to 5 points each)	Weight	Weighted Score Max.
OFF ROAD	Trail route is to be primarily off-road incorporating rail corridors, waterways, and/or through open space	3	15
TRAFFIC SAFETY	On-road segments of the trail are to provide some separation from traffic, with a minimal number of trail crossings of roadways and driveways	2	10
ENVIRONMENT	Trail route 1) minimizes impact to formally designated wetlands, and 2) avoids floodplains and critical wildlife habitat areas	2	10
SECURITY	Trail route is to have frequent access points and will ultimately include wayfinding signage and be well lit at intersections and underpasses	1	5
COST	Both construction and annual maintenance costs are taken into account when evaluating trail routing	1	5
CONNECTIVITY	Trail route is 1) intended to be direct, 2) connect to nearby housing, and 3) provide links to schools, parks, retail businesses, and other civic institutions.	3	15
ECONOMIC IMPACT	Trail route helps to connect job sites and commercial areas (some of which may offer potential redevelopment opportunities)	1	5
EQUITY	Trail route provides additional mobility, recreational benefits, and green infrastructure (e.g., more trees) to underserved neighborhoods	1	5
EXPERIENCE	Trail route avoids steep hills where possible and offers a pleasing experience with visual access to nature and minimal exposure to busy roadways	2	10
TOTAL			**80**

Route Scoring

Using the evaluation criteria described above, all route alternatives in the three areas were scored relative to each other and not compared with alternatives elsewhere (i.e., the I-91 alternative scores were not meant to be compared to the Middletown scores, although they all use the same criteria).

The table on the following page displays the results of the scoring. The first three columns show the specific criterion, its weighting, and the available points for that criterion. The next three columns show the Interstate-91 alternatives, followed by the Central Middletown alternatives (and their sub-segments), and at far right, the two Portland route alternatives. Each of the Middletown sub-segments was scored and the color-coded "series" of sub-segments is shown to help explain the highest scoring set of segments within the series. As noted earlier, these segments could be mixed and matched because several of them overlap each other, creating options for taking a different route if it was better for the preferred alternative.

One critical element to note: the scores resulting from the evaluation process are not intended to be inflexible and aim to inform selection of the Preferred Alignment, not be the final determinant. Feedback from RiverCOG, the TAC, and the public (see the Public Engagement section of the report) are also important considerations in addition to the scores.

I-91 Corridor Alternatives

In the I-91 area, the M91-1 and M91-2 alternatives (Middle Street to Smith Street to W. Lake Drive or use of the I-91 right-of-way) scored higher than the M91-3 option. The M91-3 option received lower points than the other options due to the high number of driveway/roadway crossings, the probability of significant impact to wetlands, the long segments of trail not immediately accessible to a public roadway, business, or neighborhood, the higher cost compared with M91-1 and M91-2, and limited connectivity to nearby destinations. Alternative M91-1 scored three points or better on most of the criteria except for Experience, as it would provide little access to wooded areas or parkland and requires users to walk or bike on steeper grades than other alternatives. While M91-2 received the same total score as M91-1, it scored worse on the Cost criterion and the Economic Impact criterion as it would be a bit farther from existing job locations. None of the alternatives scored well in terms of proximity to destinations or environmental justice communities.

Central Middletown Alternatives

The Middletown Alignment Alternatives had more complex scoring due to the sub-segments discussed previously. Of the four alternatives, M3 scored the lowest, with a 55.7 average score (based on the three sub-segments) compared to M1 with 59, M2 with a 58.3 average, and M4 with a 57.3 average. Although by itself Alternative M1 scored higher than the others, the division of M2, M3, and M4 into sub-sections provides the opportunity to combine the highest scoring of each sub-section. As shown at the bottom of the table on the following page, the high scoring within each series includes:

- A series: 64 points (M3A or M4A)
- B series: 65 points (M2B)
- C series: 56 points (M2C)
- Total score: 61.7 points (i.e. the combination of the best-performing segments)

Portland Alternatives

Between the two Portland Alignment Alternatives, P2 received the higher score, 53 compared to 49. It scored better or equal than the P1 Alternative except on the security and cost criteria. However, P2 is predicated on the removal of existing rail service on the segment of rail line between Pickering Street and Route 66, which is still being used by adjacent businesses. This is considered a long-term prospect, although it is the preferred route for the Portland Air Line Trail Committee.

Table 2: CCLT Route Alternative Evaluation Scoring Matrix

(Route Alternative designations are shown on the maps on pages 20 and 24)

Criteria	Weighting	Available Points	I-91 Alignment Alternatives			Middletown Alignment Alternatives										Portland Alignment Alt's	
			M91-1	M91-2	M91-3	M1	M2			M3			M4			P1	P2
							M2A	M2B	M2C	M3A	M3B	M3C	M4A	M4B	M4C		
			Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score
Off-Road	3	0-15	15	15	15	12	15	15	9	15	15	12	15	15	3	3	6
Traffic Safety	2	0-10	6	8	4	4	10	10	4	8	10	4	8	10	2	2	4
Environment	2	0-10	8	8	6	5	4	7	10	10	2	5	10	5	10	10	10
Security	1	0-5	4	2	2	1	2	4	5	5	1	5	5	3	4	5	3
Cost	1	0-5	5	1	1	3	3	4	5	5	2	1	5	5	4	5	3
Connectivity	3	0-15	10	10	7	14	8	11	11	11	10	10	11	10	11	12	13
Economic Impact	1	0-5	3	1	3	5	1	1	3	1	1	3	1	1	5	5	5
Equity	1	0-5	0	0	0	5	5	5	5	5	5	5	5	5	5	5	5
Experience	2	0-10	2	8	8	10	6	8	4	4	8	4	4	8	2	2	4
Total Score		0-80	53	53	46	59	54	65	56	64	54	49	64	62	46	49	53

"A" series		"B" series		"C" series	
M2A	54	M2B	65	M2C	56
M3A	64	M3B	54	M3C	49
M4A	64	M4B	62	M4C	46

4 PUBLIC ENGAGEMENT

Community engagement played a key role in shaping the Central Connecticut Loop Trail Study from its inception. Stakeholders and community members' insights and perspectives shaped many aspects of the project, from setting study goals to developing alignment options. Comments and ideas came through multiple channels including Technical Advisory Committee meetings, public workshops, pop-up events, stakeholder meetings, and through a project website. (See the Appendix for additional information about public input received.)

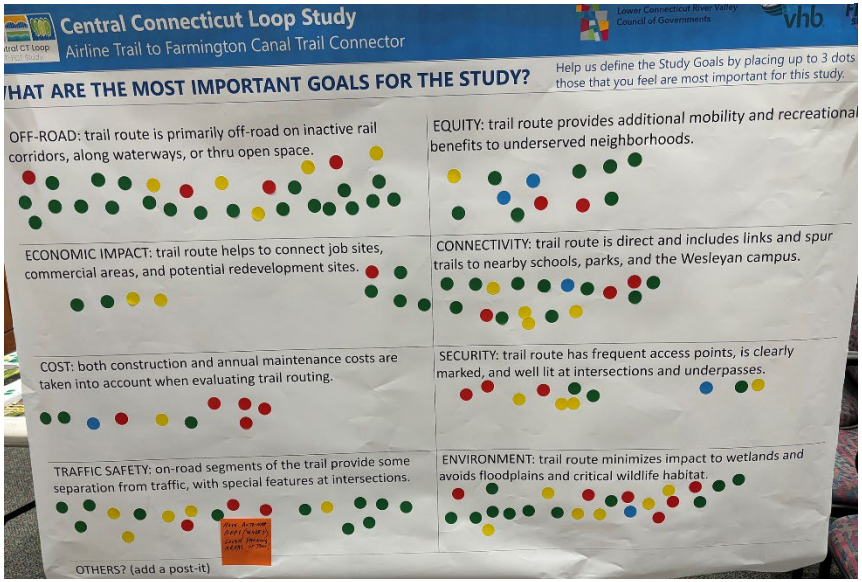
4.1: Technical Advisory Committee Meetings

A Technical Advisory Committee (TAC) was formed at the onset of the project and consisted of key stakeholders including municipal department heads, state agency liaisons, and trail advocates. Meeting virtually on a bi-monthly basis, the TAC initially provided input on the vision, goals, and objectives of the study and offered recommendations for the development of trail alignment options. Besides meetings, the planning team and TAC conducted a field tour of the study area, focusing on Middletown and Portland. The tour involved driving through various potential routes and visiting off-road locations considered for trail facilities. The experience gave the team a better understanding of the area's terrain, infrastructure, and potential challenges, helping to refine route options and ensure that the project aligns with community needs.

4.2: Public Workshops

The planning team—RiverCOG and the VHB team—held two workshops for the project. Held in June and November 2024, both were hosted by the City of Middletown at the City Council Chambers. The workshops were promoted on the project website, various stakeholders' websites, and through email invitations. Combined, approximately 85 residents attended the events.

One of the two "dot exercise" boards available for community input at Public Workshop #1 on June 10, 2024



At Workshop #1, attendees were asked to vote (using colored dots) for their preferences on suitable facility types, on-road treatments options for bikes, and desired amenities. Participants were also asked to provide feedback on the draft goals of the study and to provide any additional comments. A presentation on the existing conditions analysis was then given by VHB after an introduction by RiverCOG's Executive Director. The presentation also highlighted the various trail alignments that were initially considered as well as the evaluation and ranking strategy to be utilized to determine the preferred route alternative. Following the presentation, a breakout session allowed participants to explore the trail alignment options, ask questions, and share their feedback. Highlights from the breakout session included:

- Safety concerns near Route 66 (Portland) and Route 3/Newfield Street in Middletown, where traffic speeds and trucks can pose risks
- Steep grades near Lamentation Mountain State Park

- The need to minimize impacts to wetlands and habitat, especially near the Coginchaug River
- The "middle" alignment (of the 4 options) along the Coginchaug River was preferred for offering a balance of connectivity and scenic views
- Support for a continuous sidepath along Newfield Street and connections to Veteran's Memorial Park (even if that isn't the preferred alignment)
- Some concerns about the Main Street/St. Johns Square intersection and safe access across the Arrigoni Bridge were raised
- In Portland, many participants supported using the currently active rail corridor for a continuous trail alignment as an alternative to Freestone Avenue (participants also liked that this option avoided the busy Main Street/Route 66 intersection)

Breakout group discussion at Public Workshop #1 on June 10, 2024

Held five months later, workshop #2 focused on summarizing the evaluation process for the route options and the team's resulting Draft Preferred Alignment. The presentation included a summary of the estimated cost of the Preferred Alignment and the likely permitting needs. The workshop featured multiple trail cross sections and before-and-after photo renderings. The latter highlighted critical elements such as the boardwalk concept across the Coginchaug River, the proposed trail crossing at Newfield Street, and the North Main Street sidepath connecting to the Arrigoni Bridge. During the Q&A session after the workshop, many meeting attendees expressed support for the Preferred Alignment and the study's overall progress.

4.3: Pop-up Events

The Planning Team held two pop-up events to engage with community members and gather input on the CCLT. The events included project information and maps at the "Holiday on Main Street" event in Middletown (December 2023) and at the Middlesex County Chamber of Commerce Member Luncheon in Rocky Hill (January 2024). The team shared information about the study, distributed flyers, and hosted interactive displays. The latter included study area maps and "dot exercise" boards, allowing participants to provide feedback on preferred trail types, on-road treatments, and amenities. Children participated as well by marking their favorite walking or biking destinations in Middletown and Portland. The two pop-ups elicited input from approximately 100 community members who contributed valuable insights, helping to guide trail route options and draft recommendations.

Planning team members engage with community members at the December 9, 2023 pop-up event on Main Street in Middletown

4.4: Stakeholder Meetings

Stakeholder meetings were held throughout the planning process, engaging municipal representatives, trail advocates, and state agencies to promote a comprehensive approach to trail planning. The latter included the Connecticut Department of Energy and Environmental Protection (CTDEEP) and the Connecticut Department of Transportation (CTDOT). In aggregate, the meetings were instrumental in refining the trail alignments, ensuring they met the diverse needs of the community and adhered to state regulations and best practices.

CTDEEP's input focused on environmental considerations, such as preserving natural habitats, ensuring sustainable trail design, and evaluating the impact on protected lands and waterways. Their expertise was vital in helping the team understand the regulatory compliance and environmental permitting issues. CTDOT's input focused on state transportation assets along some of the proposed trail route options, particularly the options running adjacent to the state-owned rail corridors and along Route 3/Newfield Street in Middletown.

Another critical stakeholder meeting was held with developers of the large residential project on Newfield Street. Representatives from the development team expressed support for a potential CCLT route through the development site, suggesting that the trail would be a significant amenity for future residents for both recreation and to access downtown Middletown on foot or by bike.

4.5: Project Website

Early in the process, a project webpage was established and hosted on RiverCOG's website to support the study. The webpage provided a resource for the community, featuring the project vision, general information, FAQs, and details about upcoming events and activities. To ensure transparency and continuous public engagement, the site included meeting minutes, agendas, slide presentations, handouts, and other relevant materials. The webpage also allowed the public to submit comments directly online, enabling broader participation from those unable to attend in-person workshops and events. Additionally, a contact database was developed and maintained throughout the study, serving as a tool to inform interested individuals about future events and share draft content.

5 PREFERRED ALIGNMENT

The Preferred Alignment for the Central Connecticut Loop Trail through the Middletown-Portland Study Area was informed by:

- input from key stakeholders and the general public,
- feedback from the Technical Advisory Committee, and;
- the evaluation and scoring of the alternatives discussed in Ch. 3.

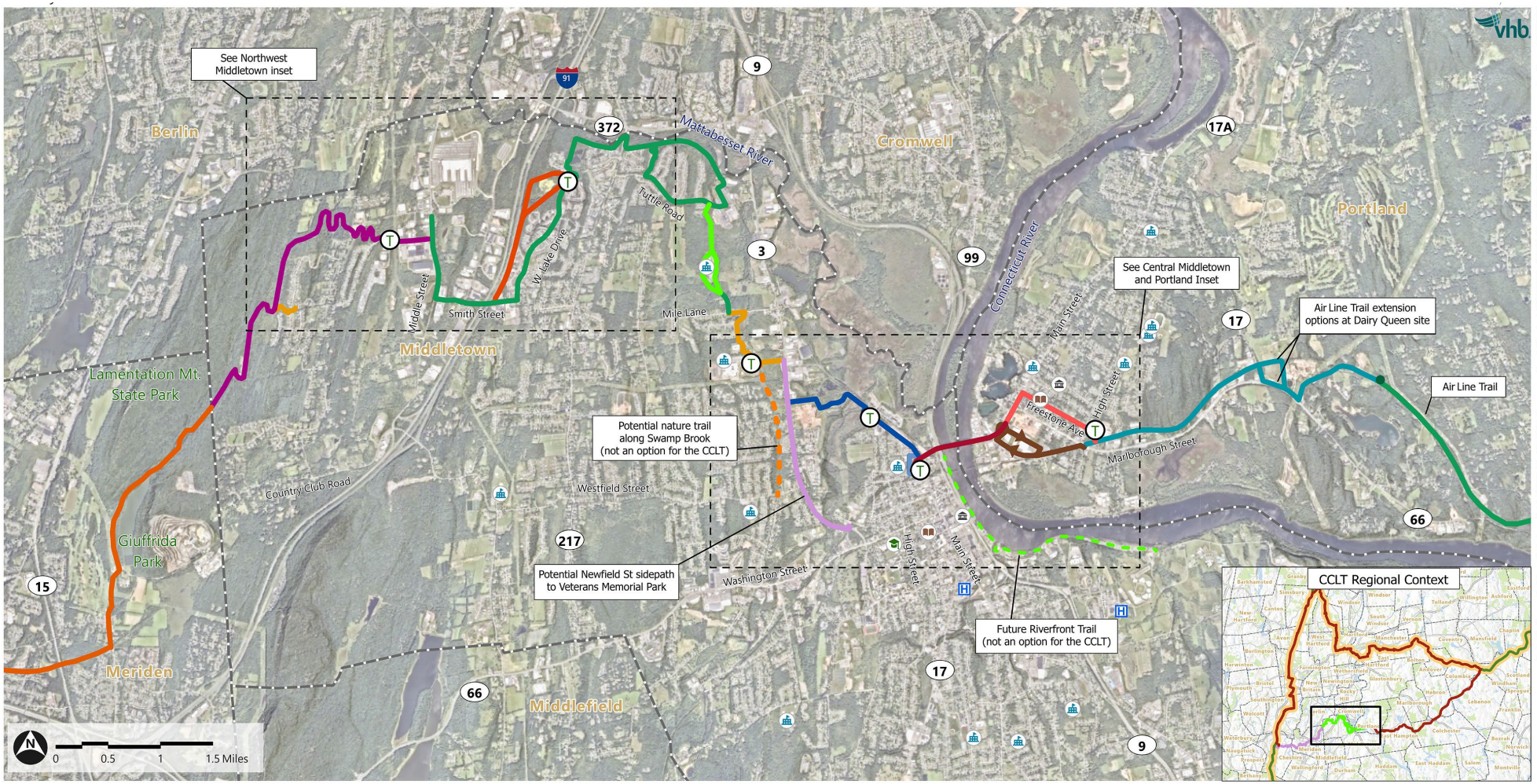
The recommendations outlined in this chapter include the Preferred Alignment, along with the spur routes, future trail connections, and trailheads that complement the primary CCLT alignment. Incorporated into the recommendations are discrete trail segments intended to provide pedestrian and bicycle connectivity in the short term.

This is in recognition that permitting, cost, and property ownership issues may require incorporating existing roads, sidewalks, and paths for the short term until funding and other logistics can be lined up to complete the desired route. Ultimately, however, the CCLT is expected to be a 10'-12' wide, paved mutli-use trail—with stonedust surface and boardwalks in environmentally sensitive zones and on-street links in discrete areas.

Recommendations for the CCLT's preferred alignment are broken into three general areas as shown in the map on the next page:

- West Middletown/I-91 Corridor (roughly from the Meriden City Line to the Mattabesset River Trailhead)
- Central Middletown (from Tuttle Road to the Arrigoni Bridge)
- Town of Portland

Figure 7: Central CT Loop Trail Preferred Alignment in Middletown and Portland

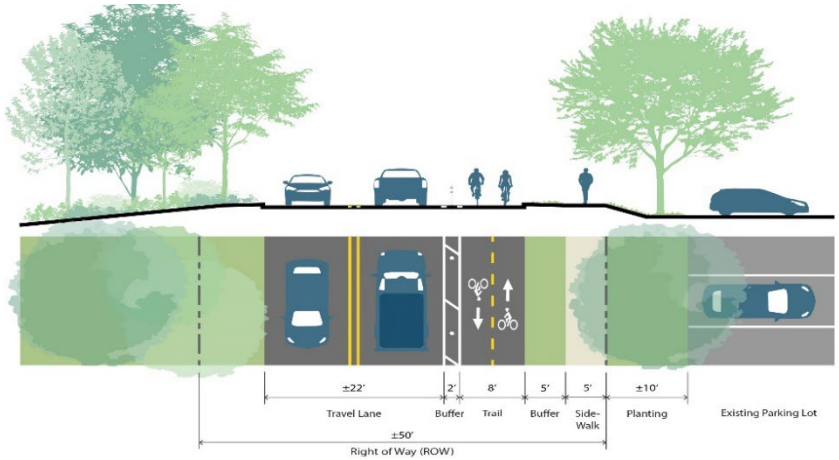


5.1: West Middletown/I-91 Corridor

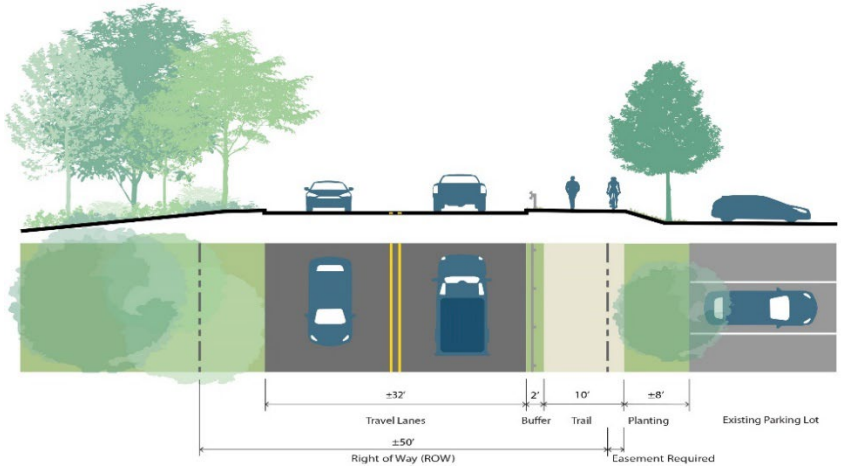
At the Meriden City Line, the Preferred CCLT Alignment will seamlessly connect with the City of Meriden's proposed CCLT route along the east edge of Lamentation Mountain State Park (see description of the City of Meriden's plan for the Giuffrida Park Trail on p. 11). On the Middletown side, the CCLT proceeds north through property primarily owned by the City. Spur connections/access points to the adjacent neighborhood are able to incorporate the existing accessway at Scarborough Lane with additional access points possible at the ends of one or more of the adjacent cul-de-sacs. Reaching a peak elevation of 260 feet, the trail will require 5-6 switchbacks to drop down to Atkins Street's roughly 190-foot elevation.

Crossing Atkins Street at a new trail crossing (with rectangular rapid flashing beacons/RRFB), additional switchbacks are required to access Timber Ridge Road. At this location, a proposed trailhead would provide vehicle parking, an information kiosk, and seating area. To link with the existing sidepath facility along Middle Street, the Preferred CCLT Alignment follows Timber Ridge Road. Two design options should be considered for this 1,500' length of trail: either a two-way on-street bikeway (within the current road width) with new sidewalk, or a 10'-12'-wide sidepath adjacent to the roadway.

Timber Ridge Road: Recommendation Option A (two-way, on-street bikeway)



Timber Ridge Road: Recommendation Option B (sidepath adjacent to roadway)



At the Timber Ridge Road/Middle Street intersection, a new trail crossing with a recommended RRFB is needed to connect to the existing sidepath along Middle Street. Only modest upgrades and resurfacing of the sidepath is likely necessary with enhanced crosswalk markings needed across the wide curb cut to the Middletown Business Park property near the Middle/Smith intersection. As the existing sidepath transitions on to Smith Street, the segment from Middle Street to West Lake Drive is in need of more significant repair and widening in places to accommodate the desired 10' (up to 12') wide standard. Enhanced crosswalks at some of the wide commercial curb cuts will also be needed. Just east of the route crossing below the two I-91 overpasses, the Preferred CCLT Alignment divides into phased recommendations.

Short-term Route

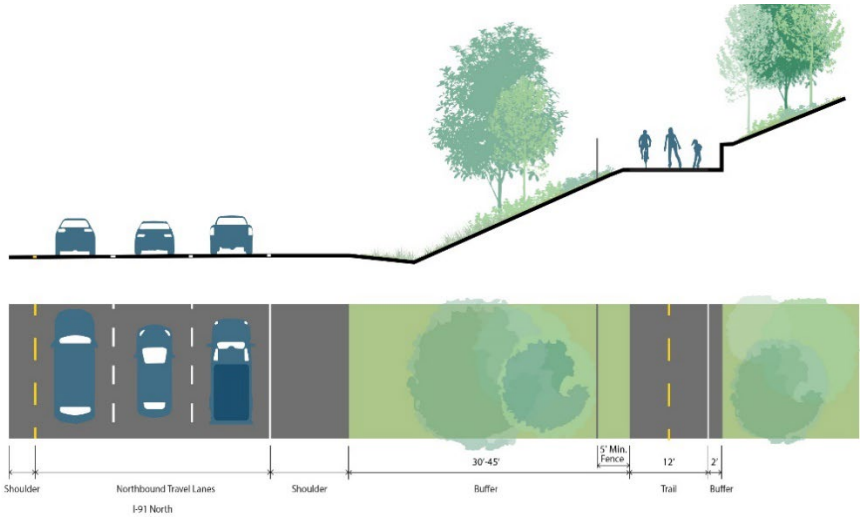
In the short-term, the existing north-south sidepath along the east side of West Lake Drive, from Smith Street to Russett Lane, would be incorporated as the CCLT. Only spot improvements, including enhanced crosswalks at driveways, would be needed to meet standards for a shared use path.

Long-term Route

To avoid the somewhat steep grades along West Lake Drive and the occasional congested conditions along the existing sidepath, in the long-term, the Preferred CCLT Alignment recommends a new shared use path from Smith Street to Russett Lane. The route would use portions of the I-91 right of way (ROW), along with City-owned properties east of the interstate.

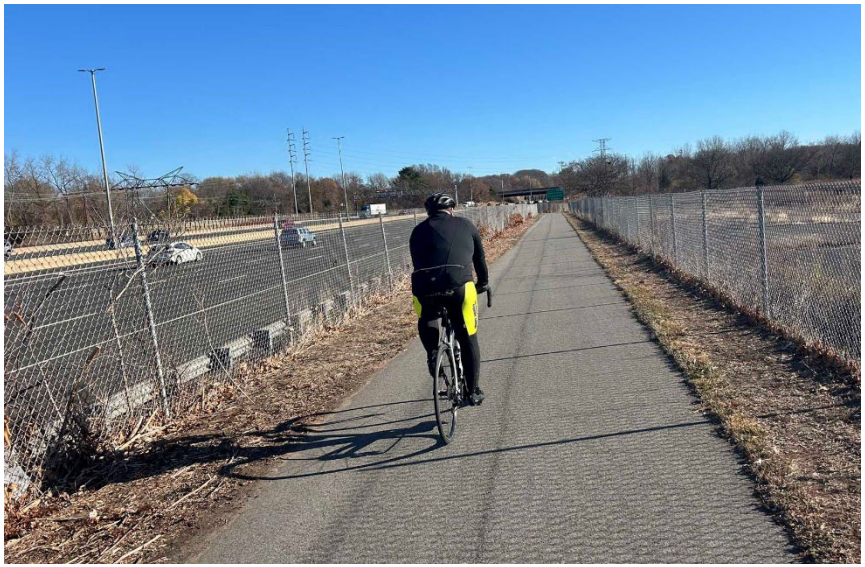
From Smith Street, the route proceeds for nearly 4,000 feet within the I-91 ROW, adjacent to a series of multi-use residential complexes. At Smith Street, the close proximity of a home will require careful design and outreach to minimize the trail's impact on residents. Because of the shifting grades of the land at the east edge of the ROW, in some areas the CCLT would run at a level lower than the roadway itself and in other areas, the trail would sit above highway traffic (see graphic below). Where feasible physically, potential short spur trails could provide direct connections between the CCLT and the adjacent residential areas, depending on the level of interest of the property owners and the residents.

Illustration of the approximate location of the CCLT within the Interstate 91 Right of Way *(further coordination with CTDOT required)*



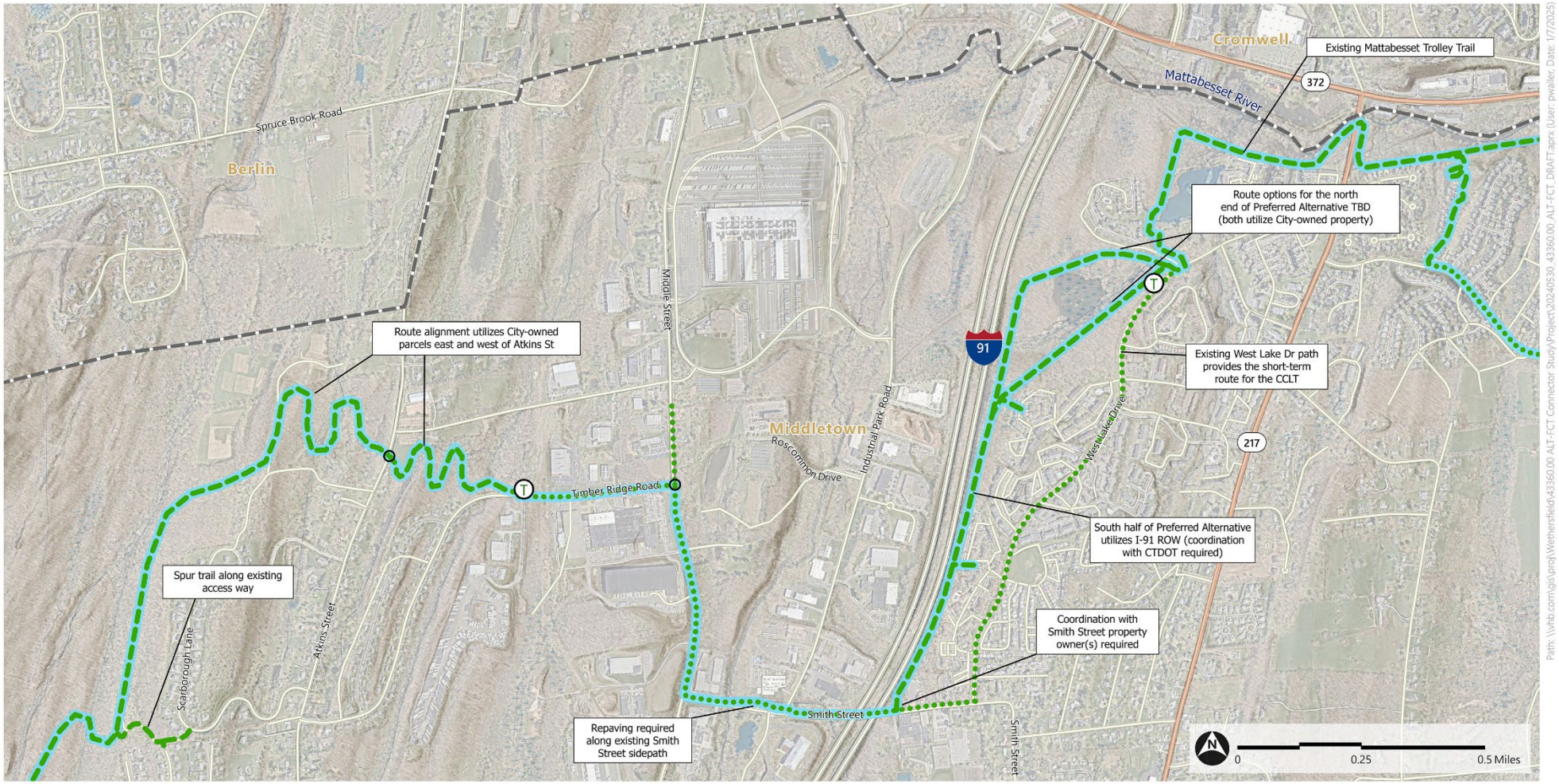
Although shared-use paths within interstate highway rights of way are not common, there are examples in Connecticut (see image below). Regardless, close coordination with Connecticut DOT will be needed to ensure that the trail can be accommodated within the ROW width with the proper offsets from the roadway and with appropriate fending and other security features.

Shared-use path example within an interstate highway ROW (Charter Oak Greenway adjacent to I-84 in East Hartford)



Just north of the Northwoods Apartments – West complex, two sub-options—both within City of Middletown-owned property—for the Preferred CCLT Alignment are available to link with Russett Lane. One route passes north and west of a significant wetland area between I-91 and W. Lake Drive, while the other skirts south and east of the wetland. Permitting issues, potential impact to the wetland, and topography will need to be considered before a final route determination is made. From an enhanced crossing at Russet Lane, the route then joins with the existing Mattabesset Trail—which includes a river spur and a sidepath along Tuttle Road—and continues north and east towards the center of Middletown.

Figure 8: Central CT Loop Trail Preferred Alternative – Northwest Middletown Inset



5.2: Central Middletown

Mattabesset River Trail to Mile Lane

Currently, the river spur and the sidepath spur of the Mattabesset River Trail converge at the intersection of Tuttle Road and Tuttle Place. The Preferred CCLT Alignment proceeds south to Mile Lane following a route developed by the City of Middletown in 2020. That alignment requires a new crossing of Tuttle Road, just east of Sandtrap Lane and runs south on City-owned property. It passes to either the east or west of the Lawrence School campus and join with the existing sidepath running along the east side of Kaplan Drive. The crossing at the sidepath's termination could potentially be improved with an RRFB, given traffic volumes and speeds on Mile Lane.

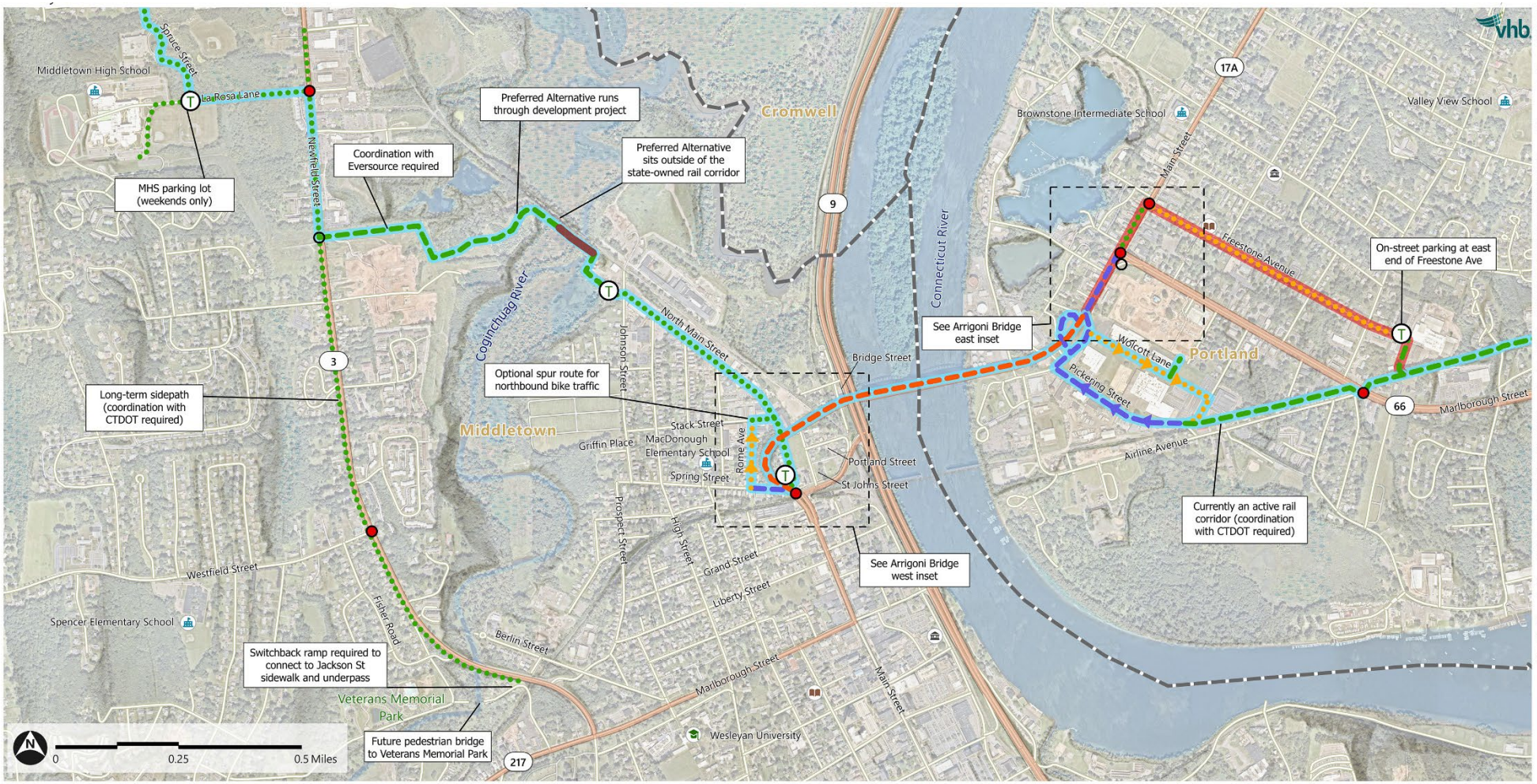
Mile Lane to Newfield Street Crossing

From the south side of Mile Lane, the Preferred CCLT Alignment follows the East Swamp Brook corridor to La Rosa Lane. South of Birchwood Drive, the CCLT would be a sidepath along Spruce Street. In some segments, the path would lie very close to the street while in others enough space is available for a broader landscaped offset, putting the path closer to the brook itself.

With City approval, the Middletown High School parking lot could serve trail users on weekends, with a trailhead at the Spruce/La Rosa intersection featuring an information kiosk and seating. From there, the existing sidewalk would be widened to accommodate the min. 10'-wide CCLT heading east. At Newfield Street, the Preferred CCLT Alignment runs south for ~1,500 feet as a min. 10' wide sidepath, replacing the existing west sidewalk. The adjacent utility poles may need to be relocated to avoid their encroachment into the sidepath zone. Where the future sidepath meets the Eversource power line corridor, the Preferred Alignment turns east at a proposed crossing. In coordination with CTDOT, the preferred crossing design will need confirmation: either a full signal, a pedestrian hybrid beacon—shown in graphic at right—or other treatment. (Note: this Study also recommends that Newfield Street west sidepath continue further south and provide a link to Veteran's Memorial Park and the pedestrian underpass at Jackson Street.)

View of current conditions along Route 3/Newfield Street at the powerline crossing (top), and rendering of recommended pedestrian hybrid beacon and other trail-crossing improvements as part of the Preferred CCLT Alignment *(further coordination with CTDOT required)*

Figure 9: Central CT Loop Trail Preferred Alternative – Central Middletown and Portland Inset



- Schools
- Public Library
- City/Town Hall
- Hospitals
- State Highways
- Local Streets
- Municipal Border
- Signalized Crossing (Existing)
- Proposed Crossing (Signal or Beacon)
- New Bridge/Boardwalk Required
- Potential Trailhead and Parking Area

Trail Route Typology

- Bicycle Lane
- Shared Roadway (w/Traffic Calming)
- Shared Use Path
- Sidepath in Road ROW
- Sidewalk Pathway

Middletown Alignment

- Preferred Alternative

Portland Alignment

- Short-Term
- Long-Term

Newfield Street Crossing to N. Main/Johnson Intersection

Arguably the most challenging segment of the Preferred CCLT Alignment within the entire Study Area lies between the Newfield Street crossing and the intersection of N. Main Street and Johnson Street to the east. Between the two end points, a number of complexities within the route will require strong coordination with utilities, property owners, and regulatory agencies.

Powerline Corridor

After crossing Newfield Street, the future CCLT will run within the power line corridor to reach the nearby residential development project (currently under construction). Access permits or easements from Eversource will be needed, a process that could be time consuming.

Newfield Street Residential Development

From early on the in the process, the planning team has been in close coordination with the developers of the residential Springside Middletown project on the east side of Newfield Street. Officials are supportive of the CCLT's presence within the development site and believe it could offer a tremendous amenity for the new residents. Final details of the routing and design characteristics of the trail will be needed to ensure ongoing support from the developers and any future owners of the land. In all likelihood, the CCLT will take a form of a sidepath along the primary east-west access drive.

Crossing the Coginchaug River

From the edge of the development site to the east bank of the Coginchaug River, a roughly 800'-long segment of the CCLT will require an elevated boardwalk and a roughly 200'-long bridge structure. Running immediately parallel to the state-owned rail corridor to the north, the boardwalk is needed to provide passage over the river's floodway and associated wetlands. The next chapter (Implementation Strategy) of the report outlines the permitting process required by the state's Department of Energy and Environmental Protection (CTDEEP) and the associated challenges.

Figure 10: Map diagram of the potential alignment and (at bottom) rendering of concept design for a 750'-800' long elevated boardwalk and bridge as part of the Preferred Alignment

Access to the N. Main/Johnson intersection

To ensure a logical connection from the end of the boardwalk/bridge structure to the N. Main/Johnson intersection, cooperation with the adjacent property owner will be needed. As shown in the graphic on the previous page, the property could potentially offer space for a trailhead, parking area, and/or a public riverfront park. The latter could include passive open space, additional footpaths along the river, a put-in for kayaks and canoes, and restrooms. If this is not possible, the Preferred CCLT Alignment would loop around the property on a narrow easement.

N. Main/Johnson Intersection to the Arrigoni Bridge

Routing between the N. Main/Johnson intersection to the Arrigoni Bridge includes a new sidepath along the full length of N. Main Street. Currently, the 36'-wide roadway sits within a 50'-wide ROW and includes two travel lanes, on-street parking on each curb, and sidewalks on both sides. Utility poles run along the north/east side of the ROW. Recommendations for incorporation of the Preferred CCLT Alignment include:

- restricting on-street parking to the north side only (right side in the photo)
- relocating the south/west curb 6' further into the roadway (will require relocation of storm drains and other below-grade utility work)
- replacing the existing 5'-wide sidewalk with a minimum 10'-wide asphalt path
- incorporating a min. 4'-wide green strip with additional street trees between the path and the curb (or in constrained areas, this zone may be replaced with a crash barrier/guide rail)
- enhanced crosswalks at side streets and green pavement markings at wide curb cuts (e.g., the River Valley Transit bus depot)

View of current conditions along N. Main Street from Stack Street (top), and rendering of the recommended sidepath and streetscape improvements along the south side as part of the Preferred Alignment

N. Main/Johnson Intersection to the Arrigoni Bridge (cont.)

As the two-way path along N. Main Street continues south, it will connect to a parking area and trailhead at the property just northwest of the Main Street intersection (see the "T" in the diagram at right) currently being planned by the City of Middletown. The N. Main Street/Main Street/St. Johns Square signalized intersection provides access to the Arrigoni Bridge sidewalks. Trail users heading **to** Portland will have a seamless connection to the bridge's south sidewalk without having to cross the intersection. Bicyclists riding along the bridge's north sidewalk—coming **from** Portland—will have the option to either cross Main Street at the traffic signal to access the N. Main Street sidepath or they could flow onto the Spring Street bike lane to access Rome Avenue, which parallels N. Main Street. From Rome Avenue, riders could access the N. Main Street path via proposed improvements along Stack Street. Though not formally part of the CCLT, this route would be considered a spur trail.

Proposed cross-section of N. Main Street south of the Arrigoni Bridge

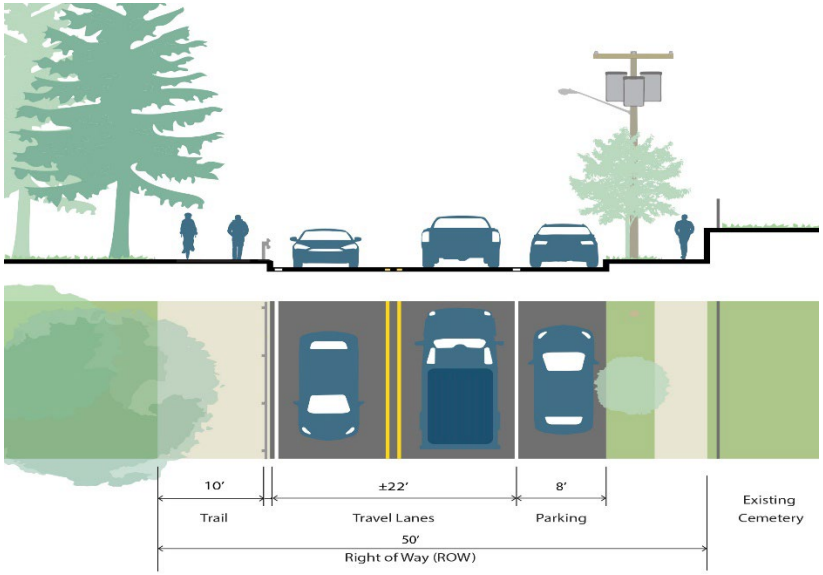


Figure 11: Arrigoni Bridge WEST Inset

- Signalized Crossing (Existing)
- Proposed Crossing (Signal or Beacon)
- State Highways
- Local Streets

Trail Route Typology

- Bicycle Lane
- Shared Roadway (w/Traffic Calming)
- Sidepath in Road ROW
- Sidewalk Pathway
- Ⓣ Potential Trailhead and Parking Area

5.3: Portland

As the CCLT continues over the Connecticut River and enters Portland, the Preferred Alignment diverges into a short-term and a long-term recommended route through the downtown area.

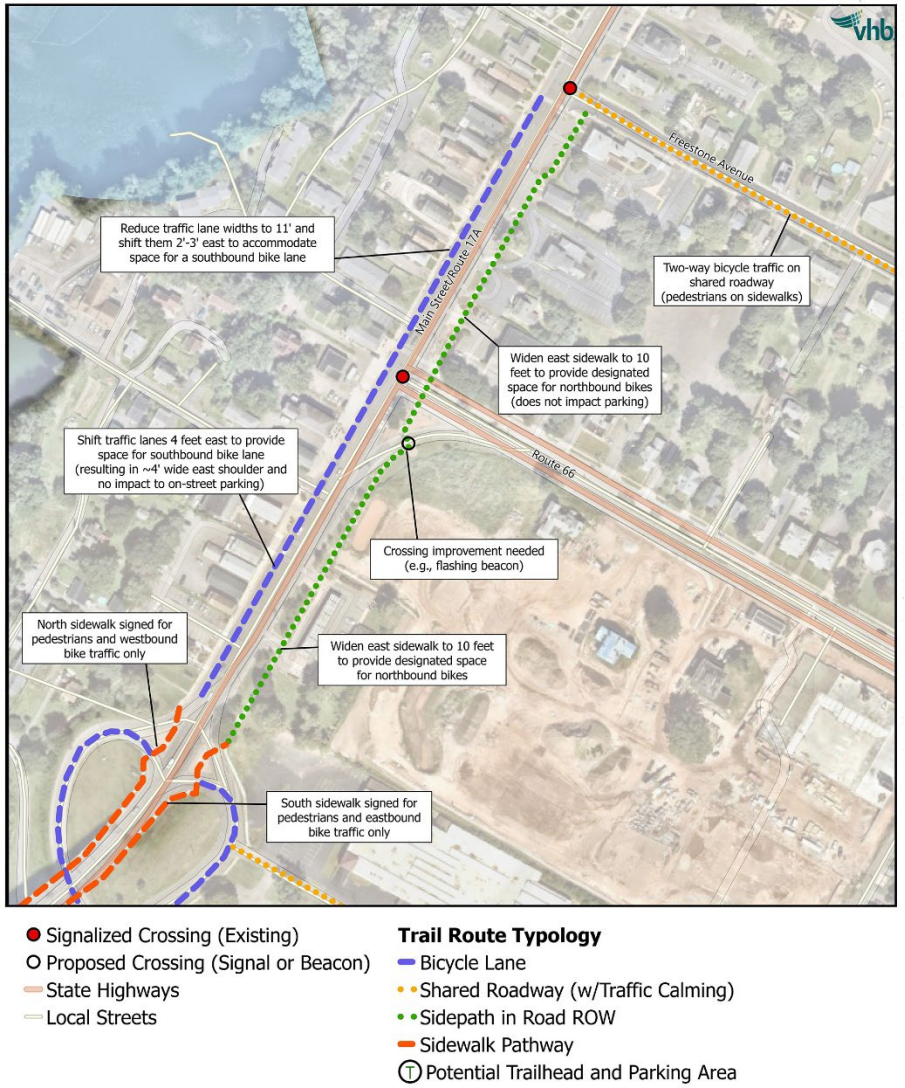
Short-term Connection using Main Street/Freestone Avenue

In the short term, this study recommends that CCLT improvements are made along Main Street and Freestone Avenue. Recommended trail access to, and from, the Arrigoni Bridge considers the one-way nature of bicycle travel over the bridge:

- eastbound bicyclists coming off the south sidewalk would remain on the east side of Main Street and use a 10' shared use path—currently a 5'-wide sidewalk—for northbound travel towards Freestone Avenue (at the Rt. 66 intersection, installation of a traffic calming measure or pedestrian/bike crossing improvement such as an RRFB is needed to improve safety at the busy right turn lane)
- westbound bicyclists heading to the Arrigoni Bridge's north sidewalk would use an on-street bike lane from Freestone Ave to the bridge. Space is available for the southbound bike lane by reducing the width of the existing travel lanes and/or shifting traffic lanes slightly east to accommodate the new bike lane. Pedestrians would simply use the existing sidewalk on the west side of Main Street.

From Freestone Avenue east, the Preferred CCLT Alignment continues as an on-street facility, ideally with traffic calming measures such as speed humps and a median crossing island at the Portland Public Library crosswalk. Because of the relatively low traffic volumes, bicyclists could share the road with motor vehicles while pedestrians use the existing sidewalks. At the east end of Freestone Ave, the route crosses High Street and links with the abandoned Air Line rail corridor.

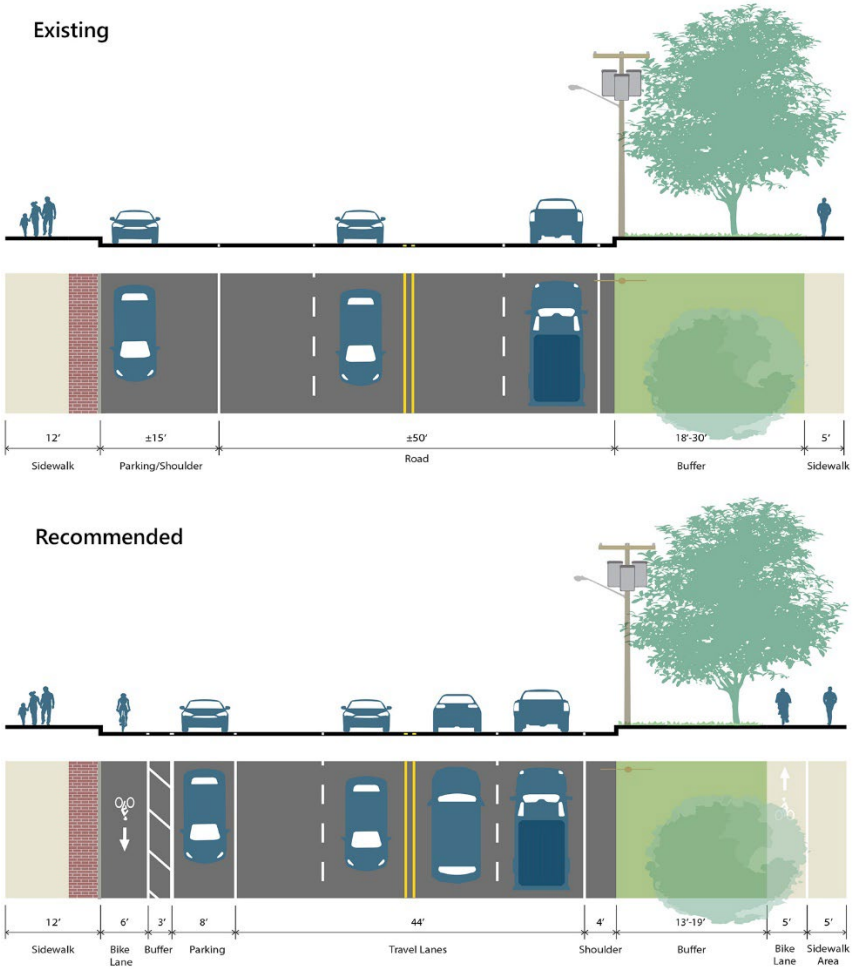
Figure 12: Arrigoni Bridge EAST Inset



Reconfiguration of Main Street in Portland

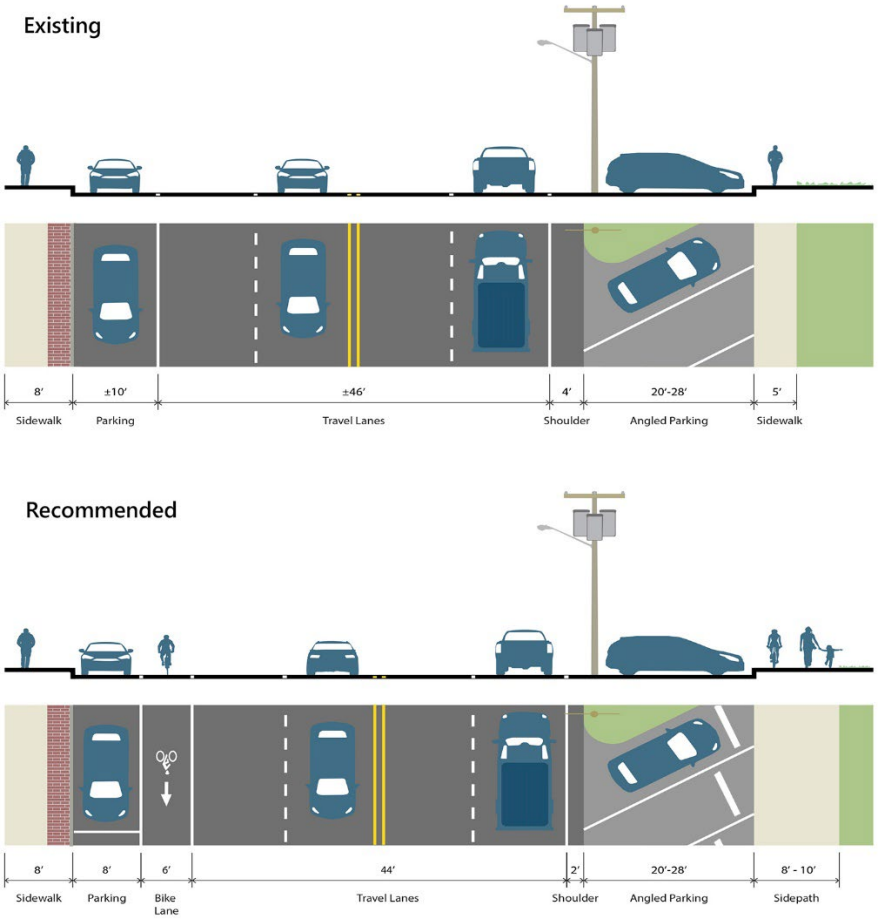
To accommodate the recommended bicycle lane and shared-use path improvements described on the previous page, a modest reconfiguration of the roadway—particularly the traffic lane widths—will be required. Because Main Street is also CT State Route 17A, coordination with CTDOT will be required throughout the process.

Main Street between Arrigoni Bridge and Route 66



Because the curb-to-curb width of Main Street changes on each side of the Route 66 intersection, the pairs of graphics below illustrate the revisions needed. In both circumstances, northbound bicycle traffic would share space with pedestrians on a path, while southbound bicycle traffic would have access to either a standard bike lane (between Route 66 and Freestone) or a separated bike lane (between Route 66 and the Arrigoni Bridge), a result of the slightly wider roadway segment on the approach to the bridge.

Main Street between Route 66 and Freestone Avenue



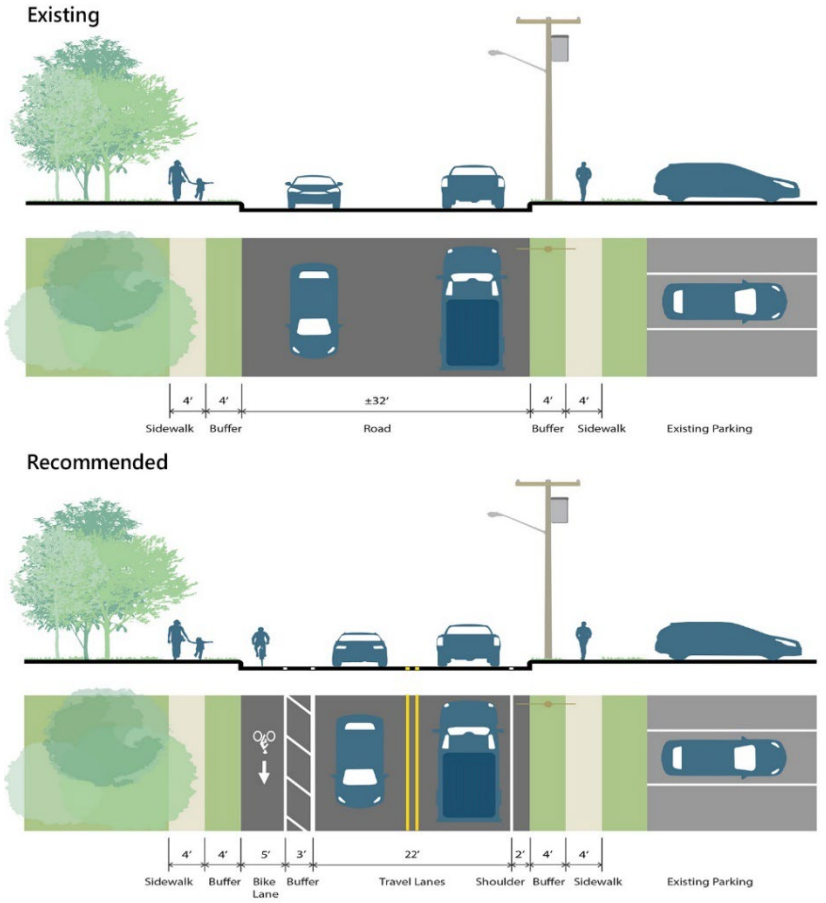
Long-term Connection using Rail Corridor/Pickering Street

In the long-term, the Preferred CCLT Alignment incorporates the existing state-owned rail line—which is still active from the river to Route. 66—as a future trail conversion from the Pickering Street intersection east to Marlborough Street/Route 66, crossing at the existing traffic signal at Airline Avenue. (Unfortunately, there is not enough space within the railroad right-of-way to incorporate both a trail and a rail line.) On the other side of Route 66, the CCLT would proceed further east. Currently, the Town of Portland the Air Line Trail Committee is meeting with, and in some cases, already negotiating with adjacent property owners about accommodating a rail trail from Route 66 to the current terminus of the Air Line Trail near Jobs Pond. That segment of the CCLT will require roadway crossing improvements at Williams Street, and at Gospel Lane/Route 17.

Photo view looking southwest of the active rail line crossing of Pickering Street

The connection between the long-term rail trail and the Arrigoni Bridge sidewalks would be made through the industrial area via Wolcott Street (for most pedestrians and eastbound bicyclists), and Pickering Street (for westbound bicyclists). As shown below, the latter is wide enough to accommodate a westbound bicycle lane to allow riders access to the Arrigoni Bridge north sidewalk (after passing under the bridge off Lower Main Street.)

Pickering Street between Main Street and Railroad Avenue



5.4: Cost Estimate

The table below (and the map on the following page) outlines the opinion of probable cost in current dollars for construction of the recommended Preferred CCLT Alignment through Middletown and Portland. Additional detail can be found in the Appendix. The cost estimates are meant to provide RiverCOG with a base construction cost that can inform their decisions about future funding and budgeting. Additional concept development and design will need to be completed to refine these cost estimates.

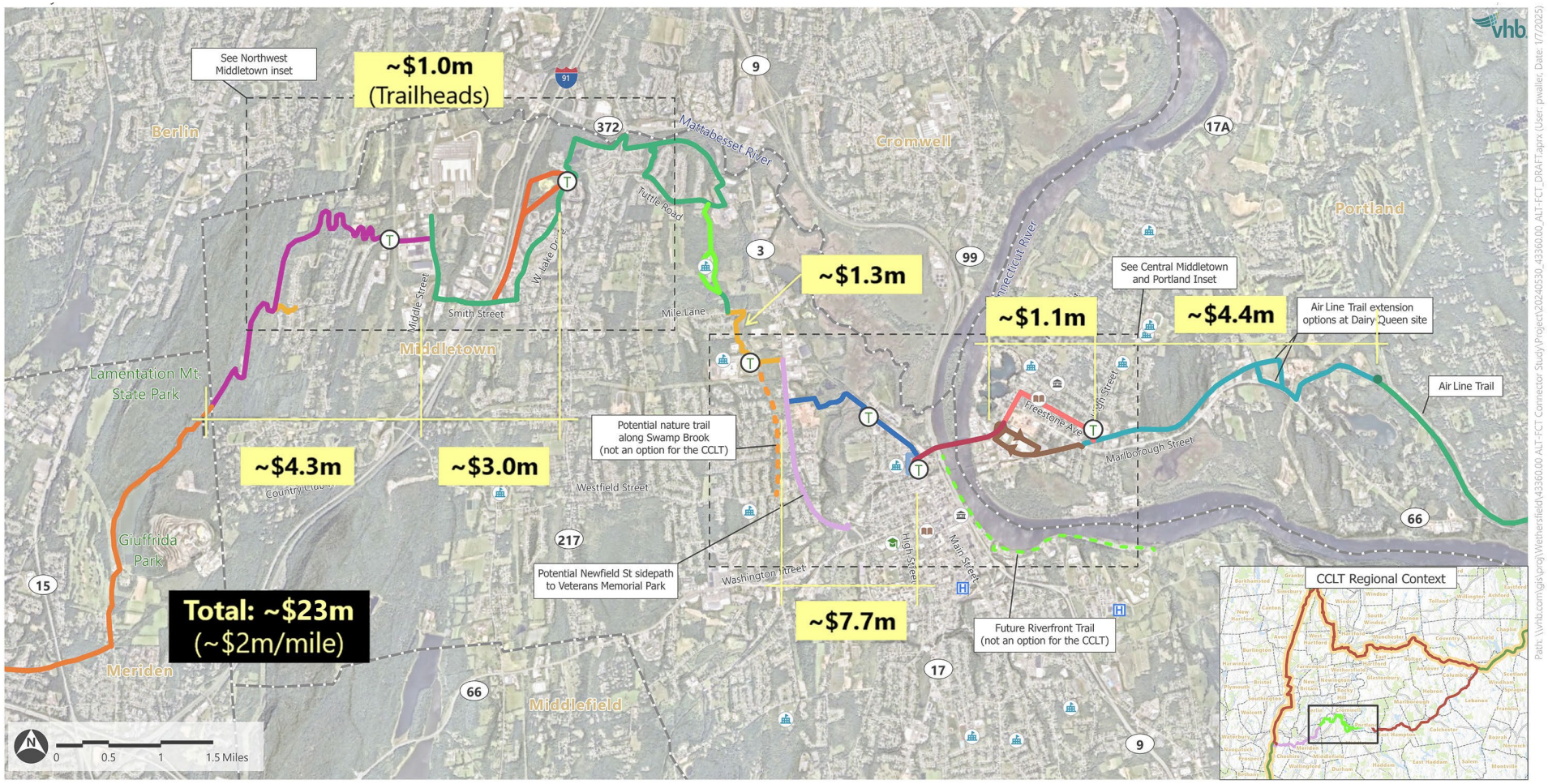
The total opinion of probable cost for this project is just under $23 million (in 2024 dollars), including contingency costs. This equates to roughly $2 million per mile. The estimate assumes the following:

- With the exception of boardwalks and potentially discrete segments adjacent to environmentally sensitive areas (TBD), off-road segments of the trail are assumed to be a paved surface
- No additional surface treatment to segments that run along existing multi-use paths, with the exception of the sidepath along Smith Street which needs repair.
- Costs do not include three additional routes shown on the recommendations map: 1) potential spur trail along Swamp Brook, 2) the sidepath along Newfield Street (south of the power line corridor), or 3) the City's proposed Riverfront Trails southeast of downtown Middletown.
- Road crossings will include a striped crosswalk, trail crossing signage, and in most cases, installation of rectangular rapid flashing beacons (RRFBs) or a pedestrian hybrid beacon (aka a HAWK signal).
- Estimates are not based on detailed material quantities which would be developed during the project design phase.
- Estimates for each segment include 25% for incidentals such as construction administration, 25% contingency costs, and one year of 5% annual inflation.

Table 3: Summary of Preferred CCLT Alignment Costs

Meriden Line-to-Middle St segment	$4,328,000
Middle St to W. Lake Dr existing path	$2,960,000
Mile Ln to La Rosa/Newfield intersection	$1,337,000
La Rosa/Newfield intersection to west end of the Arrigoni bridge	$7,660,000
East end of Arrigoni Bridge to Air Line RR corridor at RT 66 (via Main/Freestone)	$1,050,000
Air Line RR corridor from RT 66 to the west terminus of the Air Line Trail	$4,403,000
Estimate for improvements at 6 trailhead locations	$1,000,000
ROW, Permitting, Mitigation costs, and design fees (Not Included)	-
Estimate TOTAL (11.5 miles)	**$22,738,000**
(Cost per Mile)	($1,997,000)

Figure 13: Central CT Loop Trail Preferred Alternative – Summary of Cost Estimate, Per Segment



5.5: Trail Design

Trail Width and Surface Condition

As a multi-use trail that is intended to be used by a wide variety of area residents and visitors, the CCLT should be wide enough to accommodate a relatively high number of people walking, bicycling, running, and using wheelchairs and scooters. Ten feet in width should be considered a minimum with 12 feet the ideal in most locations. A two-foot-wide grass/stonedust shoulder area is recommended throughout and is required adjacent to any vertical element or structure. In constrained areas or where physical/environmental conditions preclude 10'-12 feet, 8 feet is permissible but only for discrete distances.

Example of a 10'-wide trail with 2'-wide soft shoulders (Lexington MA)

The dynamic portion of the trail (10'-12', not including the grassy shoulders) is anticipated to be paved in asphalt in most areas of the CCLT. This provides the most versatile surface for different trail users and is relatively easily maintained. Segments of the trail set within environmentally sensitive zones or areas with a particularly natural aesthetic that is desired to be enhanced, could be surfaced in stonedust as an option. Stonedust is still ADA accessible but requires additional maintenance compared with asphalt.

Trail Typologies: Off-road

Shared-use Path in wooded area or rail corridor (paved) – A shared-use path (SUP) is physically separated from motorized vehicular traffic. Paved and with an ADA-accessible max. running slope of 5% (with steeper exceptions allowed only for discrete lengths), 10-12-foot-wide SUPs are used by pedestrians, runners, skaters, wheelchairs users, and bicyclists. Design criteria for SUP's (design speed, minimum curve radii, stopping sight distance, etc.) are similar for design of roadways but modified based on the operating characteristics of a bicycle as a vehicle and bicyclist as a vehicle operator.

Paved Mattabesset River Trail in Middletown

Shared-use Path in wooded area or rail corridor (stonedust) – In some environmentally-sensitive areas of the CCLT corridor (e.g., adjacent to wetlands), stonedust may be used as the trail surface. Like their paved cousins, stonedust SUPs also meet ADA standards and are used by pedestrians, runners, skaters, wheelchairs users, and bicyclists.

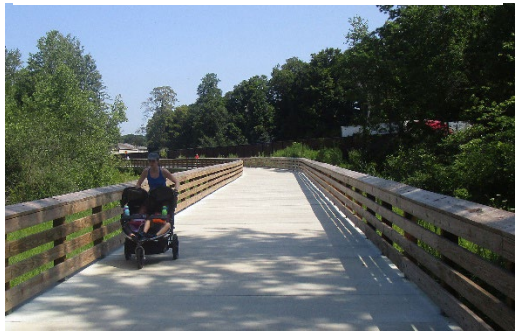
Stonedust Air Line Trail in Portland

Sidepath within Road ROW – A sidepath is a SUP that lies within a designated road right of way. In the case of the CCLT, sidepaths have been recommended along both local streets and state roadways (e.g., Route 3/Newfield Street). To provide a reasonably comfortable and safe environment for trail users, sidepaths are to be offset from the edge of the roadway by either a minimum five-foot wide landscape strip or, in tight conditions, by a crash barrier/guide rail. In the latter scenario, presence of utility poles can be particularly disruptive. Utility poles can be relocated if possible and in a worst-case scenario, pavement markings within the trail will be needed to guide bicyclists away from the encroaching utility poles.

Tuttle Road sidepath in Middletown

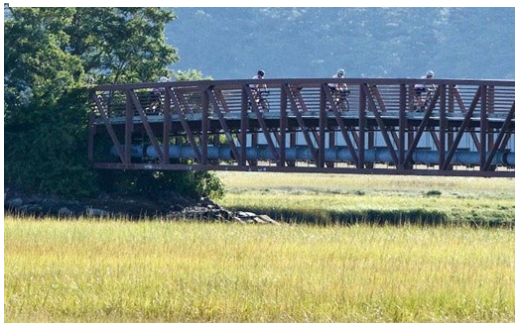
Boardwalk Path – A boardwalk path is also a multi-use facility that is used to close trail corridor gaps that cross streams, wetlands, and other environmentally sensitive areas. Boardwalk segments along the CCLT should be no less than 10 feet wide, ideally up to 14 feet to accommodate "shy distance" from the railing on each side. Railings are required when boardwalks lie at least 30 inches above the ground plane. This is very likely for the CCLT boardwalk segment within the Coginchaug River floodplain, in which an elevated structure provides a buffer for major flood events and provides opportunities for sunlight to reach vegetation below.

14-foot-wide boardwalk path in Cheshire



Trail Bridge – like boardwalks, trail bridges are multi-use path used to span over barriers such as busy roadways, interstate highways, and rivers. Their width should also accommodate trail user "shy distance" from adjacent railings and therefore should be up to 14 feet wide. Within the CCLT's Preferred Alignment the primary location for a trail bridge is at the Coginchaug River crossing just north of the N. Main /Johnson Street intersection. Other, shorter bridges may also be needed in discrete locations along the route between West Lake Drive and I-91, or adjacent to East Swamp Brook, north of La Rosa Lane.

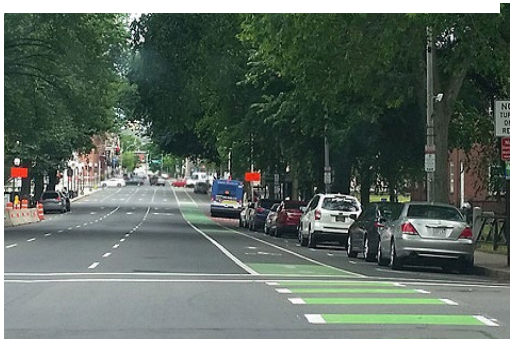
Example trail bridge in Scarborough Maine



Trail Typologies: On-road

Bicycle Lane (Standard) – A bicycle lane is a portion of a roadway that has been designated for preferential or exclusive use by bicyclists by pavement markings and if used, signs. Bike lanes are recommended where space may not be available for a shared-use path within a road right of way—e.g., along portions of Main Street

Standard bicycle lane in New Haven



in Portland. Segments of the CCLT with recommended bicycle lanes provide for pedestrian traffic along an existing sidewalk.

Bicycle Lane (Separated) – Where additional space along the roadway is available, a Separated Bicycle Lane (SBL) should be used. The "separation" comes in the form of min. 3'-wide striped buffers with delineator posts, a row of parked cars, or a barrier curb with min. 2' wide buffer for sidewalk-level SBLs. Two segments of the CCLT may be implemented with SBLs depending on the option selected and/or the Phasing Plan: Timber Ridge Road in Middletown and portions of Main Street in Portland.

Separated bicycle lane in Somerville MA

Shared Lane with Traffic Calming – A shared lane with traffic calming can be employed on streets with low traffic volume (<3000 daily vehicle trips) and typically low traffic speeds (<25 mph). Shared lanes are for use by bicyclists and motor vehicles, with potential speed humps, raised crosswalks, and/or median islands introduced as traffic calming measures. Existing sidewalks are to accommodate pedestrian traffic. The CCLT Preferred Alignment includes two shared lane recommendations in Portland: Freestone Ave (short term recommendation) and Wolcott Lane as the eastbound bike route that is part of the long-term recommendation.

Shared lane w median island in Portland ME

Trailheads and Amenities

In six locations along the Preferred CCLT Alignment, the planning team recommends trailheads. Trailheads can take a variety of forms but typically include some or all of the following:

- Parking areas, for as few as 4-5 cars with at least one handicapped space, that will be dependent on the space available and nearby roadway access; in some cases, an existing parking lot can be incorporated into a proposed trailhead
- Information kiosk that includes route maps, a community bulletin board, weather reports, and other information for trail users
- Public art installations, frequently with a trail theme
- Miscellaneous amenities such as benches, bike racks, and/or bicycle "fix-it" stands
- Water fountain
- Rest station that includes either port-a-potties or composting toilets

Example trailhead from the Norwottuck Rail Trail in Northampton MA showing handicapped parking, an information kiosk, seating area and shelter

6 IMPLEMENTATION STRATEGY

The key to successful implementation of a local or regional trail or greenway project is a thoughtful Implementation Strategy. This report is just the beginning of a multi-phase process that will take five or more years to complete. The CCLT Implementation Strategy should focus particularly on Environmental Permitting issues, Project Phasing, Funding Options, Promotion and Publicity, and preparing a final design RFQ for a high-priority segment of the Preferred Alignment.

6.1: Environmental Permitting and Compliance

To determine Environmental Permitting and Compliance issues, the following online sources were reviewed to determine the potential for regulated resources to occur within and/or along the trail segments:

- National Resource Conservation Service (NRCS) soils maps,
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps,
- Federal Emergency Management Agency (FEMA) floodplains, and,
- CTDEEP Natural Diversity Database (NDDB) mapping for known records of State-listed species and critical habitats

Table 4 on the following page identifies the municipality, environmental resources, and potential permits/approvals that may be necessary for each proposed trail segment along with an estimate of agency permit review time. Permitting requirements vary based on the regulated resources present in each trail segment. Some of the trail segments of the alignment may not require permitting due to the absence of regulated environmental resources. As the trail corridors are refined the potential to avoid and minimize impacts to environmental resources will be investigated. Accordingly, it may be possible to avoid the need to obtain various permits, which can be verified during a Pre-Application meeting. Since the CCLT project will likely be completed in multiple phases, the Pre-App meeting can also help to determine if permitting requirements would be less rigorous (depending on segment) than if the project was permitted in its entirety.

Notable resources that are within the proposed trail segments include:

- Coginchaug River and associated wetlands; some of the wetlands are considered tidal since they are likely below the CTDEEP Coastal Jurisdiction Line (CJL) elevation. Otherwise, they would be regulated as inland wetlands (though either federal waters or inland wetlands would be applicable).
- NDDB areas and critical habitat areas associated with the Coginchaug River.
- Although undetermined at this time, the presence of Wangunk Nation and other archaeological sites will trigger the need to coordinate with the State Historic Preservation Office (SHPO).
- The Northern Long-eared Bat (currently federally listed) and/or Tricolored Bat (only a proposed endangered species at this time) have the potential to occur in most of the proposed trail segments. If tree clearing is required, coordination with the USFWS for the one (or potentially two) federally listed bat species will need to be conducted using the USFWS Information for Planning and Consultation (IPaC) online tool regarding potential impacts to federally-listed bat species.
- FEMA 100-year floodplain and regulated floodways associated with the Coginchaug River and East Swamp Brook.

Potential permits and approvals that may be required from the CTDEEP and United States Army Corps of Engineers (USACE) include:

- USACE Section 404 Permit for wetland impacts.
- USACE Section 10 Approval for work in or over navigable waters.
- CTDEEP Certificate of Permission (COP) for minor, temporary work tidal wetlands.

- CTDEEP Pre-Construction Notification (PNC) Permit
- CTDEEP Structures/Dredging and Fill (SDF) permit for work in tidal wetlands that result in permanent impacts to wetlands.
- CTDEEP Stormwater Construction General Permit (GP) if the proposed trail has a total land disturbance of >1 acre. A Stormwater Pollution Control Plan is required to be prepared for this GP.
- CTDEEP NDDB coordination is required if work is proposed in an area that is mapped by the CTDEEP as NDDB areas (i.e., there a known records of State-listed species). This coordination with the CTDEEP NDDB is required to be conducted prior to submitting other permit applications to the CTDEEP. If the NDDB Determination includes listed species, surveys will be needed.
- USFWS coordination for federally listed species, particularly bat species. Coordination with the USFWS for federally listed species will be conducted using the information for Planning and Consultation (IPaC) online tool.

Table 4: Environmental Resources Summary and Potential Permits/Approvals by Segment

CCLT Segment (west to east)	Municipality	Environmental Resources Summary	Potential Permits/Approvals	Schedule for Submitting	Estimated Permitting Time Frame (a)
Shared use path on City of Middletown property (between Meriden City Line and Atkins St)	Middletown	Several areas of mapped wetlands; Not in FEMA floodplains; In NDDB areas: Potential tree clearing	If widening at inland wetland area Inland Wetland Permit and USACE Section 404 approval would be needed; Coordination for NDDB species; May require USFWS review for federally-listed bat species	NDDB & USFWS IPaC coordination early on; CT DEEP Inland Wetlands & USACE applications after project is refined and impacts are defined	NDDB review: 1 week to 6 months; USFWS IPaC: 1 week; CT DEEP Inland Wetlands & USACE applications: 6 to 12 months
Interstate 91 Bypass Option (between I-91 and W. Lake Dr)	Middletown	Not in mapped wetlands; Not in FEMA floodplains; Not in NDDB areas	None anticipated	N/A	N/A
Newfield Street/Route 3 Corridor	Middletown	Likely inland wetlands at south and at north along La Rosa Lane (assumes outside of tidal influence); Crosses Coginchaug River floodplain and floodway at south end; floodplain and floodway at north end at La Rosa Lane; Within NDDB area in south	If widening at inland wetland area Inland Wetland Permit and USACE Section 404 approval would be needed; Coordination for NDDB species	NDDB coordination early on; CT DEEP Inland Wetlands & USACE applications after project is refined and impacts are defined	NDDB review: 1 week to 6 months; CT DEEP Inland Wetlands & USACE applications: 6 to 12 months
South of state-owned railroad corridor/North Main Street corridor	Middletown	Tidal wetlands are on both sides of this segment and any widening may cause impacts; a new bridge wound be required over Coginchoug River; Much of this segment is within 100-year floodplain, with a crossing of Coginchaug River floodway; Crosses through NDDB critical habitat areas and areas mapped areas where there are records of State-listed species; Potential for tree clearing	CTDEEP SDF; USACE Section 404/10 approvals; Coordination for NDDB species; May require USFWS review for federally-listed bat species	NDDB coordination & USFWS IPaC coordination early on; CT DEEP SDF & USACE applications after project is refined and impacts are defined	USFWS IPaC coordination: 1 week NDDB review: 1 week to 6 months; CT DEEP SDF & USACE application: 12 months
Powerline route (Eversource corridor flanking Newfield St)	Middletown	Some small inland wetland crossings; 100-year FEMA floodplain and floodway crossings in the east and west portions of the segment; Not in NDDB areas; Potential tree clearing	If widening at inland wetland area Inland Wetland Permit and USACE Section 404 approval would be needed; May require USFWS review for federally-listed bat species	CT DEEP Inland Wetlands & USACE applications after project is refined and impacts are defined	CT DEEP Inland Wetlands & USACE applications: 6 to 12 months
East Swamp Brook Path (potential spur trail; not formally part of the CCLT)	Middletown	Several areas of mapped wetlands; In FEMA 100-year floodplain and floodway; Not in NDDB areas: Potential tree clearing	If widening at inland wetland area Inland Wetland Permit and USACE Section 404 approval would be needed; May require USFWS review for federally-listed bat species	USFWS IPaC coordination early on; CT DEEP Inland Wetlands & USACE applications after project is refined and impacts are defined	USFWS IPaC: 1 week; CT DEEP Inland Wetlands & USACE applications: 6 to 12 months

Short-term: Freestone/Main Street sidepath and shared lanes	Portland	Segment on roads through built areas; No mapped wetlands; Not in FEMA floodplains; Not in NDDB areas	None anticipated	N/A	N/A
Long term: potential use of state-owned rail corridor and Pickering Street	Portland	All on roads or developed rail bed; Mapped wetlands north of rail bed/Airline Avenue in east portion of segment; widening could impact wetlands in this area; Not in FEMA floodplains; Not in NDDB areas	If widening at inland wetland area a CTDEEP Inland Wetlands Permit and a USACE Section 404 approval likely required	CT DEEP Inland Wetlands & USACE applications after project is refined to 75% design and impacts are defined	CT DEEP Inland Wetlands & USACE applications: 6 to 12 months
Former Airline RR corridor extension (from Rte. 66/Railroad Ave intersection to Gospel Lane)	Portland	Not in mapped wetlands; Within NDDB areas (north of Route 66, east of Johnson Farm Road and in vicinity of Route 66); Not in floodplains; Potential for tree clearing	Stormwater Construction GP (if >1 acre land disturbance); May require USFWS review for federally-listed species	NDDB coordination & USFWS IPaC coordination should be an initial task to accommodate for potential species surveys and reporting:	NDDB review: 1 week to 6 months; USFWS IPaC: 1 week; May not be needed if other permits are not required (Note: this timeframe does not include the potential need for species surveys, pending initial Determination/consultation results.)
Dairy Queen site route options (east of Gospel Lane)	Portland	Not in mapped wetlands; Not in FEMA floodplains, Not in NDDB areas	None anticipated	N/A	N/A

Notes:
(a) permitting timeframes based on CT DEEP Permitting Timeframes factsheet last revised June 2024

Acronyms:
CT DEEP: Connecticut Department of Energy and Environmental Protection
USACE: United States Army Corps of Engineers
SDF: CT DEEP Structures, Dredging and Fill permit
COP: CT DEEP Certificate of Permission
NDDB: Natural Diversity Database
USFWS: United States Fish & Wildlife Service
IPaC: USFWS Information for Planning and Consultation
GP: General Permit

6.2: Project Phasing

A number of factors trigger the need to consider a carefully phased approach to the development of the 11.5-mile-long segment of the Central Connecticut Trail Loop through Middletown and Portland. This includes:

- The challenges of fundraising to pay for the relatively high cost ($23 million) of the entire project, from end to end
- The need to connect to the preferred trail alignment in Meriden, which has yet to be fully funded
- Ongoing negotiations with property owners along the Air Line Railroad corridor in Portland (not all of whom have expressed enthusiasm for the extension of the Air Line Trail in the past)
- The time frame that may be required in areas needing complex and time-consuming permitting and/or coordination and partnerships with state agencies such as CTDOT and CTDEEP

In consequence, this Study recommends five phases for completing the CCLT (see Figure 14 on the following page). In aggregate, the five phases will take at least seven years to complete and, based on the timeline for other trail corridors built in New England, perhaps as much as 15 years. Each phase considers the issues referenced above and focuses on developing shorter segments of the CCLT that have logical beginning and end points and/or help to ensure a particular connection in the short term.

Phase 1: With the hundreds of new housing units at the Springside Middletown development joining the many hundreds of apartment and condominium units that already lie along Newfield Street, any trail connecting the high-density area with downtown Middletown will be well used by area residents (Phase 1A). As such, development of the path along the Eversource corridor, through Springside Middletown, crossing the Coginchaug River and floodplain, and running along N. Main Street to the Arrigioni Bridge is the highest priority. If funding for such a link can be expanded from the proposed Newfield Street crossing up to Mile Lane (Phase 1B), pedestrian and bike connectivity will extend further, to the neighborhoods flanking Tuttle Road and West Lake Drive.

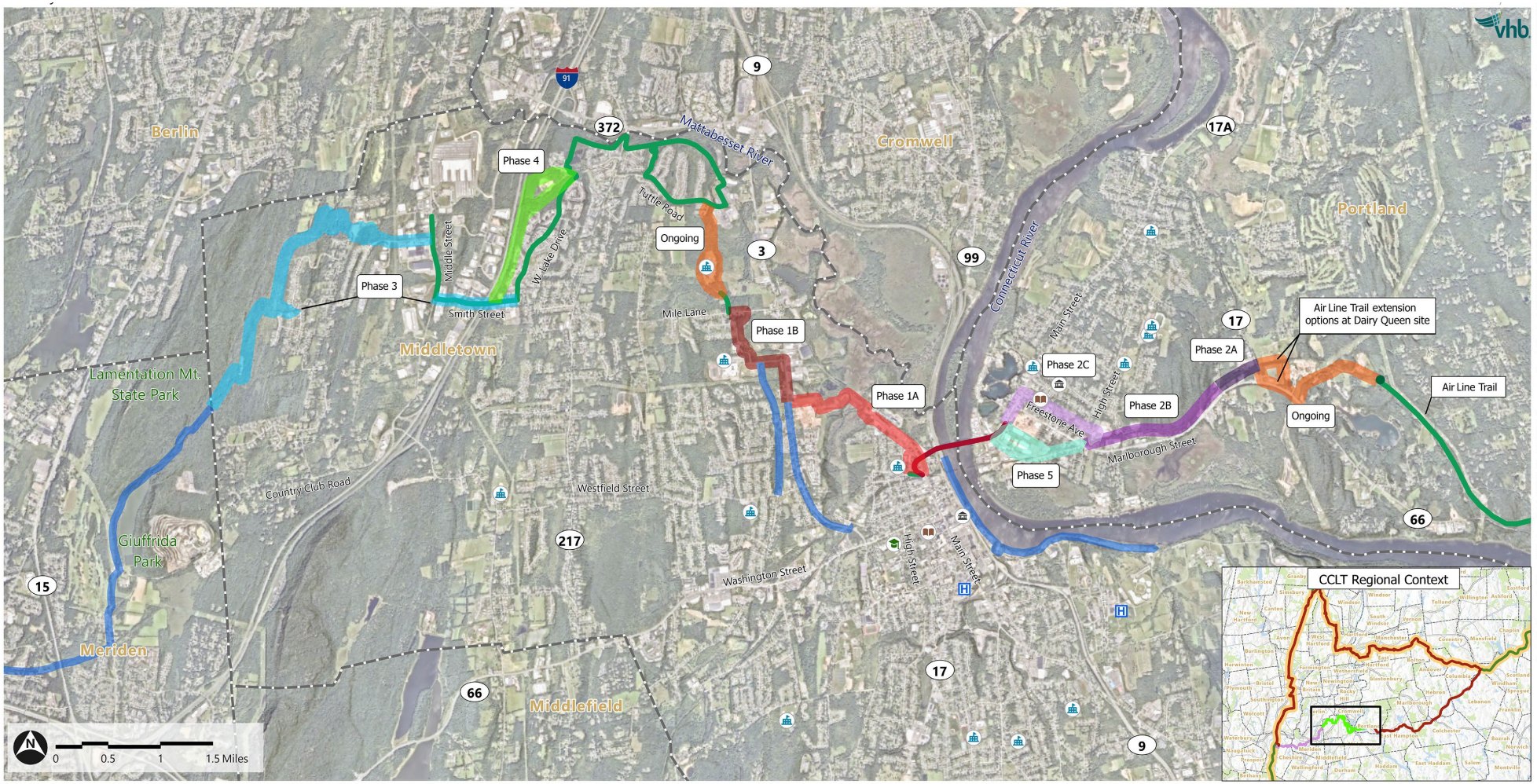
Phase 2: Completion of Phase 2 allows for a 3.5-mile extension of the Air Line Trail to connect trail users through Portland to the Arrigoni Bridge. This will need to happen in sub-stages however, since negotiations with property owners just east of Gospel Lane/Route 17 is ongoing and will need to be completed before the ALT can be extended west to Williams Street (2A), then to the Route 66 intersection (2B), and finally with the short-term changes on Freestone and Main Street (2C) to link to the bridge.

Phase 3: As the City of Meriden moves forward developing their portion of the CCLT to the City line, extending the CCLT into Middletown should come soon after. Development of the trail from the City line to the existing sidepath network along Middle/Smith/West Lake would provide not only a recreational amenity in the beautiful Lamentation Mountain area, but would facilitate transportation links from a high density area of Middletown to the Meriden Train Station and adjacent downtown area.

Phase 4: This segment of the CCLT is a later phase because short-term improvements along the West Lake Drive sidepath would provide for a continuous CCLT route through the west portion of Middletown. However, the recommended shared-use path running alongside I-91 will ultimately provide an improved trail user experience and expand active transportation infrastructure in the immediate area.

Phase 5: Similarly, this segment of the CCLT is a later phase because full completion of Phase 2 would provide a decent pedestrian and bicycle connection between the ALT and the Arrigoni Bridge. If ultimately the state-owned rail corridor south/west of Route 66 is ever formally abandoned (a process involving both state and federal officials), replacing the rails with a trail will provide a stronger connection to the east end of the Arrigoni Bridge (via Pickering Street/Walcott Lane).

Figure 14: Preferred CCLT Alignment Phasing Diagram



6.3: Project Funding Options

A number of funding opportunities could be made available for the CCLT segment in Middletown and Portland. Anything new would be added to a modest amount of money that RiverCOG and the City of Middletown have already secured through the efforts of State Senator Mathew Lesser. The funds already secured will be used for design fees and potentially as the local match for other grants that may come through in the future. Typically, trails and greenways are funded through a mix of local, state, and federal funding programs, some of which are included below.

Connecticut Recreational Trails Program

This program is administered by the CTDEEP and provides funding for trail projects throughout Connecticut. The funding can be used for planning, design and construction of new trails like the CCLT, or maintenance and restoration of existing trails. Project applications are generally available on an annual basis and projects are selected and awarded using a competitive review and selection process. A 20% local match of the grant amount is required, which can be in the form of in-kind services such as planning and design work by the local or regional agency.

Transportation Alternatives Program

The Transportation Alternatives (TA) Program is administered by CT DOT on behalf of the Federal Highway Admin. and offers Federal funding for on-motorized transportation projects. The Federal FAST Act provides funding for TA projects under the Surface Transportation Block Grant Program. The project sponsor can be reimbursed up to 80% of eligible expenses for design costs, right of way acquisition, and construction costs. The local municipality or municipalities are required to provide the remaining 20% of the costs.

Local Transportation Capital Improvement Program

The Local Transportation Capital Improvement Program (LOTCIP) is administered by CT DOT (through the Councils of Governments) and allocates State funds for capital improvements to local projects that would be eligible for federal funding. The Councils of Governments (COGs) are responsible for soliciting project proposals from their member communities, reviewing applications, selecting projects, and oversight of the project design. The program requires the municipality to fund the design, but construction costs are 100% State funded.

Better Utilizing Investments to Leverage Development

The Better Utilizing Investments to Leverage Development (BUILD) Grant Program is a federal program that helps communities build transportation projects that can have a significant local or regional economic impact and improve transportation safety. Managed by the U.S. Department of Transportation, the program provides significant discretionary grant funding for a wide range of transportation projects, including roads, bridges, transit, rail, ports, and intermodal facilities. Multi-use trails that contribute to economic development, improve safety, enhance the quality of life, and foster connectivity between different modes of transportation can qualify for BUILD grants. Trail projects must demonstrate significant benefits and align with the program's emphasis on innovation, sustainability, and addressing local or regional infrastructure needs. Applications are reviewed competitively, with particular attention to projects in rural and underserved communities.

Community Investment Fund 2030

The Community Investment Fund (CIF) 2030 is administered by the Connecticut Department of Economic and Community Development (DECD) and allocates State funds for eligible (historically under-served) communities, as well as the not-for-profit organizations and community development corporations that operate within them. The grant is eligible for capital improvement programs, small business capital programs, and planning for capital projects like trails. The program does not require matching funds; however, the CIF authorizing statute provides that municipal applications will receive priority if they leverage municipal private, philanthropic, or federal funds.

6.4: Promotion and Publicity

While the focus of this study has been analysis and planning strategies for the CCLT, ongoing promotion and marketing of the trail will be critical for successful implementation. Because funding for the entirety of the trail could be a lengthy process, building and sustaining public support will be important. Ensuring public awareness of any CCLT segments that may be built in the short term along with ongoing efforts to complete longer-term segments will help produce the support needed for additional funding rounds. Public awareness and support also create dividends in the future as it will encourage greater use of the CCLT and sustained popularity for trail expansion in the future.

There are a variety of ways that Middletown and Portland elected officials, regional/local agency staff, and residents can promote the CCLT. This includes organizing events in the immediate term before ground is broken, celebrating ground breakings for early-phase segments, and having ribbon cuttings at the completion of early-phase segments. Orchestrating such events could be done by an existing advocacy organization, a coalition of local/regional groups, or by a new "Friends of…" non-profit organization.

Prior to, and in between, ground breakings and ribbon cuttings, ongoing efforts to maintain public awareness and support could include:

- Hosting annual or bi-annual bike tours and/or nature walks of the CCLT corridor (which clearly requires an on-road route for much of the tour, but that may highlight the need for off-road improvements)
- Holiday celebrations or block parties at publicly accessible locations or with permission from property owners to not only build awareness but raise money for the organization(s) committed to helping build the CCLT
- Hosting trail "workdays" along future trail segments in need of trash collection or the removal of invasive species

- Letters and essays supporting CCLT construction in local newspapers, online forums, and social media sites
- Tabling opportunities at existing community events to create awareness and build excitement
- Lawn signs highlighting the public support for the CCLT, especially from residents living near the recommended route; the signs could be supplemented by bumper stickers as well.
- Potentially sponsor a contest to name the Middletown portion of the CCLT (in Portland, the CCLT will be named and branded as the Air Line Trail) to give a local name and flavor to the segment within the City that's distinct from the greater 111-mile Central CT Loop Trail.

6.5: Prepare for Final Design Request for Qualifications

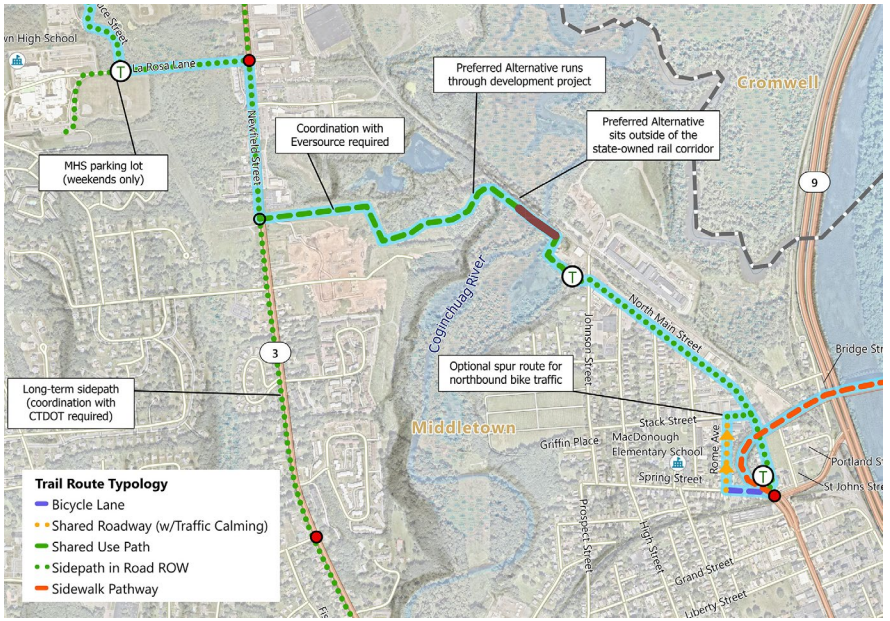
The RiverCOG Central Connecticut Loop Trail Study report is just the first step in advancing the vision of a contiguous Central Connecticut Loop Trail in the Middletown area. To maintain momentum, the preferred alignment should transition into the Design Phase for a high-priority segment of the Preferred Alignment (see Figure 15). For the Design Phase, a professional design / engineering firm should be selected using a Qualifications Based Selection (QBS) process to develop design plans, specifications, and cost estimates based on CTDOT, MUTCD, and AASHTO design guidelines and procedures. This will provide the greatest flexibility in utilizing construction funding from a wide variety of sources.

Typically, a Council of Governments such as RiverCOG or a municipality such as Middletown conducts these steps to initiate a trail design project:

- advertise the QBS notice
- short list design/engineering consultant firms based on their qualifications
- interview the firms and make a selection
- hold what CTDOT calls an Assignment Meeting
- Finally, the selected consultant drafts the actual Scope of Work for RiverCOG / CTDOT / Municipality review.

Alternatively, if CTDOT were to take the project over and neither RiverCOG or the City of Middletown controlled the design process, two options are possible: 1) CTDOT designs the project themselves in-house or 2) CTDOT selects a consultant from an On-call list of consultants; afterwards, CTDOT would manage the design/permitting process.

Figure 15: Highest-priority segment (Phase 1A and parts of 1B) of the CCLT (Middletown link from Newfield Street/Route 3 to the Arrigoni Bridge)



Once a design consultant has been selected via the QBS process, the Scope of Work to design the Study's high-priority segment (Phase 1A-1B) would likely require most, if not all, of these elements:

- **Land Surveying:** Topographic field survey that conforms to CTDOT survey requirements; inclusion of the A2 boundary survey for production of right-of-way maps will be necessary.
- **Geotechnical Boring Subsurface Exploration Program:** Borings conducted at each proposed abutment / culvert site and along the proposed alignment for global stability analysis.
- **Cultural Resource Study**: due to proximity to the Coginchaug River and East Swamp Brook, design for Phase 1A/1B may require this study.

- **Task 210 Contaminated subsurface soil testing program:** Soil to be tested and characterized, with the quantity of excess soil estimated.
- **Traffic Analysis / Design:** Required for intersections or mid-block crossings (e.g., the proposed trail crossings at Newfield Street and the power line corridor and the Johnson/N. Main crossing), which includes traffic counts
- **Preliminary Design:** 30% Plans (includes existing conditions, Erosion and sedimentation control plans, drainage plans, signing plans, and construction cost estimate), with a Preliminary Design Report and Structure Type Studies for any proposed bridge/boardwalk/large culvert, such as the CCLT crossing of the Coginchaug River. Also:
    - A Hydrology Report should be included with the Preliminary Design Report submission.
    - A preliminary design public informational meeting will be needed prior to completion of this stage.
- **Semi-Final Design:** 60% Plans, Semi-Final Design Report, specifications and other studies, as required. Also included:
    - Likely permitting needs: Local Inland Wetlands, Army Corp of Engineers / CTDEEP permitting. Section 106 of the National Historic Preservation Act and Section 4(f) of the 1966 US Department of Transportation Act.
    - A Hydraulic Study Report should be submitted as part of the Semi-Final design submission
    - Structural designs for bridges, boardwalks, and/or large culverts will be required as part of 60% design submission
- **Final Design for Review:** 90% Plans, Project Manual, Calendar Day Chart, Final Design Report, and revised reports, as required.
- **Final Design Plans:** 100% Plans, Project Manual and Calendar Day Chart
- Additional elements that will need to be considered as part of the Scope of Work
    - Community Meetings (online and in-person)
    - Bid Phase Services
    - Shop Drawing Review
    - Consultation During Construction

With completion of the Scope of Work and contract for the consultant or consultant team, the design process is anticipated to take 18-24 months until completion. Fundraising and other items described in the Next Steps / Conclusion section on the next page should occur concurrently.

6.6: Next Steps / Conclusion

The RiverCOG Central Connecticut Loop Trail Study report is only a preliminary step in the development of the southwest corner of the 111-mile long CCLT. The trail will be a long-term, multi-phase project led by RiverCOG and the two municipalities, in cooperation with each other, and with state and federal agencies. It will require the continued involvement of the members of the Technical Advisory Committee, members of the public, community groups and elected officials at all levels of government.

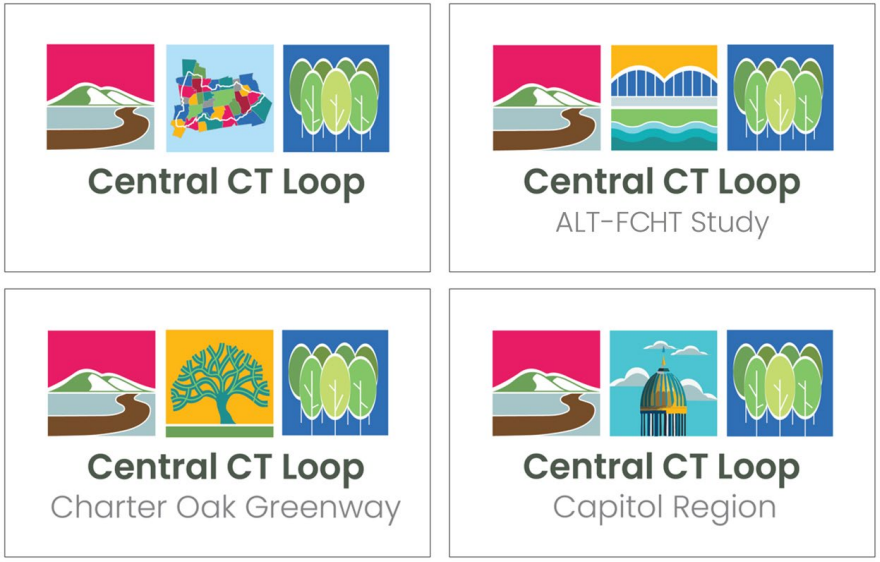
With a multi-year effort led by RiverCOG, the City of Middletown, Town of Portland, and elected officials at the State and Federal level, the CCLT will improve active transportation and recreation opportunities for people throughout the region.

The following 'Next Steps' are recommended to move the implementation effort for the Central Connecticut Loop Trail within Middletown and Portland forward.

- Adopt the Study: RiverCOG, along with the City of Middletown, and the Town of Portland should adopt this Study and amend any relevant transportation, conservation and/or development-related plans to incorporate the trail alignment.
- Create the Trail Right-of-Way: This will ensure that the Preferred CCLT Alignment is gradually assembled and made available for public use. This can be accomplished by:
    - Continue working with the Springside Middletown developer and design team to ensure a route for the CCLT is delineated throughout the development site
    - Begin negotiations with Connecticut DOT to ensure that use of state-owned highway corridors is feasible from both a political and technical standpoint. This includes the use of bridges and trail alignments below bridges.
    - Begin negotiations with other local, state and federal agencies to ensure that all necessary approvals and permits are completed in order to use portions of public streets and sidewalks and/or to create an easement across segments of the trail that cross public lands.
    - Work closely with SHPO, the state archaeologist, and the recently formed Wangunk Studies Working Group to ensure due diligence is paid to investigating archaeological sites in the area of the Coginchaug River and adjacent floodplain.
    - Individual municipalities will need to work closely with utility companies (e.g., Eversource) and private property owners for any segments of the trail that may require an easement or shared maintenance agreement
- In coordination with the local and state Delegation, RiverCOG should seek additional grants (federal and state), as described in the Project Funding section above. Emphasis should be made related to the linkage with the CCLT in Meriden and elsewhere to show that the impact would be felt in other municipalities, COG jurisdictions, and State House and Congressional Districts.

- Move forward with the next phase of design and engineering for the CCLT, leveraging any grant money raised in the early phase to secure any required consultants (through a competitive process or otherwise).
- Coordinate with other towns and cities along the entire 111-mile CCLT on the use of the "Central CT Loop" logo as designed for this Study. Other segments could revise some of the tiles within this study's logo to reflect unique elements within other sub-regions (see options below).

Logo set for potential consideration (from top left to bottom right): Logo for the entire 111-mile CCLT, logo developed for this study, CCLT Charter Oak Greenway logo with center-tile oak tree, and CCLT Capitol Region logo with center-tile Capitol Dome icon.



- Continue to leverage local project "Champions" to raise awareness and potentially money; municipalities should identify an individual, commission or committee to oversee subsequent steps in the design, funding and implementation process for the CCLT (which in some cases, is already well established.) This will ensure continuity of effort even as elected officials, First Selectmen and Mayoral administrations change. Project champions can help to coordinate volunteers, develop an 'adopt-a-mile' program and raise funds through the sale of trail elements including benches, bridges, trailheads, public art, bike racks and trees.

With these actions moving forward, the CCLT will be a significant asset for Central Connecticut's residents, businesses and visitors. In the immediate area, the loop trail will connect the communities on both sides of the river and will bring ongoing investments to dozens of cities and towns along the 111-mile loop. It will also promote active transportation (walking and bicycling), support economic development, and help a variety of users appreciate the natural environment found along the CCLT.

APPENDICES