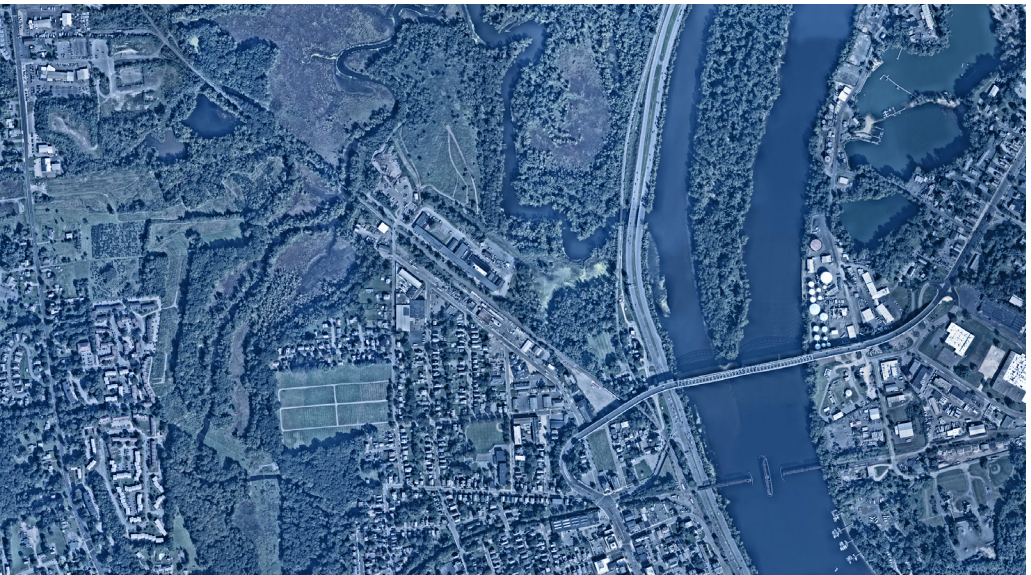
Central CT Loop
ALT-FCT Study

April 2025

# RiverCOG Central Connecticut Loop Trail Study

## *APPENDICES*



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## RiverCOG Central Connecticut Loop Trail Study

# APPENDICES

A. EXISTING CONDITIONS ASSESSMENT

B. SUMMARY OF PREVIOUS PLANS, STUDIES, AND REPORTS

C. LAND USE AND MARKET ANALYSIS MEMORANDUM

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# APPENDIX A: EXISTING CONDITIONS

Existing conditions data was gathered using GIS data (provided by the Town of Portland, City of Middletown, RiverCOG, 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 reviewed for this memorandum fall within three categories:

- Transportation facility context
- Land use context
- Environmental context

## Transportation Facility Context

The study 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

- The Farmington Canal Heritage Trail (FCHT) is a multi-use rail trail within Connecticut and Massachusetts along the Farmington Canal in CT and the Hampshire and Hampden Canal in MA. The section between New Haven and Simsbury is formally designated as part of the East Coast Greenway.
- The Mattabesset Multi-Use Trail is on the north end of Middletown and runs for roughly two miles near the Mattabesset River and near State Route 372/Berlin Road. Much of it runs along an old trolley line behind residential properties off of Tuttle Road and W. Lake Drive.
- Westlake Pedestrian Bikeway is a 2.5-mile-long sidepath that starts at the west terminus of the Mattabesset Trail and crosses in front of several multifamily apartment properties before turning west on Smith Street to Middle Street. After crossing under I-91, the sidepath turns north at Middle Street and terminates just south of Bradley Street.
- An existing sidepath goes partly up Kaplan Drive from Mile Lane to the Lawrence School. A ¾-mile-long shared-use path segment is funded for design that would continue the trail to the north, passing by the east side of the Lawrence School as it travels up to connect with Tuttle Road.

### Pedestrian Network

- The pedestrian network is generally complete in the downtown areas of Middletown and Portland, as well as older neighborhoods. In mid-late 20th century suburban/rural locations in both municipalities, sidewalks may be present on only one side or not present at all. For example, sidewalks lie on both sides of Newfield Street/Route 3 in Middletown on the segments closest to downtown, are reduced to one side of the road as one goes north and to an area without sidewalks north of Larosa Lane.
- The Arrigoni Bridge features 6'-wide sidewalks on both sides of the bridge. (Due to limitations of options to cross the Connecticut River for this trail study, this will likely be the best trail route for crossing the river.)
- Crosswalks are present in various locations throughout the study area at signalized intersections, some non-signalized intersections on collector roads (e.g., Westfield Street), and near bus stops and schools.

### Pedestrian and Bicycle Crashes

The map on the following page (Exhibit 2) illustrates locations of all crashes between 2018-2023 with emphasis on those involving pedestrians and bicyclists and where fatal crashes occurred. 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.

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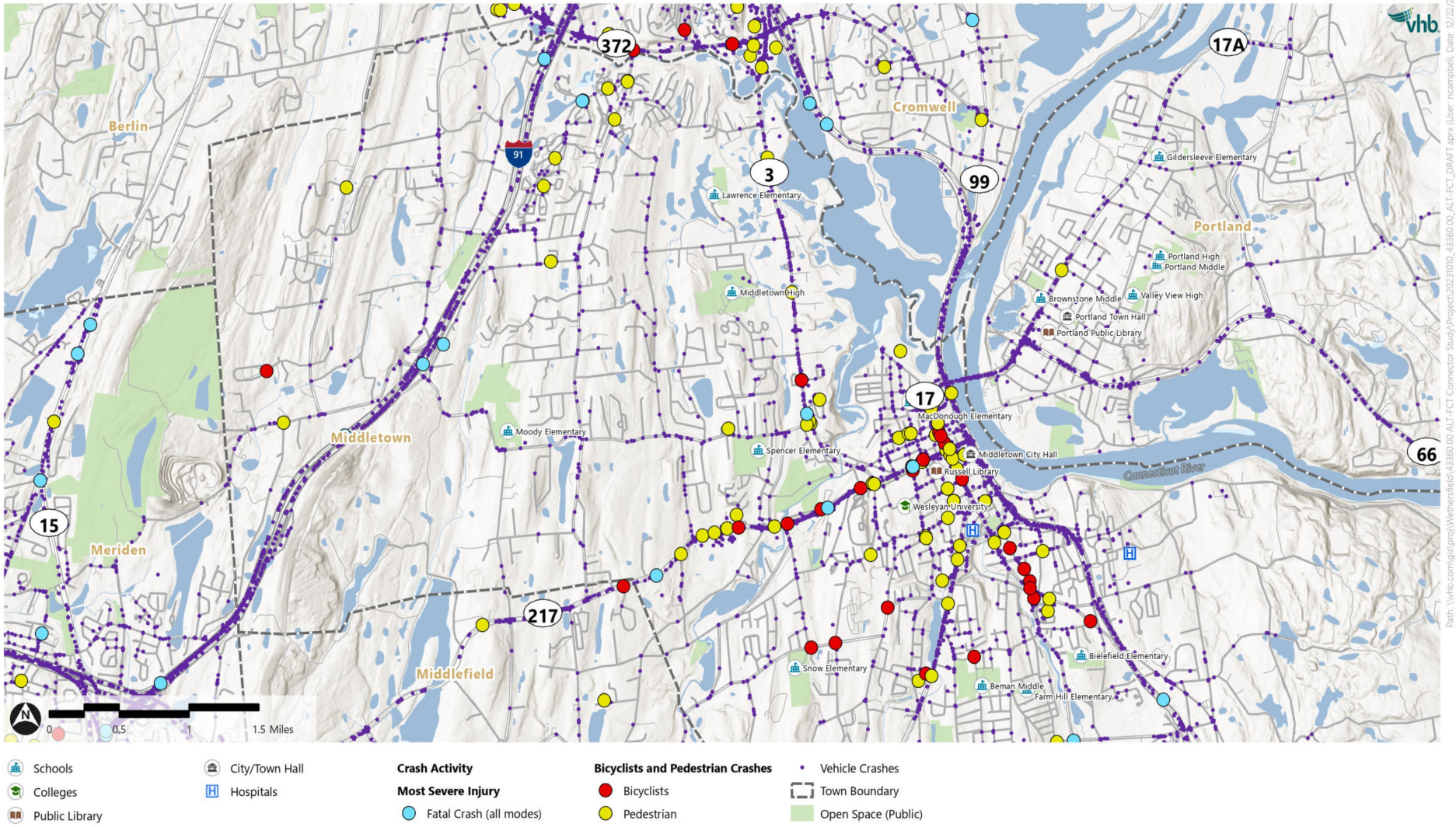
## Exhibit 2: Crashes highlighting those involving pedestrians and bicyclists in the Middletown area (2018-2023)



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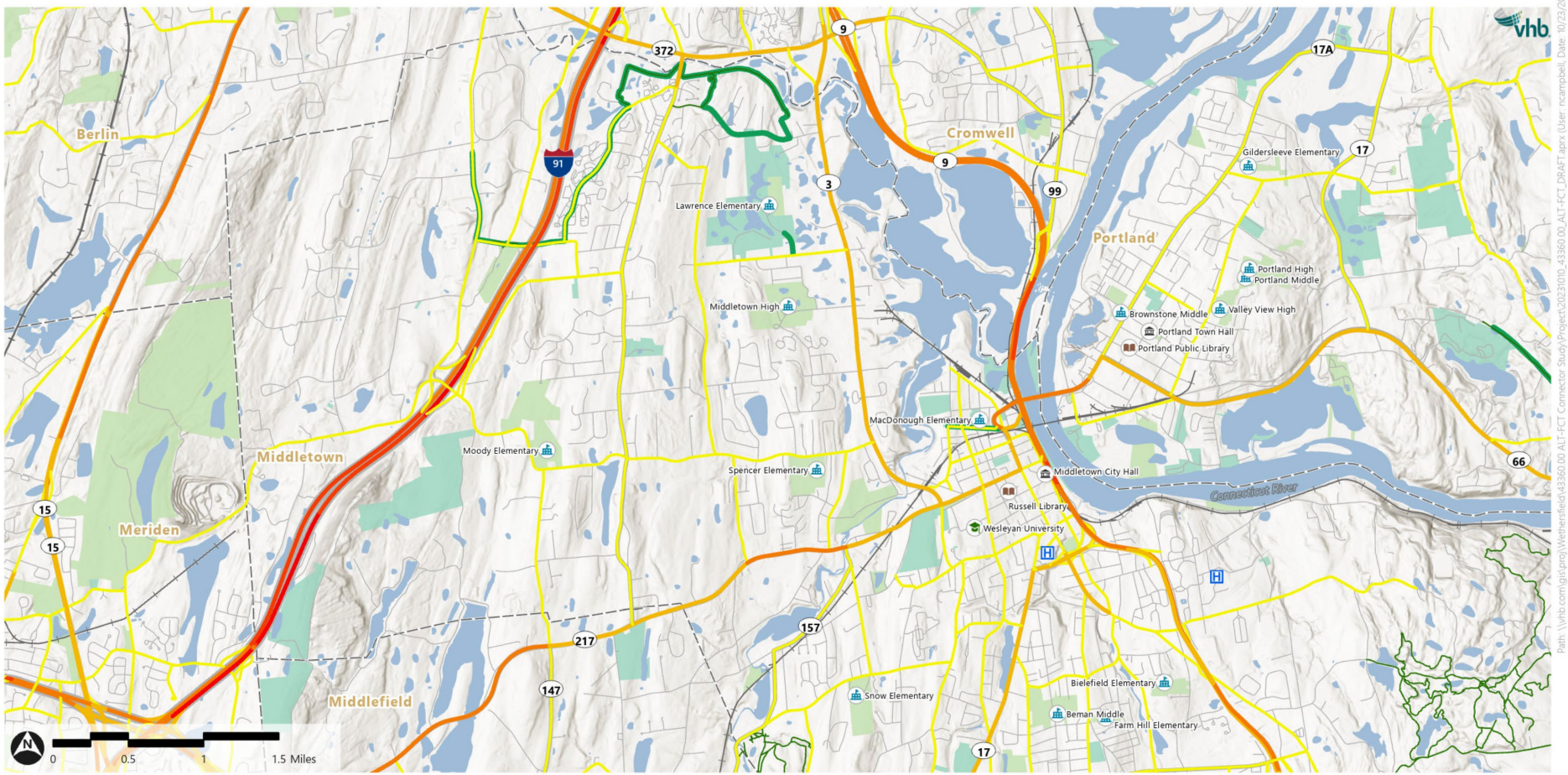
## Exhibit 3: Prevailing 2023 traffic volumes in Middletown/Portland area

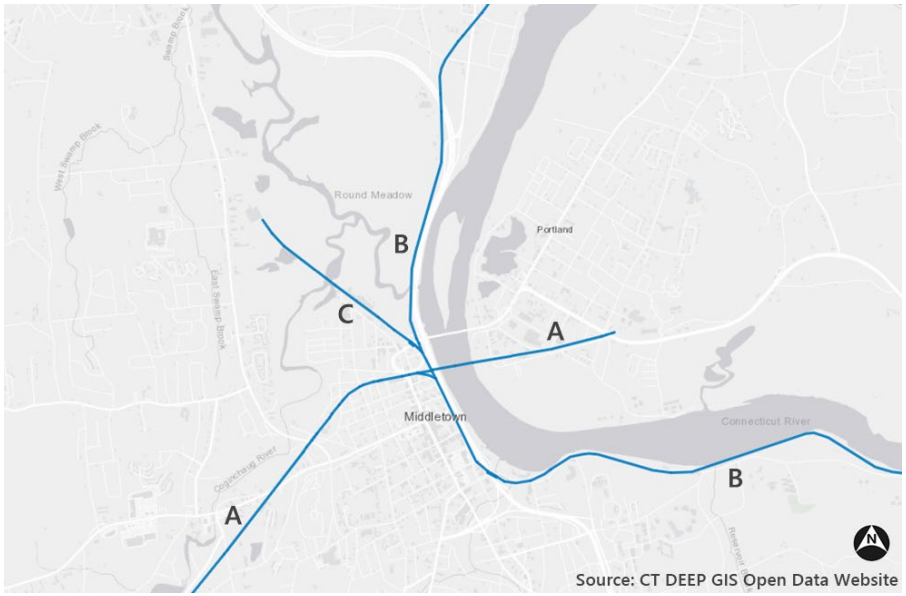


## Roadway Network

- 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. Route 9 and Interstate 91 are expressways that can create barriers to the trail due to the limited number of locations where the roads can be crossed. All other streets are classified as minor or principal arterials by CTDOT. (For a snapshot on prevailing traffic volumes in 2023, see Exhibit 3 on the previous page.)
- Key Major Collector streets in Middletown include North Main Street, High Street, Spring Street, Prospect Street, Mile Lane, West Lake Drive, Smith Street, and Middle Street.
- Considered Minor Arterials, Westfield Street and Country Club Road in Middletown provide important connectivity east-west in Middletown and can provide an alternate on-road route for the CCLT for experienced bicyclists who feel reasonably comfortable riding adjacent to motor vehicle traffic.
- Other streets in the study area are generally low-volume and low-speed residential streets.
- As noted previously, the most significant roadway bridge in the study area is the Arrigoni Bridge which carries Routes 17 and 66 over the Connecticut River and connects Portland and Middletown.
- Since Route 9 and I-91 can only be crossed in certain locations, use of existing overpasses and/or underpasses will be needed for the trail route as it travels east-west. Using the Arrigoni Bridge, Route 9 can be crossed. Within the study area in Middletown, I-91 can be crossed at Smith Street and Country Club Road. Route 3 in Middletown, though not a limit-access highway like Route 9 or I-91, can also be challenging to cross in locations. Currently, an underpass parallel to a rail line allows pedestrians to cross below Route 3 between Berlin Street and Jackson Street.

## Rail Infrastructure

The study area features three state-owned rail corridors which are currently active with freight traffic. One crosses the Connecticut River on a historic swing bridge.




The corridors include:

- **Corridor A** runs east-west, just north of downtown Middletown and crosses over Route 9 and the Connecticut River. Traveling parallel to the Arrigoni Bridge, it crosses into an industrial area in Portland around Pickering Street and Airline Ave. The railroad bridge over the Connecticut River is a swing bridge to allow ships to pass the train bridge going north or south (See Exhibit 2-3). This railroad bridge is being used by industrial businesses in Portland, most notably RED Technologies which transports waste byproduct by rail. The rail line continues for a short distance to the east, parallel with Airline Ave, before terminating at Route 17/66. On the west side of the river, the railroad travels southwest out of Middletown to Middlefield and points further south.

- **Corridor B** travels north-south along the west bank of the Connecticut River, adjacent to the Route 9 corridor. It continues north along the Route 9 corridor into Cromwell and south along Route 9 and the river further south to Pratt and Whitney. South of Pratt and Whitney, the line is owned by CTDEEP as part of the Connecticut Valley RR State Park with passenger excursion trips operated by the Essex Steam Trail/Valley Railroad.
- **Corridor C** (referred to as the East Berlin Industrial Track) splits off from Corridor B just north of downtown Middletown and passes next to the old 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 the Primary Steel warehouse and distribution facility just east of the Newfield Street/La Rosa Lane intersection (see photo at right). Five hundred feet to the south, a short rail spur splits to the west, but it is not used for any rail service. Currently, Primary Stell relies on the rail line for freight-based service. Given the potential linkage between downtown Middletown and the area near the high school, this corridor will be studied for potential use as a trail corridor.

## Local Bus Service

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.

Of the 11 routes within Middletown (see Exhibit 4 on the following page) bus routes on or near the trail alignments being studied include Route 584 – Newfield Street; Route 585 – Westlake Drive; Route 584-585 – Newfield/Westlake Evening; and Route 586 – Portland/East Hampton. Annual ridership varies from a low of roughly 5,000 on route 645 to nearly 48,000 on route 585.

River Valley Transit also provides Dial-A-Ride and ADA Paratransit services in the study area

Rail line northwest of downtown Middletown (facing north)

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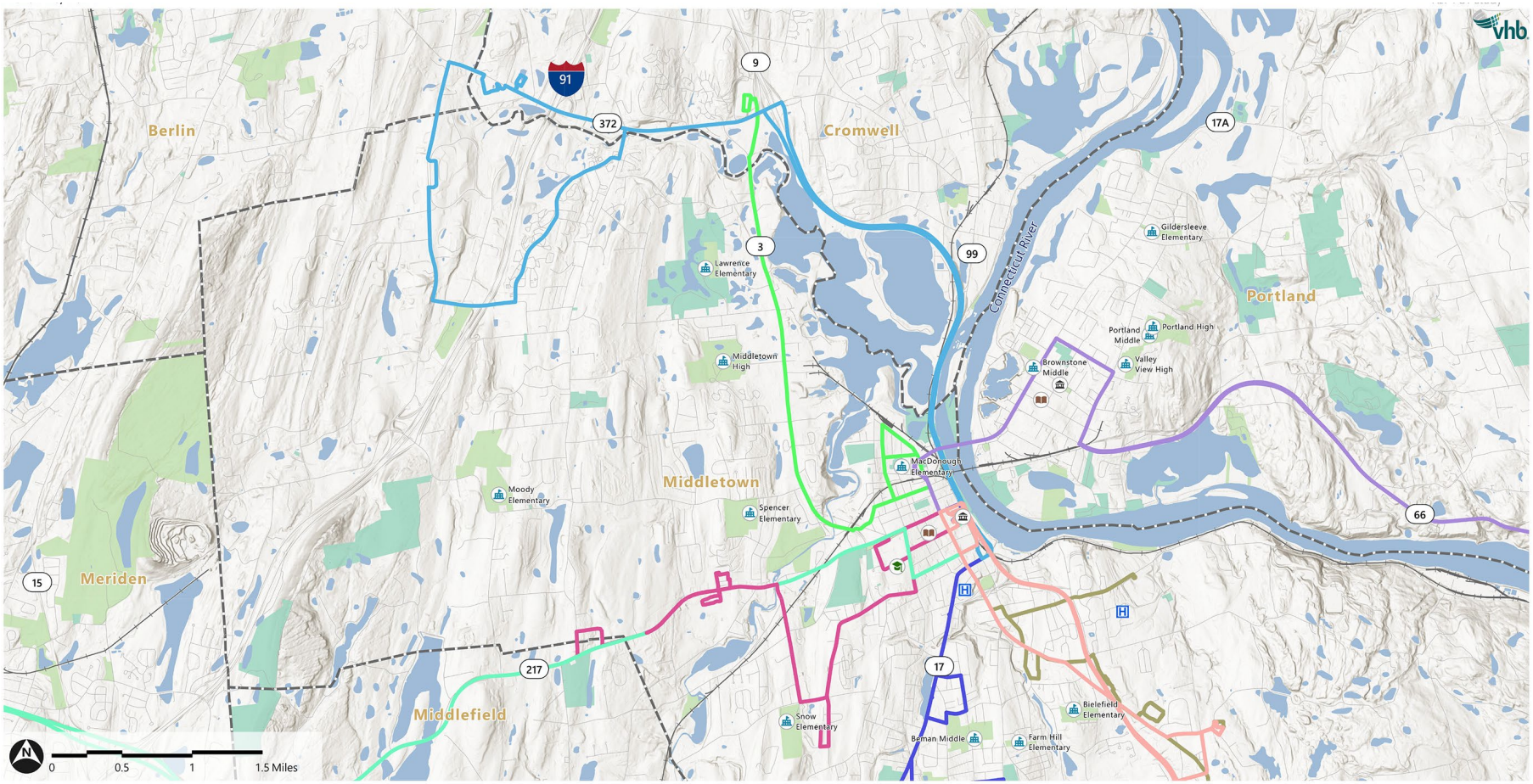
## Exhibit 4: Transit service and ridership in the Middletown/Portland area



## Land Use Context

### Open Space

The primary open spaces in the study area include:

- Giuffrida Park is at the east edge of Meriden and where the City's trail is planned to go through to continue east into Middletown. One of the key features of this park is a trail around the Bradley-Hubbard Reservoir part of which may be converted into a section of the Central CT Loop Trail.
- Lamentation Mountain State Park is on the westerly slope of the mountain near the Berlin/Meriden municipal line, and adjacent to the Berlin Turnpike (Route 5/15). The area east of the park is a wooded ridgeline that provides a potential route option for the trail from Giuffrida Park in Meriden towards Middletown.
- Veterans Memorial Park in Middletown has been discussed as an important connection for the trail, though it requires crossing Newfield Street or the Coginchaug River to reach it. The City of Middletown plans to build a pedestrian/bike bridge over the river connecting the park to the west end of Jackson Street. Combined with the existing underpass below Newfield Street, the bridge will provide a strong pedestrian/bike connection to the neighborhood northwest of downtown Middletown.

Underpass below Newfield Street looking southwest to Jackson Street

- The East Swamp Brook area provides a potential alternate route for the trail, just west of Newfield Street.
- There is a key open space parcel around the Lawrence School in Middletown. This area will be where the extension of the sidepath from Mile Lane will go north past the school to Tuttle Road (currently under design by the City of Middletown).
- Open space and wetlands north and east of the potential rail line route in Middletown, by the Coginchaug and Mattabesset Rivers, separate the northern part of Middletown from Route 9 and the Connecticut River. Some of this open space area can be reached and could be made more accessible via a potential trail.

### Housing

- Single-family residential housing is the predominant housing type in most parts of the study area, including Portland and the many areas of Middletown. However, housing types vary with small multifamily housing near downtown Middletown and larger multifamily complexes along W. Lake Drive and along parts of Newfield Street.
- 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.
- 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. According to the Hartford Business Journal (03/02/2023) it will be completed by 2028.
- In Portland, a large multifamily and mixed-use development called Brainerd Place is currently under construction on nearly 15 acres of land at the Marlborough St/Route 66 intersection with Main St in Portland. It will include 99 apartment units, with multiple retail spaces.

### Commercial

- The most significant commercial areas in the study are the downtown areas of Middletown and Portland. Other commercial

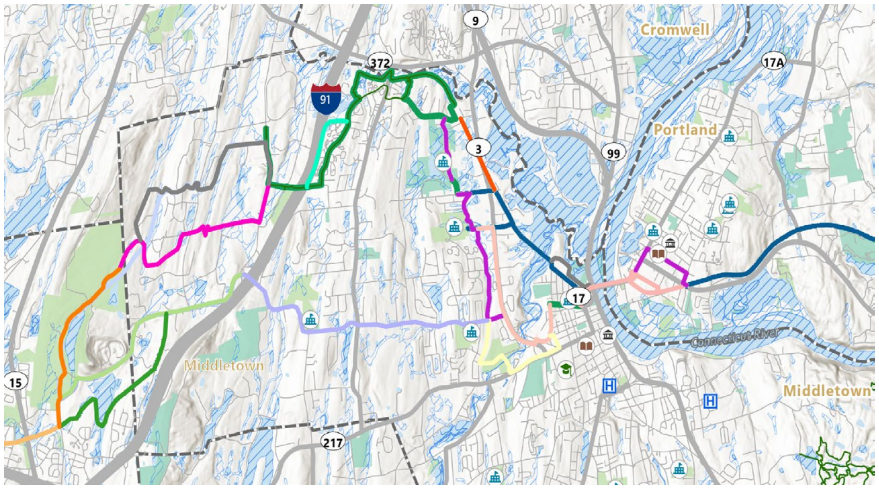
areas that the potential route options cross near are more industrial in nature that may not be open to the public.

- In Middletown near the Coginchaug River and the potential parallel rail route, is the Remington Rand building that has been redeveloped with a brewery and distillery. This is an important commercial area with a potential trail orientation.

## Market Analysis

As part of the Central CT Loop Study, the team looked at market conditions along potential trail routes within the study area. A market analysis was conducted to understand current and projected demographics and current market conditions along the potential routes shown in Exhibit 5 below.

Exhibit 5: Map of hypothetical Central CT Loop trail route alternatives that informed the market analysis




Key takeaways from the Market Analysis in Appendix B include:

- 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. Currently, 45% of adult residents in the "Primary Market Area"[1] (PMA) hold a Bachelor's degree or more compared with the state average of 43%.
- The Middletown Market Area (MMA) is a smaller area than the 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. Single family homes in the MMA number 11,807 with 25,970 in the PMA.
- Home sale prices are growing at a similar rate in both the PMA and MMA near any of the trail route alternatives. Demand for multi-family apartments is relatively low as large scale projects haven't opened 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. According to Wesleyan University, a large new science building with labs, classrooms, and café will break ground in 2026.
- 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.

[1] The Primary Market Area include most of Middletown, Portland, Cromwell, parts of Meriden and the east half of Berlin

# APPENDIX B: SUMMARY OF PREVIOUS PLANS, STUDIES AND REPORTS

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# B1: RiverCOG Plans

## Route 66 Transportation Study (October 2020)

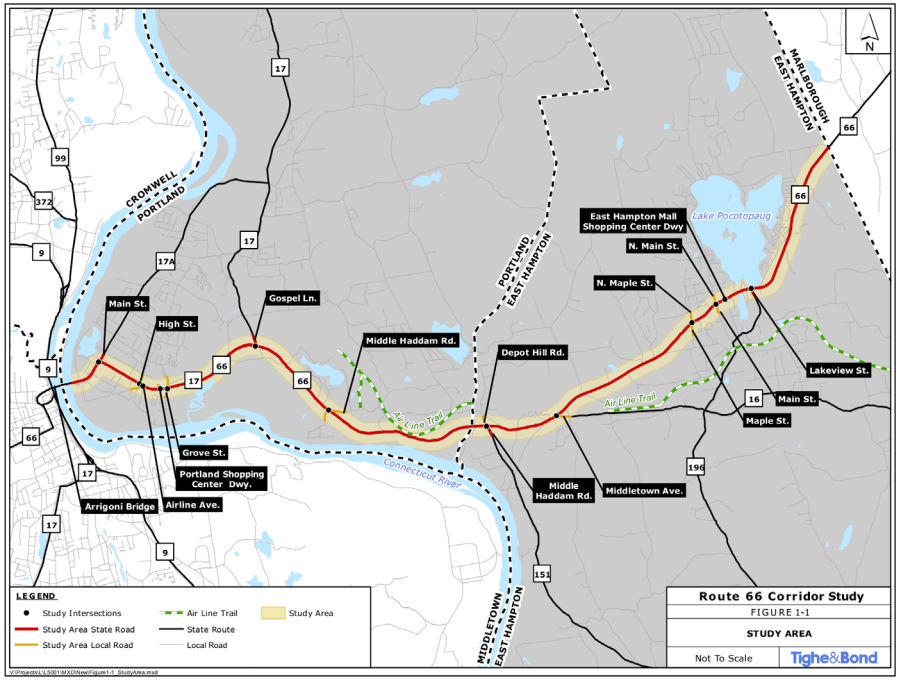
The Route 66 Corridor Planning Study was conducted by the Lower Connecticut River Valley Council of Governments (RiverCOG).

**Purpose of Study:**

- Develop a comprehensive transportation improvement plan for Route 66
- Provide a planning document to the Towns, RiverCOG, and State to facilitate the identification and programming of funding to support implementation of transportation system improvements to address existing and future needs and deficiencies and support future economic development goals

**Assessment of Existing Conditions:**

- The roadways included were defined and conditions summarized
- Intersection traffic control/signalization was summarized
- Condition of traffic signs in the study was reviewed
- History and current (2020) daily traffic volumes are provided
- Traffic Speed along the corridor is provided
- Traffic Operations (LOS) throughout the corridor is provided
- Safety was reviewed, including both vehicle and ped/bike crash history
- Non-auto travel modes were summarized, including pedestrian, bike, transit
- Access management was reviewed
- The condition of the whole system was reviewed, highlighting areas where safety is a concern due to high collision, geometry concerns, speeding concerns, etc.
- The existing streetscapes along the corridor are summarized, focus areas include Portland Commercial Center, Cobalt Village, and East Hampton Commercial Center
- Environmental/natural resources were reviewed. Areas discussed are surface water resources, groundwater resources, wetlands, floodplains, threatened and endangered species, historic properties, sensitive noise receivers, and hazardous risk sites
- Land use and economic development was reviewed
- Results from online public engagement survey were summarized. Topics were demographics, travel, fitness/recreation, transit and land use




Route 66 Corridor Study Area map (source: Tighe & Bond)

**Assessment of Future Conditions**

- Future traffic forecast were made using future developments to calculate 2040 traffic volumes
- Future traffic operations were summarized using future volumes with existing roadway conditions
- Optimized traffic operations were summarized using future volumes with optimized signal timings
- Areas of concern were highlighted at multiple locations for traffic operations and safety

**Implementation Plan**

- Transportation improvement program categorizes, prioritizes, and recommends projects
- Discusses initiation and funding, permitting and construction

## Natural Hazard Mitigation Plan (May 2021)

**Purpose of Plan**

- Meet or exceed requirements of the federal Disaster Mitigation Act (federal DMA of 2000 requires state and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance)
- Enable all planning partners to continue using federal grant funding to reduce risk through
- mitigation.
- Meet the needs of each planning partner as well as state and federal requirements.
- Create a risk assessment that focuses on the RiverCOG's hazards of concern.
- Create a single planning document that integrates all planning partners into a framework that supports partnerships within the region and puts all partners on the same planning cycle for future updates.
- Coordinate existing plans and programs so that high-priority initiatives and projects to mitigate possible disaster impacts are funded and implemented.

**Introduction and Planning Process**

- Goes over the planning background and summarizes changes
- Summarizes the steps needed to update the plan
  - Grant funding
  - Formation of Planning Teams
  - Defining the planning area, etc.
- Reviews the profile of the Lower Connecticut River Valley including: physiography/hydrology, climate, land use, population, housing, etc.

**Hazard Identification and Risk Assessment**

- Summary of Changes
- Hazard Identification and Ranking
- Federal Disaster Declarations
- NCEI Storm Event Data
- Hazard Specific Datasets
- Risk Assessment
- Vulnerability analysis
- Severe winter weather
- Flooding
- Thunderstorms and severe weather
- Hurricanes and tropical storms, tornado, earthquakes, drought, wildfires, other

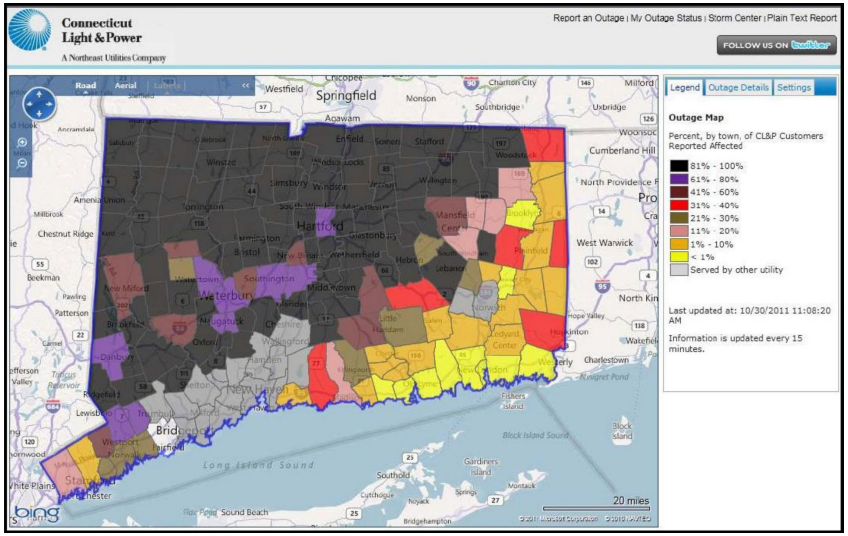
**Multiple-Hazard Regional Mitigation Strategy**

- Capability assessment

- Effectiveness of existing
- New mitigation initiatives
- Regional mitigation strategic action plan
- Setting goals
- Prioritization
- 2020-2025 prioritized regional hazard mitigation actions

**Plan Maintenance Process**

- Plan implementation
- Regional hazard mitigation planning committee
- Annual progress report
- Continuing public involvement
- Incorporation into other planning mechanisms



Outage Map from October 2011 Winter Storm Alfred

## Bicycle and Pedestrian Master Plan (March 2022)

**Purpose of Plan**

- Implementing multi-modal improvements to ensure a safe and efficient transportation network
- Enhance quality of life and economic vitality
- Placemaking

**Existing Conditions**

- Review of past work efforts
  - Includes discussion of how the Air Line State Park Trail would allow for the creation of a 111-mile loop trail connecting Central Connecticut to the East Coast Greenway
- Public management tools
- Overview of pedestrian and bicycle crashes
- Reviews of cycling and pedestrian trends from Strava and Streetlight
- Walkability audit by interns overview

**Municipal Overviews**

- Goes over the recent accomplishments, issues/concerns, and opportunities in Chester, Clinton, Cromwell, Deep River, Durham, East Haddam, East Hampton, Essex, Haddam, Killingworth, Lyme, Middlefield, Middletown, Old Lyme, Old Saybrook, Portland, and Westbrook
  - In the discussion of Middletown and Portland the Air Line Trail and the network it would include in these towns connecting to various destinations

Design Guidelines

- Defines recommended and acceptable facilities, the data needed to make selections
- Provides descriptions, applications/guidance, and standards for different facilities such as sidewalks, shared roadways, bike lanes, etc.

- Defines the facility user matrix and how to target users of different abilities/confidence
- Provides maintenance recommendations for different types of facilities
- Provides guidelines on signage for the different types of facilities
- Summarizes examples of infrastructure accommodations for bicycle and pedestrians

**Recommendations**

- Incorporate Design guidelines including the Facility Selection Guide for implementation throughout the region
- Provides context and recommendations for the following areas:
  - Village Center
  - Beach Community
  - Regional Connections (share-use paths, greenways, and trails)
  - State Route Commercial Node
- Provides a number of policy recommendations

**Implementation**

- Defines the timeline of short/medium/long-term recommendations
- Provides an overview of what improvements can be made in each timeline for each land use
- Provides list of funding opportunities and cost estimates

## Transit Study (July 2020)

**The purpose/goals of the study:**

- Improve regional Transportation
- Achieve Efficiencies in Service Delivery
- Implement Recommended Actions

**Existing Operation & Governance provides an overview of:**

  - Transit district board structure
  - Operating expenses
  - Revenues
  - Financial positions
  - Staffing
  - Labor practices
  - Employee benefits
- Maintenance and Support Facilities provides an overview of the facilities in the Middletown Transit District (MTD) and the Estuary Transit District (ETD)
- Other Capital Assets discusses the Fleet and Technology of MTD and ETD
- The Need for Investment discusses the following concerns
  - Financial stability is of critical importance
  - Small staff sizes impact operational effectiveness
  - Both districts are in need of new or retrofitted facilities
  - New efficiencies may provide opportunities to improve service
  - There are significant statewide transit needs, but limited resources

**Facility Alternatives**

- Facility Site Options are discussed for new transit maintenance facilities

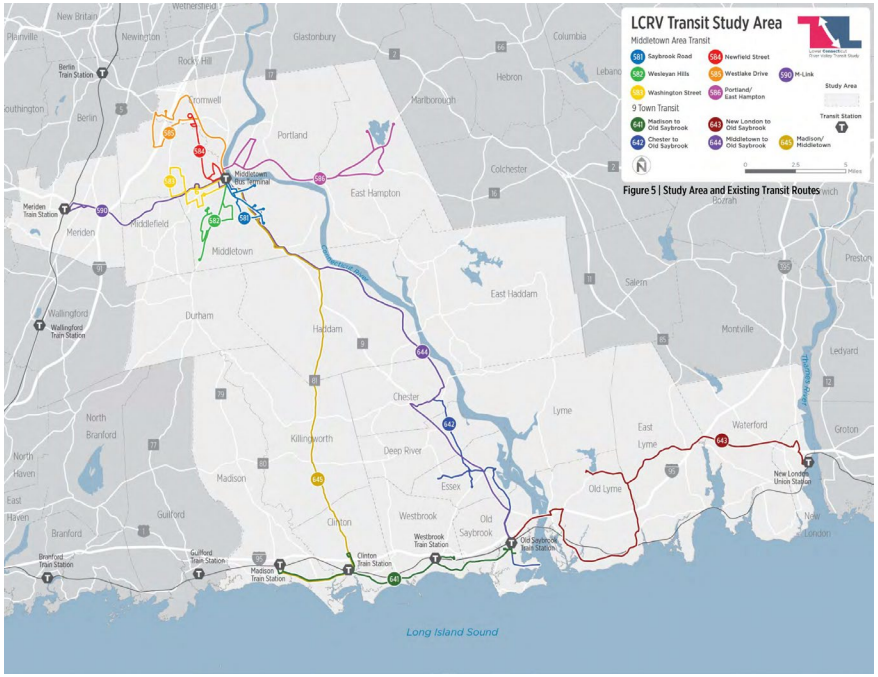
- Facility Alternatives are discussed if the preferred facility options are not chosen

**Evaluation of Investment Scenarios**

- Impact on Staffing and Labor Relations
- Impact on Operating Expenses and Revenues
- Capital Investment Needs include technology upgrades, rebranding and marketing, and non-revenue vehicles
- Qualitative Benefits and Impacts of attracting/retaining quality staff, technical capacity of staff, shared technology, efficiency/sustainability, services, and financial resiliency are discussed
- Evaluation Summary of the following goals
  - Achieve Efficiencies in Service Delivery
  - Plan and Implement Recommendations

**Recommendations & Implementation**

- Discussion of Governance
- Acquisition and construction of new Facilities
- Discussion of Management, Staffing, and Labor
- Additional Studies and Next Steps
- Lessons Learned from Agency Peers




Existing Transit Routes in the Middletown Area

## Regional Metropolitan Transportation Plan (March 2023)

**Purpose of plan**

- Define the region's future transportation vision
- Outline regional transportation funding priorities

**Overview of RiverCOG**

The demographics section discusses and provides statistics on the following categories for the region:

- Demographic Characteristics
- Elderly & Mobility Impaired Population
- Socio-Economic Conditions

- Population Density
- Employment Trends

**Existing Transportation Network**

- Discussion of the existing rail and bus Transit Systems in the region
- Discussion of the existing Highways, classifications, and capacity
- Bridges
- Marine: discussion of rivers, traffic, maintenance/dredging, ferry services, public boat launches, and security
- Airports
- Bicycles, Pedestrians & Trails including discussion on Complete Streets
- Agriculture

**Transportation Integration**

- Context
- Development Patterns
- Housing & Transportation Integration
- Economic Development & Transportation Integration
- Environment & Transportation Integration, includes discussion of forestation, viewsheds, wildlife, wetlands and stormwater, coastal and inland flooding, and recommendations
- Transportation Network, includes discussion of Complete Streets, transit districts, current transit projects, bicycle/pedestrian, freight network, airports, electric vehicles, and coming changes
- Discussion of Air Line Trail connecting to the East Coast Greenway and the loop trail is included in this section

**Transportation Planning**

- Intelligent Transportation Systems
- TMA & UZA Coordination
- Congestion Management & Air Quality
- Aging Population
- Transportation Demand Management
- Fast Act/IIJA Compliance
- Incident Management
- Security
- Safety
- Performance Based Planning & Programming, discusses targets for highway safety, transit, Public Transportation Agency Safety Plan, pavement/bridge condition, system reliability, freight movement, and air quality

**Municipal Transportation Priorities**

- discussed for each of the towns/cities in the region

**Financial Plan & Unlimited Constraint**

- Financial Plan
- Anticipated Highway & Transit Expenditures
- Vision Projects

## Regional Housing Plan (July 2022)

**Purpose of the Regional Housing Plan (RHP)**

- To assess the Region's existing housing stock and its ability to meet changing housing demands
- To build upon the vision and goals of the Regional Plan of Conservation and Development

- To create a regional housing strategy and framework through which municipalities can plan for the expansion of affordable housing stock consistent with CGS Section 8-30j

**Methodology**

- Overview
- Baseline Assessment explores Demographics, Jobs/Workforce, and Housing Profile
- Suitability Analysis explores Environmental Assets and Constraints, Zoning Regulations, Available Infrastructure, and Access to Transportation
- Regional Plan Vision and Goals

**Housing Market Capacity**

- Regional Housing Market, discusses Jobs, Population, House Formation, and Income
- Housing Demand, discusses Current Trajectory, Future Vision, Projections, Housing Market Geography and Priority Growth Areas

**Recommendations**

- Create a Housing Toolkit
- Study Capacity for Transit-Oriented Development
- Establish a Regional Housing Commission
  - Phase 1 – Education, Outreach, and Partnerships
  - Phase 2 – Data Collection and Analysis

## Regional Plan of Conservation and Development, 2021-2031

**Purpose of the Plan**

- Identify areas for compact, transit accessible, pedestrian-oriented mixed use development patterns and land reuse
- Promote the following:
  - Redevelopment and revitalization of regional centers and areas of mixed land uses with existing or planned physical infrastructure;
  - Expansion of housing opportunities and design choices to accommodate a variety of household types and needs;
  - Concentration of development around transportation nodes and along major transportation corridors to support the viability of transportation options and land reuse;
  - Conservation and restoration of the natural environment, cultural and historical resources and traditional rural lands;
  - Protection of environmental assets critical to public health and safety; and,
  - Integration of planning across all levels of government to address issues on a local, regional and state-wide basis.

**Existing Conditions**

- Discussion of the planning area
- Demographics of the area summarized
- Zoning and Land use maps and discussion
- Housing statistics provided and discussed
- Economic development statistics and discussion
- Transportation in the region
- Built environment
- Environmental hazards
- Natural Environment

**Public Outreach**

- Discussion of methodology, challenges, topics

- Regional workshops hosted by RiveCOG

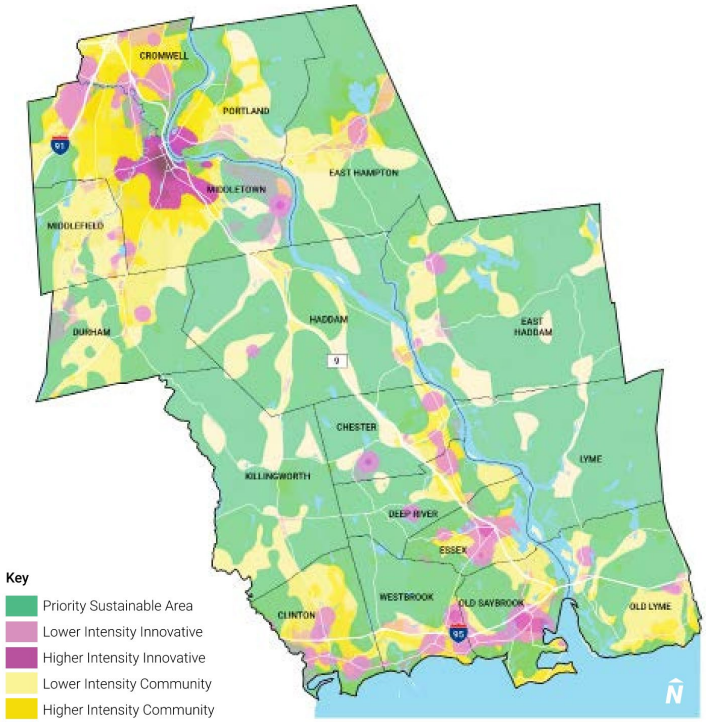
**Plan Themes** (including discussion of the vision, SWOT analysis, goals and recommendations for each Theme)

- Sustainable
- Connected
- Innovative
- Community

- Future Land Use Maps
- Sustainability maps
  - Wildlife habitat and natural resource protection
  - Connecting wildlife habitat and natural resource protection corridors
  - Protected open space
  - Public water supply watershed areas and aquifer protection areas
  - Flood zones
- Connected maps
  - Highway and river crossings
  - Transit and rail
  - Town and village centers
- Innovative maps
  - Job centers
  - Public water infrastructure
  - Sewer infrastructure
  - Zoning
- Community maps
  - Population density
  - Developed land
  - Public water and sewer infrastructure

**Implementation**

- Tables of recommendation for sustainable, connected, innovative, and community themes are provided with rankings for urgency, and collaborative potential




Future land use map of the study area

## B2: Non-RiverCOG Plans

### CT Resource Conservation & Development's Airline State Park Trail Region Master Plan (June 2023)

**Purpose of Plan**

- Recommendations toward systematic maintenance coordination with CT DEEP
- Collaboration on maintenance, safety systems, service amenities, a schedule of infrastructure improvements to complete the trail, and
- Recommendations for how to build economic and tourism growth through a sustainable conservation based trail corridor in collaboration with the state, local wayfinding, website and social media marketing and land use policy that supports the viewshed and conservation resources of the trail.

**Needs Analysis**

- Defines typologies of the trail
- Information about trail being designated as a National Recreational Trail
- Information about the data collection and field investigation done
- Public engagements done in the planning process

**Air Line State Park Trail Region Conservation**

- Background info on the Air Line State Park Trail Region
- Existing open space and the land trusts that collaborate
- Process of the environmental review team and how they inform trail planning
- Recommendations provided for both natural resource conservation and general policy recommendations

**Infrastructure/Maintenance**

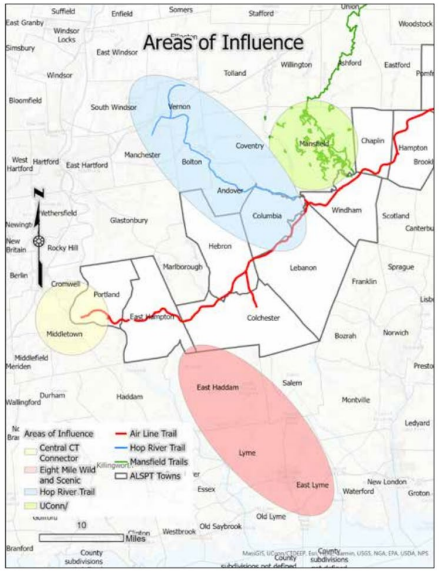
- Overview and geography of region
- Identifying roles of stakeholders for maintaining infrastructure
- Comparative state multi-sue trails. Identifying other trails with existing plans for maintenance
- Infrastructure planning/needs
- Parking and Access, Roadway intersections, drainage improvements, trail surfaces, trail bridges
- Vegetation management in the region, including seasonal maintenance, storm damage, dangerous trees
- Additional amenities: restrooms and drinking water, cell service and emergency management, shelters
- Recommendations are provided for maintenance and town-based recommendations

**Land Use and Zoning Guidance**

- Overview of land use and planning near the trail and impacts
- Corridor and scenic protection
- Overview of compatible and incompatible land uses
- Recommendations for land use and zoning

**Economics of the Trail**

- How trails can provide economic growth in the corridor
- Importance of trails to residents and frequency of participation in land based recreation
- Economic indicators of the towns in the region
- Competitive factors for tourism in the region, and inviting agro-tourism
- National Inspiration of Trail Town Programs. Discussion of national programs that support towns build economic connection to trails
- Trail to town growth Connecticut examples
- Examples of existing ALSPT oriented business and events promotion
- Influence corridors along the trail


Master Plan Map and ALSPT Influence Areas Map

**Marketing and Branding**

- Stay and Play Needs Assessment
- Branding and Marketing the trail
- Discussion of target audience and timing
- Discussions of logo design, website/social media, and cellphone apps
- Tourism coordination with CT Visit
- Cognitive Geography
- Events

**Wayfinding and Signage**

- Guidance for wayfinding
- Town-to-Trail wayfinding
- QR codes to support wayfinding and education
- Discussion of accessibility signage
- Recommendations

**Leadership and Implementation**

- Air Line State Park Leadership and leadership recommendations
- Discussion on getting started on implementation
- Discussion of challenges ahead for the ALSPT corridor/region

## Middletown Complete Streets Master Plan (March 2013)

The Middletown Complete Streets Master Plan was overseen by the Complete Streets Planning Committee. The purpose of plan is to:

- Provide a framework for implementation of Complete Streets principles in City of Middletown transportation policy

**History & Background**

- Complete Streets in Connecticut
- Provides Middletown Resolution No. 75-12 on ped/bike infrastructure
- Principal Issues in Middletown identified
- Standards for complete streets provided

Benefits Of Complete Streets are described for following categories:

- Safety
- Efficiency
- Health
- Children
- Economics

- Community

Case Study Reports summarized for the following complete street projects

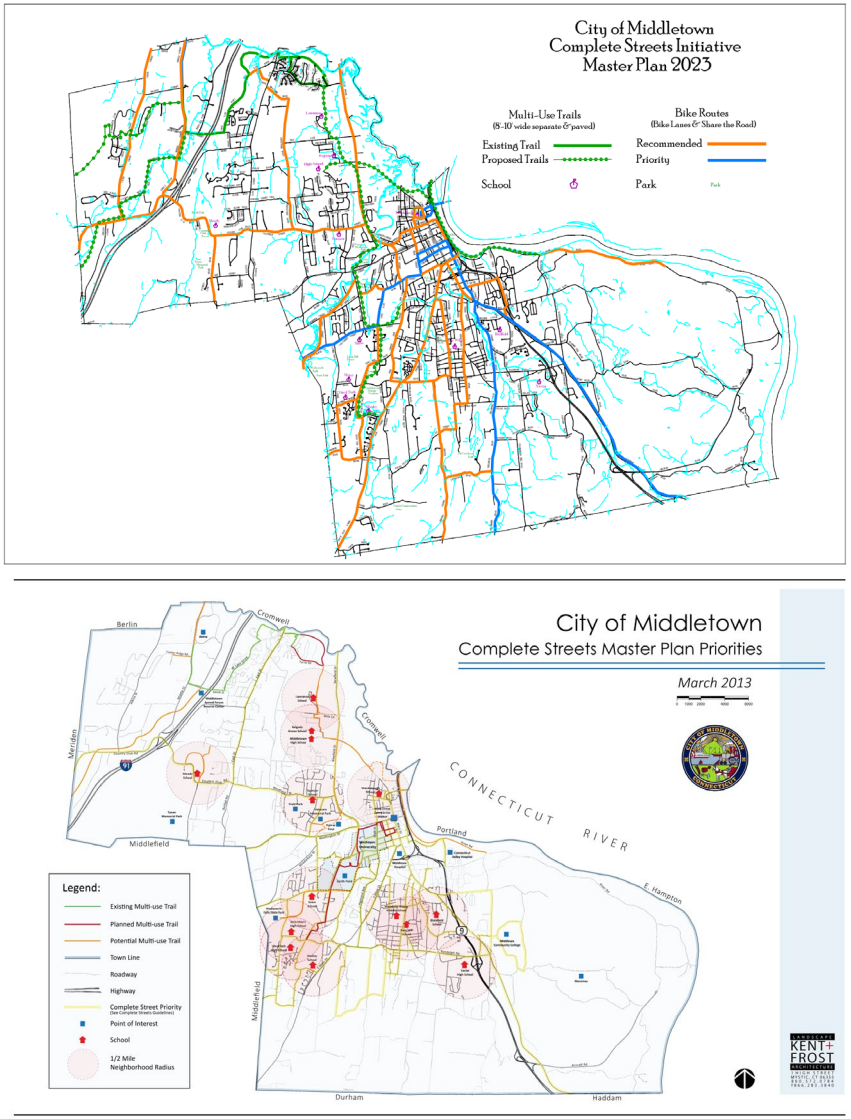
- Northampton, MA
- South Windsor, CT

**Funding Sources**

- Local Government funding opportunities listed
- State Government funding opportunities listed
- Federal Government funding opportunities listed
- Private Sources funding opportunities listed

**Complete Streets Guidelines are provided for the following categories**

- Transportation
- Land Use
- Schools/Public Facilities
- Parks/Recreation




*Middletown Complete Streets master plan and plan priorities maps*

## Newfield St Corridor Trail Study Findings (January 2020)

**Study Purpose**

- Identify preferred trail route options for future design and construction from the existing Mattabessett Bike Path at Tuttle Place to the Berlin Court tunnel under Newfield Street
- Connect community assets, including Veterans Park and the rail spur to North Main Street

**Findings include:**

- Location and pictures of existing Mattabesset multi-use trail provided
- Overview of preliminary routing analysis
- Location and photos of segments 1-7 provided
- Overview the preliminary preferred route, including which segments are included and considerations
- Next Steps discussed


*Image of 3.2-mile route from Tuttle Place to Veteran's Memorial Park*

## Portland Complete Streets Policy (September 2016)

**Purpose of Policy**

- Improve streets of Portland making them safer and more accessible for all users
- Encourage non-motorized modes of transportation and healthy living

**Document includes**

- Discussion of Vision, Goals, and Principles
- Users and Modes discussed along with how to prioritize users/modes
- Procedures for including complete streets in all transportation improvement projects
- Jurisdiction & Network Connectivity
- Design Guidance & Performance Standards that complete streets improvements shall follow
- Inclusion & Exceptions for applying complete streets
- Policy Implementation and Performance Measurement guidelines

## Meriden Central CT Loop Trail Connection Study (June 2023)

Central Connecticut Loop Trail Connection Study was conducted by VHB for the City of Meriden. The purpose of the study was to evaluate and identify the most practical and feasible alignment for the final section of the Central Connecticut Loop Trail within the City.

**The Study Process**

- Existing Conditions Review
- Identification and Analysis of Potential Alignments
- Stakeholder Engagement and Public Outreach

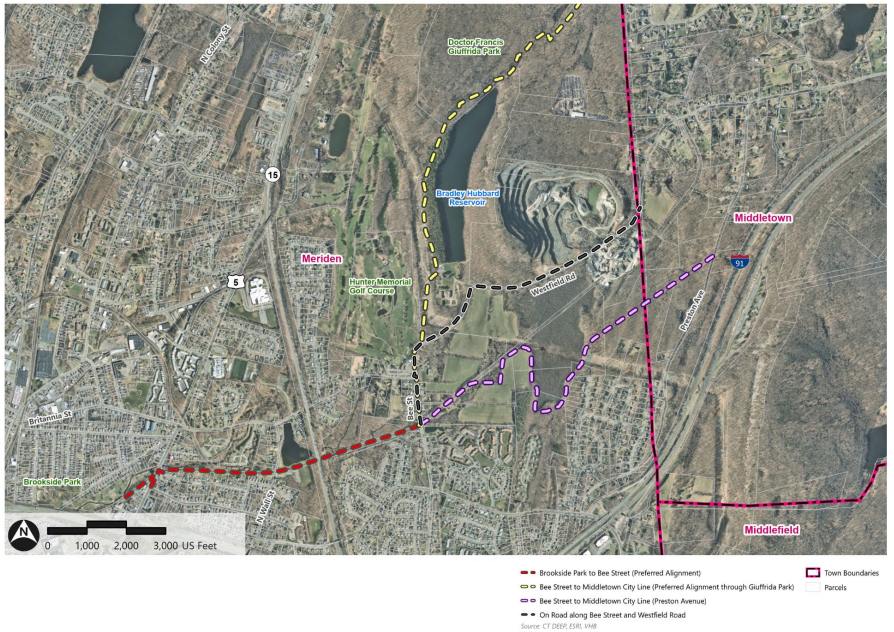
- Assessment of Estimated Construction Cost with a breakdown of costs in table form

**Alignment Discussion**

- The Preferred Alignment – Brookside Park to Bee Street: overview of existing conditions, opportunities, challenges, public feedback, and recommendations
- The Preferred Alignment – Bee Street to Doctor Francis Guiffrida Park: overview of existing conditions, city of Middletown connection, opportunities, challenges, public feedback, and recommendations
- Other Studied Alignments
  - Off-road: Bee Street to Middletown City Line
  - On-road: Bee Street to Westfield Road
- Estimated Construction Costs
  - Brookside Park to Doctor Francis Giuffrida Park
  - Doctor Francis Giuffrida Park to the Middletown City Line
- Permitting
  - Inland Wetlands and Watercourses Permit
  - Connecticut flood management certification
  - Natural Diversity Data Base Review
  - Encroachment permit

**Overview of the following Funding Opportunities**

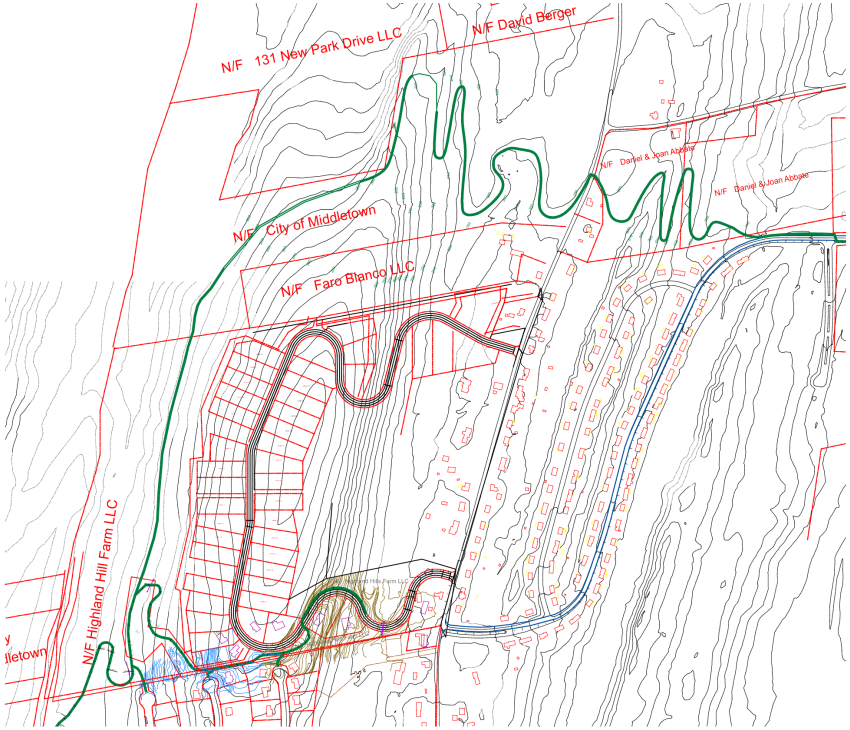
- Connecticut Recreational Trails Program
- Transportation Alternative Program
- Local Transportation Capital Improvement Program
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant
- Community Investment Fund 2030 (CIF)



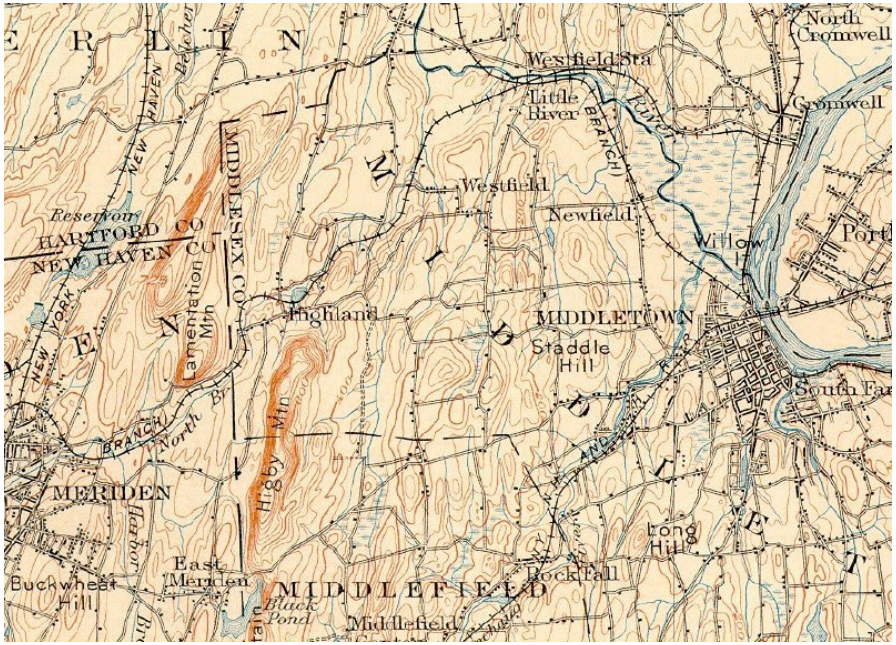

*Map of the preferred alignment – Brookside Park to Bee Street*

## Misc. Plan Maps and Graphics (to inform the Study)

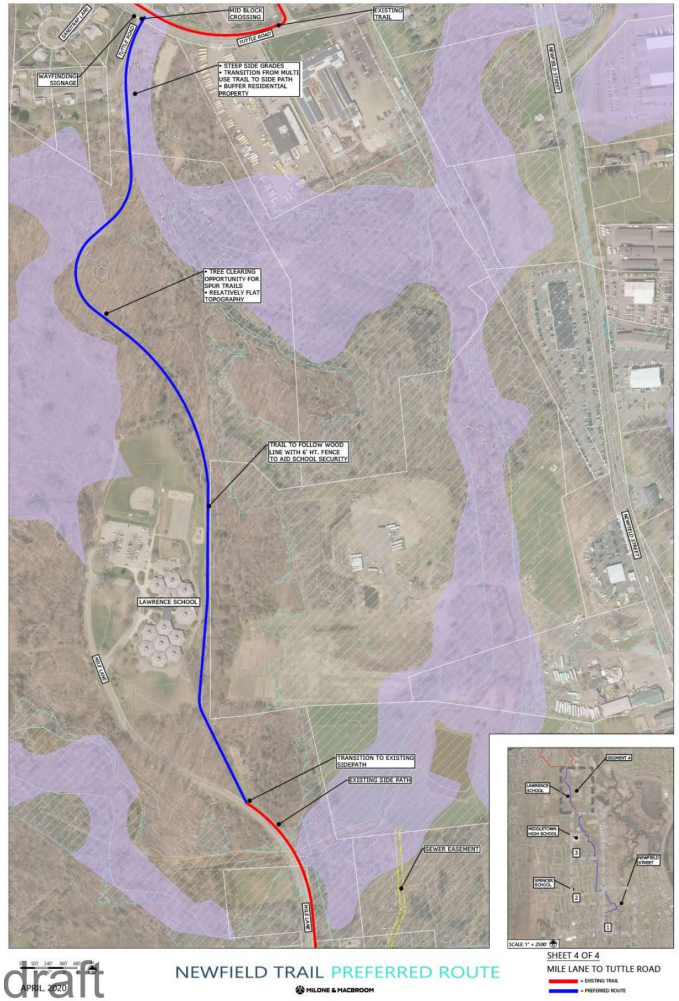
### City of Middletown connection to Meriden concept (Jan 2024)



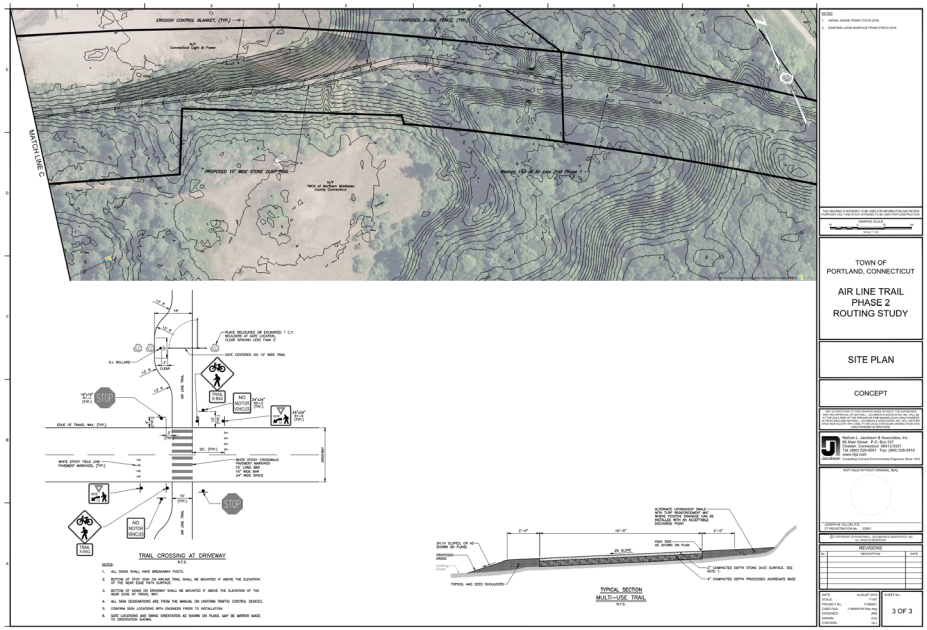

### Historic Middletown Trolley Line route map



## Middletown Plan for Newfield St Corridor Trail (2020)




## Town of Portland, Air Line Trail Concep Plan (July 2023)




Prepared by Jacobson Engineering, this concept plan includes 3 figures showing the routing of the trail along Route 66. It calls out the trail as a 10' wide stone dust trail, several locations to have erosion control blankets, culverts, trees, and other obstacles/natural resources.

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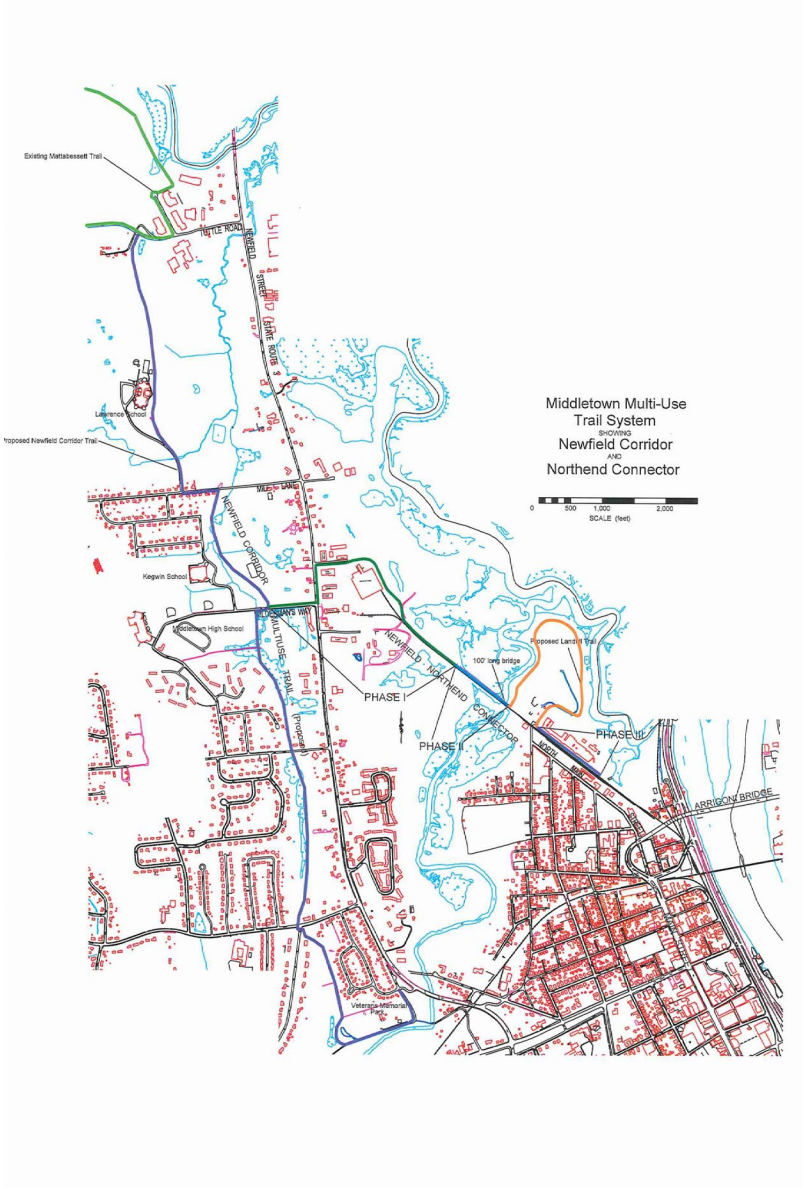
Central CT Loop
ALT-FCT Study

## Middletown Trail plan along RR line (2019 TA grant app)




## Middletown Multi-Use Trail: Downtown-Wesleyan Hills, 2013

City of

Proposed Main Street to Wesleya

## Town of Portland, Complete Streets Network Map (2016)


Prepared by Kent + Frost in 2016, Portland's Complete Streets Network Plan includes recommendations for future improvements to enhance pedestrian and bicycle access and safety throughout the town. The plan includes future routing for the Airline Trail, and other locations for multi-use trails.

## Town of Portland, Route 66 corridor study (undated)


The Town's concept plans for multi-modal mobility enhancements along the Route 66 corridor include options for routing pedestrians and bicyclists from the Airline Trail extension to the Arrigoni Bridge. The graphic above shows the three alternatives that could accommodate active transportation, along with suggested treatments along the three alignments. These will be considered in the next stage of the Central CT Loop Trail study.

# APPENDIX C: LAND USE AND MARKET ANALYSIS MEMORANDUM

ESI ECONSULT SOLUTIONS INC.
economics | strategy | insight

1435 Walnut Street, 4th Floor | Philadelphia, PA 19102
215-717-2777 | econsultsolutions.com

# Memorandum

To: Vanasse Hangen Brustlin, Inc. (VHB)

From: Econsult Solutions, Inc.

Date: March 26, 2024

RE: Central CT Loop Trail Study: Previous Land Use Planning Efforts and Market Analysis

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To support the Central Connecticut Loop/Airline Trail-Farmington Canal Trail Connector Study, Econsult Solutions, Inc. (ESI) was commissioned to analyze demographic and market indicators in support of evaluating various trail options. This memo summarizes key findings for the ESI team's scope, which includes the following:

- Literature review on existing land use planning effort let by Lower Connecticut River Valley Council of Governments (RiverCOG);
- Demographic condition, projection, and market study along trail development options connecting the Airline Trail to Farmington Canal Trail;
- Market study for commercial, residential, and institutional development in Middletown Market Area, which, compared to the market study above, is conducted for a more narrowly defined market area near Downtown Middletown and West Portland;
- Future land use condition and "trail-oriented development" opportunities for up to 3 preliminary trail development alternatives. Note that since the preliminary trail development alternatives have not been identified, relevant analysis has not yet become available.

## 1 Existing Planning Efforts Summary

ESI reviewed six past planning efforts led by RiverCOG (Lower Connecticut River Valley Council of Governments) and Middletown:

- Lower Connecticut River Valley Plan of Conservation and Development 2021-2031 – RiverCOG, 2021
- Comprehensive Economic Development Strategy – RiverCOG, 2023
- GrowSMART Regional Economic Growth Strategy – RiverCOG, 2016
- Regional Housing Plan — RiverCOG, 2022
- Conceptual Development Plan – Middletown
- Economic Development Resources – Middletown, RiverCOG

The plans characterize the region as rich in natural resources and experiencing demographic changes. Key takeaways in the context of this trail study include the following:

- Demographics and Economy
    - RiverCOG has an aging population and has experienced the stagnation of population growth in recent years. Job growth is also slowing. The region is primarily white but has a racially and ethnically diversifying population especially in younger age brackets.
    - Downtown Middletown is ethnically and socio-economically diverse, including longtime residents, new families, college students, young professionals, and low to moderate income households.
- Recreation and Environment
    - The Connecticut River runs through the region, though Route 9 in Middletown has separated the downtown from the river.
    - RiverCOG has extensive forests and publicly accessibly preservation areas with all the region's municipalities containing a state park or forest.
    - Important existing trails in RiverCOG include Westlake Area Bikeway (Middletown), Mattabesset Trolley Trail (Middletown), Air Line State Park Trail, and the New England Trail.

Strategic goals described by the plans express several common themes. The themes or visions for the area that are relevant to project include:

- Grow in concert with the rich natural resources and cultural heritage in the region.
- Encourage local and regional connectivity, especially by making sustainable modes of transportation more accessible for all.
- Provide a high quality-of-life for residents through opportunity for recreation and outdoor activities.

The following summarizes details on each planning document reviewed.

**Lower Connecticut River Valley Plan of Conservation and Development 2021-2031 – RiverCOG, 2021**[1]

Connecticut state law requires regional councils of government to develop a conservation and development plan every ten years that addresses land use, housing, transportation, recreation, public institutions and utilities, and agriculture. This is a visionary, non-binding plan intended to identify regional issues, make recommendations, and inform regional and municipal decision-making.

The 2021-2031 plan released by RiverCOG describes a region with rich natural resources, including the Connecticut River and extensive publicly accessible preservation areas. All of the region's municipalities contain a state park or forest. The population of RiverCOG is aging and predominantly white, but younger age brackets are more racially diverse. About 46 percent of workers living in the region

[1] Lower Connecticut River Valley Council of Governments. (2021) "Lower Connecticut River Valley Plan of Conservation and Development."

commute out to cities such as New London, Hartford, and New Haven to work. Additionally, the region has many self-employed individuals. Participants in the plan's public outreach workshops identified connectivity (26 percent), natural environment (21 percent) and River/Waterfront (21 percent) as top priorities in their vision for the Lower Connecticut River Valley. Important existing trails in the region include Westlake Area Bikeway (Middletown), Mattabesset Trolley Trail (Middletown), Air Line State Park Trail, and the New England Trail.

The conservation and development plan identifies the following themes: sustainable, connected, innovative, and community. These themes inform the plan's vision, goals, and recommendations. Goals that may inform or support this trail study include:

- Sustainable, Goal 5: "Support transportation and mobility systems and land use development that contribute to environmental and human sustainability while minimizing adverse environmental impacts."
- Connected, Goal 1: "Expand pedestrian transportation options."
- Connected, Goal 8: "Improve connections and expand access to open space resources."
- Innovation, Goal 1: "Establish the Region as a unique enclave that provides a high quality of life combined with an environment that is supportive of innovation."

**Comprehensive Economic Development Strategy – RiverCOG, 2023[2]**

RiverCOG released the ten-year Comprehensive Economic Development Strategy in 2023 that builds on the 2016 GrowSMART plan and the 2021 Regional Plan of Conservation and Development. The plan, developed through a process created by the U.S. Economic Development Administration, seeks to support economic resiliency and growth in the region, and allow the Lower Connecticut River Valley to become a recognized Economic Development District eligible for federal grant funding.

The report found the region has about 100,000 jobs. Job growth in the region has slowed and the region's top four sectors are down by more than 2,300 jobs compared to 2019, particularly in healthcare. Additionally, many people commute outside of the region to work. Many residents, about 27 percent, are self-employed. This type of work is becoming increasingly important to the region and supports the region's "lifestyle economy" of people who could work anywhere but choose to work in the Lower Connecticut River Valley. Other economic drivers defined by the CEDS include the traded goods economy, resident economy, and tourism economy.

The report describes a vision of a better-connected, culturally, and ethnically diverse region, supportive of innovative industries and attractive to highly skilled workers that grows in balance with its natural resources. The strategic direction has four parts:

[2] Lower Connecticut River Valley Council of Governments. (2023) "Comprehensive Economic Development Strategy."

- "Providing the capacity and resources to promote a growing and equitable economy"
- "Encouraging sustainable and resilient communities"
- "Supporting the development of economic infrastructure"
- "Enhancing quality of life options for all residents"

Relevant to this study of the Airline Trail-Farmington Canal Trail Connector, the fourth direction, enhancing quality of life, encourages continued investment and improvement of the regions "parks, trails, and public outdoor amenities."

**GrowSMART Regional Economic Growth Strategy – RiverCOG, 2016[3]**

The GrowSMART Regional Economic Growth Strategy preceded the 2023 Comprehensive Economic Development Strategy described above and identifies many of the same drivers in the region. Identified challenges include aging demographics, housing affordability, distance to employment centers, and the risk of unintended consequences in growth management. Relevant to the scope of this trail study, the report identifies an interest in balancing growth and conservation, with natural resources described as one of the region's greatest strengths by participants in public outreach activities. GrowSMART recommends balancing development and conservation, building on existing economic assets, and hedging the future.

**Regional Housing Plan — RiverCOG, 2022[4]**

RiverCOG developed the Regional Housing Plan as an extension of the 2021 Lower Connecticut River Valley Plan of Conservation and Development plan. It seeks to identify steps to create housing, address the region's housing trends or needs, diversify demographics and increase jobs. The final report combines a regional study and planning effort with local housing plans from 12 municipalities in the region.

The Regional Housing Plan found the northern part of the region, including Middletown, is best positioned to add housing units and increase the region's housing supply. The plan recommended the creation of a housing tool kit, further study of the capacity for Transit-Oriented Development, and the establishment of a regional housing commission.

**Conceptual Development Plan – Middletown[5]**

[3] Lower Connecticut River Valley Council of Governments. (2016) "GrowSMART Regional Economic Growth Strategy."
[4] Lower Connecticut River Valley Council of Governments. (2022). "Regional Housing Plan"
[5] Middletown, Connecticut. "Conceptual Development Plan." https://www.middletownct.gov/780/Conceptual-Development-Plan

The Middletown Conceptual Development Plan outlines a strategy for making downtown Middletown an active, mixed-use area and identifies development opportunities. The plan breaks downtown into seven districts, including a service district in the north end, the central retail core and the "post redevelopment commercial district" to the south. The downtown population is described as ethnically and socio-economically diverse, and composed of a mix of "longtime residents, new families, college students, young professionals, and low to moderate income households."

Recommendations from the plan include promoting pedestrian access to the Connecticut Riverfront, particularly from Harbor Park; implementing design guidelines for building rehabilitation; providing spaces for gatherings and art events; addressing downtown vehicle congestion and a near/at-capacity bridge with improved car access; and the creation of a detailed market plan.

**Economic Development Resources – Middletown, RiverCOG**

Locally provided economic development resources are available in the region. Middletown and Middlesex County Chamber of Commerce partner to provide Middletown Small Business & Minority Business Center, which is provides counseling, educational opportunities, and site visits to increase business opportunities for Middletown residents and businesses.[6] Additionally, the Middlesex County Revitalization Commission works with the Middlesex Chamber of Commerce and the 15 member cities in Middlesex County to support economic development, provide services, and offer direct financial assistance such as loans and grants.[7]



[6] Middlesex County Chamber of Commerce. "Middletown Small Business & Minority Business Center." https://www.middlesexchamber.com/middletown-small-business-development-center/
[7] Middlesex County Revitalization Commission. "Middlesex County Revitalization Commission (MCRC)" https://mxcrc.org/about-mcrc/

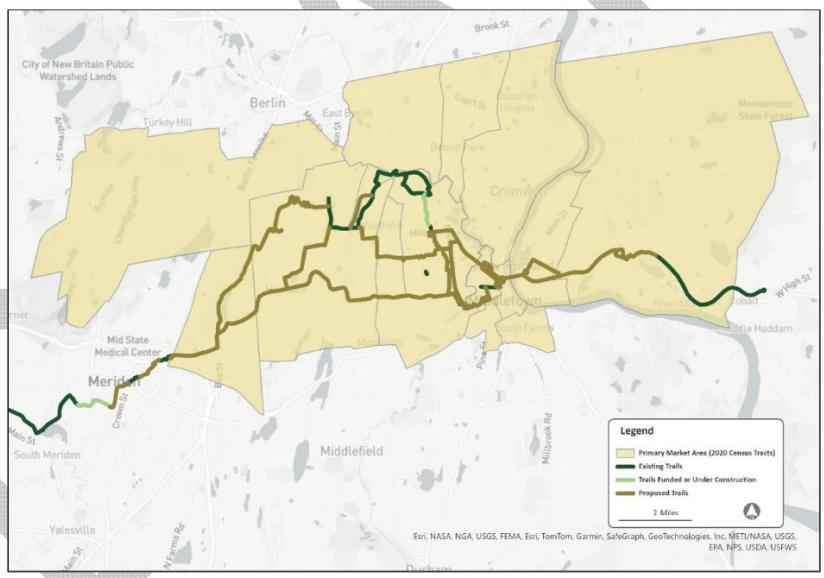
# 2 Market Analysis

The intended trail connection would create a continuous 11.5-mile trail corridor for residents and visitors to enjoy recreational opportunities. The following market analysis highlights current and projected demographic as well as current market conditions for the area immediately surrounding the trail corridor. The study area is further defined below.

The ESI team developed two key study areas for this analysis:

- **Primary Market Area** (PMA) is defined as the 16 census tracts intersecting with the 0.5-mile buffer from the trail development options and existing trails connecting those options. The demographic condition is assessed based on census data associated to the census tracts, while the property market condition is analyzed based on predefined market area from Redfin and Costar that overlaps with the census tracts.[8]
- **Middletown Market Area** (MMA) is defined as a subset of PMA to focus on Middletown and Portland, especially Downtown Middletown and West Portland. This market area is adopted for the analysis of property market condition in Middletown area as requested in the task.

**Figure 1: Primary Market Area**




*Source: VHB, US Census Bureau, ESI, 2024*

[8] The boundaries for the predefined market area vary by property class due to competitive relationships of different property classes in the area. In this analysis, industrial, office, and retail properties in Primary Market Area (PMA) and Middletown Market Area (MMA) share the same market boundaries due to their similar competitiveness relationship in the area. Multifamily properties have a different market dynamic from industrial, office, and retail, thus they have a slightly different market boundary for both PMA and MMA. See the appendix for the predefined market area boundary by property class for more information.

## 2.1 Existing and Future Demographic Conditions

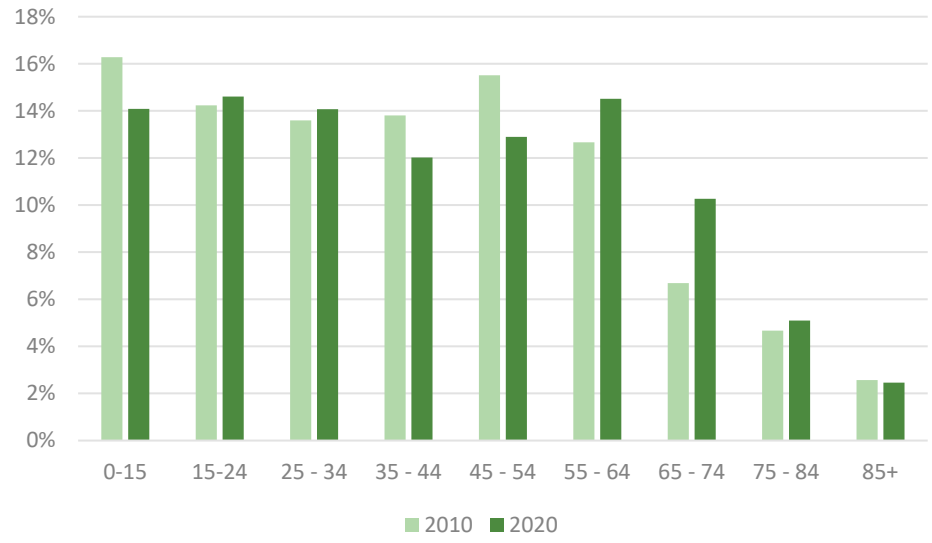
**The population residing around the trail options are stable in size but aging,** with the study area having a residential population of over 65,000 in 2020. While the area witnessed a population decrease during the pandemic, the population is projected to exceed the 2020 level by 2028. Overall, the area's historic population growth of 0.9% increase between 2010 and 2020 matches the growth trends of the state average. Meanwhile, the residential population is becoming older. The age group structure has generally shifted towards the older age group since 2010. The median age of the catchment area in 2020 was over 40 and it will continue to grow older as the age groups shift.

**Figure 2: Primary Market Area Population Statistics**

| | |
|---|---|
| Population (2021) | 64,415 |
| Projected Population (2028) | 65,288 |
| Population Growth 2010 - 2020 | 0.9% |
| Connecticut Population Growth 2010 - 2020 | 0.9% |

*Source: ESRI BAO, US Census Bureau*

**Figure 3: Population by Age, 2010 and 2020, for Residents in the Primary Market Area**




*Source: ESRI BAO, US Census Bureau*

**The demographic composition is becoming more diverse over time, and the population has grown more highly educated and wealthier.** Although the white population has been the most prevalent group in the study area, Black, Asian, and other populations have grown in percentage terms compared to more than a decade ago. Compared to the state, today, the PMA population is slightly more educated

(+2% in bachelor's degree and above) and wealthier (+$1,860 annual household income). Residents in the PMA are significantly more educated today compared to 2010 with the area experiencing an 8 percent increase in residents with bachelor's degrees from 2010 to 2021. This increase, as well as the PMA's increase in household income, aligns with state trends over the same period. Within the PMA, the median household income has grown 12.9% since 2010, while people with bachelor's degree and above has increased 9%.

**The number of housing units within the PMA has grown in the last decade, with most of the units occupied by owner households**. Renter households occupy around a third of the housing units. Comparing the PMA with the statewide housing stock, the PMA's housing unit vacancy rate in 2023 is slightly lower than the statewide average. The growth of housing units over the decade in the PMA is not significantly different from that in the state.

**Figure 4: Race/Ethnicity Comparison within the Primary Market Area**

| | PMA (2010) | PMA (2023) | Connecticut (2023) |
|---|---|---|---|
| White Alone | 82% | 72% | 65% |
| Black Alone | 8% | 10% | 11% |
| Asian Alone | 4% | 5% | 5% |
| Other Race | 5% | 13% | 18% |

Note: Other Race includes American Indian along, Pacific Islander alone, Some other race alone, two or more races

*Source: ESRI BAO, US Census Bureau*

**Figure 5: Education, Income, and Housing Units Comparison within the Primary market Area**

| | PMA (2010) | PMA (2023) | Connecticut (2023) |
|---|---|---|---|
| Bachelor's Degree or More | 36% | 45% | 43% |
| Median Household Income | $68,551 | $88,471 | $86,611 |
| Total Housing Units | 28,241 | 29,514 | 1,547,996 |
| *Renter Occupied* | *33%* | *34%* | *32%* |
| *Owner Occupied* | *61%* | *60%* | *60%* |
| *Vacant* | *6%* | *6%* | *8%* |

*Source: ESRI BAO, US Census Bureau 5-year ACS*

## 2.2 Summary of the Primary Market Area (PMA) and Middletown Market Area (MMA) Market Condition

The Primary Market Area (PMA) is growing in supply and has become more expensive across all property classes compared to the metropolitan area; however, the level of market demand varies by property class. The Middletown Market Area (MMA) is generally similar to PMA in market trends yet properties are more expensive across all classes.

**Single Family Housing Market**

The single-family housing in the PMA represents 8.1% of the 321,663 units in the metropolitan area. Merely 0.5% of the existing units are for-sale in January 2024, however, it accounts for 12.5% of the activities in the for-sale market in the metropolitan area. The for-sale market of PMA is in decline during the post-pandemic year (2022-2023), which is opposite to the more stable for-sale market in the metropolitan area. The median home sale price is relatively cheaper however more expensive on the per square footage basis, likely due to the smaller size of average housing unit for sale than that in the metropolitan area. However, the home sale price has grown 17.4% from 2022 to 2023 in PMA, which is much faster at a 7.9% positive difference comparing with the sale price growth in the metropolitan area.

MMA supplies less than half of the PMA single-family housing stock. The for-sale market is more popular and active than that in PMA, both in terms of the number and the growth of units on the market in the past year. The median home sale price is slightly more expensive than PMA but still cheaper than that in the metropolitan area. On the per square footage basis, the MMA has the highest price among MMA, PMA, and the metropolitan area. The home sale price is growing at a rate similar to the rate in PMA, indicating a consistent growth of single-family housing near the trail corridor and the corridor of interest.

**Figure 6: Single Family Market Indicators, January 2024**

| | MMA | PMA | Hartford-East Hartford-Middletown, CT |
|---|---|---|---|
| Total Units | 11,807 | 25,970 | 321,663 |
| *of the metropolitan area* | *3.7%* | *8.1%* | *100%* |
| Units on Market January 2024 | 81 | 149 | 1,189 |
| *of the metropolitan area* | *6.8%* | *12.5%* | *100%* |
| Annual Growth in Units on Market (2022-2023) | 4.8% | -15.9% | 2.1% |
| Median Home Sale Price | $309,000 | $294,000 | $325,000 |
| Median Sale Price per SF | $212.1 | $202.8 | $192.2 |
| Annual Growth of Median Sale Price (2022-2023) | 17.9% | 17.4% | 9.5% |

*Source: 5-yr Census 2021 (Total unit). Redfin, 2024.*

**Multi-Family Housing Market**

Like single-family units, multifamily units in PMA have become more expensive for rental in the last decade. Total units of multifamily housing continue to grow through the pandemic period (2019-2023). However, the demand for multifamily units is low, giving the market a hard time absorbing any new development. Nevertheless, new constructions, including five buildings that supply an additional 696 units, are underway in the PMA.

Multifamily market in the MMA is consistent with that in the PMA. Besides, it is more expensive and seeing even less in demand. Almost half of the new construction in the PMA happens in the MMA.

**Figure 7: Multifamily Residential Market Indicators, Q4 2024**

| | MMA | PMA |
|---|---|---|
| Total Units | 6,260 | 13,318 |
| Asking Rent Per Unit | $1,553 | $1,461 |
| Average Annual Increase in Asking Rent (2010 - 2023) | 3.2% | 2.8% |
| Vacancy Rate | 3.4% | 3.6% |
| Absorption Rate | 0.3% | 0.7% |
| | | |
| Percent Growth in Inventory (2019 -2023) | 4% | 5% |
| Under Construction Buildings [9] | 2 | 5 |
| Under Construction Units | 339 | 696 |
| Under Construction Percent | 5.4% | 5.2% |

*Source: CoStar, Brainerd Place*

**Industrial, Office, and Retail Market**

Among the nonresidential markets in PMA, **office** buildings are the most expensive to rent and the most vacant type of property. However, there is no clear trend of high demand for any of these properties in PMA. While **industrial** properties have the strongest growth in inventory in the lasty decade or so, they slow down significantly since the pandemic. On the contrary, **retail** property inventory grows slowly but steadily in the last decade or so, with a higher growth rate since the pandemic. However, this higher growth rate doesn't mean tremendous new construction activities. Recent construction activity in retail is relatively minimal compared to the total inventory in 2023.

[9] One of the under-construction buildings, Brainerd Place in Portland, is mixed-use retail and residential. This development is also listed as under construction in the retail market. This property exist in both Large Market Area and Middletown Market Area.

MMA has a similar trend with the PMA in industrial, office, and retail market, with an exception that all property classes are relatively more expensive in MMA. The more prominent trend in MMA is the much more significant industrial development in the past decade and the new construction for retail properties. The percentage growth of industrial property inventory is 13.7% higher than that in PMA. All retail construction activity accounted for in PMA actually happens in MMA.

**Figure 8: Industrial, Office and Retail Market Indicators**

| | Industrial | | Office | | Retail | |
|---|---|---|---|---|---|---|
| **Indicators** | **MMA** | **PMA** | **MMA** | **PMA** | **MMA** | **PMA** |
| Inventory SF (Q4 2023) | 6,071,612 | 15,186,947 | 2,596,213 | 6,693,213 | 5,470,532 | 11,631,040 |
| Asking Rent Per SF (Q4 2023) | $8.5 | $7.0 | $19.1 | $19.0 | $15.5 | $14.7 |
| Vacancy Percent (Q4 2023) | 3.2% | 3.8% | 10.1% | 6.4% | 3.1% | 5.0% |
| Absorption Percent (Q4 2023) | 0% | 0% | 1.2% | 1.0% | 1.1% | 2.2% |
| | | | | | | |
| Inventory Growth (2014-2023) | 20.7% | 7.0% | 6.9% | 3.6% | 2.8% | 1.2% |
| Inventory Growth (2019 -2023) | 0.4% | 0.2% | 0.5% | 0.6% | 2.6% | 1.4% |
| Under Construction Buildings (Q4 2023) | 0 | 3 | 0 | 1 | 2 | 2[10] |
| Under Construction SF (Q4 2023) | - | 270,000 | - | 5,000 | 85,650 | 85,650 |
| Under Construction Percent (Q4 2023) | 0% | 1.8% | 0% | 0.1% | 1.6% | 0.7% |

*Source: CoStar*

### Institutional and Government Properties

Institutional and government properties, including educational, hospital, cemetery, religious gathering space, and municipal services, support and grow local communities along the trail development options. Within the PMA, university and municipal properties are the major type of institutional and government properties. Middletown downtown hosts the Wesleyan University campus along with a variety of educational institutes just south to Route 66. Community gathering places, including churches, park and recreational space, community center, as well as municipal buildings of Meriden and Middletown are well aligned with the trail alignment.

Local government and institutions in the region have made or are pursuing several investments. In 2026, Wesleyan University expects to complete construction on a new science building with research labs,

[10] One of the under-construction buildings, Brainerd Place in Portland, is mixed-use retail and residential. The under construction SF includes the residential unit footprint.

classrooms, and a cafe.[11] Additionally, the university plans to develop and expand an existing historic industrial structure located near the eastern edge of campus on Hamlin and College streets, making it into an arts facility.[12] The City of Middletown opened a new $7.8 million pool and splash pad complex last summer off Walnut Grove Road.[13] The city is also exploring the relocation of its City Hall to Main Street and finding a new site for its library.[14]

**Land Use and Property Value of Parcels Directly Intersecting with the Trail Development Options**

The trail vicinity has mixed land uses, from residential to industrial to government and institutional uses. Occupied parcels account for over 58 percent of all parcels intersecting with the trail development options. Land immediately next to the trail development is occupied primarily by institutional uses valued at $260.4 million in appraisal, 33 percent of total appraised value of all occupied parcels. It is also the single largest land use category in occupied parcel. Single-family residential is the second most valuable and land-occupying property class, which is followed by industrial besides the other type of property.

Vacant land is dedicated primarily to government and other property class, and they are the most valuable land use type in vacant parcels. Industrial property is the second most valuable property class. However, the second most land occupying vacant parcels are dedicated to residential use.

Institutional properties occupy the most land of all property classes, providing use for assembly places, health centers, and educational organizations. Almost 80 percent of such properties are occupied, including those for churches, (church and public) schools, cemeteries, and medical office buildings. Government parcels are mainly for municipal buildings providing services to the public, and railroads and other land managed by the State Department of Transportation.



[11] Wesleyan University. “New Science Building.” https://www.wesleyan.edu/chem/new_science_building.html
[12] Patch Middletown, CT. (2023) “Wesleyan University Receives Approval For New Arts Facility.” https://patch.com/connecticut/middletown-ct/wesleyan-university-receives-approval-new-arts-facility
[13] The Middletown Press. (2023) “Middletown eager for opening of new, state-of-the-art Veterans Pool, splash pad.” https://www.middletownpress.com/news/article/middletown-eyes-opening-new-state-of-the-art-18088204.php
[14] HMA2 Architects. (2023) “FEASIBILITY STUDY: PHASE 1. RUSSELL LIBRARY/CITY HALL MIDDLETOWN, CT.” https://russelllibrary.org/wp-content/uploads/2023/10/2023.10.19_Middletown-Feasibility-Study-Phase-1-Report.pdf

**Figure 9: Inventory and Value for Parcels Directly Intersecting with Trail Development Options**

| | Total Parcels | Total Land Acres | Total Appraised Value ($M) |
|---|---|---|---|
| **Occupied Parcels** | **480** | **1,159.3** | **$796.3** |
| *Single-Family Residential* | *263* | *257.4* | *$68.3* |
| *Multi-Family Residential* | *69* | *53.8* | *$33.9* |
| *Commercial Nonresidential* | *54* | *82.0* | *$35.3* |
| *Industrial* | *38* | *170.8* | *$63.5* |
| *Government* | *13* | *53.3* | *$29.1* |
| *Institutional* | *9* | *305.6* | *$260.4* |
| *Other* | *34* | *236.4* | *$16.5* |
| **Vacant Parcels** | **97** | **836.1** | **$19.3** |
| *Residential* | *20* | *124.1* | *$0.8* |
| *Commercial Nonresidential* | *10* | *32.0* | *$1.5* |
| *Industrial* | *9* | *72.8* | *$4.4* |
| *Government* | *41* | *286.4* | *$6.0* |
| *Institutional* | *3* | *79.3* | *$0.4* |
| *Other* | *14* | *241.5* | *$6.2* |

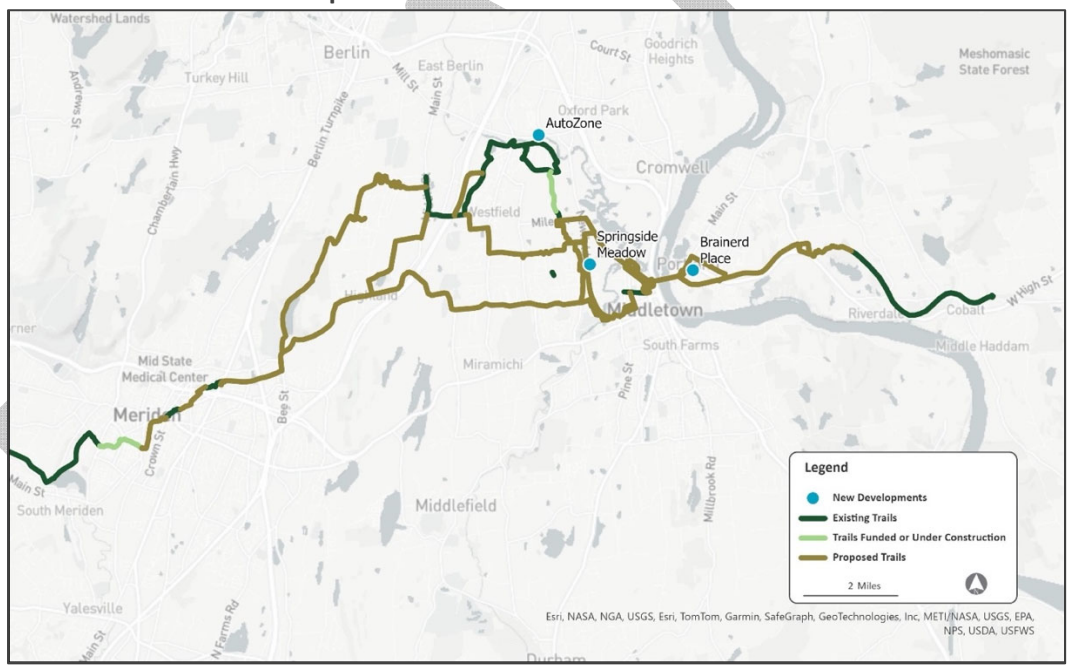
*Source: FHI Studio, Connecticut's Regional Councils of Governments, 2024. Numbers may not sum due to rounding.*

## 2.3 Major Development Activities in Middletown Market Area (MMA)

There are three major private development projects underway in MMA.

- Landmark Investment group is developing Springside Meadow, a 240-unit high-end apartment complex, on the former site of a single-family home at 494 Newfield Street in Middletown.[15] [16] This development is adjacent to the proposed Newfield Street Corridor trail alignment through Middletown.
- A new 2,550-square-foot AutoZone location is under construction at 48 Berlin Road in Cromwell, CT and expected to be completed early this year.[17] This development is about 500-feet from the existing Mattabesset Trail, but separated by a major road, Connecticut Route 372 (Berlin Road), and the Mattabesset River.
- Brainerd Place on 69 Marlborough Street is a multi-phase mixed-use development on 14.7 acres in downtown Portland. The first phase calls for the construction of seven buildings, including 99 apartment units, a Starbucks, and the restoration of two existing buildings for a restaurant and club house.[18] This development is adjacent to the portion of the proposed trail alignment on Main Street Portland, and near the turn off for the long-term option to use the railroad corridor and Pickering Street.

**Figure 10: Location of New Developments**




*Source: VHB, CoStar, ESI, 2024*

[15] CoStar. "Property Summary Report." Accessed Feb. 28, 2024
[16] https://www.hartfordbusiness.com/article/240-unit-apartment-development-announced-for-middletown
[17] CoStar. "Property Summary Report." Accessed Feb. 28, 2024
[18] https://www.brainerdplace.com/

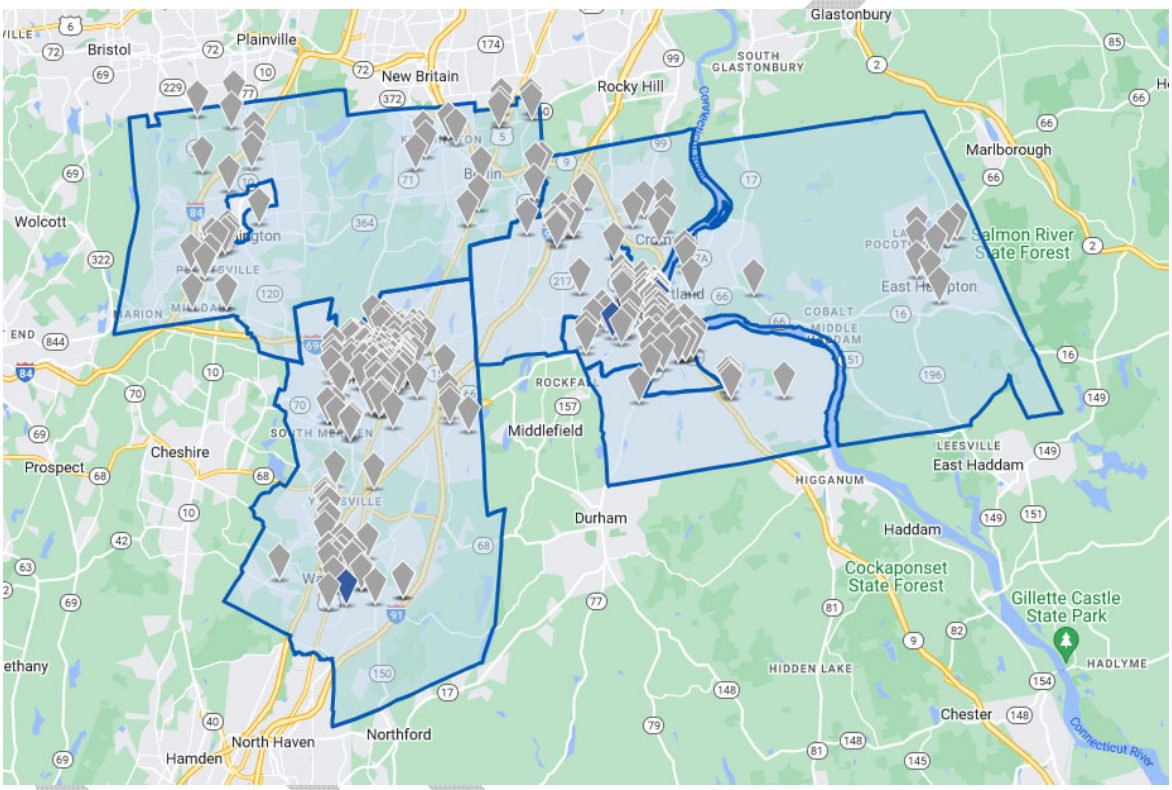
# Appendix

## Predefined Market Area

### Primary Market Area (PMA)

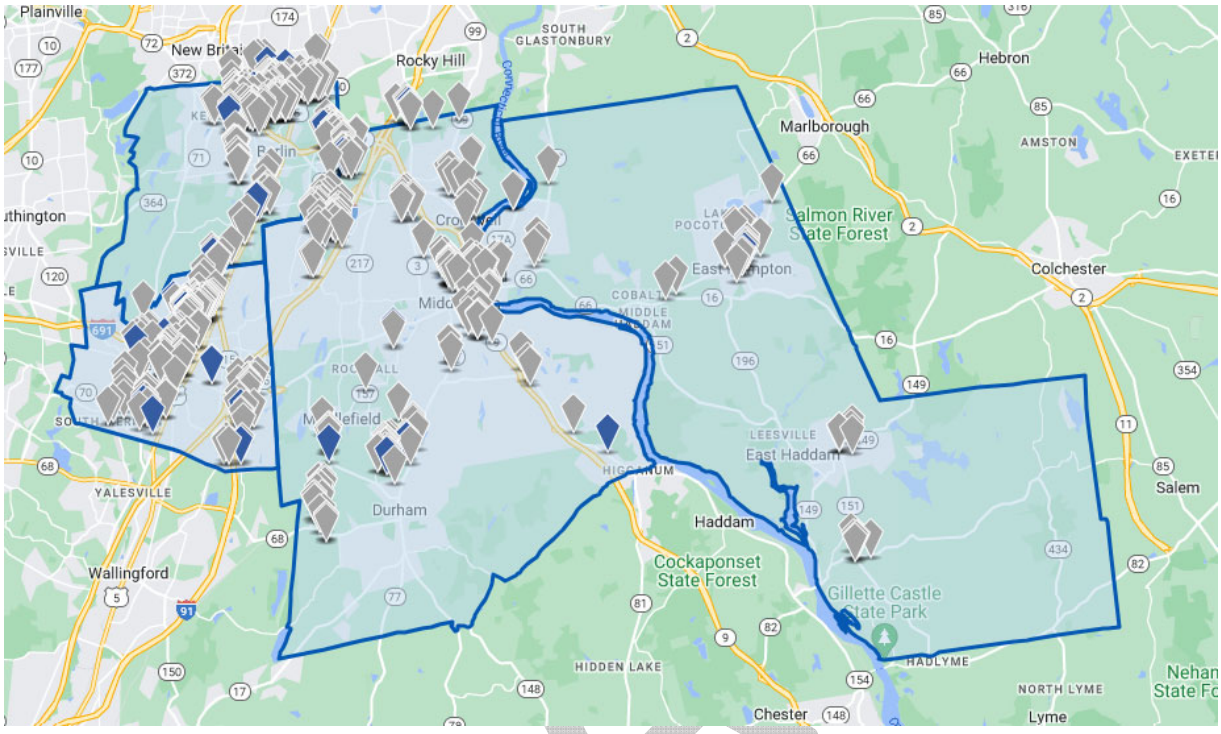
Single family market: Meriden, Middletown, Portland municipal boundary

**Figure a1: Multi-Family Primary Market Area**




*Source: CoStar*

**Figure a2: Industrial, Office, and Retail Primary Market Area**

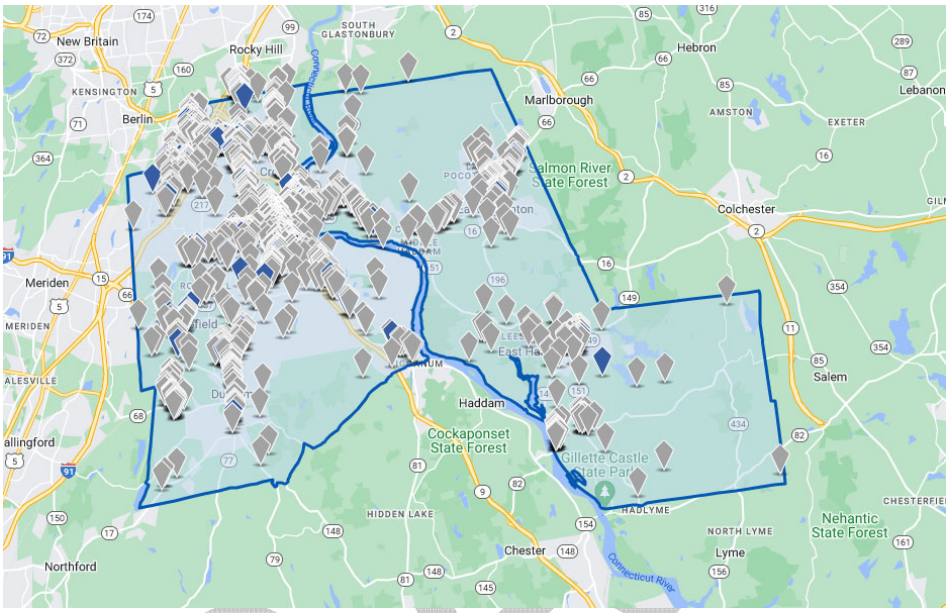



*Source: CoStar*

## Middletown Market Area (MMA)

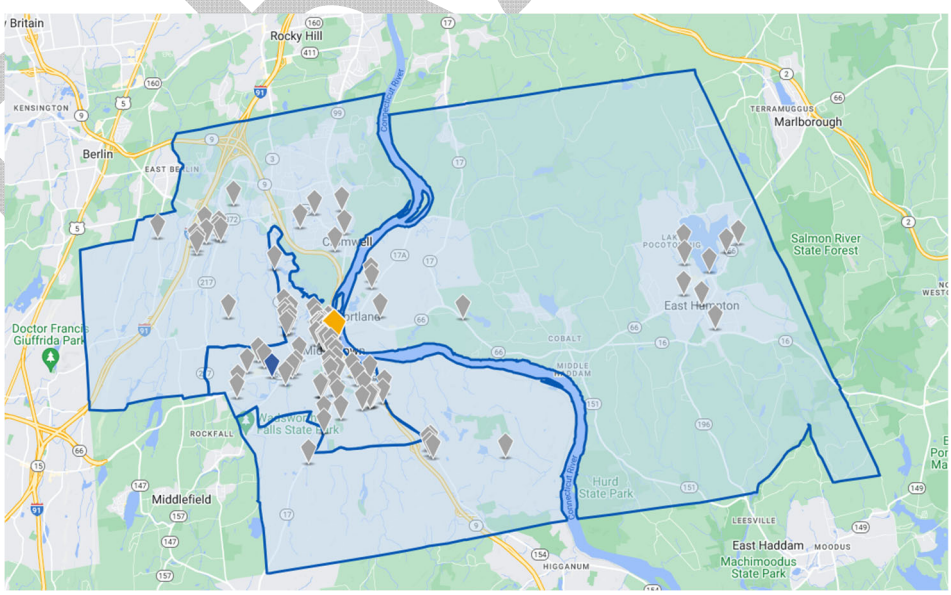
Single family market: Middletown, Portland municipal boundary

**Figure a3: Industrial, Office, and Retail Middletown Market Area**




*Source: CoStar*

**Figure a4: Multi-Family Middletown Market Area**




*Source: CoSta*

# APPENDIX D: ROUTE EVALUATION CRITERIA MEMORANDUM

Memorandum

**To:** Sam Gold, RiverCOG
Rob Haramut, RiverCOG

**Prepared By:** Phil Goff, Project Manager

**Date:** September 27, 2024

**Project No.:** 43660.00

**Project Name:** Central Connecticut Loop Trail Study

# FINAL Route Prioritization Criteria and Scoring Rubric

This memorandum has been prepared to summarize the parameters of the criteria used to prioritize route alternatives for the Central Connecticut Loop Trail Study (CCLT). Alternatives in need of evaluation include:

- three routes flanking I-91 in the west end of Middletown
- four routes crossing the Coginchaug River area between the rail line and Newfield Street in Middletown
- two routes in downtown Portland

## INTRODUCTION TO PRIORITIZATION

Table 1 outlines VHB's criteria for evaluating all trail route alternatives. The criteria stem from the Study's vision and nine supporting goals informed through feedback from RiverCOG, the study's Technical Advisory Committee, other stakeholders, and from the public.

Route alternatives will be assessed using both GIS-based *quantitative* methods and *qualitative* evaluation, receiving scores from 0 to 5 for each criterion. To emphasize the relative importance of certain criteria in alignment with the CCLT Study's goals, these scores will be multiplied by assigned weights ranging from 1 to 3.

**TABLE 1: 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** |

**SCORING RUBRIC**

Scoring shall be ranked on a scale of 0 through 5 for each individual criterion (0 for conditions that poorly meet the goals of the criteria relative to other routes, and 5 for conditions that meet the criteria well relative to the other routes). A weight has been applied to each criterion to emphasize issues important to RiverCOG and key stakeholders. After weighting, any trail route alternative could receive a maximum score of up to 80 points.

1. **OFF ROAD: Percentage of the route alternative which is off-road *(Quantitative)***
    - Description: High scores are given to alternatives with a high percentage of the segment running within a utility corridor, alongside a river, or within a road ROW (with a landscaped buffer of at least five feet, though in constrained areas a buffer less than five foot is permissible with inclusion of a crash barrier between the roadway and the path). Lower scores are given to alternatives that include route segments that either share the roadway with motor vehicles or contain standard striped bicycle lanes.
    - Scoring
        - 0 = no portion of the route is considered off road
        - 1 = <50% of the route is considered off road
        - 2 = 50-69.9% of the route is considered off road
        - 3 = 70-84.9% of the route is considered off road
        - 4 = 85-99.9% of the route is considered off road
        - 5 = 100% of the route is considered off road

2. **TRAFFIC SAFETY: Route alternatives minimize conflicts with motor vehicles by avoiding crossing roadways and driveways *(Quantitative)***
    - Description: High scores are given to segment alternatives that avoid or minimize at-grade crossings of roadways or driveways, thus minimizing potential conflicts with motor vehicles.
    - Scoring
        - 0 = Not used
        - 1 = >30 roadway/driveway crossings for the entirety of the alternative
        - 2 = 21-30 roadway/driveway crossings for entirety of the alternative
        - 3 = 11-20 roadway/driveway crossings for entirety of the alternative
        - 4 = 6-10 roadway/driveway crossings for entirety of the alternative
        - 5 = <5 roadway/driveway crossings for entirety of the alternative

3. **ENVIRONMENT: Route alternatives that minimize environmental impact *(Qualitative and Quantitative)***
    - Description: High scores are given to alternatives that A) minimize impact to wetlands and B) avoid floodplains (thus reducing the time and costs required for permitting).
    - A: Scoring related to wetland impacts
        - 0 = not used
        - 1 = route alternative has a major impact on wetlands, likely requiring a lengthy permitting process
        - 3 = route alternative has a modest impact on wetlands, requiring a significant permitting effort
        - 5 = route alternative does not impact wetlands and avoids the need for permitting
    - B: Scoring related to floodplains
        - 0 = not used
        - 1 = >40% of the route runs within a designated floodplain
        - 2 = 30-39.9% of the route runs within a designated floodplain
        - 3 = 20-29.9% of the route runs within a designated floodplain
        - 4 = 10-19.9% of the route runs within a designated floodplain
        - 5 = <10% of the route runs within a designated floodplain

4. **SECURITY: Route alternative has frequent access points *(Qualitative)***
    - Description: High scores are given to alternatives with relatively easy access and are not isolated from nearby roadways, businesses, and neighborhoods.
    - Scoring
        - 0 = access points exist only at the end points of the entire alternative
        - 1 = alternative features 1-2 access points that are indirectly connected
        - 2 = alternative features 1 access point to nearby roads, businesses, and neighborhoods (not including end points)
        - 3 = alternative features 2 access points to nearby roads, businesses, and neighborhoods (not including end points)
        - 4 = alternative features 3-4 access points to nearby roads, businesses, and neighborhoods (not including end points)
        - 5 = alternative features >4 access points to nearby roads, businesses, and neighborhoods (not including end points)

5. **COST: Route length and/or engineering complexities can lead to high costs *(Quantitative, though using planning-level cost estimates)***
    - Description: High scores are given to alternatives that offer a direct connection between point A and B and minimize elements that can lead to high costs, including bridges, lengthy boardwalks, and the need for trail switchbacks.
    - Scoring for the ratio of the highest cost route alternative compared with the lowest cost alternative (e.g., alternatives with high ratios score poorly)
        - 0 = not used
        - 1 = estimated cost ratio is greater than 3:1
        - 2 = estimated cost ratio is between 3:1 and 2:1
        - 3 = estimated cost ratio is between 2:1 and 1.5:1
        - 4 = estimated cost ratio is between 1.5:1 and 1.2:1
        - 5 = estimated cost ratio is between 1.2:1 and 1:1

6. **CONNECTIVITY: Route alternatives provide direct connections to housing and other destinations along the corridor *(Quantitative)***
    - Description: High scores are given to alternatives that A) provide the most direct connection along the corridor, B) are proximate to housing, and C) provide a connection to destinations such as schools, parks, retail businesses, and other civic institutions.
    - A: Scoring for direct connectivity related to the ratio of the longest route alternative (within the adjacent options) compared with the shortest route alternative (e.g., alternatives with high ratios reflect out-of-direction travel and score poorly)
        - 0 = not used
        - 1 = estimated direct-route ratio is greater than 2:1
        - 2 = estimated direct-route ratio is between 2:1 and 1.5:1
        - 3 = estimated direct-route ratio is between 1.5:1 and 1.3:1
        - 4 = estimated direct-route ratio is between 1.3:1 and 1.1:1
        - 5 = estimated direct-route ratio is between 1.1:1 and 1:1
    - B: Scoring related to proximity to housing (existing, under construction, and/or permitted) within 1,000 feet, or a 5 min walk
        - 0 = no housing units within 1,000 feet
        - 1 = <200 housing units within 1,000 feet
        - 2 = 200-400 housing units within 1,000 feet

  - 3 = 401-70 housing units within 1,000 feet
  - 4 = 701-1,000 housing units within 1,000 feet
  - 5 = >1,000 housing units within 1,000 feet
- C: Scoring related to proximity to destinations (center point of parcel, within 1,000 feet), including public/private schools, parks, full-service grocery stores, at least 2 small retail businesses, and civic institutions such as libraries and town halls.
  - 0 = no destinations within 1,000 feet
  - 1 = 1 destination within 1,000 feet
  - 3 = 2 destinations within 1,000 feet
  - 5 = 3 or more destinations within 1,000 feet

7. **ECONOMIC IMPACT: Route alternatives that connect with job locations *(Quantitative)***
   - Description: High scores are given to segment alternatives that provide the most direct connection to areas with existing jobs (both permanent and temporary construction jobs).
   - Scoring
     - 0 = No jobs sites within 1,500 feet
     - 1 = Modest number of jobs within 1,500 feet
     - 3 = High number of jobs within 1,500 feet
     - 5 = High number of jobs and large-scale (>3 acre) redevelopment sites within 1,500 feet

8. **EQUITY: Route alternatives that provide mobility and recreational benefits, and green infrastructure for underserved neighborhoods *(Quantitative)***
   - Description: Referencing CT DEEP's [1]description and data related to Environmental Justice (EJ) communities, determine if the route alternative runs inside of, or within 150 feet, of an EJ Block Group[2].
   - Scoring
     - 0 = alternative is not inside of, or within 150 feet of, a transportation-disadvantaged census track
     - 5 = project is inside of, or within 150 feet of, a transportation-disadvantaged census track

[1] https://portal.ct.gov/deep/environmental-justice/05-learn-more-about-environmental-justice-communities
[2] https://ctdeep.maps.arcgis.com/apps/webappviewer/index.html?id=d04ec429d0a4477b9526689dc7809ffe

9. **EXPERIENCE: Route alternatives that avoid hills, offer access to nature, and minimize exposure to busy roads *(Qualitative)***
    - Description: High scores are given to segment alternatives that avoid the steepest grades and are more proximate to natural areas rather than busy roadways, parking lots, and large buildings with blank walls.
    - Scoring
        - 0 = Not used
        - 1 = Route provides very little visual access to wooded areas, waterways and park lands and/or requires trail users to walk or bike along steeper grades, relative to other alternatives
        - 2 = Route provides very little visual access to wooded areas, waterways and park lands but does not include any significant steep grades, relative to other alternatives
        - 3 = Route provides some visual access to wooded areas, waterways and park lands and/or contains some steep grades, relative to other alternatives
        - 4 = Route provides some visual access to wooded areas, waterways and park lands and minimizes steep grades, relative to other alternatives
        - 5 = Route provides substantial visual access to wooded areas, waterways and park lands and minimizes steep grades, relative to other alternatives

# APPENDIX E: COST ESTIMATE DETAILS

# Central Connecticut Loop Trail (CCLT) Study

**From Meriden Line to Atkins to Middle St - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 5600 | $25 | $140,000 |
| Formation of Subgrade | S.Y. | 22,730 | $3 | $68,190 |
| Processed Agregate Base | C.Y. | 3,700 | $58 | $214,600 |
| Bituminous Concrete | Ton | 3,740 | $150 | $561,000 |
| Sedimentation Control System | L.F. | 10000 | $7 | $70,000 |
| Concrete Sidewalk Ramps | S.F. | 4480 | $33 | $147,840 |
| Detectable Warning Surface | S.F. | 2240 | $48 | $107,520 |
| Stonedust Pathway | S.F. | 4800 | $2 | $9,600 |
| Furnishing and Placing Topsoil | S.Y. | 28000 | $7 | $196,000 |
| Turf Establishment | S.Y. | 28000 | $3 | $84,000 |
| Retaining Wall | S.F. | 600 | $160 | $96,000 |
| Construction Field Office | MO. | 9 | $5,000 | $45,000 |
| **STRUCTURE ITEMS** | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 1560 | $75 | $117,000 |
| Trafficmen - Flagger | HR. | 520 | $47 | $24,440 |
| | | | | |
| | | | SUBTOTAL | $1,881,190 |
| | | | Minor Items (25%) | $470,300 |
| | | | | |
| | | | Clearing and Grubbing (8%) | $150,500 |
| | | | M&P of Traffic (3%) | $75,250 |
| | | | Mobilization (6.5%) | $141,090 |
| | | | Construction Staking (1%) | $18,810 |
| | | | | |
| | | | SUBTOTAL | $2,737,140 |
| | | | Incidentals (25%) | $684,290 |
| | | | Contingencies (25%) | $684,290 |
| | | | Inflation (5% annually) | $205,290 |
| | | | Right of Way | $17,500 |
| | | | | |
| | | | TOTAL | $4,328,510 |

# Central Connecticut Loop Trail (CCLT) Study

**West Middletown/I-91 Alt. 1 - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | | $25 | |
| Rock Excavation | C.Y. | | $70 | |
| Formation of Subgrade | S.Y. | | $3 | |
| Processed Agregate Base | C.Y. | | $58 | |
| Bituminous Concrete | Ton | 700 | $150 | $105,000 |
| Milling | S.Y. | 6040 | $4 | $24,160 |
| Sedimentation Control System | L.F. | | $7 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | |
| Rip Rap | C.Y. | | $125 | |
| Curbing **(Concrete)** | L.F. | | $54 | |
| Curbing **(Granite)** | L.F. | | $71 | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | |
| Concrete Sidewalk | S.F. | | $16 | |
| Concrete Sidewalk Ramps | S.F. | 680 | $33 | $22,440 |
| Detectable Warning Surface | S.F. | 340 | $48 | $16,320 |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | |
| Furnishing and Placing Topsoil | S.Y. | | $7 | |
| Turf Establishment | S.Y. | | $3 | |
| RRFB - Type B | EA | 2 | $4,000 | $8,000 |
| Construction Field Office | MO. | 4 | $5,000 | $20,000 |
| **STRUCTURE ITEMS** | | | | |
| | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 700 | $75 | $52,500 |
| Trafficmen - Flagger | HR. | 80 | $47 | $3,760 |
| Traffic Signal | EA | | $200,000 | |
| Pavement Markings | L.F. | | $0.50 | |
| Pavement Markings | S.F. | | $6.50 | |
| Signs | S.F. | | | |
| **OTHER ITEMS** | | | | |
| Wood Fence | LF | | $50 | |
| Bollards | EA | | $1,200 | |
| | | | | |
| | | | | |
| | | | SUBTOTAL | $252,180 |
| | | | Minor Items (25%) | $63,050 |
| | | | | |
| | | | Clearing and Grubbing (2%) | $5,040 |
| | | | M&P of Traffic (3%) | $10,090 |
| | | | Mobilization (6.5%) | $18,910 |
| | | | Construction Staking (1%) | $2,520 |
| | | | | |
| | | | SUBTOTAL | $351,790 |
| | | | Incidentals (25%) | $87,950 |
| | | | Contingencies (25%) | $87,950 |
| | | | Inflation (5% annually) | $26,380 |
| | | | | |
| | | | TOTAL | $554,070 |

# Central Connecticut Loop Trail (CCLT) Study

**West Middletown/I-91 Alt. 2 Estimate - NORTH of Pond**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 5898 | $25 | $147,450 |
| Rock Excavation | C.Y. | | $70 | |
| Formation of Subgrade | S.Y. | 7,180 | $3 | $21,540 |
| Processed Agregate Base | C.Y. | 2,170 | $58 | $125,860 |
| Bituminous Concrete | Ton | 2,220 | $150 | $333,000 |
| Milling | S.Y. | 4952 | $4 | $19,808 |
| Sedimentation Control System | L.F. | | $7 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | |
| Rip Rap | C.Y. | | $125 | |
| Curbing **(Concrete)** | L.F. | | $54 | |
| Curbing **(Granite)** | L.F. | | $71 | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | |
| Concrete Sidewalk | S.F. | | $16 | |
| Concrete Sidewalk Ramps | S.F. | 320 | $33 | $10,560 |
| Detectable Warning Surface | S.F. | 160 | $48 | $7,680 |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | |
| Stondust Pathway | S.F. | 15931 | $2 | $31,862 |
| Furnishing and Placing Topsoil | S.Y. | 3590 | $7 | $25,130 |
| Turf Establishment | S.Y. | 3590 | $3 | $10,770 |
| Retaining Wall | S.F. | 2800 | $160 | $448,000 |
| RRFB - Type B | EA | 2 | $4,000 | $8,000 |
| Construction Field Office | MO. | 9 | $5,000 | $45,000 |
| **STRUCTURE ITEMS** | | | | |
| | | | | |
| | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 1560 | $75 | $117,000 |
| Trafficmen - Flagger | HR. | 156 | $47 | $7,332 |
| Traffic Signal | EA | | $200,000 | |
| Pavement Markings | L.F. | | $0.50 | |
| Pavement Markings | S.F. | | $6.50 | |
| Signs | S.F. | | | |
| **OTHER ITEMS** | | | | |
| Wood Fence | LF | | $50 | |
| Bollards | EA | | $1,200 | |
| | | | | |
| | | | | |
| | | | | |
| | | | SUBTOTAL | $1,358,992 |
| | | | Minor Items (25%) | $339,750 |
| | | | | |
| | | | Clearing and Grubbing (6%) | $81,540 |
| | | | M&P of Traffic (3%) | $54,360 |
| | | | Mobilization (6.5%) | $101,920 |
| | | | Construction Staking (1%) | $13,590 |
| | | | | |
| | | | SUBTOTAL | $1,950,152 |
| | | | Incidentals (25%) | $487,540 |
| | | | Contingencies (25%) | $487,540 |
| | | | Inflation (5% annually) | $146,260 |
| | | | | |
| | | | TOTAL | $3,071,492 |

# Central Connecticut Loop Trail (CCLT) Study

**West Middletown/I-91 Alt. 2 Estimate - SOUTH of Pond**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 5740 | $25 | $143,500 |
| Rock Excavation | C.Y. | | $70 | |
| Formation of Subgrade | S.Y. | 6,690 | $3 | $20,070 |
| Processed Agregate Base | C.Y. | 1,770 | $58 | $102,660 |
| Bituminous Concrete | Ton | 2,120 | $150 | $318,000 |
| Milling | S.Y. | 4952 | $4 | $19,808 |
| Sedimentation Control System | L.F. | | $7 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | |
| Rip Rap | C.Y. | | $125 | |
| Curbing **(Concrete)** | L.F. | | $54 | |
| Curbing **(Granite)** | L.F. | | $71 | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | |
| Concrete Sidewalk | S.F. | | $16 | |
| Concrete Sidewalk Ramps | S.F. | 320 | $33 | $10,560 |
| Detectable Warning Surface | S.F. | 160 | $48 | $7,680 |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | |
| Stondust Pathway | S.F. | 14231 | $2 | $28,462 |
| Furnishing and Placing Topsoil | S.Y. | 3350 | $7 | $23,450 |
| Turf Establishment | S.Y. | 3350 | $3 | $10,050 |
| Retaining Wall | S.F. | 2800 | $160 | $448,000 |
| RRFB - Type B | EA | 2 | $4,000 | $8,000 |
| Construction Field Office | MO. | 9 | $5,000 | $45,000 |
| **STRUCTURE ITEMS** | | | | |
| | | | | |
| | LS | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 1560 | $75 | $117,000 |
| Trafficmen - Flagger | HR. | 156 | $47 | $7,332 |
| Traffic Signal | EA | | $200,000 | |
| Pavement Markings | L.F. | | $0.50 | |
| Pavement Markings | S.F. | | $6.50 | |
| Signs | S.F. | | | |
| **OTHER ITEMS** | | | | |
| Wood Fence | LF | | $50 | |
| Bollards | EA | | $1,200 | |
| | | | | |
| | | | | |
| | | | | |
| | | | SUBTOTAL | $1,309,572 |
| | | | Minor Items (25%) | $327,390 |
| | | | | |
| | | | Clearing and Grubbing (6%) | $78,570 |
| | | | M&P of Traffic (3%) | $52,380 |
| | | | Mobilization (6.5%) | $98,220 |
| | | | Construction Staking (1%) | $13,100 |
| | | | | |
| | | | SUBTOTAL | $1,879,232 |
| | | | Incidentals (25%) | $469,810 |
| | | | Contingencies (25%) | $469,810 |
| | | | Inflation (5% annually) | $140,940 |
| | | | | |
| | | | TOTAL | $2,959,792 |

# Central Connecticut Loop Trail (CCLT) Study

**West Middletown/I-91 Alt. 3 - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 4080 | $25 | $102,000 |
| Rock Excavation | C.Y. | | $70 | |
| Formation of Subgrade | S.Y. | 11,350 | $3 | $34,050 |
| Processed Agregate Base | C.Y. | 2,580 | $58 | $149,640 |
| Bituminous Concrete | Ton | 2,630 | $150 | $394,500 |
| Sedimentation Control System | L.F. | | $7 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | |
| Rip Rap | C.Y. | | $125 | |
| Curbing **(Concrete)** | L.F. | | $54 | |
| Curbing **(Granite)** | L.F. | | $71 | |
| Guide Rail **(RB-MASH)** | L.F. | 630 | $32 | $20,160 |
| Concrete Sidewalk | S.F. | | $16 | |
| Concrete Sidewalk Ramps | S.F. | 400 | $33 | $13,200 |
| Detectable Warning Surface | S.F. | 200 | $48 | $9,600 |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | |
| Stonedust Pathway | S.F. | 31610 | $2 | $63,220 |
| Furnishing and Placing Topsoil | S.Y. | 5670 | $7 | $39,690 |
| Turf Establishment | S.Y. | 5670 | $3 | $17,010 |
| Retaining Wall | S.F. | 2300 | $160 | $368,000 |
| RRFB - Type B | EA | 2 | $4,000 | $8,000 |
| Pedestrian Signal and Push Button | EA | 2 | $3,000 | $6,000 |
| Construction Field Office | MO. | 9 | $5,000 | $45,000 |
| **STRUCTURE ITEMS** | | | | |
| | | | | |
| | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 1560 | $75 | $117,000 |
| Trafficmen - Flagger | HR. | 156 | $47 | $7,332 |
| Traffic Signal | EA | | $200,000 | |
| Pavement Markings | L.F. | | $0.50 | |
| Pavement Markings | S.F. | | $6.50 | |
| Signs | S.F. | | | |
| **OTHER ITEMS** | | | | |
| Wood Fence | LF | | $50 | |
| Bollards | EA | | $1,200 | |
| | | | | |
| | | | | |
| | | | | |
| | | | SUBTOTAL | $1,394,402 |
| | | | Minor Items (25%) | $348,600 |
| | | | | |
| | | | Clearing and Grubbing (6%) | $83,660 |
| | | | M&P of Traffic (3%) | $55,780 |
| | | | Mobilization (6.5%) | $104,580 |
| | | | Construction Staking (1%) | $13,940 |
| | | | | |
| | | | SUBTOTAL | $2,000,962 |
| | | | Incidentals (25%) | $500,240 |
| | | | Contingencies (25%) | $500,240 |
| | | | Inflation (5% annually) | $150,070 |
| | | | | |
| | | | TOTAL | $3,151,512 |

# Central Connecticut Loop Trail (CCLT) Study

**Middletown Mile Lane to La Rosa Lane - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 1600 | $25 | $40,000 |
| Formation of Subgrade | S.Y. | 5,900 | $3 | $17,700 |
| Processed Agregate Base | C.Y. | 940 | $58 | $54,520 |
| Bituminous Concrete | Ton | 1,000 | $150 | $150,000 |
| Sedimentation Control System | L.F. | 1500 | $7 | $10,500 |
| Draiange Structures (Type C CB) | EA | 1 | $5,400 | $5,400 |
| Curbing **(Concrete)** | L.F. | 650 | $54 | $35,100 |
| Guide Rail **(RB-MASH)** | L.F. | 600 | $32 | $19,200 |
| Removal of Concrete Sidewalk | S.Y. | 1060 | $28 | $29,680 |
| Concrete Sidewalk Ramps | S.F. | 320 | $33 | $10,560 |
| Detectable Warning Surface | S.F. | 160 | $48 | $7,680 |
| Stonedust Pathway | S.F. | 2800 | $2 | $5,600 |
| Furnishing and Placing Topsoil | S.Y. | 6500 | $7 | $45,500 |
| Turf Establishment | S.Y. | 6500 | $3 | $19,500 |
| Construction Field Office | MO. | 6 | $5,000 | $30,000 |
| **STRUCTURE ITEMS** | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 1040 | $75 | $78,000 |
| Trafficmen - Flagger | HR. | 800 | $47 | $37,600 |
| | | | | |
| | | | SUBTOTAL | $596,540 |
| | | | Minor Items (25%) | $149,140 |
| | | | | |
| | | | Clearing and Grubbing (3%) | $17,900 |
| | | | M&P of Traffic (3%) | $23,860 |
| | | | Mobilization (6.5%) | $44,740 |
| | | | Construction Staking (1%) | $5,970 |
| | | | | |
| | | | SUBTOTAL | $838,150 |
| | | | Incidentals (25%) | $209,540 |
| | | | Contingencies (25%) | $209,540 |
| | | | Inflation (5% annually) | $62,860 |
| | | | Right of Way | $16,825 |
| | | | | |
| | | | TOTAL | $1,336,915 |

# Central Connecticut Loop Trail (CCLT) Study

**Central Middletown Alt. 1 - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 2350 | $25 | $58,750 |
| Rock Excavation | C.Y. | | $70 | |
| Formation of Subgrade | S.Y. | 8,800 | $3 | $26,400 |
| Processed Agregate Base | C.Y. | 1,540 | $58 | $89,320 |
| Bituminous Concrete | Ton | 1,595 | $150 | $239,250 |
| Sedimentation Control System | L.F. | | $7 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | |
| Rip Rap | C.Y. | | $125 | |
| Curbing **(Concrete)** | L.F. | 600 | $54 | $32,400 |
| Curbing **(Granite)** | L.F. | | $71 | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | |
| Concrete Sidewalk | S.F. | | $16 | |
| Concrete Sidewalk Ramps | S.F. | 40 | $33 | $1,320 |
| Detectable Warning Surface | S.F. | 20 | $48 | $960 |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | |
| Stonedust Pathway | S.F. | 8920 | $2 | $17,840 |
| Speed Table | EA | 3 | $2,000 | $6,000 |
| Furnishing and Placing Topsoil | S.Y. | 7160 | $7 | $50,120 |
| Turf Establishment | S.Y. | 7160 | $3 | $21,480 |
| Construction Field Office | MO. | 12 | $5,000 | $60,000 |
| **STRUCTURE ITEMS** | | | | |
| Boardwalk | SF | 20000 | $140 | $2,800,000 |
| Bridge (200') | LS | 1 | $1,500,000 | $1,500,000 |
| | | | | |
| | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 2080 | $75 | $156,000 |
| Trafficmen - Flagger | HR. | 210 | $47 | $9,870 |
| Traffic Signal | EA | | $200,000 | |
| Pavement Markings | L.F. | | $0.50 | |
| Pavement Markings | S.F. | | $6.50 | |
| Signs | S.F. | | | |
| **OTHER ITEMS** | | | | |
| Wood Fence | LF | | $50 | |
| Bollards | EA | | $1,200 | |
| | | | | |
| | | | | |
| | | | | |
| | | | SUBTOTAL | $5,069,710 |
| | | | Minor Items (25%) | $1,267,430 |
| | | | | |
| | | | Clearing and Grubbing (3%) | $152,090 |
| | | | M&P of Traffic (3%) | $202,790 |
| | | | Mobilization (6.5%) | $380,230 |
| | | | Construction Staking (1%) | $50,700 |
| | | | | |
| | | | SUBTOTAL | $7,122,950 |
| | | | Incidentals (25%) | $1,780,740 |
| | | | Contingencies (25%) | $1,780,740 |
| | | | Inflation (5% annually) | $534,220 |
| | | | | |
| | | | TOTAL | $11,218,650 |

# Central Connecticut Loop Study (CCLT)

**Central Middletown Alt. 2A - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT | |
|---|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | | |
| Earth Excavation | C.Y. | 1320 | $25 | $33,000 | |
| Rock Excavation | C.Y. | | $70 | | |
| Formation of Subgrade | S.Y. | 5,540 | $3 | $16,620 | |
| Processed Aggregate Base | C.Y. | 935 | $58 | $54,230 | |
| Bituminous Concrete | Ton | 915 | $150 | $137,250 | |
| Sedimentation Control System | L.F. | | $7 | | |
| Draiange Structures (Type C CB) | EA | 9 | $5,400 | $48,600 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | | |
| Rip Rap | C.Y. | | $125 | | |
| Curbing **(Concrete)** | L.F. | 2000 | $54 | $108,000 | |
| Curbing **(Granite)** | L.F. | | $71 | | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | | |
| Concrete Sidewalk | S.F. | | $16 | | |
| Concrete Sidewalk Ramps | S.F. | 960 | $33 | $31,680 | |
| Detectable Warning Surface | S.F. | 480 | $48 | $23,040 | |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | | |
| Stonedust Pathway | S.F. | 12530 | $2 | $25,060 | |
| Furnishing and Placing Topsoil | S.Y. | 4205 | $7 | $29,435 | |
| Turf Establishment | S.Y. | 4205 | $3 | $12,615 | |
| Construction Field Office | MO. | 3 | $5,000 | $15,000 | |
| **STRUCTURE ITEMS** | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| **TRAFFIC ITEMS** | | | | | |
| Trafficmen - Police | HR. | 520 | $75 | $39,000 | |
| Trafficmen - Flagger | HR. | 80 | $47 | $3,760 | |
| Traffic Signal | EA | | $200,000 | | |
| Pavement Markings | L.F. | | $0.50 | | |
| Pavement Markings | S.F. | | $6.50 | | |
| Signs | S.F. | | | | |
| **OTHER ITEMS** | | | | | |
| Wood Fence | LF | | $50 | | |
| Bollards | EA | | $1,200 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | SUBTOTAL | $577,290 | |
| | | | Minor Items (25%) | $144,320 | |
| | | | | | |
| | | | Clearing and Grubbing (2%) | $11,550 | |
| | | | M&P of Traffic (3%) | $23,090 | |
| | | | Mobilization (6.5%) | $43,300 | |
| | | | Construction Staking (1%) | $5,770 | |
| | | | | | |
| | | | SUBTOTAL | $805,320 | |
| | | | Incidentals (25%) | $201,330 | |
| | | | Contingencies (25%) | $201,330 | |
| | | | Inflation (5% annually) | $60,400 | |
| | | | | | |
| | | | TOTAL | $1,268,380 | |

# Central Connecticut Loop Study (CCLT)

**Central Middletown Alt. 2B - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT | |
|---|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | | |
| Earth Excavation | C.Y. | 1330 | $25 | $33,250 | |
| Rock Excavation | C.Y. | | $70 | | |
| Formation of Subgrade | S.Y. | 5,560 | $3 | $16,680 | |
| Processed Agregate Base | C.Y. | 890 | $58 | $51,620 | |
| Bituminous Concrete | Ton | 920 | $150 | $138,000 | |
| Sedimentation Control System | L.F. | | $7 | | |
| Draiange Structures (Type C CB) | EA | | $5,400 | | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | | |
| Rip Rap | C.Y. | | $125 | | |
| Curbing **(Concrete)** | L.F. | | $54 | | |
| Curbing **(Granite)** | L.F. | | $71 | | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | | |
| Concrete Sidewalk | S.F. | | $16 | | |
| Concrete Sidewalk Ramps | S.F. | | $33 | | |
| Detectable Warning Surface | S.F. | | $48 | | |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | | |
| Stonedust Pathway | S.F. | 14300 | $2 | $28,600 | |
| Furnishing and Placing Topsoil | S.Y. | 3980 | $7 | $27,860 | |
| Turf Establishment | S.Y. | 3980 | $3 | $11,940 | |
| Construction Field Office | MO. | 3 | $5,000 | $15,000 | |
| **STRUCTURE ITEMS** | | | | | |
| Boardwalk | S.F. | 6000 | $140 | $840,000 | |
| Bridge (200') | LS | 1 | $1,500,000 | $1,500,000 | |
| | | | | | |
| **TRAFFIC ITEMS** | | | | | |
| Trafficmen - Police | HR. | 520 | $75 | $39,000 | |
| Trafficmen - Flagger | HR. | 40 | $47 | $1,880 | |
| Traffic Signal | EA | | $200,000 | | |
| Pavement Markings | L.F. | | $0.50 | | |
| Pavement Markings | S.F. | | $6.50 | | |
| Signs | S.F. | | | | |
| **OTHER ITEMS** | | | | | |
| Wood Fence | LF | | $50 | | |
| Bollards | EA | | $1,200 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | SUBTOTAL | $2,703,830 | |
| | | | Minor Items (25%) | $675,960 | |
| | | | | | |
| | | | Clearing and Grubbing (2%) | $54,080 | |
| | | | M&P of Traffic (3%) | $108,150 | |
| | | | Mobilization (6.5%) | $202,790 | |
| | | | Construction Staking (1%) | $27,040 | |
| | | | | | |
| | | | SUBTOTAL | $3,771,850 | |
| | | | Incidentals (25%) | $942,960 | |
| | | | Contingencies (25%) | $942,960 | |
| | | | Inflation (5% annually) | $282,890 | |
| | | | | | |
| | | | TOTAL | $5,940,660 | |

# Central Connecticut Loop Trail (CCLT) Study

**Central Middletown Alt. 2C - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 900 | $25 | $22,500 |
| Rock Excavation | C.Y. | | $70 | |
| Formation of Subgrade | S.Y. | 3,750 | $3 | $11,250 |
| Processed Agregate Base | C.Y. | 600 | $58 | $34,800 |
| Bituminous Concrete | Ton | 620 | $150 | $93,000 |
| Sedimentation Control System | L.F. | | $7 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | |
| Rip Rap | C.Y. | | $125 | |
| Curbing **(Concrete)** | L.F. | | $54 | |
| Curbing **(Granite)** | L.F. | | $71 | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | |
| Concrete Sidewalk | S.F. | | $16 | |
| Concrete Sidewalk Ramps | S.F. | 160 | $33 | $5,280 |
| Detectable Warning Surface | S.F. | 80 | $48 | $3,840 |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | |
| Stonedust Pathway | S.F. | 3210 | $2 | $6,420 |
| Furnishing and Placing Topsoil | S.Y. | 2680 | $7 | $18,760 |
| Turf Establishment | S.Y. | 2680 | $3 | $8,040 |
| RRFB - Type B | EA | 2 | $4,000 | $8,000 |
| Construction Field Office | MO. | 3 | $5,000 | $15,000 |
| **STRUCTURE ITEMS** | | | | |
| | LS | | | |
| | LS | | | |
| | LS | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 520 | $75 | $39,000 |
| Trafficmen - Flagger | HR. | 100 | $47 | $4,700 |
| Traffic Signal | EA | | $200,000 | |
| Pavement Markings | L.F. | | $0.50 | |
| Pavement Markings | S.F. | | $6.50 | |
| Signs | S.F. | | | |
| **OTHER ITEMS** | | | | |
| Wood Fence | LF | | $50 | |
| Bollards | EA | | $1,200 | |
| | | | | |
| | | | | |
| | | | | |
| | | | SUBTOTAL | $270,590 |
| | | | Minor Items (25%) | $67,650 |
| | | | | |
| | | | Clearing and Grubbing (3%) | $8,120 |
| | | | M&P of Traffic (3%) | $10,820 |
| | | | Mobilization (6.5%) | $20,290 |
| | | | Construction Staking (1%) | $2,710 |
| | | | | |
| | | | SUBTOTAL | $380,180 |
| | | | Incidentals (25%) | $95,050 |
| | | | Contingencies (25%) | $95,050 |
| | | | Inflation (5% annually) | $28,510 |
| | | | | |
| | | | TOTAL | $598,790 |

| Central Connecticut Loop Trail (CCLT) Study<br>Central Middletown Alt. 3A - Estimate | | | | | |
|---|---|---|---|---|---|
| **ITEM DESCRIPTION** | **UNIT** | **QUANTITY** | **UNIT PRICE** | **AMOUNT** | |
| **ROADWAY ITEMS** | | | | | |
| Earth Excavation | C.Y. | 1380 | $25 | $34,500 | |
| Rock Excavation | C.Y. | | $70 | $0 | |
| Formation of Subgrade | S.Y. | 5,780 | $3 | $17,340 | |
| Processed Agregate Base | C.Y. | 920 | $58 | $53,360 | |
| Bituminous Concrete | Ton | 955 | $150 | $143,250 | |
| Sedimentation Control System | L.F. | | $7 | $0 | |
| Draiange Structures (Type C CB) | EA | 9 | $5,400 | $48,600 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | $0 | |
| Rip Rap | C.Y. | | $125 | $0 | |
| Curbing **(Concrete)** | L.F. | 1940 | $54 | $104,760 | |
| Curbing **(Granite)** | L.F. | | $71 | $0 | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | $0 | |
| Concrete Sidewalk | S.F. | | $16 | $0 | |
| Concrete Sidewalk Ramps | S.F. | 960 | $33 | $31,680 | |
| Detectable Warning Surface | S.F. | 480 | $48 | $23,040 | |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | $0 | |
| Stonedust Pathway | S.F. | 7076 | $2 | $14,152 | |
| Furnishing and Placing Topsoil | S.Y. | 4133 | $7 | $28,931 | |
| Turf Establishment | S.Y. | 4133 | $3 | $12,399 | |
| Construction Field Office | MO. | 3 | $5,000 | $15,000 | |
| **STRUCTURE ITEMS** | | | | $0 | |
| Boardwalk | S.F. | 20000 | $140 | $2,800,000 | |
| | | | | $0 | |
| | | | | $0 | |
| **TRAFFIC ITEMS** | | | | $0 | |
| Trafficmen - Police | HR. | 520 | $75 | $39,000 | |
| Trafficmen - Flagger | HR. | 200 | $47 | $9,400 | |
| Traffic Signal | EA | | $200,000 | $0 | |
| Pavement Markings | L.F. | | $0.50 | $0 | |
| Pavement Markings | S.F. | | $6.50 | $0 | |
| Signs | S.F. | | | $0 | |
| **OTHER ITEMS** | | | | $0 | |
| Wood Fence | LF | | $50 | $0 | |
| Bollards | EA | | $1,200 | $0 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | SUBTOTAL | $3,375,412 | |
| | | | Minor Items (25%) | $843,850 | |
| | | | | | |
| | | | Clearing and Grubbing (2%) | $67,510 | |
| | | | M&P of Traffic (3%) | $135,020 | |
| | | | Mobilization (6.5%) | $253,160 | |
| | | | Construction Staking (1%) | $33,750 | |
| | | | | | |
| | | | SUBTOTAL | $4,708,702 | |
| | | | Incidentals (25%) | $1,177,180 | |
| | | | Contingencies (25%) | $1,177,180 | |
| | | | Inflation (5% annually) | $353,150 | |
| | | | | | |
| | | | TOTAL | $7,416,212 | |

# Central Connecticut Loop Trail (CCLT) Study

**Central Middletown Alt. 3B - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT | |
|---|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | | |
| Earth Excavation | C.Y. | 1870 | $25 | $46,750 | |
| Rock Excavation | C.Y. | | $70 | $0 | |
| Formation of Subgrade | S.Y. | 7,820 | $3 | $23,460 | |
| Processed Aggregate Base | C.Y. | 1,245 | $58 | $72,210 | |
| Bituminous Concrete | Ton | 1,295 | $150 | $194,250 | |
| Sedimentation Control System | L.F. | | $7 | $0 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | $0 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | $0 | |
| Rip Rap | C.Y. | | $125 | $0 | |
| Curbing **(Concrete)** | L.F. | | $54 | $0 | |
| Curbing **(Granite)** | L.F. | | $71 | $0 | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | $0 | |
| Concrete Sidewalk | S.F. | | $16 | $0 | |
| Concrete Sidewalk Ramps | S.F. | 480 | $33 | $15,840 | |
| Detectable Warning Surface | S.F. | 240 | $48 | $23,040 | |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | $0 | |
| Stonedust Pathway | S.F. | 8688 | $2 | $17,376 | |
| Furnishing and Placing Topsoil | S.Y. | 5590 | $7 | $39,130 | |
| Turf Establishment | S.Y. | 5590 | $3 | $16,770 | |
| Construction Field Office | MO. | 5 | $5,000 | $25,000 | |
| **STRUCTURE ITEMS** | | | | | |
| Boardwalk | SF | 20000 | $140 | $2,800,000 | |
| Bridge No. 1 (100') | LS | 1 | $1,000,000 | $1,000,000 | |
| Bridge No. 2 (140') | LS | 1 | $125,000 | $125,000 | |
| Existing Bridge Resurfacing | LS | 1 | $500,000 | $500,000 | |
| | | | | | |
| | | | | | |
| | | | | | |
| **TRAFFIC ITEMS** | | | | | |
| Trafficmen - Police | HR. | 870 | $75 | $65,250 | |
| Trafficmen - Flagger | HR. | 200 | $47 | $9,400 | |
| Traffic Signal | EA | 1 | $500,000 | $500,000 | |
| Pavement Markings | L.F. | | $0.50 | $0 | |
| Pavement Markings | S.F. | | $6.50 | $0 | |
| Signs | S.F. | | | $0 | |
| **OTHER ITEMS** | | | | $0 | |
| Wood Fence | LF | | $50 | $0 | |
| Bollards | EA | | $1,200 | $0 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | SUBTOTAL | $5,473,476 | |
| | | | Minor Items (25%) | $1,368,370 | |
| | | | | | |
| | | | Clearing and Grubbing (2%) | $109,470 | |
| | | | M&P of Traffic (3%) | $218,940 | |
| | | | Mobilization (6.5%) | $410,510 | |
| | | | Construction Staking (1%) | $54,730 | |
| | | | | | |
| | | | SUBTOTAL | $7,635,496 | |
| | | | Incidentals (25%) | $1,908,870 | |
| | | | Contingencies (25%) | $1,908,870 | |
| | | | Inflation (5% annually) | $572,660 | |
| | | | | | |
| | | | TOTAL | $12,025,896 | |

## Central Connecticut Loop Trail (CCLT) Study

**Central Middletown Alt. 3C - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT | |
|---|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | | |
| Earth Excavation | C.Y. | 580 | $25 | $14,500 | |
| Rock Excavation | C.Y. | | $70 | | |
| Formation of Subgrade | S.Y. | 2,730 | $3 | $8,190 | |
| Processed Aggregate Base | C.Y. | 390 | $58 | $22,620 | |
| Bituminous Concrete | Ton | 400 | $150 | $60,000 | |
| Sedimentation Control System | L.F. | | $7 | | |
| Draiange Structures (Type C CB) | EA | | $5,400 | | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | | |
| Rip Rap | C.Y. | | $125 | | |
| Curbing **(Concrete)** | L.F. | | $54 | | |
| Curbing **(Granite)** | L.F. | | $71 | | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | | |
| Concrete Sidewalk | S.F. | | $16 | | |
| Concrete Sidewalk Ramps | S.F. | 160 | $33 | $5,280 | |
| Detectable Warning Surface | S.F. | 80 | $48 | $3,840 | |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | | |
| Stonedust Pathway | S.F. | 2080 | $2 | $4,160 | |
| Furnishing and Placing Topsoil | S.Y. | 1750 | $7 | $12,250 | |
| Turf Establishment | S.Y. | 1750 | $3 | $5,250 | |
| RRFB - Type B | EA | 2 | $4,000 | $8,000 | |
| Construction Field Office | MO. | 2 | $5,000 | $10,000 | |
| **STRUCTURE ITEMS** | | | | | |
| | | | | | |
| | | | | | |
| **TRAFFIC ITEMS** | | | | | |
| Trafficmen - Police | HR. | 350 | $75 | $26,250 | |
| Trafficmen - Flagger | HR. | 40 | $47 | $1,880 | |
| Traffic Signal | EA | | $200,000 | | |
| Pavement Markings | L.F. | | $0.50 | | |
| Pavement Markings | S.F. | | $6.50 | | |
| Signs | S.F. | | | | |
| **OTHER ITEMS** | | | | | |
| Wood Fence | LF | | $50 | | |
| Bollards | EA | | $1,200 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | SUBTOTAL | $182,220 | |
| | | | Minor Items (25%) | $45,560 | |
| | | | | | |
| | | | Clearing and Grubbing (2%) | $3,640 | |
| | | | M&P of Traffic (3%) | $7,290 | |
| | | | Mobilization (6.5%) | $13,670 | |
| | | | Construction Staking (1%) | $1,820 | |
| | | | | | |
| | | | SUBTOTAL | $254,200 | |
| | | | Incidentals (25%) | $63,550 | |
| | | | Contingencies (25%) | $63,550 | |
| | | | Inflation (5% annually) | $19,070 | |
| | | | | | |
| | | | TOTAL | $400,370 | |

## Central Connecticut Loop Trail (CCLT) Study

**Central Middletown Alt. 4A - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 450 | $25 | $11,250 |
| Rock Excavation | C.Y. | | $70 | |
| Formation of Subgrade | S.Y. | 1,900 | $3 | $5,700 |
| Processed Agregate Base | C.Y. | 300 | $58 | $17,400 |
| Bituminous Concrete | Ton | 310 | $150 | $46,500 |
| Sedimentation Control System | L.F. | | $7 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | |
| Rip Rap | C.Y. | | $125 | |
| Curbing **(Concrete)** | L.F. | | $54 | |
| Curbing **(Granite)** | L.F. | | $71 | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | |
| Concrete Sidewalk | S.F. | | $16 | |
| Concrete Sidewalk Ramps | S.F. | | $33 | |
| Detectable Warning Surface | S.F. | | $48 | |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | |
| Stonedust Pathway | S.F. | 4800 | $2 | $9,600 |
| Speed Table | EA | 2 | $2,000 | $4,000 |
| Furnishing and Placing Topsoil | S.Y. | 1340 | $7 | $9,380 |
| Turf Establishment | S.Y. | 1340 | $3 | $4,020 |
| Construction Field Office | MO. | 3 | $5,000 | $15,000 |
| **STRUCTURE ITEMS** | | | | |
| Boardwalk | SF | 4000 | $140 | $560,000 |
| | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 580 | $75 | $43,500 |
| Trafficmen - Flagger | HR. | 150 | $47 | $7,050 |
| Traffic Signal | EA | | $200,000 | |
| Pavement Markings | L.F. | | $0.50 | |
| Pavement Markings | S.F. | | $6.50 | |
| Signs | S.F. | | | |
| **OTHER ITEMS** | | | | |
| Wood Fence | LF | | $50 | |
| Bollards | EA | | $1,200 | |
| | | | | |
| | | | | |
| | | | | |
| | | | SUBTOTAL | $733,400 |
| | | | Minor Items (25%) | $183,350 |
| | | | | |
| | | | Clearing and Grubbing (2%) | $14,670 |
| | | | M&P of Traffic (3%) | $29,340 |
| | | | Mobilization (6.5%) | $55,010 |
| | | | Construction Staking (1%) | $7,330 |
| | | | | |
| | | | SUBTOTAL | $1,023,100 |
| | | | Incidentals (25%) | $255,780 |
| | | | Contingencies (25%) | $255,780 |
| | | | Inflation (5% annually) | $76,730 |
| | | | | |
| | | | TOTAL | $1,611,390 |

# Central Connecticut Loop Trail (CCLT) Study

**Central Middletown Alt. 4B - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 1200 | $25 | $30,000 |
| Rock Excavation | C.Y. | | $70 | |
| Formation of Subgrade | S.Y. | 4,830 | $3 | $14,490 |
| Processed Agregate Base | C.Y. | 770 | $58 | $44,660 |
| Bituminous Concrete | Ton | 800 | $150 | $120,000 |
| Sedimentation Control System | L.F. | | $7 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | |
| Rip Rap | C.Y. | | $125 | |
| Curbing **(Concrete)** | L.F. | | $54 | |
| Curbing **(Granite)** | L.F. | | $71 | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | |
| Concrete Sidewalk | S.F. | | $16 | |
| Concrete Sidewalk Ramps | S.F. | | $33 | |
| Detectable Warning Surface | S.F. | | $48 | |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | |
| Stonedust Pathway | S.F. | 12400 | $2 | $24,800 |
| Furnishing and Placing Topsoil | S.Y. | 3500 | $7 | $24,500 |
| Turf Establishment | S.Y. | 3500 | $3 | $10,500 |
| Construction Field Office | MO. | 6 | $5,000 | $30,000 |
| **STRUCTURE ITEMS** | | | | |
| Boardwalk | SF | 1000 | $140 | $140,000 |
| Bridge (200') | LS | 1 | $1,500,000 | $1,500,000 |
| | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 1040 | $75 | $78,000 |
| Trafficmen - Flagger | HR. | 80 | $47 | $3,760 |
| Traffic Signal | EA | | $200,000 | |
| Pavement Markings | L.F. | | $0.50 | |
| Pavement Markings | S.F. | | $6.50 | |
| Signs | S.F. | | | |
| **OTHER ITEMS** | | | | |
| Wood Fence | LF | | $50 | |
| Bollards | EA | | $1,200 | |
| | | | | |
| | | | | |
| | | | | |
| | | | SUBTOTAL | $2,020,710 |
| | | | Minor Items (25%) | $505,180 |
| | | | | |
| | | | Clearing and Grubbing (4%) | $80,830 |
| | | | M&P of Traffic (3%) | $80,830 |
| | | | Mobilization (6.5%) | $151,550 |
| | | | Construction Staking (1%) | $20,210 |
| | | | | |
| | | | SUBTOTAL | $2,859,310 |
| | | | Incidentals (25%) | $714,830 |
| | | | Contingencies (25%) | $714,830 |
| | | | Inflation (5% annually) | $214,450 |
| | | | | |
| | | | TOTAL | $4,503,420 |

## Central Connecticut Loop Trail (CCLT) Study

**Central Middletown Alt. 4C - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT | |
|---|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | | |
| Earth Excavation | C.Y. | 590 | $25 | $14,750 | |
| Rock Excavation | C.Y. | | $70 | $0 | |
| Formation of Subgrade | S.Y. | 2,450 | $3 | $7,350 | |
| Processed Agregate Base | C.Y. | 390 | $58 | $22,620 | |
| Bituminous Concrete | Ton | 410 | $150 | $61,500 | |
| Sedimentation Control System | L.F. | | $7 | $0 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | $0 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | $0 | |
| Rip Rap | C.Y. | | $125 | $0 | |
| Curbing **(Concrete)** | L.F. | | $54 | $0 | |
| Curbing **(Granite)** | L.F. | | $71 | $0 | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | $0 | |
| Concrete Sidewalk | S.F. | | $16 | $0 | |
| Concrete Sidewalk Ramps | S.F. | 160 | $33 | $5,280 | |
| Detectable Warning Surface | S.F. | 80 | $48 | $3,840 | |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | $0 | |
| Stonedust Pathway | S.F. | 6280 | $2 | $12,560 | |
| Furnishing and Placing Topsoil | S.Y. | 1750 | $7 | $12,250 | |
| Turf Establishment | S.Y. | 1750 | $3 | $5,250 | |
| RRFB - Type B | EA | 2 | $4,000 | $8,000 | |
| Construction Field Office | MO. | 2 | $5,000 | $10,000 | |
| **STRUCTURE ITEMS** | | | | | |
| | LS | | | $0 | |
| | LS | | | $0 | |
| | LS | | | $0 | |
| | LS | | | $0 | |
| | LS | | | $0 | |
| | LS | | | $0 | |
| | LS | | | $0 | |
| **TRAFFIC ITEMS** | | | | | |
| Trafficmen - Police | HR. | 350 | $75 | $26,250 | |
| Trafficmen - Flagger | HR. | 40 | $47 | $1,880 | |
| Traffic Signal | EA | | $200,000 | $0 | |
| Pavement Markings | L.F. | | $0.50 | $0 | |
| Pavement Markings | S.F. | | $6.50 | $0 | |
| Signs | S.F. | | | $0 | |
| **OTHER ITEMS** | | | | | |
| Wood Fence | LF | | $50 | $0 | |
| Bollards | EA | | $1,200 | $0 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | SUBTOTAL | $191,530 | |
| | | | Minor Items (25%) | $47,880 | |
| | | | | | |
| | | | Clearing and Grubbing (2%) | $3,830 | |
| | | | M&P of Traffic (3%) | $7,660 | |
| | | | Mobilization (6.5%) | $14,360 | |
| | | | Construction Staking (1%) | $1,920 | |
| | | | | | |
| | | | SUBTOTAL | $267,180 | |
| | | | Incidentals (25%) | $66,800 | |
| | | | Contingencies (25%) | $66,800 | |
| | | | Inflation (5% annually) | $20,040 | |
| | | | | | |
| | | | TOTAL | $420,820 | |

# Central Connecticut Loop Trail (CCLT) Study

**Downtown Portland Alt. 1 - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 1080 | $25 | $27,000 |
| Rock Excavation | C.Y. | | $70 | |
| Formation of Subgrade | S.Y. | 2,740 | $3 | $8,220 |
| Processed Agregate Base | C.Y. | 450 | $58 | $26,100 |
| Bituminous Concrete | Ton | 970 | $150 | $145,500 |
| Milling | S.Y. | 4500 | $4 | $18,000 |
| Sedimentation Control System | L.F. | | $7 | |
| Draiange Structures (Type C CB) | EA | | $5,400 | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | |
| Rip Rap | C.Y. | | $125 | |
| Curbing **(Concrete)** | L.F. | | $54 | |
| Curbing **(Granite)** | L.F. | 560 | $71 | $39,760 |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | |
| Concrete Sidewalk | S.F. | | $16 | |
| Concrete Sidewalk Ramps | S.F. | 480 | $33 | $15,840 |
| Detectable Warning Surface | S.F. | 240 | $48 | $11,520 |
| Stonedust Pathway | S.F. | 1520 | $2 | $3,040 |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | |
| Furnishing and Placing Topsoil | S.Y. | 2720 | $7 | $19,040 |
| Turf Establishment | S.Y. | 2720 | $3 | $8,160 |
| Speed Table | EA | 3 | $2,000 | $6,000 |
| Construction Field Office | MO. | 8 | $5,000 | $40,000 |
| **STRUCTURE ITEMS** | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 1390 | $75 | $104,250 |
| Trafficmen - Flagger | HR. | 120 | $47 | $5,640 |
| Traffic Signal | EA | | $200,000 | |
| Pavement Markings | L.F. | | $0.50 | |
| Pavement Markings | S.F. | | $6.50 | |
| Signs | S.F. | | | |
| **OTHER ITEMS** | | | | |
| Wood Fence | LF | | $50 | |
| Bollards | EA | | $1,200 | |
| | | | | |
| | | | | |
| | | | | |
| | | | SUBTOTAL | $478,070 |
| | | | Minor Items (25%) | $119,520 |
| | | | | |
| | | | Clearing and Grubbing (2%) | $9,560 |
| | | | M&P of Traffic (3%) | $19,120 |
| | | | Mobilization (6.5%) | $35,860 |
| | | | Construction Staking (1%) | $4,780 |
| | | | | |
| | | | SUBTOTAL | $666,910 |
| | | | Incidentals (25%) | $166,730 |
| | | | Contingencies (25%) | $166,730 |
| | | | Inflation (5% annually) | $50,020 |
| | | | | |
| | | | TOTAL | $1,050,390 |

# Central Connecticut Loop Trail (CCLT) Study

**Downtown Portland Alt. 2 - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT | |
|---|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | | |
| Earth Excavation | C.Y. | 820 | $25 | $20,500 | |
| Rock Excavation | C.Y. | | $70 | | |
| Formation of Subgrade | S.Y. | 3,430 | $3 | $10,290 | |
| Processed Agregate Base | C.Y. | 550 | $58 | $31,900 | |
| Bituminous Concrete | Ton | 570 | $150 | $85,500 | |
| Sedimentation Control System | L.F. | | $7 | | |
| Draiange Structures (Type C CB) | EA | | $5,400 | | |
| Drainage Pipe **(12" RCP)** | L.F. | | $105 | | |
| Rip Rap | C.Y. | | $125 | | |
| Curbing **(Concrete)** | L.F. | | $54 | | |
| Curbing **(Granite)** | L.F. | | $71 | | |
| Guide Rail **(RB-MASH)** | L.F. | | $32 | | |
| Concrete Sidewalk | S.F. | | $16 | | |
| Concrete Sidewalk Ramps | S.F. | 80 | $33 | $2,640 | |
| Detectable Warning Surface | S.F. | 40 | $48 | $1,920 | |
| Bituminous Concrete Driveway **(TYPE)** | S.Y. | | $70 | | |
| Stondust Pathway | S.F. | 8800 | $2 | $17,600 | |
| Speed Table | EA | 3 | $2,000 | $6,000 | |
| Furnishing and Placing Topsoil | S.Y. | 2500 | $7 | $17,500 | |
| Turf Establishment | S.Y. | 2500 | $3 | $7,500 | |
| Construction Field Office | MO. | 4 | $5,000 | $20,000 | |
| **STRUCTURE ITEMS** | | | | | |
| | | | | | |
| | | | | | |
| **TRAFFIC ITEMS** | | | | | |
| Trafficmen - Police | HR. | 695 | $75 | $52,125 | |
| Trafficmen - Flagger | HR. | 24 | $47 | $1,128 | |
| Traffic Signal | EA | | $200,000 | | |
| Pavement Markings | L.F. | | $0.50 | | |
| Pavement Markings | S.F. | | $6.50 | | |
| Signs | S.F. | | | | |
| **OTHER ITEMS** | | | | | |
| Wood Fence | LF | | $50 | | |
| Bollards | EA | | $1,200 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | SUBTOTAL | $274,603 | |
| | | | Minor Items (25%) | $68,650 | |
| | | | | | |
| | | | Clearing and Grubbing (5%) | $13,730 | |
| | | | M&P of Traffic (3%) | $10,980 | |
| | | | Mobilization (6.5%) | $20,600 | |
| | | | Construction Staking (1%) | $2,750 | |
| | | | | | |
| | | | SUBTOTAL | $391,313 | |
| | | | Incidentals (25%) | $97,830 | |
| | | | Contingencies (25%) | $97,830 | |
| | | | Inflation (5% annually) | $29,350 | |
| | | | | | |
| | | | TOTAL | $616,323 | |

# Central Connecticut Loop Trail (CCLT) Study

**Portland Airline Rail Corridor - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 5300 | $25 | $132,500 |
| Formation of Subgrade | S.Y. | 22,000 | $3 | $66,000 |
| Processed Agregate Base | C.Y. | 3,500 | $58 | $203,000 |
| Bituminous Concrete | Ton | 3,600 | $150 | $540,000 |
| Sedimentation Control System | L.F. | 4000 | $7 | $28,000 |
| Concrete Sidewalk Ramps | S.F. | 720 | $33 | $23,760 |
| Detectable Warning Surface | S.F. | 360 | $48 | $17,280 |
| Stonedust Pathway | S.F. | 12000 | $2 | $24,000 |
| Furnishing and Placing Topsoil | S.Y. | 25000 | $7 | $175,000 |
| Turf Establishment | S.Y. | 25000 | $3 | $75,000 |
| Construction Field Office | MO. | 9 | $5,000 | $45,000 |
| **STRUCTURE ITEMS** | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 1560 | $75 | $117,000 |
| Trafficmen - Flagger | HR. | 800 | $47 | $37,600 |
| | | | | |
| | | | SUBTOTAL | $1,484,140 |
| | | | Minor Items (25%) | $371,040 |
| | | | | |
| | | | Clearing and Grubbing (4%) | $118,730 |
| | | | M&P of Traffic (3%) | $59,370 |
| | | | Mobilization (6.5%) | $111,310 |
| | | | Construction Staking (1%) | $14,840 |
| | | | | |
| | | | SUBTOTAL | $2,159,430 |
| | | | Incidentals (25%) | $539,860 |
| | | | Contingencies (25%) | $539,860 |
| | | | Inflation (5% annually) | $161,960 |
| | | | Right of Way | $1,001,875 |
| | | | | |
| | | | TOTAL | $4,402,985 |

# Central Connecticut Loop Trail (CCLT) Study

**Timber Ridge Road Trailhead-Parking Area - Estimate**

| ITEM DESCRIPTION | UNIT | QUANTITY | UNIT PRICE | AMOUNT |
|---|---|---|---|---|
| **ROADWAY ITEMS** | | | | |
| Earth Excavation | C.Y. | 60 | $25 | $1,500 |
| Formation of Subgrade | S.Y. | 180 | $3 | $540 |
| Processed Agregate Base | C.Y. | 40 | $58 | $2,320 |
| Bituminous Concrete | Ton | 45 | $150 | $6,750 |
| Curbing **(Concrete)** | L.F. | 240 | $54 | $12,960 |
| Furnishing and Placing Topsoil | S.Y. | 100 | $7 | $700 |
| Turf Establishment | S.Y. | 100 | $3 | $300 |
| Construction Field Office | MO. | 2 | $5,000 | $10,000 |
| **STRUCTURE ITEMS** | | | | |
| | | | | |
| **TRAFFIC ITEMS** | | | | |
| Trafficmen - Police | HR. | 350 | $75 | $26,250 |
| Trafficmen - Flagger | HR. | 150 | $47 | $7,050 |
| | | | | |
| **OTHER ITEMS** | | | | |
| Bicyle Stand | EA | 4 | $1,000 | $4,000 |
| Trash Can | EA | 1 | $1,000 | $1,000 |
| Roofed Information Kiosk | EA | 1 | $2,500 | $2,500 |
| | | | | |
| | | | SUBTOTAL | $75,870 |
| | | | Minor Items (25%) | $18,970 |
| | | | | |
| | | | Clearing and Grubbing (2%) | $1,520 |
| | | | M&P of Traffic (3%) | $3,030 |
| | | | Mobilization (6.5%) | $5,690 |
| | | | Construction Staking (1%) | $760 |
| | | | | |
| | | | SUBTOTAL | $105,840 |
| | | | Incidentals (25%) | $26,460 |
| | | | Contingencies (25%) | $26,460 |
| | | | Inflation (5% annually) | $7,940 |
| | | | Right of Way | |
| | | | | |
| | | | TOTAL | $166,700 |