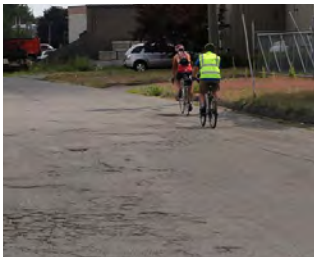
REVISED DRAFT
TOWN COUNCIL REVIEW
FINAL REPORT

GAP CLOSURE TRAIL STUDY

Plainville • Southington • New Britain

Farmington Canal Heritage Trail Section

February 2018



PREPARED FOR

CRCOG CAPITOL REGION COUNCIL OF GOVERNMENTS
Working together for a better region.

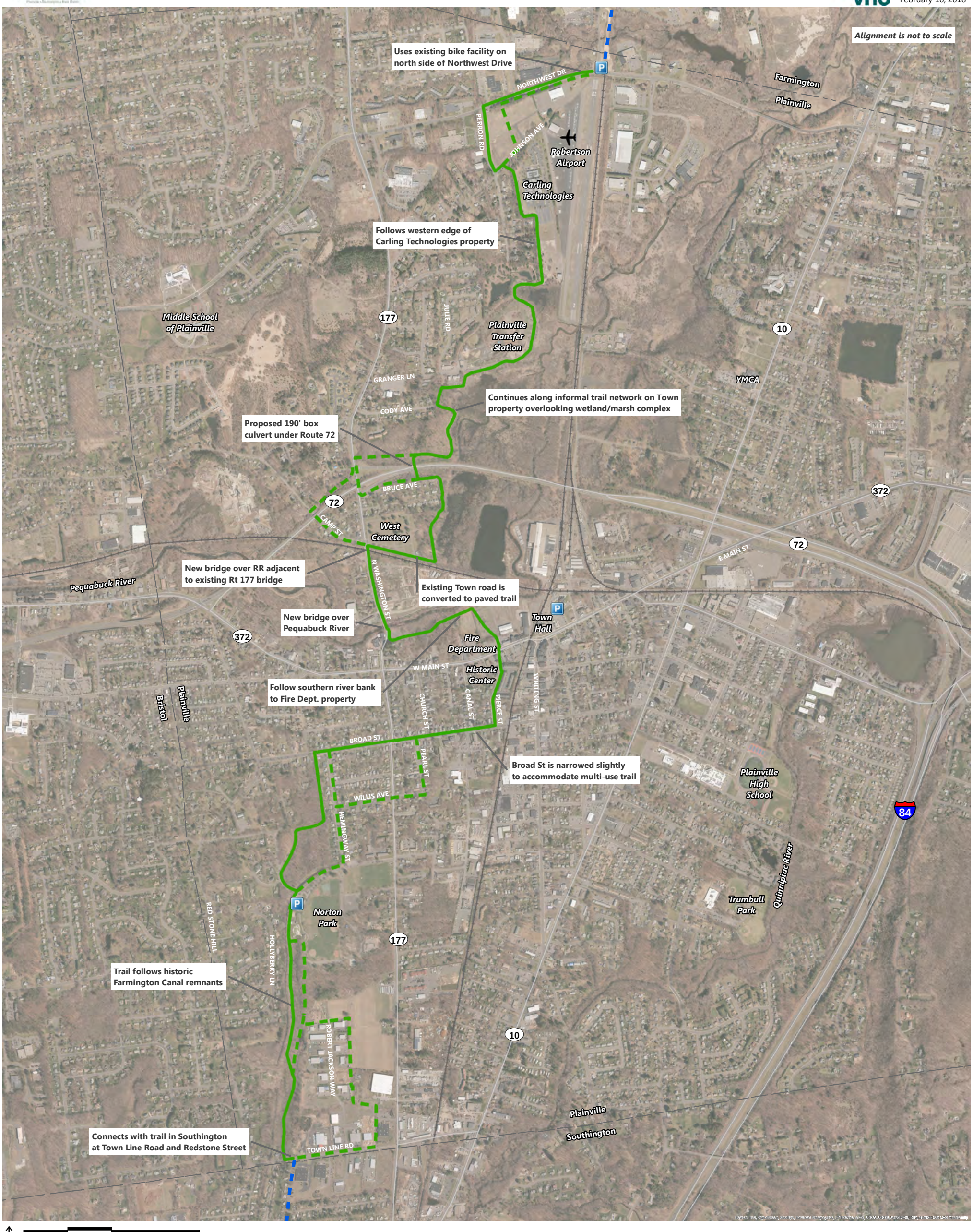
IN COORDINATION WITH

The Towns of Plainville and Southington, CT
The City of New Britain, CT
Connecticut Department of Transportation

GAP CLOSURE TRAIL STUDY

vhb

February 16, 2018



0 0.125 0.25 0.5 Miles

Town Boundary

Active Rail

Robertson Airport

Alignment C - 5.3 Miles - 98% Multi-Use Trail

Potential Alternates

Existing Parking Facilities

Farmington Canal Heritage Trail, under construction/design

Disclaimers: The alignment shown is preliminary and not to scale. It is for planning purposes only. Alignments are subject to change as the planning study progresses. Labels represent potential options for the trail, should it be built. They do not represent a final design and are subject to change during the design process.

Gap Closure Study

Hartford County, CT

Project Statistics

Alignment C is a proposed:
- 5.3 miles long,
- 10-12' wide,
- bituminous,
- 98% multi-use trail.

Alignment C - 5.3 Miles

Source Information: Map and Geographic Information Center - University of Connecticut, US Census Bureau
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Acknowledgements

The study wishes to acknowledge the following agencies who provided representation to the project's management team and Steering Committee, reviewing draft technical and public outreach work products.

The sponsors and this study, along with the Steering Committee, wish to thank the bicycle and pedestrian advocacy organizations for their tireless efforts supporting and advocating for safer facilities for all users.

- Capitol Region Council of Governments
- City of New Britain
- Connecticut Department of Transportation
- Connecticut Department of Energy & Environmental Protection
- East Coast Greenway Alliance
- Farmington Valley Trails Council
- Plainville Greenway Alliance
- Plainville-Southington Health District
- Town of Plainville
- Town of Southington
- VHB
- Mobycon
- Blue Zones

The Gap Closure Trail Study explored alignments to close the gap in the Farmington Canal Heritage Trail through Plainville, CT, and a connection to the existing CT***fastrak*** station in New Britain, CT. The process described in this report was used for both trails, but the focus of this report is on the north-south trail gap of the Farmington Canal Heritage Trail in Plainville. The connection to CT***fastrak*** station in New Britain will be discussed as a separate, companion report.

This report is prepared in cooperation with the U.S. Department of Transportation (including its participating agencies) and the Connecticut Department of Transportation. The opinions, findings, and conclusions expressed in this publication are those of the Capitol Region Council of Governments and do not necessarily reflect the official views or policies of the Connecticut Department of Transportation and/or the U.S. Department of Transportation.

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EXECUTIVE SUMMARY

Introduction

The Gap Closure Trail Study, led by the Capitol Region Council of Governments (CRCOG) in partnership with the Connecticut Department of Transportation (CTDOT), identifies a preferred alignment for the gap in the Farmington Canal Heritage Trail (FCHT) through the Town of Plainville, CT. Although the process also identified a preferred alignment for a multi-use trail connection to the downtown New Britain CT***fastrak***[1] station, the focus of this Executive Summary is the closure of the FCHT gap through Plainville.

The study focused on the last significant gap in the FCHT, an 84-mile bi-state, multi-use trail that extends from New Haven, CT to Northampton, MA. Nearly the entire FCHT in Connecticut is either complete or in design/construction. In addition to being a major portion of the East Coast Greenway (ECG), when complete, the FCHT will directly link 15 municipalities in two states. The Gap in the FCHT extends from Northwest Drive, where the existing FCHT terminates, south to Town Line Road in Southington. The study area for the project encompasses all of Plainville.

1 CT***fastrak*** is a regional bus rapid transit system currently operating between the downtown Hartford, CT station and the station in downtown New Britain, CT.

The Steering Committee created the following vision for the study:

*"To connect the communities with a world-class, multi-use trail that closes the gap in the FCHT through the towns of Southington and Plainville with a connection to the CT**fastrak** station in downtown New Britain. These links will prioritize safety, comfort, and mobility for all users, regardless of age or ability, through cohesive and attractive trails that promote economic and community vitality."*

Public Outreach

The Gap Closure Trail Study was led by a Project Steering Committee consisting of the following regional and local agencies:

- CRCOG
- Town of Plainville
- City of New Britain
- Town of Southington
- CTDOT
- East Coast Greenway Alliance
- Farmington Valley Trails Council
- Plainville Greenway Alliance
- Plainville-Southington Health District
- Connecticut Department of Energy and Environmental Protection
- Bike New Britain

Public involvement was a key element of the Gap Closure Trail Study. The effort held 7 public meetings, published 3 project newsletters, hosted a booth at community events, and met with scores of community members/property owners and other project stakeholders in small group settings. The project website www.gapclosurestudy.com was launched in July 2016 and was updated on a regular basis to include project reports and meeting materials, so that members of the community could stay up to date on all project progress.

The public involvement process is ongoing and public input is always welcome. During the design phase there is a required public informational meeting and the design team will continually accept public input throughout the design process.

Existing Conditions

The effort built upon findings from previous efforts including the 2008 Plainville Greenway Alliance Report, the 2009 Greenway Study, and the 2009 Master Plan Report. It also has been informed by a review of existing conditions, including an assessment of compatible land uses within Plainville,

Southington, and New Britain, and a review of the transportation system including barriers (e.g., railroads, waterways, and the airport) and a Level of Traffic Stress analysis which identifies streets on which there is the greatest level of comfort with walking and cycling within the study area. This analysis helped to inform the initial development of potential trail alignments.

Alternatives Evaluation

The planning study analyzed a long list of potential alternatives based upon a well-established alternatives screening and evaluation methodology and broad public input and consensus-building. It provides a recommended trail alignment which could be advanced into the design phase. The community played a central role in developing a long list of 14 potential alternatives for the FCHT Gap Closure connection and 5 potential alternatives to connect with the CTfastrak station. Each of these were then screened against 7 criteria, see Screening Criteria and Threshold (**Step 1: Alternatives Screening**).

The Steering Committee at a meeting in April 2017 forwarded a shortlist of 4 practical and feasible alternatives in Plainville, and 2 practical and feasible alternatives in New Britain, onto the next step (**Step 2: Alternatives Evaluation**).

Four criteria – major off-road element; avoiding major right-of-way impacts; avoiding undue reliance on the rail right-of-way; and not overly circuitous – proved to be critical in narrowing the list of potential alternatives. A public meeting in May 2017 provided critical feedback that informed both the screening and evaluation steps.

The shortlisted alignments were developed to the extent that they could be evaluated on a qualitative scale against the following 6 evaluation criteria, see Evaluation Criteria and Factors Considered above.

Alignment C in Plainville performed best from this evaluation, as did Alignment E in New Britain. These two alignments performed best in relation to their capability to remain off-road, their connections with both homes and

destinations, and their minimization of right-of-way impact and intersections with driveways and roadways. A public meeting in October 2017 provided critical feedback that informed the refinement of Alignment C.

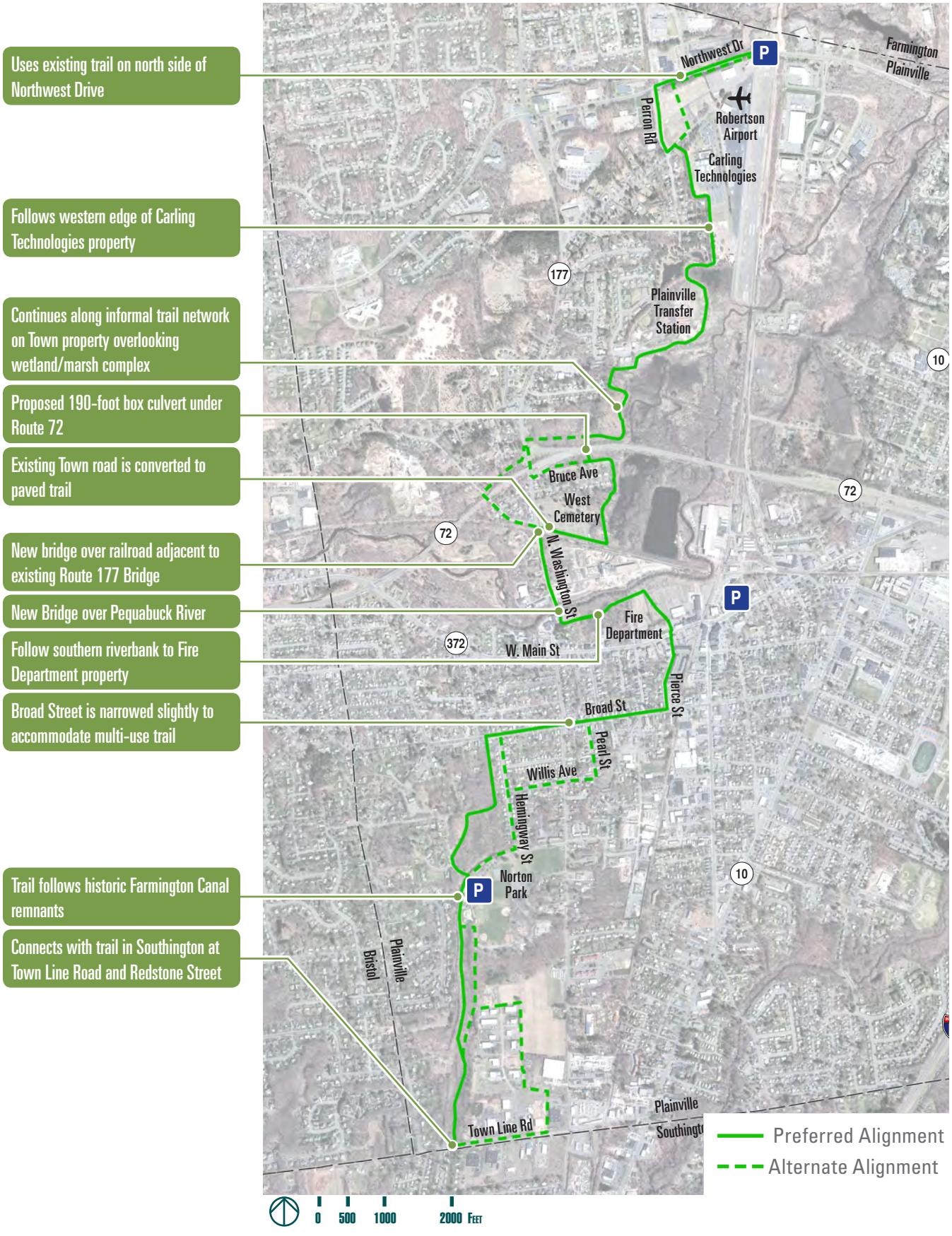
SCREENING CRITERIA	THRESHOLD
Connection with Farmington Canal Heritage Trail (Plainville) **Connection with CTfastrak (New Britain)**	Connects to Northwest Drive to Town Line Road CTfastrak station (New Britain)
Connection with downtown Plainville	Connects with Main Street somewhere between Woodford Avenue and Rte 177
Major off-road element	More than 75% off-road
Avoids significant ROW impacts	Fewer than 30
Avoids undue reliance on Rail Right of Way	Avoids permanent impacts to Pan Am rail line connecting to Waterbury and Plainville Rail Yard Fewer than three at-grade rail crossings
Avoids being overly circuitous	Not more than double straight-line distance

EVALUATION CRITERIA	FACTORS CONSIDERED
Connectivity	Connections to people and recreational resources
Safety	Traffic speeds, crash history, number of driveways, and traffic volumes
Security	Options for access/egress
Potential Property Impacts	Easements needed, ease of construction
Potential Environmental Impacts	Floodplains, wildlife habitat, hazardous materials, historic/cultural, and recreational
Estimated Costs	Order of magnitude lifecycle costs

Preferred Alignment (Alignment C)

As currently envisioned, Alignment C is a 5.3-mile multi-use trail extending from Northwest Drive to Town Line Road in Plainville. Nearly the entire length of the preferred alignment consists of off-road multi-use trail. The map on the next page provides more detail on the alignment and assumptions for Alignment C. The trail is assumed to be between 10' and 12' in width in most

Figure ES-1 *Overview Map of Preferred Alignment C in Plainville, CT*



places, and designed to standards set forth by CTDOT and by the American Association of State Highway and Transportation Officials (AASHTO), the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD), and the Americans with Disabilities Act and the Public Right-of-Way Accessibility Guidelines (PROWAG).

Schedule and Cost

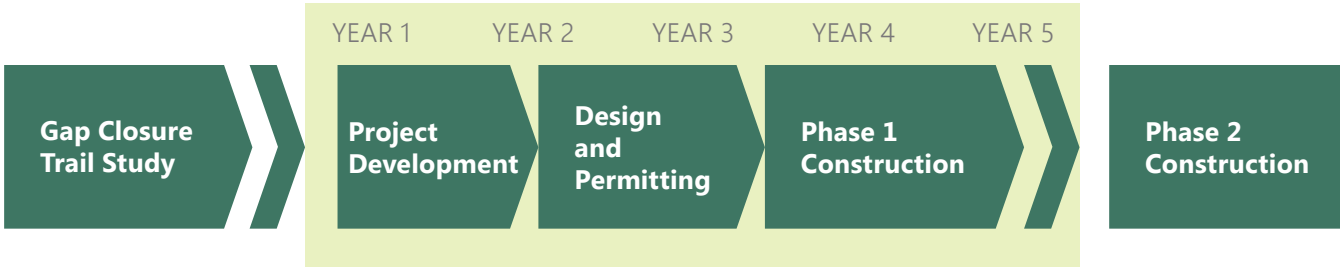
The project is proposed to be developed in three phases:

- Project Development – would solidify funding, determine state or federal environmental review, and prepare a scope for the next phase.
- Design and Permitting – would design the trail to prepare it for construction. Environmental assessments and permits are included in this phase. During the design phase, there are a number of issues that need to be looked at based on public feedback. These are documented in this report but include concerns regarding privacy of residents, safety on streets, liability, maintenance, and environmental and historical impacts.
- Construction – two phases of construction are assumed:
  - Phase 1 – Northwest Drive to West Main Street (Route 372) (3 miles).
  - Phase 2 – West Main Street (Route 372) to Town Line Road (2.3 miles).

Based upon the 2017 CTDOT Cost Estimating Guidelines, the conceptual construction cost estimate for the Preferred Alignment (Alignment C) is approximately $14.4 million, or $2.7 million/mile. This per mile cost is in line with the per mile costs for the most-recently constructed sections of the FCHT in Cheshire and Farmington (which were constructed at $2.8 million/mile).

It should be noted that any discussion of, or access to, funding is predicated upon a local planning process having been completed and approved by the municipality. Once the study is endorsed by the Town of Plainville, it is expected that the Capitol Region Council of Governments will formally adopt/approve the Gap Closure Trail Study and forward it to the Connecticut Department of Transportation with a request that the design of the Gap Closure project be initiated. CTDOT will likely evaluate the request and attempt to identify a funding source for this critical Gap Closure project.

Implementation Timeline



1 INTRODUCTION

The Gap Closure Trail Study, led by the Capitol Region Council of Governments (CRCOG) in partnership with the Connecticut Department of Transportation (CTDOT), identifies a preferred alignment for the gap in the Farmington Canal Heritage Trail (FCHT) through the Town of Plainville, CT. The project also identifies a preferred alignment for a multi-use trail connection to the Downtown New Britain, CT, CT***fastrak*** station. The focus of this report is the closure of the FCHT gap through Plainville.

Vision and Objectives

The study focuses on the last significant gap in the FCHT, an 84-mile bi-state, multi-use trail that extends from New Haven, CT to Northampton, MA. Nearly the entire FCHT in Connecticut is either complete or in design/construction. In addition to being a major portion of the East Coast Greenway (ECG), when complete, the FCHT will directly link 15 municipalities in two states. The Gap in the FCHT extends from Northwest Drive, where the existing FCHT terminates, south to Town Line Road in Southington.

A separate trail alignment, analyzed in the same process as the FCHT Gap Closure, is the connection to CT***fastrak*** in New Britain. The CT***fastrak*** multi-use trail is an existing 5-mile multi-use trail that runs adjacent to the bus rapid transit system beginning in Newington, CT and terminates at New Britain's bus rapid transit station. Connecting the CT***fastrak*** trail with the FCHT would ultimately create a vital walking/bicycling connection between the State's longest regional trail and the Capital City of Hartford. The existing CT***fastrak*** multi-use trail is approximately 4.5 miles from the FCHT.

Vision Statement

As created and adopted by the Project Steering Committee, the vision for the Farmington Canal Heritage Trail and CT***fastrak*** Gap Closure study is to connect the communities with a world-class, multi-use trail that closes the gap in the FCHT through the towns of Southington and Plainville with a connection to the CT***fastrak*** station in downtown New Britain. These links will prioritize safety, comfort, and mobility for all users, regardless of age or ability, through cohesive and attractive trails that promote economic and community vitality.

Objectives

The study has two distinct objectives:

- Identify a preferred alignment in order to close the gap in the FCHT through Plainville.
- Identify a connection to the CT***fastrak*** station and existing bicycle/pedestrian infrastructure network in downtown New Britain.

The study also supports the Department of Transportation's statewide Gap Closure Program goal of closing all gaps in the East Coast Greenway.

*A section of the CT**fastrak** Multi Use Trail*

"Cities have the capability of providing something for everybody, only because and only when they're created by everybody."

- Margaret Mead

Purpose of This Study

The purpose of this study is to identify a preferred alignment for the gap in the FCHT through the Town of Plainville, and to identify a preferred alignment for a multi-use trail connection from Plainville to the Downtown New Britain CT***fastrak*** station, through a collaborative consensus-building process that utilizes extensive public and stakeholder engagement.

This planning study analyzes a long-list of potential alternatives based upon a well-established alternative screening/evaluation methodology and broad public input and consensus-building. It provides a recommended trail alignment, supported by the community, which could be advanced into the design and construction phases. This planning study does not advance or recommend a detailed design, rather it lays out a blueprint for the design by identifying challenges and opportunities of the preferred alignment which will provide critical guidance to the subsequent phases of project development.

Who was Involved?

The Gap Closure Trail Study was led by a Project Steering Committee consisting of the following regional and local agencies state-wide:

- CRCOG
- Town of Plainville
- City of New Britain
- Town of Southington
- CTDOT
- East Coast Greenway Alliance
- Farmington Valley Trails Council
- Plainville Greenway Alliance (PGA)
- Plainville-Southington Health District
- Connecticut Department of Energy and Environmental Protection (DEEP)
- Bike New Britain

In addition, community members from all three communities and beyond were consistently involved throughout the study via accessible public workshops, website updates, email blasts, newsletters and press releases, online surveys, and other events. Outreach materials were also provided in both Spanish and Polish.

Gap Closure Trail Study Mobility Bike Tour in July 2016

The table below summarizes the public outreach activities conducted as part of the study. Attachment A provides a more detailed description of these activities, and notes from community meetings. Public outreach would continue to be an important part of the project as it moves into its next phase, design.

Summary of Gap Closure Trail Study Public Outreach Activities

No.	Outreach Activity	Timing	Who Was Involved?
1.	Community Meetings	July 26, 2016 October 3, 2016 October 4, 2016 October 6, 2016 May 22, 2017 October 18, 2017 February 5, 2018	• Members of the public participated, representing the communities of Plainville, Southington, New Britain, and other communities nearby • Most meetings were interactive, with a workshop format, and attracted between 10 and 200 people each • Press releases and meeting notifications were available in English, Polish, and Spanish
2.	Project Newsletters	Summer 2016 Summer 2017 Winter 2018	• Newsletters were distributed to all who joined the project distribution list. Further distributions were managed by members of the Steering Committee to various groups and organizations • Newsletters were made available in Polish and Spanish
3.	Project Website	Launched July 2016 Updated monthly (approx.)	• The project website served as a repository for maps, presentations, and other materials to keep the public informed about the project and its status • E-mails were sent to all those who signed up for the project distribution list when major web updates were made or in advance of public meetings
4.	Discovery Week	July 2016	• 12 Focus Group meetings • Meeting with Steering Committee • Bicycle Audit in Plainville and New Britain
5.	Booths and Outreach at Community Events and Rides	Summer 2016 Fall 2016 Summer 2017	• 2016 Discover New Britain Bike Ride • 2016 Cross the State Ride in Plainville • 2016 Pumpkin Festival • 2017 New Britain Bike Rodeo

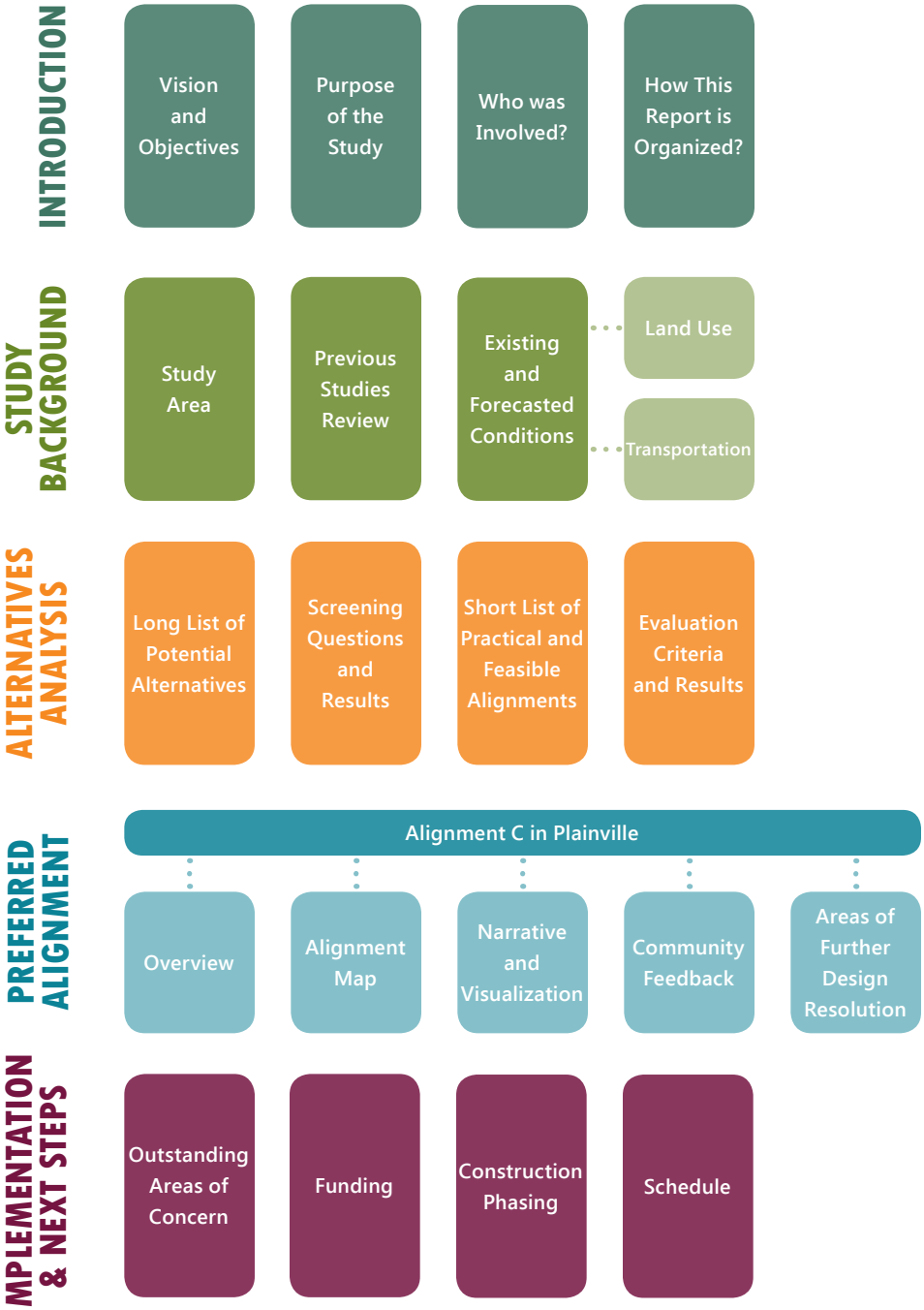
Summary of Gap Closure Trail Study Public Outreach Activities (cont.)

No.	Outreach Activity	Timing	Who Was Involved?
6.	Steering Committee Meetings	April 2016 July 2016 October 2016 November 2016 April 2017 July 2017 January 2018	• Meeting notices published in the towns of Plainville, Southington, and the City of New Britain • Public comment was taken at each meeting, and was an official agenda item • Open to all members of the general public
7.	Presentations to Town and City Councils	November 2016 June 2017 December 2017 February 2018	• Open to all members of the general public • Presentations to Plainville Town Council, followed by receipt of public comment • Notices published with Town Clerks
8.	Town Manager Updates to Town Council	Regular	• Open to all members of the general public • Regular updates by Town Manager to Town Council on project status and progress • Public notice released in Town Council meeting agenda
9.	On-Line Surveys	July 2016 April 2017	• Open to all members of the community and general public • Posted to project website and distributed widely • Distributed in paper form at the library and town hall • More than 600 respondents to Survey 1 (existing conditions) and 300 respondents to Survey 2 (facility type)

10.	Stakeholder Outreach	Summery 2016
		Fall 2017
			• Discussions were held with stakeholders and potentially affected property owners as the project was mobilized, and as the preferred alignment was identified and refined, to discuss potential impacts and benefits. A representative list of stakeholders consulted:
			  • Tunxis Community College
			  • Central CT State University
			  • Pan Am Railways
			  • Carling Technologies
			  • Property Owners along alignment

How This Report is Organized

This report focuses on describing the preferred alignment(s). However, it also includes a summary of study highlights in terms of existing conditions, evaluation process, implementation strategies, and areas of significant community feedback. The focus of this report is the closure of the FCHT gap through Plainville.



2 Study Background

Study Area

The study area for this project encompasses all of Plainville, from Northwest Drive to Town Line Road, and from Route 6 to I-84. It also includes portions of New Britain between Plainville and the CTf***astrak*** station, both north and south of Route 72 (see **Figure 1**).

Previous Studies

Several previous studies have been undertaken to explore ways to close the north-south gap in the FCHT. These are briefly described below.

Early Efforts

In 2004, two Yale University students, in partnership with the Farmington Canal Rail-to-Trail Association (FCRTTA), conducted a rail-to-trail feasibility study for Plainville. That study helped the Plainville Greenway Alliance (PGA) develop their own preferred routing (off-road) and an optional route (on-road, in case the preferred route proved infeasible) of the trail through Plainville, completed in 2008. The preferred alignment used Pan Am railways Right-of-Way from Northwest Drive to Cronk Road. It built a bridge over the Pan Am railyard, went through downtown Plainville, and used local roads (Pierce, Bank, South Canal, and Prior) to Norton Park, continuing south along the path of

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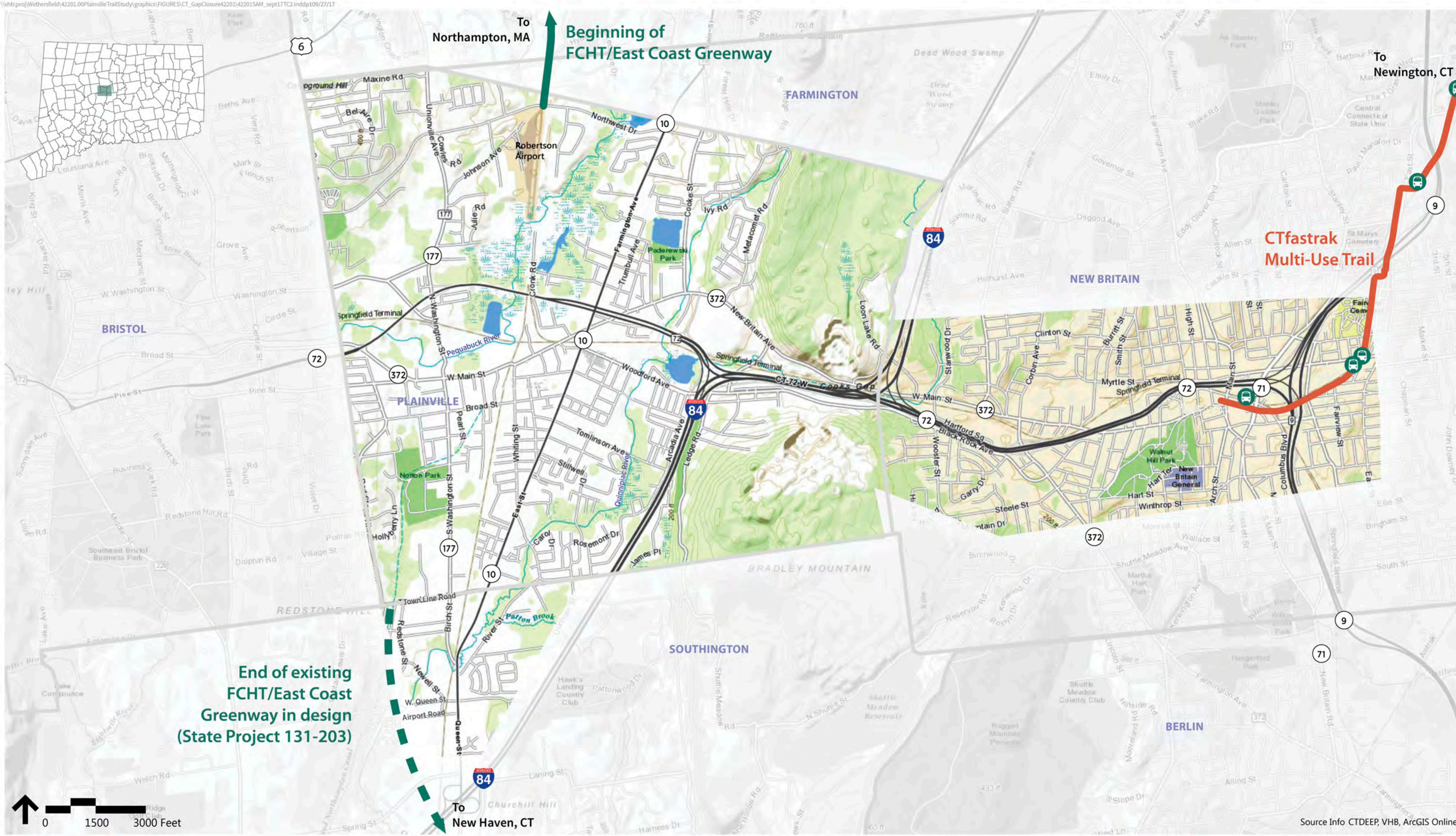

CTfastrak Stations

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Figure 1

Study Area Map

Plainville, New Britain and Southington, Connecticut

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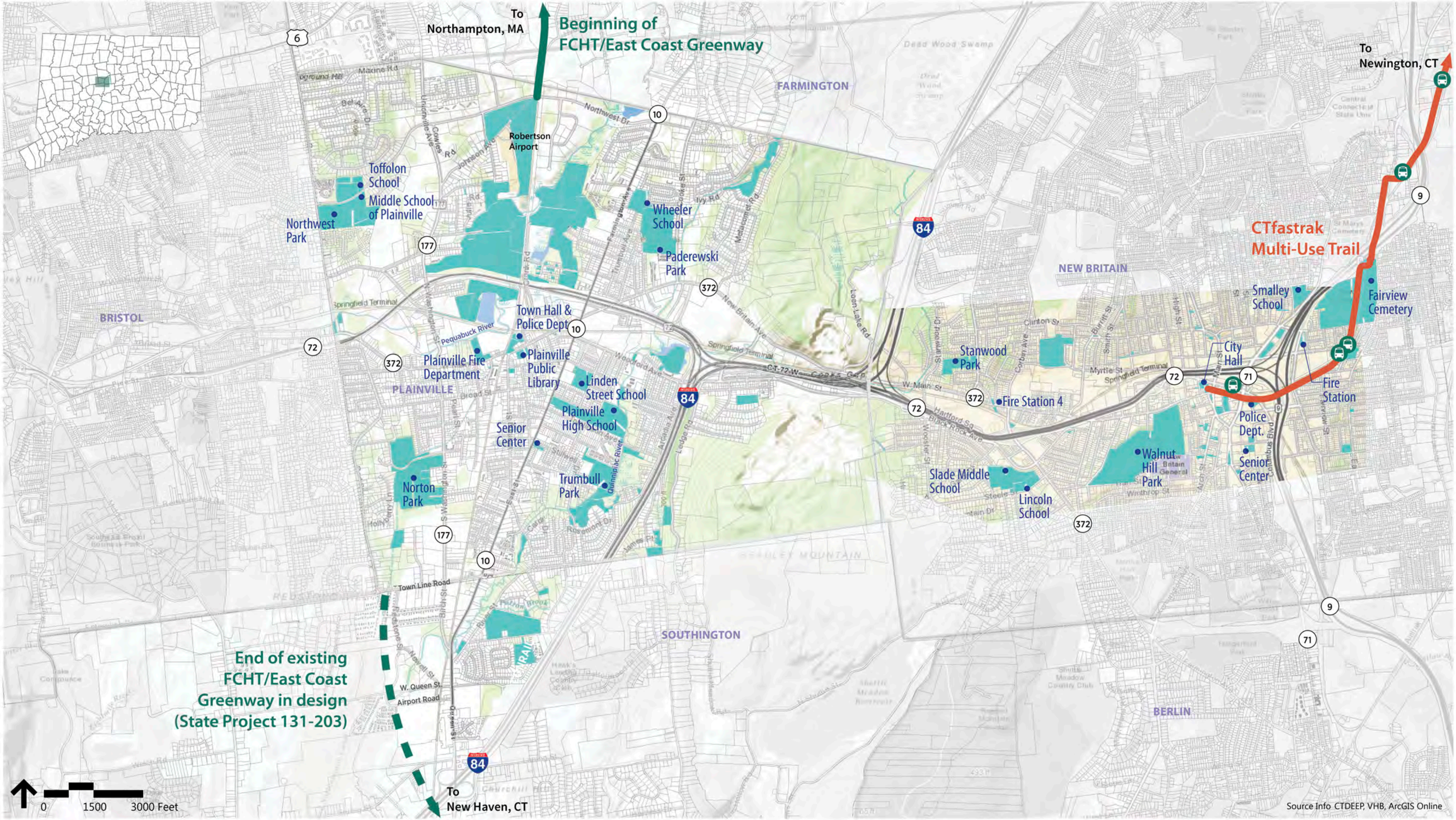

GAP CLOSURE TRAIL STUDY
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CTfastrak Stations

Parcels

Public Property

Key Properties

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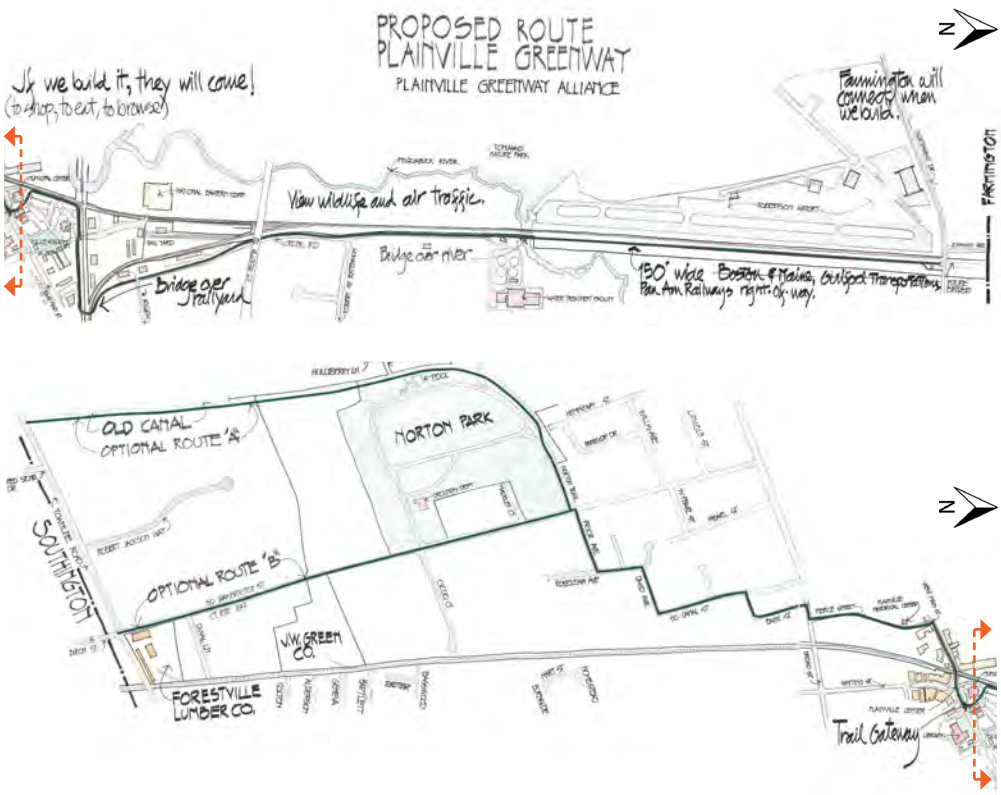
Figure 2

Town Property Map

Plainville, New Britain and Southington, Connecticut



Preferred and optional trail routes through Plainville from the 2008 PGA Report

the historic Farmington Canal. This study did not include a construction cost estimate.

Southington-Plainville Farmington Canal Greenway Study (Greenway Study)

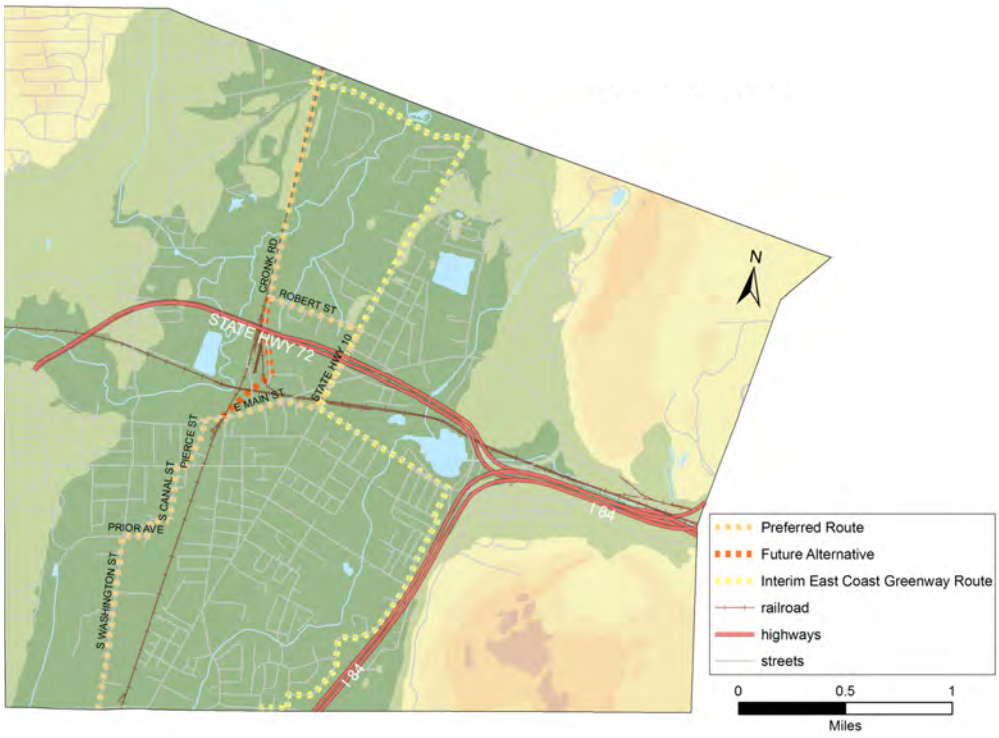
Starting in August 2008, the Southington-Plainville Greenway Committee continued the trail route planning process. Their study, published in 2009, identified a preferred and a potential future route. The 2009 study delved into more detailed concept design analysis than the PGA report, and identified alternative routings in constrained sections. This study established preliminary cost estimates. The study noted that the likely optimal route for the trail would follow the existing rail corridor, but that the presence of active rail in segments of the corridor made a combined on- and off-road system more feasible.

Within Plainville, the preferred route would rely on the inactive rail bed north of downtown and the existing active rail yard, connecting through downtown on Main Street (Route 372), before rejoining local roads to the west of the active rail. The potential future route referred back to the 2008 PGA routing showing a bridge over the rail yard, making a more direct north-south connection through downtown.

The Study concluded that the Plainville section of the preferred route would cost approximately $1.2 million (in 2008 dollars). The map on the next page is shown as presented in the Greenway Study.

Master Plan Report: Design Study of a Multiuse Trail – Plainville, Connecticut

As an outgrowth of the Greenway Study, the Town of Plainville and the PGA



Proposed Greenway Routes in Plainville from the 2009 Greenway Study

applied for and received a Contingency Needs Grant from the Office of Policy and Management (OPM), with which the Town commissioned a 2009 Design Study, resulting in a Master Plan Report. The Master Plan sought to refine the preferred trail route in Plainville by means of a contextual site review.

Like the Greenway Study, the Master Plan worked on the assumption that the trail would need to consider routing outside the active rail. The study team examined five alternative routings before arriving at a preferred routing with smaller alternate route sections. The preferred route included on- and off-road segments. The alternative trail routes and the preferred route are shown on the following page.

Overall, the preferred routing was very similar to that recommended in the Greenway Study, and was broken down by segment as follows.

- **Northern Section** – From Route 72 to the Farmington town line, the northern section continues along Route 10 to Roberts Street Extension, as an on-road facility to the intersection with Cronk Road. The trail would then return to a multi-use facility running north along Cronk Road to the Water Treatment Facility. From here the trail would join the rail bed and continue to the town line. The Master Plan included an at-grade and a bridge crossing alternate for crossing Northwest Drive.
- **Center Section** – The center section of the preferred alignment, from Broad Street to Route 72, would use on-road facilities to connect to and through downtown. The preferred routing would use Broad Street, Pierce Street, East Main Street, and Route 10.
- **Southern Section** – In the southern section of the preferred alignment, from the Southington border to Broad Street, the trail would use a combination of on- and off-road treatments. Starting on Robert

Schematic Trail Routes from the 2009 Master Plan Report

Jackson Way on-road, the trail would cross several private parcels before traversing Norton Park as an off-road facility and Hemingway Street on-road.

The Master Plan estimated that the cost of the preferred routing in Plainville would cost between $6 and $9 million (in 2009 dollars). The higher costs in this study versus the 2008 study may in part reflect a finer level of detail and analysis.

Woodford Avenue Comprehensive Study and Redesign

The Central Connecticut Regional Planning Agency (CCRPA) in 2013 completed a comprehensive study and redesign of Woodford Avenue from East Main Street in Plainville to the Plainville/ New Britain line at Black Rock Avenue. This 1.5 mile corridor was studied from the perspective of improving safety and pedestrian and bicycle access, asking the question about how to best use the expansive right-of-way along the corridor that had been built to expressway standards prior to the construction of I-84, Route 72, and Route 372. Woodford Avenue can accommodate traffic volumes that are much higher than those seen on the road today or forecasted in the future. Ultimately the study recommended a "road diet" for Woodford Avenue, converting the up to 28' wide travel lanes to a more standard (12'-14') width, and converting remaining width for a landscaping buffer and bicycle and pedestrian infrastructure. Part of the analysis was the potential for a transfer of ownership from CTDOT to the Town of Plainville, which could be facilitated with the construction of roadway upgrades. This study was not adopted, and no official agreements resulted from the analysis, however, it was used to inform the development of alternatives in the Gap Closure Trail study that connected Plainville with the CTfastrak station in New Britain.

Study Area Existing Conditions

This section briefly describes the existing land use patterns and transportation systems that informed the development of the trail alignments. Integration with the local land use fabric and connections with the transportation network are essential to the success of the FCHT. It is a summary of the FCHT Gap Existing Conditions Assessment Report, included as Attachment B.

Plainville Land Use

Land uses within Plainville present opportunities and constraints to the development of the gap closure trail. Primary land use in town is residential, but the mix of uses includes a central downtown, Robertson Airport, commercial corridors, industrial uses, and open space.

Open Space and Riparian Corridors

- Opportunities exist for the use of large tracts of town-owned land for the trail facility, such as Norton Park (see **Figure 2** and **Figure 3**).
- Some of these properties are primary destinations that the preferred alignment can make connections to in order to help complete an overall multimodal transportation system.
- Natural features such as wetlands and floodplains along the Pequabuck River present both physical challenges and opportunities to the trail alignment development.
- The Metacomet Ridge, spanning the eastern border of Plainville, limits potential east-west connections between Plainville and New Britain due to its topography.

Residential and Commercial Districts

- Single-family neighborhoods with a fine-grained pattern of private property ownership could affect trail routing but also provide connection opportunities.
- Recent streetscape enhancements in Plainville's central business district have improved mobility in downtown, resulting in a significant connection opportunity.
- Route 10 commercial corridor and Route 10-Route 72-Interstate 84 commercial district are activity and employment centers that potentially generate trail users.

Industrial Uses

- The town-owned Robertson Airport, adjacent to the developing Northwest Industrial Park, in the northwest quadrant of Plainville is an attraction.
- An active rail yard immediately north of downtown forms a potential barrier/constraint to trail development.
- An industrial park along Robert Jackson Way in the southwest corner of Plainville presents a potential conflict point for trail development.
- A quarry operation (Tilcon) in the southeast quadrant of town presents potential conflicts, but is not expected to significantly impact the trail.

Activity Generators

- Primary activity generators include residential neighborhoods, schools and libraries, public transit hubs, parks and other trails, shopping centers, major employers, and government centers.
- In Plainville, these areas tend to be clustered around downtown, the Route 10 and Route 72 corridors, and the northwest quadrant of town.

Zoning

- Zoning in Plainville reflects the north-south and east-west commercial and

To Northampton, MA

Beginning of FCHT/East Coast Greenway

To Newington, CT

CTfastrak Multi-Use Trail

End of existing FCHT/East Coast Greenway in design (State Project 131-203)

To New Haven, CT

Charles H. Norton House

BRISTOL

PLAINVILLE

FARMINGTON

NEW BRITAIN

SOUTHINGTON

BERLIN

BRADLEY MOUNTAIN

Robertson Airport

Paderewski Park

Myrtle St Springfield Terminal

Walnut Hill Park

New Britain General

Source Info CTDEEP, VHB, ArcGIS Online

0 1500 3000 Feet

GAP CLOSURE TRAIL STUDY
Plainville • Southington • New Britain

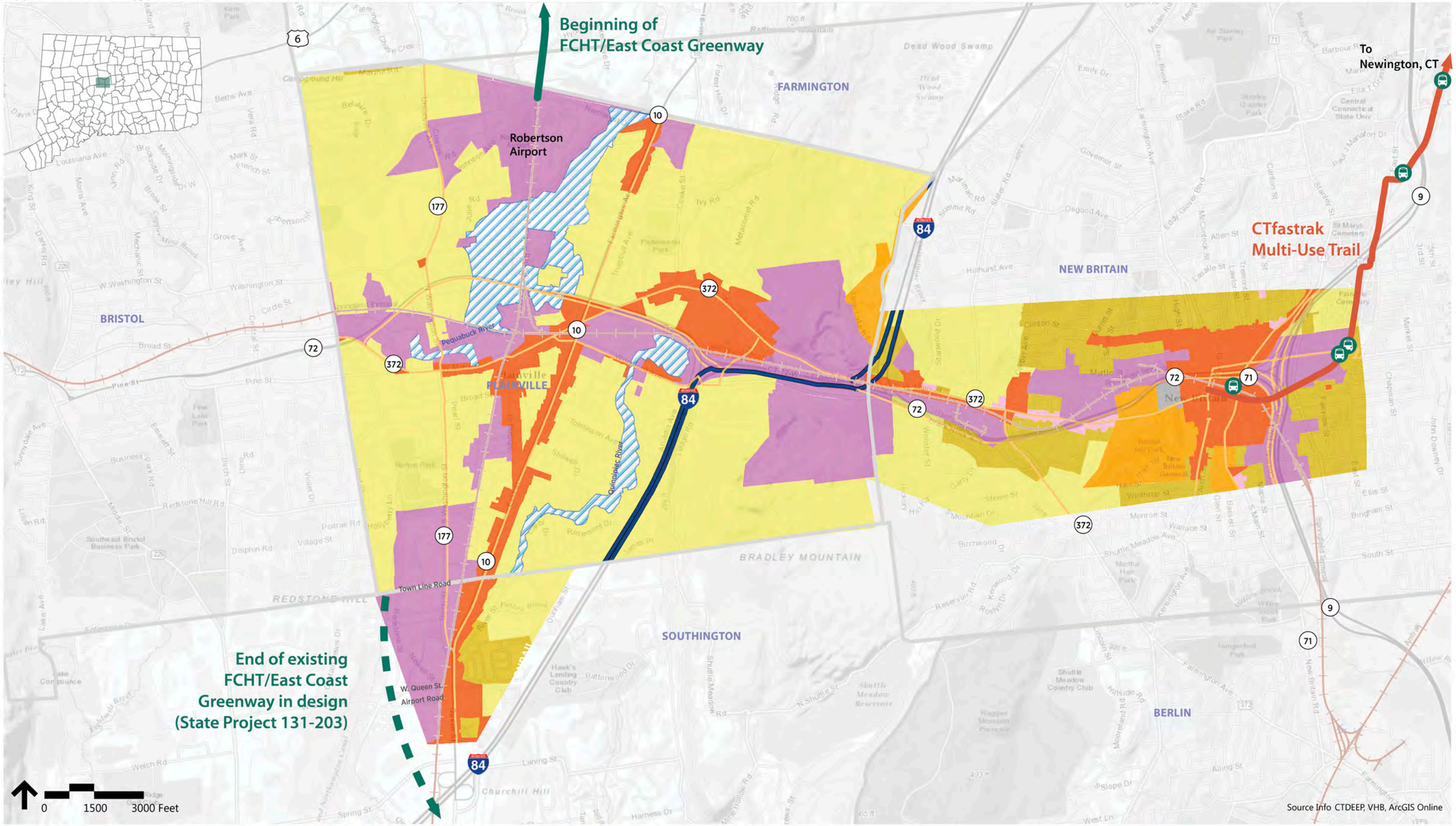
- CTfastrak Stations
- Wetland (NWI)
- Waterbody/Stream (CTDEEP)
- 100-yr Floodplain (FEMA)
- Potentially Sensitive Habitat Areas (CT-DEEP-NDDB)
- Farmington Canal
- National Register of Historic Places
- Charles H. Norton House (National Historic Landmark)

vhb

Figure 3

Environmental Features Map

Plainville, New Britain and Southington, Connecticut



GAP CLOSURE TRAIL STUDY
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CTfastrak Stations

Commercial
Neighborhood Business & Revitalization
Industrial
Residential
Multi-Unit Housing
Technology Park/Office
Municipal Parking District
Flood Zone

vhb

Figure 4

Zoning Map

Plainville, New Britain and Southington, Connecticut

industrial spines formed by primary road and rail facilities, along with the more distributed pattern of residential neighborhoods (see **Figure 4**).

Plainville Transportation

Roadway Network

- Plainville's roadway network includes Interstate 84, a number of state routes, active downtown streets, commercial corridors, and low-volume/low-speed residential streets.
- Many town streets have low-enough traffic volumes and speeds to accommodate a shared condition with bicyclists, with the potential to add sidewalks for pedestrians.
- Some roadways in town have wide lanes that could be reduced to provide space for bike lanes and sidewalks, or potentially a multi-use trail within the right of way.
- Route 72 and Interstate 84 pose constraints for any potential crossing alignments.
- The roadway network between Plainville and New Britain is constrained to a narrow corridor defined by the Metacomet Ridge and the quarry operation. Both major and minor roads funnel through this corridor.
- The highest numbers of intersection crashes occurred at Routes 10/372, Route 72/I-84, and Routes 372/72 in Plainville.
- From a corridor perspective, Route 372 had by far the most crashes over the time period, including one fatality.

Bicycle and Pedestrian Network

- Plainville's limited bicycle infrastructure includes a section along East and West Main Street through the Town Center with shared lane markings, and a side path (multi-use trail) along a portion of Route 10 and Northwest Drive to Route 177.
- Sidewalks and crosswalks help form the pedestrian network downtown, but they are generally absent elsewhere in Plainville.
- Facility types are described in further detail on Page 28 and 29 of this report.

Active Rail

- An active rail corridor owned by Pan Am Railways runs north-south through the center of Plainville, where a north-south 4.5 mile branch rail line that provides freight rail service and an east-west rail line (6.6 miles in Plainville and 4.9 miles in New Britain) meet at the junction in downtown Plainville adjacent to the Police Station. Pan Am operates a railyard immediately next to and north of Plainville Town Center.
- The active rail corridor presents challenges and constraints due to varied and constrained right-of-way conditions, railyard activities and side tracks, and particularly at-grade roadway crossings, which would require special design treatments and substantial coordination with the railway owner.

Airport

- The town-owned, recently modernized Robertson Airport is located at the northern edge of the Study Area, just south of Northwest Drive.

Transit

- Plainville is served by several transit routes, including: Route 502 New Britain to Bristol via Plainville; Route 503 New Britain to Tunxis Community College via Plainville; CT***fastrak*** Route 102 Hartford, New Britain, Plainville, to Bristol (see **Figure 5**).

Bicycle Level of Traffic Stress

While bicyclists are legally permitted to ride on most public roadways, it is well documented that the majority of the US population has a low to very low tolerance of the perceived danger of cycling close to motor vehicle traffic. The second community online survey conducted for this project, with 328 respondents, found that more than 80 percent of respondents were "definitely" willing to use an off-road multi-use trail compared to only 10 percent of respondents that would "definitely" use a shared roadway facility. Therefore, an additional factor in defining a bicycle network includes an analysis of the Level of Traffic Stress (LTS) for the existing roadway network.

A low LTS can be achieved in mixed traffic on a low-speed, low-volume local street. However, as roadway width and/or traffic volumes increase, the LTS will also increase, creating an uncomfortable space for bicyclists unless a separated, off-road multi-use trail is provided.

Figure 6 applies the LTS to Plainville's roadway network, greatly informing the alternatives identification and analysis process.

New Britain Land Use

Due to the topographic barriers described earlier in this chapter, the study area within the City of New Britain is limited to a defined corridor surrounding Route 72. Land uses within this area include commercial, industrial, residential, and open space. As with Plainville, existing land uses within New Britain may affect alignments and connections for the linkage to the CT***fastrak*** station and multi-use trail.

Commercial and Industrial Districts

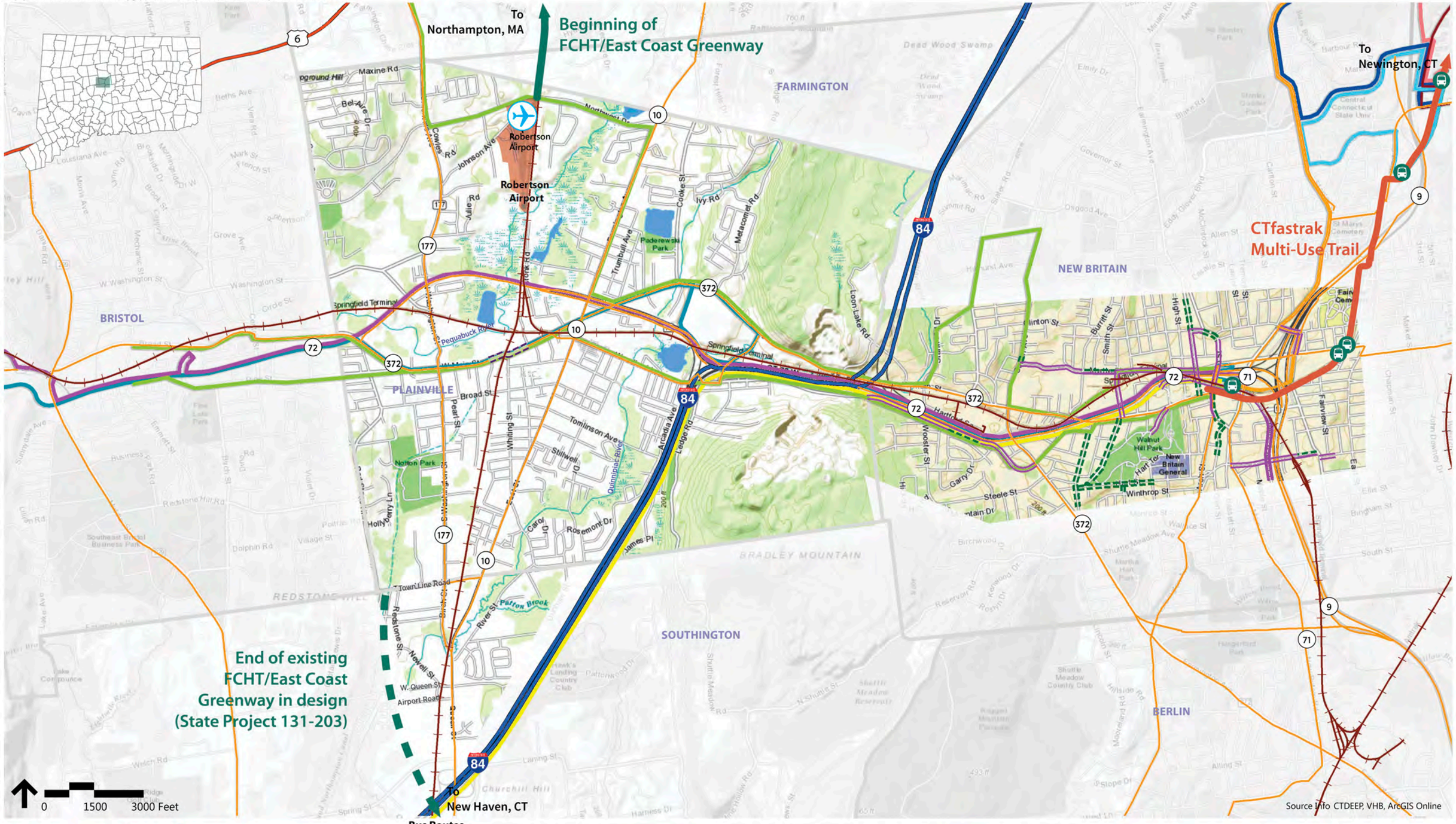
- North of Route 72 and west of Corbin Avenue, industrial and railway uses dominate. On the east side of Corbin Avenue and north of Route 72, uses shift to commercial shopping centers with limited residential.

Residential Neighborhoods

- South of Route 72, single-family residential neighborhoods are the predominant land use. These neighborhoods have a fine-grained pattern of private property ownership that could affect trail routing. They are also origins for trail users, and provide primary connection opportunities.

The LTS rating system has four classification levels:

- **Level 1** – non-driving teens, children, and elderly who are capable of riding on off-road shared-use paths and low speed/low volume (LS/LV) neighborhood streets, negotiating simple intersections.
- **Level 2** – a level that will be tolerated by driving teens and the mainstream adult population/casual cyclists capable of riding on off-road shared use paths, LS/LV neighborhood streets and some collector roadways.
- **Level 3** – adult cyclists tolerant to riding on off-road shared-use paths, collector roadways, and on arterial roadways with bike lanes.
- **Level 4** – confident and experienced cyclists capable of riding on any roadway legally open to bicycle travel regardless of roadway configuration, traffic speeds or traffic volumes.



GAP CLOSURE TRAIL STUDY
Plainville • Southington • New Britain

- Robertson Airport
- Bike Lanes
- Shared Roadway
- Railroad
- Interstate
- US Highway
- State Highway
- Local Roads

Bus Routes

- CTfastrak Stations
- 102 - Hartford/New Britain-Bristol/Plainville
- 121 - MCC/Hartford/UConn Health
- 128 - Hartford/Westfarms-New Britain (via Standley Street)
- 140 - CCSU Shuttle
- 144 - Wethersfield/Westfarms via Newington Center Brittany Farms
- 923 - Bristol Express
- 924 - Southington-Chestire Express
- 925 - Waterbury Express
- 928 - Southington-Chestire-Waterbury Express
- Additional Bus Routes 502/503
- **CT Transit Bus Routes:**
- 69 - Capitol Avenue

vhb

Figure 5

Transportation Network Map

Plainville, New Britain and Southington, Connecticut

Beginning of FCHT/East Coast Greenway

To Newington, CT

CTfastrak Multi-Use Trail

Robertson Airport

End of existing FCHT/East Coast Greenway in design (State Project 131-203)

FARMINGTON

BRISTOL

PLAINVILLE

NEW BRITAIN

SOUTHINGTON

BRADLEY MOUNTAIN

BERLIN

0 1500 3000 Feet

Source Info CTDEEP, VHB, ArcGIS Online

GAP CLOSURE TRAIL STUDY
Plainville • Southington • New Britain

- CTfastrak Stations
- Traffic Stress Level 1
- Traffic Stress Level 2
- Traffic Stress Level 3
- Traffic Stress Level 4

LTS Descriptions

Traffic Stress Level 1
Roadways suitable for pre-teens capable of safely crossing intersections, and capable of riding on off-road shared-use paths, in a bike lane on a residential street, or in a shared lane where they occasionally interact with low speed vehicles.

Traffic Stress Level 2
Roadways suitable for most adult casual cyclists capable of riding on all LTS1, on off-road shared-use paths, or in a shared lane where they occasionally interact with low speed vehicles.

Traffic Stress Level 3
Roadways suitable for adult cyclists attuned to cycling in an urban city environment and capable of riding on all LTS 1, LTS 2, in a bike lane next to moderate speed and volume traffic stream, or in a shared lane on streets that are not multi-lane and have moderately low speeds and volumes. Crossings may be longer or across higher-speed roads, but are still accepted as safe for most adult cyclists.

Traffic Stress Level 4
Roadways suitable for all bike facilities beyond LTS 3

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Figure 6

Stress Level Map

Plainville, New Britain and Southington, Connecticut

Downtown

- Downtown New Britain is a vibrant urban center, with commercial, residential, cultural, and governmental land uses.
- Recent streetscape and complete streets enhancements have improved mobility and sense of place in the downtown. The CT***fastrak*** station anchors the eastern end of the study area.

Parks and Schools

- Integrated into the residential neighborhoods along the southern portion of the study area, a system of schools, sports fields, and open space culminates in Walnut Hill Park in downtown New Britain.
- The New Britain Museum of American Art is another important destination near Walnut Hill Park.
- In addition, the Central Connecticut State University (CCSU) Institute of Technology and Business Development is located on Main Street.

Activity Generators

- Primary activity generators within New Britain tend to be clustered around the downtown and the Route 72 corridor. The study will analyze specific activity generators, and their potential impact on trail alignments during the evaluation of alternatives.

Zoning

- Zoning within the New Britain study area shows industrial and commercial uses along Route 72 and the rail line, prominent commercial use in the downtown, and a mix of single-family and multi-family residential, with higher densities closer to downtown.

Environmental Justice

- As part of the alternatives evaluation, the study considered potential disproportionate impacts to minority and low-income communities.
- Data collected from the U.S. Census Bureau and the CRCOG indicate that Primary and Secondary Environmental Justice (EJ) Areas exist within the New Britain portion of the study area.

*CT**fastrak** Station in Downtown New Britain*

New Britain Transportation

Roadway Network

- The limited access highway Route 72 and the paralleled arterial roadway Route 372 present a barrier and constraint to potential north-south trail crossings.
- Woodford Avenue and Black Rock Avenue have lower traffic volumes and speeds, and are currently used by many cyclists to travel between Plainville and New Britain. Several sections of these roads have wide travel lanes that may accommodate bicycle and/or pedestrian facilities. A mile-long section of Black Rock Avenue within New Britain currently includes bike lanes, with shared lane markings east of this section. However, due to the quarry operation there is a large volume of heavy trucks that traverse the corridor.
- Crash data showed that the intersection of Route 9/72 had the highest numbers of intersection crashes in New Britain and Route 555 had the most corridor crashes over the time period; none of the documented crashes involved fatalities.

Bicycle and Pedestrian Network

- A significant and expanding system of bicycle and pedestrian infrastructure exists within the study area in New Britain.
- The City has undertaken an aggressive program of installing bicycle lanes, buffered bicycle lanes, and shared streets creating a network of bicycle friendly streets which allow bicyclists to traverse the community. The City is also working to fill gaps in its sidewalk network for pedestrians.
- The 5-mile CT***fastrak*** multi-use trail between the New Britain CT***fastrak*** station and the Newington Junction CT***fastrak*** station forms a primary spine in the multimodal network.
- Many New Britain parks have multi-use trails or roads with limited traffic to make recreational or "cut-through" bicycling comfortable.
- Facility types are described in further detail on Page 28 and 29 of this report.

Active Rail

- Within the New Britain study area, approximately 4.9 miles of rail line crosses existing roadways at several locations in both grade separated and at grade configurations.
- Rail crossings present a potential constraint to trail alignments, and any crossings would require coordination with the railway owner in addition to specific design treatments.

Transit

- The completion of CT***fastrak*** and the associated multi-use trail helped drive the inclusion of the east-west connection in this study.
- New Britain has a comprehensive transit service provided by CT***transit***, and the Route 72 corridor (which is the focus of this study) is served by several local and CT***fastrak*** express buses. All CT***fastrak*** and CT***transit*** buses are equipped with bicycle racks.
- As a major transportation hub, the CT***fastrak*** station is a primary origin/destination that will help shape the analysis of multi-use trail alternatives.

Complete Streets and Transit Oriented Development

- In 2013, New Britain adopted a Complete Streets Master Plan, which leverages the City's compact, walkable downtown with the introduction of a multimodal network of transportation and urban design investments.

Trail Facility Types

A variety of trail facility treatments have been considered for the FCHT and CTfastrak trails. These facility types are defined below.

Shared Roadway

Roadways which are open to both bicycles and motor vehicles are "shared." This term may be used for existing roadways and streets with wide curb lanes or roads with paved shoulders. A shared roadway can be enhanced with the use of Sharrows.

Sharrows

"Shared-lane markings" or "sharrows" are intended to help motorists and cyclists safely share and navigate roadways. Sharrows show cyclists where to be in the road (aligned with the middle of the chevron markings) Along with "Bikes May Use Full Lane" signs, sharrows remind drivers that presence of people on bicycles is to be expected. Properly placed markings are centered in the lane(s) that they occupy indicating that bicyclists could and should command the lane.

(Photo: Seattle, Washington)

Paved Shoulder

The portion of roadways not intended for motor vehicle travel. When paved, shoulders maximize safety and roadway stability they act as recovery areas and allow vehicles to pull over for first responders to pass. Paved shoulders produce high levels of safety and improved operations. Confident bicyclists are able to use shoulders, which allows unimpeded motorist flow. Paved shoulders do not offer enough buffer or comfort to attract or support most families who want to go places by bike.

(Photo: Near McKenzie Pass, Oregon)

Bike Lanes

Bicycle lanes are striped or otherwise separated areas on roadways designated for preferential use of bicyclists over motor vehicles. On most streets, bicycle lanes are provided between curbs and right-most travel lanes, or between curbside parking lanes and right travel lanes. A bike lane can be enhanced using colorized construction materials or physical separation from the motor vehicle travel-way.

(Photo: Victoria, B. C.)

Trail Facility Types (cont.)

Buffered Bike Lanes

Buffered bicycle lanes provide the same functions as standard bicycle lanes with the addition of marked buffer space (one to ten feet wide) on one or both sides of the lane. Depending on location, buffers may be provided between bicycle lanes and travel lanes, between bicycle lanes and on-street parking, or both.

(Photo: Venice, Florida)

Protected/Separated Bike Lanes (Cycle Tracks)

Protected bike lanes, also known as cycle tracks, green lanes and separated bike lanes, provide physical separation between people on bikes and motor vehicles. Often protected bike lanes separate bicyclists from motorists with on-street parking, curbing, raised markers or jersey barrier walls. Protected bikes lanes are considered the highest level of support for increasing active transportation.

(Photo: Vancouver, British Columbia)

Colorized Bike Lane or Paved Shoulder

Both paved shoulders and bike lanes can be colorized by using different construction material (concrete and asphalt) or by applying an overlay or paint or other material. The differential in color (and sometimes texture), makes the road feel narrower and slower. In many places where this treatment is applied the bicyclist and motorist have a higher recognition of one another. Often a bold edge stripe is used to further this separation and narrowing effect.

Multi-Use Trails

Pathways that provide separated movement for people on bicycles and on foot are "multi-use trails." They are generally 10 feet wide, mixing pedestrians with bicyclists. Multi-use trails can be either one-way or serve both directions of travel. Surfaces are often paved, though they can be made of slower speed wooden decks, crushed limestone or other semi-pervious materials that aid in keeping speeds low. Multi-use trails along active rail lines are called Rail with Trail paths, while these types of facilities adjacent to roadways are often referred to as Side Paths.

(Photo: Town Lake Trail in Austin, Texas)

Policy and Project Development Considerations

Plainville and New Britain local policies relevant to this effort and upcoming projects are summarized below.

Plainville

Many of the policies and implementation actions established by the Town of Plainville's Plan of Conservation and Development (POCD) relate directly or indirectly to trail planning and multimodal considerations. For example, the Open Space and Natural Resources actions outlined in the POCD include working with the Rails to Trails Organization, pursuing completion of the FCHT, and establishing a connected system of greenways. The Downtown Development Scenario from the POCD includes policies for improving accessibility and transportation as well as a focus on pedestrian orientation. In addition, the Transportation actions include efforts to encourage alternative transportation such as mass transit and bicycling, implementation of downtown transportation improvements, and construction of additional bikeways.

New Britain

The City's continued focus on community character, pedestrian mobility, redevelopment, and Transit-Oriented Development (TOD), as represented in several policy documents, may help encourage use of and connections to the trail. For example, the City's POCD includes actions to help support Strong Neighborhoods by creating and retaining walkable mixed use areas. Increased Connectivity incorporates efforts to provide alternatives for pedestrians and bicyclists. The Gateways vision includes wayfinding to primary destinations. Finally, the Central Business District goals include marketing the Busway for TOD, as well as making investments in the streetscape. The POCD also points out that New Britain is a mature, largely built-out municipality, with potential development likely to take the form of redevelopment and infill in a manner that preserves community character. The City has also adopted a Complete Streets Master Plan to encourage pedestrian-friendly development.

New Britain Transportation

Within the next five years, local and state agencies plan to make additional improvements associated with the CT***fastrak***, along with multimodal enhancements such as the Hart Street Complete Streets project, the Curtis Street Bridge improvements, the Columbus Avenue rotary, and the Downtown Streetscape Enhancements (which include the Main Street Overpass). These improvements are supported by the Complete Streets Master Plan for Downtown New Britain, which "is intended to serve as a guide for creating a more pedestrian-friendly, attractive and livable environment through-out the downtown are in preparation for the 2015 scheduled opening of the $572 million CT***fastrak*** (BRT) project". The Master Plan establishes a vision for downtown development and prioritizes implementation projects. It articulates principles for livability and Complete Streets design, and includes concept plans for 5 study areas:

1. City Hall, Central Park, CTfastrak, & the Core Downtown
2. Main Street Shopping District
3. Broad Street & Little Poland
4. Arch Street Latino District & Linkage to the Hospital of Central Connecticut
5. South Main Street Gateway & Harry Truman Overpass

The Master Plan also includes a Bicycle Connectivity Phasing Plan with specific recommendations for bicycle facilities within the Gap Closure study area.

3 Alternatives Analysis

Overview

The overall screening and evaluation process was applied in two steps:

- **Step 1: Screening** –The first step screened a range of alternatives developed in cooperation with the community against a set of screening questions related to the project's vision and objectives. Alternatives that passed this step were developed into a discrete set of alignments and carried forward to the next step, evaluation.
- **Step 2: Evaluation** –The second step evaluated alignments on how well they performed against a set of evaluation criteria, established by the Project Steering Committee and informed by a series of public meetings held in 2016. This chapter summarizes the screening and evaluation process. See Attachment C Alternatives Screening and Evaluation report for the full evaluation results.

During the screening step, 14 alternatives were narrowed down to a shortlist of 4 alignments in Plainville, and 5 alternatives were narrowed down to a shortlist of 2 alignments in New Britain. The evaluation process further resulted in a recommended "Alignment C" for the FCHT Gap Closure Project in Plainville, and "Alignment E" between Plainville and New Britain's CT***fastrak*** station. Alignments were selected based on how they performed in relation to the goals and objectives of this study.

STEP 1:

Screening of the Long List of Potential Alternatives

A long list of potential alternatives was created in fall 2016 for both the FCHT Gap Closure connection and the spur to the CT***fastrak*** station in downtown New Britain. These alternatives were developed by stakeholders and the public through a series of community and stakeholder meetings. A more detailed overview of the long list of potential alternatives is provided in Attachment C. There were 14 identified alternatives in Plainville and 5 to connect with the CT***fastrak*** station in New Britain. These alternatives particularly explored:

- Previous studies
- Employment and commercial connectivity
- Parks and recreation connectivity
- School connectivity

Alternatives Screening

All alignments were screened against the 6 criteria listed in the Screening Framework table on the next page. Thresholds were established to determine if concepts clearly passed (or did not clearly fail) screening questions. If a concept passed all screening questions it was moved forward into the evaluation step. Alternatives that did not pass one or more of the screening questions were dropped from further consideration.

Plainville Screening Results

The 14 alternatives in Plainville were screened by the Steering Committee, out of which 3 alternatives moved forward to the next step, evaluation. In addition, a baseline alternative was moved forward into the next step that – though it did not meet the screening criteria – had served as the preferred alternative from the previous study in Plainville (2009 "Master Plan Report: Design Study of a Multiuse Trail"). Screening results are summarized in the table on the following pages.

Four criteria were critical in narrowing the list of potential alternatives: major off-road component; major right-of-way impacts; avoiding undue reliance on the rail right-of-way; and not overly circuitous. Connections with the FCHT and connections to Downtown were not shown to be a differentiator.

New Britain Screening Results

New Britain alternatives were also screened by the Steering Committee. The same set of screening criteria were used for the New Britain alternatives. One off-road and one on-road alignment moved forward to the next step, evaluation. The on-road alignment was forwarded to serve as a baseline alternative, against which the off-road alternative could be compared.

Alternatives Screening Framework

	SCREENING QUESTIONS	THRESHOLD
1	**Does the alternative connect at the north and south ends with the FCHT (constructed, or in design)? In New Britain, does the alternative connect at the west end with the FCHT and at the east end at the CT*fastrak* station?**	**Plainville** ► Connects at north end with Northwest Drive between Route 10 and Route 177 ► Connects at south end with Town Line Road between Route 10 and Route 177 **New Britain** ► Connects with FCHT alignment at west end ► Connects with CT***fastrak*** station at east end
2	**Does the alternative connect with downtown?**	**Plainville** ► Connects with Route 372 (Main Street) no further east than Woodford Avenue ► Connects with Route 372 (Main Street) no further west than Route 177 **New Britain** ► Connects downtown Plainville with CT***fastrak*** station
3	**Does the alternative have a major off-road element?**	► More than 75% off road, to get as close as possible to East Coast Greenway goals of 100% off-road trail facility
4	**Can the alternative be constructed without significant right-of-way impacts?**	► Fewer than 30 right-of-way impacts
5	**Does the alternative avoid undue reliance on Railroad right-of-way?**	► Avoids requiring portions of path being constructed within the railroad east/west Branch right-of-way ► Avoids having three or more at-grade crossings of the railroad east/west Branch ► Avoids requiring impacts to rail yard
6	**Does the alternative avoid being overly circuitous (for no apparent reason)?**	► Not more than double straight-line distance between Northwest Drive and Town Line Road in Plainville, and between downtown Plainville and the CT***fastrak*** station in New Britain.

Development of the Short List of Alignments

In the Spring of 2017, the Steering Committee identified a shortlist of practical and feasible alignments for further evaluation. The technical team considered public comments when preparing assumptions for the shortlisted alignments.

FCHT Gap Alignments

Plainville alignments were evaluated separately north of downtown (vicinity of Route 372 in maps that follow) and south of downtown, recognizing that any of the alignments north of downtown could be matched with any of the alignments south of downtown.

- **Alignment A:** The baseline alternative from the 2009 Master Plan Report. North of downtown the trail follows the east side of the railroad, then switches to on-road facilities along Robert St Extension, Farmington Ave, and Main St. South of downtown the trail continues southbound on Pierce St connecting to on-road facilities on Broad St and Hemingway St, through Norton Park and along Robert Jackson Way. Alignment A was explored both as it was laid out in the 2009 Master Plan, and optimized to maximize the alignment's off-road component.
- **Alignment B:** North of downtown and east of the railroad, the trail follows a new boardwalk through marshland, then continues over a dedicated trail flyover connecting to East Main St. South of downtown, the trail continues southbound on an off-road facility adjacent to Pierce St connecting to the historic canal for the remainder, via Norton Park.
- **Alignment C:** North of downtown and west of the railroad, the off-road facility follows Northwest Drive to Perron Road and Carling Technologies, connecting with the Town Transfer Station. It continues under Route 72 and along the edge of the West Cemetery to N. Washington St where it connects to the Fire Department. South of downtown, Alignment C is the same as Alignment B.
- **Alignment D:** North of downtown and east of the railroad, the trail follows a new boardwalk through marshland, then continues to off-road facilities along Robert St Extension, Cronk Rd, Norton Pl, and on-road facilities on Main St. South of downtown the trail continues on Pierce St connecting to a portion of the historic canal. It continues along on-road facilities on Pearl St, and off-road facilities on Willis Ave and Hemingway St to Norton Park. South of Norton Park it terminates at Town Line Road via Robert Jackson Way.
- Maps illustrating these Alignments are provided in Attachment C

Downtown New Britain CT*fastrak* Trail Alignments

An off-road and an on-road alignment were developed between Plainville and New Britain to the CT***fastrak*** station. Alignments E and F.

- **Alignment E:** The off-road trail starts at East Main St and Pine St, and continues eastbound along Woodford Ave, and along the Route 72 sound barrier wall. In New Britain, it connects to CT***fastrak*** via existing bike lanes on Columbus Blvd.
- **Alignment F:** The trail starts at East Main St and Pine St, and continues eastbound along Woodford Ave to on-road facilities on White Oak Ave/Black Rock Ave. In New Britain, it connects to CT***fastrak*** via Lincoln St and Main St.

Alignments Evaluation Framework

	CATEGORY	WEIGHT	MEASURE
1	**Off-road**	**30%**	► Percentage of off-road or protected facility
2	**Safety**	**20%**	► Number of driveways and roadways intersecting the trail ► Level of traffic stress (LTS) of on-road facilities (source: Figure 6 of this report)
3	**Connectivity**	**15%**	► Number of households within a quarter mile of trail (source: ESRI Business Analyst 2016 data) ► Number of public/quasi-public facilities accessed by trail
4	**Security**	**10%**	► Number of access/egress points along trail
5	**Right-of-Way**	**10%**	► Number of parcels overlapping with trail and level of right of way coordination ► Ease of access during construction and overall constructability
6	**Environment** (for Plainville only)	**10%**	► Square feet of wetlands within 10' of trail (source: Connecticut Department of Energy and Environmental Protection or CTDEEP) ► Linear distance of floodplain along trail (source: CTDEEP) ► Number of NDDB (endangered, threatened and special concern species) areas traversed (source: CTDEEP) ► Number of hazardous material ("haz mat") locations within 10' of trail (source: CTDEEP) ► Overlap with historic properties or parkland
7	**Cost**	**5%**	► Order of magnitude cost estimates and maintenance considerations

STEP 2:
Alignments Evaluation

A series of 7 categories with goals were developed through input from the Steering Committee, stakeholders, and the public:

- **Off-road:** Higher percentage of off-road facilities is more favorable.
- **Safety:** Lower potential for vehicular conflicts is more favorable.
- **Connectivity:** Nearby residential population, and greater number of recreational amenities is more favorable.
- **Security:** Greater access and egress potential is more favorable.
- **Environment:** Fewer impacts to natural or cultural resources is more favorable.
- **Right-of-way:** Fewer constructability challenges, and fewer impacts to the community is more favorable.
- **Cost:** Fewer major cost elements is more favorable.

Category Weighting

Each category was weighted based on input from the Steering Committee, Technical Team and Public. These weightings are as listed below:

- Facility Type (if a facility is on road, off road or adjacent to a road) – 30 percent
  Safety - 20 percent
- Connectivity – 15 percent
- Security - 10 percent
- Environmental Considerations – 10 percent
- Potential Right-of-Way Easements or Acquisitions – 10 percent
- Cost –5 percent

See Evaluation Framework table for details.

Scoring

Alignments were evaluated by the Steering Committee against each other through scoring. Scoring was conducted on a qualitative level as follows:

- High: A high rating represented that the alignment fully met the intent of the category, either in isolation or when compared to other alignments.
- Moderate: A moderate rating represented that the alignment partially met the intent of the category, and partially achieved its goals.
- Low: A low rating represented that the alignment did not meet the intent of the category, either in isolation or when compared to other alignments. The higher the score, the better the Alignment performed in relation to criteria.

The following chart illustrates the weighted evaluation results for each of the shortlisted alignments in Plainville and New Britain. Chapter 4 provides the most accurate description of Alignment C,whichwasrefined following its identification as the preferred Alignment. A companion report will be developed to describe Alignment E.

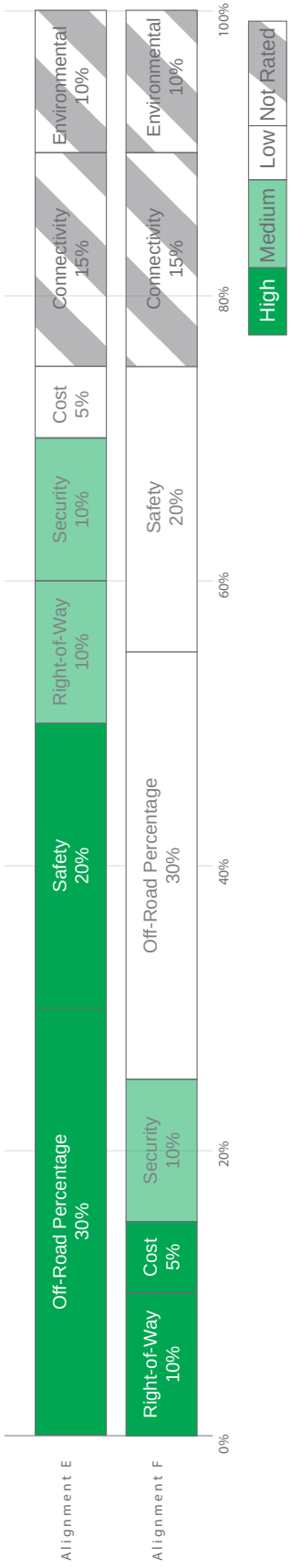
Weighted Results of Plainville Alignments

Overall Performance of Plainville FCHT Alignments

	PERFORMS WELL	PERFORMS POORLY
Alignment A	**(Pros)**	**(Cons)**
Full	Lowest cost of all alignments, with minimal overlaps with natural and cultural resources.	Lowest off-road percentage of all alignments with highest potential for vehicular conflicts. Railroad right-of-way not available.
Optimized	When off-road facilities are provided south of downtown, potential for vehicular conflicts decreases to some degree.	When off-road facilities are provided south of downtown, right-of-way conflicts and costs increase.
Alignment B		
North of Downtown	Few driveways and intersections crossed. Connects to YMCA.	Difficult construction with highest cost and right-of-way impacts to build the flyover.
South of Downtown	Off-road percentage is 100% with very few safety concerns. Opportunity to educate public about historic canal.	Overlaps with full length of historic canal, and Norton Park potentially requiring regulatory review.
Alignment C		
North of Downtown	Off-road percentage is 100% with very few safety concerns. Lowest number of wetlands and floodplain overlaps. Second lowest cost of all alignments.	None.
South of Downtown	Off-road percentage is 100% with very few safety concerns. Opportunity for interpretive signage along historic canal.	Overlaps with full length of historic canal, and Norton Park potentially requiring regulatory review.
Alignment D		
North of Downtown	Connects to YMCA.	Limited potential for access/egress along boardwalk section. Highest number of wetlands and floodplain overlaps. Vehicular conflicts along Main St.
South of Downtown	Fewer parcel overlaps, compared to Alignments B/C because trail doesn't continue along full length of canal.	Lower off-road percentage, compared to Alignments B/C.

The four alignments were scored as "high", "medium", and "low", and weighted, for each measure. The evaluation process resulted in a recommended "Alignment C" for Plainville because of its percentage of off-road facilities, and safety benefits.

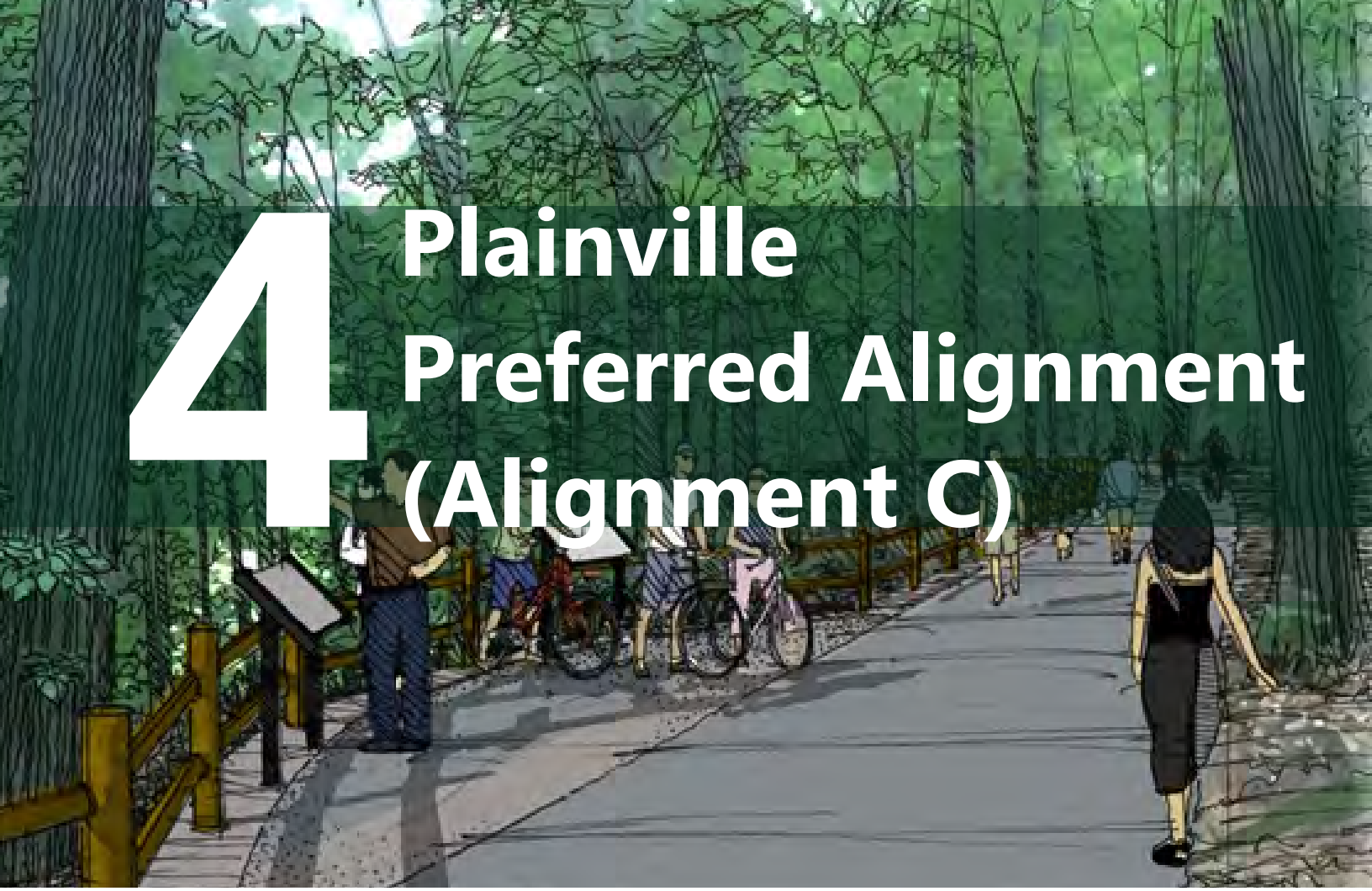
Weighted Results of New Britain Alignments



Overall Performance of New Britain CTfastrak Trail Alignments

The two alignments were scored as "high", "medium", and "low", and weighted each measures. The evaluation process resulted in a recommended "Alignment E" for New Britain because of its percentage of off-road facilities, and safety benefits.

	PERFORMS WELL (Pros)	PERFORMS POORLY (Cons)
Alignment E	Off-road percentage is 92%. Lowest potential for vehicular conflicts, compared to Alignment F.	Higher cost compared to Alignment F, with more right-of-way overlaps.
Alignment F	Lower costs and no major right-of-way overlaps, compared to Alignment E.	Off-road percentage is 25%, with higher potential for vehicular conflicts, compared to Alignment E.



4 Plainville Preferred Alignment (Alignment C)

Introduction

The preferred alignment in Plainville is Alignment C (see Chapter 3 Alternatives Analysis). It is also referred to as the "Western Alignment." As currently envisioned, the preferred alignment is a 5.3-mile multi-use trail extending from Northwest Drive to Town Line Road in Plainville. Nearly the entire length of the preferred alignment consists of off-road multi-use trail. This alignment is at times referred to as the Western Alignment in that, unlike the other alignments considered, it remains entirely west and outside of the railroad right-of-way throughout Plainville.

This report focused on Alignment C. A companion report will be prepared to describe the preferred alignment (Alignment E) that connects to the CT***fastrak*** station in New Britain.

As described in Chapter 3, there are several reasons why this alignment was put forward as the preferred alternative. The first is its potential to remain "off-road." An off-road facility is generally defined as a multi-use trail physically separated from automobile traffic. This is important for a few reasons:

- **Safety** – off-road facilities are considered to be safer. Fewer points of interaction between bicycles and pedestrians and vehicles results in a reduced potential for crashes. Alignment C minimizes the number of roadways crossed at-grade, does not require an at-grade crossing of the railroad, and minimizes the number of driveways crossed compared with other alternatives.
- **Comfort** – related to the above, off-road alignments are cited as more

comfortable trails to use by a variety of user groups[2]. Families with small children and infrequent trail users in particular have been found to be more likely to use an off-road facility than one that is on-road or directly adjacent to a busy roadway with no separation. An on-line survey created for the project, with 328 respondents, indicated similar results with more than 80 percent of respondents stating they would be "definitely" willing to use an off-road, multi-use path facility compared to only 10 percent of respondents responding they would "definitely" use a shared roadway facility.

- **Direct** – Alignment C is also the most direct of the alignments considered, at 5.3 miles in length. The corridor allows for some meandering and exploration, while also providing function for members of the community to use the trail in a utilitarian way, to get to a destination.
- **Use of Town-and State-Owned Property** – the preferred alignment minimized right-of-way and environmental concerns by using Town-or State-owned property wherever possible.

Alignment C was first identified as a preliminary preferred alignment at the July 2017 project Steering Committee meeting, and following that meeting community and stakeholder meetings were held to discuss and refine the alignment to maximize its performance and minimize its impacts. Three substantial changes were made to the alignment between what was assumed in the Alternatives Analysis and the preferred alignment described in this chapter:

1. **Shift away from Perron Road** – Alignment C remains on the east side of Perron Road between Northwest Drive and Johnson Avenue, but earlier versions of the alignment continued the trail down Perron Road to the Tomasso Nature Park. Following conversations with the community and with Carling Technologies, a property owner located west of Robertson Airport, south of Johnson Avenue, the alignment was shifted

Parking lot for FCHT at Northwest Drive

2 Federal Highway Administration, 2012. Bicycle Road Safety Audit Guidelines. Available at https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa12018/.

away from Perron Road, to the west portion of the Carling Technologies property.

2. **Use of Plainville Transfer Facility** – Earlier versions of Alignment C traversed the Tomasso Nature Park, using an existing paved trail through portions of the park. Following conversations with the Town, the community, and Carling Technologies, the trail was shifted east to remain on the Town-owned transfer station site. This keeps the trail outside the Nature Park, which currently does not allow bicycles. It introduces cost and wetland impacts through the construction of new trail, some of which is assumed to require boardwalk.
3. **Shift away from Historic Canal Alignment between Broad Street and Norton Park** – earlier iterations of Alignment C showed use of the historic canal alignment south of Broad Street, connecting with Norton Park. Following conversations with CTDOT and the Town of Plainville, this was shifted to use Broad Street to the rear of Hemingway Street, due to concerns over impacts to residences whose properties back to the historic canal alignment. This change increased the overall length of the alignment, and increased potential wetlands impacts as the historic canal alignment between Broad Street and Norton Park is not considered wetland, whereas sections of the current alignment (portions of the alignment west of Hemingway Street, between Broad Street and Norton Park) are considered wetland.

Other refinements have been made throughout the Preferred Alignment in respect to connections with community members and resource agencies. These refinements are noted throughout this chapter where made.

A large-size overview map of Alignment C is provided at the front of this report, but **Figure 7** provides an illustrative overview of the alignment. It is described in more detail over the following pages, which are organized into three sections from north to south:

- **North Section** – Begins at the intersection of Northwest Drive and Johnson Avenue and extends south to the N. Washington Street (Route 177) crossing of the Pequabuck River.
- **Downtown Section** – Begins at the southern terminus of the North Section, the alignment extends east and south to the intersection of Pierce Street and Broad Street.
- **South Section** – From the intersection of Pierce Street and Broad Street this section covers the connection to Norton Park, and the connection with the Town of Southington's segment of the Farmington Canal Heritage Trail, at Town Line Road.

Unless stated otherwise, it is assumed that Alignment C is to be designed and constructed to standards set forth by the CTDOT and the American Association of State Highway Transportation Officials (AASHTO), the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD), the Americans with Disabilities Act (ADA), Guidelines of the Public Right-of-Way Accessibility Guidelines (PROWAG) and would be between 10' and 12' in width.

Alignment C was created with input from the community as received during meetings and online forums during Fall 2016 and Spring 2017. This alignment has been refined to reflect input received by members of the community during the summer and fall 2017, and during the public comment period of the draft report, as a way to avoid or minimize impacts to sensitive resources, and to optimize the alignment for users. Input

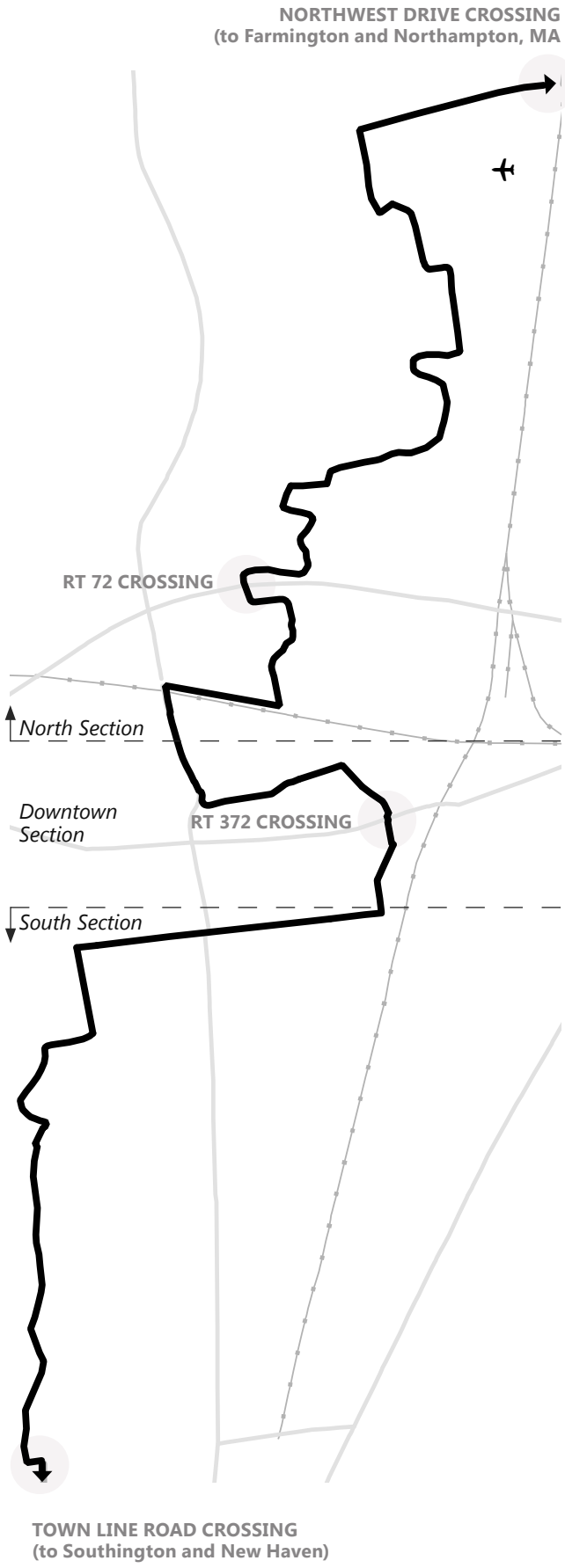
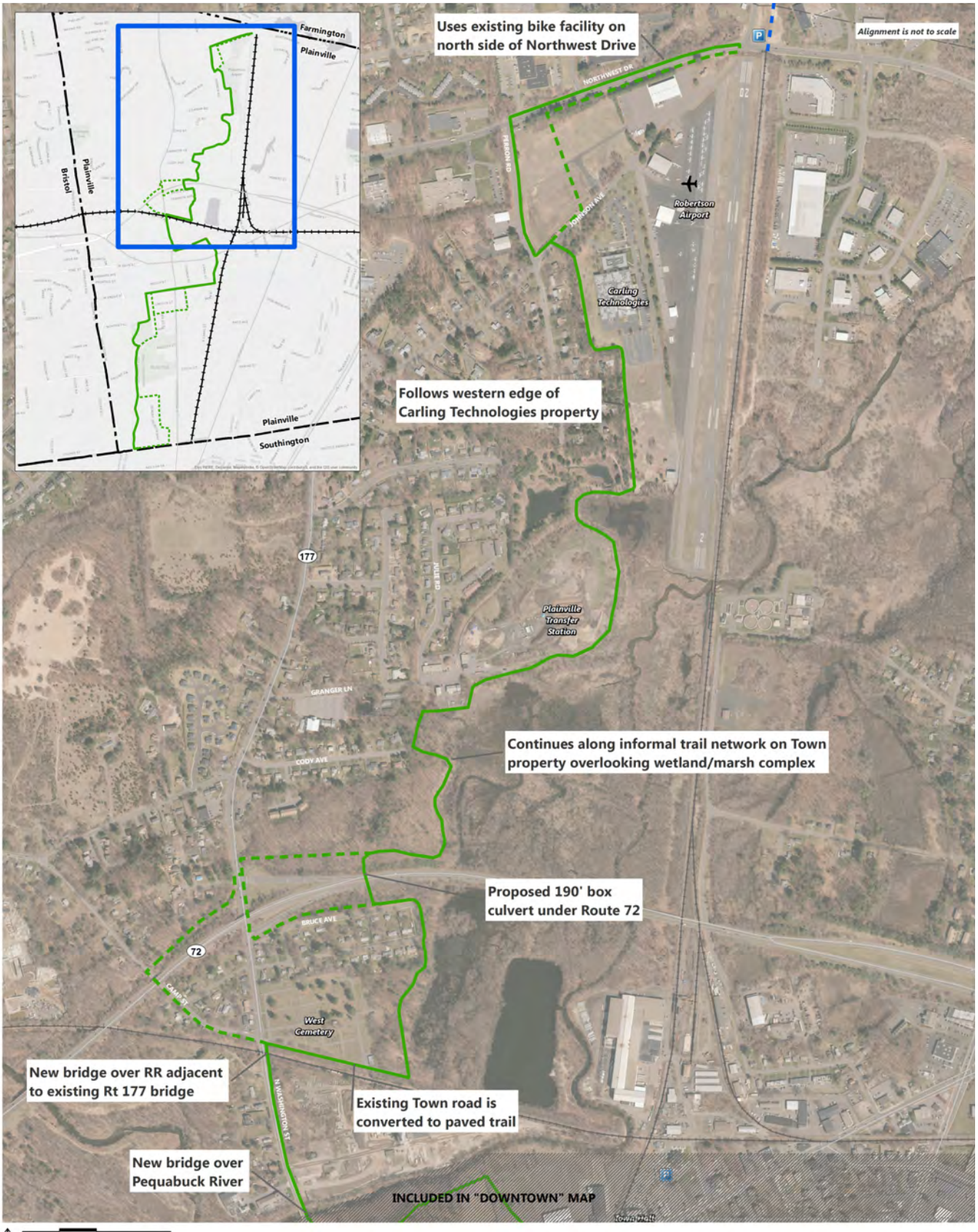


Figure 7 *Illustrative Overview of Preferred Alignment C*

Alignment C Overview (refined)

NORTH OF DOWNTOWN	SOUTH OF DOWNTOWN
Off-road	
100%	Up to 98%
Safety	
Roughly 7 driveways and 3 roadways intersecting the trail. No Level of Traffic Stress (LTS) concerns.	Roughly 4 driveways and 4 roadways intersecting the trail. No Level of Traffic Stress (LTS) concerns.
Connectivity	
1,050 households, vistas of wetlands, and downtown.	1,500 households. Good connectivity with Norton Park, and runs along a portion of the historic canal towpath
Security	
Continuous access/egress along the trail with 3 potential trailheads.	Somewhat limited access/egress along historic canal south of Norton Park.
Right-of-way	
Overlaps with 8 parcels. Good construction access, but includes construction of a box culvert under Route 72 with potential impacts to traffic.	Overlaps with 8 residential or industrial parcels between Broad St and Town Line Rd, with narrow and wet construction area south of Norton Park.
Environment*	
▪ 40,000 sf of wetland impact, 0.7 mile of impact to the 100 year floodplain. One Natural Diversity Data Base (NDDB) area impacted. ▪ 0 hazardous materials locations. ▪ No known historic resources.	▪ 52,000 sf of wetland impact, 0.3 mile of impact to the 100 year floodplain. No Natural Diversity Data Base (NDDB) areas impacted. Potential 4f evaluation. ▪ 0 hazardous materials locations. ▪ Overlaps with a portion of historic canal towpath, and overlaps with Norton Park potentially requiring regulatory review.
Cost	
$7-8 million, with moderate maintenance costs for Route 72 tunnel.	$7-8 million, with moderate maintenance costs south of Norton Park.

** Impacts calculated using a 20' wide path of construction disturbance*



Project Statistics
Alignment C is a proposed:
- 5.3 miles long,
- 10-12' wide,
- bituminous,
- 98% multi-use trail.

Gap Closure Study | Hartford County, CT

Figure 8 **Alignment C - 5.3 Miles | North Section**

Source Information: Map and Geographic Information Center - University of Connecticut, US Census Bureau
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Disclaimers: The alignment shown is preliminary and not to scale. It is for planning purposes only. Alignments are subject to change as the planning study progresses. Labels represent potential options for the trail, should it be built. They do not represent a final design and are subject to change during the design process.

from the community is discussed throughout each of the sections that follow.

Public involvement will continue to be an important element of the project as it moves into the design phase.

North Section

The North Section of the preferred alignment extends from Northwest Drive to North Washington Street at the southern bank of the Pequabuck River. At the north end, it connects with the Town of Farmington's section of the FCHT. When completed it will be an interesting and attractive amenity that travels through many different environments including the Robertson Airport, proximity to the Tomasso Nature Park as seen from the Town-owned Transfer Station parcel[3], a wetlands complex, the West Cemetery, and N. Washington Street.

Figure 8 provides an overview of the preferred alignment in the North Section. Detailed map sheets of this alignment, which show assumptions employed throughout, are provided as Attachment D.

Northwest Drive to Route 72

In this early planning phase, the trail is assumed to remain on the north side of Northwest Drive between where the Town of Farmington's section of the FCHT ends at the 28-stall (4 accessible spaces) parking lot and Perron Road.

There is an existing shared use path on the north side of Northwest Drive, and it is anticipated that the project would reconstruct the path to widen it to 10', largely in its existing location.

The trail would cross Northwest Drive at Perron Road using a crosswalk and/or an active pedestrian crossing device continuing along the east side of Perron Road as a side path to Johnson Avenue. The path follows Johnson Avenue north for a few feet before crossing the roadway at-grade and entering Carling Technologies property.

The trail would continue south on the west side of the Carling Technologies property, between the current building and the property line, to connect with the Town of Plainville Transfer Station property. To allow for future expansion of Carling Technologies, the alignment would follow the western edge of the property line to the extent feasible, allowing for considerations of grade, vegetation, and privacy for the residents of Perron Road. The alignment remains outside of the Tomasso Nature Park, but visitors to the park could access the trail if they wished, as it will be directly to the east on property currently held by Carling Technologies and the Town Transfer Station. Within the Transfer Station parcel, the trail remains on the eastern edge, with views of the existing wetlands complex and Robertson Airport. A visualization shown in **Figure 9** shows an illustrative view from the Town parcel with the trail in place. This visualization, and all those that follow, are based on actual photos from this section of the future trail, illustrating what users could experience along the trail.

The trail turns west along the southern edge of the Transfer Station, and then turns south and travels along town-owned property on the top of slope overlooking an existing wetlands

3 The Town of Plainville plans to close the transfer facility and place a cap, or cover, on it to isolate and avoid spreading contamination

Figure 9 *Illustrative view of wetlands area from future trail on Town of Plainville Transfer Station property*

complex. **Figure 10** shows a visualization of what the trail could look like in this area.

Public Feedback

Robust public feedback was received on this section of the alignment, largely from residents concerned about privacy, crime (including vandalism or graffiti), liability, and impacts to wildlife. Earlier iterations of the trail were routed along Perron Road and inside Tomasso Nature Park. These concerns have been addressed with the current alignment, which avoids Tomasso Nature Park. Some privacy concerns still exist among property owners and residents along Perron Road. A request has been received to consider shifting the alignment further to the east during the design phase.

Considerations for Design Phase

In addition to the preferred alignment as previously described, several constrained locations and/or areas where further enhancements can be realized were identified by the Steering Committee and vetted with the community. These include:

- Northwest Drive to Johnson Avenue – an alternate to routing the trail on the north side of Northwest Drive is to cross Northwest Drive at-grade at the current terminus of the Town of Farmington's section of the trail, and have it travel west on the south side of Northwest Drive then turning south crossing town-owned property to meet the Carling Technologies property through a mid-block crossing of Johnson Avenue.
- Carling Technologies – the specific alignment on the Carling Technologies property remains to be determined but needs to balance the property owner's desire to potentially expand their building footprint in the future with the privacy concerns of property owners along Perron Road.

Figure 10 *Illustrative view of wetlands area from future trail south of Cody Avenue*

Screening options will be discussed with residents during the next project phase.

- Transfer Station - further work is required as the trail extends south to the town-owned transfer station property, navigating grades and wetland features. A short stretch of elevated boardwalk may be necessary. Further analysis will be needed for construction activities on or near the transfer facility.
  - Lighting for this section of the trail may be appropriate. The effort during design will look to balance safety and security with the natural aesthetic of this section of trail
  - Wildlife – this part of the trail traverses a quiet natural park environment where wildlife are present. Further review of the presence of wildlife and habitat will be conducted in project development
- Potential for Parking near the Transfer Facility – there is potential for a few parking spaces to be located near Granger Lane and Cody Avenue that could be used by visitors to Tomasso Nature Park and users of the trail. There is currently no designated parking for Tomasso Nature Park and it appears that visitors are parking in spaces designated for the Plainville Public Works Department. Potential for parking also exists near the intersection of Route 177 and the Route 72 Exit 1 off ramp.

Figure 11 *Visualization of potential culvert under Route 72*

Route 72 to the Pequabuck River

The preferred option to cross Route 72 is to do so via a 190' culvert under the highway near Exit 1. Route 72 is built on an elevated berm in this section and in the planning phase a culvert appears feasible. Geotechnical explorations would be required as the project enters design to confirm that a culvert is feasible. **Figure 11** shows an illustration of what the culvert could look like in this location.

Due to the lack of geotechnical data/ analysis, two alternative alignments have been identified for crossing Route 72. These are:

- **Alternate Routing #1** – the path could extend to the west to the intersection of Route 177 and Day Street. The alignment would then turn south, crossing the Route 72 Exit 1 off-ramp, traveling under Route 72, crossing the Route 72 Exit 1 on-ramp before turning back east within the State Route 72 right-of-way. This is not the preferred concept because it would bring users in conflict with heavy traffic flows at the Route 72 Exit 1 on/off ramps. The Route 72 on-ramp in particular is a free-flowing right turn, and additional analysis would be needed to determine how to navigate bicyclists and pedestrians through this area. In addition, both intersections would require significant redesign and modified signalization.
- **Alternate Routing #2** – the path could extend to the west, crossing Route 177 at Day Street to the west side and enter state right-of-way and continue west to Camp Street. This alternate then turns south as a side path along the south side of Camp Street until its intersection with Route 177. The trail would cross Route 177 again, joining the original preferred alignment as a side path along the

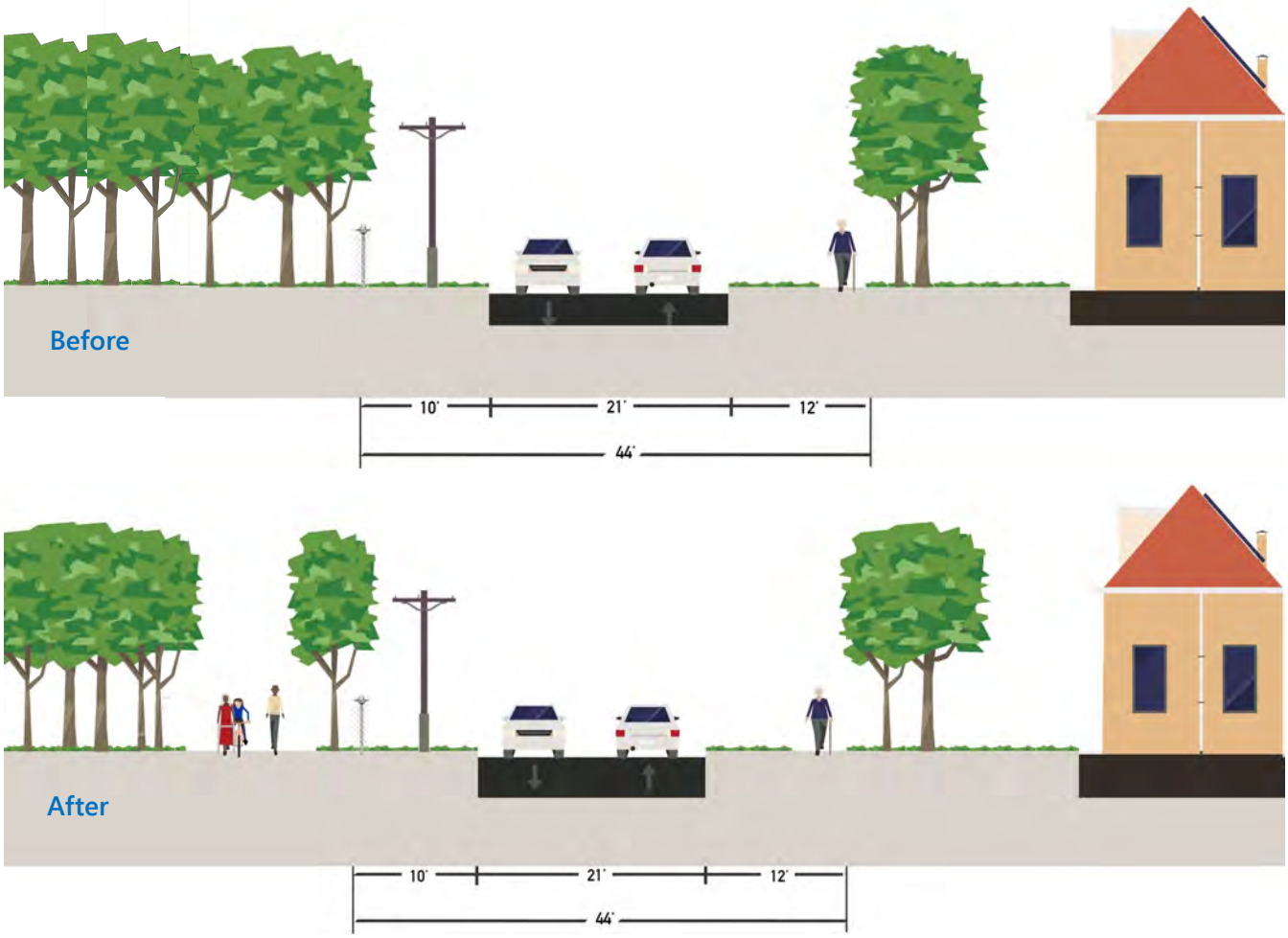


Figure 12 *Preferred alignment adjacent to Bruce Avenue*

eastern edge of Route 177. This is not the preferred concept because of its circuitous nature and because it requires two at-grade roadway crossings – one at the location of the Route 72 Exit 1 off-ramp and at the intersection of Camp Street and Route 177.

South of Route 72, the preferred alignment travels east, parallel to and north of Bruce Avenue within state-owned right-of-way. This is true both for the preferred alignment and alternate routing #1. The illustration in **Figure 12** shows the approximate location of the trail in relation to the North side of Bruce Avenue, between Route 177 and King Street.

The preferred alignment travels south adjacent to King St and behind the West Cemetery to a disused town-owned right-of-way, then west to the eastern edge of North Washington Street (Route 177). The alignment would then turn south as a side path, behind the curb on the east side of North Washington Street crossing the railroad tracks via a 40' proposed pedestrian bridge over the existing rail bed.

The trail would continue south following the eastern edge of North Washington Street until crossing the Pequabuck River via a proposed 40' pedestrian bridge. Both bridge structures would be within the State's existing roadway right-of-way. **Figure 13** provides an illustration of what the trail would look like as it crosses the Pequabuck River.

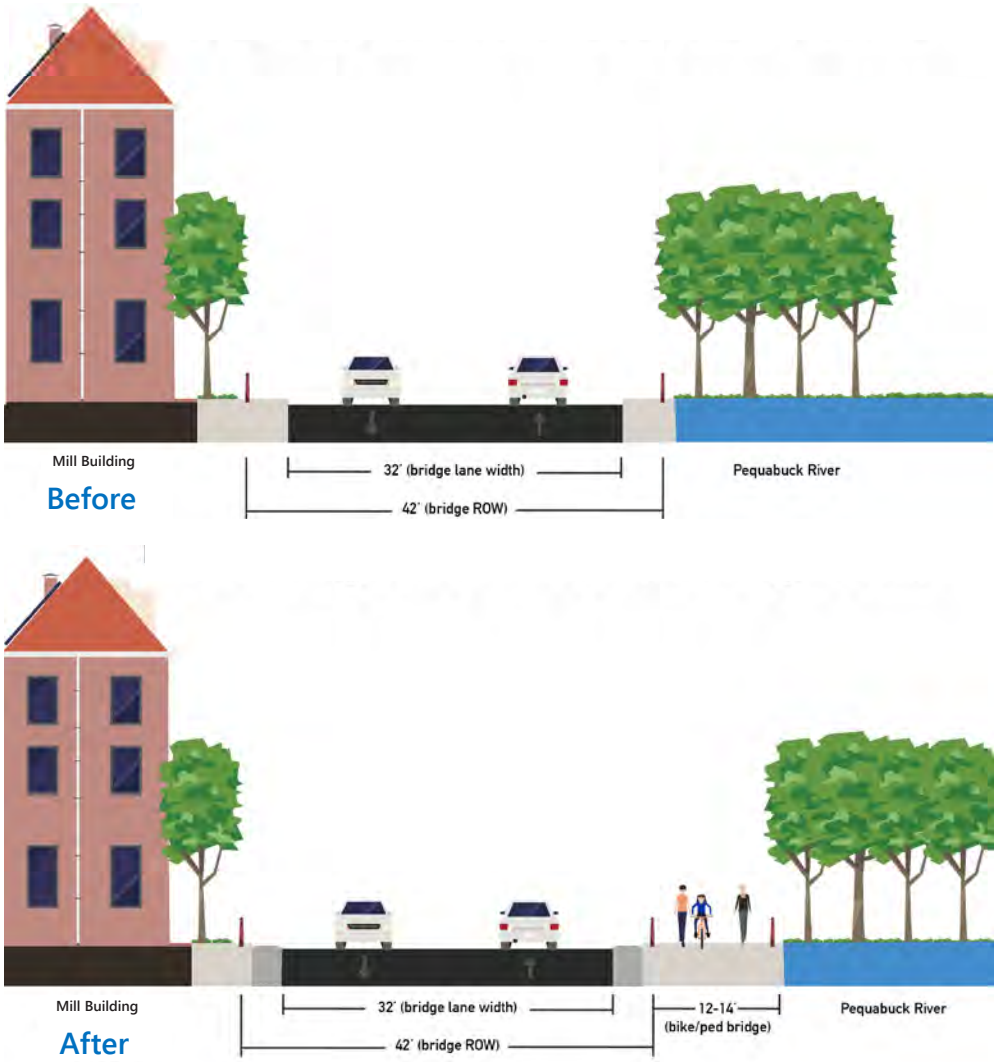


Figure 13 *Side path adjacent to Route 177*

Public Feedback

- Some members of the community voiced concern about the potential cost of building a culvert under Route 72. This is addressed in part by having the alternate routing in place so comparisons can be made during the design phase. It should also be noted that Camp Street alternative could have privacy concerns as well that should be balanced against the costs of the Route 72 culvert.
- Noise from Route 72 – some residents asked about the removal of trees to build the trail south of Route 72, citing that these trees serve as a noise buffer for residents along Bruce Avenue. Only a small percentage of trees are assumed to be removed.
- Others voiced concern about poor drainage and flooding on Franklin Avenue while others questioned the alternate routing along the eastern edge of Route 177 across the Route 72 on-and off-ramps. See considerations for design phases. One member of the public at the October 2017 public meeting voiced concern about hazardous materials carried by train cars traveling along the section of railroad near Route 177 and the West Cemetery.

Considerations for Design Phase

In addition to the preferred alignment as previously described, several constrained locations and/or areas where further

enhancements can be realized were identified by the Steering Committee and vetted with the community. These include:

- Crossing Route 72 – geotechnical explorations will be an important item to conduct early in the design phase, to determine the feasibility of building a culvert under Route 72. If it is proven to be infeasible, additional analyses will be needed on the two alternate alignments to determine methods to safely cross the Route 72 access ramps or to cross Route 177.
- Drainage in vicinity of Franklin Avenue – residents raised a concern about the existing drainage issues in the vicinity of Franklin Avenue. During the design phase the project team should explore (if the culvert under Route 72 is feasible) how to resolve these drainage issues with the project to ensure that they are not detrimental.

Downtown Section

The Downtown Section of the preferred alignment picks up where the North Section leaves off – from North Washington Street at the southern bank of the Pequabuck River, continuing east following the southern bank of the river, crossing West Main Street (Route 372) near Pierce Street, and continuing down Pierce Street to Broad Street. This section of the trail brings users right near the heart of downtown Plainville, and will provide a direct and easy connection to the trail for those who may otherwise be unfamiliar with the town's geography.

Figure 14 provides an overview of the preferred alignment in the Downtown Section. Detailed cut sheets of this alignment, which show assumptions employed throughout, are provided as Attachment D.

The alignment crosses the rear portion of seven residential parcels as it traverses from North Washington Street to the Plainville Fire Department. Care has been taken to keep the trail alignment as close to the Pequabuck River as possible, to bring users to this beautiful natural resource, provide river access, and keep the trail as far as possible from buildings and the developable portions of these seven parcels as possible, while being cognizant of the environmental

View of the Pequabuck River between N. Washington Street to the Plainville Fire Department

Town Boundary
Active Rail
Robertson Airport
Alignment C - 5.3 Miles - 98% Multi-Use Trail
Potential Alternates

Project Statistics
Alignment C is a proposed:
- 5.3 miles long,
- 10-12' wide,
- bituminous,
- 98% multi-use trail.

Gap Closure Study | Hartford County, CT

Figure 14 **Alignment C - 5.3 Miles | Downtown Section**

Source Information: Map and Geographic Information Center - University of Connecticut, US Census Bureau
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Disclaimers: The alignment shown is preliminary and not to scale. It is for planning purposes only. Alignments are subject to change as the planning study progresses. Labels represent potential options for the trail, should it be built. They do not represent a final design and are subject to change during the design process.

constraints that exist including wetlands, floodplain and the floodway. Some of this section of the trail is assumed to be on boardwalk to address these environmental constraints.

Once connecting with the Town of Plainville's Fire Department property the trail would turn south, cutting across the easterly edge of the property adjacent to, and directly to the east of the Fire Department. Options exist for how to connect across West Main Street (Route 372) but the assumptions outlined in the alignment maps are to use the crosswalk that exists currently, on the western edge of the intersection of West Main Street (372) and Pierce Street.

Crossing West Main Street is both a challenge and an opportunity. The challenge is that West Main Street is a state highway (Route 372) and has the highest traffic volumes in Plainville. Traffic count information revealed that travel speeds are higher than posted speed limits. At this intersection. The opportunity is that the trail crossing will be an investment that will reduce speeds and improve safety for all traffic (including bicycle and pedestrian traffic) along West Main Street. The crossing will require consideration in design towards:

- Slowing traffic
- Improving visibility
- Clearly channeling bicyclist and pedestrian traffic to one place
- Maintaining mobility for all users

From the south side of West Main Street, the trail would travel south along Pierce Street to its intersection with Broad Street. The connection of Pierce Street and West Main Street is narrow and therefore an on-street facility is envisaged for a short stretch, between West Main Street and the northern driveway to the Old Mill Condominium complex. South of this transition point, two options have been developed:

- **Option #1** – an on-road facility which would consist of shared-lane markings (sharrows) on Pierce Street in both the northbound and southbound direction
- **Option #2** – an 8' off-road facility which could be constructed on either the east or west side of Pierce Street.

Figures 16 and Figure 17 illustrate these two concepts in cross sections.

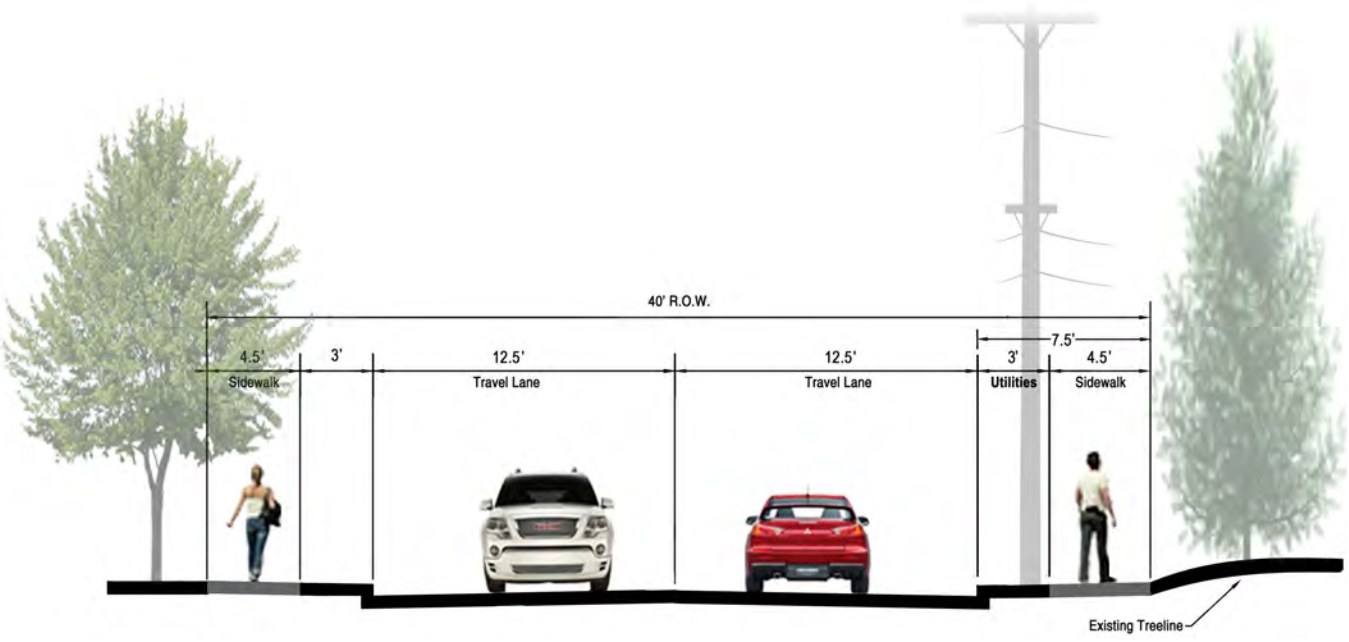


Figure 15 *Pierce Street Existing Conditions*

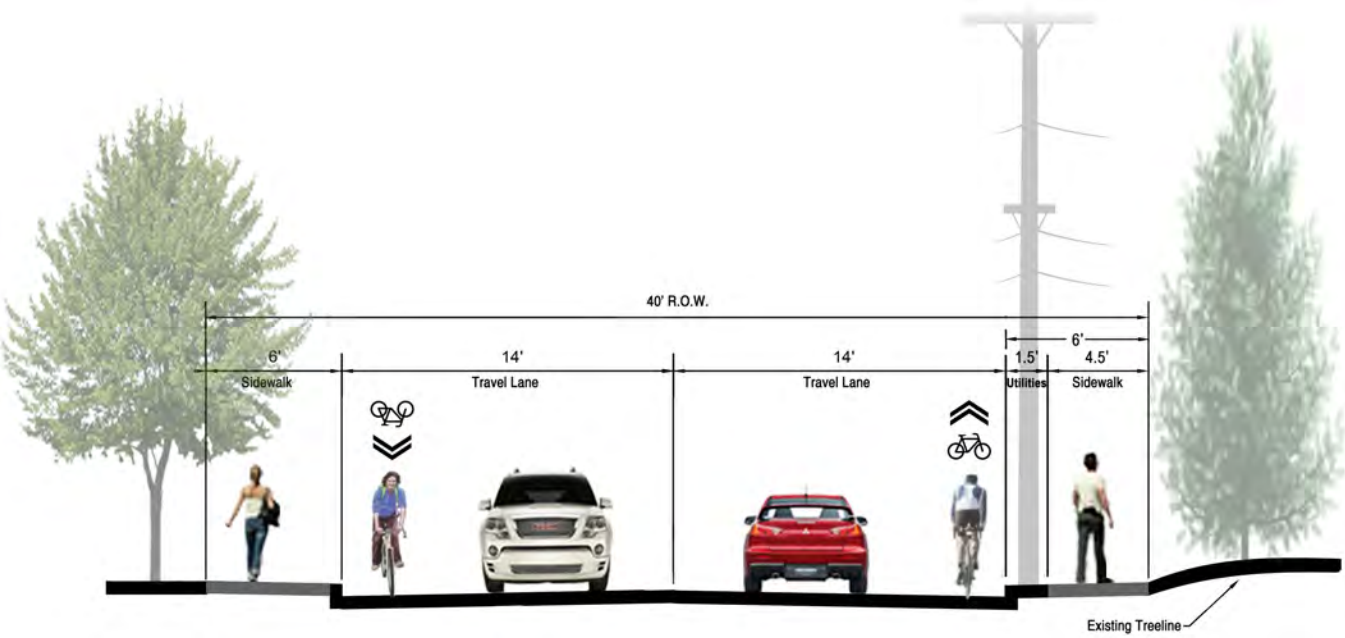


Figure 16 *Option #1: Pierce Street On-Road Facility*

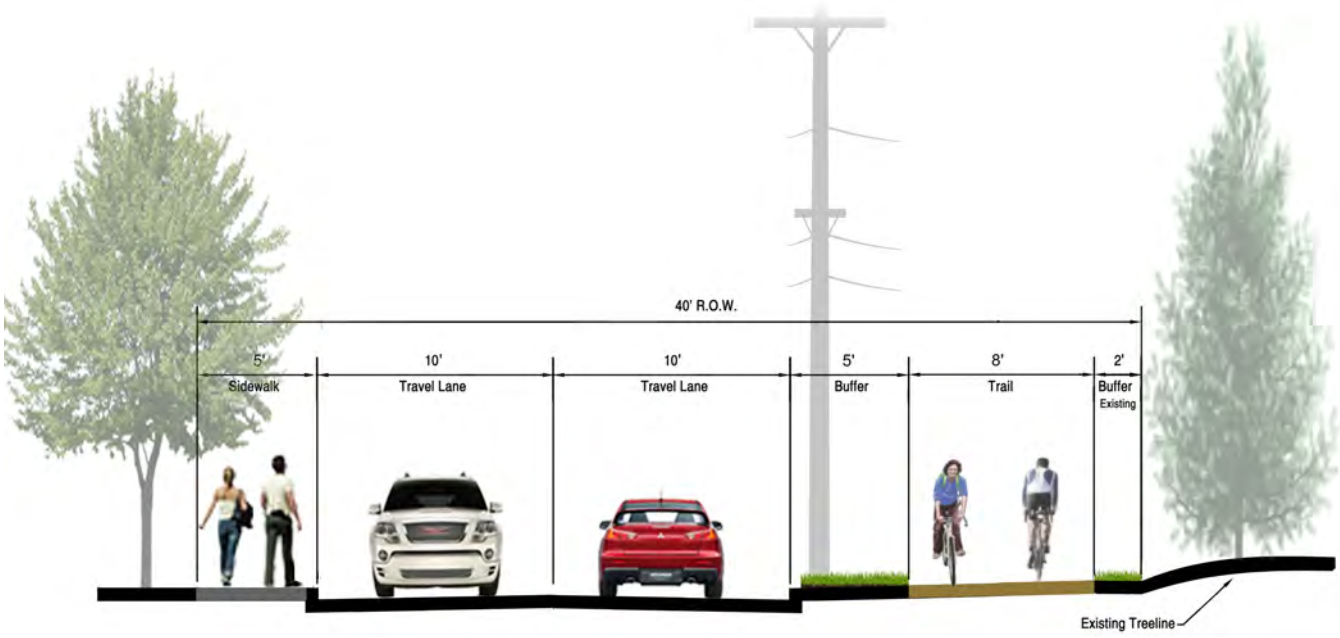


Figure 17 *Option #2: Pierce Street Off-Road Facility*

Option #1 would retain the existing curb-to-curb width of Pierce Street, and maintain the existing sidewalk and utility poles. Option #2 would keep the existing trees on the east side of Pierce Street, but build the trail facility over the existing sidewalk (if on the east side), widening it from 6′ to 8′ and building in a 5′ buffer between the trail and the edge of the road. The utility poles would need to be moved and travel lanes narrowed to 10′. If built on the east side of Pierce Street, the trail would retain the existing sidewalk on the west side of Pierce Street. Based on a visual inspection of the trees on the east side of Pierce Street by a licensed Landscape Architect, the project does not recommend constructing the trail any closer to the trees than the existing back of sidewalk. Care will be taken to avoid impacting the tree roots from the trees located on the east side of Pierce Street.

In September 2017, the Town and CRCOG met with residents of the Old Mill Condominium complex to discuss concerns raised with an earlier iteration of Alignment C. As a result of this discussion, CRCOG sent a licensed Landscape Architect in the field to look at trees that provide privacy between Pierce Street and the condos. All options on Pierce Street were refined to avoid impacting those trees. CRCOG also arranged a tour with team member Dan Burden and Plainville's Police Chief to explore ways to design the trail crossing Main Street and along Pierce Street and Broad Street to retain privacy, improve safety and optimize aesthetics.

Between West Main Street and an area approximately 250' south of the southernmost driveway to the Old Mill Condominium complex, on-street parking would be prohibited. However, south of this point, to the intersection with Broad Street, striped on-street parallel parking was included and assumed with both options. **Figures 18** and **Figure 19** provide plan view visuals for both options. Special care will be needed for Option 2 for the three crossings of the off-road path and private driveways. In particular, the trail's crossing with the Old Mill Condominium complex's driveways will need to be carefully considered.

Public Feedback

The study team heard public concern within this section, related to:

- Safety of crossing West Main Street – some residents pointed towards safety concerns at the intersection of West Main Street and Pierce Street. They raised concerns about the volumes of traffic on West Main Street, the actual speeds of traffic as compared to the posted speed limits, and the perceived number of buses and other heavy vehicles that travel along the roadway, a state highway.
- Disruptions to residents along Pierce Street – some residents along Pierce Street have voiced opposition to the trail even after the meeting in September 2017, citing concerns around conflicts between bicyclists and pedestrians, vehicles, and dogs. Other voices have been heard citing support for an off-road alignment on Pierce Street. In particular, concern was voiced about the ability of residents of the Old Mill Condominium Complex to be able to safely use their driveways with the introduction of the trail crossing them. Additional concern was raised about retaining the trees that border the condominium complex and provide a privacy screen from Pierce Street. All options on Pierce Street were modified to avoid impacting these trees, and to try to address concerns about privacy and safety.

Considerations for Design Phase

In addition to the preferred alignment as previously described, several constrained locations and/or areas where further enhancements can be realized were identified by the Steering Committee and vetted with the community. These include:

- Routing along southern bank of the Pequabuck River – in the design phase, survey data, environmental analysis, and property owner outreach will inform the alignment of the trail between North Washington Street and the Fire Station. The alignment will need to balance the desire to stay as close as possible to the river to retain property owner privacy and development potential as well as to bring the public close to this desirable natural resource, while minimizing impacts to the floodway/ floodplain and minimizing the need

Figure 18 *Option #1 Plan View Illustration*

Figure 19 *Option #2 Plan View Illustration*

for boardwalk and ongoing maintenance costs associated with building the trail in a section that could be flooded during and after major storm events.

- Crossing West Main Street – although several options were considered that cross West Main Street, additional analysis will be needed during the design phase to identify the crossing treatment, including whether the crossing remains in its current location as opposed to being shifted east or west, that maintains auto mobility while increasing pedestrian and bicycle safety and visibility and traffic calming.
- Alignment along Pierce Street – survey data will be useful in determining specific right-of-way limits along Pierce Street. With the two options remaining on the table in this section, and voices both concerned with and advocating for an off-road path along Pierce Street, and the potential that remains to build the path along the east or the west side of Pierce Street, additional work will be needed to identify the engineering solution. It is possible that Option #1 is retained as a short-term solution while Option #2 remains the long-term goal for this section. Efforts will be taken to retain on-street parking for the southern section of Pierce Street.

South Section

The South Section of the preferred alignment extends from the intersection of Pierce Street and Broad Street to the connection with the Town of Southington's portion of the trail (currently in design) at the intersection of Town Line Road at Redstone Street. This section of the trail connects users with Norton Park, a major recreational attraction for Plainville, and has the potential to introduce users to the historic Farmington Canal.

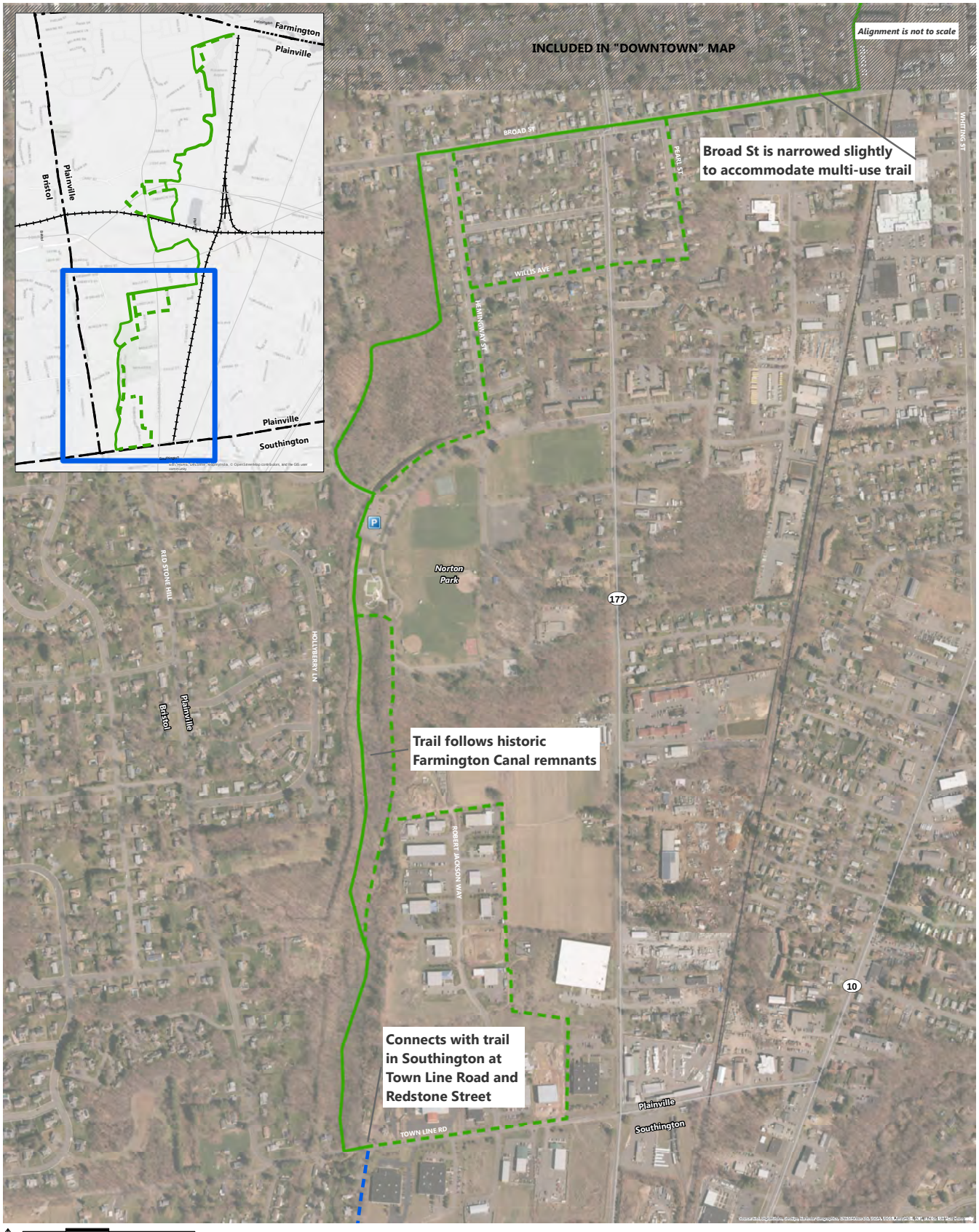
Figure 20 provides an overview of the preferred alignment in the South Section. Detailed cut sheets of this alignment, which show assumptions employed throughout, are provided as Attachment D.

Broad Street to Norton Park

The trail would travel west on Broad Street from Pierce Street to the vicinity of Hemingway Street. The Broad Street right-of-way is approximately 60' wide and a "road diet" is proposed. The trail could fit within the right-of-way either on the north side of Broad Street, in the median of Broad Street, or on the south side of Broad Street. **Figures 21, 22, and 23** illustrate what these three options could look like.

A preferred option has not been identified along Broad Street, and all three will be considered in the conceptual design phase moving forward. Pros and cons of each option, and community feedback, will be considered in design.

These concepts appear to be feasible within the existing road right-of-way, by narrowing the curb to curb roadway width and creating more space for an off-road path. Those options along the north or south sides of Broad Street would be combined with an existing sidewalk, with the sidewalk widened to a 10' multi-use trail. Either of these options would need to address the trail crossing the between 20 and 30 driveways along Broad Street through education, signage, and/or use of design



Town Boundary
Active Rail
Robertson Airport
Alignment C - 5.3 Miles - 98% Multi-Use Trail
Potential Alternates
Existing Parking Facilities
Farmington Canal Heritage Trail, under construction/design

Project Statistics
Alignment C is a proposed:
- 5.3 miles long,
- 10-12' wide,
- bituminous,
- 98% multi-use trail.

Disclaimers: The alignment shown is preliminary and not to scale. It is for planning purposes only. Alignments are subject to change as the planning study progresses. Labels represent potential options for the trail, should it be built. They do not represent a final design and are subject to change during the design process.

Gap Closure Study | Hartford County, CT

Figure 20 Alignment C - 5.3 Miles | South Section

Source Information: Map and Geographic Information Center - University of Connecticut, US Census Bureau
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Figure 21 *Illustration of a potential Off-Road Path on the north side of Broad Street*

Figure 22 *Illustration of a potential Off-Road Path on the south side of Broad Street*

Figure 23 *Illustration of a potential Off-Road path in the median of Broad Street*

treatments such as a different color treatment to the driveway crossings or a different texture (such as what is shown in the illustration).

The shared-use path in the median of Broad Street (referred to as the boulevard option) alleviates the driveway conflicts. However, additional thought would be needed for how this option would be designed at intersections and how it may impact traffic patterns, parking, and emergency vehicle access. Some concern exists about how deliveries would be made (e.g., oil, packages) under this option.

The boulevard option would disallow residents from taking left turns out of their driveways, which only makes the ability to take left turns or U-turns at intersections such as Canal / S Canal, Church, Pearl, and Washington critical for overall traffic mobility and emergency vehicle response times. The trail would need to be designed so that users have a stop or a yield at unsignalized crossings and that roadway crossings are clearly marked.

The intersection at Washington / South Washington in particular is of concern, as this road is also a state route (Route 177) with moderate traffic volumes. One idea that has been raised for this location is a mini-roundabout. Perhaps more oval in size than round, if this design were pursued it would require some thought as to how to bring trail users through it and the overall traffic operation.

Immediately west of Hemingway Street the trail would turn to the south, crossing Broad Street approximately 200' west of Hemingway Street. It would continue south on private land to the rear of the properties along Hemingway, crossing into Town-owned property approximately 600' south of Broad Street. A visualization of what the trail might look like as it crosses Broad Street is included as **Figure 24**.

Once on Town property, the trail would continue in a southwesterly direction to minimize impacts to wetlands. A visualization of what the trail might look like as it is closer to Norton Park is shown as **Figure 25**.

The trail would connect to the east side of Norton Park Road near Mancini Way, connecting with Norton Park using the existing Norton Park Roadway bridge. In addition to this connection to Norton Park, two alternatives have been identified between Broad Street and Norton Park. These are:

- **Alternate Routing #1** – the trail would turn south on Pearl Street using a side path or on-road facility to Willis Avenue to Hemingway Street, connecting with Norton Park through an existing pedestrian path which would be widened to become the shared-use path. The shared-use path would continue southwest parallel to the Canal until reaching the parking lot at Norton Park Road.
- **Alternate Routing # 2** – the trail would, from Broad Street, turn south on Hemingway Street as either an on-road facility or an off-road facility, connecting with Norton Park through an existing pedestrian path which would be widened to become the shared use path. The shared-use path would continue southwest parallel to the Canal until reaching the parking lot at Norton Park Road.

The existing 91-stall (including 4 accessible spaces) surface parking lot at Norton Park Road would be used either in its current form or possibly shifted to provide room for the trail as well as parking.

Figure 24 *Crossing Broad Street at Hemingway Street Visualization*

Figure 25 *Visualization of Trail north of Norton Park*

The Farmington Canal

The Farmington Canal was built in the early 1800s to provide a waterway connection between New Haven and Northampton.

Much of it was later converted to a rail right-of-way and many sections have now become sections of the Farmington Canal Heritage Trail. It is listed on the National Register of Historic Places.

Trails have been successfully developed along other canal systems – including as mentioned above along the former Farmington Canal. A change to recreational use can be advantageous in that it brings people closer to the historic resource to experience it first-hand and preserves the historic resources for generations to come.

Norton Park to Town Line Road

South of the existing parking lot the alignment would continue south, following remnants of the historic Farmington Canal to Town Line Road. There is some flexibility and several unknowns that could affect the specific trail alignment through this section. It would cross multiple private parcels, which will require continued outreach and coordination.

An alternate connection between Norton Park and Town Line Road is described below:

- **Alternate Routing #1** – instead of staying on former remnants of the Farmington Canal the entire way south to Town Line Road, the trail could veer slightly to the east utilizing the existing bituminous sidewalk just south of the swimming pool and follow it south to the existing park road turn around. Continuing south, alternate #1 would follow existing user-created trails where possible and then continue south through wetlands and rejoin the preferred alignment 1,300 linear feet before reaching Town Line Road.
- **Alternate Routing #2** – instead of staying on former remnants of the Farmington Canal the entire way south to Town Line Road, the trail could veer slightly to the east utilizing the existing bituminous sidewalk just south of the swimming pool and follow it south to the existing park road turn around. Continuing south, alternate #2 would follow existing user-created trails where possible to the northern edge of Robert Jackson Way to the boundary between the industrial parcels that comprise the Strawberry Fields Industrial Park, and Zarrella Farms. There is would turn south, traveling along this edge between industrial and agricultural land uses until Town Line Road. At Town Line Road, the trail would continue to the west as a shared-use path on the north side of Town Line Road until it connects with Redstone Street.

Public Feedback

Feedback received within this section included:

- **Broad Street** – residents along Broad Street generally voiced support for the trail, and were interested in the three options under consideration. Many viewed the road diet as a positive concept that would slow traffic. Some voiced concern with the concept's crossing of driveways, and others had questions about snow and leaf pickup. The project team has clarified that the existing snow shelf along Broad Street would be retained with the trail.
- **Hemingway Street** – some residents of Hemingway Street voiced support for the trail either on their street or to the rear of their homes, and some have voiced concerns over loss of privacy and of safety. The team tried to address these concerns by keeping the trail as far west as possible once it is on town-owned property. Some residents of Hemingway Street voiced concern and opposition to the alignment alternate that would travel south on-road on Hemingway Street.
- **Farmington Canal** – both support for and concerns about use of the former remnants of the Farmington Canal have been raised. Voices supporting the alignment point to an opportunity to educate the public about this historic resource, the Trail's namesake. Some residents have raised privacy concerns with bringing users to the historic canal alignment, in particular from residents of Hollyberry Lane. Concerns have been raised about the

potential of crime, including vandalism and graffiti. At the December 2017 Plainville Town Council meeting one resident raised the point that at times the canal runs dry, allowing people on the towpath to cross the former canal towards Hollyberry Lane. Residents have asked that the trail be shifted approximately 200' to the east of the towpath, improving privacy for the residents of Hollyberry Lane. Those concerned about the historic canal right-of-way have pointed to the trail as an impact to an important historic resource. Although additional analysis would be conducted in future phases, it has been noted that use of an historic resource could be considered beneficial, and a consultation with the State Historic Preservation Office (SHPO) will be part of any future design phase.

Considerations for Design Phase

In addition to the preferred alignment as previously described, several constrained locations and/or areas where further enhancements can be realized were identified by the Steering Committee and vetted with the community. These include:

- Broad Street – in the design phase, a specific design for a road diet and alignment of the trail along Broad Street, including treatments at intersections, will be developed in more detail and with a preferred option selected.
- Connection to and through Norton Park – additional analysis will be needed to identify the optimal and preferred alignment to connect Broad Street to Norton Park. Within Norton Park, additional work is needed in design to identify what if any changes are needed to the existing parking lot.
- Use of Historic Farmington Canal Alignment – as mentioned above, property owner outreach, consultation with SHPO, and additional survey and environmental analysis will be needed to identify the specific alignment of the trail along the former remnants of the historic Farmington Canal. The project in design will take into consideration the ability to shift the alignment east of the towpath.
- Norton Park Road Bridge – the current trail alignment crosses into Norton Park using the existing bridge at Norton Park Road. Some additional analysis will be needed to identify whether any improvements are needed to this bridge to accommodate the trail, and whether access would be provided into the park at night.
- Historic and Interpretive Signage – the Farmington Canal is an historic resource on the National Register of Historic Places. Bringing users of the trail close to this historic resource is seen as a benefit of the project, but additional work will be needed during the design phase to identify what type and where educational signage could be incorporated.
- Towpath – The alignment of the trail along the historic towpath of the canal would require consideration both of the surface treatment of the trail, as well as the consideration of the trees that currently reside along the towpath. Analysis will be needed to better understand any existing drainage issues with the canal and whether construction of a trail on the towpath would worsen existing issues.
- Public involvement will continue to be an important element of the project as it enters the design phase.

5 Implementation and Next Steps

Outstanding Areas of Concern

Throughout the process of developing the preferred trail alignment the project team listened carefully to comments and concerns from the community. These conversations shaped the recommendations, and will continue to shape the trail alignment as it moves into the design phase. The following are some key areas of concern raised during the development of the draft plan, and during the public comment period of the draft plan, that will become areas of emphasis during the design process.

Design should emphasize accessibility by following the latest standards, such as the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities and the proposed Public Right-of-Way Accessibility Guidelines (PROWAG), to fully comply with the Americans with Disability Act (ADA) for both off-street and short on-street trail segments.

"How will trails impact my family's privacy and security?"

Portions of the preferred alignment are in proximity to residences, near the front or the rear of property lines. The team heard from a large number of abutting property owners that they were concerned about the impacts the trail might have on privacy, crime, noise, and vandalism. While research has shown that trails do not result in higher levels of criminal activity or vandalism, it is essential that such concerns be addressed during the design phase. Similarly, trail projects in hundreds of communities have successfully addressed privacy concerns through well thought out designs done in consultation with the local community and abutting landowners. Some examples of how such concerns have been addressed along other trails include landscaping and plantings, fencing, and gates. Landscaping and plantings on the trail side can be designed in a way to break up direct line of sight into residences or yards, while maintaining a sense of defined private and public open space. In fact, maintaining the ability to have "eyes on the trail" is important for achieving natural surveillance, a term associated with Crime Prevention Through Environmental Design (CPTED)[4].

RECOMMENDATION: The planning team strongly recommends, and expects, that any future design phase involve a robust consultative design process related to security and privacy. It is essential that abutting landowners are consulted with early and often throughout the design process to ensure that their concerns are addressed to the greatest extent possible. While all residential property owners that abut the trail alignment should be consulted, through the public outreach process conducted for this planning study we have identified the following neighborhoods as being of particular focus for outreach: Perron Road; Pierce Street; Broad Street; Hemingway Street; and properties that abut Norton Park, in particular those along Hollyberry Lane.

4 http://www.cpted.net/

Natural surveillance ***is achieved when space is designed to allow people engaged in normal activity to observe the space and others around them. This design principle relies on careful design and avoidance of inappropriate walls, fences, or other opaque barriers that could isolate trail users and offer concealment for persons engaging in unlawful behavior. People are most likely to behave appropriately when there is a strong likelihood that others can see them.***

"How will the trail be maintained and who will pay for this?"

Concerns were heard from the community that trail maintenance would be a burden to the Town and its budget. High-quality trails should include strong aesthetic elements and amenities for users (landscaping, gardens, benches, water fountains, exercise spaces, kiosks, historic features, etc.). Most of these features require varied amounts of maintenance whether it be trimming vegetation, planting flowers, clearing debris, or repairing benches, the trail will require a strategy to maintain the high-quality user experience year-round. Maintenance responsibility will fall to the local municipality. There are a variety of potential partnerships that can be formed to off-set the direct cost to the local community. These include private maintenance contracts for seasonal maintenance (e.g. sweeping, vegetation management, snow removal), and/or volunteers can be recruited to adopt trail sections and provide basic maintenance support and beautification, while taking ownership in a community asset.

RECOMMENDATION: That the Town of Plainville contact the Farmington Valley Trails Council and the Plainville Greenway Alliance during the design phase to discuss forming a volunteer friends of the trail group that could take on some key maintenance and beautification tasks.

Volunteers can 'adopt-a-trail' and perform basic maintenance support and beautification.

Trails become natural areas that attract funds from single or multiple funders that wish to memorialize an important time or place in the town's history.

Environmentally sensitive areas receive added protection. Design in wetlands or along historic canals, shown here, or other sensitive areas could be narrowed, use different materials, such as compacted stones, special drainage, a boardwalk or other thoughtful and effective treatment.

"What about the trail impacts to wetlands or historical sites?"

Concerns about impacts to wetlands, drainage, and historic sites were raised during the planning phase. As tools for ecology and conservation, greenways and trails help preserve important natural landscapes, provide needed links between fragmented habitats and offer tremendous opportunities for protecting plant and animal species. They can be useful tools for wetland preservation and the improvement of air and water quality. In addition, they can allow humans to experience nature with minimal environmental impact. Where possible, the trail should include education and interpretive elements to help educate users about these valuable habitats and amenities.

RECOMMENDATION: That low-impact design treatments be considered throughout the trail. That wetland areas be carefully studied to ensure that trail development will not cause damage to these important resources. As design decisions are made, it will be paramount to consider the existing natural and historic features and design the trail in a

way the honors the existing environment while minimizing any negative impacts (storm water runoff, damage to habitats, or historical features).

That the canal area, in particular the towpath, be carefully studied to ensure that any trail development can be done in a manner that does not harm historic resources. Careful consideration should also be paid to impacts on adjacent wetlands and the canal itself. Neighbors of the canal report that the water level in the canal can vary greatly depending on the season, and that during significant rain events the canal can swell considerably. Careful consideration should be given to the canal itself and its ability to absorb runoff.

Funding

While there are numerous funding sources to assist with the design and construction of multi-use trails, below is a summary of the six most likely funding sources to be used to close the gap in the FCHT in Plainville. Each source has parameters including state and federal requirements, and match expectations. All are appropriate resources for trail facilities and multiple funding sources could be used to design, construct and maintain the trail[5].

It should be noted that any discussion of or access to funding is predicated upon a local planning process having been completed and approved by the municipality.

Federal Funding

Transportation Alternatives Program (TA Set-Aside)

The Federal Highway Administration's (FHWA) Transportation Alternatives (TA Set-Aside) Program authorizes funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity; recreational trail projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former divided highways.

This FHWA program could provide 80% of the required federal funding to design, permit, construct and maintain the gap in the Farmington Canal Heritage Trail. The required 20% matching funds are typically provided by the State or sponsoring local municipality.

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

The Federal Highway Administration's Congestion Mitigation and Air Quality Improvement Program, created in 1990 sought to align transportation planning with air quality planning. The program authorizes funding for transportation projects and programs that are likely to contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of

5 Other funding sources can be found here: http://crcog.org/wp-content/uploads/2017/08/General-Transportation-Funding-Sources_July-2017.pdf

The public involvement process is ongoing and public input is always welcome. During the design phase there is a required public informational meeting and the design team will continually accept public input throughout the design process.

effectiveness in reducing air pollution. Funding from the CMAQ program has helped construct multi-use trails nationwide.

This FHWA program could provide 80% of the required federal funding to design, permit, construct and maintain the gap in the Farmington Canal Heritage Trail. The required 20% matching funds are typically provided by the State or sponsoring local municipality.

Land and Water Conservation Fund (LWCF)

The National Park Service's Land and Water Conservation Fund, created in 1965, provides funding for the acquisition and development of public outdoor recreation areas and facilities. Seventy-five percent of the total funds obligated have gone to locally sponsored projects to provide close-to-home recreation opportunities that are readily accessible to residents.

Surface Transportation Block Grant (URBAN)

The Federal Highway Administration's Surface Transportation Block Grant program, created in 2015 through the passage of the federal transportation bill known as the Fast Act (Public Law 114-94), provides federal funds for transportation projects including multi-use trails. This program funding is distributed to State Departments of Transportation and suballocated by population to communities defined as "urban".

State Funding

Let's Go CT!

Initiated by the CT State Legislature in 2015, this State funded program is being implemented by the CTDOT, and provides 100% of the cost of design and construction. The Let's Go CT! program provides a 30-year vision for Connecticut's transportation network, and outlines the investments needed to make the state's multi-modal transportation system more complete. Under this program, the East Coast Greenway and strategic infill projects are identified as funding priorities for the CTDOT to provide safety enhancements, recreational amenities, and transportation options for non-motorists. In addition, the plan's bike and pedestrian element includes funds to complete gaps in the statewide regional trail network through planning, design, and construction.

Local Transportation Capital Improvement Program (LOTCIP)

The third option would require a partnership with the Town of Plainville and CRCOG. Design funding would need to be generated at the local level, and construction funding would come from the CTDOT. The purpose of LOTCIP is to provide state funds to municipalities for capital improvements. To qualify for LOTCIP funds, regional planning organizations solicit applications from municipalities and evaluate proposed projects based on how well they meet a need. Under this program, the Town of Plainville could apply to CRCOG for 100% construction costs. The program would likely require the town to lead design, right of way acquisition, environmental permitting, and provide quality controls during construction.

Town of Plainville

Maintenance is also an important funding consideration. Because the trail would be owned by the Town of Plainville, the Town would be responsible for trail maintenance. Depending on the final design, the trail

Section 106 and Section 4(f)

Section 106 of the National Historic Preservation Act of 1966 requires Federal agencies to take into account the effects of projects on historic properties, and provide the Advisory Council on Historic Preservation with an opportunity to comment.

Section 4(f) of the U.S. Department of Transportation Act of 1966 regulates agencies from using land from publicly owned parks, recreation areas, or public and private historic properties, unless there is no feasible and prudent alternative to that use.

could include a combination of paved off-road pathways, bridges over railroad and/or waterbodies, a boardwalk over wetlands, and a culvert under a highway. To ensure that there is regional continuity in the FCHT, maintenance considerations would include potential line items such as seasonal leaf/snow removal, and bridge and culvert inspections.

It should be noted that any discussion of or access to funding is predicated upon a local planning process having been completed and approved by the municipality.

Construction Phasing

Phase 1 Construction

Northwest Drive to West Main Street (Route 372), 3 miles

Construction of Phase 1 of the Farmington Canal Heritage Trail consists of three miles of 10-12' wide bituminous multi-use trail. Beginning at the intersection of Northwest Drive and Johnson Avenue the proposed alignment continues west along Northwest Drive, south to Johnson Avenue via Perron Road and along the western edge of Carling Technologies property to the Town transfer station. South of the transfer station the alignment extends past Cody Avenue to a proposed culvert under Route 72 (near Exit 1), past King Street to just behind the West Cemetery and around to Route 177. From the intersection of Route 177 and Camp Street, the alignment continues south crossing the existing railroad and Pequabuck River with proposed prefabricated bridges. Once across the river, the alignment heads east along the river to the Town Fire Department and terminates at the intersection of West Main Street and Pierce Street in downtown Plainville.

This phase of construction is entirely off-road and will likely require the installation of privacy fencing, drainage improvements, boardwalk, two bridges, culverts, retaining walls, mid-block crosswalks, utility relocations, landscaping and interpretive signage.

Phase 2 Construction

West Main Street (Route 372) to Town Line Road, 2.3 miles

Construction of Phase 2 of the Farmington Canal Heritage Trail consists of 2.3 miles of 10-12' wide bituminous multi-use trail. Beginning at the intersection of West Main Street and Pierce Street the proposed alignment continues south along Pierce Street then west along Broad Street to just beyond Hemingway Street. After Hemingway Street, the alignment turns south and heads into Norton Park where it crosses the Farmington Canal via the existing Norton Park Road bridge. Once across the Canal, the trail turns south following the Canal and at times, utilizing the existing historic towpath all the way to Town Line Road where the trail terminates at the intersection with Redstone Street.

This phase of construction is proposed to be almost entirely off-road and will likely require the installation of privacy fencing, drainage improvements, boardwalk, bridge modifications, retaining walls, mid-block crosswalks, utility relocations, parking lot rehabilitation, landscaping and interpretive signage.

Schedule

Once the study is endorsed by the Town of Plainville, it is expected that the Capitol Region Council of Governments will formally adopt/approve the Gap Closure Trail Study and forward it to the Connecticut Department of Transportation with a request that the design of the Gap Closure project be initiated. CTDOT will likely evaluate the request and attempt to identify a funding source for this critical Gap Closure project.

To build on this study, the project team has outlined below the three basic steps required to develop this project: Project Development, Design and Permitting, and Construction.

Project Development Phase

The objective of this phase is to identify the lead agency for design, develop a funding strategy and draft a scope of work for the design phase. The Town of Plainville, CRCOG and CTDOT will work together to identify which agency will take the lead in designing the project and confirm the design and construction phasing strategy. CTDOT, working with CRCOG and the Federal Highway Administration, will identify a funding strategy including the required matching funds. The funding strategy will help inform the development of the scope of work. The scope of work should be as detailed as possible with the major considerations being:

- Survey
- Geotechnical Evaluations
- Preliminary Design
- Semi-Final Design
- Structural Design
- Final Design
- Traffic Design / Management
- Permitting / Cultural Resource Preservation
- Rights-of-Way
- Stakeholder outreach plan
- Cost estimates

Design and Permitting Phase

The project is anticipated to be designed in accordance with numerous Federal and State laws, manuals and guidelines including:

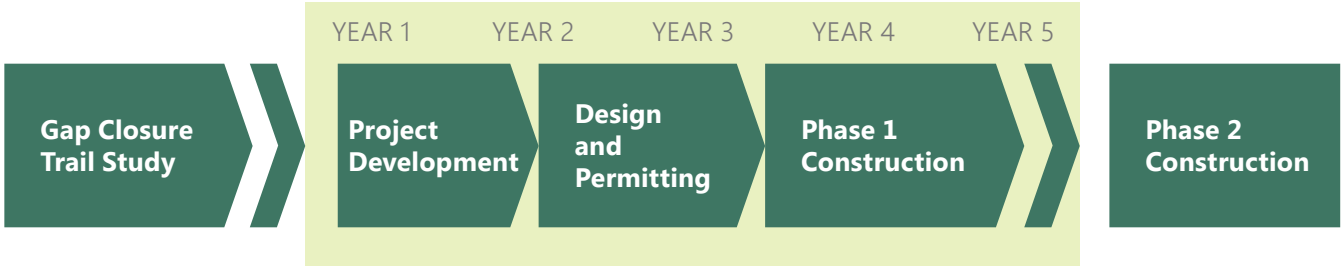
- CTDOT Highway Design Manual
- FHWA Manual on Uniform Traffic Control Devices
- AASHTO Guide to the Development of Bicycle Facilities
- Americans with Disabilities Act
- Public Right-of-way Accessibility Guidelines

During the design of this project, environmental, historic/archeological and wildlife resources will be assessed and required permits secured. Consultation with abutting landowners will occur during the design phase, especially with abutting residential property owners. The final design along with cost estimates will also be developed along with necessary right-of-way information. Depending on the funding strategy and the results of the environmental / right-of-way process, the project will be reviewed by the Town of Plainville, CTDOT, CTDEEP, the State Historic Preservation Office, FHWA and the public.

Construction Phase

The study recommendation is to construct this 5.3 mile project in two phases. However, the design could proceed as one single design/permitting effort. Depending on the complexity of the design, permitting and/or right-of-way acquisitions, the construction phases will likely be staggered but quite possibly could overlap.

Implementation Timeline



Post Construction Considerations

General maintenance requirements are guided by the Master Municipal Construction Agreement (MMCA) that the Town executed with CTDOT in 2013. The MMCA states under section 6.2(a)(1) "The Municipality assumes all responsibility for the proper maintenance and operation of all Municipality-owned Transportation Facilities constructed as part of the Construction Project;".

The routine maintenance, and day to day operations are the primary post construction considerations for the Town of Plainville. A maintenance and operations plan should be developed that identifies and describes how the facility will be managed. Considerations include:

- General inspections
- Timing and frequency of leaf removal
- Snow removal policy
- Tree and shrub pruning and mowing
- Law enforcement patrols
- Trash removal
- Hours of operation
- Use of gates for access control
- Lighting schedule (if applicable)]
- Programming / special events planning
- Policies on permitted uses
- Volunteer opportunities
- Signage/bench/fence maintenance
- Vandalism/graffiti removal plan

DRAFT FINAL REPORT

Farmington Canal Heritage Trail Section