DRAFT
CRCOG AND CITY OF NEW BRITAIN
FINAL REPORT

GAP CLOSURE TRAIL STUDY

Plainville • Southington • New Britain

Connection to CT*fastrak* Section

January 2019

PREPARED FOR

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

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

The full Public Review Draft of the Connection to CT***fastrak*** Public Review Draft report, including its attachments, can be found at www.gapclosurestudy.com.

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Comments on the public review draft are requested by **Friday February 8, 2019**.

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.

- 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
- Bike New Britain
- Plainville Greenway Alliance
- Plainville-Southington Health District
- Town of Plainville
- Town of Southington

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.

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 east-west connection between the gap of the Farmington Canal Heritage Trail in Plainville and the connection to the CT***fastrak*** station in New Britain. The north-south trail gap of the Farmington Canal Heritage Trail is 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.

Table of Contents

Attachments

List of Tables

List of Figures

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 a multi-use trail connection between the Farmington Canal Heritage Trail (FCHT) in Plainville and the downtown New Britain CT***fastrak***[1] station. Although the process also identified a preferred alignment for the gap in the FCHT in Plainville, the focus of this report is the connection from the FCHT to the CT***fastrak*** Station in New Britain.

The Preferred Alignment for this section (referred to as Alignment E) is an approximately 4.9-mile multi-use trail beginning in downtown Plainville and ending at the CT***fastrak*** station in New Britain, roughly parallel to Route 72 and Black Rock Avenue. Nearly the entire length of the preferred alignment (up to 92 percent) is comprised of an off-road multi-use trail.

1 CT***fastrak*** is a regional bus rapid transit (BRT) 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
- City of New Britain
- Town of Plainville
- 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 (CTDEEP)
- 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 6 potential alternatives to connect with the CT***fastrak*** station and 14 potential alternatives for the FCHT Gap Closure connection. Each of these were then screened against 7 criteria, see Screening Criteria and Threshold chart on page 4 (**Step 1: Alternatives Screening**).

The Steering Committee at a meeting in April 2017 forwarded a shortlist of 2 practical and feasible alternatives in New Britain, and 4 practical and feasible alternatives in Plainville, 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 chart on page 4.

Alignment E in New Britain/Plainville performed best from this evaluation, as did Alignment C in Plainville. These two alignments became the effort's Preferred Alignments, performing best in relation to their capability to remain off-road, their connections with both residential

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

SCREENING CRITERIA	THRESHOLD
Connection with CTfastrak (New Britain) **Connection with Farmington Canal Heritage Trail (Plainville)**	CTfastrak station (New Britain) Connects to Northwest Drive at the north and Town Line Road at the south (Plainville)
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 Connection to FCHT Preferred Alignment (CT***fastrak*** connection)
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 E)

Alignment E is an approximately 4.9-mile multi-use trail beginning at the proposed FCHT connection in downtown Plainville and ending at the CT***fastrak*** station in New Britain, roughly parallel to Route 72 and Black Rock Avenue. Nearly the entire length of the preferred alignment (up to 92 percent) is comprised of an off-road multi-use trail. The trail is assumed to be between 10' and 12' in width in most places, and designed to standards set forth by CTDOT and by the American

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 E is a proposed:
- 4.91 miles long,
-10-12' wide,
- bituminous,
- 92% multi-use

Figure ES-1 Overview Map of Preferred Alignment E

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

Association of State Highway and Transportation Officials (AASHTO), the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), and the Americans with Disabilities Act's (ADA) Public Right-of-Way Accessibility Guidelines (PROWAG).

Schedule and Cost

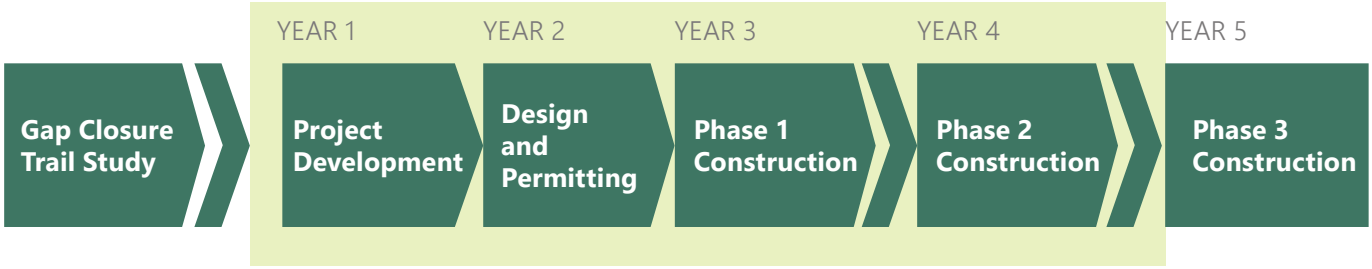
The implementation of the Preferred Alignment is proposed to be developed in three phases:

- 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 impacts.
- Construction – three phases of construction are assumed:
  - Phase 1 – Pierce Street to Crooked Street, Plainville (1.5 miles).
  - Phase 2 – Crooked Street, Plainville to West Main Street/ Route 555 in New Britain (2.4 miles)
  - Phase 3 – West Main Street/Route 555 to CT***fastrak*** Station, New Britain (1 mile)

Based on the 2017 CTDOT Cost Estimating Guidelines, the conceptual construction cost estimate for the Preferred Alignment (Alignment E) is approximately $15 million, or about $3 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 City of New Britain and the Town of Plainville, it is expected that CRCOG will formally adopt/approve the Plan and forward it to CTDOT with a request that the design of the project be initiated. CTDOT will likely evaluate the request and attempt to identify a funding source for this 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 connection between the Farmington Canal Heritage Trail (FCHT) in Plainville and the downtown New Britain CT***fastrak*** station. Although the process identified a preferred alignment for the gap in the FCHT in Plainville, the focus of this report is the connection from the FCHT to the CT***fastrak*** station in New Britain.

Vision and Objectives

The study focuses on 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 (BRT) system beginning in Newington, CT and terminates at New Britain's BRT 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 Capitol City of Hartford. The existing CT***fastrak*** multi-use trail is approximately 4.91 miles from the FCHT.

A separate trail alignment, analyzed using the same process as the CT***fastrak*** connection, is 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.

Vision Statement

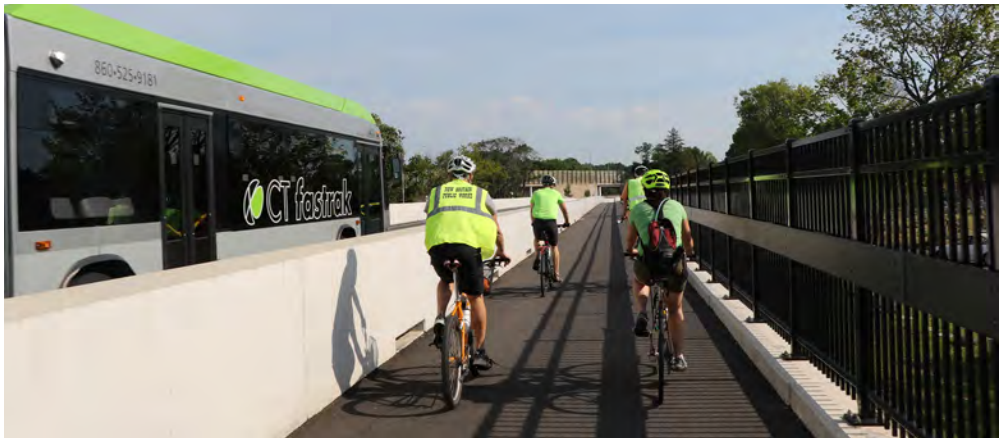
As created and adopted by the Project Steering Committee, the vision for the FCHT and CT***fastrak*** Gap Closure study is to connect the communities with a world-class, multi-use trail that closes the gap in the FCHT through the towns of Southington and Plainville with a connection to the CT***fastrak*** 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 connection to the CT***fastrak*** station and existing bicycle/pedestrian infrastructure network in downtown New Britain.
- Identify a preferred alignment in order to close the gap in the FCHT through Plainville.

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

This planning study analyzed 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 (CTDEEP)
- 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

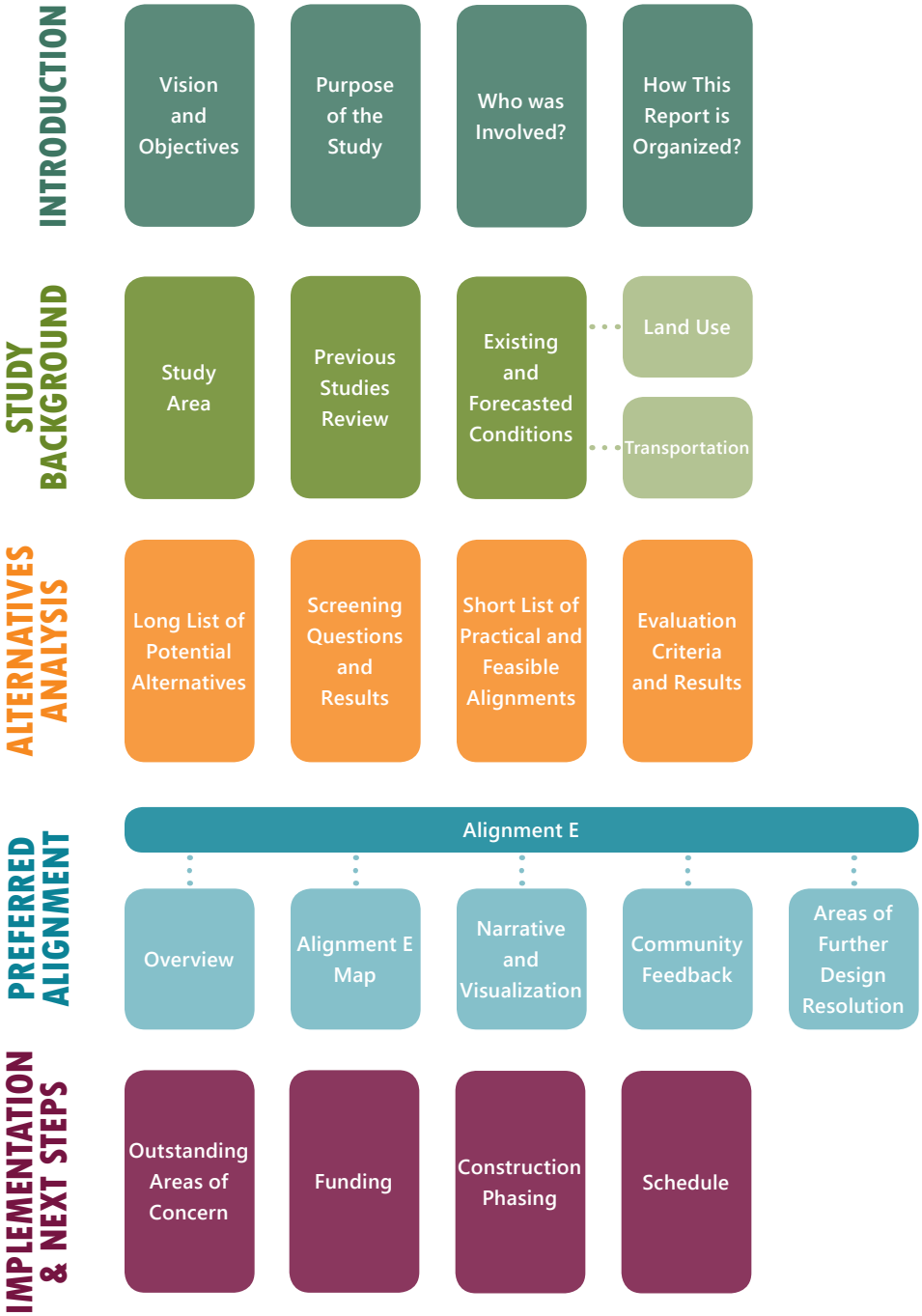
Summary of Gap Closure Trail Study Public Outreach Activities (cont.)

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 New Britain City Council, and/or Plainville Town Council, followed by receipt of public comment • Notices published with Town Clerks
8.	Town Manager Updates to Town Council (Plainville)	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 connection to the CT***fastrak*** station in New Britain.



2 Study Background

Study Area

The study area for this project encompasses portions of New Britain between Plainville and the CT***fastrak*** station, both north and south of Route 72 (see **Figure 1**). It also includes all of Plainville.

Previous Studies

Several previous studies have been undertaken to explore ways to close the gap in Plainville and New Britain. These are briefly described below.

Woodford Avenue Comprehensive Study and Redesign

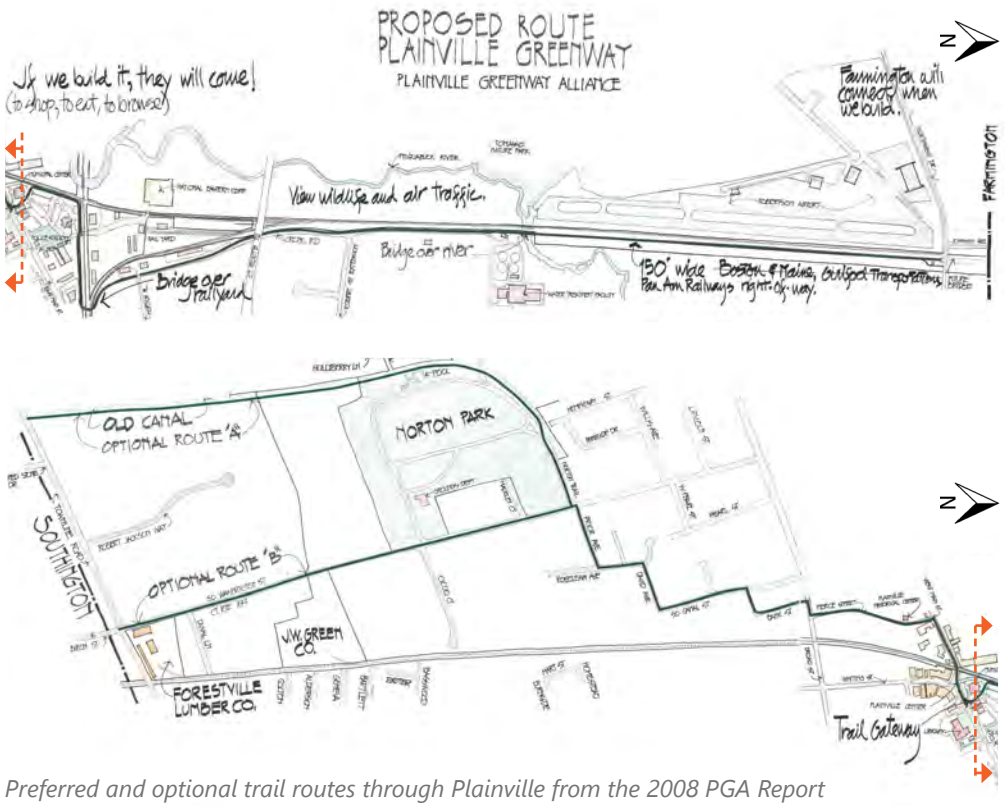
The Central Connecticut Regional Planning Agency (CCRPA) in 2013 proposed a feasibility study of a redesign of Woodford Avenue from East Main Street in Plainville to the Plainville/New Britain line at Black Rock Avenue. This 1.5 mile corridor was studied from the perspective of improving safety and pedestrian 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,

Recommended "road diet" for Woodford Avenue from the 2013 CCRPA Study

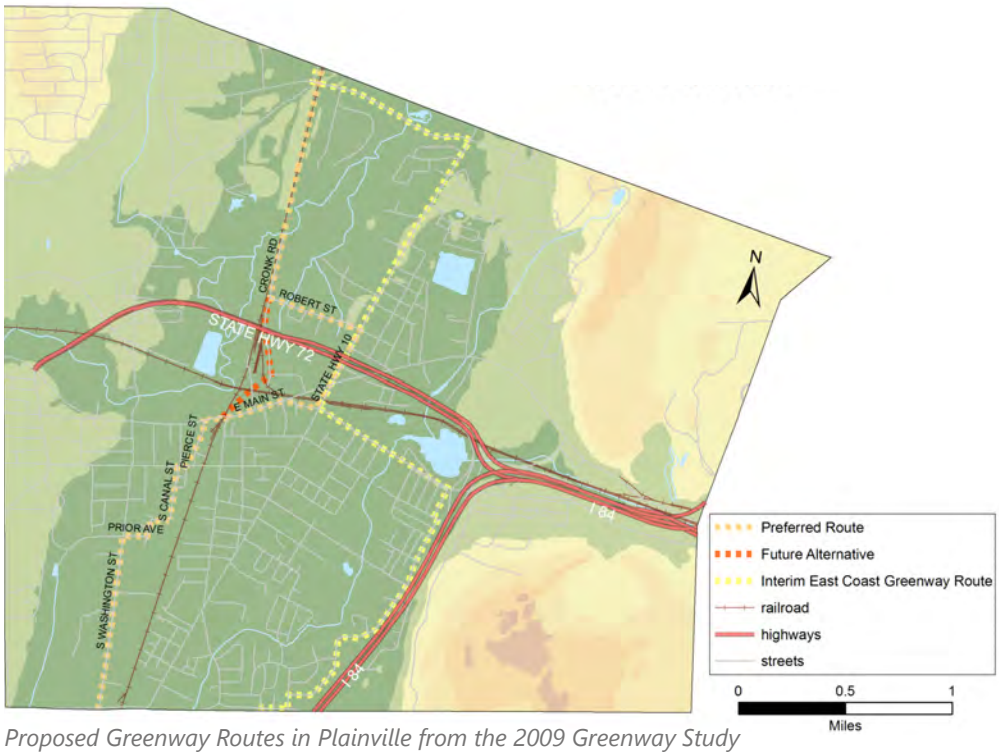
converting the up to 28' wide travel lanes to a more standard (12'-14') width, and converting remaining width for a landscaping buffer and bicycle and pedestrian infrastructure. Part of the analysis was the potential for a transfer of ownership from CTDOT to the Town of Plainville, which could be facilitated 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 CT***fastrak*** station in New Britain.

Early Efforts Related to FCHT Connection

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



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



Proposed Greenway Routes in Plainville from the 2009 Greenway Study

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

Southington-Plainville Farmington Canal Greenway Study (Greenway Study)

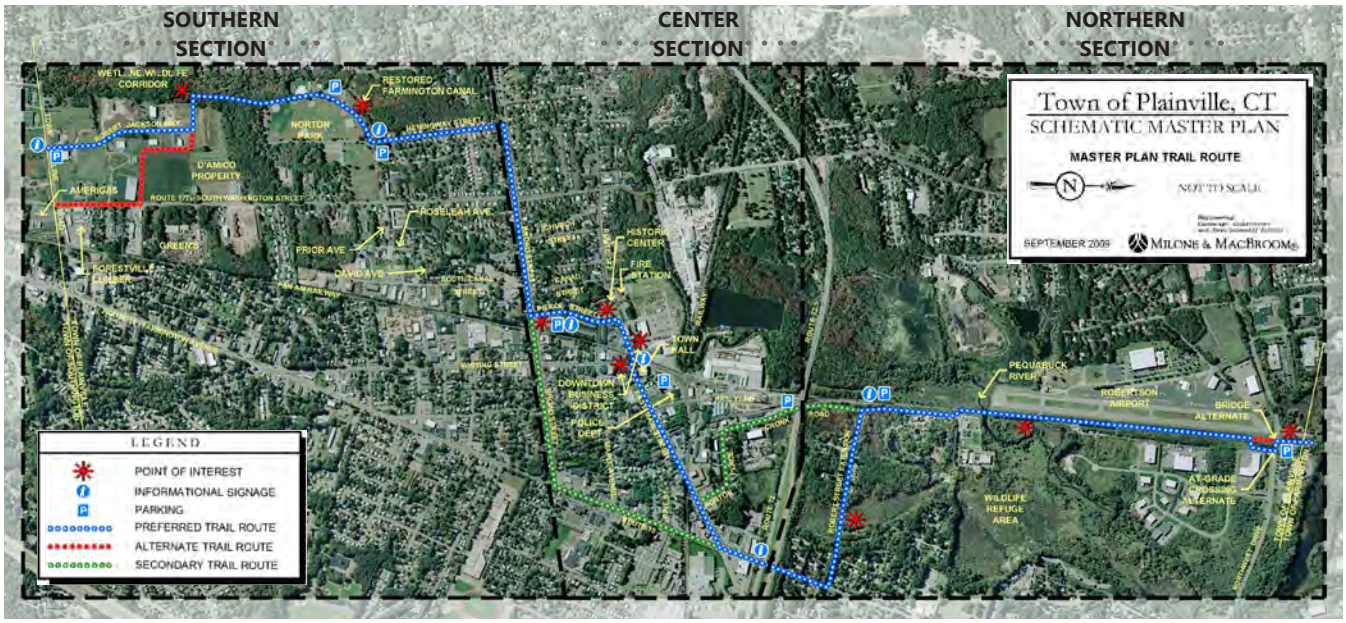
Starting in August 2008, the Southington-Plainville Greenway Committee continued the trail route planning process. Their study, published in 2009, identified a preferred and a potential future route. The 2009 study delved into more detailed concept design analysis than the PGA report, and identified 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 above 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 applied for and received a Contingency Needs Grant from the Office of Policy



Schematic Trail Routes from the 2009 Master Plan Report

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 above.

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 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.

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.

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.

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.

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 and the road frequently has gravel on it as well.
- 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.

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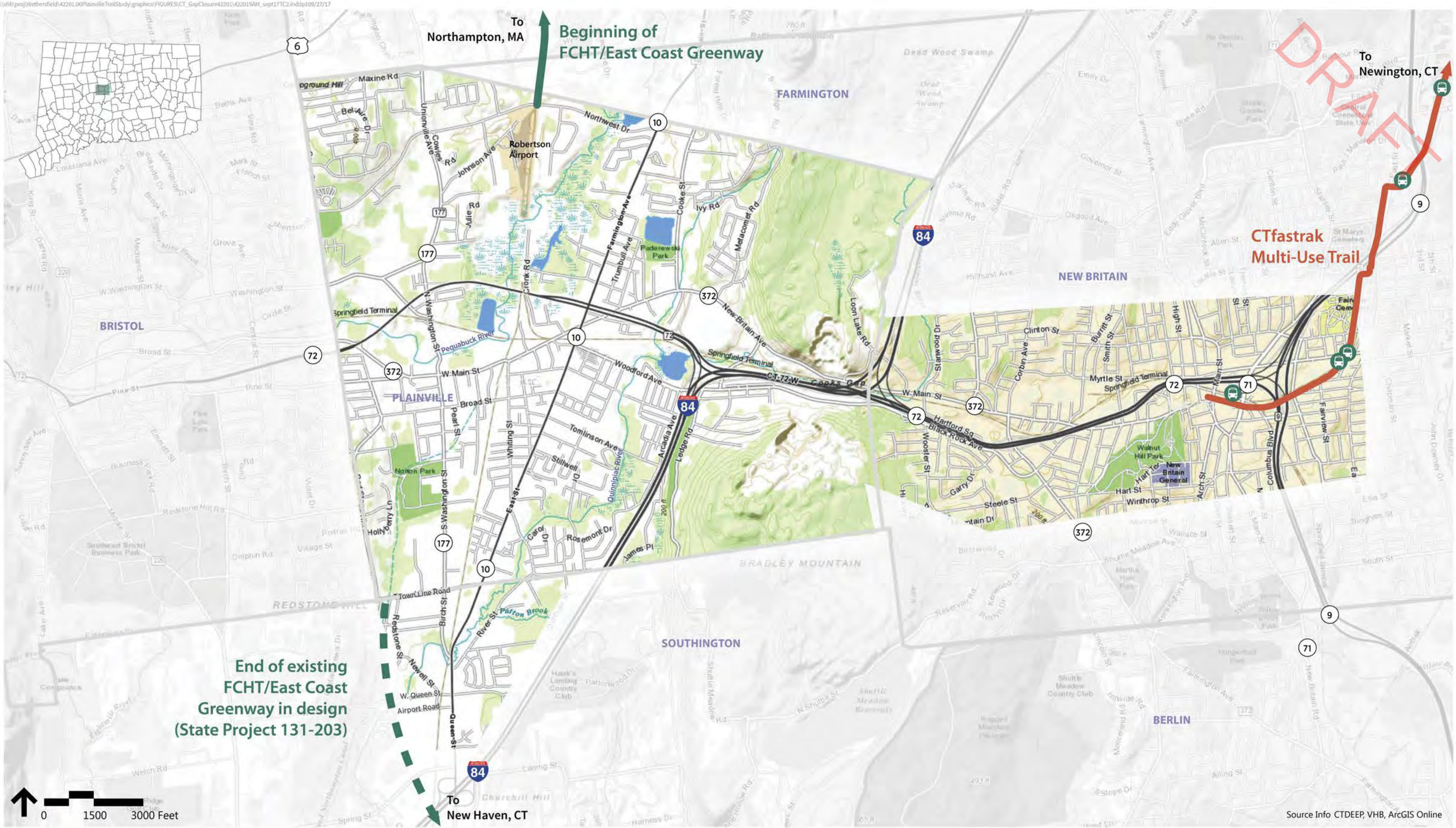

GAP CLOSURE TRAIL STUDY
Plainville • Southington • New Britain

CTfastrak Stations

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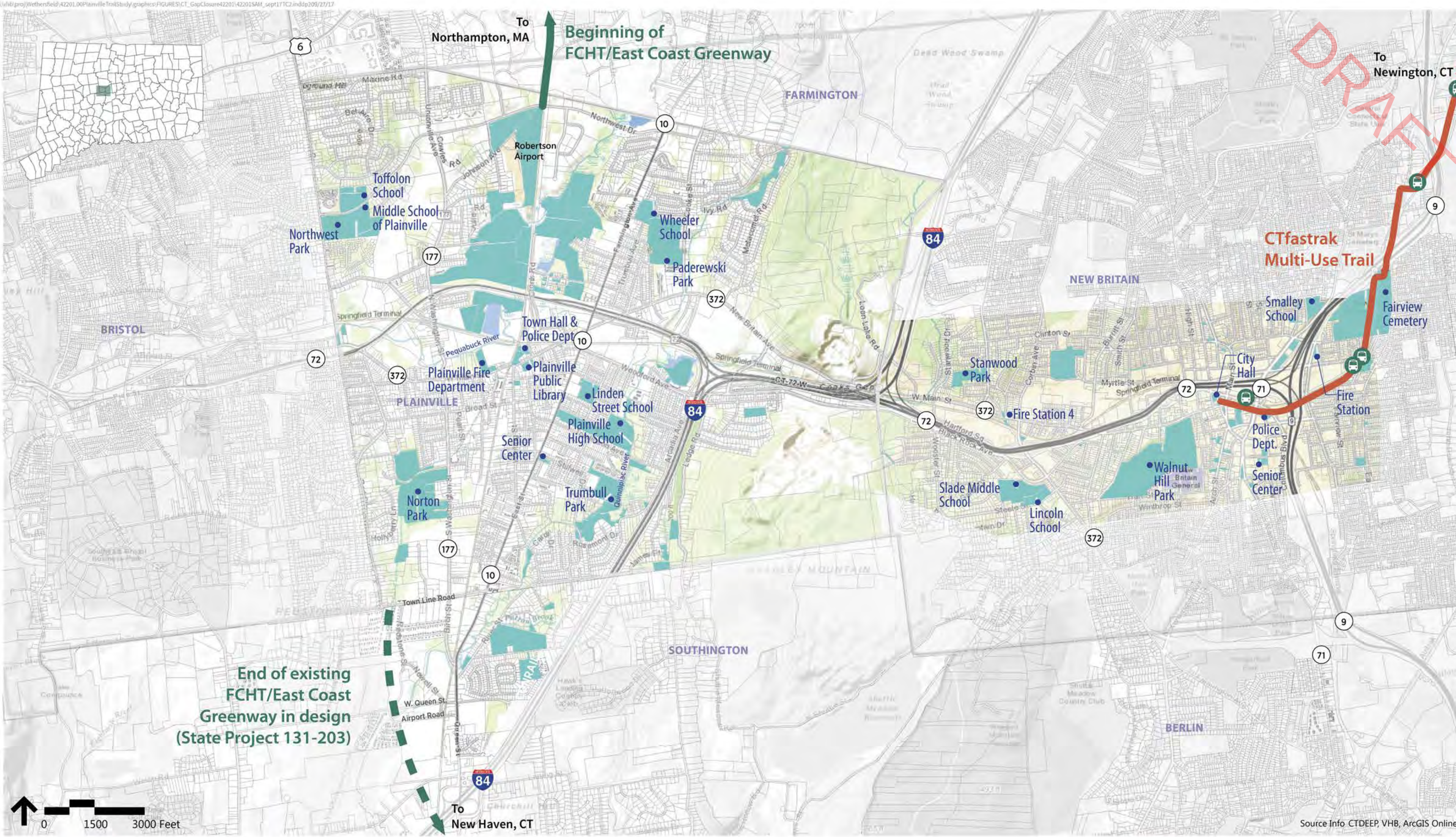
Figure 1

Study Area Map

Plainville, New Britain and Southington, Connecticut



CTfastrak Stations

Parcels

Public Property

● Key Properties

GAP CLOSURE TRAIL STUDY
Plainville • Southington • New Britain

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Figure 2

Town Property Map

Plainville, New Britain and Southington, Connecticut

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 New Britain and Plainville's roadway network, greatly informing the alternatives identification and analysis process.

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.

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.

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

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

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**).

Trail Facility Types

A variety of trail facility treatments have been considered for the FCHT and CT***fastrak*** 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.)

To Northampton, MA

Beginning of FCHT/East Coast Greenway

To Newington, CT

CTfastrak Multi-Use Trail

DRAFT

BRISTOL

PLAINVILLE

FARMINGTON

NEW BRITAIN

SOUTHINGTON

BERLIN

BRADLEY MOUNTAIN

REDSTONE HILL

Robertson Airport

Charles H. Norton House

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

To New Haven, CT

0 1500 3000 Feet

Source Info CTDEEP, VHB, ArcGIS Online

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)

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Figure 3

Environmental Features 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

Pequabuck River

Quinnipiac River

Dead Wood Swamp

Town Line Road

W. Queen St.

Airport Road

0 1500 3000 Feet

Source Info CTDEEP, VHB, ArcGIS Online

GAP CLOSURE TRAIL STUDY
Plainville • Southington • New Britain

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

Figure 4

Zoning Map

Plainville, New Britain and Southington, Connecticut

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.

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 Plan of Conservation and Development (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 throughout the downtown are in preparation for the 2015 scheduled opening of the $572 million CT***fastrak*** 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, CT***fastrak***, & 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. In addition, CRCOG has a soon to be completed study of the transit system in New Britain.

Plainville

Many of the policies and implementation actions established by the Town of Plainville's 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.

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

FARMINGTON

BRISTOL

PLAINVILLE

NEW BRITAIN

SOUTHINGTON

BERLIN

BRADLEY MOUNTAIN

REDSTONE HILL

Robertson Airport

Source Info CTDEEP, VHB, ArcGIS Online

0 1500 3000 Feet

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

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

FARMINGTON

NEW BRITAIN

BRISTOL

PLAINVILLE

SOUTHINGTON

BERLIN

BRADLEY MOUNTAIN

Robertson Airport

Springfield Terminal

Pequabuck River

Quinnipiac River

Patton Brook

Dead Wood Swamp

Norton Park

Paderewski Park

Walnut Hill Park

Hungerford Park

Shuttle Meadow Reservoir

Shuttle Meadow Country Club

Hawk's Landing Country Club

Ragged Mountain Preserve

Churchill Hill

Redstone Hill

Southeast Bristol Business Park

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

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, 6 alternatives were narrowed down to a shortlist of 2 alignments in New Britain, and 14 alternatives were narrowed down to a shortlist of 4 alignments in Plainville. 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.

New Britain Screening Results

New Britain alternatives were screened by the Steering Committee. 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.

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.

Plainville Screening Results

The 14 alternatives in Plainville were also 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.

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?**	**New Britain** ► Connects with FCHT alignment at west end ► Connects with CT***fastrak*** station at east end **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
2	**Does the alternative connect with downtown?**	**New Britain** ► Connects downtown Plainville with CT***fastrak*** station **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
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 the CT***fastrak*** station in New Britain and downtown Plainville, and between Northwest Drive and Town Line Road in Plainville.

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.

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 trail starts at the intersection of West Main Street and Pierce Street, and continues eastbound along East Main Street to the intersection with Pine Street. Once on Pine Street, the trail continues 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 the intersection of West Main Street and Pierce Street, and continues eastbound along East Main Street to the intersection with Pine Street. Once on Pine Street, the trail continues eastbound on 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.

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.

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**	**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 table illustrates the weighted evaluation results for each of the shortlisted alignments in New Britain and Plainville. Chapter 4 provides the most accurate description of the Preferred Alignment, which was refined following its evaluation. A companion report has been developed to describe Alignment C.

Weighted Results of New Britain Alignments

Connectivity and Environmental criteria were found to be the same for the two shortlisted alignments in New Britain.

Overall Performance of New Britain CT*fastrak* 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.

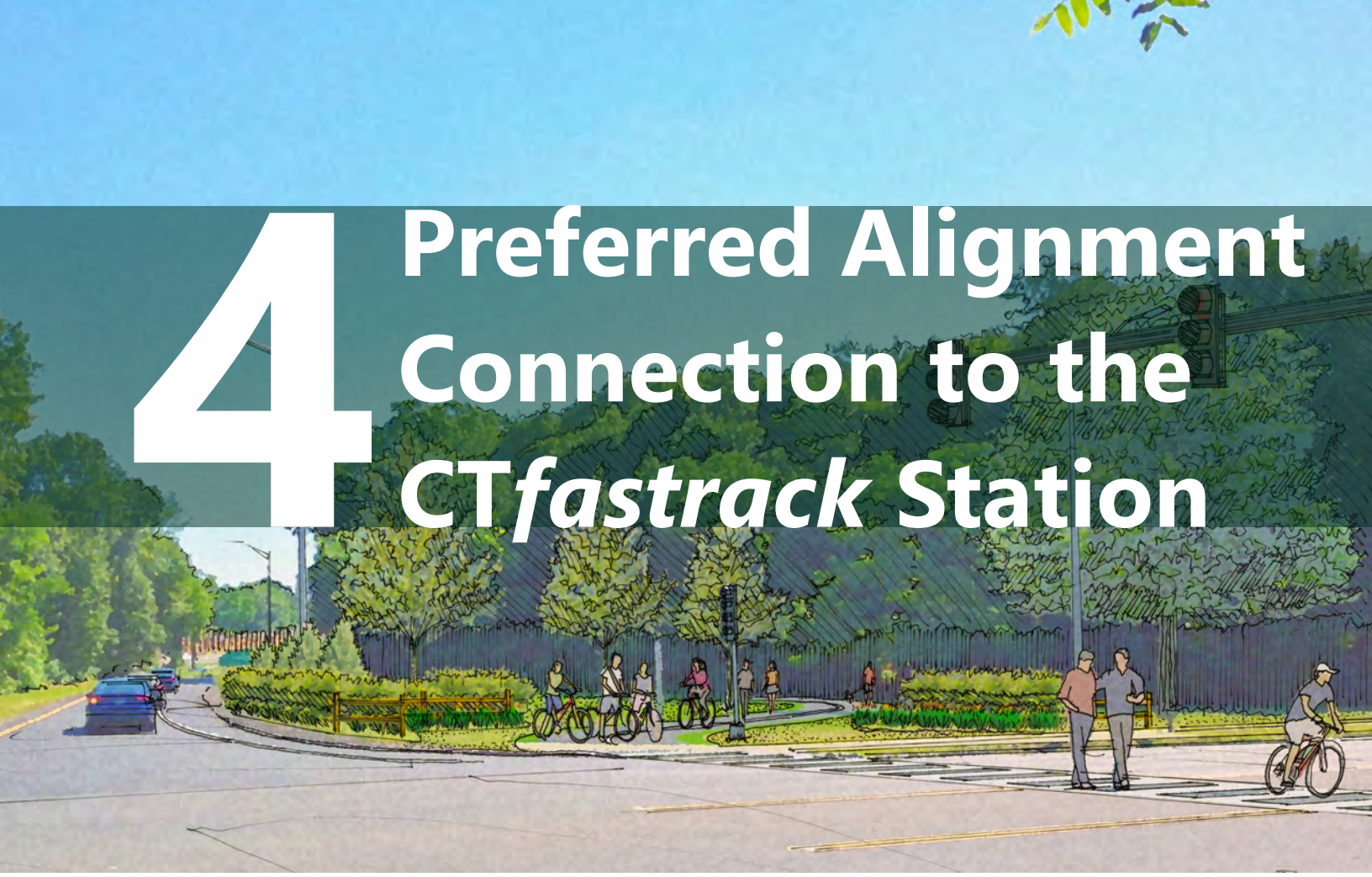
	PERFORMS WELL (Pros)	PERFORMS POORLY (Cons)
Alignment E	Off-road percentage is 92%. Lowest potential for vehicular conflicts, compared to Alignment F.	Higher cost compared to Alignment F, with more right-of-way overlaps.
Alignment F	Lower costs and no major right-of-way overlaps, compared to Alignment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

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.



4 Preferred Alignment Connection to the CT*fastrack* Station

Introduction

The preferred trail alignment that connects the FCHT with the CT***fastrak*** station in downtown New Britain is known as Alignment E (see Chapter 3 Alternatives Analysis). The Preferred Alignment is an approximately 4.9-mile multi-use trail beginning in downtown Plainville and ending at the CT***fastrak*** station in New Britain, roughly parallel to Route 72 and Black Rock Avenue. Nearly the entire length of the preferred alignment (up to 92 percent) is comprised of an off-road multi-use trail.

The Preferred Alignment was created with input from the community as received during meetings and online forums during the Fall of 2016 and Spring of 2017, and refined with feedback received from the community over the Summer and Fall 2017. This alignment has been developed to avoid or minimize impacts to sensitive resources, and to optimize the alignment for users.

As described in Chapter 3, there are several reasons why this alignment was put forward as the preferred alternative, including its potential to remain "off-road." Although the Preferred Alignment follows a similar corridor as Alignment F, it does so by means of a separated facility dedicated to bicycles and pedestrians, rather than a shared roadway facility. The Preferred Alignment is also the most direct route of those considered. At 4.9 miles in length, the alignment provides an efficient connection from Plainville to

New Britain through a topographically constrained environment. The alignment uses an existing corridor to span the Metacomet Ridge, a topographic feature that limits potential east-west connections between Plainville and New Britain. Over ninety five percent of the Preferred Alignment uses municipal and state-owned land, the vast majority being within the CTDOT Route 72 corridor right-of-way.

A large-size overview map of the Preferred Alignment (Alignment E) is provided at the back of this report. It is described in more detail below, and is organized into three sections from west to east:

Downtown Plainville Section

The downtown Plainville section of the Preferred Alignment begins where it connects with the FCHT, at the intersection of West Main Street and Pierce Street. Alignment E proceeds in a northly direction using the existing Route 372 on-road facility (sidewalks & shared lane markings) to Pine Street (a distance of approximately 2,200').

The proposed design for the route along Pine Street and Woodford Avenue to Crooked Street features a mile long road diet. Woodford Avenue has more right-of-way (50'-80' of width) than current or forecasted traffic volumes warrant, and a road diet would narrow the travel lanes (still providing for one lane in each direction) and convert excess right-of-way to landscaping, lighting, sidewalks and provide for an off-road multi-use trail.

The concept of a road diet along Woodford Ave has been under consideration for many years. Due to the high speeds, modest traffic volumes, lack of sidewalks/shoulders and limited crosswalks and no bicycle accommodations the existing roadway could benefit from a properly designed road diet. As the alignment approaches Crooked Street, the proposed route shifts north slightly and travels under Crooked Street via a proposed 100' culvert.

Figure 7 provides a before and after conceptual illustration of Woodford Avenue road diet.

Consideration for Design Phase

There are several design considerations that need to be evaluated in this section.

- *Transition to Road Diet facility* – Due to right-of-way constraints, the transition from an on-road to an off-road facility at the intersection of Pine St and East Main St (Route 372) will require additional analysis and context sensitive design.
- *Woodford Avenue* – The proposed Woodford Avenue road diet would require additional analysis during the design phase to address utility relocations, drainage impacts, traffic operations and access to local properties.
- *Interstate 84* - As the proposed alignment extends under Interstate 84 the design of the road diet will require evaluations of the structural abutments and piers supporting I-84 including existing guiderails and lighting.
- *Crossing of Crooked Street* – geotechnical explorations will be an important early consideration in determining whether a culvert under Crooked Street is feasible. Additional considerations at this crossing include construction staging and utility/drainage impacts.

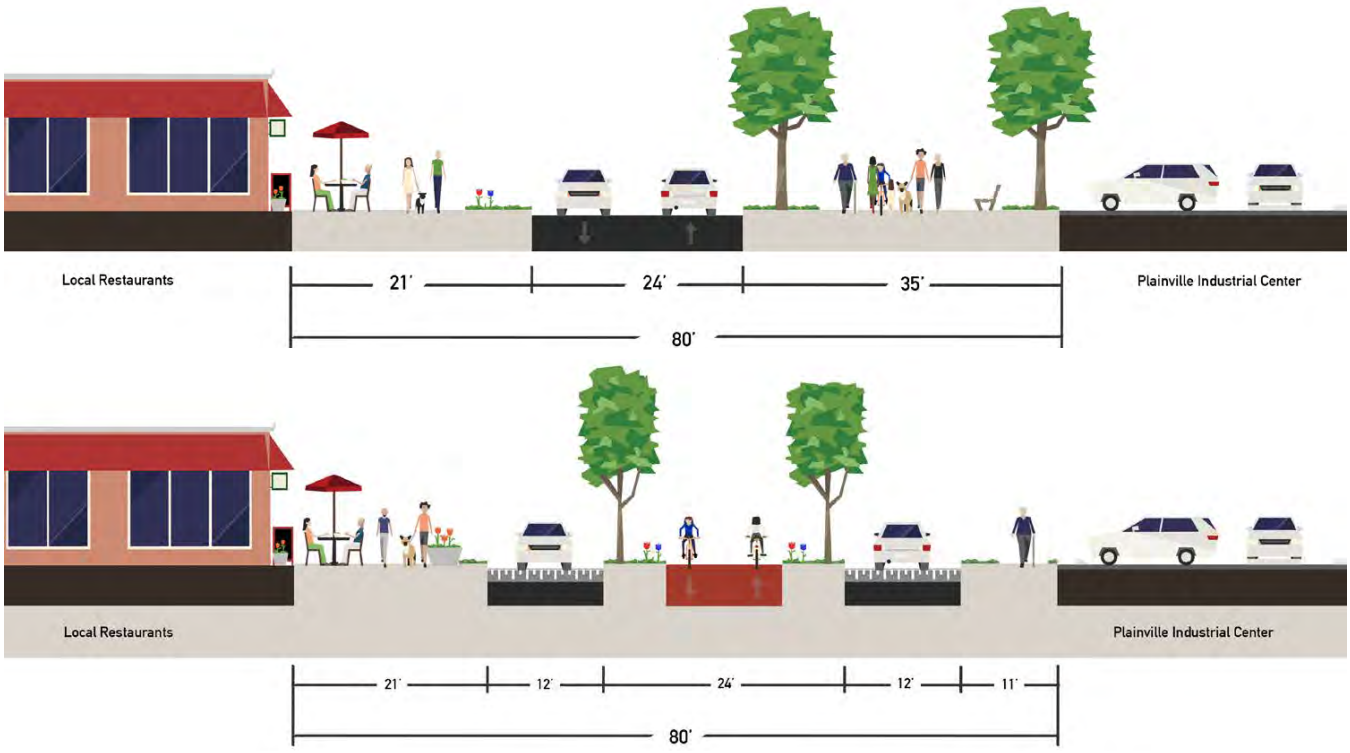


Figure 7 *Woodford Avenue Road Diet Illustration*

Central Section

East of Crooked Street, the alignment would travel along a portion of White Oak Avenue and Woodford Avenue Extension prior to separating from Woodford Avenue Extension and following the Route 72 corridor to the Plainville/New Britain municipal boundary, within the CTDOT right-of-way. This section transitions from residential to industrial land uses, beginning near the White Oak Condominium complex and moving east, beyond the Tilcon Quarry. The alignment's route north of the road and along the Route 72 retaining walls minimizes the need to cross residential and commercial driveways and minimizes conflicts between trail users and the quarry operation. Near the municipal boundary, the alignment crosses the Metacomet Ridge and Trail.

Once it has passed the Metacomet Ridge and into the City of New Britain, the alignment follows Route 72 parallel to Black Rock Avenue passing Esther Street where a mid-block crossing may be desired to connect with the Metacomet Trail, which is a hiking trail. The alignment crosses Wooster Street at an existing signalized intersection, and continues east, utilizing CTDOT property, as an off-road multi-use trail between Black Rock Avenue and Route 72. At the crossing of Warren St in Hartford Square, the alignment may require modifications to existing retaining walls and signalization. In the vicinity of New Hampshire Drive, the alignment would separate from Black Rock Avenue and continue east along the Route 72 sound barrier wall to Corbin Avenue, which it crosses in the vicinity of the existing Exit 7 signalized on/off ramp intersection (see Figure 8). The alignment then proceeds east between Route 72 and adjacent residential neighborhoods to West Main Street (Route 555).

Vicinity of Corbin Avenue (before)

Figure 8 Vicinity of Corbin Avenue with Trail Improvement (After)

Consideration for Design Phase

There are several design considerations that need to be evaluated in this section.

- The need for easements in the vicinity of Crooked Street and the quarry.
- Potential privacy concerns from nearby residential property owners.
- The use of the Route 72 corridor will require an evaluation of existing structures that support or provide drainage support to Route 72. Walls, drainage structures/pipes, swales, lighting and sound barrier walls are located along the proposed alignment.
- Culvert extensions for the stream crossing near New Hampshire Drive.
- Retaining walls / culvert extensions will be needed along the alignment and structural / geotechnical evaluations.

- Traffic analysis for local roadway crossings and in particular, at the intersection of Lincoln Street and Main Street in New Britain (as the alignment proposes to cross two legs of this intersection).

Downtown New Britain Section

The alignment crosses West Main Street (Route 555) at the existing signalized intersection with Lincoln Street, then re-enters the Route 72 right-of-way corridor continuing east to at-grade crossings of Curtis Street and Grove Hill Road. Figure 9 shows an illustration of the trail (before and after) as it crosses Curtis Street.

Upon reaching Russell Street, the proposed alignment would narrow to eight feet and travel along the northern edge of the existing roadway/shelf for approximately 250 linear feet where it would then widen back out to a 10-12' off-road path as it approaches the signalized intersection of Lake Street and Columbus Boulevard. The alignment then joins the existing bike lanes / sidewalks on Columbus Boulevard for a distance of 1,900 linear feet to connect to the CT***fastrak*** station.

Consideration for Design Phase

There are several design considerations that would require further consideration as the project moves into the design phase:

- The use of the Route 72 corridor in this section requires evaluation of slopes and potential construction of walls to support the proposed facility.
- Traffic and structural analysis of the trail along Russell Street.
- The transition from an off-road multi-use trail to existing sidewalks/bike lanes through the intersection of Lake Street and Columbus Boulevard.
- Potential impacts to the Polish community.
- Concerns of property owners adjacent to the trail alignment.

Unless stated otherwise, it is assumed that Alignment E is to be designed and constructed to standards set forth by the CTDOT and AASHTO, the MUTCD, the ADA, and PROWAG.

Looking west from Curtis Street (before)

Figure 9 Looking west from Curtis Street (after)

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 ideas 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 some 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.

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 raised that trail maintenance could be a burden. 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 Farmington Valley Trails Council and the Plainville Greenway Alliance be contacted 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).

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 connect to the CT***fastrak*** station in New Britain. 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 CT***fastrak*** connection. 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 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 CT***fastrak*** connection. 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.

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.

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 City of New Britain 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 City of New Britain 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.

City of New Britain

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

Downtown Plainville Section (Pierce Street to Crooked Street) (1.5 miles)

Construction of Phase I of the FCHT connection to the CT***fastrak*** Station in New Britain consists of one and a half miles of 10-12' wide bituminous multi-use trail. Beginning at the intersection

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.

of West Main Street and Pierce street in Downtown Plainville, the proposed alignment continues northeast along West Main Street for approximately 2,200 linear feet before turning east, on Pine Street and continuing along Woodford Avenue (via a potential road diet) terminating at a proposed culvert under Crooked Street.

This phase of construction is entirely off-road and is contingent upon the successful road diet of Woodford Avenue. This phase would likely require the installation of fencing, drainage improvements, signal improvements, culverts, retaining walls, mid-block crosswalks, utility relocations, landscaping and interpretive signage.

Phase 2 Construction

Central Section (Crooked Street to West Main Street/Route 555) (2.4 miles)

Construction of Phase II of the FCHT connection to the CT***fastrak*** Station in New Britain consists of 2.4 miles of 10-12' wide bituminous multi-use trail. Beginning at the intersection of Crooked Street and White Oak Avenue the proposed alignment continues along a portion of White Oak Avenue and Woodford Avenue Extension prior to separating from Woodford Avenue Extension and following the Route 72 corridor to the Plainville/New Britain municipal boundary, within the CTDOT right-of-way. The alignment's route north of the road and along the Route 72 retaining walls minimizes the need to cross residential and commercial driveways and minimizes conflicts between trail users and the quarry operation. The alignment continues to follow Route 72 parallel to Black Rock Avenue passing Esther Street where a mid-block crossing may be desired to connect with the Metacomet Trail. The alignment crosses Wooster Street at an existing signalized intersection, and continues east, utilizing CTDOT property, as an off-road multi-use trail between Black Rock Avenue and Route 72. At the crossing of Warren St in Hartford Square, the alignment may require modifications to existing retaining walls and signalization. In the vicinity of New Hampshire Drive, the alignment would separate from Black Rock Avenue and continue east along the Route 72 sound barrier wall to Corbin Avenue, which it crosses in the vicinity of the existing Exit 7 signalized on/off ramp intersection. The alignment then proceeds east between Route 72 and adjacent residential neighborhoods to West Main Street (Route 555).

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.

Phase 3 Construction

Downtown New Britain Section (West Main Street/Route 555 to CTfastrak Station) (1.0 miles)

The alignment crosses West Main Street (Route 555) at the existing signalized intersection with Lincoln Street, then re-enters the Route 72 right-of-way corridor continuing east to at-grade crossings of Curtis Street and Grove Hill Road.

Upon reaching Russell Street, the proposed alignment would narrow to eight feet and travel along the northern

edge of the existing roadway/shelf for approximately 250 linear feet where it would then widen back out to a 10-12' off-road path as it approaches the signalized intersection of Lake Street and Columbus Boulevard. The alignment then joins the existing bike lanes/ sidewalks on Columbus Boulevard for a distance of 1,900 linear feet to connect to the CT***fastrak*** station.

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, landscaping and interpretive signage.

Schedule

Once the study is endorsed by the City of New Britain, 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 City of New Britain, 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:

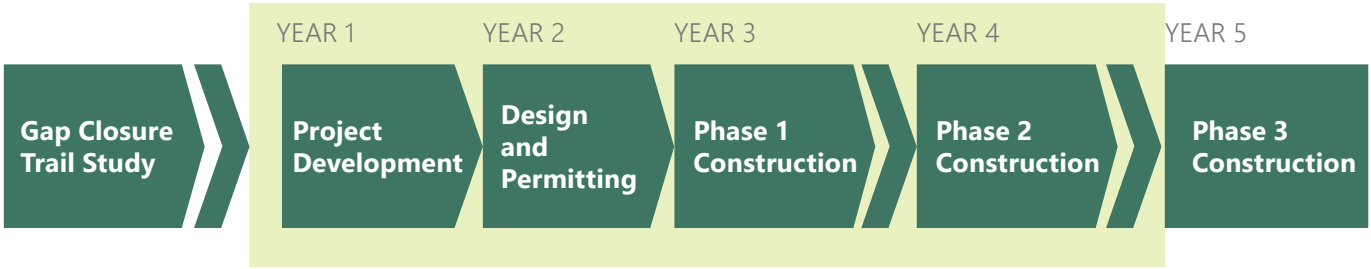
- CTDOT Highway Design Manual
- FHWA Manual on Uniform Traffic Control Devices
- AASHTO Guide to the Development of Bicycle Facilities
- Americans with Disabilities Act
- Public Right-of-way Accessibility Guidelines

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 City of New Britain, CTDOT, CTDEEP, the State Historic Preservation Office, FHWA and the public.

Construction Phase

The study recommendation is to construct this 4.9 mile project in three 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 City of New Britain. 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

Connection to CT*fastrak* Section