AECOM

MEETING REPORT

Client: CTDOT
Job Number: 171-366
Project Name: Central Connecticut Rail Study
Issue Date: January 8, 2015
Location: Central Connecticut Chambers of Commerce (Bristol, CT)

Central Connecticut Rail Study
Advisory Committee Meeting #3
November 20, 2014 – 10:00 AM to 12:00 PM

The third meeting of the Advisory Committee (AC) for the Central Connecticut Rail Study (CCRS) was held on November 20, 2014 at the offices of the Central Connecticut Chambers of Commerce in Bristol. The purpose of this meeting was for the Study Team to give AC members an update on Study activities that have occurred since the last meeting and on the adjustments made to the Study's scope of work during that time. The following is a report of this meeting:

Agenda:

1. Introductions
2. Study Overview and Previous Work Completed
3. Changes in Scope and Current Work Efforts
4. Next Steps

Presentation & Discussion:

Mr. Jim Albert of the Central Connecticut Chambers of Commerce opened the meeting by welcoming the attendees to the offices of the Chamber. He stated that Bristol is very interested in the CCRS and that downtown is a logical place for a future passenger rail station – even this building (referring to the Chamber office building) could be a perfect station. He thanked everyone for coming and passed the meeting over to the Study Team.

Ms. Anna Bergeron, project manager for the Connecticut Department of Transportation (CTDOT), then gave a welcome from the Study Team and introduced Mr. Tom Maziarz, Bureau Chief of CTDOT's Bureau of Policy and Planning. Mr. Maziarz reminded the attendees that the CCRS started with the governor's request to analyze the potential for passenger rail options within the corridor. He explained that the CTDOT recognized a need for more in-depth analysis of the infrastructure within the study corridor as a basis for reviewing alternatives. CTDOT also recognized a need for looking at additional passenger alternatives, including Bus Rapid Transit and Diesel Multiple Units. While the addition of these items caused a delay in the Study schedule, it will result in a better product. The goal is to have recommendations complete by late Spring 2015 and that these Study recommendations be incorporated into the statewide transportation initiative, TransformCT. He then turned to Mr. Stephen Gazillo, the project manager for URS, to give the meeting's presentation (see attached).

Mr. Gazillo gave an overview of the CCRS and highlighted the work that has been completed to date. He then expanded upon Mr. Maziarz's introduction to the Study's expanded scope. He explained that the following three items have been added to the CCRS: Diesel Multiple Unit (DMU) Assessment, Bus Rapid Transit (BRT) Light Option, and Rail Infrastructure Assessment. He gave an overview of the two passenger improvements and then gave additional information regarding the infrastructure assessment. He highlighted the overall condition of the corridor and showed representative photos of structures,

grade crossings, tunnels, and track. Overall, it was noted that the corridor includes a large number of infrastructure assets that would need to be improved in order to support freight operations and institute passenger service.

Mr. Gazillo explained that one of the upcoming efforts would be an analysis of the transit market and potential ridership in the corridor. The URS Team will complete a Transit Market Analysis, and CTDOT will prepare a Ridership Forecast. These reports will be evaluated collectively to determine the potential transit demand within the CCRS corridor. Mr. Gazillo gave a brief overview of factors that would go into these analyses, including densities of population, households, employment, senior populations, zero-car households, and low-income households. Overall, there is limited density outside of the cities (New Britain, Waterbury, and Bristol)

Mr. Gazillo concluded the presentation by outlining the next steps of the CCRS:

- Infrastructure Assessment Report (Drafted, under review by CTDOT)
- Freight Market Analysis Report (Drafted, under review by CTDOT)
- BRT Light Analysis & DMU Assessment
- Draft Final Report – Spring 2015
    - AC Meeting #4
    - Public Meeting

He then opened the floor to questions and discussion.

Will the study include costs of potential improvements?

Response: Yes. A draft of costs relating to infrastructure improvements is under review.

Has Pan-Am been involved?

Response: Yes. Pan-Am has been present at all of our field investigations and has been forthcoming with information needed for the study.

Representative Frank Nicastro noted his opposition to the CTfastrak project. He was part of the group that encouraged the governor to look at rail in this corridor. He is concerned that the CCRS is now considering running a bus to Waterbury when more people would be willing to ride a train.
Buses to Waterbury are already a part of the CTfastrak service plan. CCRS is still looking at passenger rail options between Berlin and Waterbury.

Is there a commercial component to this study?

Response: Yes. An in-depth freight market analysis has been drafted and is under review. This effort included interviews with existing freight customers.

When creating ridership forecasts, will this service be looked at as thru service to Bridgeport?

Response: Ridership will be forecast for several service variations, including intercity service via New Haven-Hartford-Springfield and the Waterbury Branch.

Does service along the Waterbury Branch assume improvements to that Branch?

Response: Analysis included programmed improvements and schedules for the Branch. Signalization would be needed.

Does the DMU alternative allow for fewer improvements to the corridor, or is it just a different rolling stock option?

Response: That is being evaluated.

If the BRT Light option is operating on the existing road network, would there be improvements?

Response: Items such as branded buses and shelters would be used, but there would be no changes to the road network.

Without roadway improvements, it doesn't seem that this option would offer a benefit to users since they would still be battling the same traffic.

It seems that buses have consumed this rail study.

Response: Buses could be used as part of a phased approach to implementing rail service. Even if the decision was made to improve the track and institute passenger service, there would still be a delay due to construction. Buses are also an integral part of a multimodal approach to transit. There is a need to offer connections to rail stations.

The idea of buses as a phase is a great theory on paper, but I'm concerned that it will stop there.

Response: Buses are not the only option that will come out of this study. The freight and infrastructure documents currently under review will demonstrate the large scale of consideration that has been given to rail alternatives.

When looking at ridership forecasts, are you considering the impacts of TOD projects?

Response: Transit-Oriented Development (TOD) projects are being reviewed more in terms of economic development and market analysis. They are not part of the CTDOT ridership model.

Will the Renaissance Downtowns project be moving forward?

Response: The project has received an extension until the end of March 2015 to secure funding.

Is Light Rail being considered as a potential mode?

Response: Light Rail (LRT) was one of the original alternatives. There are some infrastructure concerns relating to LRT, though, as it would require a separated right-of-way from freight rail traffic.

Will the Central Connecticut Chambers building be the station location in Bristol, or will the station be incorporated into the Renaissance Downtowns project?

Response: The study is using the Renaissance Downtowns property as the planned location for a Bristol station. There is need, however, to overcome the grade separation between the track and the development.

How much will the BRT Light option cost? It will not be a zero-sum gain. This corridor is the second strongest manufacturing hub in Connecticut and is dependent on freight.

Response: This corridor is home to a freight line, and the study will do nothing to change that. CCRS includes a substantial focus on freight and improving the infrastructure in the corridor. The Team has conducted interviews with current and potential customers. The effort will culminate in one of the most extensive freight reports completed within Connecticut.

Freight is lightly used in this corridor, but nationwide freight is a hot topic. There is a push to move goods on vehicles other than trucks.

Response: Anything done to improve this line will benefit Pan Am. However, it is necessary to consider the larger freight network, not just Waterbury to Berlin.

What about improving the tracks from Waterbury to Pittsfield and putting passenger service there?

Response: While there is no rail line between Waterbury and Pittsfield, extending the Danbury Branch of Metro-North to Pittsfield has been studied. The extension would be very expensive and result in limited ridership. However, the idea is still in play as Massachusetts is in the process of improving their portion of the track.

Would passenger service be an extension of Metro-North?

Response: Metro-North is a stakeholder in this Study and has been involved in the process. There are several options for how future service could be operated. While Metro-North is one option, others will be considered and analyzed as well.

State representatives should be kept informed about this study.

Response: State representatives will be added to the interested parties list and will receive future updates and announcements relating to the CCRS.

This meeting report is also available on the CCRS website: www.centralctrailstudy.com

Attachments:

1. List of Attendees
2. Meeting Presentation

Attendees:

Name	Agency
Study Advisory Committee Members	
Jim Albert	Central Connecticut Chambers of Commerce
Francis Pickering	Central Connecticut Regional Planning Agency
Carl Stephani	Central Connecticut Regional Planning Agency
Justin Malley	City of Bristol - Economic Development
Alan Weiner	City of Bristol - Planning
Maya Loewenberg	CTDECD
Frederick Riese	CTDEEP
Maureen Lawrence	CTDOT - Bureau of Public Transportation
Sara Radasci	CTDOT - Bureau of Public Transportation
Garrett Eucalitto	CTOPM
Ed Perzanowski	CTrides
Art Simonian	Town of Berlin
Mark DeVoe	Town of Plainville
Study Team Members	
Anna Bergeron	CTDOT - Bureau of Policy and Planning
Colleen Kissane	CTDOT - Bureau of Policy and Planning
Tom Maziarz	CTDOT - Bureau of Policy and Planning
Molly Parsons	CTDOT - Bureau of Policy and Planning
Melanie Zimyeski	CTDOT - Bureau of Policy and Planning
Stephen Gazillo	AECOM
Cara Radzins	AECOM
Carmine Trotta	AECOM
Additional Interested Parties	
Steve Collins	Bristol Press
Eric Madsen	Citizen
Rep. Frank Nicastro	State Representative
Charlie Talmadge	Renaissance Downtowns at Bristol

CENTRAL CONNECTICUT
RAIL STUDY

ADVISORY COMMITTEE MEETING #3

NOVEMBER 20, 2014

BRISTOL, CT

URS
A Division of AECOM

Agenda

- Study overview and previous work completed
- Changes in scope and current work efforts
- Next steps





Study Overview & Work Completed

Study Overview

- Transportation Planning Study and Market Analysis to determine the **need** and **feasibility** of enhanced passenger rail or transit service between Waterbury and Berlin

- Consideration of existing and future freight service

- Additional scope resulting from Public Meetings (June 2013):
  - Infrastructure assessment for upgrade to State of Good Repair
  - Bus Rapid Transit options and extension of CT*fastrak*
  - Diesel Multiple Unit equipment for passenger service

- Study Website
  - www.centralctrailstudy.com
  - Documents, updates, news, etc.

Work Completed

- Study Meetings
  - AC Meeting #1 (February 2013)
  - Focus Groups (April 2013)
  - Alternatives Development Workshop (May 2013)
  - AC Meeting #2 (June 2013)
  - Public Meetings (June 2013)
  - AC Meeting #3 (November 2014)
- Study Documents
  - Review of Previous Studies (June 2012)
  - Base Mapping (September 2012)
  - Existing Demographics & Transportation (November 2012)
  - Survey Analysis Report (January 2013)
  - Focus Groups Summary Report (April 2013)
  - ***Extra Work Scope (November 2013) / Notice to Proceed (May 2014)***
  - Transit Demand Analysis (August 2014)
  - Freight Market Analysis Report (*Draft in Progress*)
  - Infrastructure Assessment Report (*Draft in Progress*)

ADDITIONAL SCOPE OF WORK

Additional Scope of Work

- Diesel Multiple Unit (DMU) Assessment
  - Evaluate feasibility of using DMU equipment for passenger service
- Bus Rapid Transit (BRT) Light Option
  - Review Bus BRT options and extension of CT*fastrak*
- Rail Infrastructure Assessment
  - Evaluate infrastructure needs for upgrade to at least a State of Good Repair

Diesel Multiple Unit (DMU) Assessment

- Could operate as shuttles or potential thru service to Bridgeport
- Would operate on existing right-of-way
- Current DMU operations elsewhere
  - Need to examine lessons learned and applicability to CCRS Corridor

Illustrative DMU Applications in U.S.

- Stadler GTW
  - 71-87 MPH max
  - 108 seated
  - 92 standing)

- Both Texas systems received FRA Waivers to operate with temporal separation with freight

Red Line, CapMetro, Austin, TX (2010)

"A" Train, Denton County, TX (2011)

Illustrative DMU Applications in U.S.

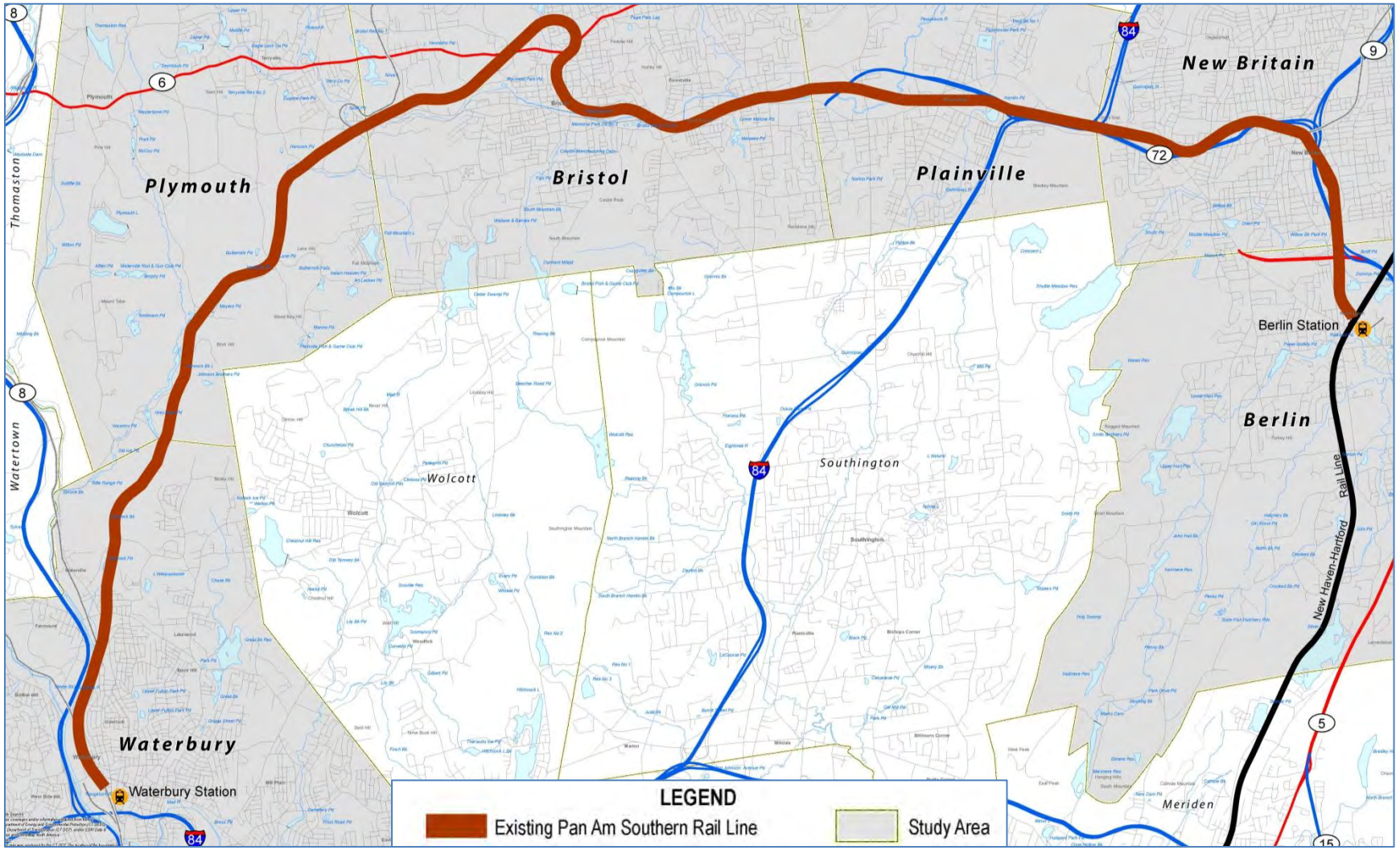
- Nippon Sharyo
  - 79 MPH max
  - 79 seated/80 standing

SMART Phase 1, San Rafael-Santa Rosa, CA (2018)

- Siemens Desiro Classic
  - 55 MPH
  - 36 seated/90 standing
  - FRA Non-Compliant
    - California PUC regulates

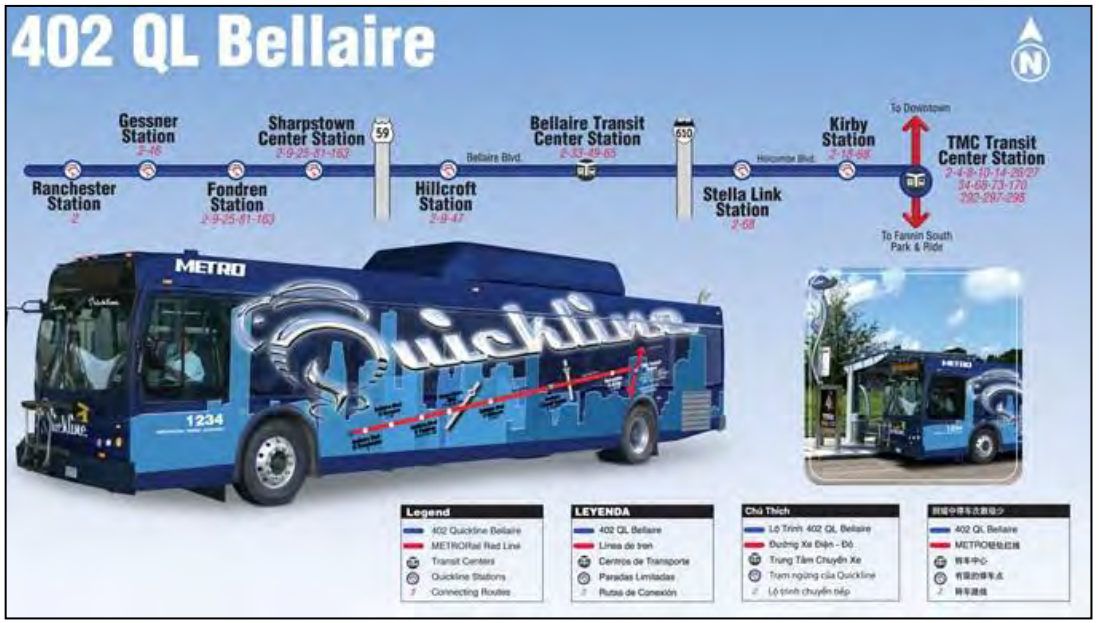
Sprinter, North County Transit District, San Diego (2008)

Diesel Multiple Unit (DMU) Assessment

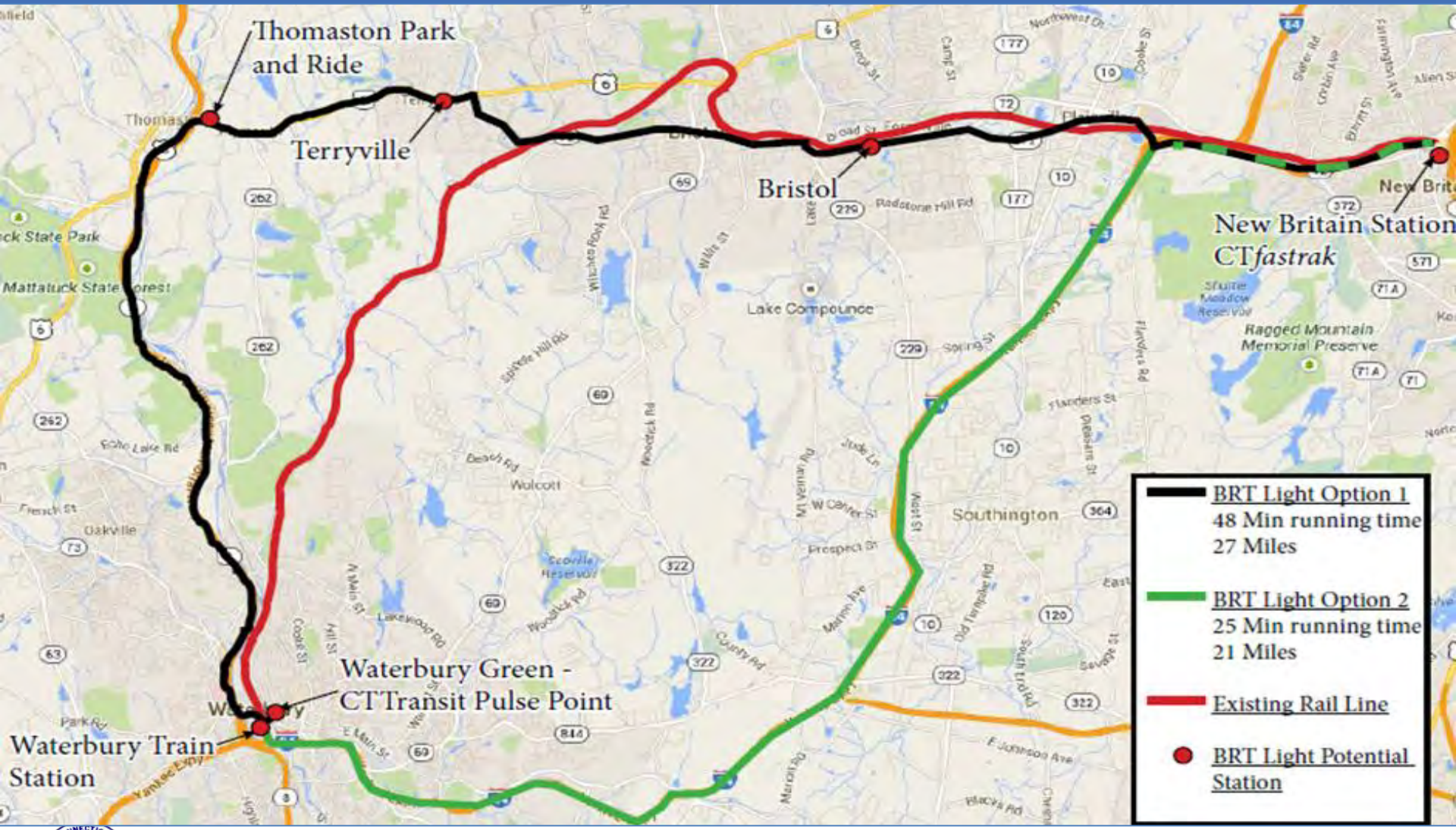


Bus Rapid Transit (BRT) Light Option

- Explore extension of CT*fastrak*
- Develop service plan
- Evaluate various alignments
  - Route 72/372, Route 6, and Route 8 to Waterbury
  - Interstate 84 from New Britain to Waterbury with potential feeder service from adjoining towns



Bus Rapid Transit (BRT) Light Option



Infrastructure Assessment

- Assessment of rail infrastructure to determine minimum State of Good Repair
  - Guideway Elements (track, structures)
  - Facilities
  - Systems (train control, traction power, communications)
  - Vehicles

- Need to bring system to a State of Good Repair in order to preserve existing service and set the groundwork for expanding passenger and freight rail service

Infrastructure Assessment

- Infrastructure needs were assessed at three levels based on FRA Track Safety Standards:
  - Maintain Class II Standards (State of Good Repair)
  - Improve the line to Class III Standards
  - Improve the line to Class III Standards with additional passenger service upgrades

- Analysis is based on existing track charts, right-of-way mapping, and field investigations

Infrastructure Assessment: Right-of-Way General Conditions

- Overgrown vegetation and obstructed drainage is common
- Wood ties are in poor condition
- Some fouled ballast
- No Signalization

Infrastructure Assessment: Right-of-Way General Conditions

Area of significant fouled ballast

Infrastructure Assessment: Right-of-Way General Conditions

Many wood ties are in poor condition

Infrastructure Assessment: Right-of-Way General Conditions

Typical conditions in a rock cut area, including overgrown vegetation, obstructed drainage, and fouled ballast

Infrastructure Assessment: Structures

- 20 Overhead Structures
- 40 Culverts (< 5' span)
- 49 Structures (> 5' span)
  - 1 Concrete Pipe
  - 3 Tunnels
  - 3 Stone Arches
  - 10 Concrete Arch with Closed Deck
  - 1 Concrete Slab
  - 1 Prestressed Concrete Closed Deck
  - 6 Steel Beam with Closed Deck
  - 21 Steel Beam with Open Deck
  - 2 Rail Top with Closed Deck
  - 1 Timber Trestle
- 21 At-Grade Crossings

Tunnels, *Structures*, and *At-Grade Crossings* are shown in the indicated colors on the large corridor map on the wall

Infrastructure Assessment: Terryville Tunnel

- Opened for passenger service: **January 1911**
- 3,580 feet long, once considered the longest bored rail tunnel in the U.S
- 24' high, 36' wide
  - Originally double-tracked

Western Entrance to the Terryville Tunnel

- Water damage, aged concrete
  - Some remedial work has been done to patch the lining

Infrastructure Assessment: Terryville Tunnel

Top Heading of Terryville Tunnel during Construction

Infrastructure Assessment: Terryville Tunnel

Current Single Track and Water around Invert with Accumulation of Debris along Sidewalls

Infrastructure Assessment: Terryville Tunnel

Extensive Scaling from Walls at Eastern Portal

Infrastructure Assessment: Terryville Tunnel

Tunnel Crown

Infrastructure Assessment: Terryville Tunnel

Failure of Alcove Lining Exposing Rock Mass (note flowing groundwater)

Infrastructure Assessment: At-Grade Crossings

- 21 At-Grade Crossings
  - 17 with predictor/motion sensing automatic warning devices (gates, lights, bells)
  - 2 with only flashing lights and bells
  - 2 private with signs

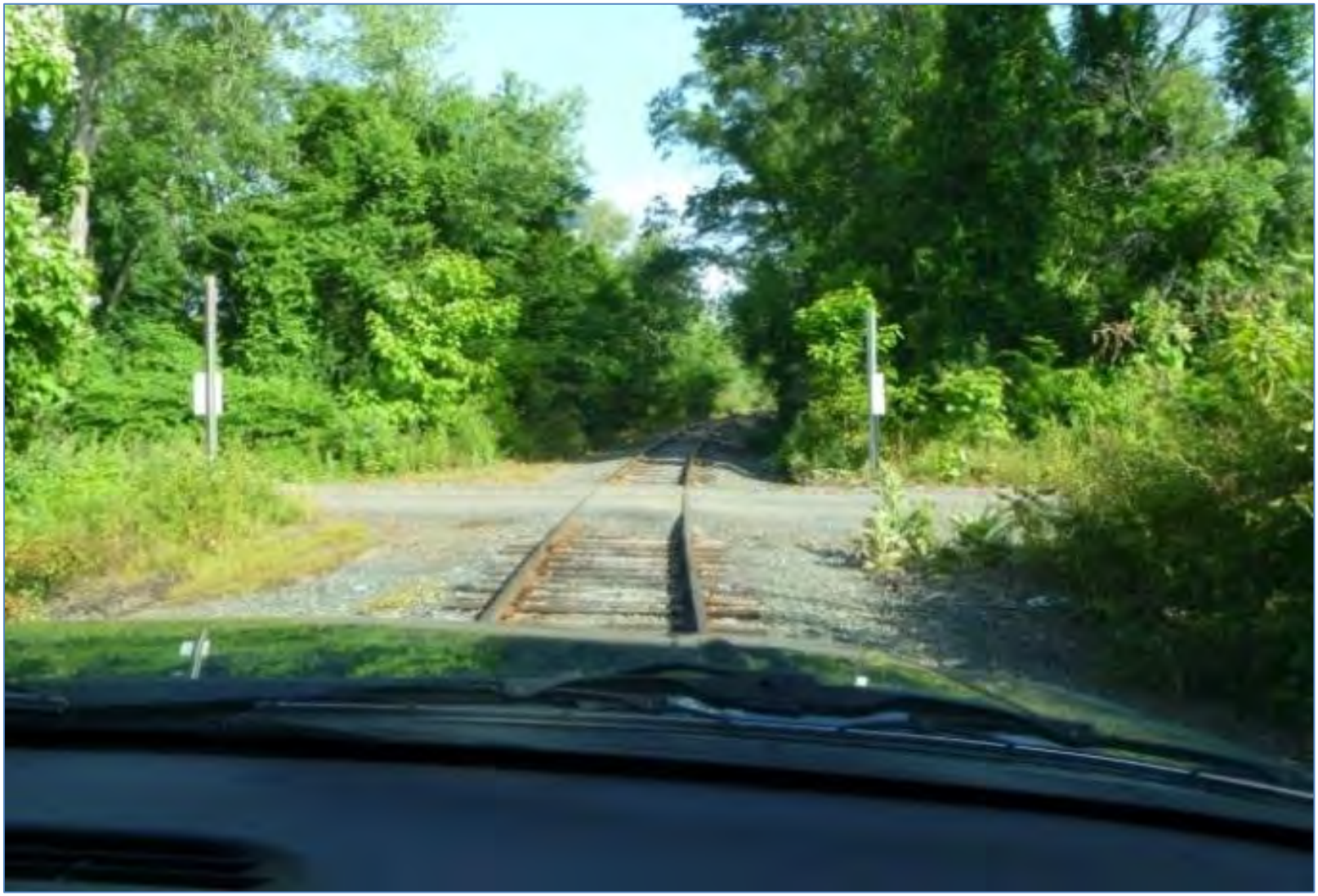
- No at-grade crossings west of MP 14.01 (Farrell Avenue, Bristol)

Infrastructure Assessment: At-Grade Crossings

South Street at-grade crossing with only lights for advance warning (New Britain)

Infrastructure Assessment: At-Grade Crossings

Private at-grade crossing with only signs for advanced warning



Infrastructure Assessment: Bridges

- Steal Beam Bridges
  - 6 with Closed Deck
    - Most newer and in generally good condition
  - 21 with Open Deck
    - Installed in the 1910s
    - Most are in fair condition; some are in poor condition
  - Many constructed for double-track, but superstructure may be missing
- 10 Concrete Arches
  - Most constructed prior to 1910 and have areas of deterioration (cracks, scale, spalls and hollow areas)
  - A few have eroded/scaled areas along the waterline

Infrastructure Assessment: Bridges (Steel Beam)

King Street (Bristol): Typical steel structure with closed deck

Infrastructure Assessment: Bridges (Steel Beam)

Main Street (Bristol): Typical steel structure with open deck

Infrastructure Assessment: Bridges (Concrete Arches)

Over Barlow Street (Plymouth)

Infrastructure Assessment: Bridges (Concrete Arches)

Over the Pequabuck River (Plymouth)

Next Steps

Next Steps: Transit Market & Ridership

- URS Team will complete a Transit Market Analysis
- CTDOT will prepare a Ridership Forecast
- These reports will work together to show the potential transit demand within the CCRS corridor

Transit Propensity Factors

- Discretionary Rider Metrics
  - Population density
  - Household density
  - Density of workers
    - Commuter density
      - non-work at home

- Transit-dependent Metrics
  - Senior density
    - Persons over age 65
  - Density of zero-car households
  - Density of one-car households
  - Density of Households below Median Income
    - 2013 CT Median Household Income: $69,519

Relative Transit Propensity in CCRS Corridor

- There is limited density outside of the cities (New Britain, Waterbury, and Bristol)

Station Area	Population Density	Senior Density	Worker Density	Commuter Density	Household Density	Zero-car Households	One-car Households	Less than Median Household Income	Relative Transit Propensity
	persons per sq. mi.				*households per sq. mi.*				
New Britain	9,384	55	233	228	3,711	938	1,540	3,162	High
Waterbury	6,938	75	240	238	2,750	849	1,052	2,359	High
Bristol	2,843	106	424	415	1,203	161	528	861	Moderate
Plainville	2,287	133	426	419	1,002	38	440	609	Low
Plymouth	2,016	86	367	360	779	70	265	506	Low
Berlin	1,030	200	661	643	400	11	103	177	Low

Next Steps

- Infrastructure Assessment Report
  - *Drafted, under review by CTDOT*
- Freight Market Analysis Report
  - *Drafted, under review by CTDOT*
- BRT Light Analysis & DMU Assessment
- Draft Final Report – Spring 2015
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Discussion