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# ALBANY WATERFRONT CONNECTOR

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## FEASIBILITY STUDY



DECEMBER 2017

## ACKNOWLEDGMENTS

This report was prepared in cooperation with the City of Albany and the Capital District Transportation Committee. This report was funded in part through a grant from the Federal Highway Administration, U.S. Department of Transportation. The views and opinions of the authors and/or agencies expressed herein do not necessarily state or reflect those of the U.S. Department of Transportation. The report recommendations are conceptual in nature and do not commit NYSDOT or the City of Albany to recommended projects. The concepts presented in this plan may need to be investigated in more detail before any funding commitment is made. Undertaking additional engineering or other follow up work will be based on funding availability. The Waterfront Connector Feasibility Linkage Study will have a positive impact on the affected Environmental Justice populations, as documented on pages A-61- A-65 of the Appendix.



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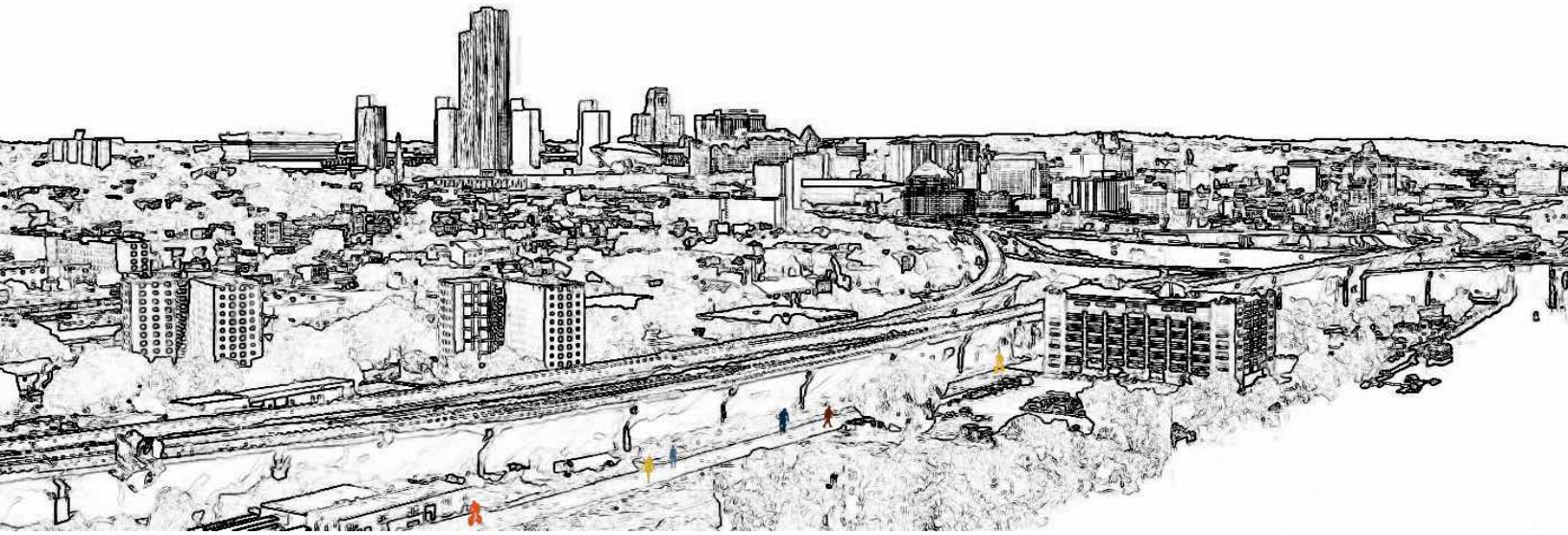
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# EXECUTIVE SUMMARY





## INTRODUCTION

The objective of this feasibility study is to identify a route that closes the 1.5 mile gap between the existing Albany County Rail Trail and the Mohawk-Hudson Bike-Hike Trail. The connection proposed in this report will build upon existing efforts by the City of Albany to enhance bicycle and pedestrian networks, promote healthy and sustainable modes of transportation, and spur reinvestment in the South End Neighborhood and Downtown.

## ENGAGEMENT PROCESS

The development of route alternatives and the selection of an alignment included extensive outreach to stakeholders, state agencies, active transportation advocates, expected trail users, and residents of the surrounding neighborhood - the South End.

Public outreach was used to solicit feedback and ideas from potential users on their concerns and preferences for the location and design of the Connector. Stakeholder meetings and two public meetings were held as part of the engagement process.



Stakeholder workshops allowed local advocates to weigh-in on different alternative alignments.

## ALTERNATIVES

The Waterfront Connector was broken up into three sections as shown in Map i. Alternative routes were identified within each section and evaluated.

## ROUTE EVALUATION

Proposed routes were evaluated based on:

- Existing bicycle and pedestrian connections
- Accessibility to residents and visitors
- Directness of the path and connections to destinations
- Consistency in design and scale
- Attractiveness of the trail to potential users
- Ease of implementation of the proposed alignments
- Safety and security of the trail
- Public support of the alternative
- Engineering aspects and constraints
- Cost to implement the alternative
- Ease of obtaining funding

Additional considerations included benefits to the community and adjacent businesses, environmental impacts, aesthetics, and potential funding sources. The potential alternatives in each section were evaluated against each other based on these criteria.



Mayor Kathy Sheehan, Mayor of Albany, introduced the Albany Waterfront Connector project to attendees at the second public meeting.

### Map i - Selected Route

Map i illustrates the selected route for the Albany Waterfront Connector.

## SECTION 3 ALTERNATIVE A

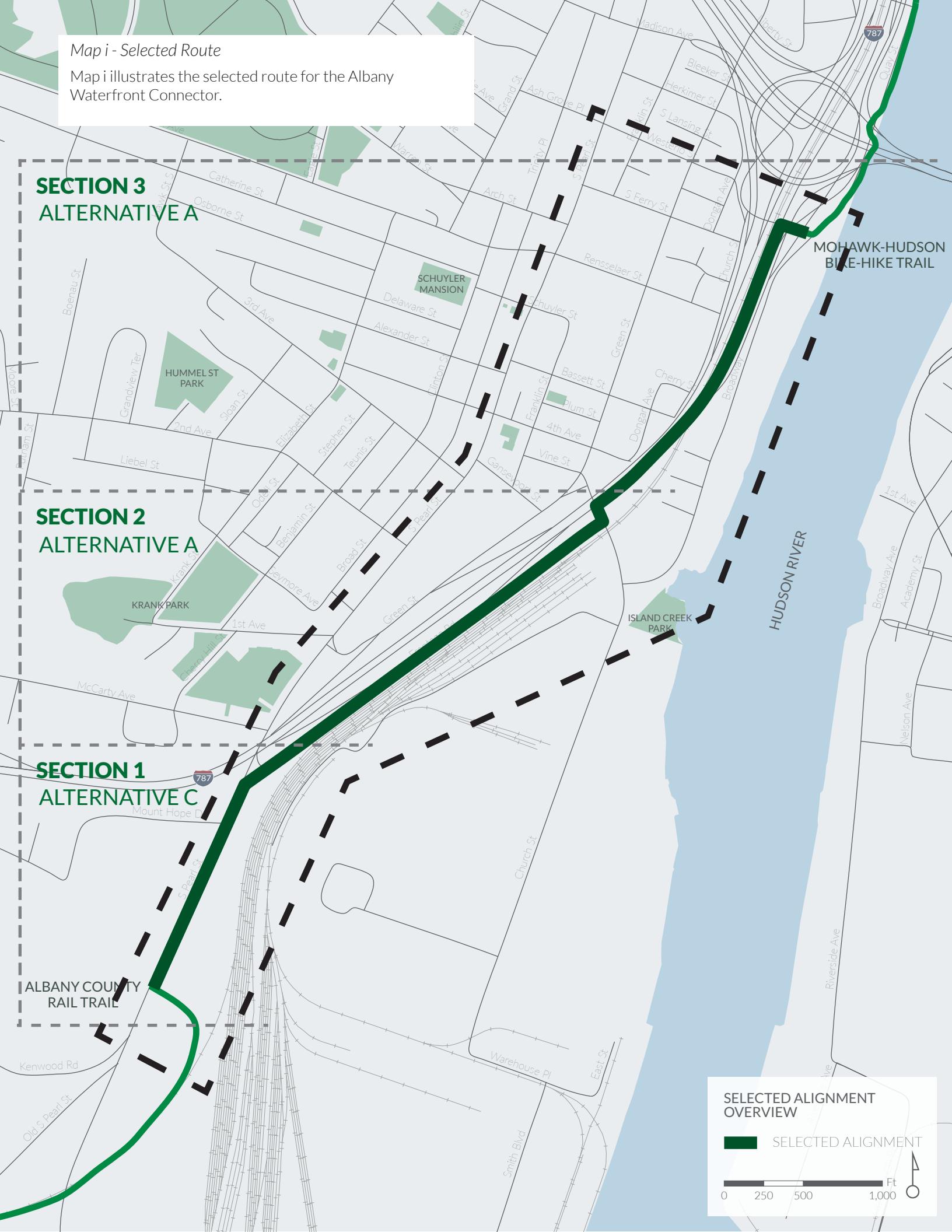
## SECTION 2 ALTERNATIVE A

## SECTION 1 ALTERNATIVE C

### SELECTED ALIGNMENT OVERVIEW

 SELECTED ALIGNMENT

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## SELECTED ROUTE

The selected route within each section are listed below and shown in Map i.

**Section 1** - Cycle Track & Sidewalk on South Pearl Street.

**Section 2** - I-787 Northbound Access Road Shared-Use Path.

**Section 3** - I-787 Underline Shared-Use Path, adjacent to Church Street.

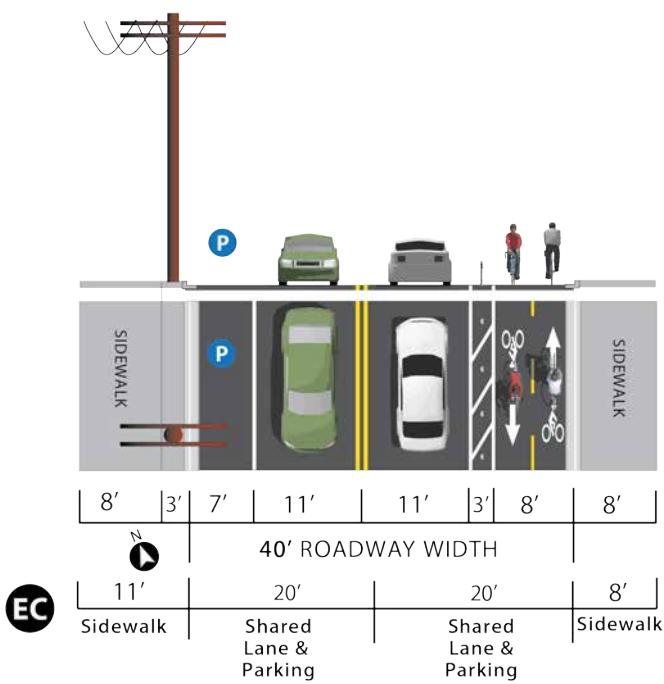
The cost estimate to construct the Waterfront Connector is \$1.5 million. A detailed cost estimate can be found on page A-29 of the Appendix.

## SECTION 1

### CYCLE TRACK AND SIDEWALK

The Sidewalk and Two-Way Cycle Track was selected within Section 1 for multiple reasons, including:

- A separated bike facility improves safety and accessibility to all users.
- Removable flexible delineators allow for low-cost maintenance.
- Reduced travel lane widths have a traffic calming effect, improving attractiveness of the street to bicyclists and pedestrians.
- This alternative is highly visible to the community and creates a direct, consistent, connection from the Albany Rail Trail through this section of the South End.
- The direct link to the future Bus Rapid Transit station represents an opportunity to create a more robust intermodal station and extends the potential trip distance and mode options for trail users.



\*EC= Existing Conditions

Figure i - Cross-section of the Section 1 - Cycle Track & Sidewalk

## SECTION 2

### I-787 NORTH BOUND ACCESS ROAD SHARED-USE PATH

This route proposes a 10-foot wide shared-use path on the east side of the exit ramp, separated from motor vehicles by a jersey barrier. The shared-use path would replace the existing outside travel lane. The I-787 North Bound (I-787 NB) Access Road Shared-Use Path is the selected route for multiple reasons, including:



- Space between the railroad and pavement will allow for the introduction of trees and other plantings along the east fence to provide shade and an attractive buffer from the railroad. This area can also be used for stormwater mitigation.
- The I-787 NB Access Road Path is more intuitive for trail users, is a direct line between destinations, and is generally the preferred route for cyclists and pedestrians traveling between the waterfront north of the Port and South

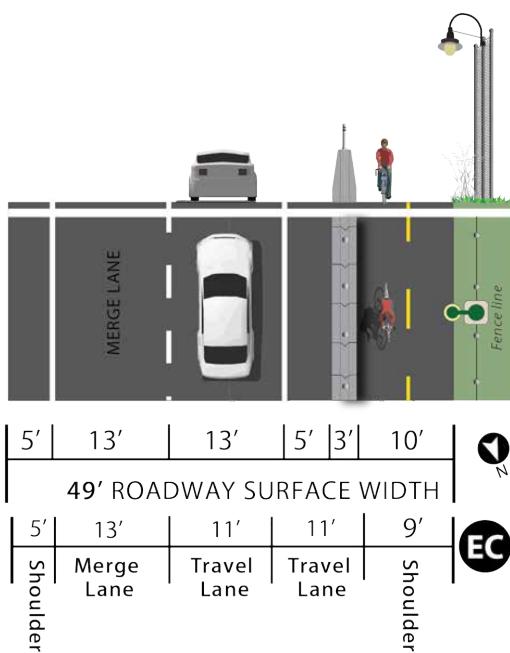
Pearl Street.

- This alignment has strong public support as evidenced during public meetings and survey analysis.
- Despite challenges outlined in Chapter 2, the eastern ramp path is a more consistent route between the Albany County Rail Trail trailhead to the south and the waterfront amenities and Mohawk-Hudson Bike Hike trail to the north. By choosing this option, four conflict areas in the I-787 South Bound (I-787 SB) option are avoided. By avoiding these conflict areas, costs are also reduced.
- A well-designed wayfinding program will connect trail users to the central part of the South End.
- There is little to no change to average delay at the intersection and vehicle queues will not impact I-787 operations.

## SECTION 3

### I-787 UNDERLINE SHARED-USE PATH

The Underline Alternative proposes a shared-use path under the elevated portion of I-787 SB. Lighting, fencing, artwork, and other amenities are recommended to create a linear park beneath I-787. This route was selected for multiple reasons, including:



\*EC= Existing Conditions

Figure ii - Cross-section of the Section 2 - I-787 NB Access Road Shared-Use Path

- The existing site conditions result in a relatively low-cost and continuous separated facility.
- A majority of the path will be protected from precipitation and heat by I-787.



- The alignment provides access to the neighborhoods to the west of Church Street and high visibility for residents and visitors.
- The alignment would transform the currently unused, vacant, and uninviting space into a destination.
- There is clear public support for a shared-use path below I-787 as evidenced during public meetings and survey analysis.
- Redeveloping the underutilized space would activate the area, assisting in removing a barrier between the community and the waterfront.



10' shared-use path - Below I-787

Figure iii - Cross-section of the Section 3 - I-787 Underline Shared-Use Path



Figure iv - Photo-simulation of the Section 3 - I-787 Underline Shared-Use Path

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# PUBLIC INVOLVEMENT

ALBANY WATERFRONT CONNECTOR



## ENGAGEMENT PROCESS

The development and selection of the Waterfront Connector included extensive outreach to partnering stakeholders, state agencies, active transportation advocates, expected trail users, and residents of the South End - the City neighborhood through which the Connector would be located.

The objective of the engagement efforts was to solicit feedback on the preferences, concerns and ideas of those who would be interested in using the Waterfront Connector. The process of engaging stakeholders and key findings from these efforts are detailed in this section.



The trail connector lies in vicinity of Albany's South End neighborhood, a key community focused on for engagement.

## PROJECT COORDINATION

The project team looked to use the knowledge of city, county, and agency staff to advise the direction and feasibility of design alternatives.

## Technical Advisory Committee

The Technical Advisory Committee (TAC) consisted of ten individuals representing the City of Albany, Albany County, Capital District Transportation Committee (CDTC), Capital District Regional Planning Commission (CDRPC), Capital District Transportation Authority (CDTA), and New York State Department of Transportation (NYSDOT).

The TAC met six times to guide the project process and provide technical feedback. The group generated a list of goals that they hoped would guide the process to:

- Create a simple and achievable project
- Include consensus-based planning
- Improve safety
- Foster positive public reception
- Increase access to the waterfront
- Connect to existing amenities and projects



The TAC desired that the project seek to connect people to other community assets, such as the historic Schuyler Mansion.



## Additional Technical Feedback

The project team held additional meetings with agencies to receive technical feedback. In June 2016, the team met with staff from the Albany Housing Authority to receive feedback on project alternatives. The meeting focused on proposed routes that directly impacted the Ezra Prentice Homes, specifically the proximity of a trail to the homes and potential parking issues.

## STAKEHOLDER INVOLVEMENT

Stakeholder meetings sought input from groups that have distinct mobility needs and preferences related to the feasibility study. These stakeholders included South End residents, bicycle and pedestrian advocates, faith based organizations, and planning and development organizations.

## Stakeholder Workshops

In March 2016, the project team conducted two stakeholder workshops for transportation and community development advocates working in the area, engaging over 20 people.

These conversations highlighted the needs and concerns of those who live and work in the area.



Stakeholder workshops allowed local advocates to weigh-in on the proposed routes.



Ezra Prentice Homes is one of the larger planned communities along the proposed route. It was valuable to receive input from both Albany Housing Authority staff and Ezra Prentice residents.

The project team held additional meetings with the Albany Bicycle Coalition and South End Improvement Corporation for continued community input and guidance.

## Information Session

During initial engagement activities, participants emphasized the importance of engaging residents of Ezra Prentice Homes. Ezra Prentice Homes is a family development located near the proposed alternative area. Currently, the Ezra Prentice Homes has restricted access to the existing trails due to limited sidewalks and non-motorized infrastructure. The project team conducted the information session in May 2017.



The quality of engagement benefited from the continued involvement of several community based organizations, including the Albany Bicycle Coalition.

## PUBLIC MEETINGS

To engage with a wider audience, the project team conducted a public workshop and a public meeting in June 2016 and May 2017. The project team advertised the public meetings at local neighborhood meetings and by distributing flyers, which reached over 80 participants.

The objective of the public workshop was to present and get feedback on several route alternatives for the connector. The workshop was highly interactive, allowing participants to use stickers to “vote” for their preferred route and provide written comments on the challenges and assets provided by different scenarios.

At the public meeting, the project team presented the final selected route to neighborhood and stakeholder groups to continue to engage project advocates.

As a result of the public meetings the project received media coverage, including local blog All Over Albany. This coverage helped bring further attention to the project.



Mayor Kathy Sheehan, Mayor of Albany, introduced the Albany Waterfront Connector project to attendees at the second public meeting.



The stakeholder workshops and public meetings were conducted at the John A. Howe Library, located in the South End neighborhood.



## Community Survey

To help reach more people in the community, Alta partnered with Capital Roots, a nonprofit focusing on public health and food access in Albany and the Capital District.

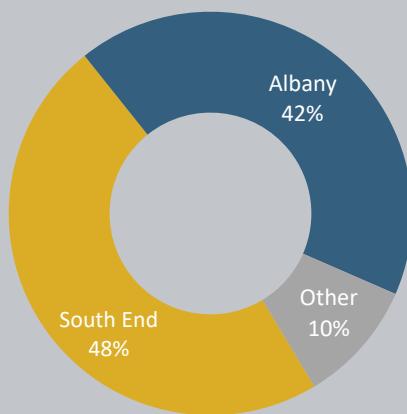
A community survey was conducted, asking people in Albany about their interest in and preferences for a connector route. The survey collected 72 responses.

Ninety percent of respondents reported that they live in Albany, and nearly half of respondents indicated they live in the South End.

Most people were interested in the trail project and nearly 90% of respondents indicated that they would use the route if completed.

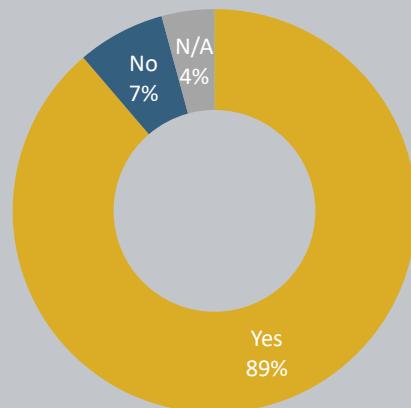
A majority of respondents indicated that having protection from motorists was very important (over 60%). Other features that were selected as important include continuous routes, wide and clear paths, and separated uses.

Figure 1- 1: Where are respondents from?



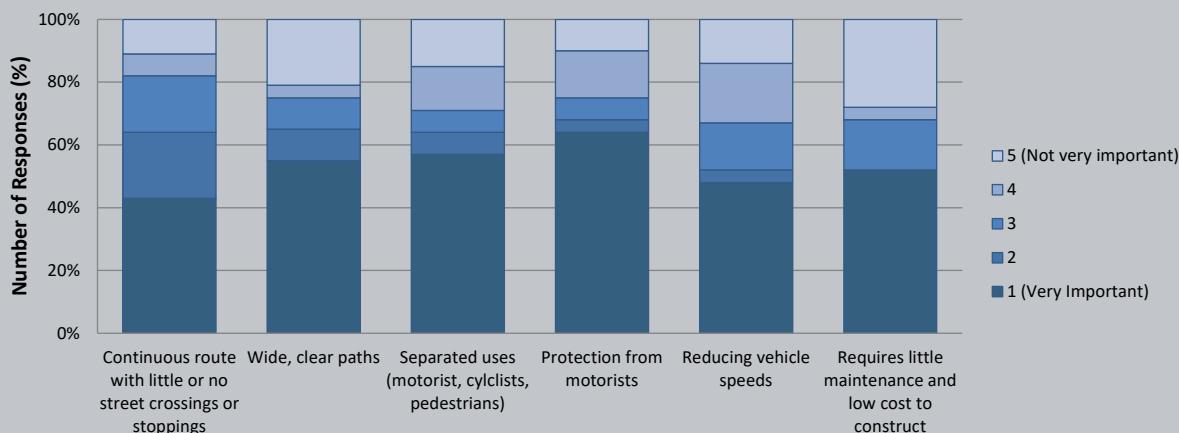
Source: Community Survey, 2016

Figure 1-2: Would respondents use trail if built?



Source: Community Survey, 2016

Figure 1-3: What are features that are important to respondent regarding the trail?



Source: Community Survey, 2016

## KEY FINDINGS

As a result of the public outreach process, five themes were identified as significant to the planning process.

### Ease and Comfort

One of the top comments expressed by participants was that the Connector should provide a comfortable experience for those walking and cycling. Participants were interested in exploring how additional features, such as lighting, can make a trail feel safer and more comfortable for users.

### Protection from Automobiles

Participants frequently commented about the protection of users from cars and trucks. Similarly, the majority of community survey respondents indicated that “protection from motorists” was a very important feature of the Connector.

### Family Friendly

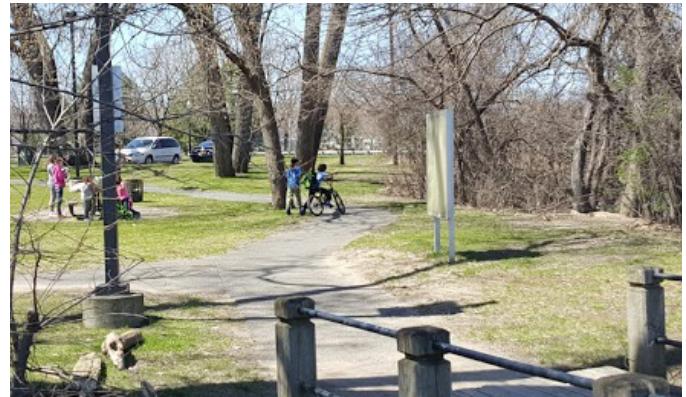
Engagement efforts highlighted that people wanted the project design to promote use by young children and families.

### Connecting to Nearby Amenities

Participants requested that the design of the route provide linkages to other neighborhoods, parks, and community amenities. Stakeholders would specifically like to see connections to Lincoln Park, Island Creek Park, Krank Park, and Cherry Hill Park.

### Creativity

This is an opportunity for Albany to be on the cutting edge for trail planning and design. Participants proposed creative ideas such as having a cyclist-powered mono-rail system and using Google routing for planning travel routes.



Participants want a connector that promotes cycling and walking for families and youth.



Participants want to see the project encourage connections to local amenities and landmarks, such as the U.S.S. Slater.



## By Section

Comments were compiled on the route alternatives and are further described in Chapter 2 of this report. At the public meeting, participants were asked to vote for their preferred route and provide comments and feedback on all routes. Those responses are discussed below.

### Section 1 - Southern Trail Head to I-787

**Cycle Track & Sidewalk** - Most participants were in favor of a cycle track along South Pearl Street. Participants noted that this area has heavy truck and automobile traffic and a protected facility would make more users feel comfortable.

**Railside Path** - Some thought this shared-use path would provide consistency in treatment between existing paths. However, others were concerned with the adjacent rail yard and certain “pinch points” where the trail would be within feet of the front doors of Ezra Prentice Homes

**Sidepath** – The treatment and accessibility of this path was not considered as appealing as



Section 1 public input poster from the public workshop.



The proposed Side Path for Section 1 would create “pinch points,” and the trail would at a point come within feet of peoples’ front doors at Ezra Prentice Homes.



other options. Participants were concerned that this option required users to cross South Pearl Street twice.

## Section 2 - Green Street / I-787

### I-787 NB Access Road Shared-Use Path

– Many participants thought this route, positioned along the I-787 Access Road, would allow for more space for cyclist and pedestrian amenities and would reduce the number of potentially unsafe street crossings.

**Green Street Shared-Use Path** – Participants also liked this route because it would provide greater distance from the nearby trains, which people thought would lead to a more pleasant

recreation experience. In addition, people thought that having a facility on the west side could create greater connections to local businesses and schools.

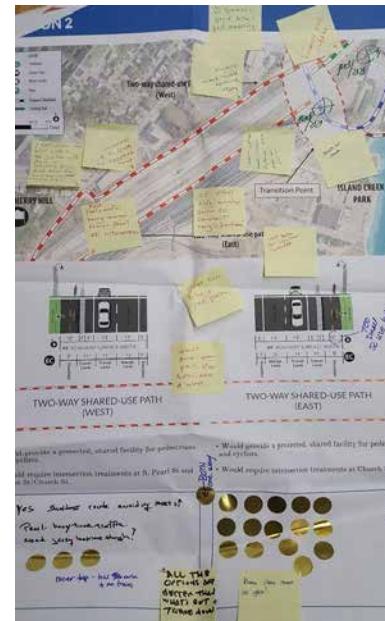
## Section 3 - Broadway / I-787

**Underline Shared-Use Path** – Most participants were excited about the idea of a shared-use path that went under the I-787 overpass. They saw this alternative leading to the reactivation of this infrequently used space. In addition, participants noted that this design would provide protection in sunny or rainy weather.

**Green Street Bike Boulevard** – The bike boulevard also received support from stakeholders. People enjoyed the connection the boulevard would provide to the surrounding neighborhoods.

**Church Street Cycle Track** – Participants did not believe that this alternative provided adequate protection from automobiles and trucks.

**Broadway Shared-Use Path** – This route received support from local bike advocates but many other stakeholders felt that this option did not connect to nearby amenities, especially the shops and businesses on Broadway.



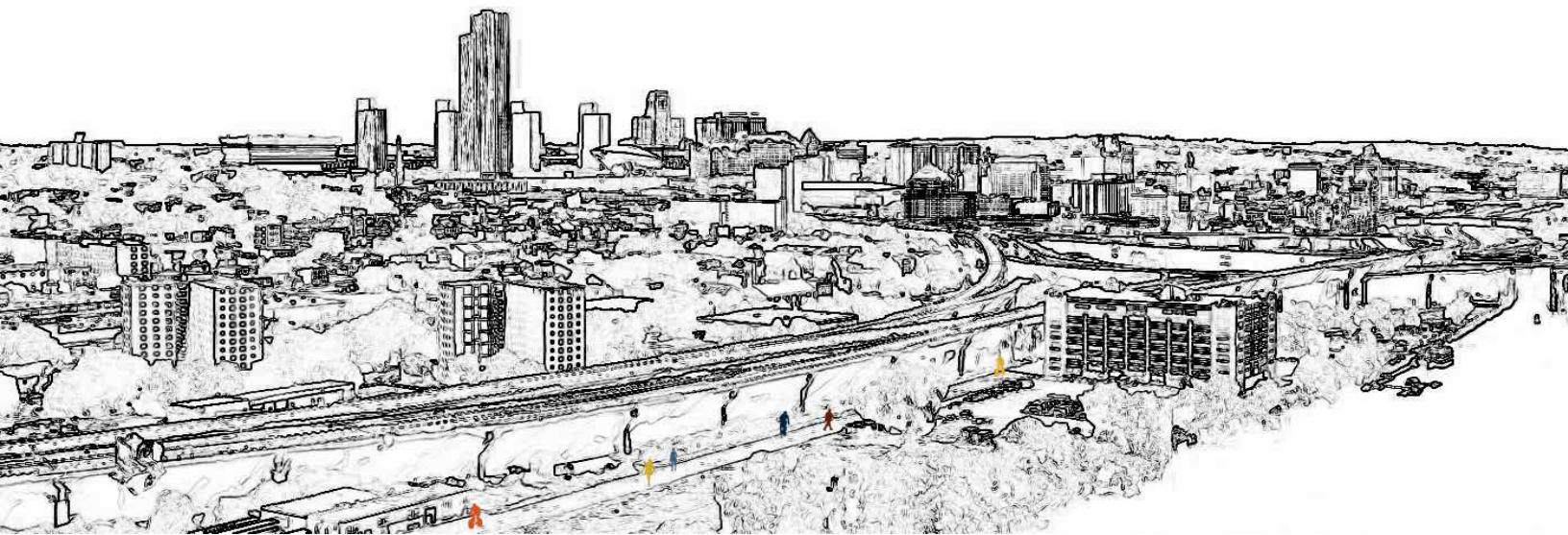
Section 2 public input poster from the public workshop.



Section 3 public input poster from the public workshop.

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# PROPOSED ROUTES

ALBANY WATERFRONT CONNECTOR



## ROUTE EVALUATION

The proposed route alternatives for the three sections of the 1.5-mile gap were evaluated based on:

- Existing bicycle and pedestrian connections
- Accessibility to residents and visitors
- Directness of the route
- Consistency in design and scale
- Attractiveness of the route to potential users
- Ease of implementation
- Safety and security
- Public support
- Engineering aspects and constraints
- Cost of implementation
- Ease of obtaining funding

Other considerations in the evaluation process included secondary benefits, like economic and community development, aesthetics, potential environmental impacts, and construction impacts.

The proposed route alternatives in each section were evaluated against each other based on these criteria:

## EVALUATION CRITERIA

### Bicycle and Pedestrian Connections

This criterion evaluates the ability of each alternative to accommodate both cyclists and pedestrians within the same route. It also evaluates connections to existing facilities and destinations for both types of users.

### Accessibility

Accessibility is important to accommodate users of all abilities and skill levels. Each route alternative is evaluated for compliance with ADA guidelines, such as grade and surface type. This criterion also evaluates how easily the alternative can be accessed at either end and along the trail by adjacent residential areas.

### Directness

Pedestrians and cyclists often prefer the quickest and shortest route to reach their destination. Each alternative is evaluated for directness that will encourage users to utilize the new facility. The optimal alignment will be one that is clear and consistent with few turns.

### Consistency

This criterion considers the consistency of the facility types proposed. Switching between facility types, such as a shared-use path and bicycle lanes, can cause confusion for trail users and increases conflicts between modes. Each alternative is evaluated based on the number of transitions, as well as ease of transition between sections to create a full connection.



## Attractiveness

Each alternative accommodates all types of users. However, some routes provide a greater level of comfort for pedestrians or cyclists. This comfort is based on a number of factors, including: separation between modes of transportation, traffic volumes and proximity to traffic, connections to adjacent uses, conflict points and transitions, and aesthetics. This criterion evaluates the attractiveness of each route to a user and the potential to enhance the aesthetics of the surrounding area.

## Implementation

This criterion evaluates how easily an alternative can be implemented. The implementation criteria includes constructability, which involves access to the site for construction crews, work zone traffic control, and utility coordination. This also considers potential construction impacts like changes to drainage patterns, proximity to residential and commercial uses, impacts on vegetation and roadside.

## Safety and Security

Safety for users can be both an actual and perceived concern. Each alternative is evaluated for potential conflicts with motor vehicles and conflicts between pedestrians and cyclists, as well as the perceived safety of trail users by providing greater visibility and access.

## Public Support

The proposed routes were presented to the public at a meeting on June 2nd, 2016 for feedback. Participants were given the opportunity to select their preferred route. This criterion considers the stated preference of the public between each section of the route.

## Engineering

Each alternative is evaluated based on engineering constraints. This criterion considers the complexity of each alternative and challenges that may be encountered. Engineering challenges may include topography, traffic volumes or conflicts, or railroad crossings. Potential environmental impacts are considered such as wetland & water resources, endangered species habitat, cultural & historic resources, and protected and recreational open space. Potential impacts to rights-of-way are also considered, such as the availability of space within an existing right-of-way or the need and difficulty of acquiring additional right-of-way. Required permits to construct each alignment are also considered as a factor in this evaluation.

## Costs

The potential cost of each alternative is an important consideration. Some alternatives may be fiscally prohibitive. Planning level cost estimates are considered when evaluating each alternative.

## Potential Funding Sources

This criterion considers available funding sources. Certain funding programs may require that emphasis be placed on transportation versus recreation. Other funding sources may be more readily available for the construction of on-road bicycle facilities versus off-road trails. Additionally, the likelihood of obtaining grant funding for each alternative is considered.



## EVALUATION TABLE

A table was developed using the aforementioned criteria to evaluate each facility option in comparison to the other facilities. For instance, the Implementation criterion was used to understand any obstacles that may arise in successful construction of that facility. Barriers such as tight pinch points, drainage issues, the requirement to install a retaining wall, and potential ROW infringement issues were all assessed under this criterion. A numeric score between 1 and 5 was assigned to each category, and the information is displayed graphically on the following pages in the Desirability Ranking graphics.

## EVALUATION CRITERIA

BIKE/PED CONNECTION	Connections to existing bicycle and pedestrian facilities.
ACCESSIBILITY	Accessibility for users of all abilities and skill levels.
DIRECTNESS	Directness of each route between destinations.
CONSISTENCY	Consistency of facility types along and between sections of the trail.
ATTRACTIVENESS	Attractiveness of the trail for users and surrounding residents
IMPLEMENTATION	Constructability and ease of implementation
SAFETY	Real and perceived safety concerns.
PUBLIC SUPPORT	Public preference for each alternative.
ENGINEERING	Engineering, environmental, and rights-of-way constraints.
COSTS	Planning level costs for each alternative.
FUNDING	Potential availability of grant funding

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## ROUTE ALTERNATIVES

Alternatives were explored by dividing the Study Area into three sections. These sections are:

### SECTION 1

Three potential routes would connect users from the south beginning at the Albany County Rail Trail to the intersection of the on ramp to I-787/ Broadway and South Pearl Street.

- **Alternative A - Railside Path:** a shared-use path between the railyard and Ezra Prentice Homes.
- **Alternative B - Sidepath:** create a sidepath on the west side of South Pearl Street.
- **Alternative C - Cycle Track & Sidewalk:** extend the sidewalk and create a two-way cycle track on the east side of the street.

### SECTION 2

There are two route alternatives between the South Pearl Street intersection with the on-ramp to I-787/Broadway and Church Street to the north.

- **Alternative A - I-787 North Bound Access Road Shared-Use Path:** reduce the number of lanes on the Access Road as it approaches I-787 to make room for a shared-use path.
- **Alternative B - Green Street Shared-Use Path:** reduce the number of lanes on Green Street as it approaches I-787 to make room for a shared-use path.

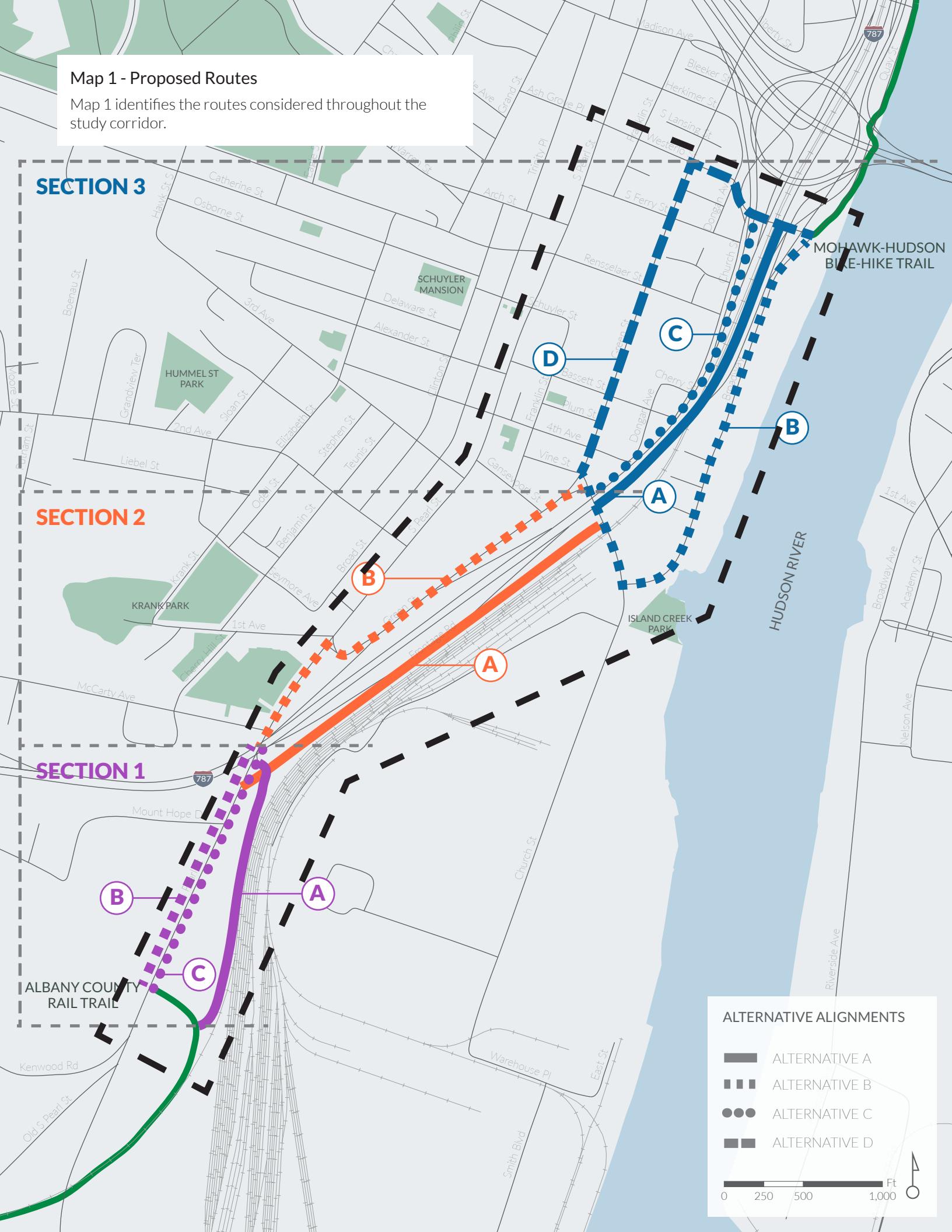
### SECTION 3

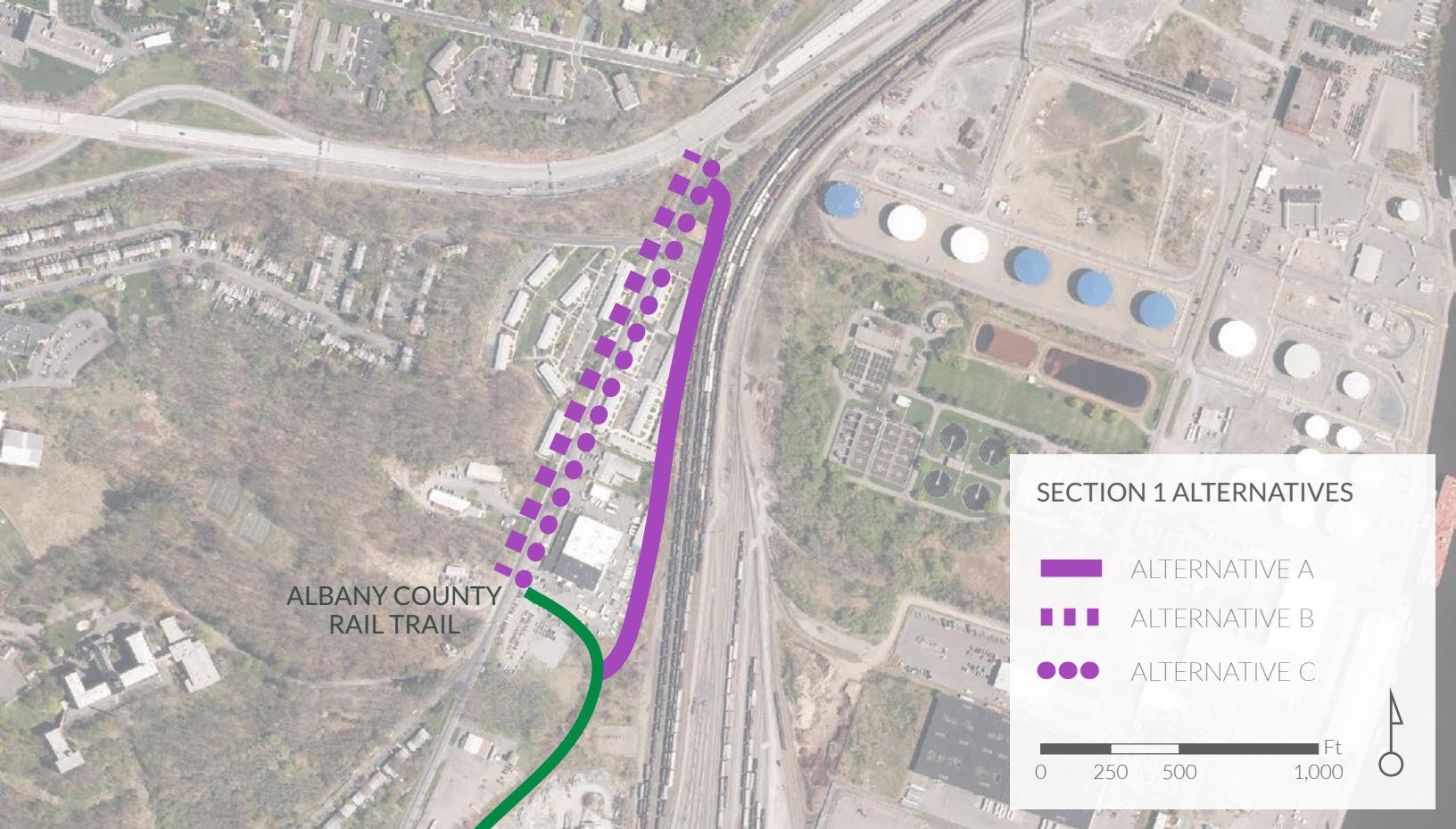
There are four options which between Church Street to the Mohawk-Hudson Bike Hike Trail.

- **Alternative A - I-787 Underline Shared-Use Path:** take advantage of underutilized space beneath I-787 with a shared-use path.
- **Alternative B - Broadway Shared-Use Path:** create a shared-use path along the east side of Broadway.
- **Alternative C - Church Street Cycle Track:** construct a two-way cycle track on the east side of Church Street.
- **Alternative D - Green Street Bike Boulevard:** traffic calming measures can be implemented on Green Street to improve cycling conditions.

## Map 1 - Proposed Routes

Map 1 identifies the routes considered throughout the study corridor.





Map 2 - Section 1 Alternatives

Map 2 identifies the three route alternatives considered in Section 1.

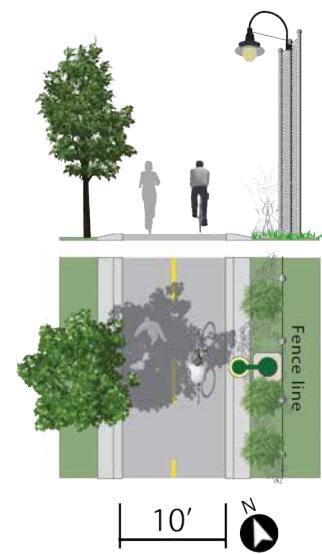
## SECTION 1

Section 1 begins at the Albany County Rail Trail trailhead on South Pearl Street and continues north to the intersection with I-787. A strong preference for a separated path was expressed through public and stakeholder outreach. Participants indicated that the high level of truck and transit traffic on South Pearl Street as the reason for the separated path. Three concepts were developed that incorporate a separated path, with varying levels of separation.

### ALTERNATIVE A: RAILSIDE PATH

Alternative A provides a shared-use path, parallel to, but separate from, South Pearl Street following along the existing rail line. The shared-use path is proposed to be 10 feet wide and paved with asphalt. A chain link fence already exists adjacent to the railroad line and should be maintained. Trail lighting is recommended for this alternative.

Figure 2-1: Cross-section of Railside Path

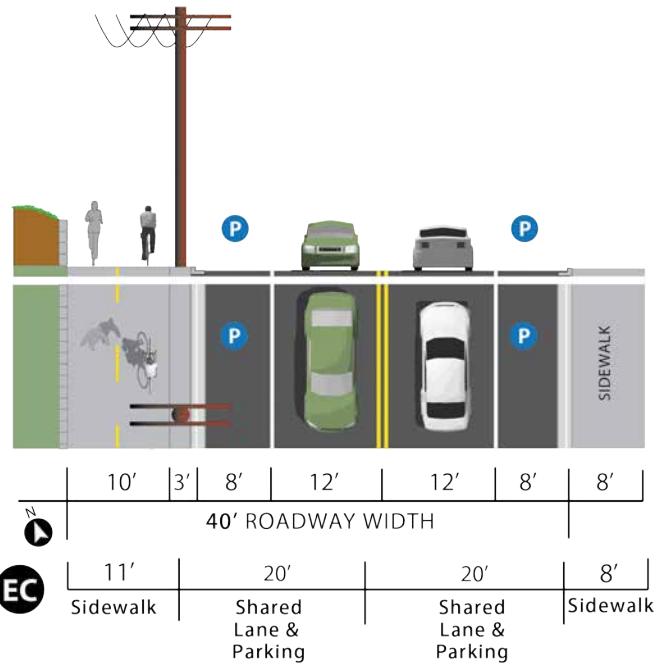




## ALTERNATIVE B: SIDE PATH

Alternative B creates a sidepath on the west side of South Pearl Street by expanding the existing sidewalk to accommodate both cyclists and pedestrians. The Sidepath provides additional comfort to trail users and separation from the street by using the existing curbs and a 3-foot buffer zone.

Figure 2-2: Cross-section of Sidepath

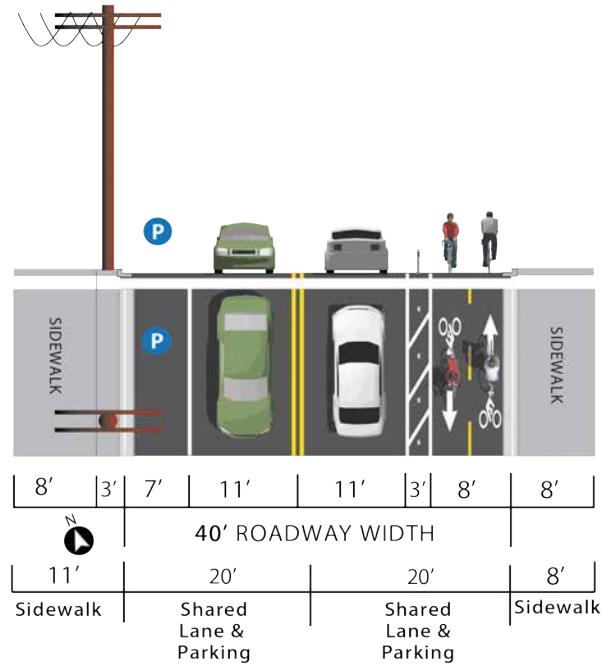


\*EC= Existing Conditions

## ALTERNATIVE C: CYCLE TRACK AND SIDEWALK

Alternative C proposes the development of an on-road, two-way cycle track, while utilizing the existing sidewalk for pedestrians. Alternative C includes an 8-foot wide cycle track on the east side of South Pearl Street with a 3-foot buffer zone between the cycle track and adjacent vehicle traffic. This buffer zone can be created using striping and flexible bollards.

Figure 2-3: Cross-section of Cycle Track and Sidewalk



\*EC= Existing Conditions

## SECTION 1 EVALUATION

### Alternative A: Railside Path

Alternative A is the most comfortable route alternative for pedestrians and cyclists, given its separation from vehicle traffic. However, the proposed alignment provides minimal visibility to and from the roadway, requires property acquisition, and includes several ‘pinch-points’ that would bring the trail facility directly up to Albany Housing Authority buildings. While Alternative A provides a more seamless transition from the Albany County Rail Trail, a concern over residents’ privacy was voiced during public input sessions, noting some trail users and residents may feel uncomfortable with the location of a trail in such close proximity to Ezra Prentice Homes.

### Alternative B: Sidepath

Alternative B provides improved access to the Connector and a more comfortable user experience. However, Alternative B requires: the installation of a retaining wall, property acquisition, replacement of the existing sidewalk, and two street crossings along South Pearl Street. These factors decrease the directness of the trail, introduce additional conflict areas between users and motor vehicles, and increase the cost of implementation.

### Alternative C: Cycle Track and Sidewalk

The ease of implementation and flexible design makes Alternative C a desirable option. The road treatment utilizes delineators to establish the dedicated bicycle lane, which can be removed during the winter in order to plow the corridor. Alternative C also helps to alleviate public perceptions and concerns that high speeds create dangerous road conditions on South Pearl Street. By reducing the width of the travel lanes

and providing a separated facility from traffic for cyclists, crossing distance for pedestrians is shortened and the location becomes more appealing to both cyclists and pedestrians of all ages and confidence levels. Establishing a cycle track and enhancing sidewalk conditions increases the visibility of the trail, further promoting both its use and perceived safety. Integration with the future Bus Rapid Transit (BRT) station presents a good opportunity to introduce a one-of-a-kind intermodal station to Albany residents. The connection to transit and expansion of the parking facilities extends the potential trip distance and mode options for residents and visitors.

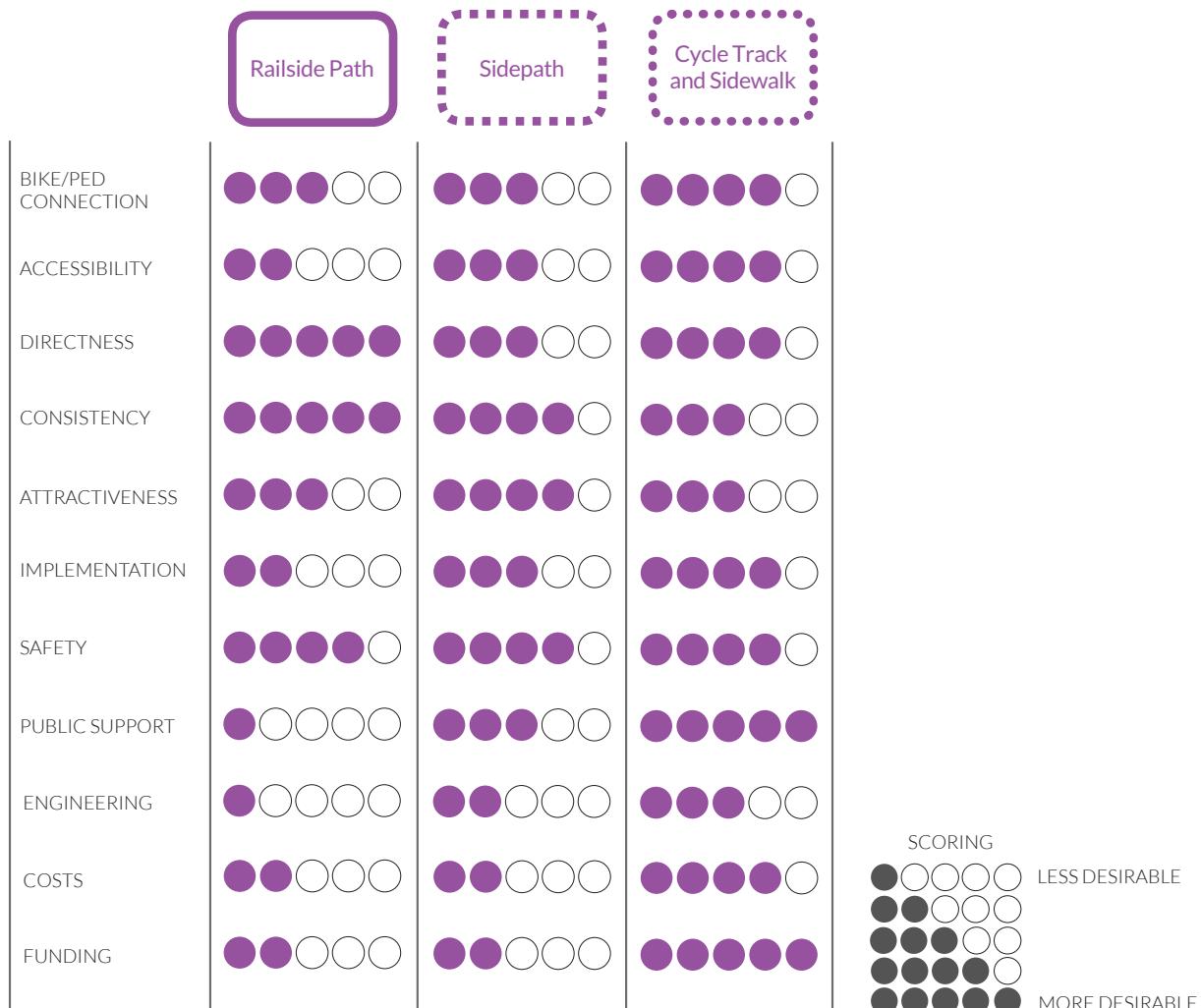
## SECTION 1 ALTERNATIVES COMPARISON

After a side-by-side evaluation, Alternative B does not have the same level of public support as Alternative C. Furthermore, it requires at least two road crossings which both increases the complexity of the trail and conflicts with other users of the roadway.

While Alternative A provides a level of continuity and aesthetic consistency to the existing Albany County Rail Trail, Alternative C showed greater public support. The ease and accessibility to the Albany County Rail Trail, connectivity with multiple modes of transportation, and lower cost of implementation makes Alternative C the most desirable option.



Figure 2-4: Section 1 Desirability Rating



### PREFERRED: CYCLE TRACK AND SIDEWALK

- Visible to public and community
- Reduces roadway crossings and conflicts
- Enhances connection between alternate modes of transportation, such as cycling to transit.



## SECTION 2

Section 2 is defined by the boundaries of the intersection of South Pearl Street at Mount Hope Drive and the corridor of Church Street. The most notable feature of Section 2 is the presence of Exit 1 of I-787. This exit has two ramps, one on either side of the flush section. The ramps are serviced by an access road, linking both sides to South Pearl Street and Church Street. Section 2 has two alternatives for consideration: a shared-use path on the

North Bound (NB) Access Road and a shared-use path on Green Street.

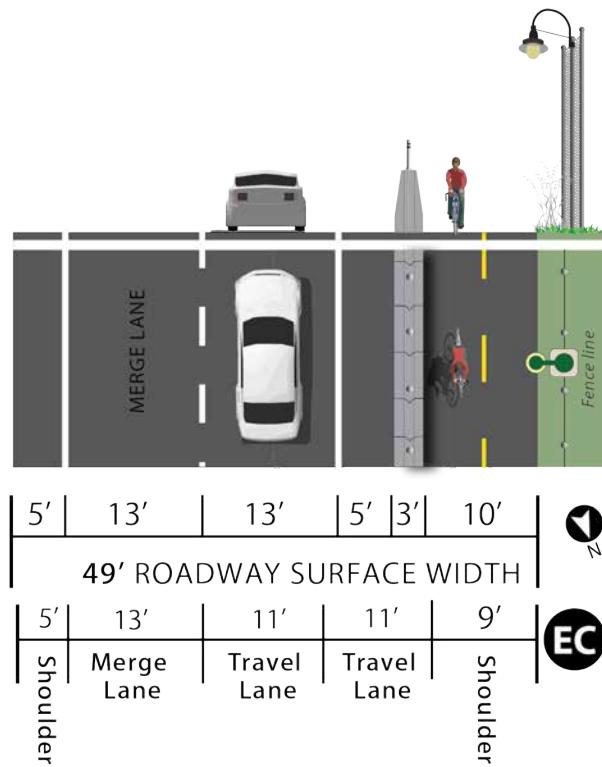
### ALTERNATIVE A: I-787 NB Access Road Shared-Use Path

Alternative A follows the I-787 NB Access Road by replacing the existing outside travel lane with a shared-use path. The proposed 10-foot wide shared-use path would include a jersey barrier for protection from motor vehicles.

Map 3 - Section 2 Alternatives

Map 3 identifies the two route alternatives considered in Section 2.

Figure 2-5: Cross-section of I-787 NB Access Road Shared-Use Path



\*EC= Existing Conditions

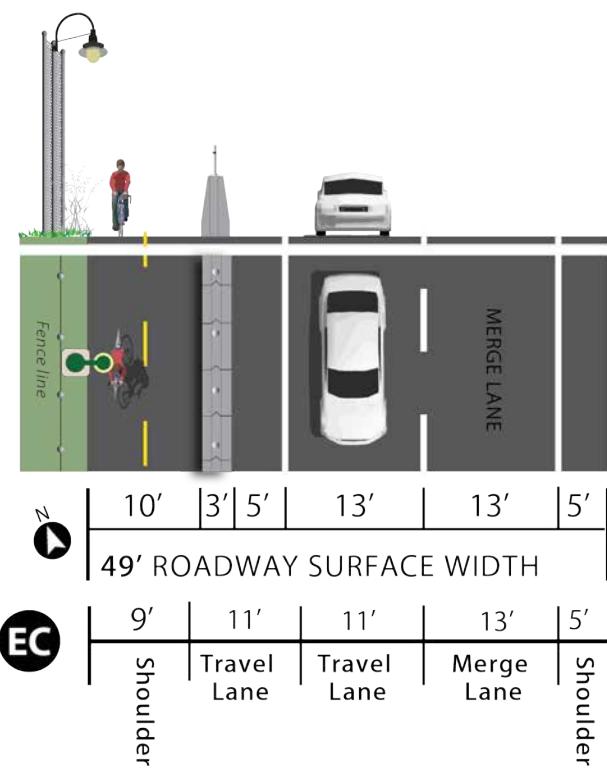


Lighting and fencing on the east side of the exit ramp are recommended to provide a buffer between the trail and the adjacent rail line.

## ALTERNATIVE B: GREEN STREET SHARED-USE PATH

Alternative B provides a 10-foot shared-use path along the I-787 Access Road. The inclusion of a 3-foot buffer zone separates the Path from the road's shoulder with a jersey barrier to provide vertical physical protection. Implementation of Alternative B requires the removal of the existing outside travel lane, removing the right-turn slip lane at Green Street, Church Street, and closing the Vine Street approach to simplify movements and

Figure 2-6: Cross-section of Green Street Shared-Use Path



\*EC= Existing Conditions

## SECTION 2 EVALUATION

### Alternative A: I-787 NB Access Road Shared-Use Path

Alternative A parallels an active rail line 30 feet to the east of the proposed path. Some may perceive the experience negatively due to the proximity to freight trains. The lack of shade and significant amount of pavement may also make this connection uncomfortable during warm summer days. Planting trees along the eastern fence to provide shade and an attractive mask or screening to the industrial rail line has the potential to reduce challenges to Alternative A. Despite the challenges, the majority of cyclists and pedestrians stated that Alternative A is a more intuitive route to destinations between the waterfront north of the Port of Albany and South Pearl Street.

### Alternative B: Green Street Shared-Use Path

The Green Street Shared-Use Path is an accessible alternative that would provide connections to community resources. However, there are significant engineering constraints, including three additional crossings that would increase the complexity of design and cost of construction. A challenge to Alternative B is the need to bring the Path through multiple intersections. This raises the cost, complicates implementation, and increases the complexity for users.

## SECTION 2 ALTERNATIVES COMPARISON

Alternative A and B require reconfigurations to the travel lanes to accommodate a path.

While Alternative B is a more accessible option, constructing three additional crossings increases the complexity of design and cost of construction.

Implementation of Alternative A has the potential to be easier than Alternative B.

Alternative A also has stronger public support largely as a result of being perceived as a more direct, consistent, and safe route.

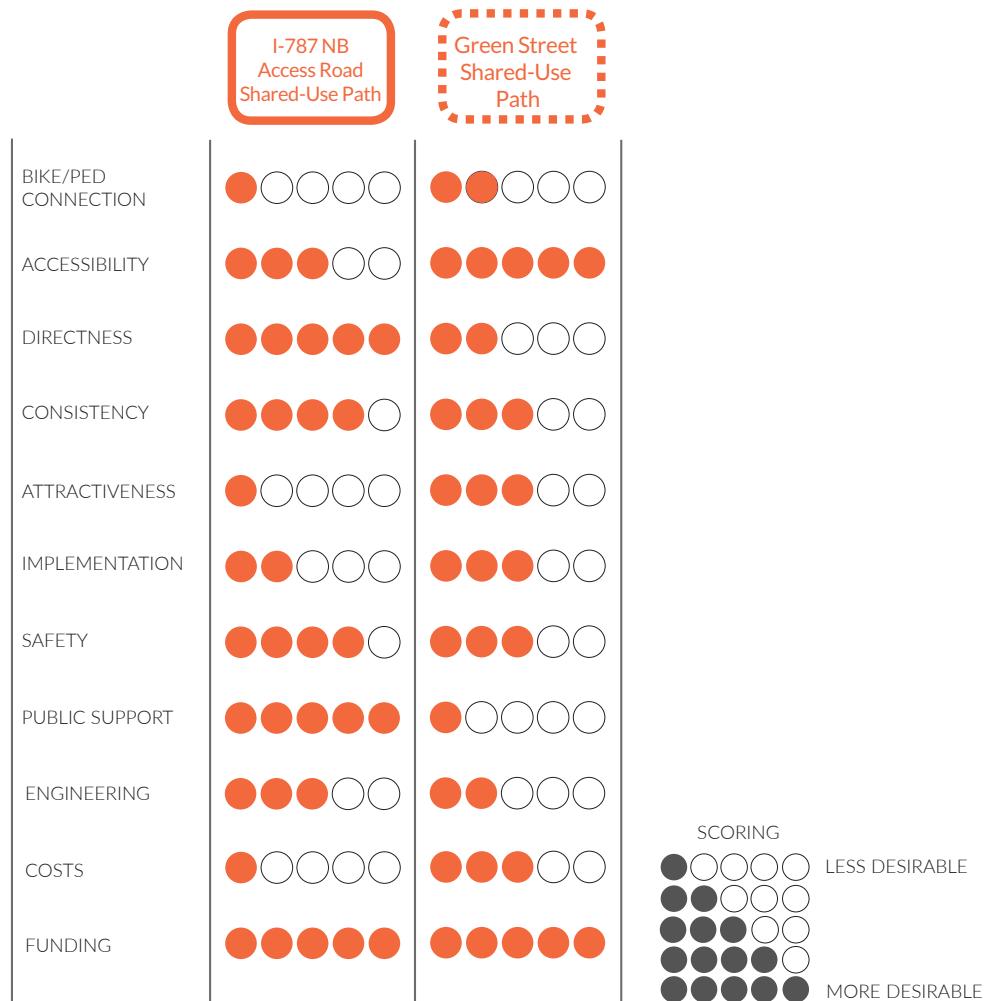
Significant drawbacks to Alternative A include aesthetic concerns as well as distance from central South End destinations, such as museums, schools, and commercial centers.

Incorporating plantings along the corridor would enhance the visual quality of the trail and screen the rail yard and provide additional environmental benefits such as stormwater mitigation and improvements to air quality.

To account for the lack of connection to destinations in the South End with this alignment, wayfinding enhancements should be incorporated into the bike network.

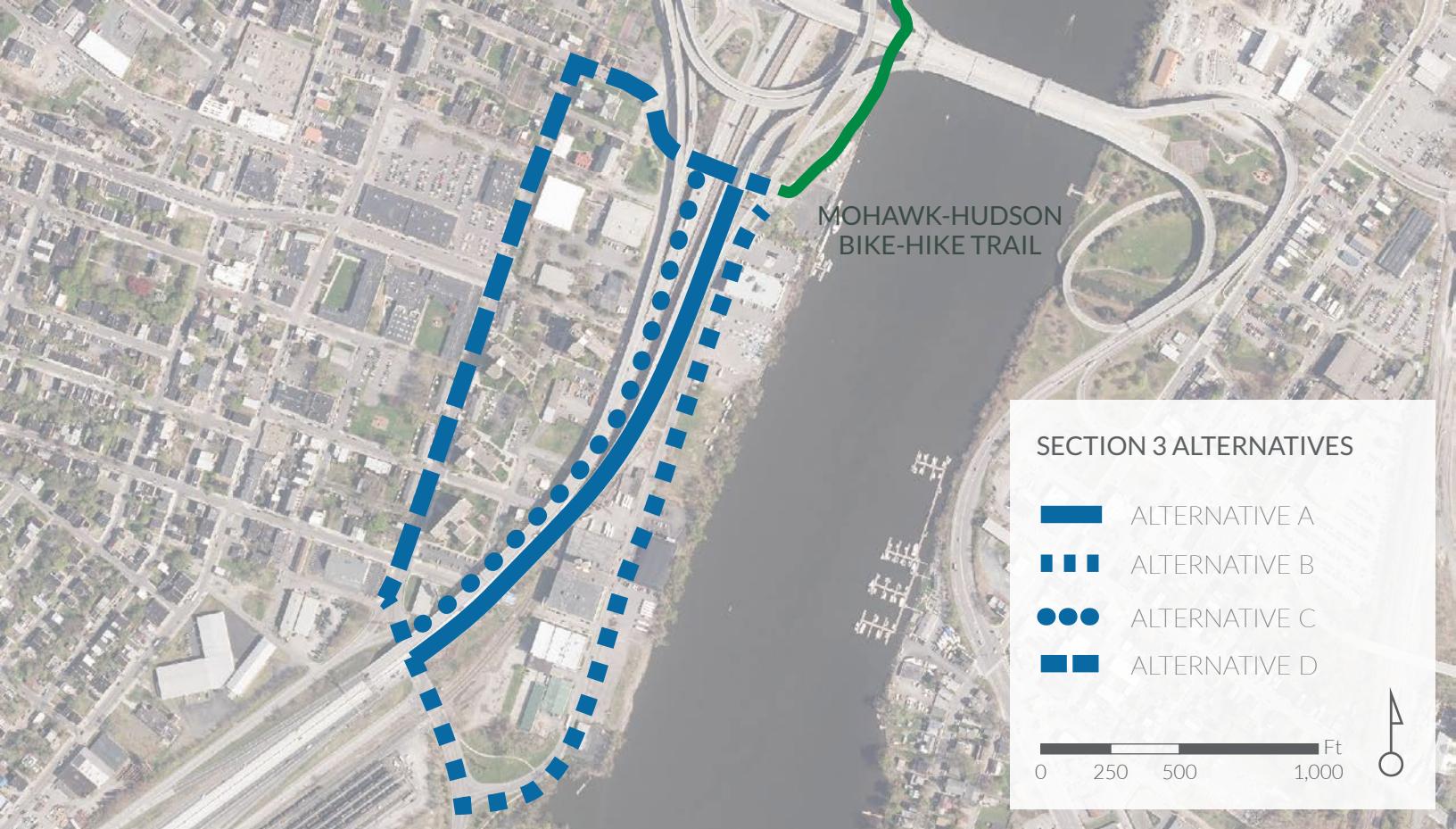


Figure 2-7: Section 2 Desirability Rating



### PREFERRED: I-787 NB ACCESS ROAD SHARED-USE PATH

- Most direct route for cyclists and pedestrians
- Utilizes existing pavement



## SECTION 3

Section 3 begins at Vine Street as it crosses under I-787. It continues north with four potential alternatives to connect to the Mohawk-Hudson Bike-Hike Trail at the U.S.S. Slater along the Hudson River.

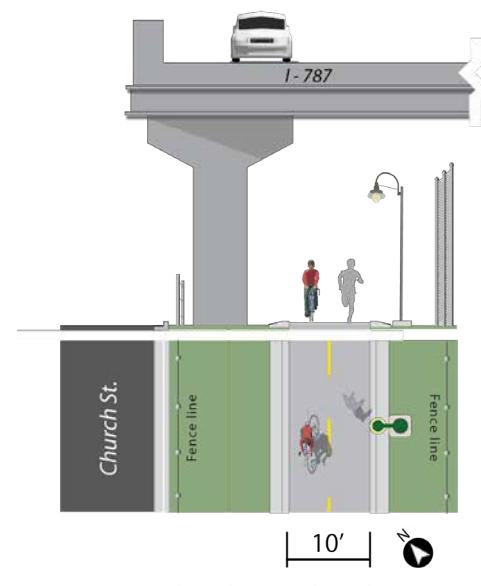
### ALTERNATIVE A: I-787 UNDERLINE SHARED-USE PATH

Alternative A utilizes the empty space under I-787 through the installation of a shared-use path. On Church Street, between Bassett Street and Cherry Street, the path transitions to an on-road two-way cycle track, as illustrated in Figure 3-10. Alternative A includes the installation of lighting and fencing, and may involve the installation of a linear, urban park under I-787 as a long-term improvement. The linear park could include murals on the support pillars and community amenities including: playgrounds, ample bicycle parking, and benches.

Map 4 - Section 3 Alternatives

Map 4 identifies the four route alternatives considered in Section 3.

Figure 2-8: Cross-section of I-787 Underline Shared-Use Path Cross-Section





## ALTERNATIVE B: BROADWAY SHARED-USE PATH

Alternative B provides a shared facility for pedestrians and bicyclists by reducing the width of both existing travel lanes. The Broadway Shared-Use Path includes a buffer zone with a fence in order to increase the trail users' comfort and safety.

## ALTERNATIVE C: CHURCH STREET CYCLE TRACK

Alternative C involves the development of a two-way cycle track along Church Street. The Church Street Cycle Track provides a two-way, separated facility for cyclists that is protected by a striped buffer with flexible bollards. Implementation of Alternative C requires reducing the existing travel lane widths along Church Street and removing on-street parking. Pedestrians using the trail can utilize the existing sidewalks on Church Street.

## ALTERNATIVE D: GREEN ST. BIKE BLVD.

Development of the Green Street Bike Boulevard involves the introduction of traffic calming and traffic diversion, such as speed humps, curb extensions, and street closures. Alternative D encourages pedestrians to use existing sidewalks, while cyclists and motorists share the street.

Figure 2-9: Cross-section of Broadway Shared-Use Path

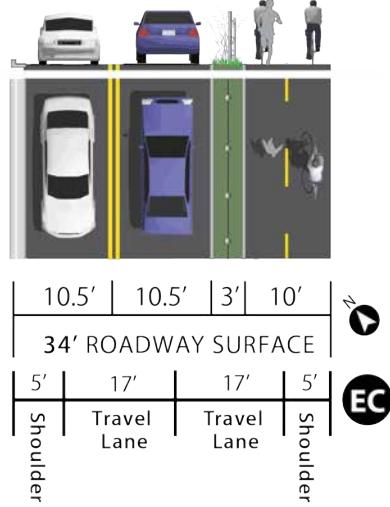
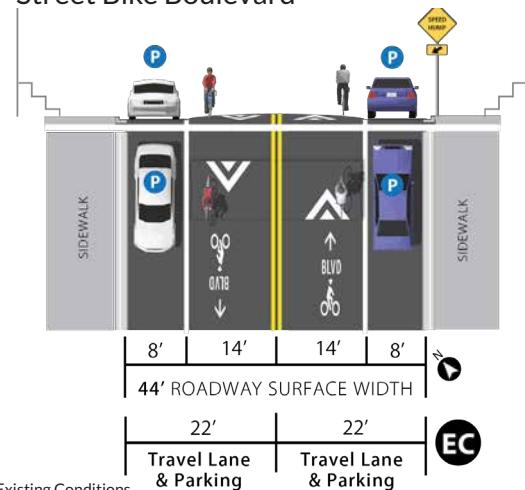


Figure 2-10: Cross-section of Church Street Cycle Track



Figure 2-11: Cross-section of Green Street Bike Boulevard



\*EC = Existing Conditions

## SECTION 3 EVALUATION

### Alternative A: I-787 Underline Shared-Use Path

Alternative A provides a comfortable, separated facility, and can be installed at a relatively low cost due to the existing site disturbance, grading, and materials. The Underline Shared-Use Path offers protection from inclement weather by being located under I-787, improves access between the neighborhoods on the west and the waterfront on the east, and reduces potential conflicts with vehicles. The Path also provides better sight lines compared to the other alternatives, which improves perceived safety. The unused and vacant appearance of the space is currently uninviting. Re-imagining the space with creative features in addition to the shared-use path and related facilities will draw users to the area.

### Alternative B: Broadway Shared-Use Path

Alternative B brings the trail alignment closer to the waterfront. Additionally, commercial development along Broadway is increasing and would benefit from linking the Connector through its corridor to further promote redevelopment of this corridor. The Broadway Shared-Use Path also offers views of the Hudson River which increases the desirability of the Path. However, Alternative B is further away from residential neighborhoods, which decreases accessibility. Necessary infrastructure upgrades to safely cross the railroad, reconstruct the roadway, and relocate utilities along the corridor presents greater engineering challenges compared to other alternatives. Excluding the sidewalks near Island Creek Park and in front of the U-Haul building, the Broadway alternative does not connect to existing bicycle or pedestrian facilities.

### Alternative C: Church Street Cycle Track

The low traffic volumes on Church Street make Alternative C an attractive roadway for the installation of a cycle track. The Church Street Cycle Track requires more upfront expenditures compared to the other alternatives. As illustrated in Study Reports conducted by Creighton Manning located on page A-41 of the Appendix, a portion of the roadway could be closed to vehicle traffic with little impact on existing traffic patterns.

### Alternative D: Green St. Bike Blvd.

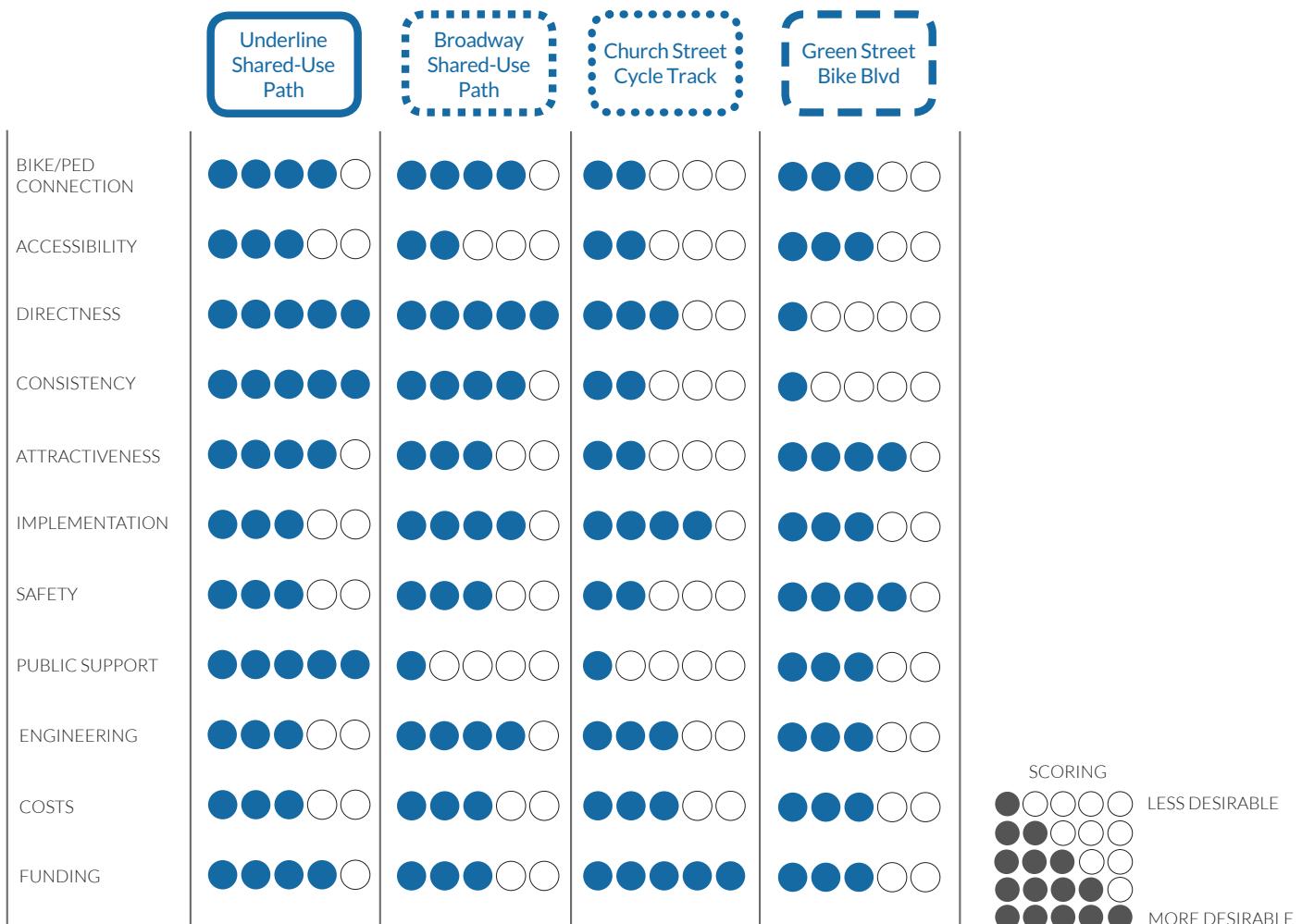
Green Street is an attractive corridor and has the potential to provide a strong connection between the trail and the South End. While Alternative D does not present a separated facility for cyclists, the Bike Boulevard lowers traffic volumes so that all users can be comfortable in sharing the street. Some sections of Green Street already have traffic calming and streetcapping features, while other sections require greater improvements. Wayfinding and branding is also needed to ensure cyclists and pedestrians are aware of the facility.

## SECTION 3 ALTERNATIVES COMPARISON

All of the Section 3 alternatives have the potential to be implemented and enhance the existing network. There is clear public support for a shared-use path below I-787. Re-imagining and developing the underutilized space is an important priority for the South End and would soften, if not eliminate, a barrier between the South End and the waterfront. The two-way cycle track is another feasible alternative that could be easily implemented. As redevelopment occurs along Broadway, easements should be obtained and a shared-use path along the riverfront or along Broadway should be considered for future construction.



Figure 2-12: Section 3 Desirability Rating



### PREFERRED: I-787 UNDERLINE SHARED-USE PATH

- Activates an unused space
- Creates a connection closer to the community



## FINDINGS

Based on the preceding evaluation, it is recommended that the City of Albany strongly consider constructing the following facilities to connect users safely between the Albany County Rail Trail and the Mohawk-Hudson Bike-Hike Trail:

1. A continuation of the shared-use path from the trailhead of the Albany County Rail Trail adjacent to the existing parking area through the proposed Bus Rapid Transit station and terminus at the southern end of South Pearl Street.
2. As the shared-use path approaches South Pearl Street, the facility would transition to a cycle-track along the eastern edge of the roadway. Cyclists would use the on-road, two-way separated facility while pedestrians utilize the sidewalk adjacent to South Pearl Street.
3. The pedestrian and bicycle facilities (sidewalk and cycle track) would merge at the intersection of the South Pearl Street and the I-787 North Bound Access Road in to a protected shared-use path along the roadway.
4. At the northern intersection of the I-787 off-ramp and Church Street, the path would continue across the roadway to the trail below the I-787 superstructure. The path would continue below I-787 running north/south parallel to Church Street.
5. At the intersection with Broadway, the shared-use path would turn east towards the waterfront to connect with the southern most terminus of the Mohawk-Hudson Bike-Hike Trail at Quay Street.

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# SELECTED ROUTE

ALBANY WATERFRONT CONNECTOR





## INTRODUCTION

The Route Analysis chapter identified several route alternatives in the Study Area. All alternatives were evaluated based on eleven criteria to determine the preferred alternative in each of the three sections. The evaluation criteria, also outlined in detail in Chapter 2, were:

- Existing bicycle and pedestrian connections
- Accessibility to residents and visitors
- Directness of the route
- Consistency in design and scale
- Attractiveness of the route to potential users
- Ease of implementation
- Safety and security
- Public support
- Engineering aspects and constraints
- Cost of implementation
- Ease of obtaining funding

The alignments selected based on the evaluation criteria are listed below and shown in the adjacent map.

### SECTION 1

- Alternative C: Cycle Track and Sidewalk

### SECTION 2

- Alternative A: I-787 NB Access Road Shared-Use Path

### SECTION 3

- Alternative A: I-787 Underline Shared-Use Path

The cost estimate to construct the proposed Waterfront Connector is \$1.5 million. A detailed cost estimate can be found on page A-29 of the Appendix.

## Map 5 - Selected Route

Map 5 displays the selected route for the Albany Waterfront Connector.

### SECTION 3 ALTERNATIVE A

MOHAWK-HUDSON  
BIKE-HIKE TRAIL

### SECTION 2 ALTERNATIVE A

HUDSON RIVER

### SECTION 1 ALTERNATIVE C

ALBANY COUNTY  
RAIL TRAIL

#### SELECTED ALIGNMENT OVERVIEW



## SECTION 1

### CYCLE TRACK AND SIDEWALK

Three potential routes to connect users from the south beginning at the Albany County Rail Trail to the intersection of the on ramp to I-787/ Broadway and South Pearl Street were evaluated. The Cycle Track and Sidewalk route was chosen as the preferred option.

Implementing the Cycle Track and Sidewalk route requires the removal on-street parking on the east side of South Pearl Street. A parking count was conducted in November of 2016 to determine any potential impacts to implementing the Cycle Track. Table 4-1 summarizes the results of the parking count. During the parking

count, less than 20 vehicles were parked on South Pearl Street. The west curb along this portion of South Pearl Street accommodates more than 40 on-street parking spaces, which provides adequate on-street parking.

It is important to accommodate pedestrians in this section since the reduced amount of parking will require motorists to cross the street. Additionally, if implemented, Albany County would likely need to acquire more of the adjacent property or an easement in order to expand their parking and accommodate the trail connection.

Figure 3-1: Proposed Bus Rapid Transit Blue Line Station

The proposed station would serve as a gateway between the Albany County Rail Trail and the Waterfront Connector, as well as a transfer station between modes of transit for both residents and visitors. The new station would incorporate new Bus Rapid Transit (BRT) boarding facilities, a multi-use path, new plantings and stormwater management infrastructure, and improved access to parking.

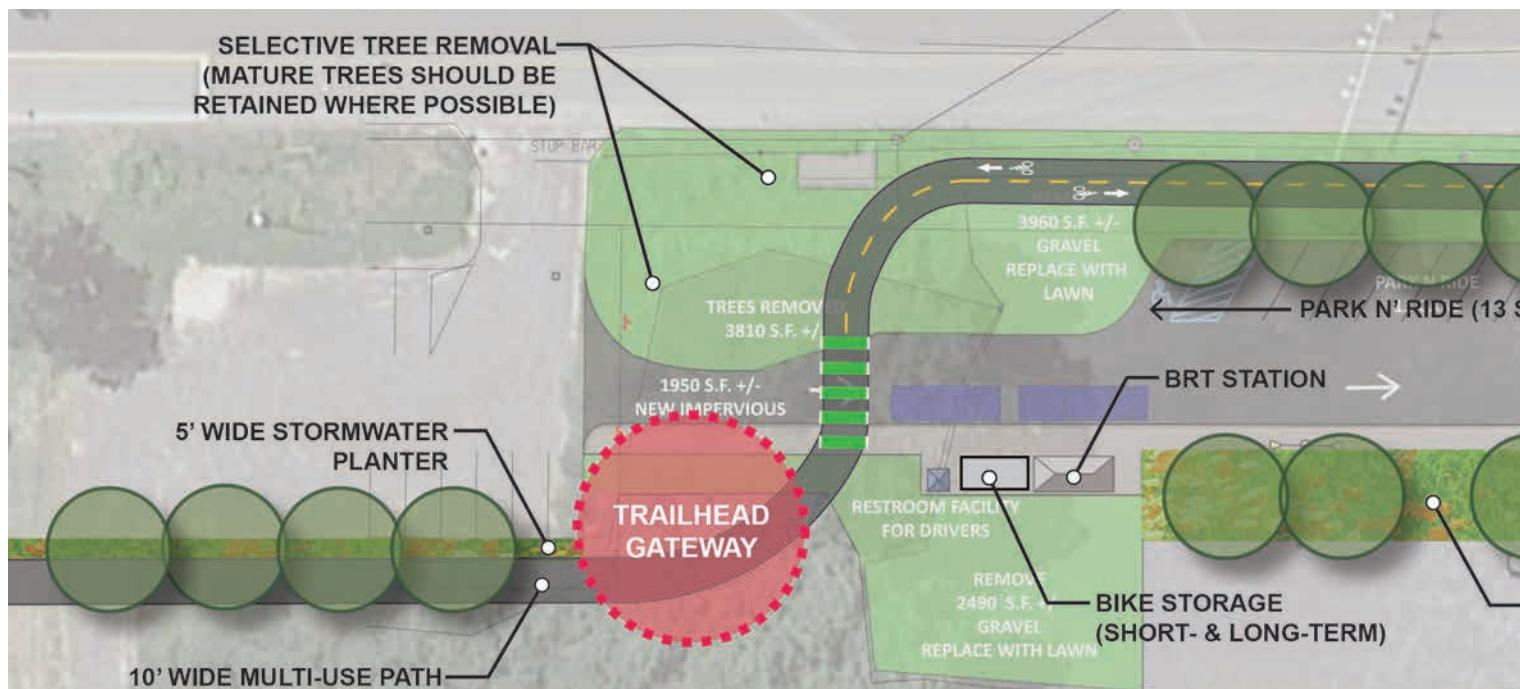
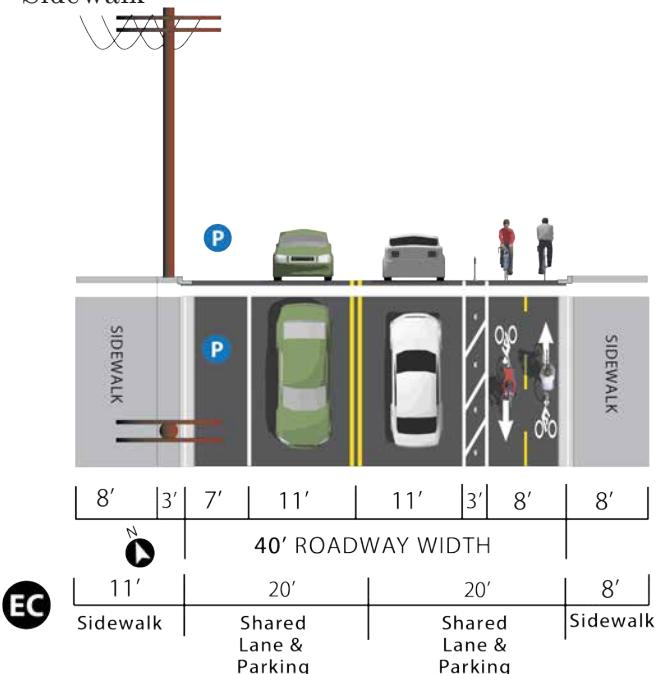




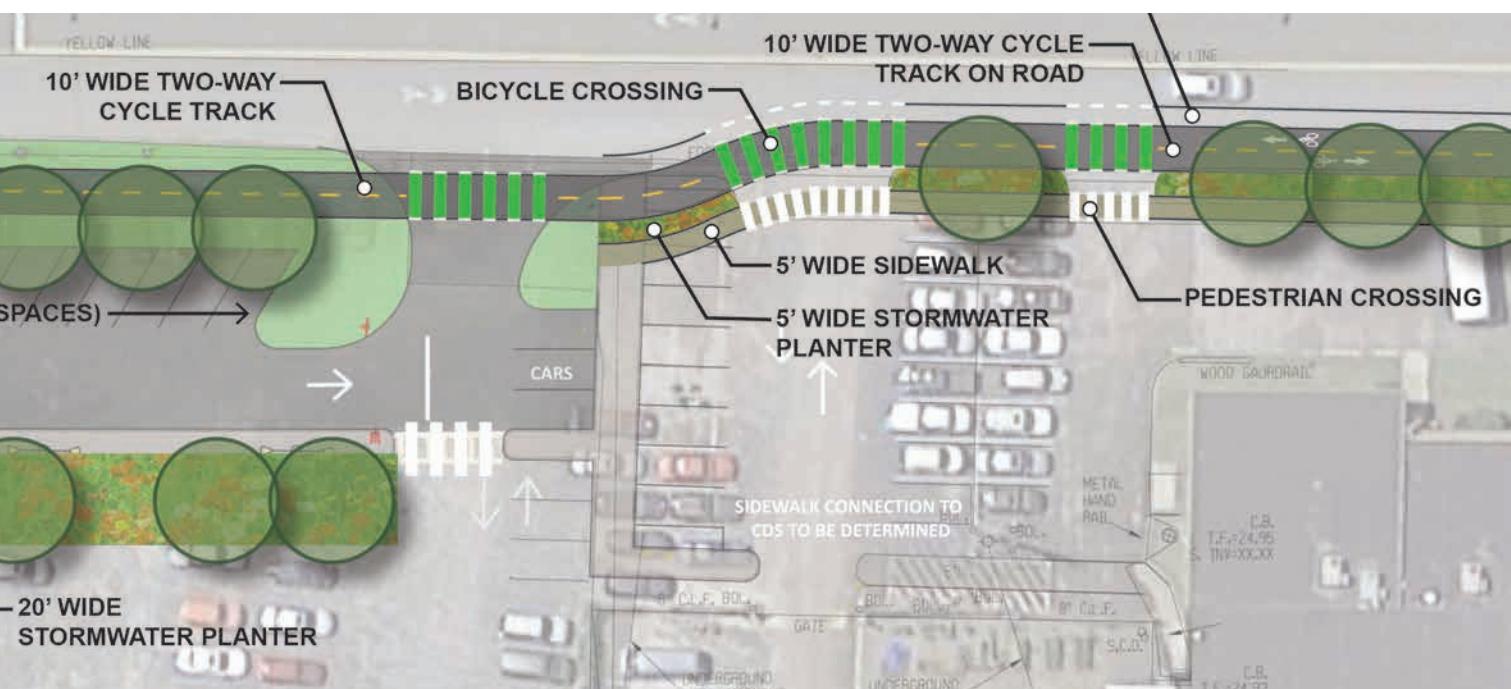
Table 1: South Pearl Parking Count

Segment	Mid-Day		Evening	
	East	West	East	West
Trailhead driveway to Center for Disabilities North Driveway	0	0	0	0
Center for Disabilities North Driveway to Mount Hope Drive	15	3	15	5

Figure 3-2: Cross-section of Cycle Track & Sidewalk



\*EC= Existing Conditions



## Map 6 - South Pearl Street to I-787

Map 6 illustrates the proposed improvements to existing street and sidewalks to install a shared-use path.





## Summary Analysis

The Cycle Track and Sidewalk route was selected for multiple reasons, including:

- A separated bike facility which improves safety and accessibility to all users.
- Removable flexible delineators which allow for low-cost maintenance.
- Reduced travel lane widths which have a traffic calming effect and improve the attractiveness of the street to cyclists and pedestrians.
- High visibility in the South End which creates a direct, consistent connection from the Albany Rail Trail through this section of the South End.
- A direct link to the future Bus Rapid Transit station represents an opportunity to create a more robust intermodal station.

## SECTION 2

### I-787 NB Access Road Shared-Use Path

The selected Section 2 route includes a 10-foot wide shared-use path featuring a jersey barrier buffer, lighting, and fencing on the east side of the I-787 exit ramp. The shared-use path would replace the existing outside travel lane.

A Level of Service (LOS) assessment was conducted by Creighton Manning Engineering to analyze changes to the traffic service to the weave pattern of both Exit 2 off-ramps (see page A- 30 of the Appendix for the complete memo).

Level of Service is a qualitative measure used to illustrate the quality of traffic service based on measures such as speed and density. LOS standards use letters to measure traffic flow, with A being the best, and F being the worst:

- A: Free flow
- B: Reasonable free flow
- C: Stable flow, at or near free flow
- D: Approaching unstable flow
- E: Unstable flow, operating at capacity
- F: Forced or breakdown flow

The analysis shows that a reduction from three lanes to two to accommodate the protected cycle track would result in a slight reduction in Level of Service from 'A' to 'B'. This LOS reduction would occur in the Northbound direction during the AM peak hour as well as in the Southbound direction during the PM peak hour. Table 2 summarizes the weave LOS analysis.

In addition to the Level of Service study, a turning movement count (TMC) was conducted at the intersection of Church Street and the I-787 NB Access Road intersection on December 7, 2016 from 7:00am to 8:00am. The result of the TMC and LOS analysis showed that under typical conditions, without delays from a train, that the northbound left and right turning lanes will operate at the current LOS. The Connector will result in an increase in the average vehicle delay by less than one second.

The LOS assessment also indicates that the maximum northbound queue under this option will be approximately 950 feet (38 vehicles) which would not impact operations of the weaving area associated with the northbound Exit 2 ramps for I-787 located approximately 1,200 feet south of Church Street.

Table 2: I-787 Exit 2 Interchange Weave LOS Analysis

Location	I-787 Exit 2 Interchange Weave Level of Service Analysis			
	AM Peak Hour Existing (3 lanes)	AM Peak Hour Build (2 lanes)	AM Peak Hour Existing (3 lanes)	AM Peak Hour Build (2 lanes)
NB Access Road Weave (NY32)	A	B	A	A
SB Access Road Weave (NY32)	A	A	A	B



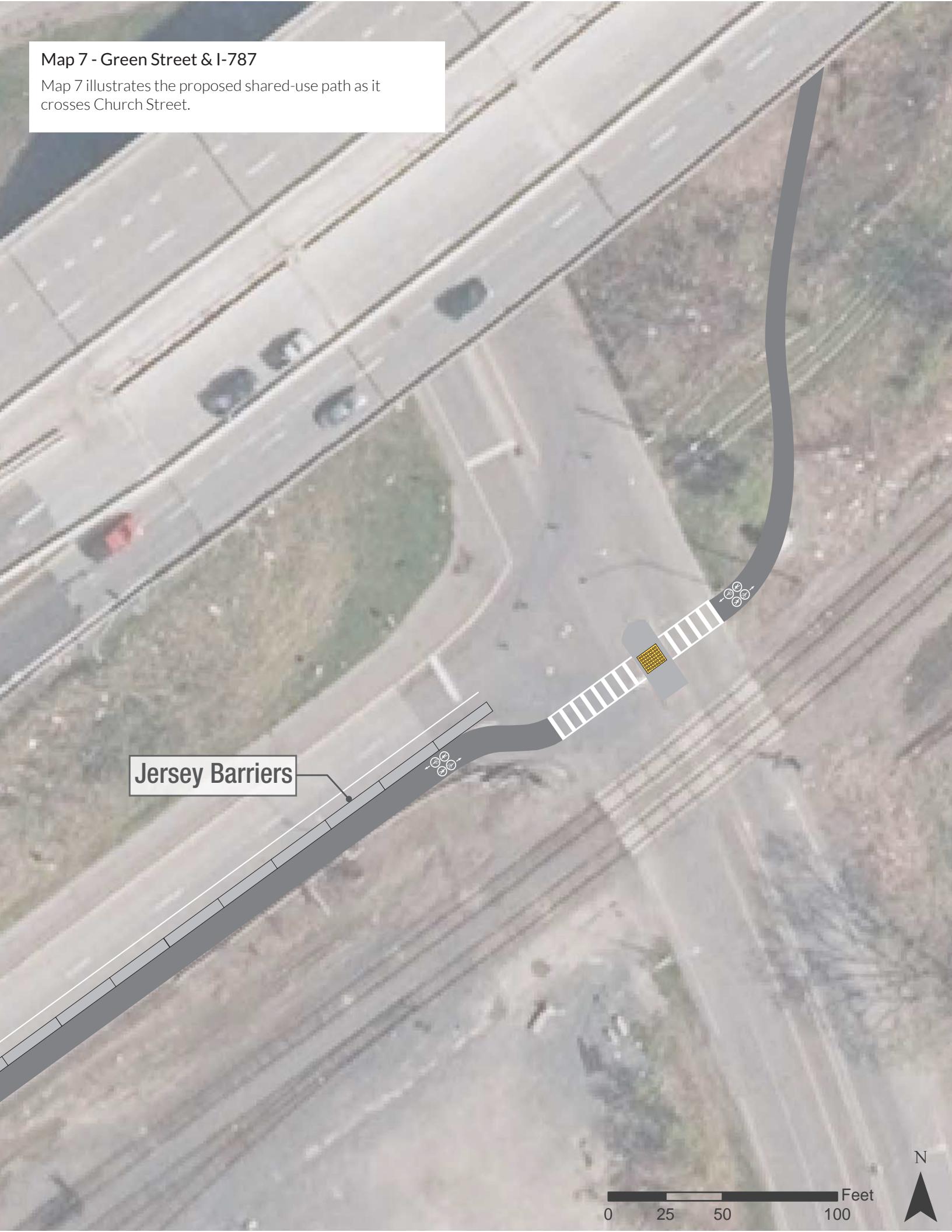
## Summary Analysis

The I-787 NB Access Road Shared-Use Path is the selected route for multiple reasons, including:

- The space between the railroad and pavement will allow for the introduction of trees and other plantings along the east fence to provide shade and an attractive buffer from the railroad. This area can also be used for stormwater mitigation.
- The I-787 NB Access Road Shared-Use Path is more intuitive for trail users, is a direct line between destinations, and is generally the preferred route for current cyclists and pedestrians traveling between the waterfront north of the Port of Albany and South Pearl Street.
- This route has strong public support as evidenced during public meetings and survey analysis.
- Four conflict areas in the I-787 SB option are avoided. By avoiding these conflict areas, costs are also reduced.
- A well-designed wayfinding program will connect trail users to amenities in the South End.
- There is little to no change to average delay at the intersection of Church Street and the I-787 Access Road
- Vehicle queues will not impact I-787 operations.

## Map 7 - Green Street & I-787

Map 7 illustrates the proposed shared-use path as it crosses Church Street.



Jersey Barriers

0 25 50 100 Feet

N



## Railroad Crossing Considerations

Green Street is an essential crossing between the South End and Island Creek Park, the only recreational access to the Hudson River in the South End.

A signal update at the at-grade railroad crossing on Green Street was included in the CDTC 2016-2021 Transportation Improvement Program (TIP) prior to the beginning of this Study. An amendment to the TIP may be required to include additional cyclist and pedestrian improvements. These safety improvements should be included in the long-term operations and maintenance plans.

Refer to page A-39 of the Appendix for a conceptual cost estimate produced by Creighton Manning Engineering (CME).

## SECTION 3

### I-787 UNDERLINE SHARED-USE PATH

The selected Section 3 route utilizes the empty space under I-787 through the installation of a shared-use path beneath the elevated Interstate superstructure. The Shared-Use Path is proposed to utilize the existing width of Church Street with a sidepath separated using flexible delineators. There is a pinch point underneath I-787 between the railroad and Church Street. This segment is shown in the plan view on page 3-12.

The I-787 Underline Shared-Use Path should include the installation of a linear

park beneath I-787, along with lighting and fencing. The linear park could include murals on the supporting pillars as well as community activities and amenities, including: playgrounds, bike parking, and benches.

The photo-simulation below shows the potential transformation after implementation of this route. This rendering includes a 10-foot shared-use path, eco-friendly playground flooring, a rock climbing wall, lighting, bicycle racks, and other amenities.



Figure 3-3: Photo-simulation of the I-787 Underline Shared-Used Path



## Summary Analysis

The I-787 Underline Shared-Use Path is the selected route for multiple reasons, including:

- The existing site conditions result in a relatively low-cost, separated facility.
- A majority of the route will be protected from precipitation and hot sun by I-787.
- This route provides access to the neighborhoods to the west of Church Street and high visibility for residents and visitors.

- This route would transform the currently unused, vacant, and uninviting space into a destination.
- There is clear public support for a shared-use path below I-787 as evidenced during public meetings and survey analysis.
- Redeveloping the underutilized space would activate the area, assisting in removing a barrier between the community and the waterfront.

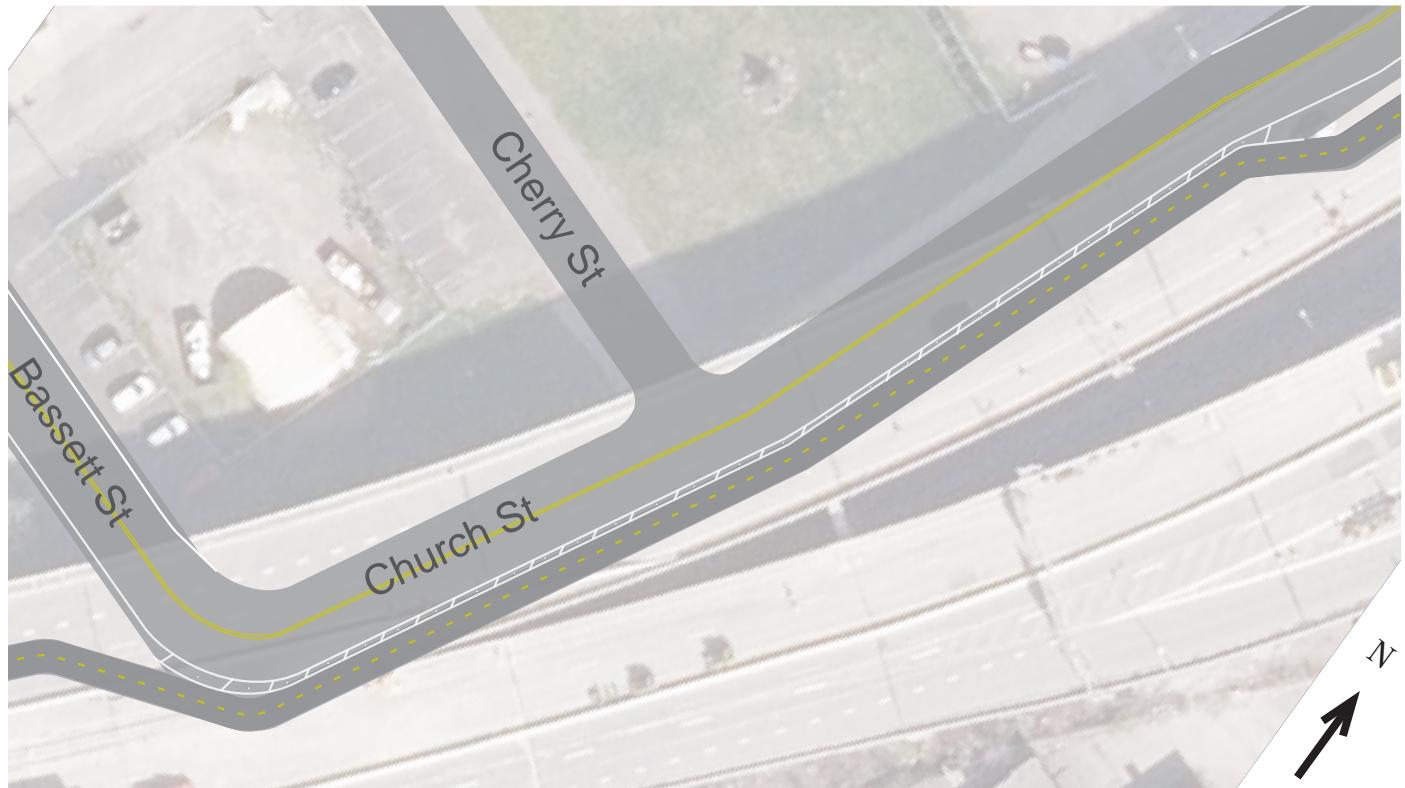


Figure 3-4: Church Street Cycle Track at the I-787 Pinch Point

## Map 8 - Broadway & I-787

Map 7 illustrates the proposed improvements to the intersection of Broadway & Quay.





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