

Route 2 Multi-Modal Connectivity Project



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This project will create a continuous bicycle and pedestrian route along the Congress Street Bridge that will connect the Cities of Watervliet and Troy. The project will also enhance the existing transit network by improving the existing CDTA route and creating a new stop on the east side of the bridge in the City of Troy. The project increase mobility for residents but also create a sense of place within the two Cities. The project will include a shared-use path on Congress Street Bridge, intersection reconfigurations on either side of the bridge, and improvements along Ferry Street and Congress Street in Troy.

Once implemented, these projects will serve as a catalyst for future projects and redevelopment within both communities, create beneficial economic impacts for the Cities. There are several areas within the immediate vicinity of these projects that are prime for redevelopment that would be supported by this project. These are traditionally underserved areas of the community and the region. It is also expected that the project will promote tourism and bring people to the municipalities from around the region to enjoy the river.

Design criteria, potential challenges, impacts on surrounding systems, such as drainage, and construction methods were carefully considered through the development of this project.



FERRY STREET AND CONGRESS STREET IMPROVEMENTS

<i>Project Type</i>	<i>Traffic Pattern Reconfiguration and Traffic Calming</i>
<i>Estimated Cost*</i>	<i>\$5.2M</i>
<i>Involved Entities</i>	<i>City of Troy, NYSDOT, CDTA</i>

*Cost includes 30% contingency, engineering, and inspection



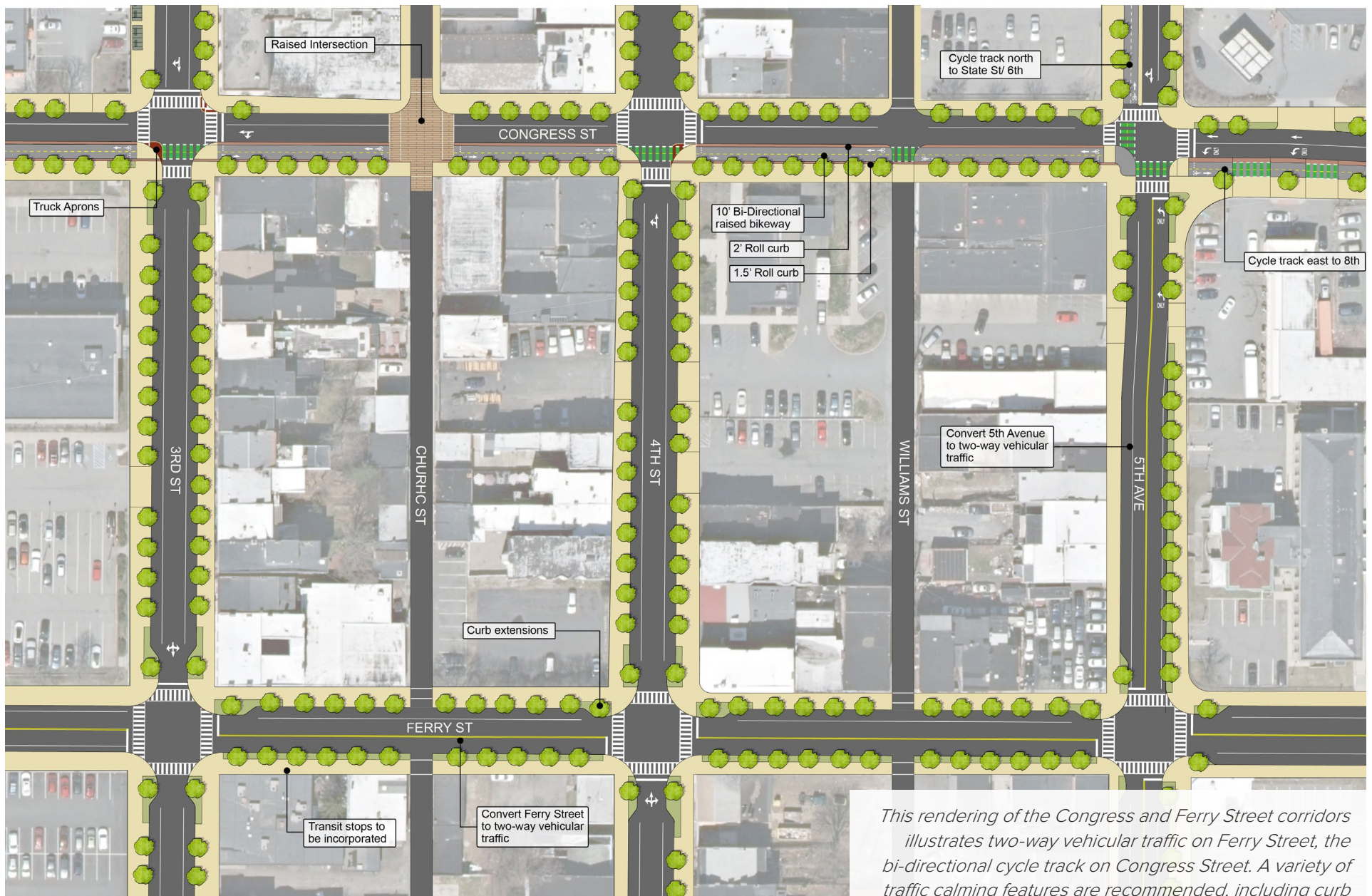
Project Description

This project is currently included in the NYSDOT STIP NY 2 Corridor Project planned for 2021. The STIP project includes corridor improvements such as milling and resurfacing of Congress and Ferry Streets, restriping to one driving lane, curb extensions, bike facilities, and repair of 50% of the sidewalks. The current configuration of Congress Street and Ferry Street do not provide bike infrastructure.

The goals of this project include providing better connectivity and a safer corridor for cyclists and pedestrians, allowing more direct access between downtown Troy and the waterfront, and providing better circulation for vehicles.

The reconfiguration of Ferry Street, illustrated below, allows for two-way traffic in both directions while keeping parking on one side of the street and maintaining all existing sidewalks along the corridor.

Congress Street will remain a one-way street for vehicular traffic but will be narrowed from two lanes to one lane. The remaining space will be sufficient for the construction of a raised bi-directional bikeway (cycle track) that will allow cyclists to safely travel along the east to west corridor. Parking will remain on the northern side of the street and all existing sidewalks will be maintained. The project should look to include traffic calming, additional textures, and landscaping to create a slow shared street environment.



This rendering of the Congress and Ferry Street corridors illustrates two-way vehicular traffic on Ferry Street, the bi-directional cycle track on Congress Street. A variety of traffic calming features are recommended, including curb extensions and raised intersections.

CONGRESS STREET BRIDGE SHARED USE PATH

<i>Project Type</i>	<i>Bridge Reconfiguration / Shared Use Path</i>
<i>Estimated Cost*</i>	<i>\$9.0M</i>
<i>Involved Entities</i>	<i>NYSDOT, City of Watervliet, City of Troy</i>

*Cost includes contingency, engineering, and inspection.

Congress Street Bridge Shared Use Path

The Congress Street Bridge is a gateway between the City of Troy and the City of Watervliet. It currently functions as a high speed vehicular corridor, accommodating, but discouraging, pedestrian traffic. Under the current and projected traffic volumes, the bridge has excess capacity for vehicles, and is over designed with two travel lanes in both the eastbound and westbound directions. Additionally, the sidewalks are not separated from the vehicular traffic by anything more than a 9" curb. The exposure to the high speed vehicular traffic on one side, vertical exposure on the other, and the high winds and elements all contribute to an uncomfortable experience for pedestrians. Currently there are no bicycle accommodations.

The goals of this project are to:

- Provide a comfortable and inviting pedestrian and bicycle path
- Reduce excessive speeding across the bridge
- Create a gateway connecting the two communities

The proposed configuration maintains two lanes of vehicular traffic (one eastbound and one westbound) between the two cities. The ends of the



bridge represent gateway intersections into both Watervliet and Troy. How these gateway intersections are reconfigured, and how the traffic will flow on and off the bridge are topics addressed below under the 19th Street / 2nd Avenue intersection and the Ferry Street/ River Street intersection discussions. All vehicular traffic will travel on the northern side of the bridge, using the existing two westbound lanes, one of which will be converted into an eastbound lane. This configuration will narrow the travel width for both directions of travel, slowing traffic while still meeting the needs of the existing and projected traffic demand.

Non-motorized passage over the bridge will be vastly improved. The northern sidewalk will remain as is (with additional repair work to make the surface acceptable). The entire southern half (two existing eastbound lanes) will be converted into a shared use bicycle and pedestrian path. The shared use path will primarily be 14' wide with 2' shoulders to accommodate bicycle traffic. Pedestrian traffic will be encouraged to use the sidewalk on the south side of the bridge. Across the system, the shared use path will maintain a 4' minimum distance from the sidewalk. This will allow pedestrian traffic along the south side of the bridge to utilize the sidewalk and this clear



River Street Intersection Reconfiguration

This portion of the project will reconnect the City of Troy street grid by eliminating the ramps to and from the Congress Street Bridge and create a four way intersection with River Street, Ferry Street, and the Congress Street Bridge. The current configuration of this interchange directs northbound traffic to Front Street as a means to access the bridge or downtown, or mis-directs traffic out of downtown and over the bridge. There is limited pedestrian connectivity, and no bicycle or transit infrastructure.

The goals of this project include providing a direct connection to the bridge (pulling traffic from Front St), allowing more direct access between south Troy and downtown, enhancing bicycle and pedestrian connectivity to and from Congress Street, and providing better circulation and street frontage for the Taylor Apartments redevelopment.

The reconfiguration of this intersection, illustrated to the right, allows for two-way traffic in all directions. It is assumed that vehicular traffic over the bridge will be reduced to two lanes, Ferry Street will be converted to two-way vehicular traffic from River Street to some point east, and River Street will be converted to two-way vehicular traffic from Congress Street to some point north.

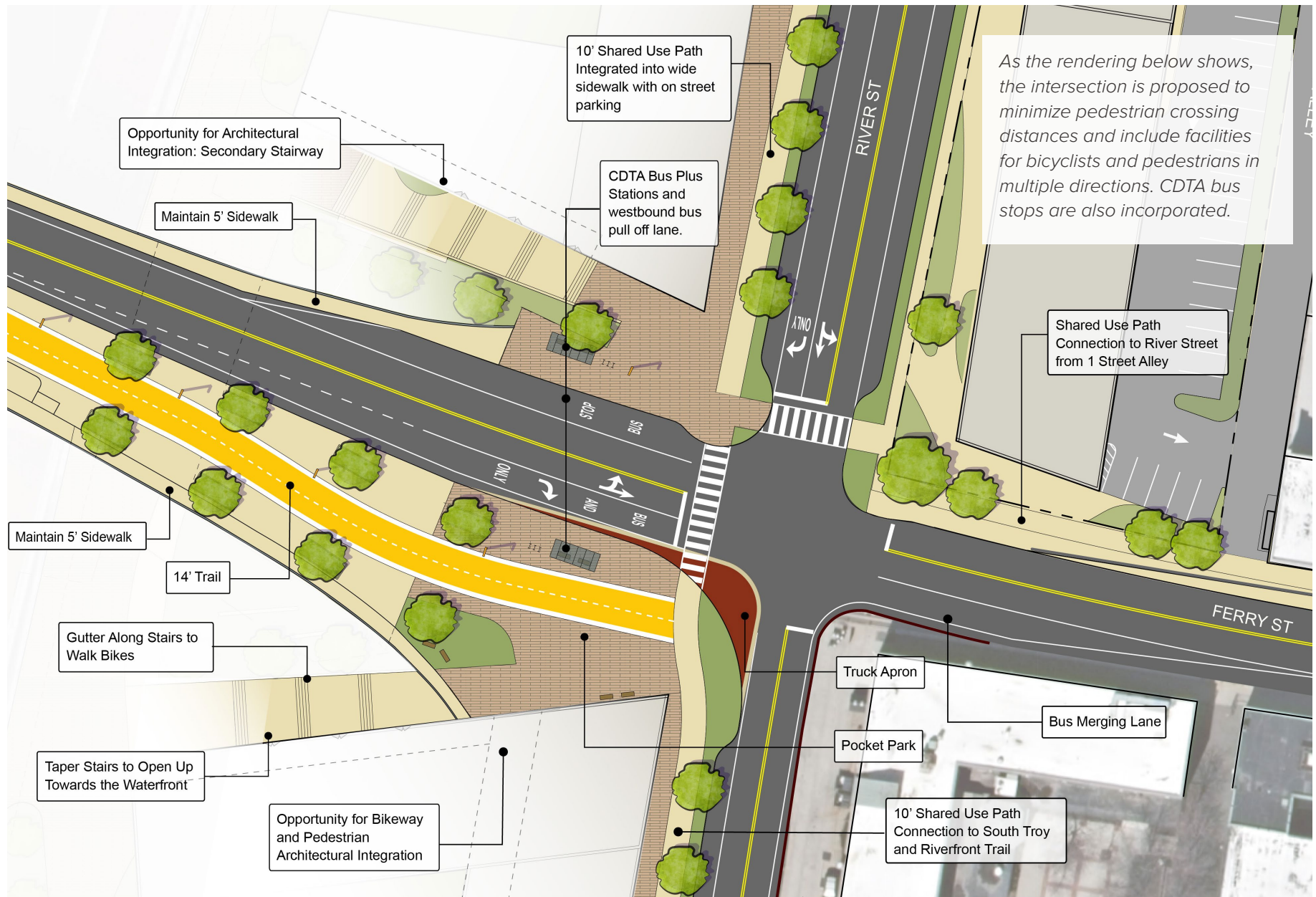
The conceptual design for the intersection is a compromise of maintaining level of service for vehicles, while also providing comfortable pedestrian and trail crossings at the intersection - following the ITE Walkable Thoroughfare Guide. The intersection is proposed to be signalized, with two-lane approaches for the Congress Street Bridge eastbound approach and the River Street southbound approach. Single lane approaches are adequate for the River Street northbound approach and the Ferry Street westbound approach. This layout keeps the intersection to a compact size allowing for better pedestrian accommodations. The intersection will operate at level of service C. To further enhance pedestrian crossings at the intersection, a truck apron on the southwest corner, to accommodate large trucks traveling to South Industrial Road, and a curb bump extension on the northwest corner. The curb extension will also serve to define the bus pull off and on-street parking.



This rendering illustrates the new eastbound approach of the intersection, including the curb extensions, bus stops, and shared use path along the southside of the bridge.

CDTA bus stops have been incorporated into the design for the intersection, with the eastbound stop occurring in the right turn lane and a bus pull off being provided for the westbound stop. A queue jumper can be incorporated into the signalization of the intersection and a merging taper has been provided to allow buses to merge into the through lane before entering the tunnel.

To provide continuous bicycle and pedestrian connectivity, shared use path connections are recommended along the west side of River Street, north and south of the intersection, and along the north side of Ferry Street, east of the intersection. The space remaining between the bridge structure and the northbound leg of River Street creates a pocket park where these two trails will converge and where the eastbound bus stop and shelter will be located. The available space and vertical height does not lend itself to a direct shared use path connection to the waterfront so stairs are recommended while bicyclists will be encouraged to travel south to Division Street to access the waterfront trail.



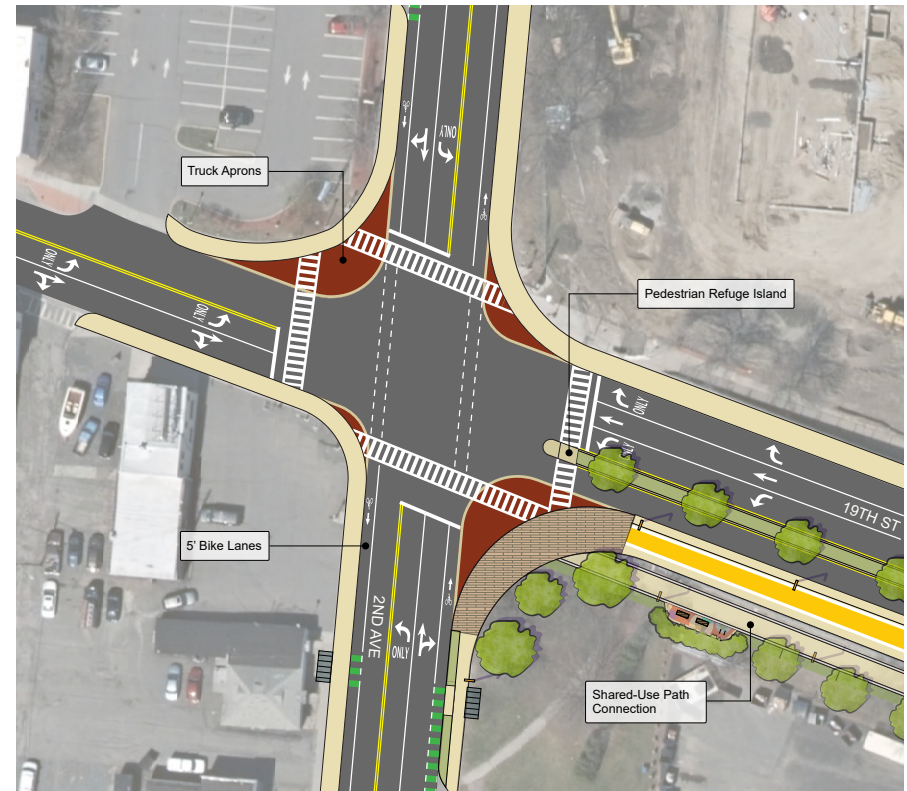
19th Street and 2nd Avenue Intersection Reconfiguration

As a gateway to Watervliet, a connection between two cities and various uses, and part of the new Bus Plus BRT Blue Line, this intersection experiences heavy pedestrian traffic. As an important vehicular connection between Watervliet and Troy and I-787, this intersection also experiences high volumes and significant truck traffic. Balancing these competing needs is challenging and the current intersection configuration gives vehicles the priority.

The goal of the proposed project is to provide safer pedestrian accommodations that will allow for pedestrians to feel more comfortable navigating the intersection. To achieve this goal, crosswalks will be shortened and curb returns will be reconfigured to reduce the speed of turning vehicles while not significantly impacting vehicle operations.

This project proposes the reduction of an eastbound through lane. This allows for better definition of the eastbound approach of this intersection with an exclusive left-turn lane and a shared through-right turn lane. The proposed reconfiguration of this intersection allows for the eastbound and westbound left turn lanes to directly oppose each other, improving signal operations and also allows for a pedestrian refuge island to be incorporated into the median of the westbound approach. The pedestrian refuge island is a key component that will break up this long crosswalk and will better define the pedestrian space.

Heavy-vehicle turning volumes at this intersection are significant, requiring large curb radii. This increases the crosswalk distance and induces higher speeds for passenger vehicles making these movements. Incorporating mountable curb extensions, or truck aprons, will reduce vehicle speeds around these turns while still enabling heavy vehicle turning movements. The curb extensions will also allow the crosswalks to be shortened, thereby reducing pedestrian exposure time. As a result of these extensions, some of the ADA curb ramps will require reconfiguration. The truck apron on the southeast corner of the intersection should be designed to be more flush with the pavement to accommodate CDTA buses, while still discouraging this area's use by motor vehicles.



New pavement markings for crosswalks and lane assignments will be required as well to ensure proper lane usage for vehicles. Since the signal is currently timed to accommodate the eastbound movements as two thru lanes, the signal will need to be re-timed to optimize signal operations. The existing drainage system within and around the intersection will require relocation due to the reduction of eastbound lanes approaching the bridge and the installation of curb extensions. There are no utility impacts anticipated as part of this project.

The proposed improvements at the 19th Street / 2nd Avenue intersection in Watervliet include incorporating a shared use path on the southside of the bridge which will allow additional space adjacent to the pocket park and will incorporate a landscaped pedestrian refuge island on the westbound approach.



Ferry Street and Congress Street

Implementation

The components of this project are best implemented as one project creating a continuous multi-modal connection between the two cities - focusing on increasing walkability, bikability, and transit service.

Construction will require phasing to maintain proper traffic flow through the cities and across the bridge. The two intersection reconfigurations are required to shift vehicular traffic to the north side of the bridge. The River Street intersection reconfiguration is also required to accomplish two-way traffic flow on Ferry Street through the City of Troy.

Permits

The Congress Street Bridge, Ferry Street, and Congress Street are state routes with local City of Troy or City of Watervliet jurisdiction. Given that Ferry Street and Congress Street are also NY Route 2, on the National Highway System, and designated as an access highway, the project will require coordination with NYSDOT for a highway work permit.

Close Coordination should occur with CDTA and Penrose, LLC / Troy Housing Authority throughout the detailed design process. Utility coordination and improvements, as well as work zone traffic control would be handled through the detailed design process.

Maintenance

Increased maintenance would include snow clearing operations on the proposed raised bi-directional bikeway, curb extensions, and raised intersections.

The amount and type of enhancements implemented along the corridor will also change the maintenance needs. Selections will be made with maintenance needs in mind. Both the municipalities have committed to maintaining these proposed improvements.

