



CITY OF RENSSELAER WATERFRONT CONNECTIVITY STUDY

March 2023

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Prepared for: Capital District
Transportation Committee



ACKNOWLEDGEMENTS

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We would also like to thank the residents, community members, and stakeholders who participated in the public engagement process and provided valuable feedback throughout the study. Their input was essential in identifying community needs and shaping the study's recommendations.

Finally, we acknowledge the support and guidance provided by the City of Rensselaer, the Capital District Transportation Committee, and other agencies and organizations involved in the study. This study could not have been accomplished without their collaboration and cooperation.

DISCLAIMERS

This report was funded in part through grants from the Federal Highway Administration, U.S. Department of Transportation. The views and opinions expressed herein do not necessarily state or reflect those of the U.S. Department of Transportation.

The recommendations in this study are conceptual in nature and do not commit City of Rensselaer or other entities to the proposed project(s). The concepts presented in this report (or in an illustration) may need to be investigated in more detail before any funding commitment is made. Additional engineering or follow up work will be based upon funding availability.

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CHAPTER 1 Introduction

The Waterfront Connectivity Study is being conducted by the Capital District Transportation Committee (CDTC) and the City of Rensselaer to improve pedestrian, bicycle, and transit connections to the waterfront area. The Connectivity Study will help explore potential options and identify universal access solutions to include those who traditionally experience transportation disadvantages.

The City of Rensselaer is a distinctive waterfront destination, with a rich history of being a walkable area and close ties to Albany, Troy, the Hudson River, major railways, and the Hudson Valley. There is a growing effort to enhance access to the riverfront and make it more accessible and safe for pedestrians and cyclists. The City is developing the Rensselaer Riverwalk, linking DeLaet's Landing, Kiliaen's Landing, Hilton Park, the Rensselaer Boat Launch, and the RPI Trail as indicated in the Capital District Trails Plan by CDTC. Furthermore, the City is working on constructing the Hollow Trail to the Rensselaer Junior/Senior High School, enhancing safety near the Doane Stuart School, and promoting growth along the riverfront, including at the Hilton Center Brownfield Redevelopment Area.

The Waterfront Connectivity Study will employ a complete street approach to improve access along the Rensselaer waterfront and identify appropriate solutions to traffic calming, parking access, steep slopes, and overall safety and operational improvements between existing schools, residential neighborhoods, planned mixed-use developments, and the general waterfront. The New York State Department of Transportation (NYSDOT) identifies a Complete Street as a roadway planned and designed to consider the safe, convenient access and mobility of all roadway users of all ages and abilities. This includes pedestrians, bicyclists, public transportation riders, and motorists; it includes children, the elderly, and persons with disabilities. Complete Street roadway design features include sidewalks, lane striping, bicycle lanes, paved shoulders suitable for use by bicyclists, signage, crosswalks, pedestrian control signals, bus pull-outs, curb cuts, raised crosswalks, ramps and traffic calming measures.

What is a Complete Street?

A Complete Street is a roadway planned and designed to consider the safe, convenient access and mobility of all roadway users of all ages and abilities. This includes pedestrians, bicyclists, public transportation riders, and motorists; it includes children, the elderly, and persons with disabilities.

- NYSDOT

Study Approach

The main tasks for this Study include:

- Data collection and review of previous studies
- Study Advisory Committee (SAC) meetings
- Development of a project website
- Existing conditions inventory and assessment

- Public engagement
 - Hybrid public workshops
 - Community Survey
 - Project Website
 - Social media outreach
- Development of alternate concept plans

The study was conducted with input and direction from the SAC, which is comprised of representatives from the Capital District Transportation Committee (CDTC), City of Rensselaer, Capital District Transportation Authority (CDTA), Capital District Regional Planning Commission (CDRPC), New York State Department of Transportation (NYSDOT), Rensselaer County, and local citizens. The purpose of the SAC was the following:

- Provide input and guidance during the life of the Study
- Meet with the consultant and provide the following:
 - Confirm understanding of the scope of work and study area boundaries
 - Confirm study principles and objectives
 - Provide guidance on expected outcomes and measures of effectiveness
 - Provide oversight on the overall study process including the roles and responsibilities of the study partners
 - Review and comment on public information materials
 - Review and comment on recommendations
- Participate in one public input session and the final public workshop
- Review and comment on study deliverables
- Serve as a two-way information conduit for groups they represent

Study Purpose

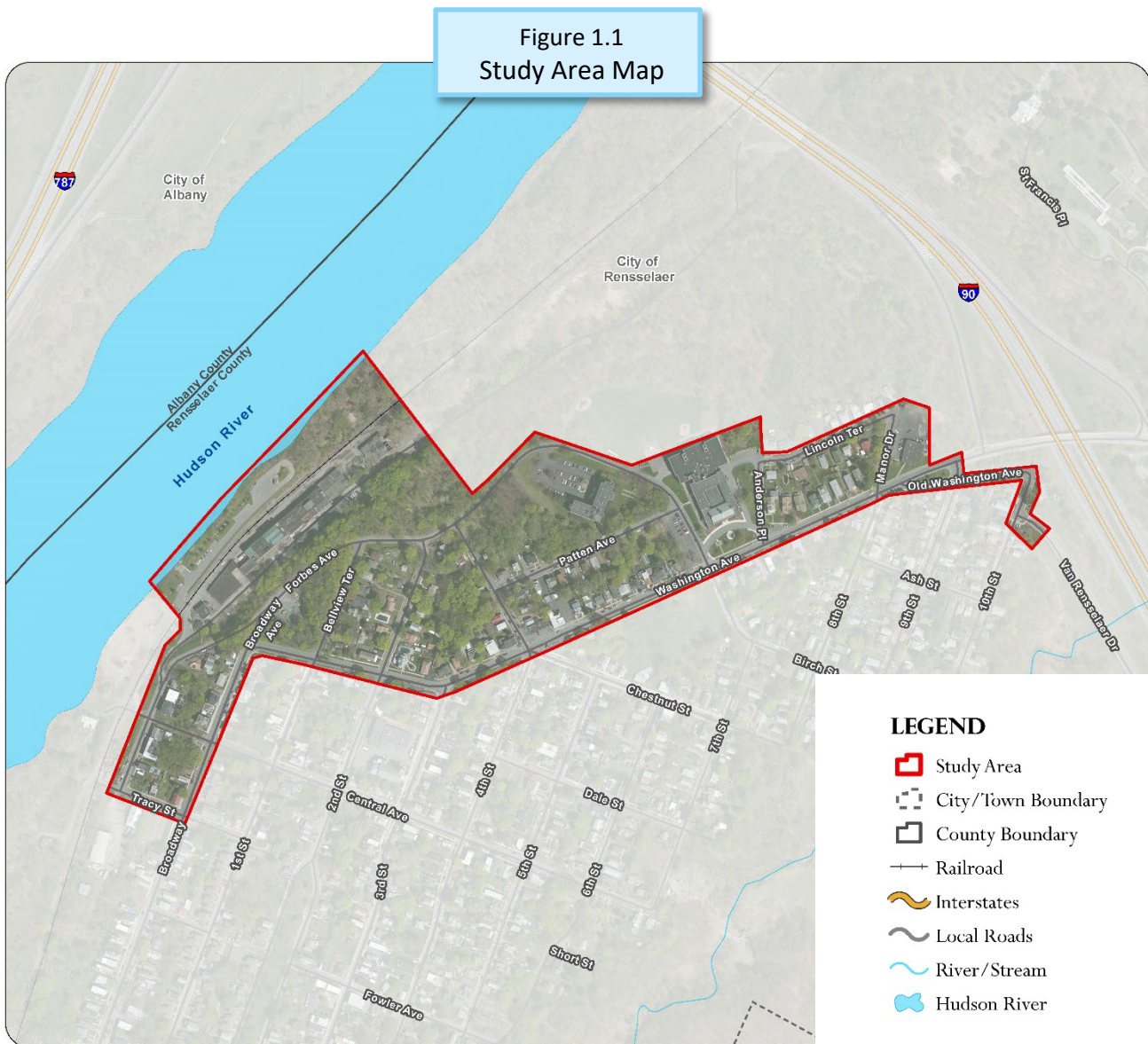
The purpose of this Study is to evaluate access options for all modes of transportation to the north waterfront area of the City of Rensselaer and to connect it with the Hollow Trail for cyclists and pedestrians. This Study aims to achieve the City's objectives of revitalizing the Rensselaer Waterfront and the Hilton Center Brownfield Redevelopment Area, connecting the City to the proposed Rensselaer Riverwalk, Kiliaen's Landing, and the Hollow Trail, promoting economic growth, improving safety, and creating a connected multi-modal transportation network accessible to all, including pedestrians, cyclists, drivers, transit users, freight, emergency vehicles, children, seniors, and people with disabilities.

The study will establish concepts along with opinion of probable costs that can be used by the City of Rensselaer to prioritize improvements and apply for funding to ultimately design and construct the recommended improvements. The study and the concepts developed will expand upon the connectivity recommendations suggested for the Hilton Park and Boat Ramp from multiple previously conducted studies.

This Study gave special attention to the transportation needs of marginalized populations, including but not limited to individuals who walk or cycle as their primary mode of transportation, people of color, low-wage earners, people without a personal vehicle, people with disabilities, people over 65 or under 16 years old, and non-English speakers. These transportation-related needs include clean air, access to schools, parks, business districts, and employment locations, traffic crash avoidance, increased physical activity, safety and security, and access to affordable housing.

Study Area

The study area, shown in **Figure 1.1**, was defined to include the City of Rensselaer Hilton Center Brownfield Redevelopment Area and potential connections to the Rensselaer Riverwalk/RPI Trail. The study area also extends to the east towards the Hollow Trail and Rensselaer Junior/Senior High School.



CHAPTER 2: Existing Conditions

Data Collection

An inventory of the physical characteristics was performed along with a parking inventory throughout the study area. Site visits were performed at multiple points in the study and the entire study area was mapped using MJ4D technology (<https://mj4d.mjels.com>). This allowed for everyone including the project team, SAC committee members, and public to view and measure existing conditions in the study area and note conditions for vehicles, transit users, pedestrians, and bicyclists.

Additional existing conditions information was obtained from readily available sources as described throughout the following sections.



Top L: City Officials, CDTC, MJ Engineering Field Walk
Top R: Hilton Center 2022
Bottom L: Washington Ave, 4th St, Chestnut St intersection
Bottom R: Future site of the path to Livingston Ave bridge



Zoning

As the City of Rensselaer looks to redevelop areas along the Hudson River waterfront it is crucial to analyze the current zoning. **Figure 2.1** identifies the zoning within the study area.

Zoning in the study area falls within 4 distinct districts including Downtown Mixed-Use (MU-1), Waterfront Mixed-Use (MU-2), Open Space and Conservation (OS), and Residential District #2 (R-2).

Downtown Mixed-Use (MU-1) The purpose of this district is to accommodate a mix of higher-density residential and commercial uses that will encourage a vibrant, walkable central core consistent with the historic character for the City of Rensselaer.

Waterfront Mixed-Use (MU-2) The purpose of this district is to capitalize on the City of Rensselaer's waterfront and convenient access to water and rail transportation by encouraging a mix of residential, commercial, and public uses. All private development, where applicable, in the Waterfront Mixed-Use District shall include public access directly adjacent to the water in the form of a 25-foot easement from the mean high tide, which may be waived by the Planning Commission in cases which the City does not feel access is appropriate for reasons of public health, safety or welfare.

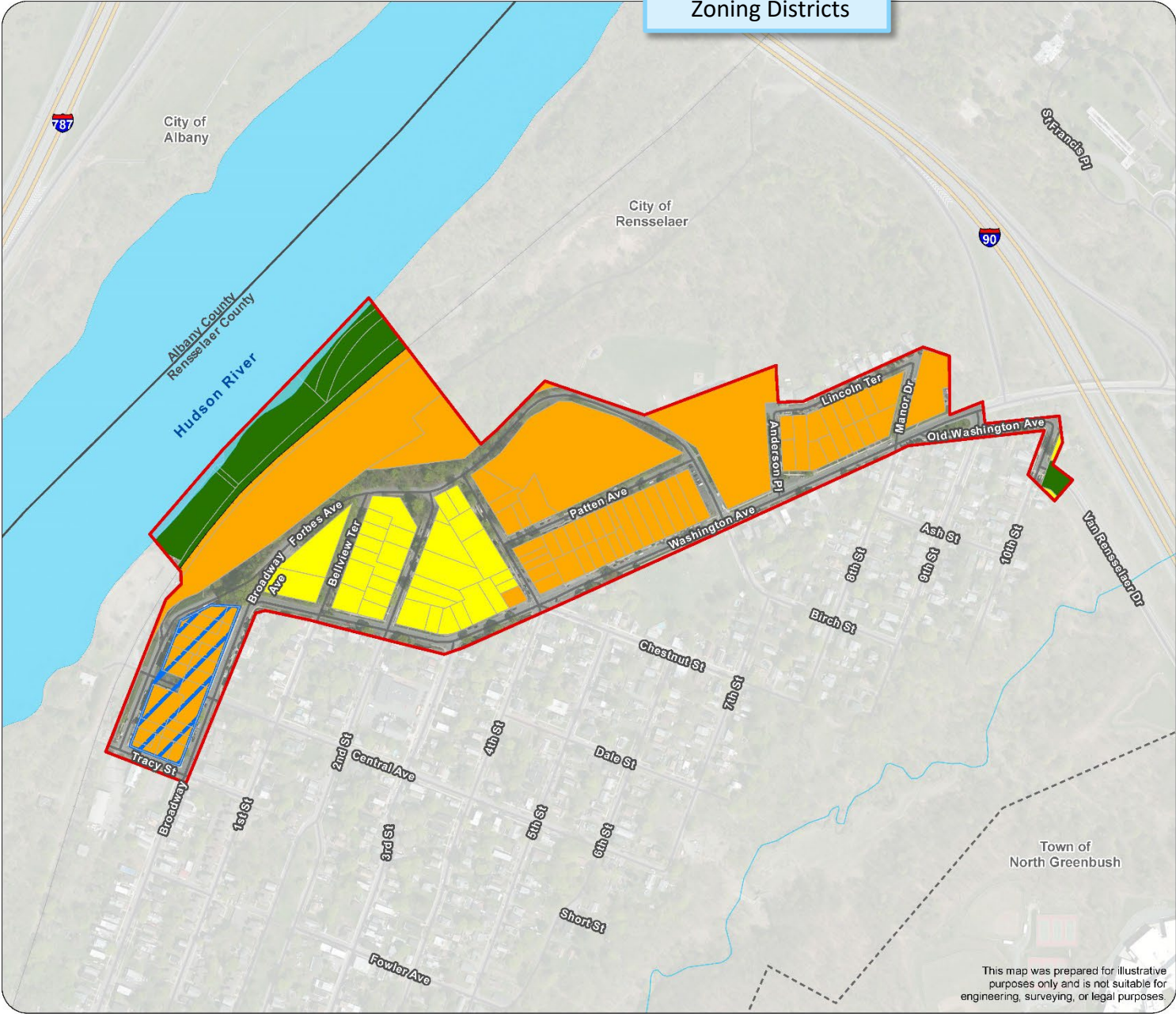
Open Space and Conservation (OS) The purpose of this district is to preserve the historic, scenic, recreational and environmental value of officially designated parkland, environmentally sensitive areas, heavily wooded areas, and other open spaces, which may or may not be accessible by the public. Further, the intent of the Open Space and Conservation District is to provide areas for the development of new passive and active parks, multi-use trails, and small-scale environmental interpretive sites.

Residential District #2 (R-2) The purpose of this district is to ensure that future residential and commercial development respects the scale and character of existing neighborhoods in the City of Rensselaer. The specific intent of the R-2 District is to: Provide a mix of housing options including single-family and two-family homes in structures originally intended for two or more families, which preserve the historic nature of existing neighborhoods; and Provide for a walkable, pedestrian-oriented environment built around single-family and two-family residential dwellings on small city lots.

Land Use

Land use refers to the actual utilization of a piece of land, whereas zoning encompasses the types of land uses that are permitted by local zoning regulations. These regulations are reflective of the unique character and characteristics of the community. Given the significant size of the study area, the variety of land uses is substantial and ranges from single to multi-family residential areas, as well as commercial and industrial areas. Additionally, the Hilton Park and Boat Ramp area also encompasses the Hilton Center Brownfield Redevelopment Area. **Figure 2.2** identifies the land use within the study area.

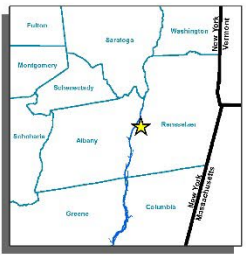
Figure 2.1
Zoning Districts



CITY OF RENSSELAER
Waterfront Connectivity
Study

Zoning Districts
April 2022

- LEGEND**
- Study Area
 - City/Town Boundary
 - County Boundary
 - Railroad
 - Interstates
 - Local Roads
 - River/Stream
 - Hudson River
 - Tax Parcel Boundary
 - Downtown Mixed-Use (MU-1)
 - Residential District #2 (R-2)
 - Open Space and Conservation (OS)
 - Historic District Overlay

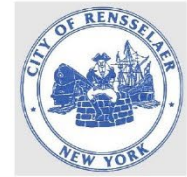
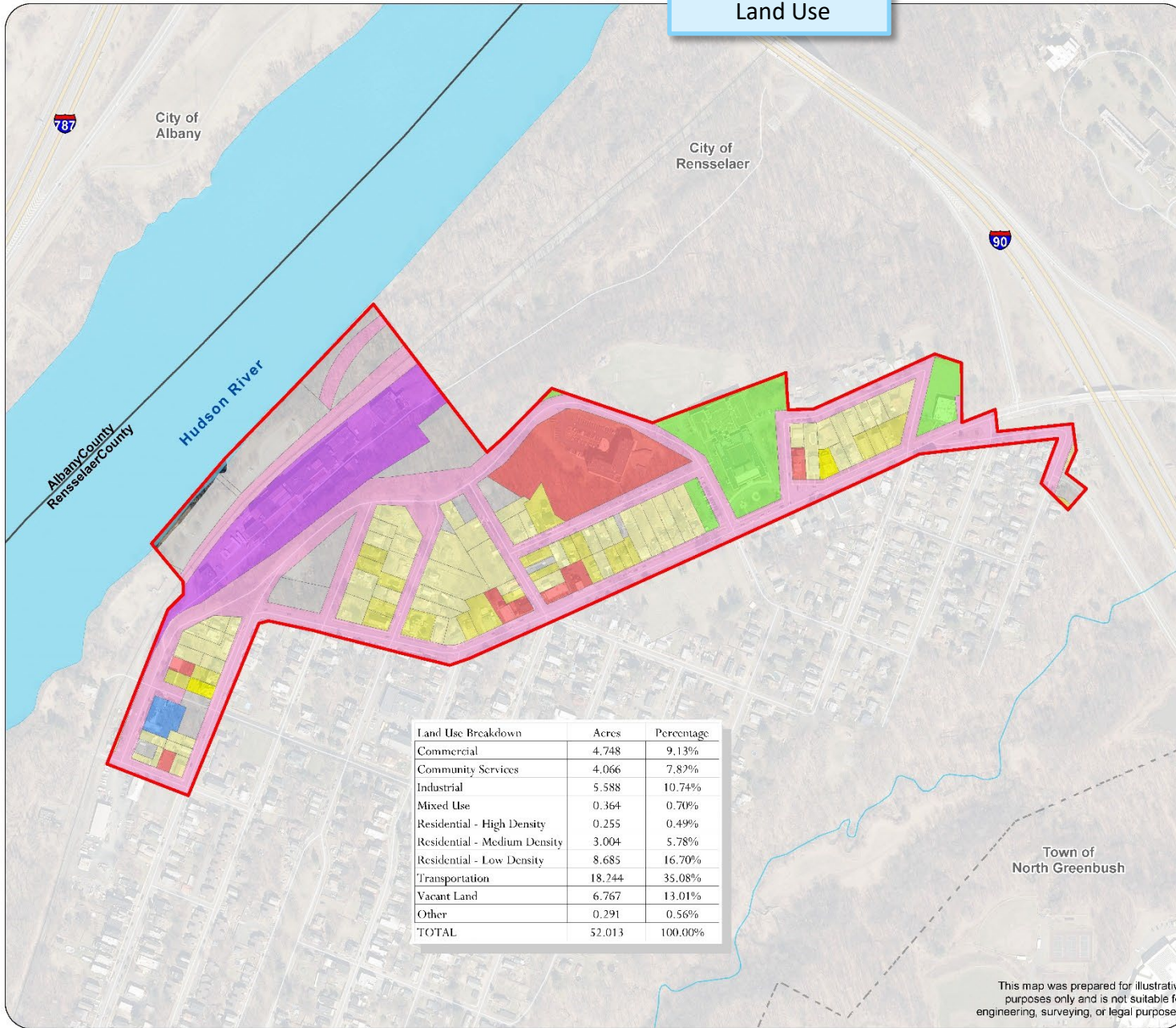


This map was prepared for illustrative purposes only and is not suitable for engineering, surveying, or legal purposes.

Sources:
Esri, NYS ITS, City of Rensselaer, Rensselaer County

M Engineering and Land Surveying, P.C.
1550 Crockett Road - Clifton Park, NY 12018

Figure 2.2
Land Use



CITY OF RENSSELAER
Waterfront Connectivity
Study

Land Use
April 2022

Legend

- Commercial
- Community Services
- Industrial
- Mixed Use
- Residential - High Density
- Residential - Medium Density
- Residential - Low Density
- Transportation
- Vacant Land



This map was prepared for illustrative purposes only and is not suitable for engineering, surveying, or legal purposes.



Sources:
Esri, NYS ITS, City of Rensselaer,
Rensselaer County

0 200 400
Feet

**Engineering and
Land Surveying, P.C.**
1550 Crocker Road - Clifton Park, NY 12018

Property Ownership

Most properties within the study area are residential in use. The Hilton Park and Boat Ramp, Van Rensselaer Heights, and the Doane Stuart School represent the 3 largest parcels in the study area. **Appendix A** includes a full study area property ownership map.

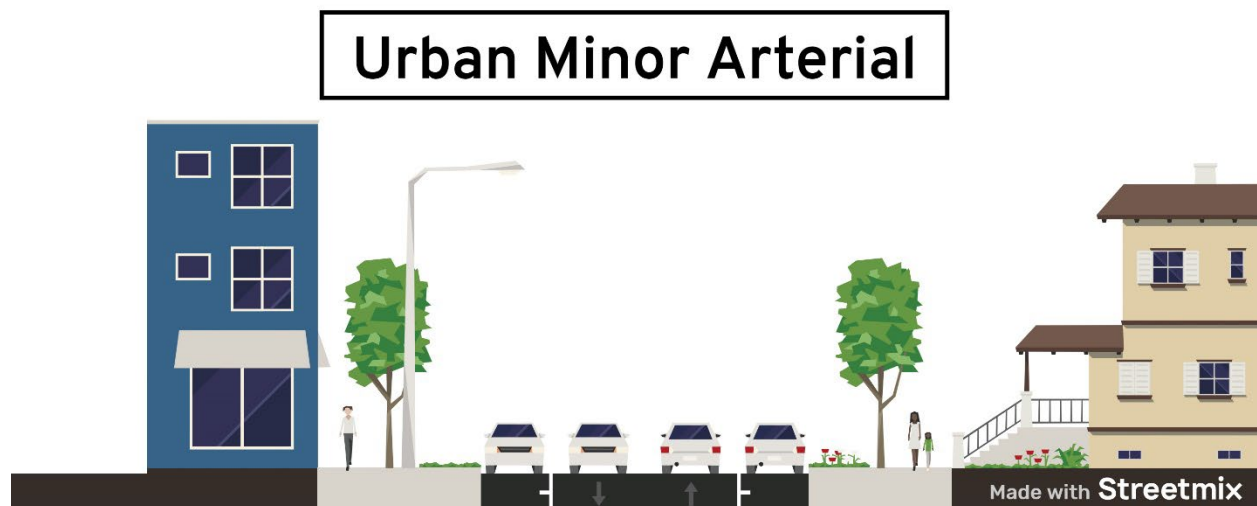
Roadway Physical Characteristics

Roadways

The study area is comprised of numerous roadways located in the City of Rensselaer. All roadways have a NYSDOT functional classification of either Urban Minor Arterial or Urban Local.

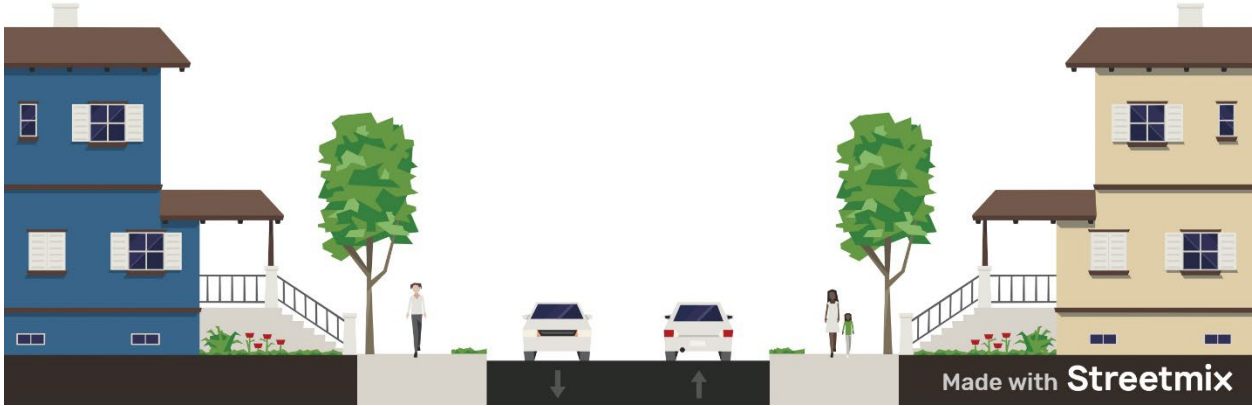
Urban Minor Arterial	Urban Local
Urban Minor Arterials provide service for trips of moderate length, interconnect and augment the higher Arterial system, provide intra-community continuity, and may carry local bus routes.	Urban local roads account for the largest percentage of all roadways in terms of mileage and are often designed to discourage through traffic. Their purpose is to provide direct access to adjacent land and higher systems.
- FHWA	

The urban local streets within the study area are low speed, fairly narrow streets that users travel primarily to access residences. The urban minor arterials bisect the study area, intersecting with many of the local streets to collect vehicular traffic. Arterials often carry traffic to more heavily traveled corridors, into commercial districts and to neighboring communities. Schematic representations of the two roadway classifications found within the study area are below:



Typical features: two (2) travel lanes, on-street parking, street lighting, mixed use development

Urban Local



Typical features: two (2) travel lanes, limited or no on-street parking, residential

A summary of the roadways within the study area is provided in **Table 1** below:

Table 1: Summary of Roadways within Study Area

Roadway Name	From	To	Functional Class	Number of Lanes
Broadway	Tracy St	Washington Ave	16	2
Washington Ave	Broadway	I-90 EB Off Ramp	16	2
Tracy St	Broadway	Forbes Ave	19	2
Forbes Ave	Tracy St	Washington Ave	19	2
Central Ave Ext	Forbes Ave	Broadway	19	2
Bellview Tr	Washington Ave	Forbes Ave	19	2
Second St	Washington Ave	Forbes Ave	19	2
Fourth St	Washington Ave	Forbes Ave	19	2
Patten Ave	Fourth St	Forbes Ave	19	2
Anderson Pl	Washington Ave	Lincoln Tr	19	1
Lincoln Tr	Anderson Pl	Manor Dr	19	2
Manor Dr	Lincoln Tr	Washington Ave	19	2
Old Washington Ave	Washington Ave	Tenth St	19	2
Tenth St	Old Washington Ave	Van Rensselaer Dr	19	2

Note: Functional Class 16 – Urban Minor Arterial, Functional Class 19 – Urban Local

Intersections

A summary of the intersections within the study area is provided in **Table 2** below:

Table 2: Summary of Intersections within Study Area

Main Roadway	Intersecting Street(s)	Existing Traffic Control System
Broadway	Tracy St	Stop-controlled on minor street
Broadway	Central Ave	Stop-controlled on minor street
Broadway	Forbes Ave / Washington Ave	Stop-controlled on minor st / yield on main st
Washington Ave	First St / Bellview Tr	Stop-controlled on minor streets
Washington Ave	Second St	Stop-controlled on minor street
Washington Ave	Third St	Stop-controlled on minor street
Washington Ave	Fourth St / Chestnut St	Stop-controlled on minor streets
Washington Ave	Forbes Ave / Seventh St	Signalized
Washington Ave	Anderson Pl	Stop-controlled on minor street
Washington Ave	Mason Dr / Eighth St	Stop-controlled on minor streets
Washington Ave	Old Washington Ave	One way slip ramp
Washington Ave	Ninth St	Stop-controlled on minor streets
Tracy St	Forbes Ave	Uncontrolled
Forbes Ave	Forbes Ave	Stop-controlled on minor streets
Forbes Ave	Bellview Tr	Uncontrolled
Forbes Ave	Second St	Uncontrolled
Forbes Ave	Fourth St	Uncontrolled
Forbes Ave	Patten Ave	Stop-controlled on major street
Fourth St	Patten Ave	Stop-controlled on minor streets
Anderson Pl	Lincoln Tr	Uncontrolled
Lincoln Tr	Manor Dr	Uncontrolled
Old Washington Ave	Ninth St	Stop-controlled all ways
Old Washington Ave	Tenth St	Uncontrolled
Tenth St	Van Rensselaer Dr	Stop-controlled all ways

School Zone

Both Forbes Avenue and Washington Avenue have pavement markings in advance of the Doane Stuart School to provide advanced warning to motorists of the upcoming school zone. The advanced warning is limited to pavement markings, as no signage has been installed. Doane Stuart School also has an approximately 50 car, faculty parking lot across Forbes Avenue. Faculty need to cross Forbes Avenue to enter the school. The faculty lot crosswalk has stop signs from both directions to allow pedestrians to cross safely.



Doane Stuart School Zone

Hilton Park And Boat Ramp

As part of the waterfront connections study, the Hilton Park and Boat Ramp emerged as a critical element in the city's waterfront infrastructure. During the study process, members of the Study Advisory Committee (SAC) and the general public brought attention to several pressing issues concerning the park, including the limited access to the park via Forbes Avenue and the hairpin turn (Figure 2.3) that diverts drivers with boats to Tracy Street.

Furthermore, the park's location at the bottom of a steep slope that descends from Doane Stewart School at the top of the Forbes Avenue hill presents additional access challenges. The ongoing Hilton redevelopment project, which seeks to transform the area into a mixed-use development, highlights the pressing need for a comprehensive analysis and planning of the park's access and overall design.

Figure 2.3



Forbes Avenue to boat launch access

In response to these challenges, the study has established a full approach to improving access to the park and enhancing its overall functionality as a popular boating destination. This includes a thorough evaluation of the park's topography, location, and future use projections, with particular attention to the limited access via Forbes Avenue, the steep slope from Doane Stewart School, and the expected impact of the Hilton redevelopment project on park access. The study also considered the at-grade CSX train crossing and its effect on park access.

The results of the study will provide valuable insights for decision-makers and stakeholders as they work to enhance the park and the surrounding area. It is essential that the park's access and design be carefully planned in order to ensure its continued viability as a popular boating destination, and the comprehensive analysis will play a critical role in ensuring the park's future success.

Pedestrian Accommodations

Pedestrian Counts

The number of pedestrians utilizing pedestrian infrastructure within the study limits were counted at four (4) intersection on May 31, 2022 within the project limits. The counts were conducted during the anticipated morning and afternoon peaks associated with the school day schedule. Refer to **Table 3** for a summary of the pedestrian volumes for the intersections studied. The pedestrian count location plan and data collection sheets can be found in **Appendix B**.

Table 3: Pedestrian Volumes

Intersection	Tuesday May 31, 2022 7:00 to 9:00 AM		Tuesday May 31, 2022 2:30 to 4:30 PM	
	Pedestrians	Bicyclists	Pedestrians	Bicyclists
Washington Ave and Broadway	12	0	36	8
Washington Ave and Third St	22	0	37	1
Washington Ave and Forbes Ave	56	0	82	8
Washington Ave and Eighth St	22	0	32	9

Sidewalks and Crosswalks

In general, concrete sidewalks are located along both sides of Broadway, Washington Avenue, Tracy Street, Second Street, Fourth Street, Patten Avenue, Lincoln Terrace, and Manor Drive through the entire study area. Additionally, sidewalks are also located along one side of Bellview Terrace (east), Anderson Place (east), Old Washington Avenue (south), and Tenth Street (west). All sidewalks within the study area have a grass utility strip to separate them from the roadways. The sidewalk is deteriorated in

many locations, with some areas exceeding the maximum two (2) percent cross slope per the Public Rights-of-Way Accessibility Guidelines (PROWAG).

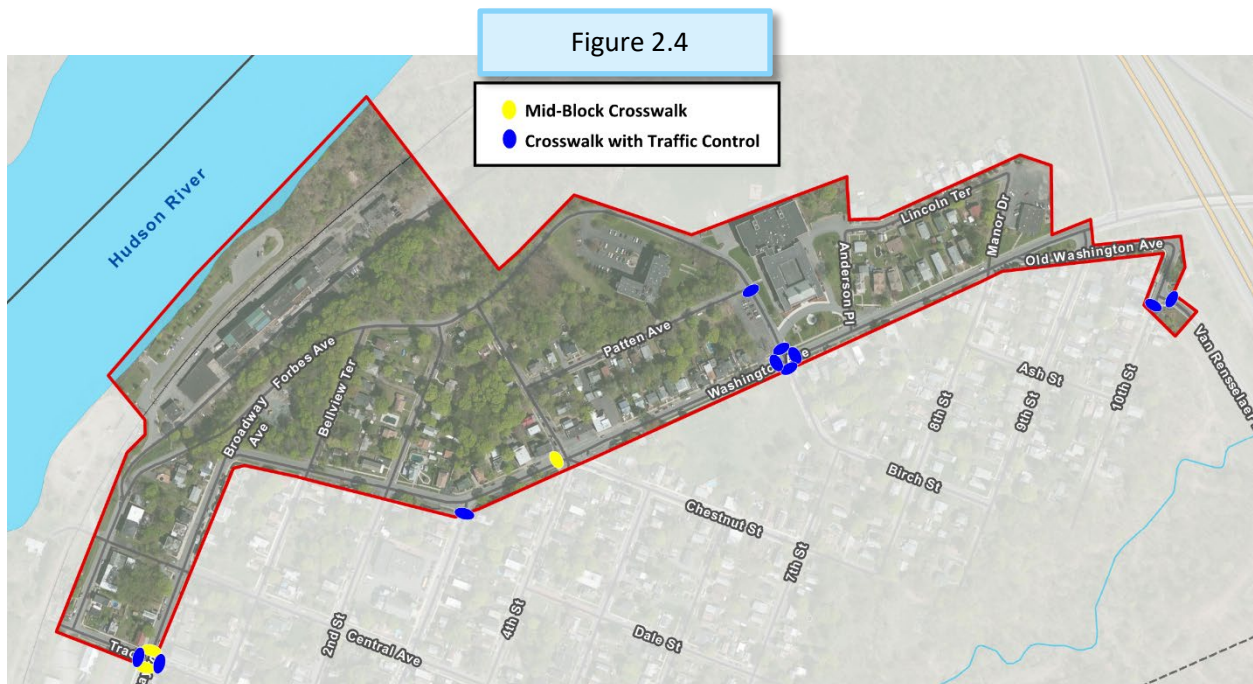
Curb ramps are present at each intersection's pedestrian crossing locations. The majority of the existing ramps do not meet PROWAG due to at least one of the following elements:

- Excessive running grade
- Excessive cross slope
- Lack of or poor condition of detectable warning unit
- Insufficient turning space or;
- Exit/entrance elevation of the roadway versus ramp elevation exceeds ¼ inch

The curb ramps at the intersection of Washington Avenue and Forbes Avenue have recently been reconstructed and meet ADA Standards. It should be noted that federally-funded projects are obligated to provide pedestrian facilities consistent with the PROWAG, regardless of project type. Should non-federal funds be used to construct improvements, the City may choose to upgrade pedestrian infrastructure as part of the project, or upgrade at a later time.

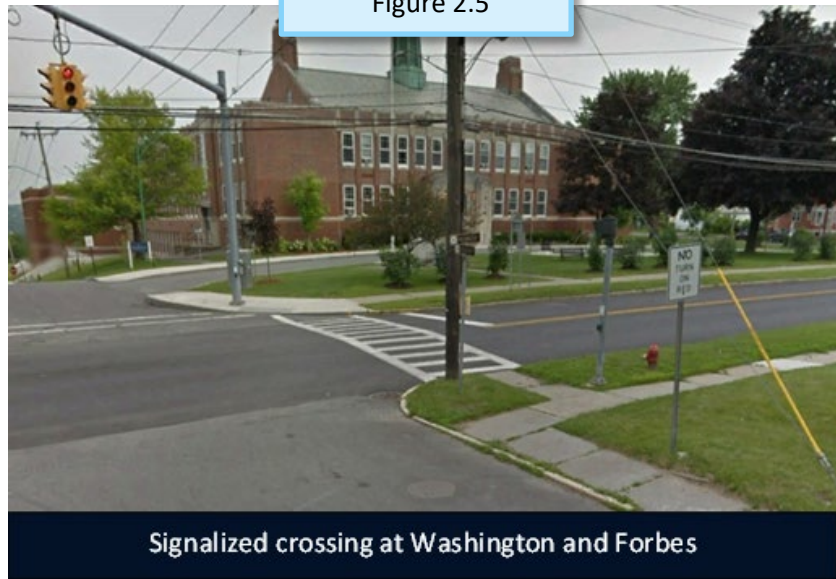
Striped pedestrian crosswalks have been installed at various locations within the study area, as identified on **Figure 2.4** below. In some locations the paint has not been maintained and is difficult to see.

The crosswalk on Forbes Avenue near the intersection with Patten Avenue is not a mid-block crossing since stop signs have been installed to control traffic on Forbes; however, eastbound traffic on Patten Avenue is not stop controlled approaching Forbes Avenue. None of the mid-block crossings identified on the figure have advanced warning signs or crosswalk signs to alert motorists of the crossing.



Pedestrian Signal Equipment

Pedestrian signal equipment has been installed in association with the traffic signal at Washington Avenue and Forbes Avenue, as shown in **Figure 2.5**. Although all four legs of the intersection have crosswalks, pedestrian signals have been installed for use by pedestrians crossing Washington Avenue on the east side of the intersection. The existing pedestrian signals do not meet the current standards which requires that pedestrian signals include a combination hand/man symbol



indication along with a countdown timer indication at each pedestrian signal location. At a minimum, additional pedestrian signals should be installed for the Washington Avenue crossing on the west approach. Future projects should consider the installation of pedestrian signals for all crossings.

Pedestrian Amenities

No pedestrian amenities currently exist along the roadways within the study area. However, the Hilton Park and Boat Ramp has several pedestrian amenities, such as picnic tables, benches, and trash receptacles, as well as decorative pedestrian lighting throughout the area.

Bicycle Routes and Accommodations

The study area is facing some challenges for safe and comfortable bicycle travel. Due to the limited shoulder width along several of the roadways and the presence of on-street parking, bicyclists are required to share the travel lanes with motor vehicles. This situation can result in potential conflicts with individuals exiting parked vehicles, as well as increase the risk of crashes. Moreover, there are no signs or pavement markings present to alert motorists of the shared-use condition, which can lead to confusion and unsafe conditions for both bicyclists and drivers. Additionally, the study area currently lacks any bicycle-friendly amenities, such as bike lanes, bike parking facilities, or bike-friendly infrastructure, which can further reduce the safety and comfort of bicycle travel.

Freight

Freight, or heavy truck traffic, is known to utilize Broadway and Washington Ave to access points within the City of Rensselaer between the Dunn Memorial Bridge and I-787 south of the study area, and I-90 north of the study area. None of the roadways within the study area are included in the National

Highway System. A summary of the available truck traffic percentages from the NYSDOT Traffic Data Viewer is provided in **Table 4** below:

Table 4: Truck Traffic within Study Area

Roadway	Truck Traffic Percentage
Broadway	3.0%
Tracy St	7.0%
Washington Ave	7.0%
Second St	0.0%

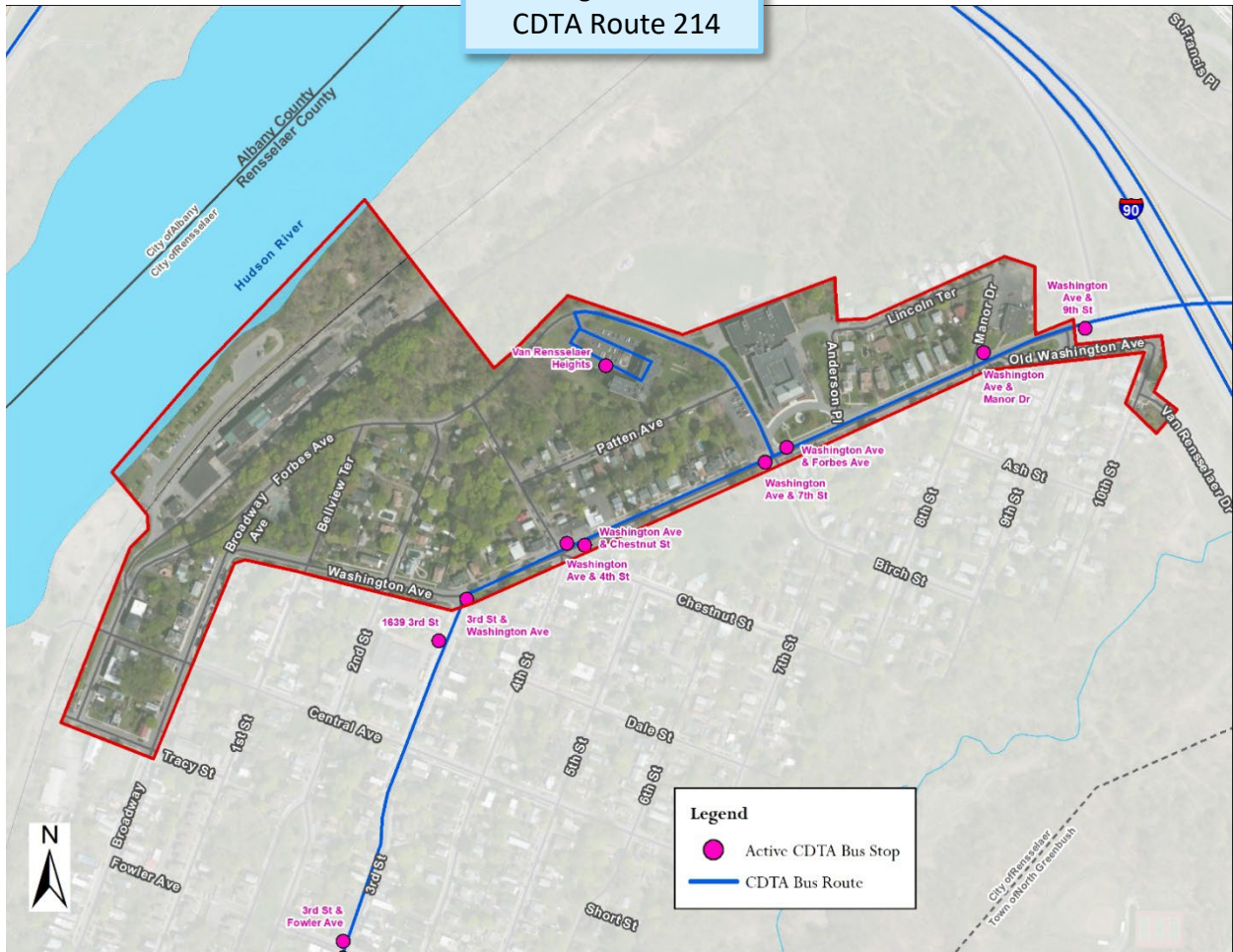
Transit

The study area is served by a single bus route, CDTA Route 214, operated by the Capital District Transportation Authority (CDTA). Prior to the COVID-19 pandemic, two additional routes, Routes 808 and 821, passed through the study area but have since been discontinued. CDTA Route 214 runs from the Empire State Plaza Concourse in Albany to the Walmart in Rensselaer Plaza and has three stops in the westbound direction and four stops in the eastbound direction along Washington Avenue. The bus stops are located at the intersections of Washington Avenue and Manor Drive, Washington Avenue and Forbes Avenue, Washington Avenue and Fourth Street, Washington Avenue and Third Street, Washington Avenue and Chestnut Street, Washington Avenue and Seventh Street, and Washington Avenue and Ninth Street.

There are three marked pedestrian crossings on Washington Avenue, and the closest crossings to the westbound stop at Chestnut and the eastbound stop at Manor Drive are 500 feet west and 370 feet east, respectively. The route begins running in Albany and Rensselaer at 6:23 am and 6:40 am, Monday through Friday, and 7:28 am and 6:55 am on Saturdays. Buses run approximately every 30-40 minutes.

Ridership data for Route 214 from September 1, 2019 to January 31, 2020 and September 1, 2021 to January 31, 2022 is available in **Appendix C**, providing an opportunity to compare pre-COVID-19 and post-COVID-19 ridership. The transit routes and stops along Washington Avenue, shown below in **Figure 2.6**, and can be seen on the Transit Facilities Map, located in **Appendix C**.

Figure 2.6
CDTA Route 214



Parking

Parking Overview

The study area offers parking options through a combination of private lots and on-street parking. A number of facilities, such as private businesses and Doane Stuart School, own and maintain private lots. Additionally, Hilton Park has a public parking lot that accommodates both passenger vehicles and boat trailers.

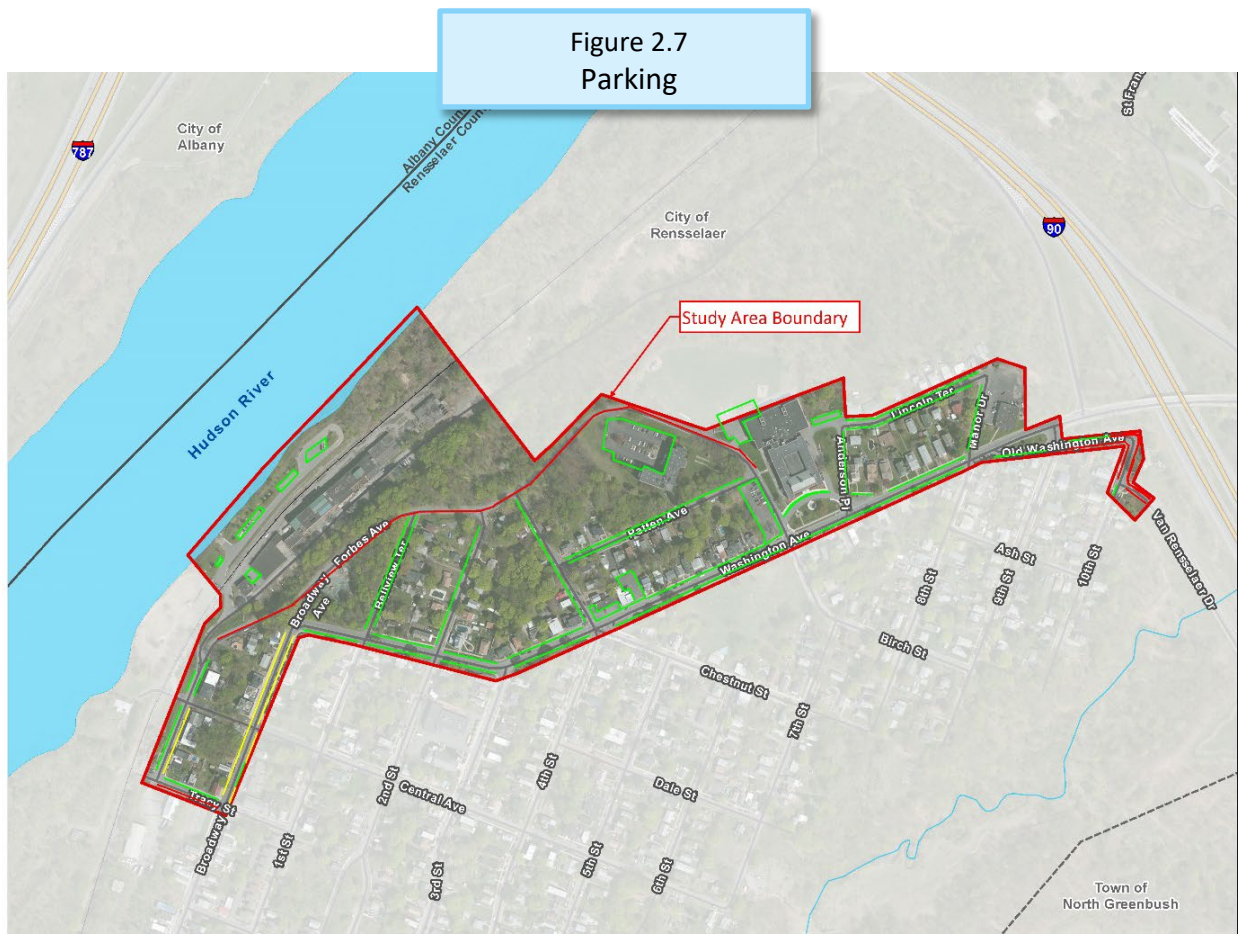
On-street parking is permitted along both sides of Broadway and Washington Avenue, as well as the majority of side streets within the study area. **Figure 2.7** depicts the specific locations for on-street parking. Parking is available for a small portion of Forbes Avenue for residents, and there is an unofficial gravel lot at the intersection of Forbes Avenue and Broadway. Additionally, there is a parking lot at the north end of Forbes Avenue owned by Doane Stuart School.

According to City Code, Chapter 71.03 Parking Restrictions, streets and avenues that are less than 25 feet wide from curb to curb are restricted to parking on only one side. Parking is also prohibited in all alleys, within 25 feet in front of a church, school, hotel, theater, hospital, railway station, bus station, public meeting place, or public meeting hall. School buses and trucks with a capacity exceeding one-half ton are prohibited from parking on Washington Avenue. Where parking is permitted, vehicles must not obstruct driveways or fire hydrants. Areas designated for on-street parking are marked in green on the map.

Parking Utilization

The on-street parking utilization rate can provide valuable information for transportation planning and management. The utilization rate is the percentage of available parking spaces that are occupied at a given time. This information can help to understand the demand for parking in a particular area and inform decisions related to the management and expansion of parking resources. For example, if the utilization rate is consistently high, it may indicate a need for additional parking spaces or the implementation of parking management strategies, such as time limits, to ensure the efficient use of the available resources.

The data collection effort to determine the on-street parking utilization rate was conducted on four (4) separate days. Data was collected on August 11, 2022 and August 12, 2022 for daytime counts and



August 15, 2022 and August 17, 2022 for nighttime counts. A summary of the parking utilization study can be found in **Table 5**, with the roadway segment, available spaces and average rates shown. A full parking utilization table is shown in **Appendix D**. The data was collected using manual counts and was performed at different times and days of the week to capture the full range of parking demand.

Table 5: Parking Inventory

Street	Segment	Available Spaces	Average Number of Parked Cars	Average Utilization
Tracy St	Broadway to Forbes Ave	5	1	20%
Broadway	Tracy St to Washington Ave	38	6	16%
Washington Ave	Broadway to Bellview Tr	6	1	17%
Washington Ave	Bellview Tr to Second St	7	1	14%
Washington Ave	Second St to Fourth St	31	2	6%
Washington Ave	Fourth St to Forbes Ave	32	3	9%
Washington Ave	Forbes Ave to Manor Dr	24	1	4%
Forbes Ave	Tracy St to Washington Ave	24	5	21%
Central Ave Ext.	Forbes Ave to Broadway	6	2	33%
Bellview Tr	Washington Ave to Forbes Ave	31	7	23%
2nd St	Washington Ave to Forbes Ave	27	8	30%
4th St	Washington Ave to Forbes Ave	34	16	47%
Patten Ave	Fourth St to Forbes Ave	45	15	33%
Anderson Pl	Washington Ave to Lincoln Tr	7	2	29%
Lincoln Tr	Anderson Pl to Manor Dr	24	10	42%

Table 5: Parking Inventory

Street	Segment	Available Spaces	Average Number of Parked Cars	Average Utilization
Manor Dr	Lincoln Tr to Washington Ave	5	2	40%
Old Washington Ave	Washington Ave to Tenth St	11	5	45%
Tenth St	Old Washington Ave to Van Rensselaer Dr	2	2	100%

Analysis of parking utilization rates supported the retention of the two existing parking lanes along Fourth Street and Lincoln Avenue. The remaining streets had utilization rates that supported the removal of a parking lane. Alternating parking is to remain as-is along Broadway.

Traffic Data

Existing traffic volume and speed data for the study area was obtained from the NYSDOT Traffic Data Viewer and is summarized in **Table 6** below. If information was not available at a particular street or intersection, it has been omitted from the table.

Table 6: Traffic Summary of Roadways within Study Area

Roadway Name	AADT ¹	Calculation Year	Posted Speed	Average Speed	85 th Percentile Speed ²	Year Speed Data Obtained
Tracy Street	216	2019	-	-	-	-
Broadway	2,227	2019	30	26	34	2015
Washington Ave	5,651	2019	30	28	34	2016
Second Street	82	2019	30	14	20	2017

Notes:

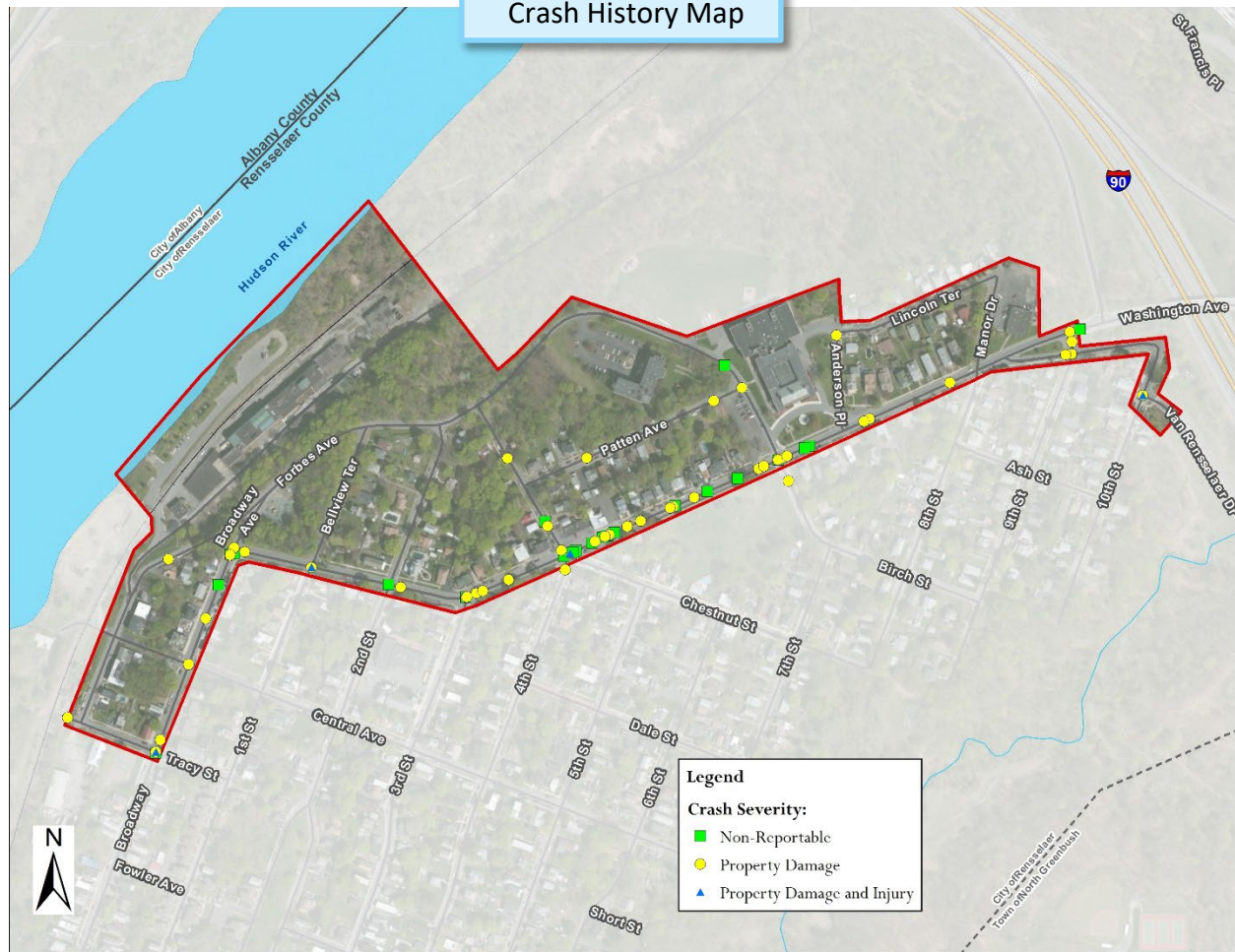
1. AADT – Average Annual Daily Traffic
2. The 85th percentile speed is defined as the speed at or below which 85 percent of all vehicles are observed to travel under free-flowing conditions past a monitored point.

Crash History

Crash data was provided by the CDTC for the most recent five years of available data (November 1, 2016 to October 31, 2021). Data on these crashes was retrieved using the NYSDOT Accident Location Information System (ALIS). Crash data was examined on all road segments within the study area.

During this five-year period, 83 crashes were recorded in the study area, with 64 occurring on Washington Avenue. Refer to **Figure 2.8** for a map of the crash locations. Of the 83 crashes within the study area, one (1) crash involved bicyclists, and none involved pedestrians. Four (4) of the reported crashes resulted in personal injury, with no fatalities resulting from the crash. A large percentage of reported crashes were between two or more vehicles, with 51 resulting in property damage. A full analysis of this data is located in **Appendix E**.

Figure 2.8
Crash History Map



Environmental Resources

The study area was screened for environmental resources that may be present within or adjacent to the study limits using available online state and federal databases.

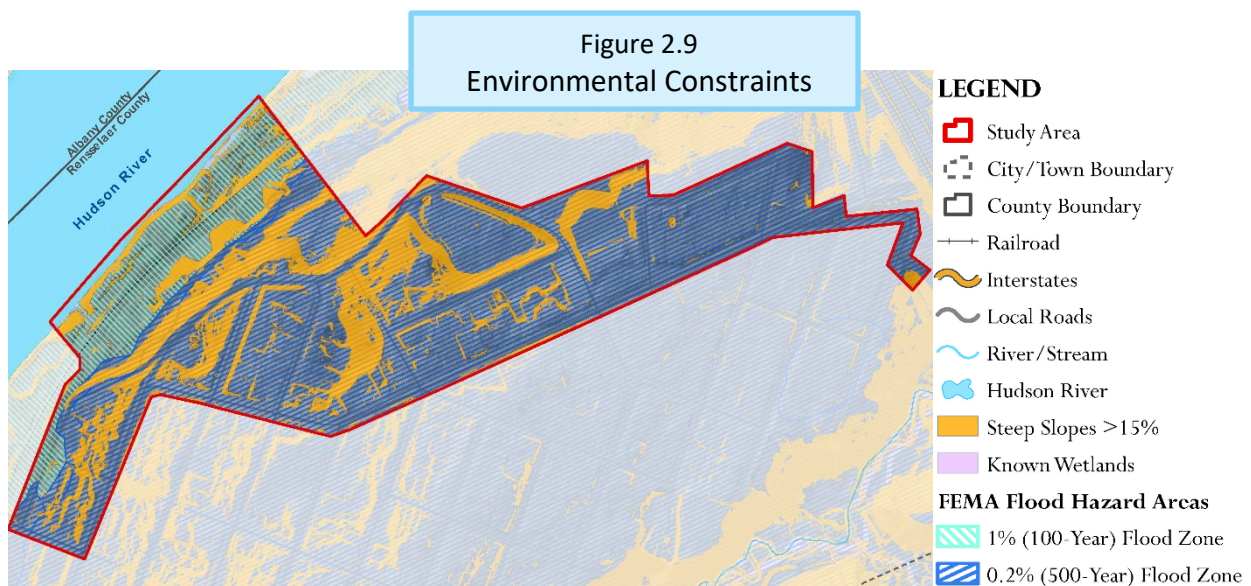
Surface Waterbodies and Watercourses

The study area is bordered on the west by the Hudson River, which is rated as a Class C, Standard C stream by the New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper (ERM). The best usage of this classification of waters is for fishing, and the Hudson

River is considered a protected stream and a Navigable Water, which is recognized as Waters of the U.S. by the federal government. The study area includes Hilton Park and Boat Ramp, which provides residents with access to fishing and boating opportunities on the Hudson River.

Steep Slopes

For the purposes of this study, steep slopes are defined as areas of land that have a significant incline, with a slope grade of 15% or greater. They can be found in various locations in the study area and can present challenges for development and transportation. In the City of Rensselaer, steep slopes are a defining feature of the area and can greatly vary from rolling hills to low-lying areas. Environmental Constraints map below (**Figure 2.9**) indicates areas that have a slope of 15% or greater. These slopes can make it difficult for activities other than motor vehicle travel and can have an impact on the development and transportation options in the area.



Wetlands

Based on a review of the NYSDEC Environmental Resource Mapper (ERM), there are no state-regulated or federal jurisdictional wetlands located within the study area. Two (2) federal jurisdictional wetlands exist immediately north of the study area. Refer to **Appendix F** for the Wetland Map.

Floodplains

The western part of the study area is located within the 100-year and 500-year flood plain of the Hudson River, as indicated by the Federal Emergency Management Agency (FEMA) on the National Flood Hazard Layer (NFHL). This is a geospatial database that contains current effective flood hazard data. Due to existing topography, the floodplains extend partially to Tracy Street and Forbes Avenue. Refer to the FEMA Floodplain Map in **Appendix F**.

Natural Communities

A Significant Natural Community, as defined by the New York State Department of Environmental Conservation (NYSDEC), refers to an area or ecosystem that is considered important due to its unique biodiversity, ecological significance, and/or rarity. The Hudson River Estuary is one such community and is considered significant due to its unique environmental conditions, variety of habitats, and high concentration of species that are dependent on the estuary for survival. The study area being located within the Hudson River Estuary highlights the importance of considering and protecting the natural resources in the area during any development or land use changes.

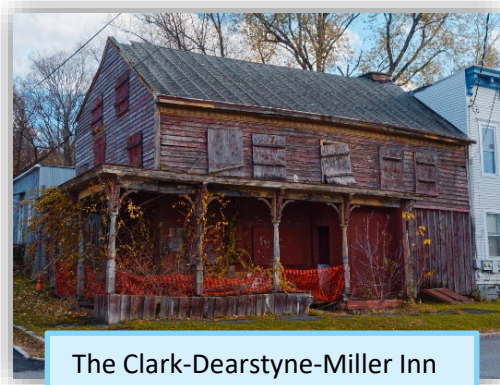
Endangered and Threatened Species

The study area was evaluated for the presence of rare, endangered, or threatened species. According to the NYSDEC (ERM), the area falls within the Hudson River Estuary, which is considered a Significant Natural Community. This means that rare species like freshwater mussels, the endangered Shortnose Sturgeon, and rare dragonflies and damsel flies could exist within the study area or near the Hudson River shoreline. The United States Fish and Wildlife Service (USFWS) Information, Planning and Conservation (IPaC) system also shows that the Northern Long-Eared Bat has the potential to be found within the study area. In addition, there may be a Bald Eagle habitat located within or near the study area, even though the Bald Eagle is no longer on the state and federal endangered species list, it still has protection under the Bald and Golden Eagle Protection Act (BGEPA).

Historic and Cultural Resources

The study area is also home to several historic properties. According to the NYS Office of Parks, Recreation and Historic Preservation's (OPRHP) Cultural Resource Information System (CRIS), eight properties listed on the National Register can be found along Forbes Avenue. These properties have cultural and historical significance and are considered important to the area's heritage. It is important to consider the potential impacts that any proposed development in the area may have on these historic resources.

The Clark-Dearstyne-Miller Inn, built in 1791 in the Federal style, is slated for demolition despite being listed on the National Register of Historic Places. This is a common fate for historic buildings that fall into disrepair. Preservation organizations may advocate for preservation and provide resources for restoration, but the final decision should consider the importance of preserving historic resources for the future.



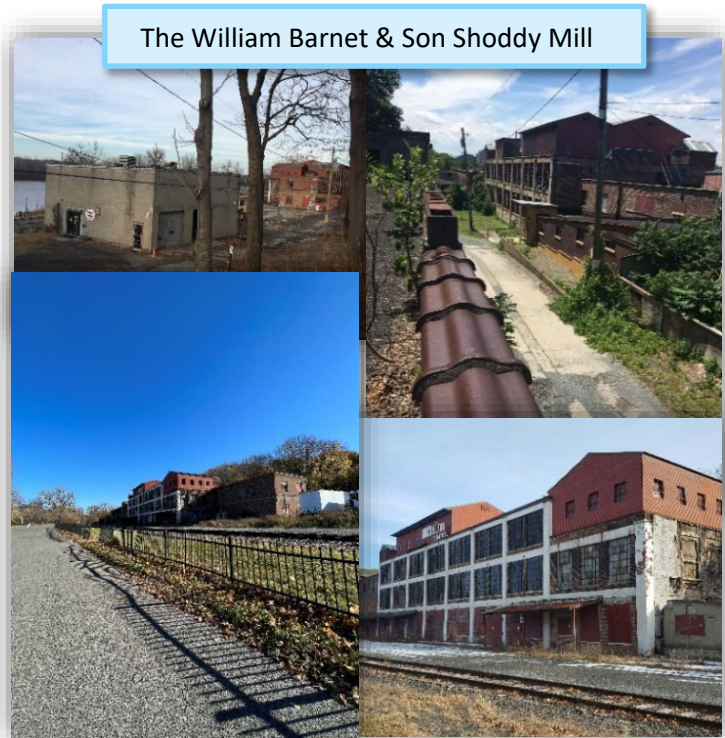
The Clark-Dearstyne-Miller Inn



The Patroon Agent's House

The Patroon Agent's House and Office, located in the study area, is a historic property with significant architectural and historical value. It was constructed in 1839 and consists of two structures - a 2 1/2-story rectangular brick residence and a 1-story rectangular brick office. The two structures were originally connected but were separated in 1865. The building has Greek Revival architectural style and was added to the National Register of Historic Places in 1979.

The William Barnet & Son Shoddy Mill was a textile mill that processed fibers recycled from clothing and textiles. Shoddy, the product produced at the mill, was a low-quality material used to make new textiles, such as blankets and rugs. The mill was an important part of the textile manufacturing industry in the Capital District, playing a significant role in the region's economic growth. The four contributing resources of the mill complex illustrate the various stages of the shoddy production process, including storage, management, garnetting, and boiling. Despite a fire in 1915 that damaged several of the structures, the mill was rebuilt and continued to operate until its closure. The mill was added to the National Register of Historic Places in 2020, due to its significant association with the history of textile manufacturing in the Capital District. The William Barnet & Son Shoddy Mill is now referred to as the Hilton Center and is slated for redevelopment.



The William Barnet & Son Shoddy Mill

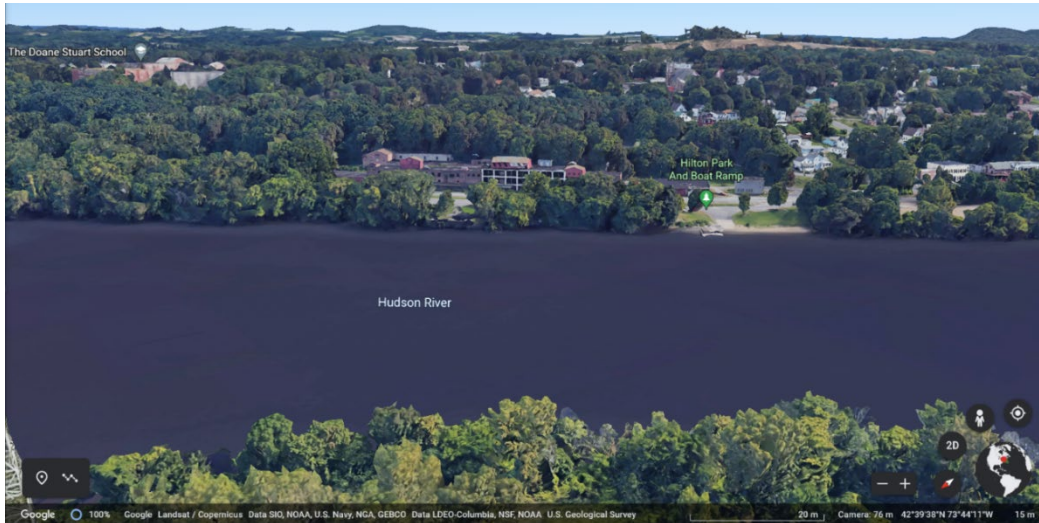
The Van Rensselaer High School, which is now home to the Doane Stuart School, is a historic building in the city of Rensselaer. It was constructed in 1931 and expanded with an addition completed in 1939. The building was designed with Art Deco architectural influences and is considered a notable example of this style in the Capital District. The Doane Stuart School currently operates in the building and offers education to students in the region.



The Van Rensselaer High School

Coastal Resources

A portion of the study area lies within the landward coastal area boundary of the Hudson River and is regulated by the NYS Department of State (NYSDOS). In 1987, the City of Rensselaer posted a Notice to the Public that their Local Waterfront Revitalization Plan (LWRP) was approved. The City of Rensselaer LWRP refines and supplements the State's Coastal Management Program and provides a comprehensive framework within which critical waterfront issues can be addressed, and planned waterfront improvement projects can be pursued and implemented.



Birdseye photo viewing the study area bordering the Hudson River. Source: Google

Resources Not Present

A desktop analysis of the study area also included a review of the following resources and it has been determined that the resource is not present within the study area:

- Aquifers
- Critical Environmental Areas
- Farmlands

Environmental Justice & Limited English Proficiency

An Environmental Justice scan and a Limited English Proficiency scan was performed by the CDTC using data from the 2013-2017 American Community Survey (ACS). The study area is located entirely within Census Tract 516. This Census Tract is identified as containing a minority population of 22%, which is just above the regional rate of 21.5%. A full analysis of the data obtained, as well as figures illustrating the Environmental Justice Populations, Limited English Proficiency populations, and the environmental features within the study area, is located in **Appendix J**.

CHAPTER 3: Past Planning Efforts

The City of Rensselaer has undertaken several planning efforts in recent years that have included the development of trail connections and waterfront connections. For example, the City of Rensselaer's LWRP lays out a comprehensive framework for improving the city's waterfront and includes plans for expanding trail connections and enhancing public access to the Hudson River. Additionally, the city has worked with various organizations and agencies, such as the Hudson River Valley Greenway, to implement projects and initiatives that promote walkability, bikeability, and access to the waterfront and other green spaces. These efforts demonstrate the city's commitment to promoting livable, sustainable communities and enhancing public access to natural and cultural resources.

Rensselaer County Trail Plan (2004)

The Rensselaer County Trail Plan is a plan for the development of a trail network in Rensselaer County, focused on connecting the Livingston Avenue Bridge to the Troy-Menands Bridge. The plan's goals include improving connectivity and access to recreational trails and open spaces, promoting alternative modes of transportation such as biking and hiking, and encouraging physical activity and healthy lifestyles for residents. The plan outlines proposed trail alignments, recommendations for trail design and construction, and a strategy for securing funding and implementing the trail plan. The plan is part of a larger effort to improve quality of life and promote economic development in Rensselaer County through increased access to outdoor recreation opportunities.

City of Rensselaer Comprehensive Plan (2006)

The City of Rensselaer Comprehensive Plan is a long-range planning document that outlines the vision, goals, and policies for the future development of the City of Rensselaer. The plan was last updated in 2006 and is updated as needed to reflect changes in the community and its priorities. The comprehensive plan provides a framework for decision-making regarding land use, transportation, housing, economic development, parks and open space, and other important aspects of the city's future development. It is used by city officials, developers, and community members to guide the growth and development of the city in a sustainable and coordinated manner.

City of Rensselaer Complete Streets Policy

The City of Rensselaer Complete Streets Policy prioritizes the needs of all users of the street network, including pedestrians, bicyclists, transit users, and motorists. The policy aims to make streets safer, more accessible, and more enjoyable for everyone, regardless of age, ability, or mode of transportation. Recommendations include the implementation of various infrastructure improvements such as sidewalks, bike lanes, accessible transit stops, and traffic calming measures. The policy aims to create a balanced transportation system that accommodates the needs of all users, supports sustainable transportation choices, and enhances the quality of life in the city.

City of Rensselaer Natural Resources Inventory (2021)

The natural resources inventory is a comprehensive snapshot of the city's physical and biological resources. The purpose of the inventory is to outline the natural resources in the area and assesses their current condition and future potential. The document is structured to provide an overview of the different aspects of the natural resources in Rensselaer, including water resources, air quality, wildlife habitats, and parklands, among others. The document provides recommendations for the protection and management of these resources. These recommendations may include measures to improve the quality of the environment, promote sustainability, and protect sensitive ecosystems. Ultimately, the recommendations aim to ensure that the natural resources of Rensselaer are preserved for future generations and that the community can continue to enjoy their benefits.

The Capital District Trails Plan (2019)

The Capital District Trails Plan is a plan developed by the Capital District Transportation Committee (CDTC) in 2019. The purpose of the plan is to create a comprehensive, regional trail network in the Capital District region. The plan includes recommendations for new trails, improvements to existing trails, and connections between trails to create a seamless network of pedestrian and bicycle facilities. The plan also includes recommendations for supporting infrastructure, such as parking, wayfinding, and amenities, to enhance the user experience. The Capital District Trails Plan is intended to provide guidance for local communities and stakeholders to plan, develop, and implement new trails and trail improvements.

Kiliaen's Landing GEIS (2018)

The Kiliaen's Landing GEIS (Generic Environmental Impact Statement) is a study that analyzed the potential environmental impacts of the proposed development of the Kiliaen's Landing project in the City of Rensselaer. The purpose of the GEIS was to identify and analyze the potential environmental impacts associated with the proposed project and to provide information to decision-makers and the public on the potential impacts. This information was then used to develop mitigation measures to reduce or eliminate any adverse impacts to the environment.

Additional Documents Reviewed

In addition to the above documents, the planning process is also considering the Capital District Transportation Committee (CDTC) Public Participation Plan, which outlines the steps and procedures for ensuring public involvement in transportation planning in the Capital District. The Capital District Complete Streets Design Guide is also being considered, as it provides a comprehensive guide for designing and constructing streets that are safe, accessible, and convenient for people of all ages, abilities, and modes of transportation. The planners are also taking into account proposed nearby development and redevelopment plans, such as the Hilton Center Brownfield Redevelopment Area. Moreover, the planners are also taking into account industry best practices and contemporary thought on pedestrian and bicycle travel and infrastructure.

CHAPTER 4: Public Outreach

Public Outreach for the Waterfront Connectivity Study is critical to the success of the project. It is designed to engage with the community, understand their needs and perspectives, and gather input on the proposed improvements. The goal of public outreach is to ensure that the study is responsive to the needs of the City of Rensselaer's residents and stakeholders.

The following activities were included in Public Outreach for the study:

- **Public Workshop Sessions:** These sessions provided an opportunity for attendees to engage with project staff, share their experiences and perspectives, and provide input on the proposed improvements.
- **Survey:** Survey was used to gather input from a larger audience and reach those who are unable to attend the input sessions.
- **Project Website:** A project website was used to provide information about the study, share project materials, and encouraged attendees to sign up for project updates and notifications.
- **Social Media:** Social media platforms were used to engage with the community, share information about the study, and meeting updates.

During public outreach, it was crucial to include all community members, including those with limited English proficiency, by providing access to essential information and opportunities to provide input on proposed improvements. By using plain language and visual aids, formatting documents and text to be easily translated, holding events in easily accessible community spaces, and utilizing multiple communication channels the project team was able to reach as many people as possible.

Public Outreach was designed to be inclusive, transparent, and responsive to the needs of the community. This will help ensure that the study's outcomes reflect the community's priorities and provide a roadmap for improving the waterfront transportation system for all users.

Public Workshop Sessions

Waterfront Connectivity Study Public Workshop #1

The City of Rensselaer held the first public workshop on June 16, 2022 to introduce the City's Waterfront Connectivity Study. The workshop was a hybrid event, held both in person and virtually, and was attended by over 30 members of the public. The meeting was led by the consultant team from MJ Engineering & Land Surveying and included representatives from the City of Rensselaer Planning Department and the Capital District Transportation Committee (CDTC). The purpose of the workshop was to introduce the study, provide an overview of existing conditions, and gather feedback from the community on their needs and opportunities. The study schedule and scope were also discussed, with the final public workshop taking place in Fall/Winter 2022. A full summary of the meeting and PowerPoint presentation can be found in **Appendix G**.

Waterfront Connectivity Study Public Workshop #2

The City of Rensselaer held the public meeting on December 8, 2022 as part of its Waterfront Connectivity Study to engage with the community. The event was hybrid, held in person and virtually via Zoom and over 20 members of the public attended. The meeting included a presentation on the program and schedule, survey summary, and opportunity to respond to concepts developed. Results from a community survey taken from June 16 to August 1, 2022 showed common themes such as a lack of pedestrian infrastructure, difficulty in moving around the study area, and drivers not yielding to pedestrians. People were encouraged to leave additional feedback on the project website, which was provided as part of the presentation. This allowed members of the public to continue to provide input and stay informed on the progress of the Waterfront Connectivity Study. A full summary of the meeting and PowerPoint presentation can be found in **Appendix G**.

Waterfront Survey

A community survey was conducted as part of the public engagement component of the City of Rensselaer Waterfront Connectivity Study. Its purpose was to identify the community's vision and priorities for the waterfront area of the city. A 23-question survey was created and distributed using the Survey Monkey platform and was open from June 16th to August 1st, 2022. 84 responses were received. The survey questions were organized around four topic areas: Demographic Information, Use, Experience, and Suggestions for the Future.

Demographic Information: Participants were asked questions about their demographic data and residency information, such as their zip code, age range, and whether they were residents, property owners, visitors, etc.

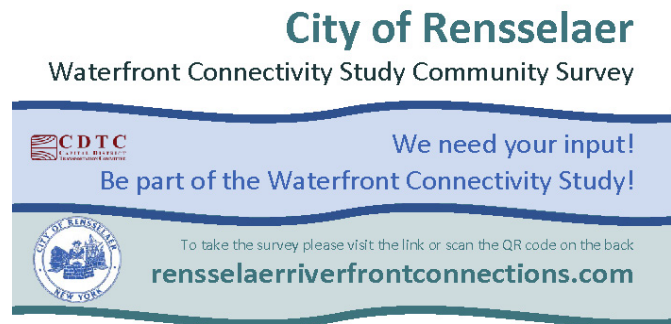
Use: The survey sought to understand how community members were interacting with the existing waterfront resources and which resources they were using.

Experience: The survey participants were asked questions about their perceived challenges and opportunities for the study area and its waterfront resources, as well as their feeling of safety around the area.

Suggestions for the Future: The survey provided a place for participants to share any additional thoughts or suggestions for the future.

Some common themes that emerged from the responses include:

- Majority of respondents disagreed with the statement that drivers yield to pedestrians and think landscaping is attractive



Survey Card

- Bus service is reliable and buses come often enough
- Many respondents do not feel safe walking or biking on Forbes Ave due to narrow road width and lack of guardrails and pedestrian lighting
- More respondents feel safe walking on Washington Ave compared to Forbes Ave but improvements could be made in crosswalks and sidewalk cleanliness
- All modes of transportation, including walking, driving, biking, and bus, are considered important
- Most preferred bicycle facilities are on-street bicycle lanes and bicycle parking racks
- Preferred streetscape elements are street lighting, more sidewalks, and better pedestrian crossings
- Top transit amenities identified are benches at bus stops, shelters at bus stops, and lighting at bus stops

A full summary of the survey and all the responses received can be found in **Appendix G**.

Project Website

A project website was developed and available throughout the duration of the Waterfront Connectivity Study. The site included an "About" page, a "Documents" page, a "Get Involved" page, and a "Contact" page. These pages were designed to provide information and facilitate communication with stakeholders and residents. The website aimed to summarize relevant planning documents and efforts, present a preliminary vision and goals for the project, and provide a map of the study area and a place for users to submit comments and suggestions. The project website was available at:

www.rensselaerriverfrontconnections.com.



Project Website

Social Media

During the City of Rensselaer Waterfront Connectivity Study, the city used Facebook and email lists as channels to disseminate information to the community. The goal was to reach a wide audience and ensure that stakeholders were kept informed and up-to-date on the progress of the study. By leveraging social media and email communication, the city was able to effectively engage with residents and other stakeholders in the community.

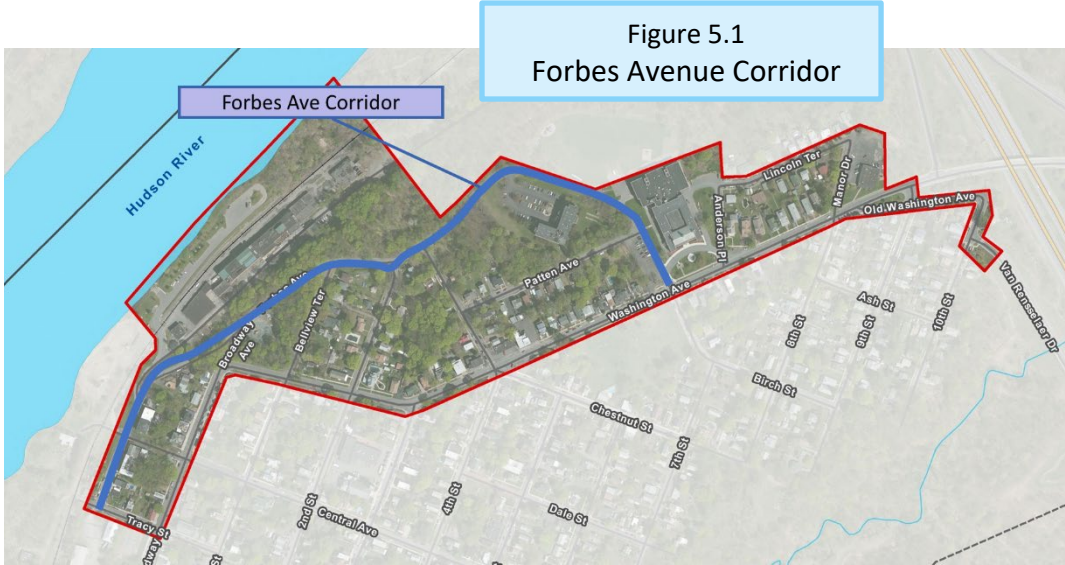
CHAPTER 5: Concepts Evaluation

Study Area Needs

Based on the input received from public feedback, Study Advisory Committee (SAC), and previous studies conducted, alternative concepts for transportation improvement were developed to address the needs and improve the character of the study area. The objectives of these concepts were to reduce vehicular speed, improve safety and quality of life for pedestrians, bicyclists, and vehicular traffic, provide pedestrian and bicycle accommodations and amenities, connect to existing multi-modal infrastructure, and evaluate curb cuts. In particular, the aim was to enhance pedestrian and bicycle facilities along the Forbes Avenue and Washington Avenue corridor, particularly at locations with elevated crash rates like the 5-way Intersection on Washington Avenue. The transportation improvement concepts were developed keeping in mind the public's concerns about safety and quality of life.

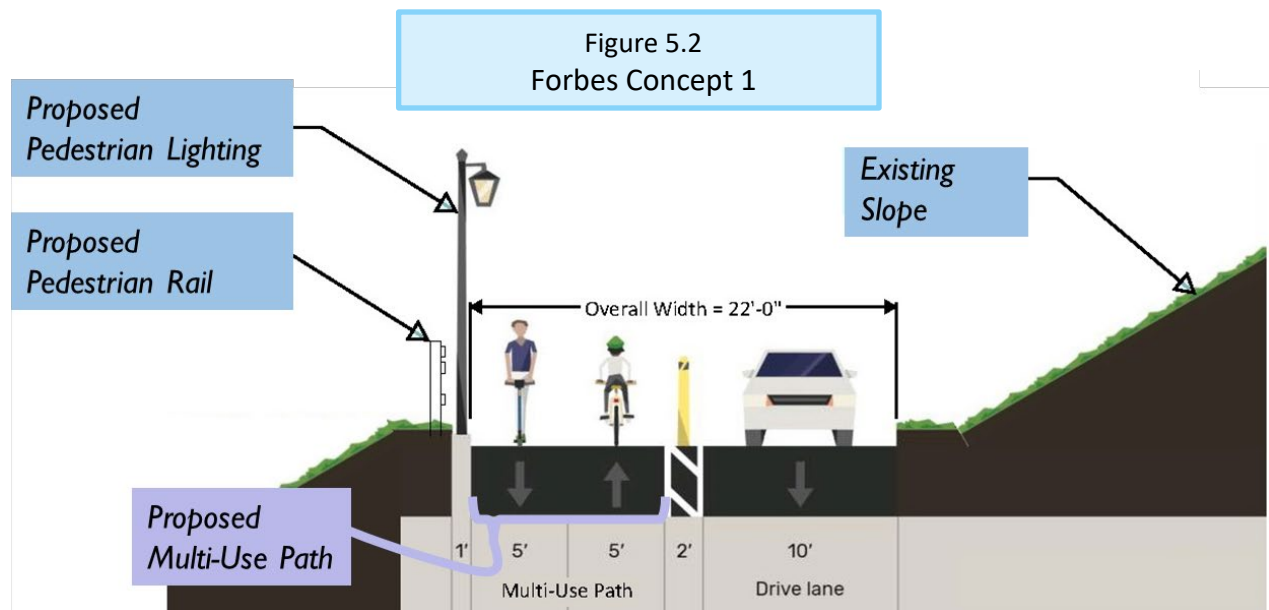
Forbes Avenue Corridor Proposed Concepts

Forbes Avenue (Figure 5.1) is a vital roadway that connects the heart of Rensselaer's waterfront with the surrounding neighborhoods. The avenue serves as a critical link for commuters and residents providing access to several key destinations in the area. However, the corridor faces numerous challenges, including safety concerns, steep slopes, and inadequate pedestrian and bicycle infrastructure. To address these issues, the team developed alternatives to enhance safety and improve access for all modes of transportation, including motorists, pedestrians, and bicyclists.



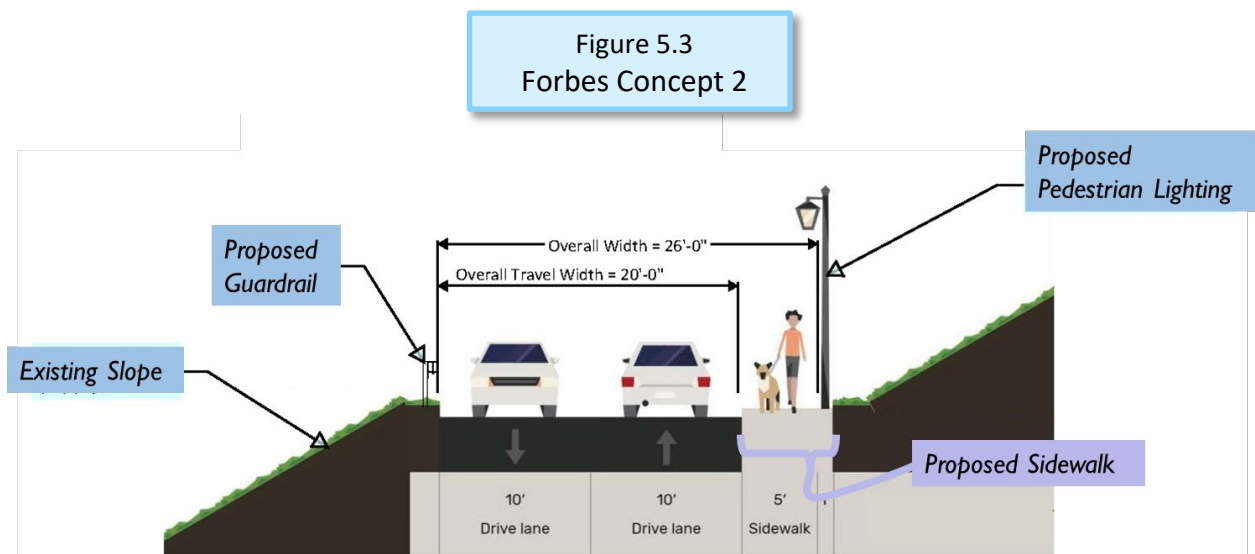
Concept 1 (Figure 5.2) proposed a one-way drive lane with a separated multi-use path on Forbes Avenue. The one-way traffic would be allowed to travel south or downhill, the one way would start at the Van Rensselaer Heights entrance to allow for continued emergency vehicle access to Van Rensselaer Heights. The overall width of the roadway would be 24ft, including a 12ft multi-use path for bicyclists and pedestrians. To achieve the proposed roadway width, box widening would be required to increase

the width from approximately 20ft to 24ft. The proposal includes pedestrian lighting and railings due to the embankment slope beyond the curb.. The overall railing height, and the height of the specific rails should accommodate safe travel by pedestrians and bicyclists.



This alternative prioritizes pedestrian safety and comfort, by providing a designated and separated space for pedestrians to walk, bike, or travel, with lighting and railings for protection. The one-way drive lane may also help improve traffic flow.

Concept 2 (Figure 5.3) proposes a different road section for Forbes Avenue. This alternative includes two-way drive lanes with a separated sidewalk. The overall width of the road would be 26ft, with a 5ft sidewalk for pedestrians. The roadway would need to be widened by approximately 4ft to accommodate this section. Pedestrian lighting and a guard rail would also be included for safety.

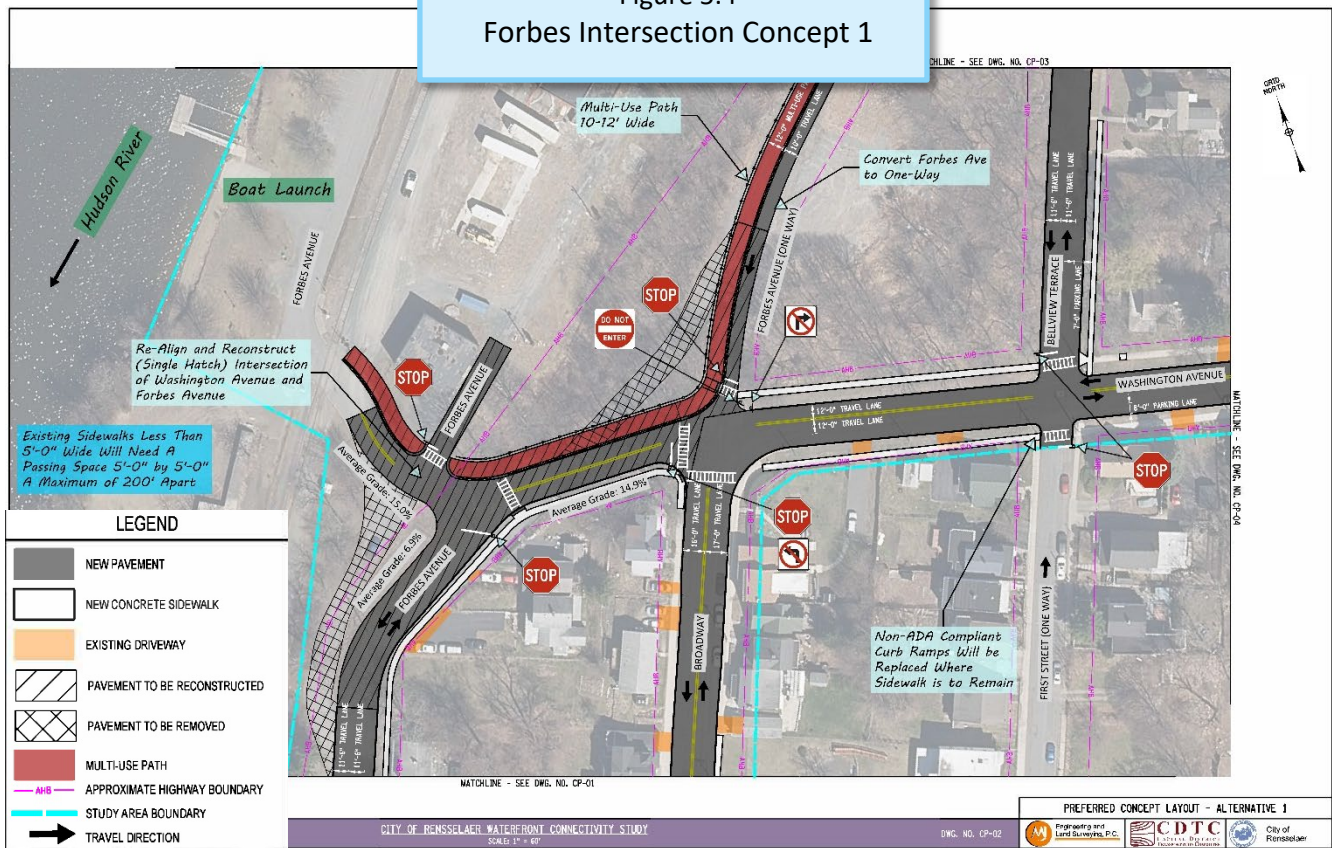


Compared to **Concept 1**, this proposal would provide two-way traffic flow, which may be more convenient for drivers. However, the 5'-0" wide pedestrian sidewalk may not provide as much space and comfort for pedestrians compared to the multi-use path proposed in Concept 1. The level of bicycle traffic on the roadway would remain the same as current conditions since bicyclists older than pre-teens are prohibited from riding on sidewalks. The guiderail may also help to provide added protection for drivers, but it could potentially take up more space on the road.

Forbes Avenue Intersection Concepts

In addition to analyzing the entire corridor, a specific focus was placed on the intersection of Forbes Avenue, Washington Avenue, Broadway and access to the Hilton Center. Currently, the intersection leading to the Hilton Center and boat launch is only safely accessible from one direction via Tracy Street to Forbes Avenue. This issue was identified early on in the planning process and multiple solutions were explored.

Figure 5.4
Forbes Intersection Concept 1



Several alternative options were proposed, each of which aimed to realign the access point for the Hilton Center and boat launch to provide a more direct approach from all directions. These alternative plans were carefully considered, with the goal of creating a safer and more efficient intersection that could better serve as the main access point to the Hilton Center and boat launch.

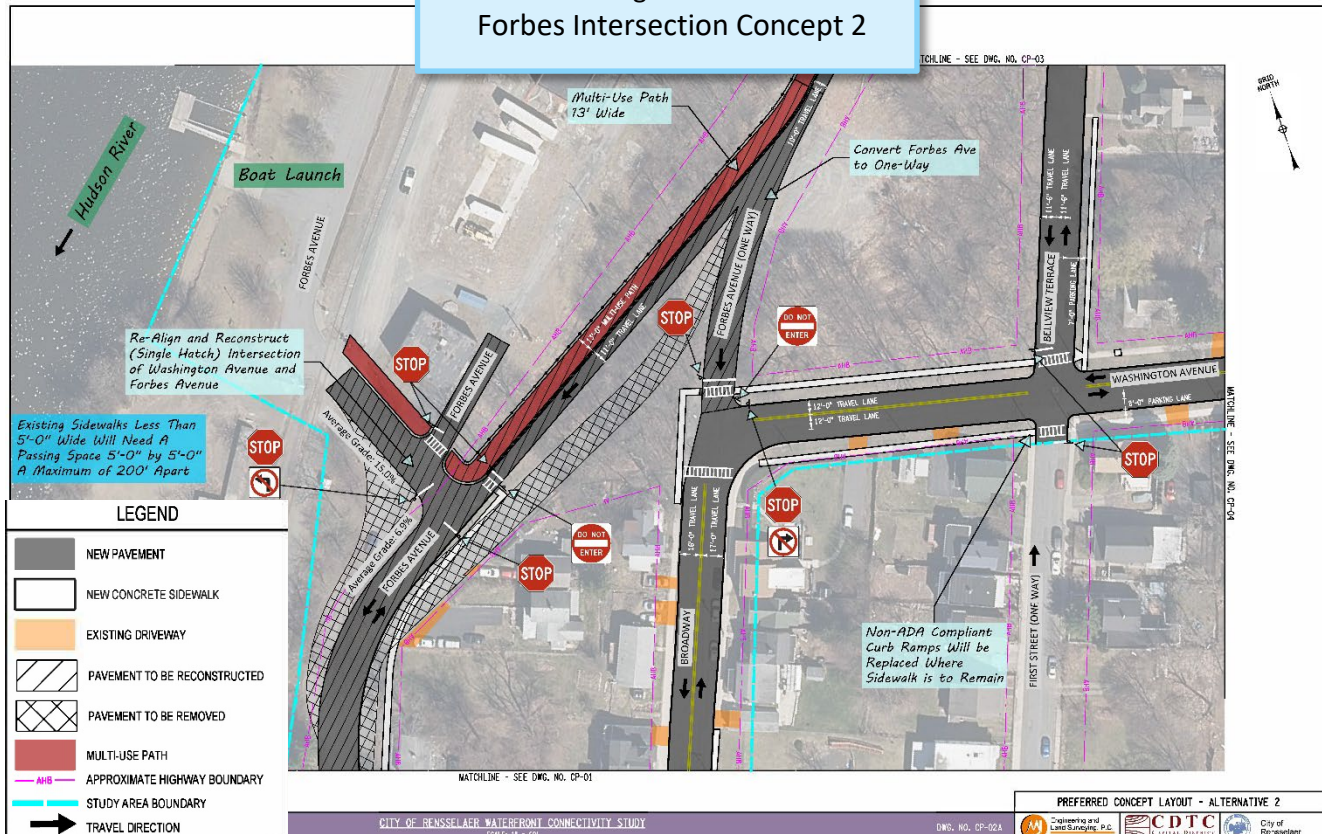
By implementing one of the proposed alternative plans, the intersection would be transformed into a more accessible and functional space. This, in turn, would enhance the overall experience of visitors and help to alleviate concerns related to safety and accessibility. Overall, it is clear that addressing the issue of limited access to the Hilton Center and boat launch is a key priority, and implementing a realignment of the intersection is a crucial step towards achieving this goal.

Forbes Avenue Intersection **Concept 1 (Figure 5.4)** proposes several changes to Forbes Avenue. The first change is to re-align and reconstruct the intersection of Washington Avenue and Forbes Avenue. This would help to improve traffic flow and allow a more direct access route to folks who may be towing to get to the boat launch. With the current configuration access to the boat launch is only feasible going down Tracy Street, making a right on Forbes and bearing left to the boat launch.

Additionally, **Concept 1** proposes to extend Washington Avenue to eliminate the hairpin turns and create a more direct route to the waterfront and to the proposed Hilton Center redevelopment. This may help to provide better access to the area for drivers and may help to distribute traffic more evenly throughout the area. With the extension of Washington Avenue to the waterfront, steep roadway grades will be required to connect the realigned intersection and Washington Avenue.

Forbes Avenue Intersection **Concept 2 (Figure 5.5)** proposes a different set of changes to Forbes Avenue in Rensselaer. The proposal is to re-align and reconstruct Forbes Avenue, creating a "Y" shaped intersection at the end of Forbes Avenue. This would allow for one-way traffic to be implemented with a separated "Y" at the end of Forbes.

Figure 5.5
Forbes Intersection Concept 2



The benefits of this alternative may include improved traffic flow and safety, as one-way traffic can help to improve overall traffic movement. The separated "Y" intersection may also help to improve safety and accessibility for drivers in the area.

However, it's important to consider the potential impacts of these changes on pedestrians and other road users, particularly if there is a reduction in road space available for drivers or if the separated "Y" intersection creates confusion for drivers.

Washington Avenue: 4th Street Intersection Concepts

Early on in the planning process, it became apparent that the 5-way intersection at Washington Avenue was problematic for both pedestrians and drivers alike. This intersection, where Washington Avenue, 4th Street, and Chestnut Street converge, presented multiple issues that needed to be addressed. A potential solution to resolving traffic concerns at the intersection of Washington Avenue and 4th Street could be the installation of a traffic signal. Certain standards must be met to ensure the investment will benefit traffic operations and enhance safety.

Traffic Signal Warrant Analysis

Vehicular volumes were analyzed for Washington Avenue to determine whether a traffic signal is warranted at this intersection, in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). For this intersection, Washington Avenue traffic volumes were analyzed, and results compared to three (3) signal warrant criteria. A traffic signal is warranted if any of the three (3) applicable warrant criteria are met.

Warrant 1 – Eight Hour

- Only two (2) out of eight (8) hours meet the requirements for Condition A
- No hours meet the requirements for Condition B
- Only four (4) out of eight (8) hours meet the requirements for combination of Conditions A & B
- Requirements for Warrant 1 are not satisfied

Warrant 2 – Four Hour

- Four (4) highest recorded hourly counts on Washington Avenue were utilized
- Required minor street volume is more than 200 vehicles per hour, which is unlikely in this location given the low number of residential properties along the side roadways
- Requirements for Warrant 2 are not satisfied

Warrant 3 – Peak Hour

- Highest hourly count the major street (Washington Avenue) corresponds to more than 350 vehicles during the peak hour on the minor approach which is unlikely in this location given the low number of residential properties along the side roadways
- Requirements for Warrant 3 are not satisfied

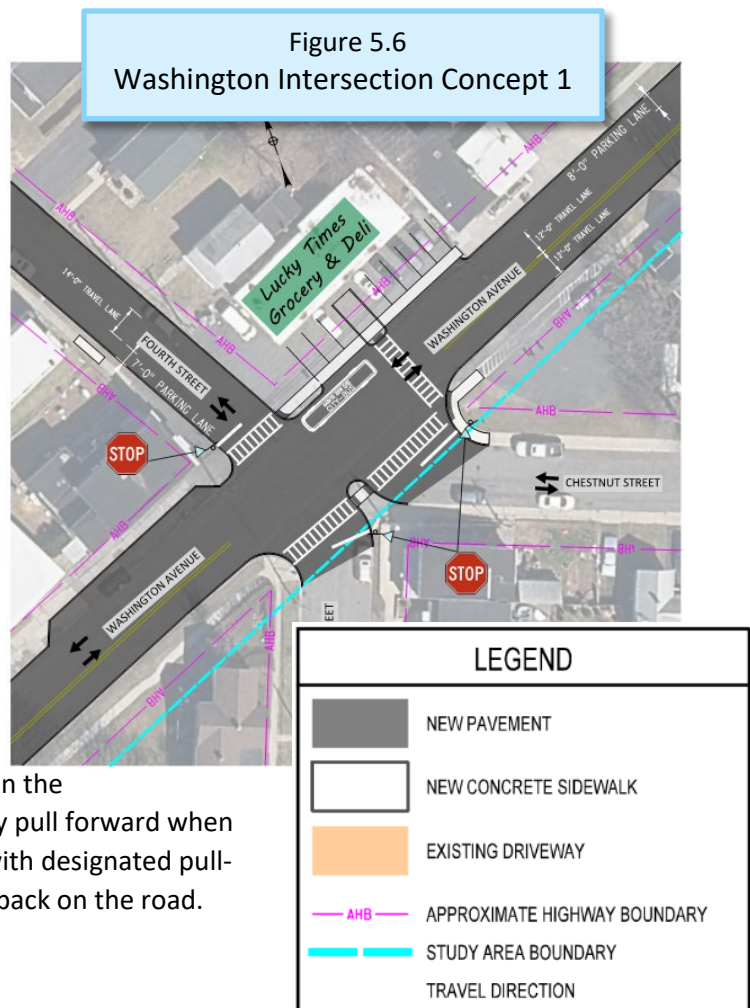
Three alternative plans were developed with the goal of improving both pedestrian safety and traffic flow of the intersection. This was a crucial step in ensuring that the intersection could effectively accommodate the flow of vehicles and pedestrians from multiple streets, as well as the existing roadway grades.

A primary concern related to the intersection was the front parking access to Lucky Times Grocery & Deli, which is combined with a nearby bus stop and sidewalk. This creates multiple points of conflict for travelers, as they navigate the intersection. To address this issue, the alternative plans propose a redesign of the intersection layout, aimed at reducing the number of conflict points and creating a safer and more efficient space for pedestrians and drivers alike.

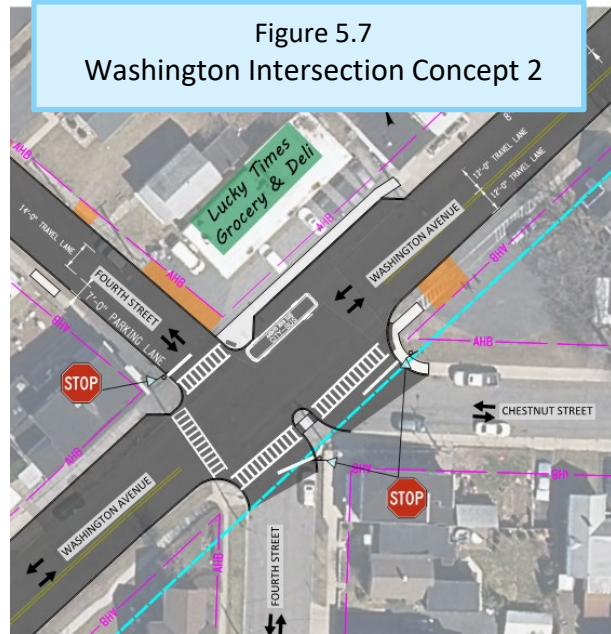
Overall, the redesign of the 4th Street / Washington Avenue intersection is a critical aspect of the planning process. Through careful consideration of alternative plans, the intersection can be transformed into a more efficient, accessible, and safer space that enhances the overall experience of travelers.

Concept 1 shown in **Figure 5.6**, proposes reconfiguration of pedestrian access to Lucky Times Grocery & Deli and the bus stop. The reconfigured access would allow pedestrians to cross from Chestnut Street to a sidewalk island in front of the Lucky Times Grocery & Deli. From there, pedestrians could safely access the store and the bus stop. The island would make a clear delineation between pedestrian space and car parking, which is currently lacking. Full Concept Plans can be found in **Appendix H**.

In addition to the pedestrian access, the bus stop would be on a bump-out, and the bus would stop in the lane. Conversations with Capital District Transportation Authority (CDTA), who maintain the stop, deemed that the bump-out curb was the best approach as it allows the bus to remain in the lane while picking up passengers and to easily pull forward when the doors close. CDTA noted that bus stops with designated pull-ins can cause safety issues for the bus to get back on the road.

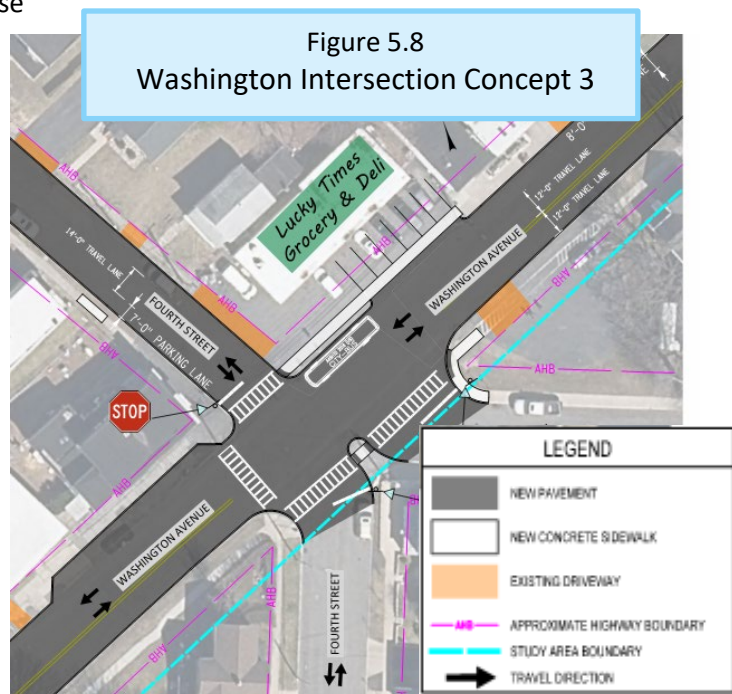


Concept 2 shown in **Figure 5.7**, is a proposal to change the pedestrian infrastructure in the intersection area. This alternative would not include the pedestrian island in front of Lucky Times and would be moving the crosswalk to be in front of the bus stop, across Fourth Street from Lucky Times. Curbed parking would be constructed to mirror the west side of the intersection, providing on-street parking for Lucky Times. Additional curb bump outs would be added between Fourth Street and Chestnut Street to shorten the distance pedestrians have to travel to be out of the driving lane. These changes could potentially improve pedestrian safety and convenience in the area, while also addressing any traffic congestion issues that may exist.



The final concept alternative, **Concept 3**, shown in **Figure 5.8**, is a proposal similar to **Concept 2**. The crosswalk would be in front of the bus stop, curb bump outs would be added between Fourth Street and Chestnut Street to shorten the distance pedestrians have to travel. Parking spaces would remain in the same existing configuration at Lucky Times, with a reduced number to accommodate larger the bus stop.

All 3 alternatives for the Washington Avenue 5-way intersection also include pavement rehabilitation by means of resurfacing on all streets throughout the study limits. Existing pedestrian facilities will be improved, with non-ADA accessible sidewalk segments and curb ramps being replaced to enhance pedestrian access throughout the study limits. In addition to sidewalk rehabilitation, existing crosswalk striping will be replaced and added where these facilities are currently lacking. Furthermore, Chestnut Street could be considered to be turned into a south bound one way to improve operations at its intersection with Washington Avenue. During the study process the idea of turning several streets outside the study area into one-way streets was brought up, as some streets are too narrow to safely accommodate both two-way travel and parking on both sides. The city should consider completing a traffic study City wide to see the feasibility. The neighbor to the North, City of Troy, implemented one-way streets and this approach has worked well for traffic flow and similar neighborhoods.



CHAPTER 6: Recommended Improvements

The design alternatives discussed in **Chapter 5** were presented to the City of Rensselaer, CDTC, the SAC, NYSDOT, and CDTA. All entities were given the opportunity to review the alternatives and provide feedback.

Based on feedback from the public, stakeholders, and the Study Advisory Committee (SAC), transportation improvement alternatives were developed to address the needs of the Forbes Avenue Corridor, Broadway Corridor, Washington Avenue Corridor, and other local connections. These alternatives aimed to reduce vehicular speeds, improve pedestrian and bicycle facilities and safety, provide pedestrian and bicycle amenities, connect to existing multi-modal infrastructure, and implement access management strategies. In order to address these objectives, specific improvements have been recommended for intersections including Forbes Avenue and Washington Avenue and the 5-way intersection at Washington Avenue and Fourth and Chestnut Streets.

The preferred alternatives include pavement rehabilitation by means of resurfacing on all streets throughout the study limits to promote safe travel for all modes. Existing pedestrian facilities will be improved, with non-ADA accessible sidewalk segments and curb ramps being replaced to enhance pedestrian access throughout the study limits. In addition to sidewalk rehabilitation, existing crosswalk striping will be replaced and added where these facilities are currently lacking. Furthermore, signage throughout the study area should be updated and implemented where missing.

All recommendations have been developed with input from municipal agencies, businesses, and the public and are detailed in the full Concept Plans found in **Appendix H**.

In transportation planning, a concept plan is an *initial* proposal for transportation improvements in a specific area. Concept plans typically involve broad goals and strategies for improving transportation infrastructure.

Once a concept plan has been developed, it must be refined and developed into a detailed plan for construction. This involves detailed design, environmental review, permitting, funding, and construction. The detailed design phase involves developing engineering plans, specifications, and costs for the proposed improvements.

Environmental review is a critical step in the process of moving from a concept plan to construction. Environmental review ensures that the project complies with all applicable environmental regulations and requirements. This step may involve environmental assessments, impact statements, and public comment periods.

Once the environmental review is complete, the project must obtain all necessary permits and approvals from regulatory agencies. This may include permits for wetlands, air quality, stormwater management, and other environmental concerns.

Funding is a critical step in the process of moving from a concept plan to construction. Funding may come from a variety of sources, including federal, state, and local grants, as well as private investment. Once the project has been designed, reviewed, and permitted, funding must be secured to pay for the construction.

After all necessary approvals and funding are in place, construction can begin. This phase typically involves site preparation, grading, excavation, installation of drainage systems and utilities, and paving. Throughout the process, there may be changes to the original concept plan, based on the findings of detailed design, environmental review, and public input.

The process of moving from a concept plan to construction is complex; however, the process is well-defined and has been developed to ensure that communities are safe, accessible, and connected. By carefully planning and designing transportation improvements, communities can benefit from increased economic development, improved quality of life, and enhanced mobility for all users.

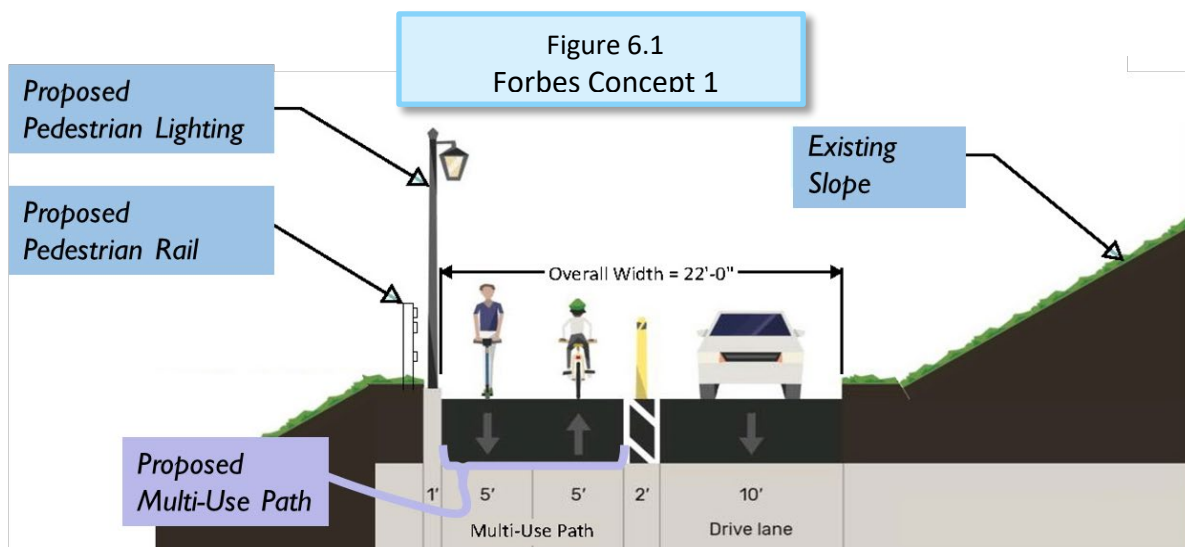
The recommended improvements have been organized into six (6) different concepts based on the location and type of improvements.

Forbes Avenue Corridor

Along the Forbes Avenue corridor, the preferred concept is **Concept 1**. From Van Rensselaer Heights to the proposed Washington Avenue extension, Forbes Avenue will be converted into a southbound one-way street. Additionally, a multi-use path will be constructed along the northern side of the Forbes Avenue segment, providing access to the waterfront for residents within the study area. Refer to **Figure 6.1** for a schematic cross section. Retaining walls are anticipated to be required along the Doane Stuart property to prevent excessive earthwork operations.

However, from Van Rensselaer Heights to the intersection with Washington Avenue extension, Forbes Avenue will remain a two-way street. This may help to maintain traffic flow and accessibility for drivers in the area. The proposed curbing of the multi-use path along the northern side of the Forbes Avenue segment will allow for the path to extend to Washington Avenue.

Finally, on the lower portion of Forbes Avenue, between Tracy Street and Central Avenue, it is recommended to add lighting that matches the historical character of the buildings. This will help to improve visibility and safety for pedestrians in the area.



Overall, these proposed changes prioritize pedestrian access and safety, while still considering the needs of drivers in the area. The multi-use path and curbing will help to provide a designated and separated

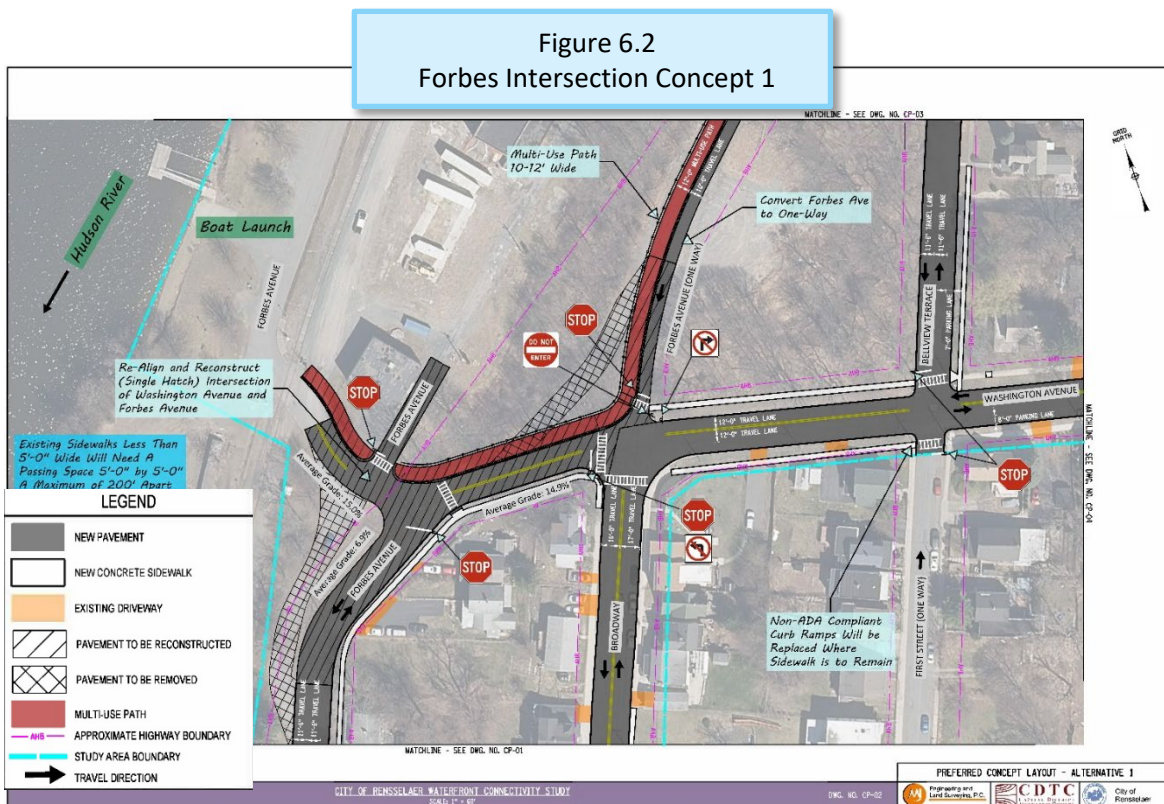
space for pedestrians, while the addition of historical lighting may improve visibility and aesthetic appeal.

Forbes Avenue Intersection

The preferred concept alternative for the Forbes Avenue intersection is **Concept 1**. **Concept 1**, as depicted in **Figure 6.2**, includes several key changes aimed at improving traffic flow and access to the boat launch and waterfront. Firstly, the lower intersection of Washington Avenue and Forbes Avenue would be realigned and reconstructed, providing a more direct access point for those who may be towing boats or other equipment to the launch area.

Currently, the only feasible access point to the boat launch is through Tracy Street, which requires a right turn onto Forbes Avenue and then bearing left to reach the launch area. By re-aligning the intersection and reconstructing the area, drivers can have a more direct route to the launch area, which would help to alleviate congestion and improve the overall flow of traffic in the area.

In addition to the intersection changes, **Concept 1** proposes to extend Washington Avenue and create a terminus for two-way traffic and provide direct access to the realigned waterfront entrance. The resulting geometry is a single intersection that eliminates the existing waterfront and boat launch entrance that is difficult to maneuver. This would help to provide better access to the area for drivers and could potentially distribute traffic more evenly throughout the area. This change could also improve the overall accessibility of the area for visitors, providing them with additional access points and potential routes to reach their destination.

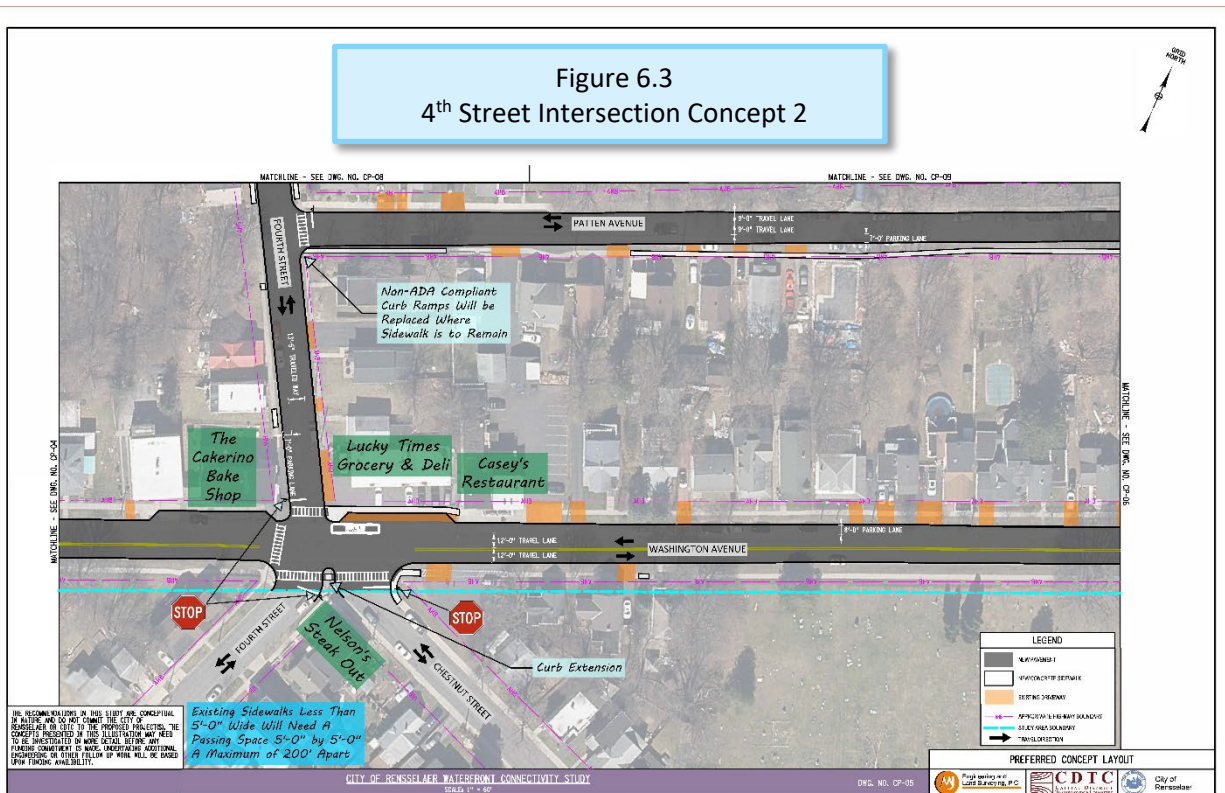


The Washington Avenue extension will continue the multi-use path along Forbes Avenue, facilitating increased multi-modal access to the waterfront and within the community. The existing Forbes Avenue roadbed will be removed and restored with topsoil, seed and landscaping.

Overall, **Concept 1** presents a comprehensive solution to the issues related to the Forbes Avenue intersection. By re-aligning the intersection and extending Washington Avenue, this alternative aims to improve traffic flow, provide better access to the boat launch, and enhance overall accessibility in the area. Through careful consideration of the proposed changes, the intersection can be transformed into a more efficient and functional space, benefiting all who use it. A site survey may be required to evaluate the proposed roadway grades prior to implementation.

Washington Avenue: 4th Street Intersection

The intersection of 4th Street and Washington Avenue will be modified (**Figure 6.3**) to reduce pedestrian crossing distances with the implementation of a curb extension between the approach legs of Chestnut Street and 4th Street. Street-side parking will be made available for the convenience store located at the intersection, eliminating customers backing into traffic on Washington Avenue. Using the results of a parking utilization study, parking will be restricted to one side along Washington Avenue to provide standard travel lanes for motorists while maintaining sufficient on-street parking.



Washington Avenue Corridor

Based on the results of the parking utilization study, the Washington Avenue roadway section will be modified where the parking utilization study supports the removal of one parking lane. The street will be resurfaced and re-striped to provide standard-width travel and parking lanes.

Limited sidewalk reconstruction is proposed to provide ADA-accessible walking paths, as well as new curb ramps and painted crosswalks. The parking area at the Anderson Place intersection will be re-striped to delineate travel ways and parking areas.

The 3rd Street and Washington Avenue Intersection will have improved geometry to shorten pedestrian crossing distances and serves as a transition where on-street parking switches from the north side to the south side of Washington Avenue.

Sidewalk Reconstruction

Outside of the Forbes Avenue and Washington Avenue corridors, non-ADA accessible pedestrian facilities will be replaced. This includes sidewalk reconstruction, curb ramps and crosswalks as identified on the concept plans for Tracy Street, Broadway, Bellview Terrace, 2nd Street, 4th Street, Patten Avenue, Anderson Place, Lincoln Terrace, Manor Drive, and 10th Street.

Table 7: Recommended Sidewalk Reconstruction

Street	Approximate Length of Sidewalk to be Replaced
Lower Forbes Avenue	130 ft
Broadway	320 ft
Bellview Terrace	260 ft
2 nd Street	600 ft
4 th Street	450 ft
Patten Avenue	540 ft
Lincoln Terrace	680 ft
Manor Drive	260 ft

Roadway Resurfacing

Several streets within the study limits are proposed to be resurfaced to provide an enhanced driving experience, and safe travel for bicycles and pedestrians. Based on the condition of the existing wearing surface, a 2" mill and top course overlay is recommended. Striping, as needed, shall be replaced in kind. Alternating parking will remain as-is along Broadway.

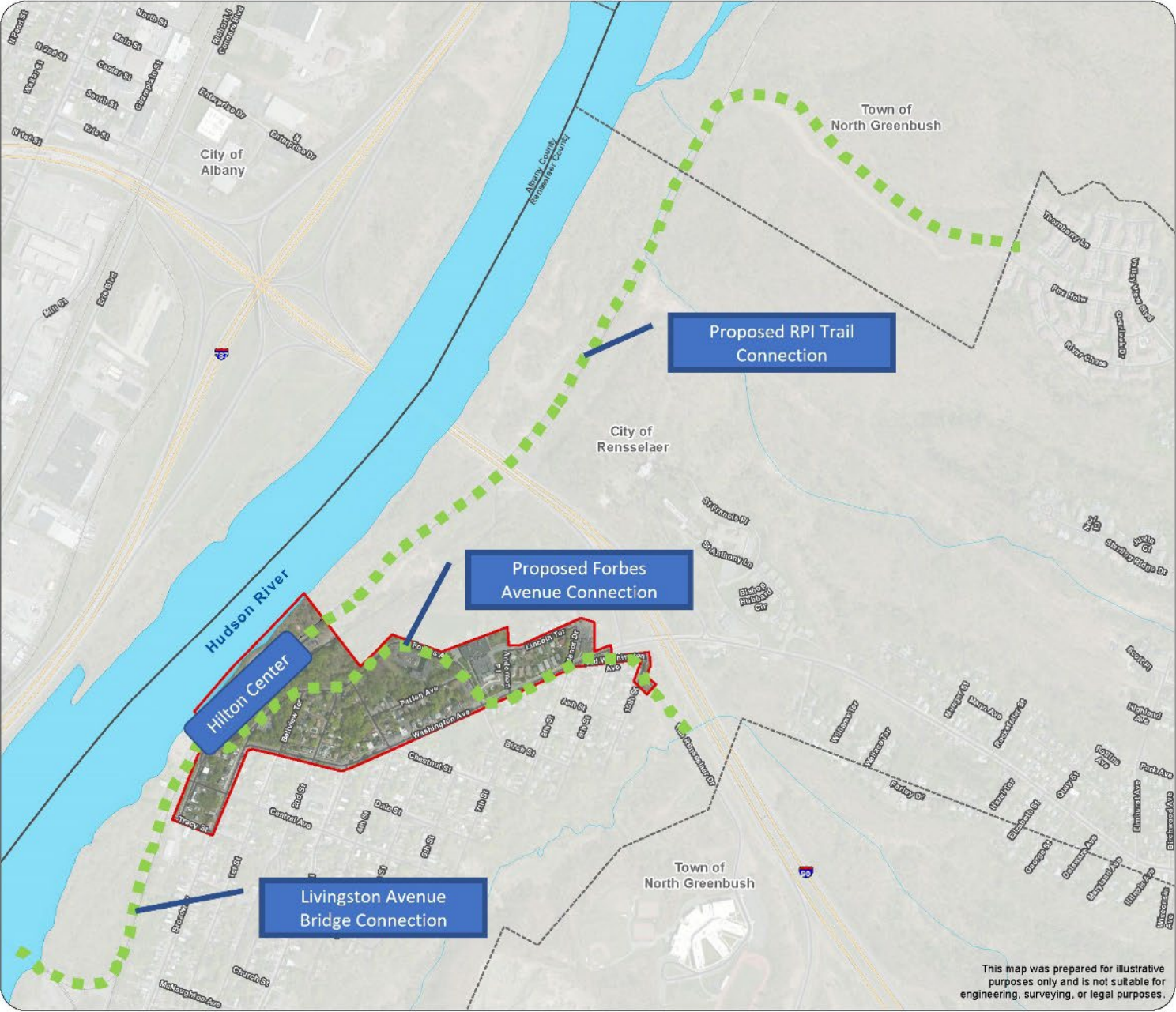
Other Local and Regional Connections

The importance of considering other local and regional connections in the Waterfront Connectivity Study cannot be overstated. By taking a holistic approach to connecting resources, the City of Rensselaer can ensure that all residents and visitors have safe and convenient access to the numerous trails, recreational areas, and community resources that the area has to offer. It is particularly important to consider pedestrian and bike connections, as these modes of transportation are increasingly popular and offer numerous health and environmental benefits.

Improving local connections within the City of Rensselaer, such as the connection from the Livingston Avenue bridge to DeLaet's Landing and the Hilton Center, will not only make these resources more accessible, but also encourage their use by community members. Additionally, regional connections, such as the proposed RPI Trail that would connect to North Greenbush and the City of Troy, have the potential to attract visitors from surrounding areas and enhance economic development in Rensselaer.

It is also crucial to consider the needs of those who may not have access to a vehicle, as they may rely on pedestrian and bike connections to access important resources. This is particularly important for children who need to cross Washington Avenue to access the public school safely. Moreover, the proposed Forbes Avenue concept, which includes a separated multi-use path, pedestrian lighting, and pedestrian rail, could easily be integrated into the larger network of connections to provide safe and convenient access. Overall, by considering and implementing these local and regional connections, the City of Rensselaer can create a more connected, accessible, and vibrant community for all.

Figure 6.4



CITY OF RENSSELAER
Waterfront Connectivity
Study

Potential Local/Regional
Connections

March 2023

LEGEND

- Study Area
- City/Town Boundary
- County Boundary
- Railroad
- Interstates
- State Routes
- Local Roads
- River/Stream
- Hudson River
- Potential Local/Regional Connections



This map was prepared for illustrative purposes only and is not suitable for engineering, surveying, or legal purposes.



Sources:
 Esri, NYS ITS, City of Rensselaer,
 Rensselaer County

0 400 800
 Feet



CHAPTER 7: Implementation Strategies

This chapter provides information to assist the City of Rensselaer with implementation of the recommended improvements. The implementation plan consists of anticipated planning-level cost estimates, identification of potential funding sources, and anticipated project partners.

Planning-Level Cost Estimates

The recommendations identified in Chapter 6 together meet the project objectives; however, phasing of those improvements may be required to accommodate funding acquisition and approval processes. Rough-order-of-magnitude, planning-level cost estimates have been prepared for the recommended improvements as shown below. Detailed construction cost estimates are provided in **Appendix I**.

Table 8: Planning Level Cost Estimate Summary

	Description of Improvements	Construction Costs ^{1,2} (2023 Dollars)	Engineering Costs ³ (+/-40%)	Planning-Level Cost ⁴ (2023 Dollars)
Signs	Install signage throughout the study area to improve safety and mobility of pedestrians and bicyclists, including advanced warnings for vehicles and regulatory speed signs.	\$20,000	\$10,000	\$30,000
Sidewalks	Sidewalk reconstruction, ADA-compliant ramps and crosswalks on Lower Forbes, Broadway, Bellview Terr, 2 nd St, 4 th St, Patten Ave, Lincoln Terr, and Manor Dr	\$350,000	\$140,000	\$490,000
Washington Avenue/4th Street Intersection Concept 1	Curb extensions and ADA-compliant ramps, crosswalks, deli parking lot modifications, on-street parking	\$245,000	\$95,000	\$340,000
Washington Avenue Corridor	Re-stripe centerline; curb extensions at 3 rd Street, crosswalks and limited sidewalk reconstruction; re-stripe and resurface parking area at Anderson Pl;	\$685,000	\$250,000	\$935,000
Forbes Avenue Concept 1	Striping, bollards, lighting, pedestrian rail to convert to one-way with multi-use path; sidewalks, ADA-compliant ramps, crosswalks; retaining wall; resurface Forbes Ave	\$1,365,000	\$540,000	\$1,905,000

Table 8: Planning Level Cost Estimate Summary

	Description of Improvements	Construction Costs ^{1,2} (2023 Dollars)	Engineering Costs ³ (+/-40%)	Planning-Level Cost ⁴ (2023 Dollars)
Forbes Intersection Concept 1	Re-align Forbes at Broadway and extend Washington Avenue; multi-use path, crosswalks, ADA-compliant ramps, remove and restore existing road beds with landscape elements.	\$1,380,000	\$550,000	\$1,930,000
Roadway Resurfacing	Resurface (mill and top course overlay) Tracy St, Broadway, Bellview Terr, 2 nd St, 4 th St, Patten Ave, Anderson Place, Lincoln Terr, Manor Dr, 10 th St	\$615,000	\$215,000	\$830,000

¹Construction costs were prepared using NYSDOT items and recent, local unit price data.

²Construction costs include a 30% contingency. See attached summary sheets for each project.

³Engineering costs include survey, design, and construction oversight and are likely to vary significantly depending on the funding source and grant requirements. Approximate upper level costs are provided.

⁴The estimated costs do not include the cost of right-of-way incidentals or acquisitions, if required.

Potential Funding Sources

There are various potential funding sources that the City of Rensselaer can pursue to fund implementation of the recommended improvements. The potential funding sources vary between federal, state, and local sources. It is important for the City to submit applications for funding to the appropriate program, at the right time for the project, and with ample project information and support to show why the project is important to the City and that the City is prepared to provide the required local match. Since funding opportunities can arise throughout the year, it is imperative that the City maintain contact with NYSDOT Region 1 Local Programs Bureau to ensure that no funding opportunities are missed.

Federal Programs:

Transportation Improvement Program (TIP): This project is eligible for funding under the Federal Highway Administration’s Surface Transportation Block Grant Program (STBG) and Highway Safety Improvement Program (HSIP). These reimbursement programs cover up to 80% of the project cost and the project Sponsor is responsible for the remaining 20%.



- **Surface Transportation Block Grant Program (STBG):** The STBG program provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.
- **Highway Safety Improvement Program (HSIP):** Program that provides funds for projects that aim

to achieve significant reduction in traffic fatalities and serious injuries on all public roads. The HSIP fund source will reimburse up to 90% of the project cost for eligible improvements.

To apply for federal funding, the City can respond to a TIP solicitation advertised by the CDTC. CDTC staff review applications and recommend projects to be funded, while the ultimate decision is made by CDTC's Policy Board and is subject to public comment.

Applications for projects were due to CDTC in the fall of 2021 in advance of the Federal Fiscal Years (FFYs) 2022-2027 TIP update. TIP solicitations have historically been advertised every three years, so the next open solicitation can be expected in the Fall of 2024. The funding ranges for these grants are not specified.

For more information, visit:

<https://www.cdtcmo.org/transportation-plans/transportation-improvement-program>.

State Programs:



NYSDOT TAP-CMAQ Program (TAP/CMAQ): Funding is available through NYSDOT to support bicycle, pedestrian, multi-use path, and non-motorized transportation-related projects and programs that support the goals of New York's national-led Climate Leadership and Community Protection Act (CLCPA). Although these programs are administered by NYSDOT, the fund sources are ultimately federal and require a 20% local match. All roadways evaluated as part of this study are eligible. Funded projects will receive a minimum of \$500,000 and a maximum of \$5,000,000 (prior to the 20% local match). Municipalities may request funding from two different fund sources:

- **Transportation Alternatives Program (TAP):** TAP funding helps communities deliver safe, transformative, and innovative transportation projects which expand, enhance, and modernize walking and biking options and connections to transit. TAP project funding focuses primarily on benefits for bicyclists, pedestrians, and other amenities for non-drivers. Projects are expected to improve mobility, accessibility, and the community's transportation character such that the street network is more vibrant, walkable, and safer for all transportation mode users, pedestrians, bicyclists, transit users, and drivers. Specific project categories directly related to the proposed projects include:
 - Planning, design and construction of infrastructure-related projects to improve non-driver safety and access to public transportation and enhanced mobility;
 - Safe routes to school (enable and encourages children to walk or bike to school); and
 - Planning, design and construction of on-road and off-road trail facilities for pedestrians, bicyclists and non-motorized transportation users.
- **The Congestion Mitigation and Air Quality Improvement (CMAQ) Program:** The CMAQ program provides funding to State and local entities for transportation projects that reduce vehicle emissions and traffic congestion in areas where air quality does not meet or previously did not attain the National Ambient Air Quality Standards. Solicitations for TAP and CMAQ are typically released together, however the projects described in Chapter 3 of this study are not likely eligible for funding under CMAQ.

The NYSDOT will typically advertise a Notice of Funding Availability every two years. The most recent

Notice was advertised in July of 2021, applications were due in the Fall of 2021 and projects were awarded in July 2022. To apply for TAP or CMAQ funding, the City can submit an application to NYSDOT through the NYS Grants Gateway system.

For more information, visit:

<https://www.dot.ny.gov/divisions/operating/opdm/local-programs-bureau/tap-cmaq>.



Climate Smart Communities

NYSDEC Climate Smart Communities Program

(CSC): The Climate Smart Communities Grant program was established in 2016 to provide 50/50 matching grants to cities, towns, villages, and counties of the State of New York for eligible climate change mitigation, adaptation, and planning and assessment projects. Municipalities need not be a registered or certified Climate Smart Community to apply for a grant. Implementation projects for which funding can be sought are those related to the reduction of greenhouse gas (typically transportation alternatives) and climate change adaptation. There are two funding pools for this grant. The first funding pool includes projects requesting funds ranging from \$5 million to \$100 million. The second funding pool includes projects requesting funds ranging from \$250,000 to \$4,999,999.

The NYSDEC typically requests applications for the Climate Smart Community Grant Program annually. Applications are prepared and submitted online using the NYS Consolidated Funding Application (CFA).

NYSDOS Brownfield Opportunity Area (BOA): The NYSDOS Brownfield Opportunity Area Program is a neighborhood planning initiative that aims to assess and redevelop brownfields and abandoned properties. The program helps to transform unproductive properties into productive uses, creating jobs, housing, and community amenities for residents and visitors. Planning grants are provided to municipalities or community-based organizations through the competitive NYS Consolidated Funding Application (CFA) process. Communities that have undertaken significant planning or have the capacity to complete a Nomination plan without State funding can also submit plans to the State for BOA Designation and other benefits.

NYSDOT Multi-Modal Program (MM): The Multi-Modal Program is managed through NYSDOT's Local Programs Bureau and provides reimbursement funding for five (5) specifically authorized transportation capital project "modes" found in State Transportation Law 14-k and NYSDOT Program Policy - Rail, Port, Fixed Ferry Facilities, Airport, and State and Local Highway and Bridge projects. The program does not have a required local match.

To obtain funding through the NYSDOT's Multi-Modal Program, the Governor or a Legislative Member must nominate the project, and NYSDOT will be notified when funding is secured. Additional information and current opportunities should be discussed with the NYSDOT Region 1 Local Programs Bureau. The funding ranges for this grant are not specified.

New York State Touring Route Program: The New York State Touring Route Program provides \$100 million in State funds to cities, towns, and villages for highway-related purposes such as the construction and repair of highways, bridges, highway-railroad crossings, and other transportation facilities. To be eligible for State Touring Route Capital reimbursement, a capital project must be undertaken by a municipality, have a service life of 10 years or more with normal maintenance, follow the State Touring

Route Guidelines, and be for highway-related purposes. The guidelines prefer roads located on a State highway that are maintained by a municipality and designated as a Touring Route, but funds may also be used on an eligible roadway listed on the Local Highway Inventory (LHI). Items that are not eligible for reimbursement include operation and maintenance activities, State highways that are not locally maintained State arterials, and purchase of equipment. It's important to note that the study area may not be eligible for this program, but it's crucial to review the guidelines carefully, as they change and, several connecting roads may qualify for funding.

Regional Economic Development Council (REDC) Grants: Through the REDCs, community, business, academic leaders, and members of the public in each region of the state put to work their unique knowledge and understanding of local priorities and assets to help direct state investment in support of job creation and economic growth. The City may consider REDC grants to fund sidewalk projects that will connect residents to businesses or to public transportation.

REDC Grants may be applied for through the Consolidated Funding Application (CFA), which allows applicants to be considered for multiple sources of funding for a project by filling out just one application. The CFAs are typically announced in May each year with applications due at the end of July. Several of the grants under the CFA have a minimum funding amount, ranging from \$25,000 to \$150,000.

Community Resiliency, Economic Sustainability and Technology (CREST) Grant Program: The CREST program, administered by the Dormitory Authority of the State of New York (DASNY), provides reimbursement-based grants of capital costs for projects undertaken by eligible entities. The minimum grant award is \$50,000.

To obtain funding, a grant request must be submitted to Senator Jacob Ashby (NY Senate District 43), and if chosen, will be passed to the Senate Finance Committee for initial approval and submission to DASNY. The CREST grants are typically announced in July each year with applications due at the beginning of August.

The New York Housing Compact: Governor Hochul's proposed FY 2024 Executive Budget aims to address New York's severe housing shortage by building 800,000 new homes in the next decade. The multifaceted approach of the New York Housing Compact focuses on removing barriers to housing production, incentivizing new construction, and setting local housing targets across every community in New York. Through the expansion of housing production, the New York Housing Compact seeks to provide better living conditions for families, assist employers in accommodating their workforce, and promote equitable access to quality housing throughout the state.

It should be noted that the New York Housing Compact has not yet been fully adopted. Therefore, local departments should continue to monitor its developments to ensure that their policies are aligned. In addition, if the New York Housing Compact is implemented, there may be opportunities for communities connected by rail to receive grants for infrastructure work.

Local Funding Partners & Programs:



National Grid Grants (GRID): National Grid Economic Development offers grant assistance for many different phases of economic development and community

revitalization projects. National Grid may be able to help with staff assistance and resources from their Public Service Commission approved Economic Development Plan. These grants could be explored for assisting with relocation of existing utility poles and infrastructure, and installation of energy efficient site lighting. This grant can be considered in order to implement street lighting at intersections throughout the City.

Coordination with Outside Agencies

To fully implement the Waterfront Connectivity Study, coordination with several outside agencies will be necessary. This list includes the New York State Department of Transportation, Rensselaer County, CSX for train track crossing(s), the Town of North Greenbush, the Town of East Greenbush, developers with the Hilton Center redevelopment, and the New York State Department of Environmental Conservation (DEC). It should be noted that this is not a comprehensive list of all potential outside agencies that may need to be involved in the project. However, these are some of the main agencies that will need to be consulted and coordinated with in order to ensure successful implementation of the study's recommendations.

Although NYSDOT does not have jurisdiction over roadways within the Study Area, NYSDOT's involvement will be beneficial in the implementation of bicycle and pedestrian connections. NYSDOT is currently executing the approximately \$400M Livingston Avenue Rail Bridge Project that includes bicycle and pedestrian facilities, and coordination with their designers to ensure logical connections are provided will be critical.

Similarly, coordination with Rensselaer County will be necessary for improvements along county-maintained roads. The county can also provide valuable resources for trail development and maintenance.

CSX operates the rail line that runs parallel to the Hudson River and intersects with many of the roads and trails in the study area. Collaboration with CSX will be necessary to ensure that any proposed improvements do not interfere with the safe and efficient operation of the rail line.

The Town of North Greenbush and the Town of East Greenbush are adjacent to Rensselaer and share many of the same resources, such as the proposed RPI Trail. Coordination with these towns will be necessary to ensure that any proposed improvements align with their respective plans and goals for the area.

Developers with the Hilton Center redevelopment will be key partners in implementing the proposed improvements in that area. Collaboration with the developers will be necessary to ensure that the proposed improvements align with their vision for the redevelopment.

Finally, involvement from NYSDEC will be necessary for any proposed improvements in environmentally sensitive areas, such as wetlands or areas with endangered species. The agency's expertise in environmental regulations and requirements will be valuable in ensuring that the proposed improvements meet state and federal environmental standards.

Overall, the involvement and coordination of these agencies and stakeholders will be essential in implementing the Waterfront Connectivity Study's recommendations and realizing the vision of a connected, accessible waterfront for the City of Rensselaer.