



FEASIBILITY STUDY

PATROON CREEK GREENWAY

AUGUST 2022

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PROJECT ADVISORY COMMITTEE (PAC)

- City of Albany, Dept. of Engineering
- City of Albany, Dept. of Fire & Emergency Services
- City of Albany, Dept. of General Services
- City of Albany, Dept. of Planning & Development
- City of Albany, Dept. of Police, Division of Traffic Engineering
- City of Albany, Dept. of Recreation
- City of Albany, Dept. of Water
- City of Albany, Office of Special Events
- Albany County Water Purification District
- Capital District Transportation Authority (CDTA)
- Capital District Regional Planning Commission (CDRPC)
- Capital District Transportation Committee (CDTC)
- NYS Department of Transportation, Region 1

CITIZEN ADVISORY COMMITTEE (CAC)

- Arbor Hill Neighborhood Association
- West Hill Neighborhood Association
- Sheridan Hollow Neighborhood Association
- Ten Broeck Triangle Neighborhood Association
- Upper Washington Neighborhood Association
- Albany Public Library
- Albany School District
- University at Albany (SUNY), Facilities Management
- Common Councils, Ward 3, 5, 11, & 12
- Downtown BID
- Albany Bicycle Coalition
- Albany Pine Bush Preserve
- Friends of Tivoli

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CHAPTER 1 INTRODUCTION

This chapter describes the Patroon Creek Greenway Feasibility Study's purpose, goals, and study area. It also provides a brief history of Patroon Creek and introduces the three nature preserves that the future greenway will connect: Albany Pine Bush Preserve, Tivoli Lake Preserve, and the Hudson Riverfront Corning Preserve.

CHAPTER 1: INTRODUCTION

PURPOSE + GOALS

The purpose of the Patroon Creek Greenway Feasibility Study is to identify a feasible, multi-use trail connection between the Albany Pine Bush Preserve and the Hudson River waterfront. This approximately nine mile long trail corridor will provide a much needed east-west connection for cyclists, pedestrians, and other forms of active transportation in the City of Albany and the Capital District Region.

The Patroon Creek Greenway Feasibility Study is being conducted in partnership with the Capital District Transportation Committee (CDTC) and the City of Albany's Department of Planning and Development, and it is funded through CDTC's Unified Planning Work Program Task 4.68, Capital District Trails Plan Implementation.

This study builds on the 2004 Patroon Creek Greenway Linkage Study, which identified an initial route for the greenway and roughly followed the Interstate 90 (I-90) corridor. Working closely with the local community, stakeholders, and local and state agencies, this project builds on the recommendations in the 2004 Linkage Study as well as recent local and regional planning efforts to propose a trail corridor connecting communities to the Hudson River waterfront, Tivoli Lake Preserve, and Six Mile Waterworks Park / Albany Pine Bush Preserve.

Study Area

The study area for the Patroon Creek Greenway Feasibility Study is approximately 5,400 acres in size and includes all areas within roughly one-half mile of the CSX railroad corridor and Patroon Creek. The study area also spans multiple municipalities, including: the City of Albany, the Town of Colonie, and a small portion of the Town of Guilderland.

The eastern extent of the study area is defined by the Hudson River, and the western extent is defined by Interstate 87 (I-87). The northern boundary is shaped by major road corridors including Albany Shaker Road, Everett Road, Sand Creek Road, Osborne Road, and Central Avenue. The southern boundary is also delineated by major road corridors including: Clinton Avenue, Main Avenue, Washington Avenue, NY-85, and Western Avenue.

The study area is home to a diverse mix of land uses, services, and destinations. The eastern portion of the study area is comprised of the Arbor Hill and West Hill neighborhoods, several parks, and the north end of downtown Albany. The western portion of the study area is dominated by the UAlbany and Harriman State campuses, which are major employment and educational destinations. The central portion of the study area includes the Corporate Woods campus, a diversity of commercial and industrial uses along paralleling Central Avenue, and the Upper Washington Avenue neighborhood.

PROJECT GOALS

Provide Equitable Access

by creating safe, accessible linkages between the Greenway and neighborhoods, with a focus on serving historically marginalized communities

Increase Connectivity

by using the Greenway to link recreational, economic, educational, and community services and destinations

Enhance Quality of Life

for residents by improving the City's attractiveness, expanding public space, and increasing mobility options

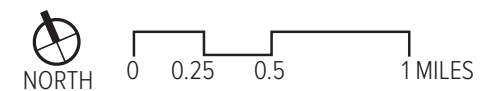
Improve Public Health

by expanding opportunities for active transportation and recreation, increasing access to nature, and improving air quality through the reduction vehicle miles traveled and greenhouse gas emissions



PATROON CREEK GREENWAY: STUDY AREA

- study area
- parks
- municipal boundaries



ONE CREEK, THREE PRESERVES

Patroon Creek is roughly six miles in length and passes through three nature preserves, linking the Albany Pine Bush at its source, the Tivoli Lake Preserve where the creek was daylighted in 2019, and the Corning Preserve at its mouth on the Hudson River. In linking these three preserves, the Patroon Creek Greenway will increase access to these natural resources while also providing greater access to regional destinations through the trail's connections to other trail systems, bicycle infrastructure, and destinations.

Patroon Creek

EARLY HISTORY

Patroon Creek is part of a tributary system serving the Hudson River. The Native stewards* of these lands were the Mohicans, “The people of the waters that are never still” and the Haudenosaunee (hoe-dee-no-SHOW-nee), “people who build a house”. When first discovered by European settlers, the creek was referred to as Bloomaert’s Kill (a Dutch word for stream) and shortly thereafter was used as a power source for several saw mills. The first grist and saw mills were established in the mid-1600s.

In 1844, the railroad was rerouted to the Tivoli Hollow Line, which ran along the Patroon Creek and, in 1845, the Albany Waterworks Company purchased a portion of the Patroon Creek for use as its water supply. In 1850, the company was replaced by a municipal water supply and the three creeks that met at the head of Patroon Creek were dammed to form Rensselaer Lake.

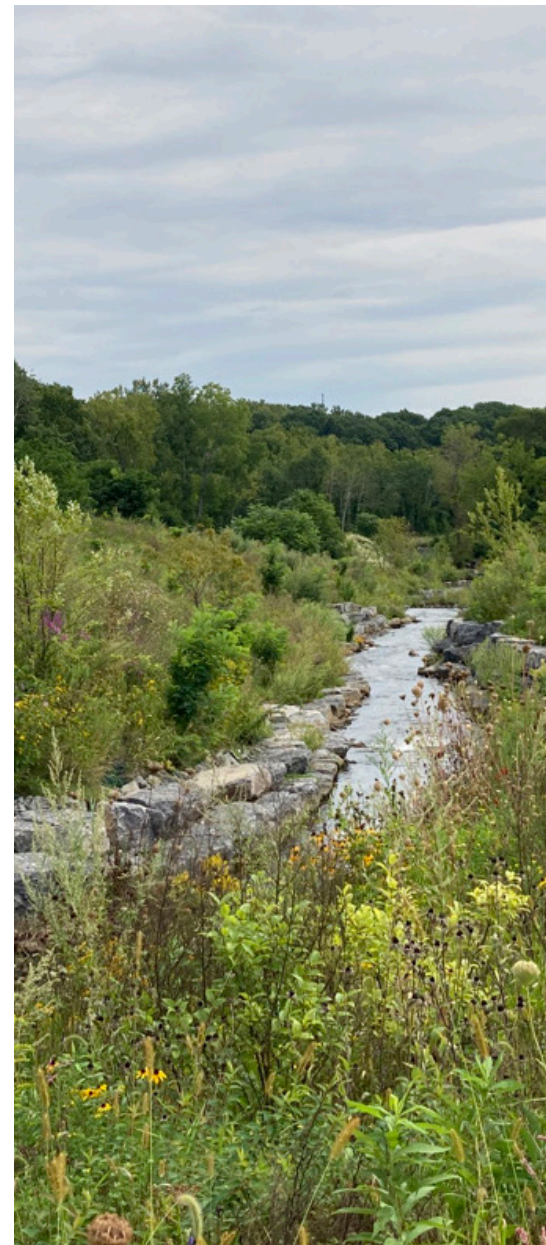
Several additional reservoirs, including the Lower and Upper Tivoli Lakes, were formed along the creek and supplied parts of Albany with water until the late 1800s when the Hudson River became the primary source of the city’s water.

INDUSTRIAL ABUSE

From the early 1900s, the Patroon Creek served mainly industrial purposes, including as a supply for the West Albany Rail Yard and as a waterway carrying pollution from several industries along its tributaries, including the Mercury Refining Company and National Lead Industries. In 1962, it was determined that Patroon Creek was so contaminated that it had to be culverted. In 1983, it was declared a Superfund site, and in 1993, it was declared one of the State’s 10 worst polluted streams.

RESTORATION

After a \$4 million cleanup supervised by the Environmental Protection Agency (EPA) and other cleanup efforts, the stream regained health, and by 1998, crawfish, mayfly and minnows had been found, a sign that indicates much higher water quality. In 2016, the Albany Water Board pursued daylighting a portion of Patroon Creek and, in 2019, a 1500 foot stretch of Patroon Creek that runs through the Tivoli Lake Preserve was daylighted as a result of a \$2.1 million grant from the NYS Department of Environmental Conservation (NYS DEC) and the NYS Environmental Facilities Corporation (NYS EFC).



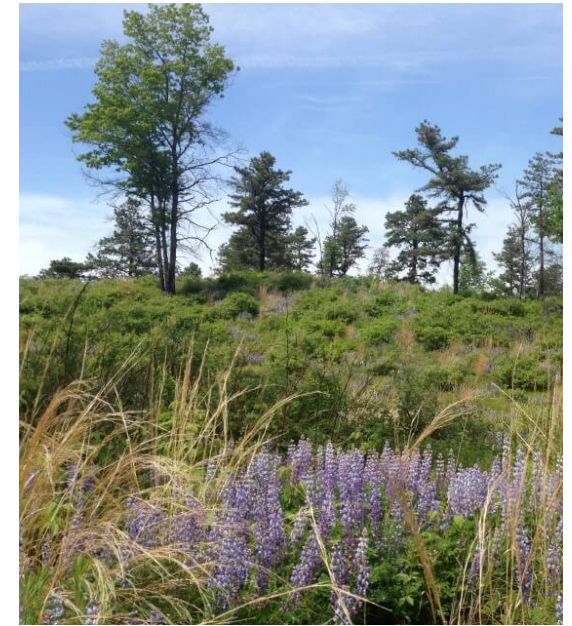
▲ Patroon Creek in Tivoli Lake Preserve

As a direct result of the daylighting, this stretch of Patroon Creek helps reduce flooding, increases water quality through aeration, and creates important habitat for aquatic life and pollinator species. The once piped and polluted waterway now serves as a unique natural resource for the surrounding community. The design includes a series of pools, riffles, and small waterfalls that create important fish habitat, add to the aeration of the stream, and improve the mental health benefits of the stream by adding the sounds and reflective play of the water.

The Creek has much higher flow during wet weather than dry water; and any overflow during wet weather is diverted to Tivoli Lake to help prevent localized flooding. This also benefits the lake by adding to its circulation and cooling.

Albany Pine Bush

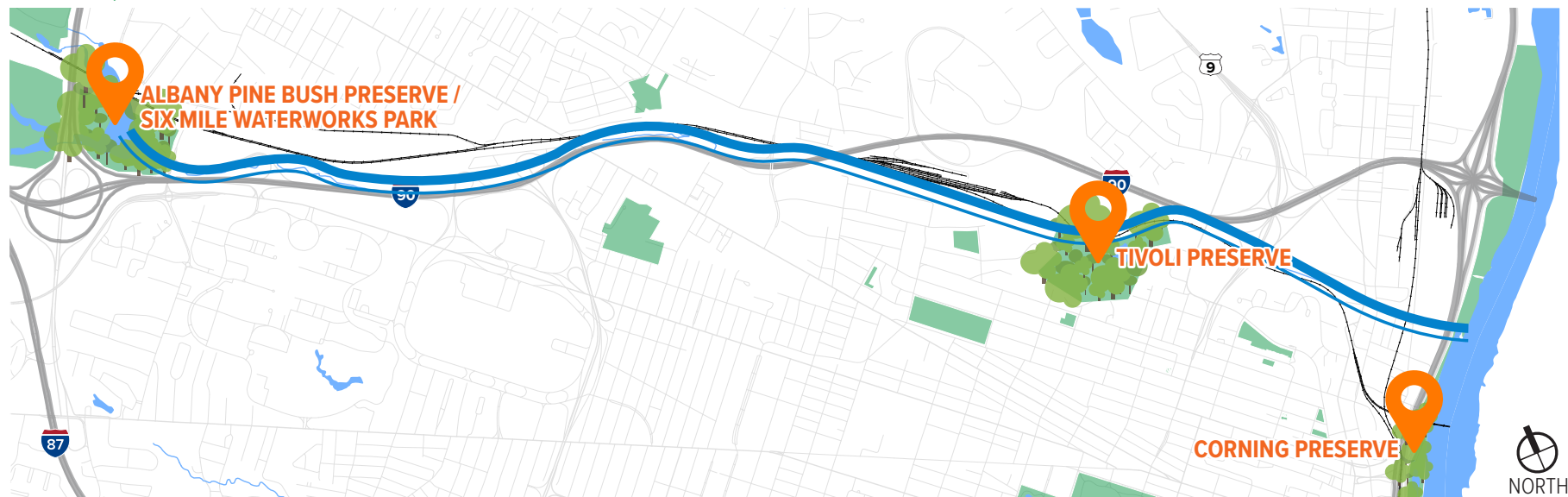
Known for its gently rolling sand-dunes and home to one of the best remaining pitch pine-scrub oak barrens in the world, the Albany Pine Bush Preserve is home to a unique variety of rare plants and animals, including the federally endangered Karner blue butterfly. This 3,350 acre preserve offers visitors an experience rich in geological, natural and cultural history and has many trails and activities that are free and open to the public year round. The Albany Pine Bush Discovery Center provides visitors with interactive exhibits and activities to explore the preserve's geologic and cultural significance, examine the plants and animals that live in this landscape, study preserve management principles, and consider human impacts on this sensitive landscape.



▲ Albany Pinebush Preserve

Image credit: Albany Pine Bush Preserve Commission

One Creek, Three Preserves

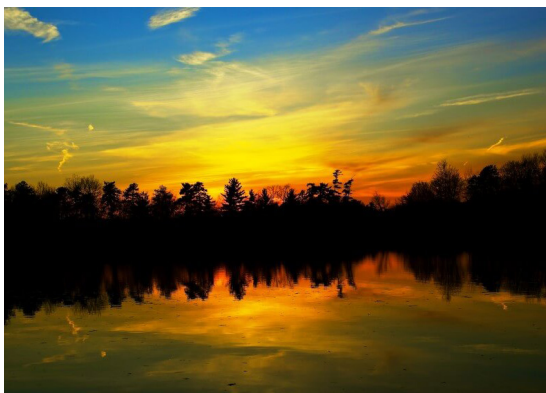


ONE CREEK, THREE PRESERVES (CONT.)

6-MILE WATERWORKS PARK

Six Mile Waterworks Park is in the eastern portion of the Albany Pine Bush Preserve and offers walking trails, a playground, picnic tables with grills, and a lake. The 57 acre park contains a 6-mile multi-use trail and connects to other regional trails as well.

Rensselaer Lake is the headwaters of Patroon Creek and is stocked annually with approximately 2,000 rainbow trout each year, offering prime fishing opportunities. According to Save the Pine Bush, this area was one of the first tracts, if not the first tract, in the state to be set aside for forest and water conservation. The dam and reservoir were completed in 1852 and served as the sole water source for Albany until 1875. The dam was located approximately six miles from the Albany City Hall when it was constructed, hence the original name of the lake, Six Mile Waterworks.



▲ **Rensselaer Lake at 6-Mile Waterworks Park**
Image credit: Albany Pine Bush Preserve Commission

Tivoli Lake Preserve

Tivoli Lake Preserve is the largest rural preserve in the City of Albany and one of the largest urban parks in the State. The 80-acre preserve was established in 1975 and is home to many natural and community attractions including Tivoli Lake, a daylighted segment of Patroon Creek, riparian wetlands, upland forests and meadows, walking and biking trails, community gardens and outdoor educational facilities.

BROTHER YUSUF BURGESS AND THE FRIENDS OF TIVOLI LAKE PRESERVE AND FARM

Brother Yusuf called himself a “closet environmentalist” in the inner city. He founded Youth Ed-Venture and Nature Network, to introduce Albany youth to the Adirondacks and the Catskills – and to the Tivoli Lake Preserve. His favorite slogan was “No Child Left Inside.”

Brother Yusuf founded Friends of Tivoli Lake, which played a huge role in the vision and progress for the Preserve today. He taught local youth how to fish, forage, care for, and enjoy the environment. Tragically, Brother Yusuf died suddenly in December 2014. A trail and farm have been named in his honor and his legacy continues at Tivoli Lake Preserve and Farm.

Friends of Tivoli is a non-profit organization and growing community of individuals whose mission it is to be a steward of the Preserve and facilitate conservation, environmental education, and outdoor recreation. Their activities seek to empower individuals and families to enjoy the natural world, promoting healthier and more peaceful communities.

TIVOLI LAKE PRESERVE: A BRIEF HISTORY

Early Years

1850 - Albany purchases land and dams Patroon Creek to create a reservoir.

Early 1900s - The Preserve becomes a dumping ground for trash and polluted water runs red from slaughterhouse discharge.

1957 - Albany revitalizes area and creates “Tivoli Lakes Nature Study Sanctuary,” where students learn gardening, biology, art, and homemaking.

1974 - The Preserve suffers from neglect and The Times Union writes a mock “obituary.” In June, 1986, another article notes that “people simply drive in, dump their garbage, and leave.”

Hope Again

1990s - An environmental group successfully persuaded the state to close a soot-emitting power plant about a half-mile from Tivoli; part of the large settlement goes to revitalizing the Preserve.

Early 2000s - Rustic trails are formed and neighborhood groups engage. The environmental group goes out of business and another period of decline sets in.

2014 - Brother Yusuf founds Friends of Tivoli Lake and works with Albany to complete a Visioning Plan.

2019 - Tivoli Preserve Community Farm joins Friends of Tivoli Lake to form Friends of Tivoli Lake Preserve and Farm. Patroon Creek is daylighted in Tivoli Lake Preserve.

Their work is rooted in conservation, education, and recreation. Programming ranges from a sheep-grazing project that helps with invasive species management to community farms that teach farming, to nature walks and fiber arts lessons.

Corning Riverfront Park

Originally called Corning Preserve, Corning Riverfront Park provides access to the Hudson River and is home to the Jennings Landing Amphitheater (host to Albany's Alive at Five concert series and the Albany Riverfront Jazz Festival). It also contains a public boat launch and is home to the Albany Rowing Center. There the waterfront can be enjoyed by kayak, on foot or by bicycle. The preserve also provides access to the Mohawk-Hudson Bike-Hike Trail, which is now part of the Empire State Trail System and features a playground, benches and picnic tables. Major improvements underway include a new two-way bicycle path and kayak access to the two tidal ponds.

THE ALBANY SKYWAY

The Albany Skyway is an elevated park under I-787 that transforms a former interstate ramp into a bicycle and pedestrian park and provides a direct connection between downtown Albany, the Corning Riverfront Park, and the Hudson River. It recently opened to the public in April 2022.



▲ Counterclockwise from Top Left: 1. Brother Yusuf Burgess (image credit: Adirondack Almanac); 2. Tivoli Lake Preserve (image credit: City of Albany); 3. Friends of Tivoli Preserve and Farm use wool produced by the sheep at Tivoli Lake Preserve as part of their fiber arts program (image credit: Friends of Tivoli Lake Preserve); 4. Corning Preserve (image credit: NYS Empire State Trail); 5. Corning Preserve Trail and Mohawk Hudson Bike Hike Trail (image credit: NYS Empire State Trail); 6. Rendering of the Albany Skyway (image credit: City of Albany).





CHAPTER 2

RELATED PLANS + POLICIES

This chapter provides an overview of regional and local plans and policies that are related to and lay the foundation for the Patroon Creek Greenway Feasibility Study. The following plans and policies are described in this chapter:

- Patroon Greenway Linkage Study
- Capital District Trails Plan
- City of Albany Bicycle and Pedestrian Master Plan
- Washington Avenue Patroon Creek Corridor Study
- City of Albany's Unified Sustainable Development Ordinance
- City of Albany's Complete Streets Policy and Design Manual
- Albany 2030: The City of Albany Comprehensive Plan



CHAPTER 2: RELATED PLANS + POLICIES

RELATED PLANS + POLICIES

The Patroon Creek Greenway Feasibility Study builds upon, expands, and updates the Patroon Greenway Linkage Study completed by the Capital District Transportation Committee (CDTC) in 2004. This section provides a brief overview of related planning efforts and local policies to identify key overlaps, opportunities, and regulations pertinent to the Patroon Creek Greenway Feasibility Study.

Plan Name	Plan Elements Related to the Patroon Creek Greenway Feasibility Study
REGIONAL PLANS	
Patroon Greenway Linkage Study (2004)	- Identifies a proposed alignment for the Patroon Greenway - Utilizes state, municipal, utility, and railroad rights-of-way to connect Rensselaer Lake and Tivoli Preserve - Proposes three options for connecting Tivoli Preserve to Corning Preserve on the Hudson River
New Visions 2050 Metropolitan Transportation Plan	Identifies principles, strategies, and budgetary priorities that guide regional investment in transportation systems
Capital District Trails Plan (2019)	- Establishes a vision for a regional trail network that seamlessly connects cities, towns, and villages in the Capital District - Identifies the Patroon Greenway as one of the high priority core trails critical to achieving the plan's vision
CITY POLICIES & PLANS	
City of Albany Bicycle and Pedestrian Master Plan (2021)	Proposes several new bicycle facilities in the Patroon Greenway study area, creating opportunities to connect neighborhoods and local destinations to the future greenway trail
Washington Avenue Patroon Creek Corridor Study (2019)	Identifies complete street improvements along Washington Avenue between the Brevator Street and the I-90 Interchange 2 to improve pedestrian and bicycle connectivity to SUNY Albany and new development along the corridor
Unified Sustainable Development Ordinance (2017)	Regulates land uses and the physical form of development, with a focus on creating a pedestrian-friendly environment
City of Albany Complete Streets Policy and Design Manual (2016)	Establishes complete street design guidelines for all roadway projects to improve connectivity, accessibility, safety, and placemaking
Albany 2030: The City of Albany Comprehensive Plan (2012)	Defines a sustainable and prosperous future vision for the City, including the establishment of multi-modal hubs

Regional Plans

PATROON GREENWAY LINKAGE STUDY (2004)

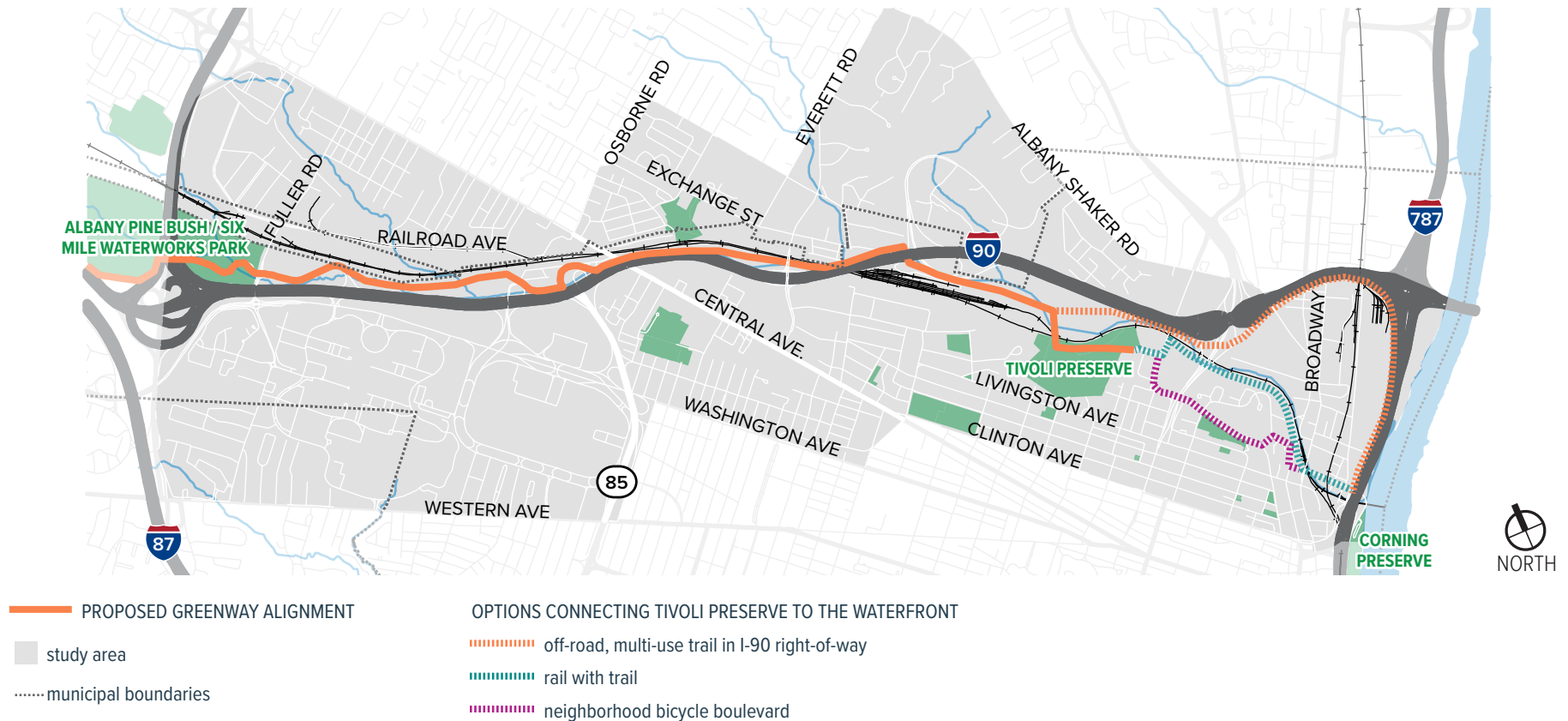
This study identifies an approximately six mile long off-road multi-use trail corridor, generally paralleling Interstate 90 and the CSX rail line, to connect Downtown Albany's Hudson River waterfront west to the Albany Pinebush.

The proposed trail alignment closely follows Patroon Creek and utilizes lands and rights-of-way owned by New York State Department of Transportation (NYSDOT), CSX railroad, Albany County Sewer Authority (now the Albany County Water Purification

District), and Niagara Mohawk Power Corporation (now National Grid), as well as public lands and open spaces. Between Rensselaer Lake and Tivoli Preserve, the proposed trail alignment is located on the north side of I-90 west of Everett Road and uses rights-of-way belonging to NYSDOT, Albany County Water Purification District, and National Grid. East of Everett Road, the trail crosses under I-90 at Anderson Drive onto a section of abandoned railroad and then crosses into Tivoli Preserve using an abandoned rail trestle. Between Tivoli Preserve and the Hudson River

waterfront, three complimentary trail corridors were identified and are mapped below:

1. An on-street bicycle boulevard using Manning Boulevard, Arbor Drive, Lark Drive, N. Pearl Street, and Colonie Street;
2. A rail with trail, following the CSX rail line; and,
3. An off-road multi-use trail in the I-90 right-of-way with raised crossings.



SUMMARY OF RELEVANT LOCAL POLICIES & PLANNING DOCUMENTS

(CONT.)

This proposed trail corridor for the Patroon Creek Greenway faces several challenges and unresolved issues, including:

- Lack of north-south and neighborhood connectivity to the proposed trail corridor;
- Several constrained road crossings (e.g., Fuller Road and Central Avenue) that will require complex design solutions, such as cantilevered bridges;
- A generally undefined trail corridor between Tivoli Preserve and the Hudson River waterfront;
- Unresolved issues related to use of highway, rail, and utility rights-of-way, including surface access rights;
- Presence of pinch points along I-90 and I-90 crossings;
- Access to the abandoned rail trestle providing a connection to Tivoli Preserve; and,
- The potential use of an inactive rail line to connect the trail between Corning Preserve and I-90.

NEW VISIONS 2050 METROPOLITAN TRANSPORTATION PLAN

New Visions 2050 is the Metropolitan Transportation Plan for the Capital Region. This long-term transportation plan includes principles, strategies, and budgetary priorities that guide regional investment. Principles identified in New Visions 2050 that are aligned with this project include:

- Invest in complete streets;
- Encourage bicycle and pedestrian travel;
- Provide essential mobility for all;
- Prioritize affordable and convenient travel options; and,
- Preserve the environment.

The Capital District Trails Plan was adopted as part of New Visions 2050, the Metropolitan Transportation Plan for the Capital Region. New Visions 2050 highlights the Patroon Greenway as a key regional project.

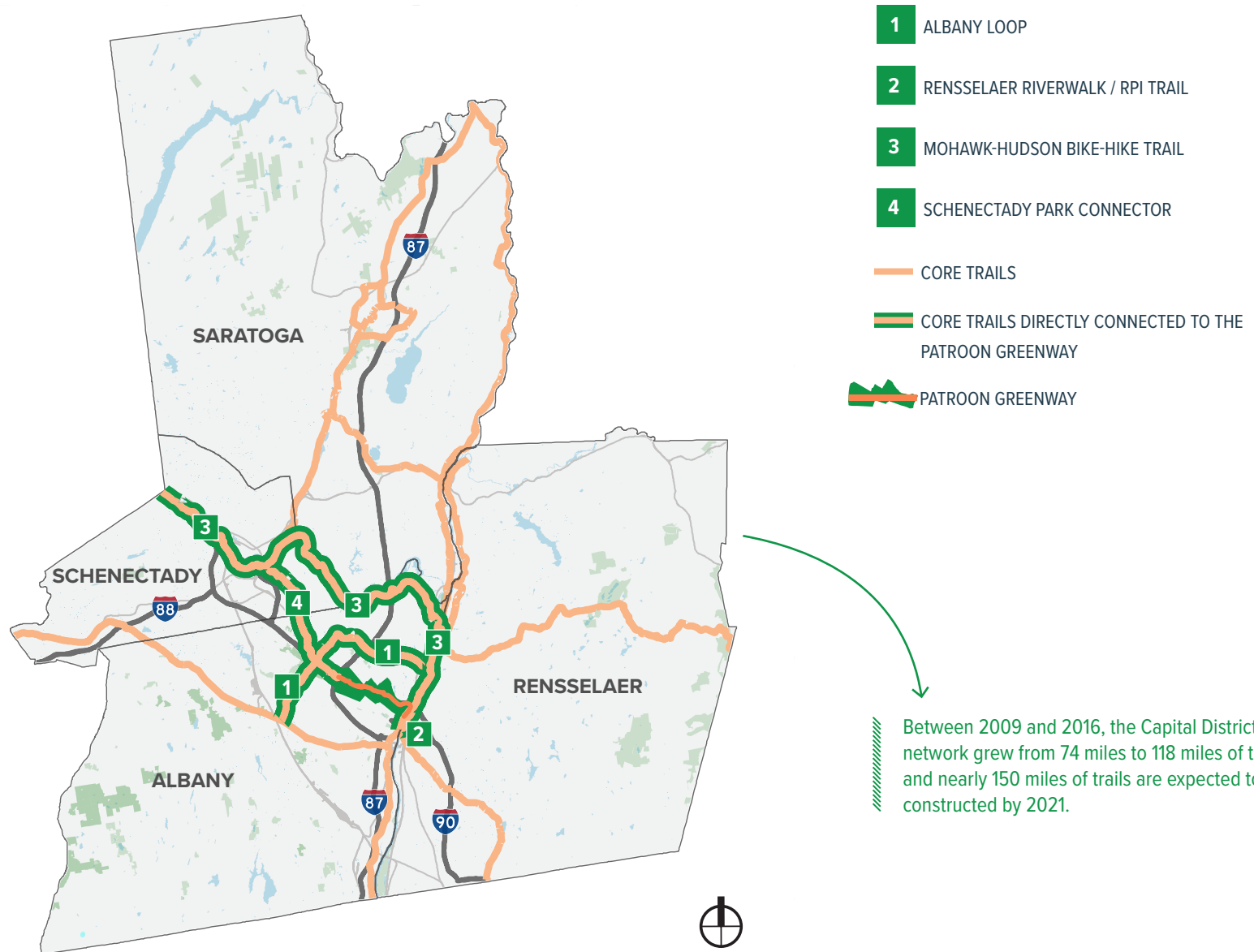
CAPITAL DISTRICT TRAILS PLAN (2019)

In 2019, the CDTC completed a comprehensive regional trails plan that documents existing and planned trails, identifies gaps in existing trail systems, and proposes a prioritized network of new trails to support a seamless regional transportation network connecting cities, towns, and villages in the Capital District. The plan also identifies a wide array of beneficial impacts trails and greenways have on

regional markets, socio-economics, property values, health, and the environment.

This plan identifies 18 core trails and 34 supporting trail network segments, most of which are currently completed, under construction, or have been planned for some time. Once complete, the core trails will provide a robust alternative transportation network connecting Albany, Troy, Rensselaer, Schenectady, Glens Falls, and many other communities. The Patroon Greenway is identified as one of the core trails. Following the I-90 corridor, the nine mile long proposed Patroon Greenway would connect the Albany Hudson River waterfront west to the Pine Bush. From the Pine Bush, the I-90 Patroon Greenway extension, a supporting trail segment, would continue northwest along the I-90 corridor to Rotterdam and the Mohawk River where it would connect with the Mohawk-Hudson Bike-Hike Trail near Dalys Island.

Two overarching priorities of this plan are to expand access to off-road trails that connect Capital Region cities and achieve environmental justice goals. The construction of the Patroon Greenway is identified as a high priority due to its regional connectivity potential as well as its ability to expand mobility options in low-income and minority communities.

SUMMARY OF RELEVANT LOCAL POLICIES + PLANNING DOCUMENTS: **CAPITAL DISTRICT CORE TRAILS**

SUMMARY OF RELEVANT LOCAL POLICIES & PLANNING DOCUMENTS

(CONT.)

The proposed Patroon Greenway intersects four other core trails:

- **The Albany Loop:** This 15 mile long on-road bicycle route is proposed to connect the Albany County Helderberg-Hudson Rail Trail in the southwest to the Mohawk-Hudson Bike-Hike Trail in the northeast, providing a complete circle around the greater Albany area. This trail would intersect the Patroon Greenway at Route 155, adjacent to the Pine Bush Preserve. To date, no segments of this loop trail have been constructed.
- **The Rensselaer Riverwalk / RPI Trail:** This proposed five mile long off-road trail connects the Albany Hudson Electric Trail (part of the Empire State Trail system) to the South Troy Riverfront Bikeway. This trail is proposed to connect to the Patroon Greenway across the Hudson River via the Livingston Avenue Bridge. Currently, 2.3 miles of this trail have been constructed.
- **Mohawk-Hudson Bike-Hike Trail:** This 40 mile long constructed trail follows the Hudson and Mohawk Rivers and is a major portion of the Empire State Trail. In Albany, the trail begins at the Dunn Memorial Bridge and follows the Hudson River north, passing through the Corning City Preserve, and continues through Watervliet to Cohoes where it heads west along the Mohawk River to Rotterdam.

- **Schenectady Park Connector:** This proposed 7 mile long trail, of which 1.5 miles is constructed, is a mix of on- and off-road facilities connecting the Pine Bush Preserve and downtown Schenectady. It would also connect to the western terminus of the Patroon Greenway, providing a direct link between downtown Albany and Schenectady.

The proposed Patroon Greenway also intersects several supporting trail network segments, including the:

- **I-90 Patroon Greenway Extension:** This proposed 21.5 mile long, off-road connector trail branches off the core Patroon Greenway trail in the Village of Colonie and continues along the I-90 corridor to Rotterdam and the Mohawk River, where it would connect with the Mohawk-Hudson Bike-Hike Trail.
- **Tivoli Crossing:** This proposed trail would connect to the Patroon Greenway in Tivoli Preserve and head north, crossing I-90 using an existing right-of-way owned by the Albany Water Board, to the proposed Crossing Connections and the Crossings of Colonie Park.
- **Albany-Colonie Connector:** This proposed 4.5 mile long off-road trail provides an important north-south connection between SUNY Albany and Central Avenue in Colonie. This trail is proposed to intersect the Patroon Greenway at Six Mile Waterworks Park.

City Plans

The City of Albany has adopted several policies and plans related to expanding transportation options, implementing complete streets, and improving multi-modal access. The key goals, objectives, and strategies, particularly as they relate to the Patroon Creek Greenway Feasibility Study, are described below and summarized in Table 1.

CITY OF ALBANY BICYCLE AND PEDESTRIAN MASTER PLAN (2021)

Building on the 2009 City of Albany Bicycle Master Plan and the 2017 Complete Streets Policy and Design Manual, the City of Albany recently completed a citywide bicycle and pedestrian master plan. This master plan recommends several projects, policies, and programs to ensure safe, comfortable, and convenient access to active transportation options for residents and visitors of all ages, abilities, and means. The Patroon Greenway and this study will directly advance several of the goals and objectives identified in the master plan, including:

- Improve walking and biking networks so they are viable transportation options that benefit most people, and in particular those living in high-sensitivity equity areas;
- Provide access to transit;
- Reduce congestion;
- Support inviting places to walk and bike for recreation;



- Educate community members about the pleasures and benefits of incorporating walking and biking into their daily lives;
- Prioritize walking and biking to create resiliency in Albany's transportation network; and,
- Delineate potential private and public funding sources for a strong bicycle and pedestrian network.

The Albany Bicycle and Pedestrian Master Plan places a strong emphasis on promoting equity and includes an equity analysis that identifies census tracts with high, medium, and low environmental justice sensitivity. The Arbor Hill neighborhood, which is located in the study area for this project, has one of the highest concentrations of highly sensitive census tracts in the city.

Several new bicycle and pedestrian facilities are recommended within the study area for this project. Recommended bicycle facilities include:

- Multi-use paths/trails on Broadway, Brevator Street, and a short section of Washington Avenue (from SUNY Albany to Fuller Road)
- Protected/buffered bike lanes on Central Avenue, Washington Avenue, Western Avenue, S. Manning Boulevard, Everett Road, Broadway, Loudonville Road, and on a short segment of Clinton Avenue (from Broadway to Ten Broeck Street)
- Bicycle boulevards on 2nd Street, 3rd Street, Ontario Street, N. Lake Avenue, Judson Street, Lexington Avenue/Thorton Street, Lark Street, N. Swan Street, Lark Drive, N. Manning Boulevard, Arbor Drive, and Colonie Street.

Several new sidewalks are also proposed throughout the study area for this project. Specifically, sidewalks are proposed on both sides of the road on N. Manning Boulevard between Livingston Avenue and Northern Boulevard and on one or both sides of the street in several locations around Commerce Avenue.

WASHINGTON AVENUE PATROON CREEK CORRIDOR STUDY (2019)

Conducted in partnership with the City of Albany and the CDTC, this study focuses on identifying complete streets improvements within a 1.5 mile study area along Washington Avenue between the I-90 Interchange 2 and Brevator Street to enhance the safety and comfort for all users, while also providing reasonable traffic operations for motor vehicles. The study also includes a special focus on the western segment of Washington Avenue, where changing land uses and redevelopment along the northern side of the corridor, as well as the continued growth of the State University of New York, University at Albany (SUNY Albany), have led to increased pedestrian crossing demand.

The plan identifies a priority improvement to be implemented immediately and several other longer-term recommendations. The priority improvement includes a new raised median and signalized pedestrian crossing at Block 75, across from SUNY Albany, replacement of the eastbound rightmost vehicle lane with striped hatching, and a curb extension at the proposed crossing on the south side of Washington Avenue to shorten the pedestrian crossing distance. A new transit stop is also proposed adjacent to the new crossing on the south side of Washington Avenue. Other proposed improvements include:

- Extend an existing multi-use path along SUNY Albany's frontage on Washington Avenue, from Collins Circle to 1365 Washington Avenue;
- Extend the existing sidewalk along the northern side of Washington Avenue;
- Narrow the western segment of Washington Avenue to create space for a protected bike lane or multi-use path; and,
- Explore the feasibility of reducing number of travel lanes along the eastern segment of Washington Avenue.

SUMMARY OF RELEVANT LOCAL POLICIES & PLANNING DOCUMENTS

(CONT.)

UNIFIED SUSTAINABLE DEVELOPMENT ORDINANCE (USDO) (2017)

The City adopted the Unified Sustainable Development Ordinance (USDO) in 2017 to create a consistent, integrated, and efficient system of regulating land use and reviewing and facilitating new development. The USDO modernized the City's zoning code and implements the policies identified in the Albany 2030 Comprehensive Plan.

The USDO utilizes a form-based approach to not only regulate land uses, but also control the physical form of development. This approach ensures future development engages the streetscape and creates a pedestrian-friendly, walkable environment in key areas. The USDO also establishes streetscape standards, and where applicable, requires development to comply with the provisions of the Albany Complete Streets Policy and Design Manual. The Patroon Greenway study area spans several different zoning districts and also overlaps with five overlay districts. These overlay districts and their purposes are described below:

- **Albany-Colonie Intermunicipal Overlay District (AC):** This overlay district applies to a single parcel bisected by the municipal borders of the City of Albany and Town of Colonie located west of Everett Road Extension and south of Exchange Street. Consistent with the comprehensive plans of each municipality, the purpose of this overlay district is to promote the redevelopment of this parcel using smart growth principles and encourage a mix of land uses (commercial and residential).

- **Combined Sewer Overflow Overlay District (CS):** This overlay district establishes regulations to mitigate the impacts of development on the City's combined sanitary/storm sewer system and ensure the City is in compliance with applicable consent orders. Within the study area, this overlay district includes areas east of Tivoli Preserve and south of Clinton and Washington Avenues.
- **Floodplain Overlay District (FP):** The purpose of this overlay district is to ensure all development complies with all applicable Federal Emergency Management Agency (FEMA) regulations. Within the study area, this overlay district is located within the special flood hazard and five hundred year flood zone along the Hudson River and Patroon Creek.
- **Historic Resources Overlay District (HR):** The purpose of this overlay district is to preserve places, sites, and structures with significant historic, cultural, or architectural value in the city. Within the study area, this overlay district is located along Clinton Avenue in the Clinton Avenue / N. Pearl Street / Clinton Square Historic District.
- **Pine Bush Overlay District (PB):** The purpose of this overlay district is to promote and preserve the unique natural features of the Pine Bush Preserve. Within the study area, this overlay district includes the area west of Fuller Road.

CITY OF ALBANY COMPLETE STREETS POLICY AND DESIGN MANUAL (2016)

Published in 2016 in support of the City's Complete Streets Ordinance (2013) and the Albany 2030 Comprehensive Plan, this manual establishes design guidelines for all future roadway construction, reconstruction, or resurfacing within the City to encourage the incorporation of complete streets elements. Four guiding principles, which should inform all transportation-related improvements, are identified in the manual and include: accessibility, connectivity, safety, and placemaking.

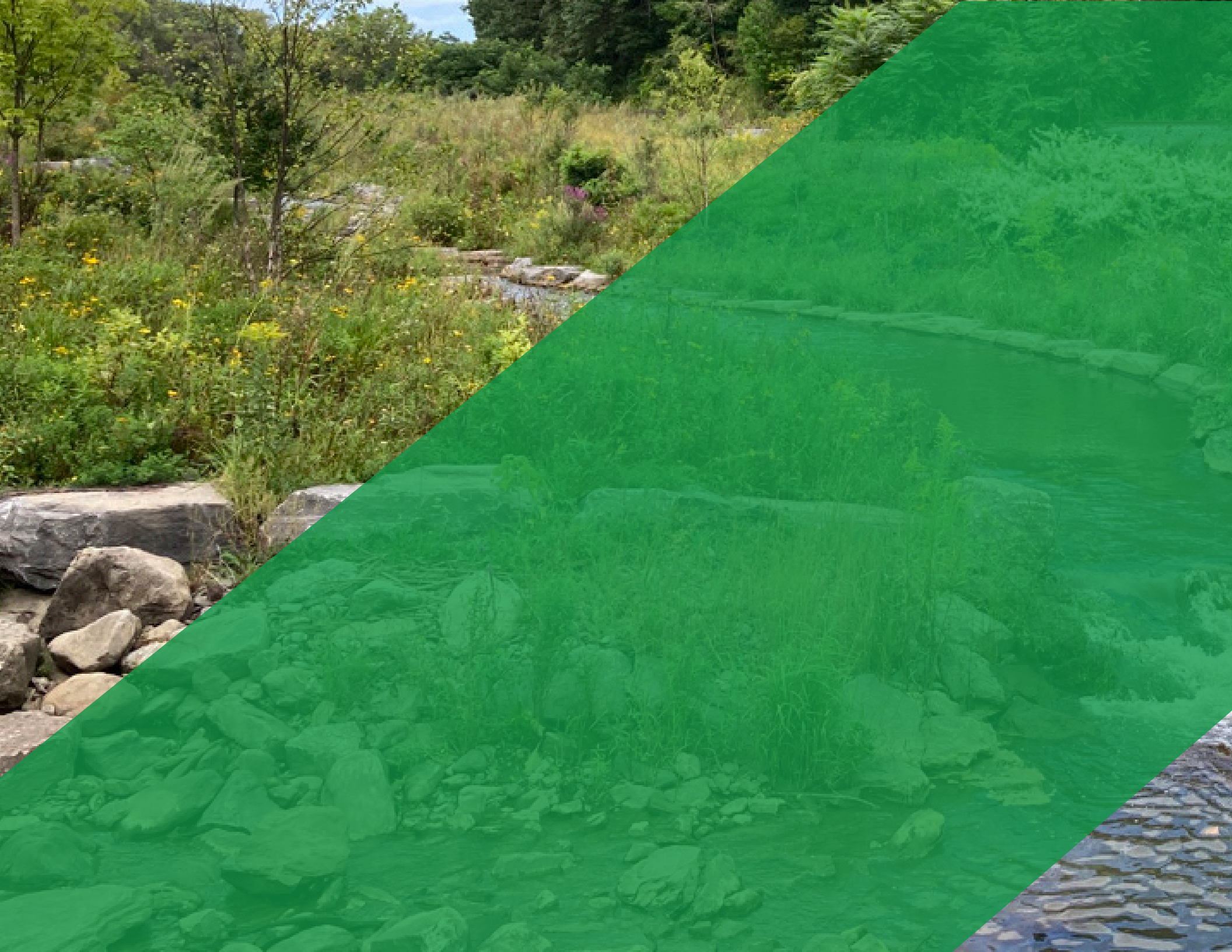
In an effort to improve the integration of land use and transportation systems throughout the city, six different land use/street typologies are identified. Each typology is paired with specific design recommendations for streets, sidewalks, and streetscapes. Instances of all six typologies occur within the study area for this project, and all on-road facility recommendations contained in this study will be informed by and comply with this manual.

ALBANY 2030: THE CITY OF ALBANY COMPREHENSIVE PLAN (2012)

The City of Albany completed its first comprehensive plan in 2012. This plan defines the City's vision for achieving a more sustainable and prosperous city by 2030. This vision includes six key components, four of which this study and the future Patroon Greenway directly advance:

- **Safe Neighborhoods:** The Patroon Greenway and trail connections would expand recreational facilities and create more walkable streets.
- **Vibrant Urban Center:** The Patroon Greenway would improve connectivity between Albany's neighborhoods, educational institutions, employment centers, and the Hudson River waterfront.
- **Multi-Modal Transportation Hub:** The Patroon Greenway and its associated trail connections would expand multi-modal and active transportation options for residents and visitors.
- **Green City:** The Patroon Greenway would improve public health and increase access to the city's unique natural areas.







CHAPTER 3

EXISTING CONDITIONS

This chapter provides an overview of the study area's socio-demographic characteristics, land use and land ownership patterns, local destinations, and transportation and natural systems. Understanding the current conditions within the study area is critical to identifying challenges and opportunities related to the proposed Patroon Creek Greenway. The findings from this chapter, combined with public feedback, lay the foundation for the trail alignment alternatives and trail connections explored in the next phase of this study.

Specifically, this chapter characterizes the study area's:

- Socio-demographic characteristics
- Land use patterns
- Land ownership patterns
- Zoning districts
- Parks and trails
- Community resources
- Vehicular transportation network
- Rail transportation network
- Pedestrian and bicycle infrastructure
- Public transit network
- Utility infrastructure
- Natural resources

SOCIO-DEMOGRAPHIC PROFILE

This section provides a snapshot of the socio-demographic characteristics of the study area as well as adjacent geographies. Understanding who lives in the study area and the resources to which they have access is an important first step in ensuring the proposed Patroon Creek Greenway prioritizes equitable access.

Federal Environmental Justice Areas

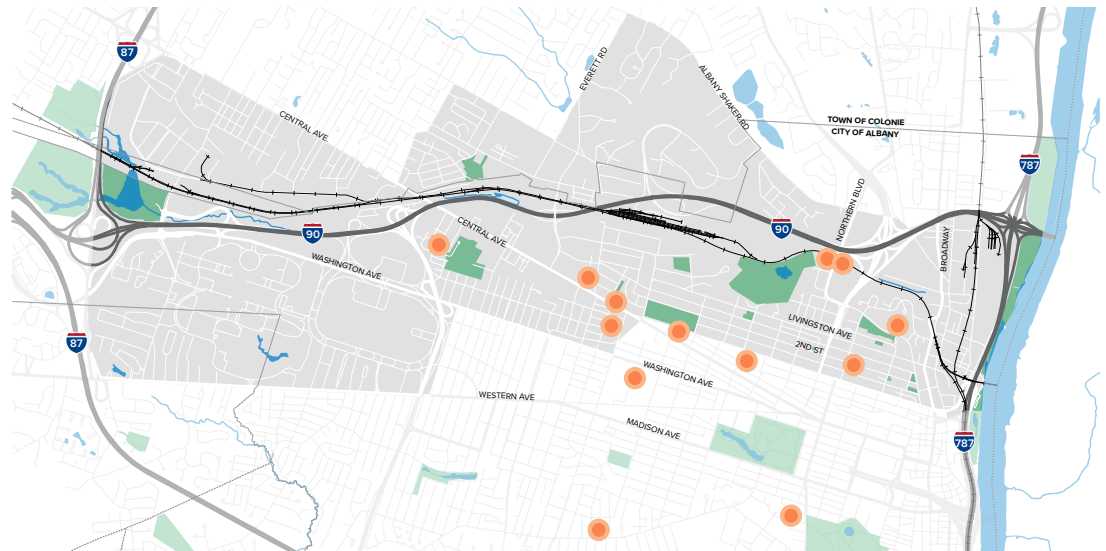
The Capital District Transportation Committee (CDTC) conducted an analysis to evaluate whether this project will impact Environmental Justice populations. The goal of the analysis is to ensure that both the positive and negative impacts of transportation planning are fairly distributed and that defined Environmental Justice populations do not bear disproportionately high and adverse effects (see Appendix A for the full analysis).

CDTC staff created demographic parameters for this analysis using data from the 2013-2017 American Community Survey (ACS). Threshold values were assigned at the census tract level to identify geographic areas with significant populations of minority or low-income persons. Tracts with higher than the regional average percentage of low-income or minority residents are identified as Environmental Justice populations. Minority residents are defined as those who identify themselves as anything but white only, not Hispanic or Latino. Low-income residents are defined as those whose household income falls below the poverty line. **A majority of the study area is comprised of Environmental Justice populations.**

ALBANY SCHOOLS SERVE A DIVERSE COMMUNITY

The City of Albany's public and charter schools serve diverse student populations, the majority of which meet the criteria used to define Federal Environmental Justice Areas. The map below highlights the schools (in orange) located in or near the Patroon Creek Greenway study area, and the list below summarizes the percentage of economically disadvantaged and minority students at each of these schools:

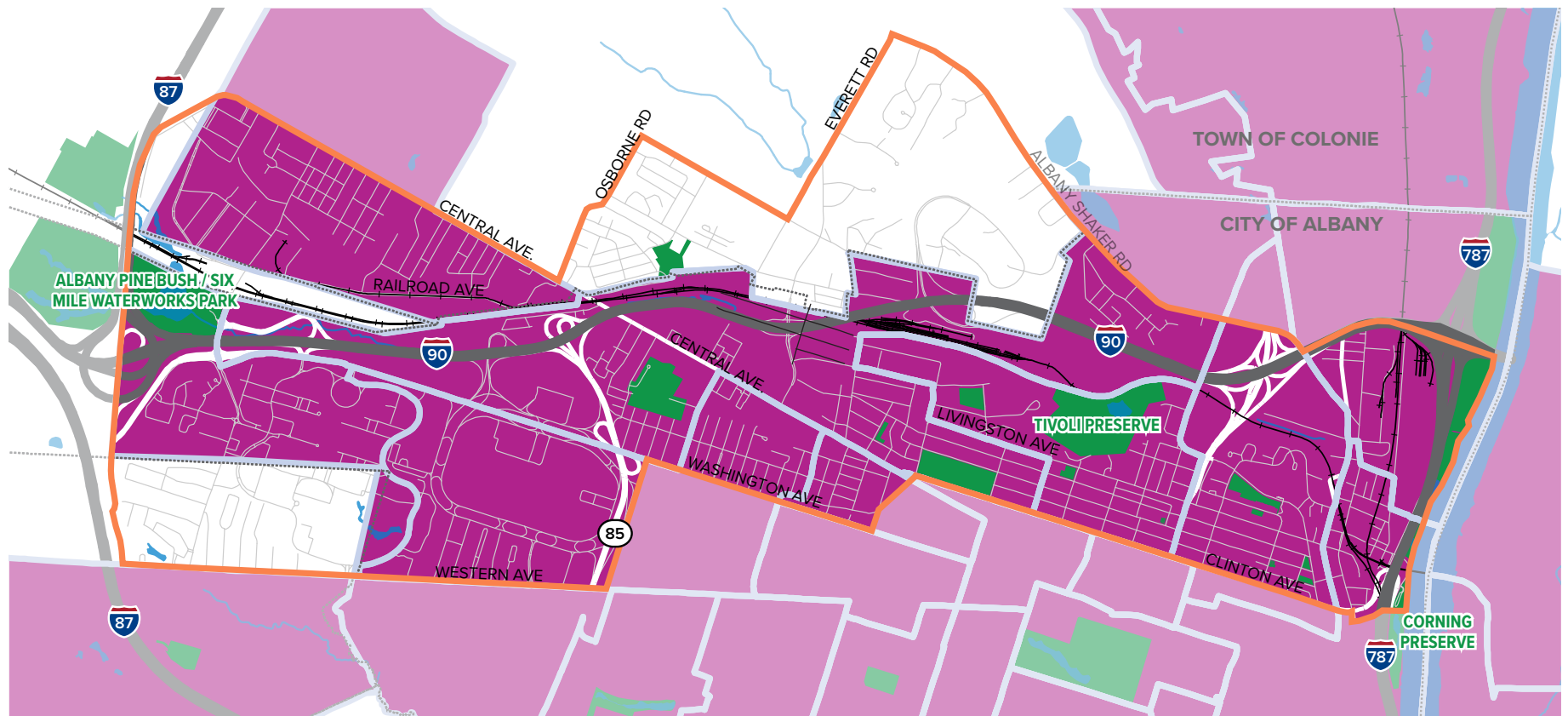
- **KIPP Tech Valley Charter School:** 99% minority, 73% economically disadvantaged
- **Henry Johnson Charter School:** 97% minority, 85% economically disadvantaged
- **Arbor Hill Elementary School:** 96% minority, 89% economically disadvantaged
- **Philip J. Schuyler Achievement Academy:** 91% minority, 91% economically disadvantaged
- **Albany International Center (formerly Edmund J. O'Neal Middle School of Excellence):** 90% minority, 91% economically disadvantaged
- **Albany High School:** 78% minority, 66% economically disadvantaged
- **Montessori Magnet School:** 50% minority, 34% economically disadvantaged



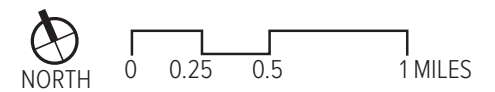
SOCIO-DEMOGRAPHIC PROFILE: FEDERAL ENVIRONMENTAL JUSTICE AREAS

- Federal Environmental Justice Areas in the study area
- Federal environmental justice areas outside study area

- parks
- study area
- municipal boundaries



Data Source: Capital District Transportation Committee (CDTC)



SOCIO-DEMOGRAPHIC PROFILE

New York State Potential Environmental Justice Areas

Potential Environmental Justice Areas (PEJAs), as defined by the New York State Department of Conservation (NYS DEC), are Census Block Groups characterized by low household incomes and/or high concentrations of minority communities. These areas often coincide with neighborhoods that have been disproportionately impacted by environmental hazards and historic disinvestment.

Approximately 30% of the study area meets NYS DEC's definition of a PEJA. PEJAs are concentrated in the eastern and south-central portions of the study area. In the City of Albany, PEJAs are generally bound to the west by Everett Road, to the north by the rail line, and to the south by Washington and Clinton Avenue. In the Town of Colonie, one Census Block Group is identified as a PEJA; it is bound to the west by Osborne Road, to the north by Exchange Street, and to the south by the First Prize site and the railroad.

The study area's PEJAs overlap with the following Albany neighborhoods:

- Warehouse District
- North Albany
- Sheridan Hollow
- Ten Broeck Triangle
- Arbor Hill
- West Hill
- West End

Several of the PEJAs in the study area far exceed the income and minority population thresholds established by the NYS DEC (see sidebar for additional information). In the following areas, over 40% of the population has household incomes below the poverty level and over 75% of the population are members of a minority group:

- Between Clinton Avenue and 2nd Street, from Broadway west to N. Lake Avenue;
- Between Clinton Avenue and Livingston Avenue, from Quail Street to N. Manning Boulevard; and,
- Between Livingston Avenue and the intersection of Van Rensselaer and Northern Boulevards, from Broadway and Loudonville Road west to Northern Boulevard.

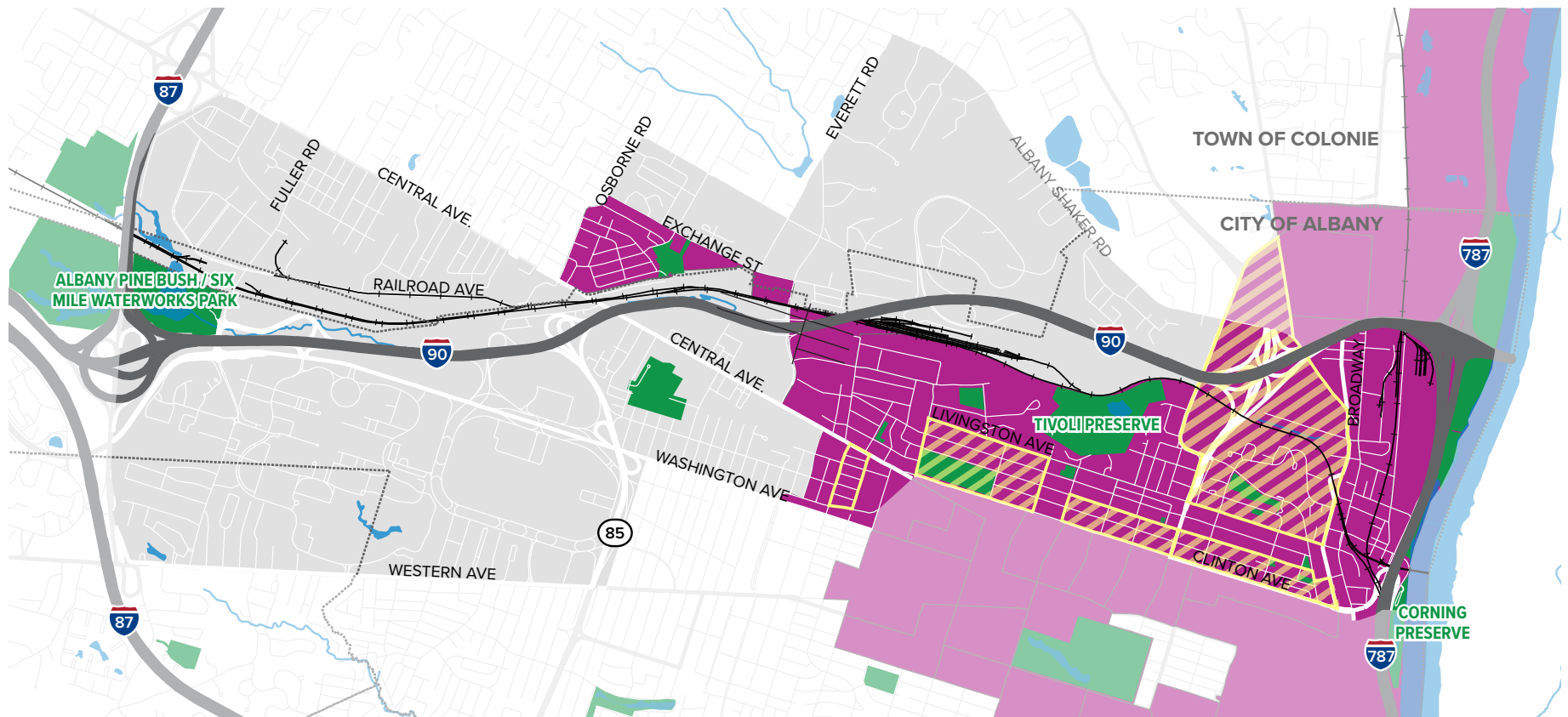
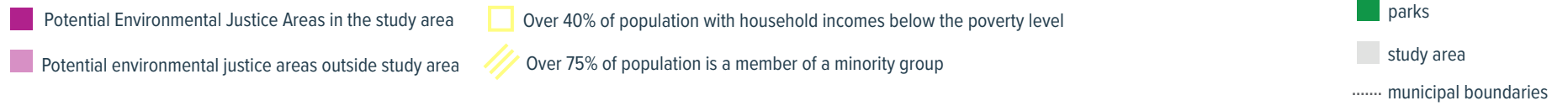
The entire study area is socially vulnerable; however, the PEJAs provide a helpful indicator for identifying the most vulnerable populations. Compared to the federal environmental justice areas described and shown on the previous pages, the PEJAs cover a smaller portion of the study area and identify areas of concentrated poverty and/or minority populations. Therefore, for the purposes of this project, PEJAs are used to identify under-served communities within the study area.

NEW YORK STATE POTENTIAL ENVIRONMENTAL JUSTICE AREAS

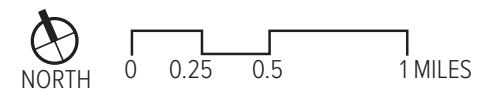
The New York State Department of Environmental Conservation defines an Potential Environmental Justice Area as a U.S. Census Block Group with a population that meets or exceeds **at least one** of the following statistical thresholds:

1. At least 52.42% of the population in an urban area reported themselves to be members of minority groups; or
2. At least 26.28% of the population in a rural area reported themselves to be members of minority groups; or
3. At least 22.82% of the population in an urban or rural area had household incomes below the federal poverty level.

SOCIO-DEMOGRAPHIC PROFILE: NEW YORK STATE POTENTIAL ENVIRONMENTAL JUSTICE AREAS (PEJAS)



Data Source: New York State Department of Environmental Conservation



SOCIO-DEMOGRAPHIC PROFILE (CONT.)

Socio-Demographic Study Areas

To understand the socio-demographic conditions within the study area relative to adjacent geographies, demographic indicators are summarized for three different areas:

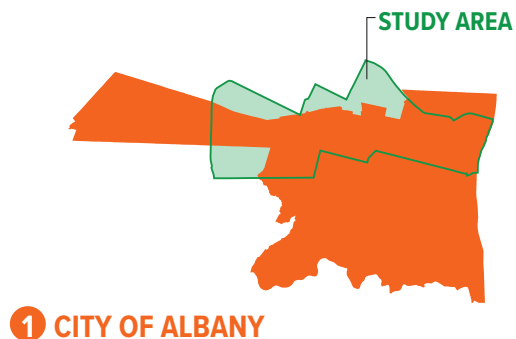
1. The City of Albany
2. The Patroon Greenway study area
3. PEJAs within the Patroon Greenway study area

For each geography, a variety of socio-demographic indicators are summarized, such as population characteristics, household size and income, and access to and use of different modes of transportation.

THE CITY OF ALBANY'S EQUITY AGENDA

In October 2019, the City of Albany's Common Council adopted the Equity Agenda. This local law focuses on, "...achieving equity across all communities and ending the injustices caused by institutional and systemic racism and discrimination." A key component of this law is equitable budgeting, which seeks to invest government resources in the neighborhoods with the greatest need.

Specifically, City investments in public infrastructure, such as streets, sidewalks, parks, lighting, trash and recycling receptacles, and other capital projects are prioritized based on a suite of indicators that are designed to address historic disinvestment and inequities. For example, street and sidewalk reconstructions/enhancements must prioritize neighborhoods where a disproportionate percentage of streets are in need of repairs or replacement.



TOTAL POPULATION

The study area's population is approximately 30,000 and is projected to grow by 0.2% over the next five years. The City of Albany is expected to grow more slowly, with a projected growth rate of 0.1%. Within the study area's PEJAs, the population is expected to slightly decline over the next five years.

CITY OF ALBANY

97,366 2021 population
98,527 2026 population
0.1% growth rate

STUDY AREA

30,003 2021 population
30,545 2026 population
0.2% growth rate

PEJAS

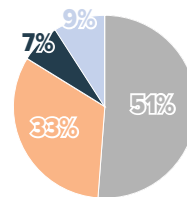
15,376 2021 population
15,339 2026 population
-0.05% growth rate

RACE

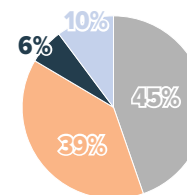
The study area's population is slightly more diverse than the City of Albany as a whole. The study area's population is 45% white, 39% Black, 10% Asian, and 6% of the population is another race(s). Within the study area's PEJAs, the population is predominantly Black (64%).

■ White ■ Black ■ Asian ■ Other

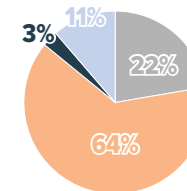
CITY OF ALBANY



STUDY AREA



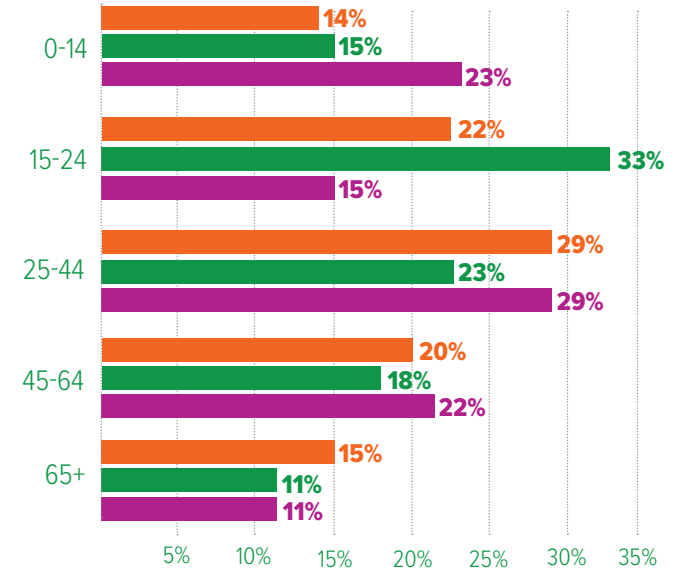
PEJAS



AGE DISTRIBUTION

The study area's population is young relative to the populations of the city and the study area's PEJAs, with one-third of the population falling into the 15 to 24 years age class. This trend is likely driven by the presence of SUNY Albany in the western portion of the study area and adjacent housing for students.

■ City of Albany median age = 32.6
 ■ Study area median age = 26.4
 ■ PEJAs median age = 31.9



Data Source: U.S. Census Bureau, Census 2021 Summary File and ESRI forecasts for 2026.

SOCIO-DEMOGRAPHIC PROFILE (CONT.)

HOUSEHOLD SIZE

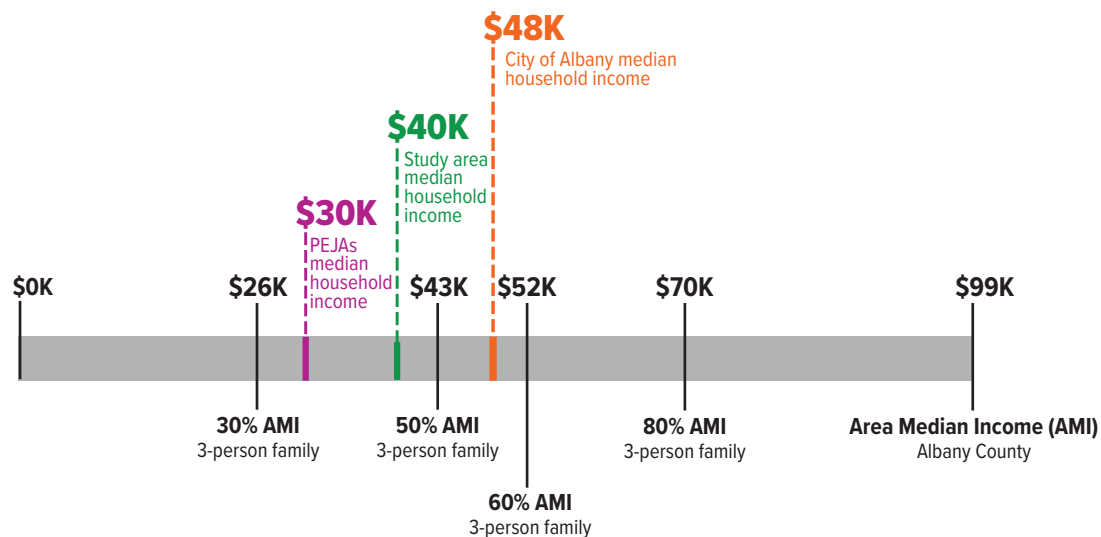
Average household size is relatively similar across all three geographies. The average household size in the study area is 2.34, which is slightly lower than the average household size in the study area's PEJAs (2.44) and slightly higher than the average household size in the City of Albany (2.12).

HOUSEHOLD INCOME

Median household income is highest in the City of Albany and lowest in the study area's PEJAs. The median household income in the PEJAs is \$30,394, while the median household income in the study area is \$40,627 and \$48,165 in the City of Albany. In the PEJAs, 32% of households are below the federal poverty level, which is quite a bit higher than the study area (23%) and the City of Albany (20%).

VEHICULAR ACCESS

Access to a car impacts an individual's mobility, employment, and the ability to acquire necessary goods and services. Within the study area, approximately 30% of households do not have access to a car. This rate is much higher in the study area's PEJAs, where 40% of households do not have access to a car. In the City of Albany, roughly one-quarter of households do not have access to a car.



26% of households in the City of Albany do not have access to a vehicle.



30% of households in the study area do not have access to a vehicle.



40% of households in the study area's PEJAs do not have access to a vehicle.

Data Source: U.S. Census Bureau, Census 2021 Summary File and ESRI forecasts for 2026.

TRANSPORTATION TO WORK

A majority of people drive alone to work in the study area (55%) and in the City of Albany (60%). In the study area's PEJAs, over one-quarter of the working population takes public transit to work, 20% carpool, and 48% drive alone. Of the three geographies studied, the lowest rates of active transportation for commuting (e.g., walking, biking) occur in the PEJAs.

	CITY OF ALBANY	STUDY AREA	PEJAS
 > drive alone	60%	55%	48%
 > public transit	14%	18%	27%
 > carpool	10%	15%	20%
 > walk to work	11%	8%	3%
 > bike to work	1%	0.5%	0.5%

Data Source: U.S. Census Bureau, Census 2021 Summary File

SOCIO-DEMOGRAPHIC PROFILE: KEY FINDINGS

- /// A large portion of the study area (30%) is identified as a Potential Environmental Justice Area by NYS DEC. These areas are characterized by high rates of poverty and a high concentration of minority communities.
- /// Households within the study area's Potential Environmental Justice Areas have limited access to motor vehicles (40% of households do not have access to a car), and instead, tend to rely on public transit and carpooling to commute to work. The future Patroon Creek Greenway could introduce an important new mode of transportation, especially if the Greenway connects to important community destinations, such as shopping and employment centers.
- /// The study area has a high proportion of young residents. Approximately one-third of the study area's population falls into the 15 - 24 years old age group, which is likely driven by the presence of SUNY Albany. This major research university has an undergraduate and graduate population of almost 20,000.
- /// Across all three geographies examined, driving alone is the most common form of transportation to work. Very few individuals bike to work and only about 10% of individuals walk to work in the study area and the City of Albany. Establishing a major east-west, off-road connection for cyclists and pedestrians is a major first step in reducing the City's reliance on motor vehicles, reducing emissions, improving air quality, and supporting healthy lifestyles.

LAND DEVELOPMENT PATTERNS

This section describes land use and ownership patterns in the study area, as well as defines the zoning districts that regulate the use and form of future development and redevelopment.

Land Use

The study area is comprised of a diverse mix of land uses, ranging from residential to commercial to public service uses, that are relatively evenly distributed across the study area. The land use statistics presented in this section and the map on the following page are derived from the New York State property classification codes assigned to each parcel by local tax assessors.

Commercial uses comprise a majority of the study area (33% of the total area) and are generally concentrated along major transportation corridors, including Central Avenue, Western Avenue, Fuller Road, the rail lines, and the Hudson River. Along the Hudson River, commercial uses tend to be associated with downtown Albany businesses and the Warehouse District. Along Central and Western Avenues, many of the commercial uses consist of shopping plazas, grocery stores, and car-oriented destinations. Several smaller commercial uses are distributed throughout urban neighborhoods between Clinton Avenue and Livingston Avenue in the eastern portion of the study area. In the Town of Colonie, most commercial uses are located along Everett Road and in Corporate Woods.

Community services comprise approximately 22% of the total land area in the study area. SUNY Albany and the Harriman State Campus, both located between

Western and Washington Avenues, dominate this land use. Several other smaller community services, such as schools, libraries, and government facilities, are distributed throughout the study area.

Residential uses comprise approximately 20% of the total land area in the study area. These uses tend to be concentrated on the southern and northern fringes of the study area, away from Interstate 90 and the rail lines. In the western portion of the study area, residential uses generally occur in homogeneous clusters, whereas in the eastern portion of the study area, residential uses are often interspersed with commercial, vacant, and community service uses.

Approximately 16% of the total land area in the study area is classified as vacant. These uses tend to occur along the interstate and rail corridors, as well as interspersed throughout dense, urban neighborhoods in the eastern portion of the study area. Notably, Six Mile Waterworks Park and Tivoli Preserve are classified as vacant land uses, despite their use as public parks.

The following land uses comprise 5% or less of the study area's total land area. Public service uses comprise 5% of the study area and are associated with electric, rail, and water infrastructure. Public services tend to parallel Interstate 90 and the Hudson River waterfront. Recreation, parks, and entertainment uses comprise approximately 3% of the study area and industrial uses comprise approximately 1% of the study area. Parks are generally well distributed throughout the study area, and industrial uses are concentrated along the rail corridor and Interstate 90.



▲ Industrial Uses along Industrial Park Road.



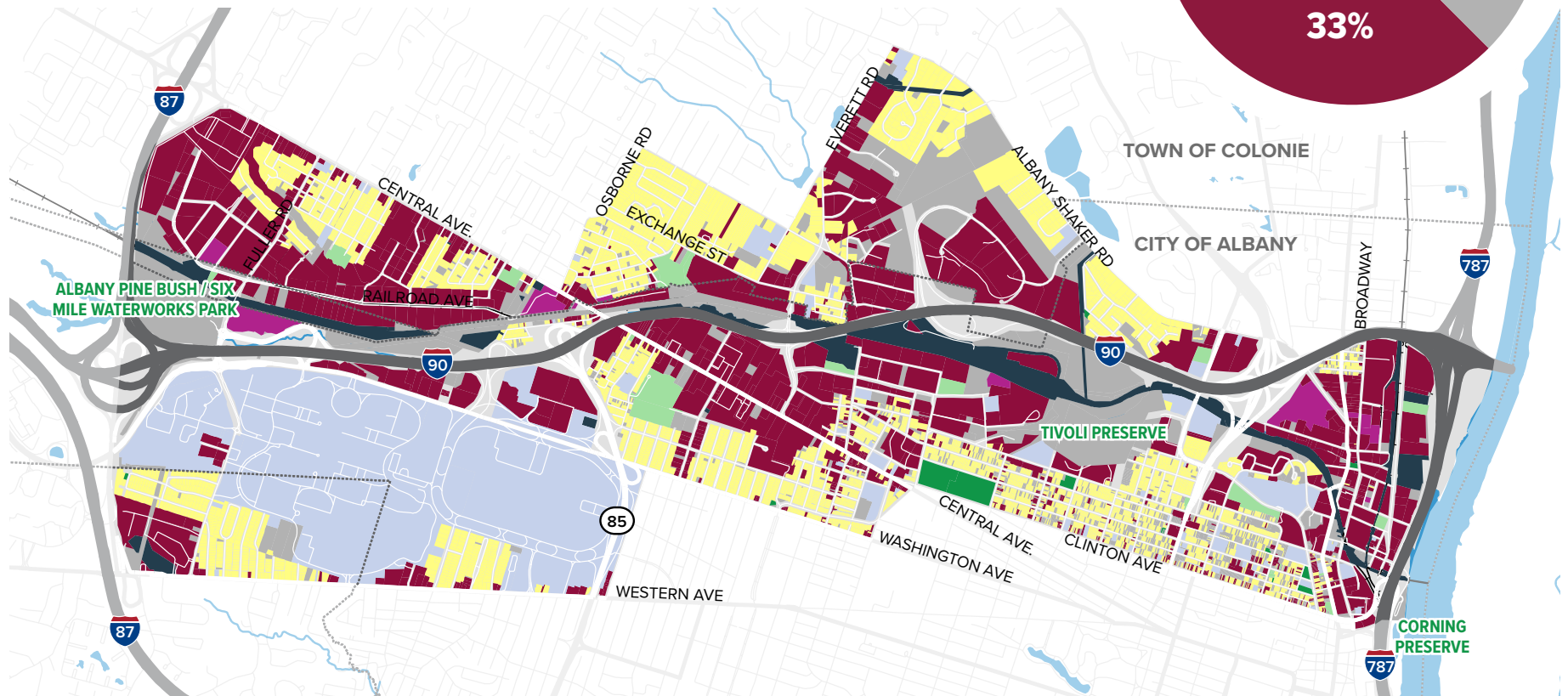
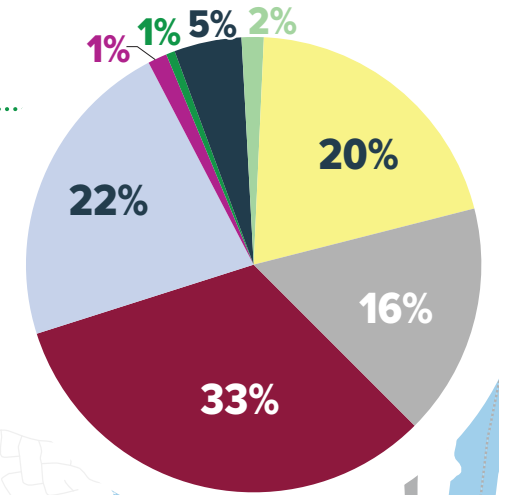
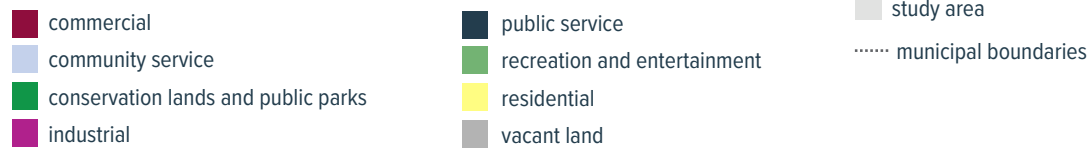
▲ Tivoli Lake Preserve.



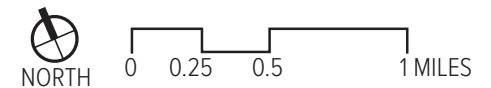
▲ SUNY Albany Uptown Campus.

Image credit: American East Academic Consortium

LAND DEVELOPMENT PATTERNS: LAND USE



Data Source: Albany County



LAND DEVELOPMENT PATTERNS (CONT.)

Land Ownership

A majority of the land within the study area is privately owned (70%), largely by unique individuals or businesses. Approximately 30% of land in the study area is publicly-owned.

For the purposes of this Study, privately-owned land in the study area is classified into four groups:

- Land owned by individuals or businesses covers 63% of the study area. These privately-owned parcels are relatively evenly distributed throughout the study area.
- Land owned by railroad companies, including Consolidated Rail Group and CSX, covers 4% of the study area. Rail property generally parallels Interstate 90.
- Land owned by electric utilities, including National Grid and Niagara Mohawk, covers 2% of the study area. Similar to railroad-owned properties, property owned by electric utilities is concentrated along the Interstate 90 corridor, as well as in the northern portion of the study area between Everett Road and Albany Shaker Road.
- Land owned by community-based groups and non-profits, such as the Albany County Land Bank, Capital Roots, and the Arbor Hill Development Corporation, cover 1% of the study area. These properties are concentrated close to downtown Albany, east of Tivoli Preserve.

Publicly-owned land within the study area includes property owned by the federal government, New York State, Albany County, and municipalities.

- Federally-owned land comprises less than 1% of land in the study area. These properties include federal buildings in downtown Albany as well as a large vacant parcel on Central Avenue, near Osborne Road.
- Approximately 20% of the land in the study area is owned by New York State. State-owned land is concentrated in the western portion of the study area and includes SUNY Albany and the Harriman State Campus. The State (New York State Teachers' Retirement System) also owns a relatively large parcel adjacent to Corporate Woods.
- Less than 1% of the land in the study area is owned by Albany County.
- Approximately 8% of the land in the study area is owned by municipal governments and entities, including the City of Albany, the Town of Guilderland, and the Town of Colonie. Municipally-owned lands are distributed throughout the study area and are often associated with parks, public services (e.g., water supply, education, libraries), and government buildings.



▲ **National Grid** transmission lines and substation at the west end of Yardboro Avenue.



▲ **Ida Yarbrough Homes** owned by the Albany Housing Authority along Manning Boulevard.



▲ **Corporate Woods** is a privately-owned office park, serving as a major employer and providing a variety of professional services, including healthcare.
Image credit: Picotte Companies

LAND DEVELOPMENT PATTERNS: LAND OWNERSHIP

PRIVATE LAND OWNERSHIP

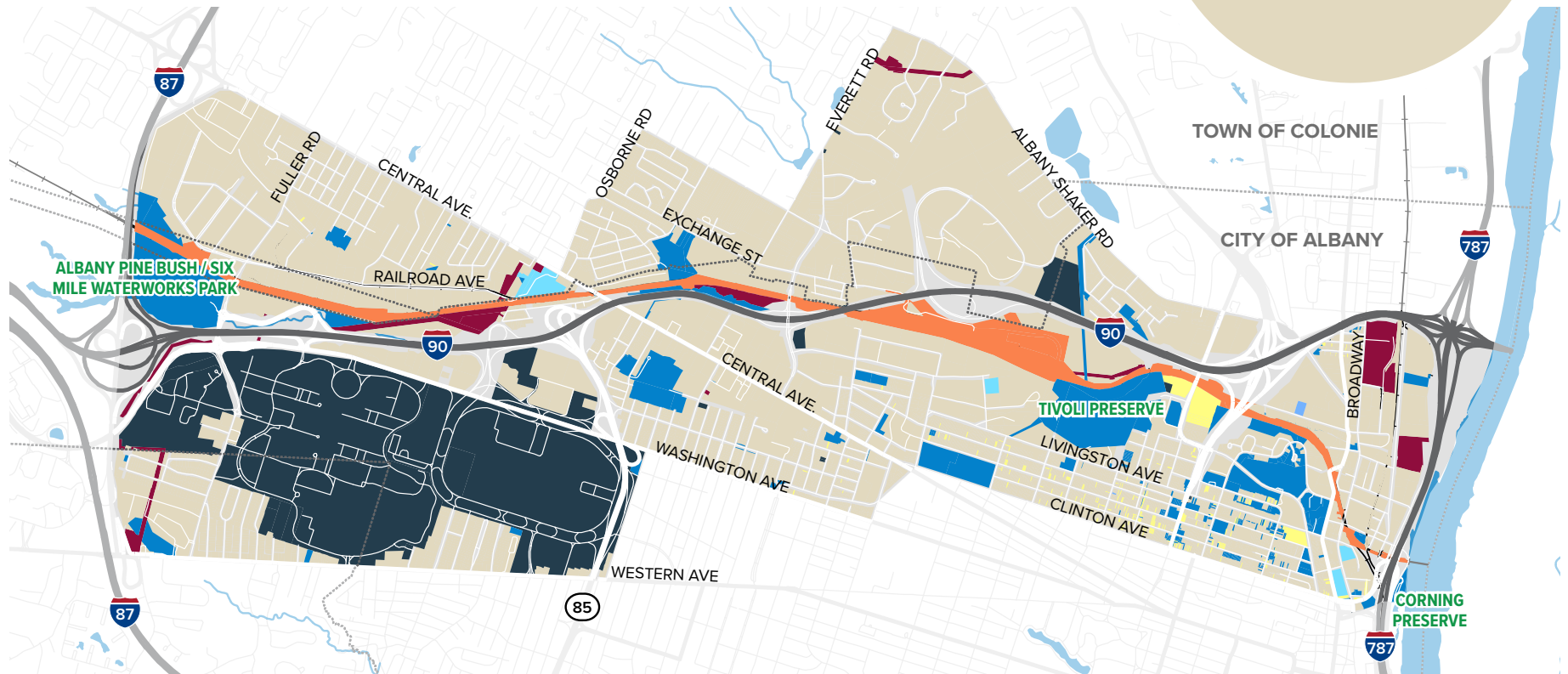
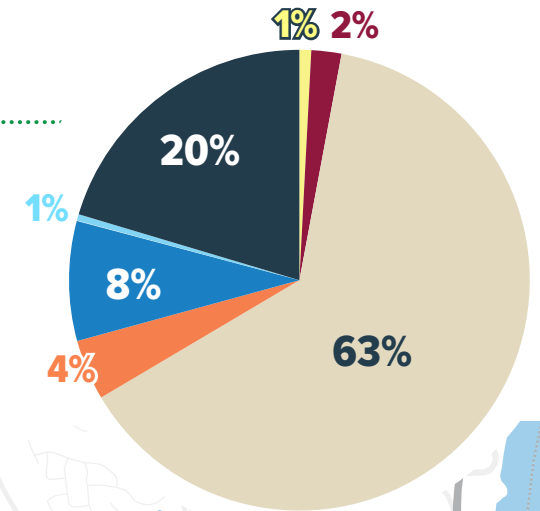
- Electric utility
- Railroad
- Community-based organizations
- Individuals/businesses

PUBLIC LAND OWNERSHIP

- Federal
- New York State
- Albany County
- Municipalities

■ study area

⋯ municipal boundaries



Data Source: Albany County



LAND DEVELOPMENT PATTERNS (CONT.)

City of Albany Zoning Districts

City of Albany's Unified Sustainable Development Ordinance is a modernized zoning ordinance that integrates the regulation of land use and built form with sustainable best practices to promote high quality development that protects the environment and advances community interests. The study area contains all of the zoning districts defined in the USDO, with the exception of two districts (Mixed-Use Form-Based South End and Mixed-Use Form-Based Midtown). The zoning districts fall into three broad categories: mixed-use, residential, and special purpose.

With the exception of areas in the historic resources overlay district or the Land Conservation zoning district, all new development must comply with streetscape design requirements, which are summarized in the table below.

Streetscape and Sidewalk Design Requirements (§ 375-407 of the USDO)

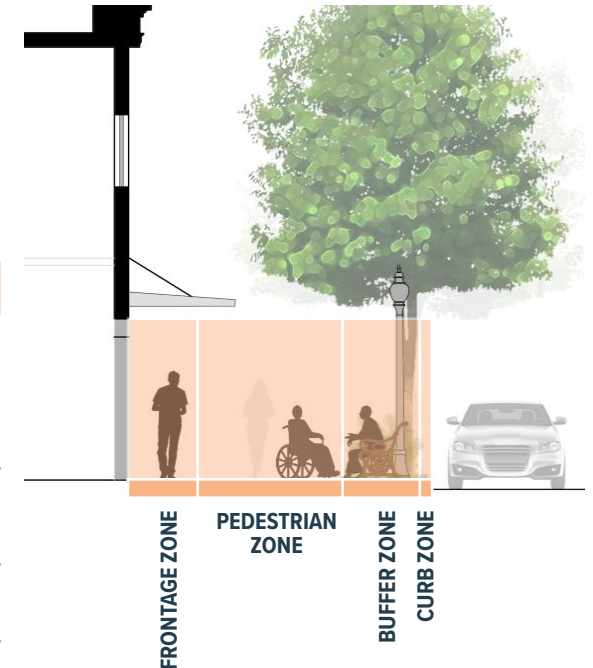
Street Types	Frontage Zone	Pedestrian Zone	Buffer Zone	Curb Zone
Downtown, Neighborhood Mixed-Use, Community Mixed-Use, Community Commercial,	2 feet wide	4 - 12 feet wide	5 - 6 feet wide	4 - 9 inches wide
Neighborhood Residential, Boulevard	N/A	4 - 7 feet wide	2 - 6 feet wide	4 - 9 inches wide
Industrial	N/A	4 - 7 feet wide	5 - 6 feet wide	4 - 9 inches wide

MIXED-USE DISTRICTS

Mixed-Use Zoning Districts are distributed evenly throughout the study area and encourage a mix of residential and retail uses that support walkable, vibrant neighborhoods. The predominant Mixed-Use Zoning Districts are summarized below:

- The Campus/Institutional District, which is intended to provide space for large institutional uses, dominates the southwestern portion of the study area and includes SUNY Albany, the Harriman State campus, and areas adjacent to these campuses.
- The Form-Based Warehouse District encourages building reuse and the transformation of this area into a walkable, urban center, while ensuring the continued viability of existing industrial uses. This district dominates the eastern portion of the study area, between the Hudson River, Broadway, and Henry Johnson Boulevard.

- The Community Highway District includes areas along Central Avenue, between Interstate 90 and Everett Road. This district accommodates a wide variety of retail, residential, and commercial uses that serve a large area and can be conveniently accessed by motor vehicle.
- The Form-Based Central Avenue District includes areas along the eastern end of Central Avenue in the study area and promotes the redevelopment of this area into a vibrant mixed-use neighborhood that leverages bus rapid transit service.



LAND DEVELOPMENT PATTERNS: ZONING DISTRICTS (CITY OF ALBANY)

MIXED-USE

- Campus / Institutions
- Community Highway
- Community Urban
- Downtown
- Form-Based Central Ave.
- Form-Based Warehouse District
- Neighborhood Center
- Neighborhood Edge

RESIDENTIAL

- Multi-Family
- Single-Family, Low Density
- Single-Family, Med. Density

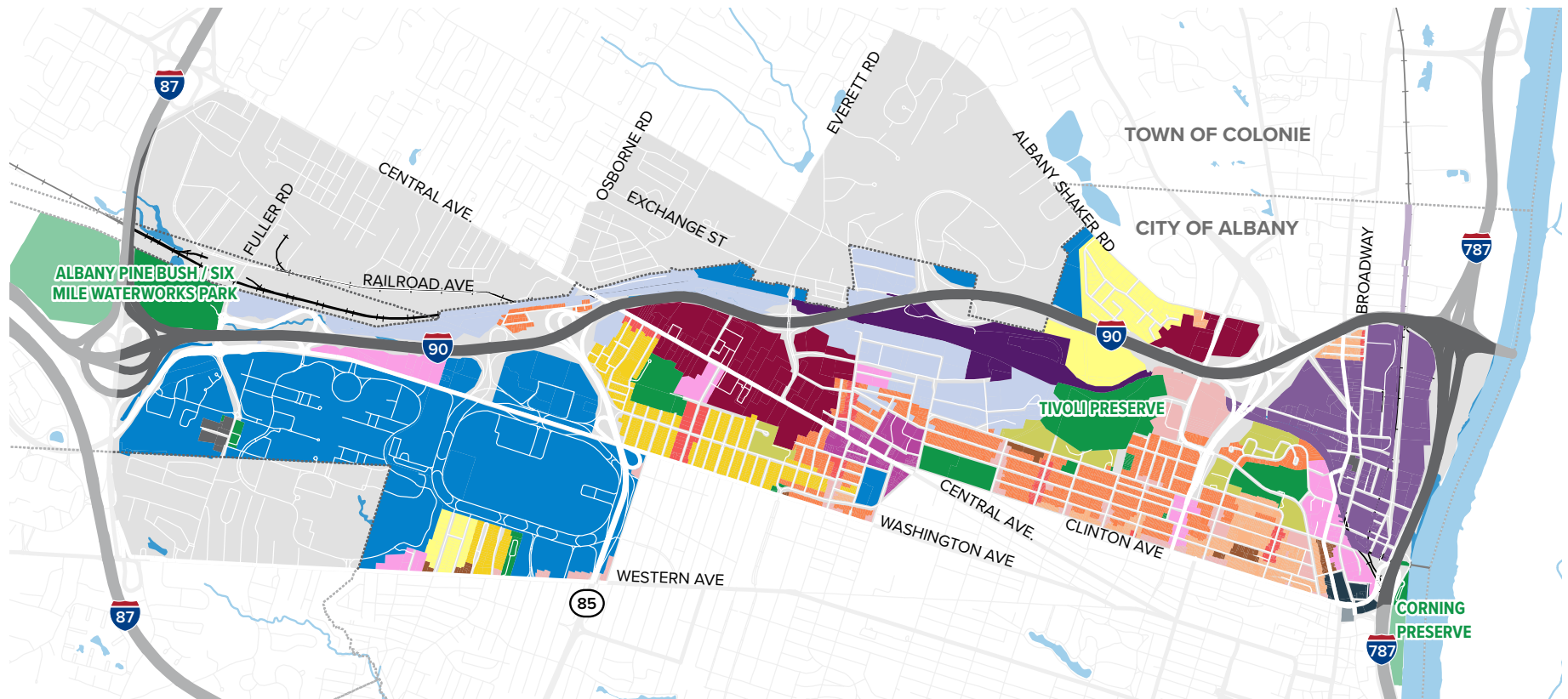
- Townhouse
- Two-Family
- Village

SPECIAL PURPOSE

- Conservation
- General Industrial
- Light Industrial

study area

municipal boundaries



Data Source: City of Albany



CHAPTER 3: EXISTING CONDITIONS

LAND DEVELOPMENT PATTERNS (CONT.)

RESIDENTIAL DISTRICTS

Residential zoning districts are concentrated along the southern portion of the study area, from NY-85 east to Ten Broeck Street, and generally encourage denser residential development. The eastern portion of the study area is dominated by Two-Family and Townhouse districts, while the western portion of the study area is largely comprised of the Single Family, Medium Density zoning district.

The presence of the Single Family, Low Density zoning district is limited within the study area. It occurs along Western Avenue, adjacent to the Harriman State Campus, and just north of Tivoli Park in the Bishop's Gate neighborhood.

SPECIAL PURPOSE DISTRICTS

Special Purpose Zoning Districts include General Industrial, Light Industrial, and Land Conservation. All three of these districts occur in the study area:

- The General Industrial District supports industrial uses associated with heavy traffic, noise, and glare impacts and keeps these uses separate from residential areas. In the study area, this district is confined to the CSX railyard along Anderson Drive.
- The Light Industrial District supports a range of commercial, civic, institutional, and light industrial uses that do not create nuisances for surrounding areas. In the study area, the Light Industrial district is distributed along the north and south sides of Interstate 90.

- The Land Conservation Districts provide for and protect publicly-owned parks, preserves, and open spaces. This district includes all parks located in the study area.

City of Albany Zoning Overlay Districts

The study area also overlaps with five zoning overlay districts, including the:

- **Albany-Colonie Intermunicipal Overlay District (AC):** This overlay applies to the First Prize parcel located in the City of Albany and the Town of Colonie and requires the integration of smart growth principles in the redevelopment of this site.
- **Combined Sewer Overflow Overlay District (CS):** In the study area, this overlay includes areas east of Tivoli Preserve and south of Clinton and Washington Avenues and establishes regulations to mitigate the impacts of development on the City's combined sanitary/storm sewer system.
- **Floodplain Overlay District (FP):** In the study area, this overlay includes the 100- and 500-year flood zones along the Hudson River and Patroon Creek and requires development to comply with all applicable Federal Emergency Management Agency (FEMA) regulations.
- **Historic Resources Overlay District (HR):** Within the study area, this overlay applies to the Clinton Avenue / N. Pearl Street / Clinton Square Historic District and prioritizes the preservation of places, sites, and structures with significant historic, cultural or architectural value.

- **Pine Bush Overlay District (PB):** In the study area, this overlay includes the area west of Fuller Road and promotes the preservation of the unique natural features of the Pine Bush Preserve.



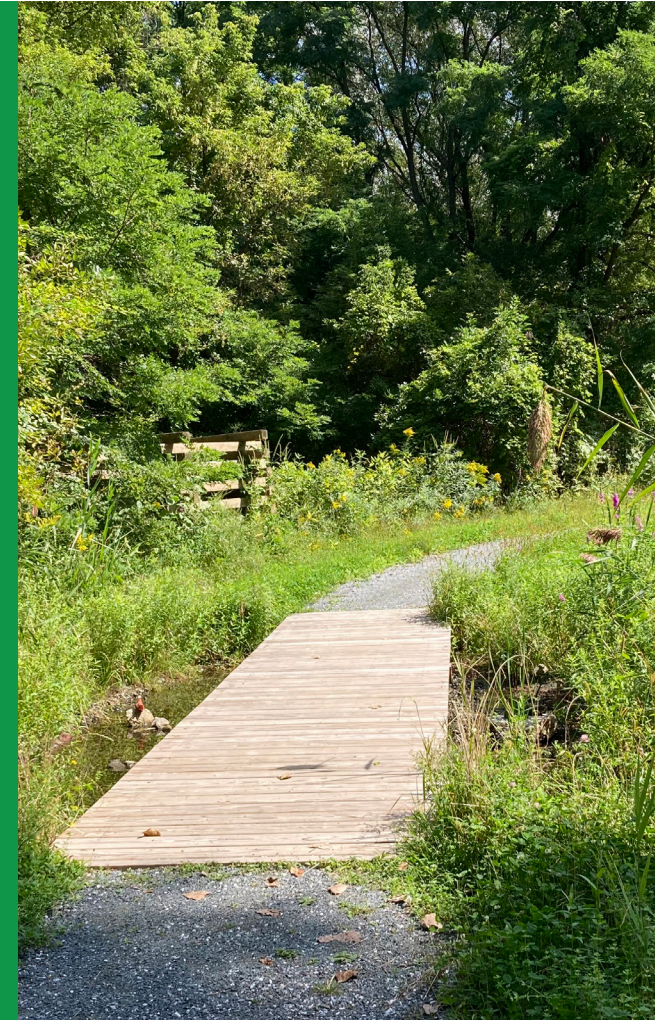
▲ **Six Mile Waterworks Park** is located in the Pine Bush Overlay District.



▲ **Tivoli Lake Preserve** overlaps with the Floodplain Overlay District.

LAND DEVELOPMENT PATTERNS: **KEY FINDINGS**

- /// The diverse mix and concentration of different land uses in the study area — particularly commercial, residential, and community service uses that have the ability to attract potential trail users — provides an opportunity to activate the future Patroon Creek Greenway as well as underscores the Greenway’s potential benefit in weaving these uses together.
- /// Property owned by railroad and electric utility companies bisect the study area, following the I-90 corridor. These properties, paired with I-90, create major barriers to north-south travel within the study area.
- /// The State of New York is the largest public land owner in the study area. SUNY Albany and the Harriman State Campus are both major destinations and employers in the Capital District and will be important connections for the future Greenway.
- /// The City of Albany’s recently updated zoning code requires new development to comply with the City’s Complete Streets Policy and Design Manual and encourages development that promotes a walkable, engaging public realm. The Unified Sustainable Development Ordinance’s (USDO) emphasis on multi-modal travel supports future pedestrian and bicycle connections to the Patroon Creek Greenway.
- /// The Albany-Colonie Intermunicipal Overlay District, which applies to the First Prize site, requires future redevelopment to utilize smart growth principles. Integrating the future Patroon Creek Greenway trail into this site would provide a much needed connection between the Town of Colonie and the City of Albany as well as expand the mobility and recreational options of future residents.
- /// The USDO concentrates dense residential development in the eastern portions of the study area, between N. Allen Street and Broadway. The integration of trail facilities into these dense residential neighborhoods could improve local mobility while also increasing access to regional destinations.



DESTINATIONS + SERVICES

This section provides an overview of destinations and services located within the study area. Understanding the distribution of recreational, employment, educational, retail, and community development resources in the study area is an important first step in identifying connections to the future Patroon Creek Greenway.

Parks

There are 16 public parks located in the study area. These parks range from small neighborhood parks to large nature preserves. The small neighborhood parks are concentrated in the eastern portion of the study area (Ten Broeck, Arbor Hill, and West Hill neighborhoods), while the larger parks are relatively evenly distributed across the study area. These larger parks are described in more detail below and shown on the map on the following page.

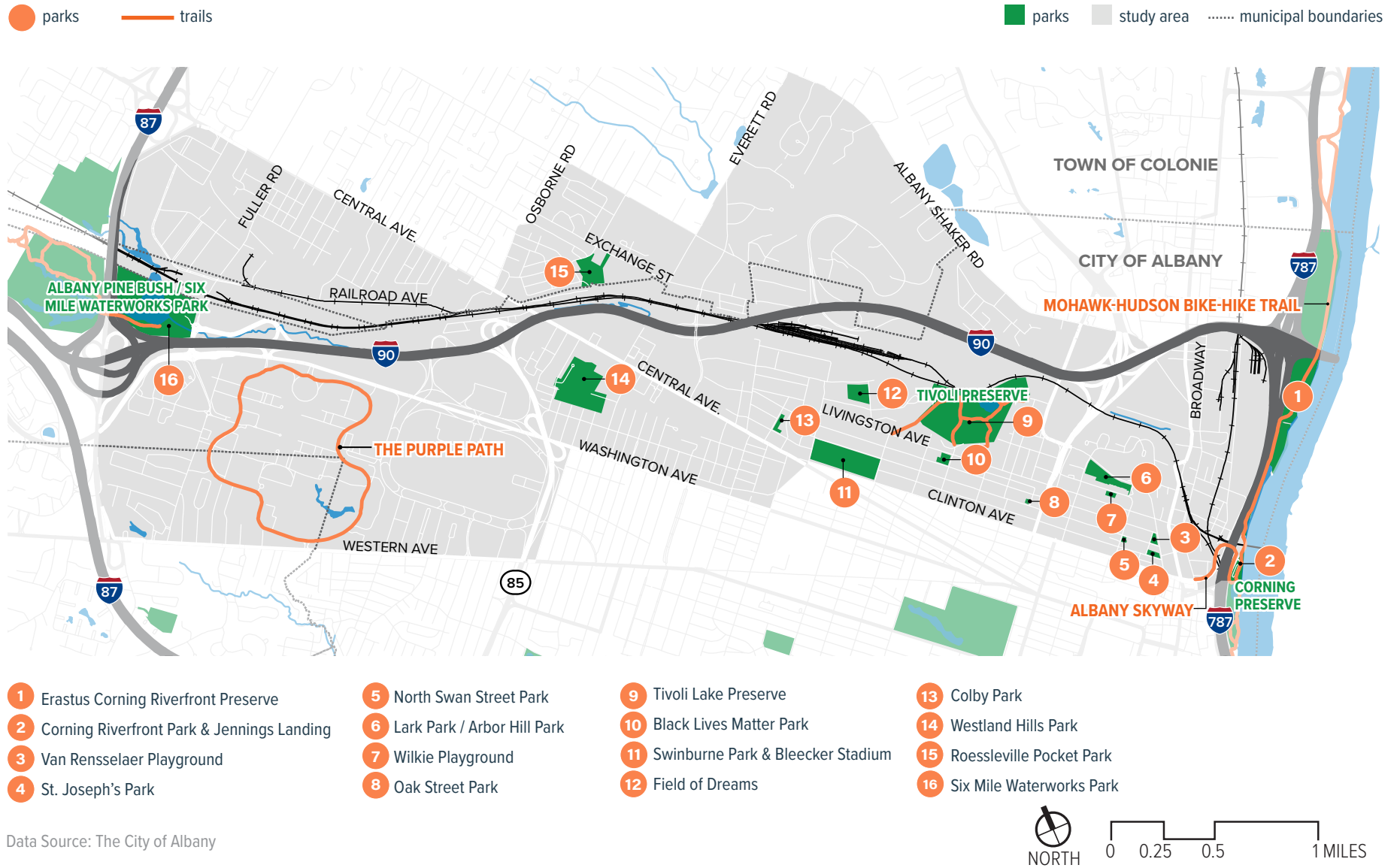
- **Corning Riverfront Park and Preserve** is a linear park bound to the west by I-787 and to the east by the Hudson River. It provides public access to the waterfront via a boat launch as well as panoramic views of the river from the 1,000 seat amphitheater at Jennings Landing. The Mohawk-Hudson Bike-Hike Trail traverses the park, connecting downtown Albany north to Watervliet and the Erie Canalway Trail and south to Bethlehem and Voorheesville via the South End Connector and Albany County Rail Trail. The park also features a playground and walking trails and hosts numerous annual events, including the Alive at Five summer concert series and the Albany Riverfront Jazz Festival.

- **Tivoli Lake Preserve** is an 80 acre park located in the Arbor Hill and West Hill neighborhoods. It is the largest urban nature preserve in the Capital District and features a network of walking trails, including the recently completed Brother Yusef Burgess Trail, a daylit section of the Patroon Creek, and a diversity of ecosystems that support wildlife and bird watching activities. The Friends of Tivoli Lake Preserve and Farm, Inc. serve as the Preserve's steward and facilitate conservation, environmental education, and outdoor recreation activities.
- **Six Mile Waterworks Park** is a 57 acre park located in the eastern portion of the Albany Pine Bush Preserve. It offers diverse recreational opportunities, including a network of walking trails, a playground, and fishing and boating on Rensselaer Lake. This park also connects with the Rapp Barrens, which are also part of the Pine Bush Preserve.

Trails

Five trail systems traverse the study area and are associated with public parks, SUNY Albany, and the Hudson River waterfront. These trails are briefly described below and are shown on the map on the following page.

- **The Mohawk-Hudson Bike-Hike Trail** is a paved shared-use path connecting Albany and Schenectady Counties and is also part of the statewide Empire State Trail. Within the study area, this trail provides access to the Hudson River and is known as the Corning Riverfront Trail.
- **The Albany Skyway** transforms the underutilized Quay Street ramp into an elevated linear park and non-motorized trail connecting the Broadway and Clinton Avenue intersection to the Hudson River waterfront. This trail is currently under construction and is expected to be completed by December 2021.
- **Corning Riverfront Trail** is a north-south paved trail that follows the Hudson River and is located in the Corning Riverfront Park and Preserve. It is part of the Mohawk-Hudson Bike-Hike Trail and Empire State Trail systems and is accessible by the Albany Skyway, Maiden Lane/Pine Street pedestrian Bridge, and Quay Street.
- **Tivoli Lake Preserve** includes a network of natural surface walking trails that weave through the Preserve's diverse landscapes. These trails can be accessed via Livingston Avenue and Manning Boulevard North (near Kipp Tech Valley Middle School).
- **The Purple Path** is a paved shared-use path that loops around the entire SUNY Albany campus. This perimeter path provides an important off-road connection for cyclists and pedestrians between Western Avenue, Washington Avenue, and Fuller Road.
- **Six Mile Waterworks Park** includes a network of paved walking and biking trails. In addition to connecting users to the park's amenities, these trails also provide an important off-road connection for cyclists and pedestrians between Fuller Road and Rapp Road.

DESTINATIONS AND SERVICES: **PARKS AND TRAILS**

Local and Regional Destinations

Several destinations and community services are located throughout the study area that serve residents from the study area as well as attract residents from the larger Capitol Region.

Major regional destinations within the study area include SUNY Albany, the Harriman State Campus, and Corporate Woods. SUNY Albany and the Harriman State Campus are located in the western portion of the study area, south of Interstate 90. Both institutions are major employment centers and SUNY Albany serves approximately 17,000 students. Corporate Woods is centrally located within the study area, just north of Interstate 90. This complex of private office buildings also serves as a hub of employment and provides several community services, such as healthcare and childcare.

Local destinations, such as schools, libraries, shopping centers, and community services, are concentrated along Central Avenue, between Manning Boulevard and Colvin Avenue, and in the eastern portion of the study area in the Arbor Hill neighborhood. Notably, full-service grocery stores are limited to the areas along Central Avenue. Only small convenience stores and specialty food markets are located in the eastern portion of the study area, where Potential Environmental Justice Areas are concentrated.

A detailed list of destinations and services in the study area is shown to the right. These resources are also mapped on the following page.

DESTINATIONS AND COMMUNITY SERVICES

Public Libraries

1. Arbor Hill West Branch

Public and Charter Schools

1. Arbor Hill Elementary School
2. Edmund J. O'Neal Middle School of Excellence (now Albany International Center)
3. Kipp Tech Valley Charter School
4. Phillip J Schuyler Achievement Academy
5. Henry Johnson Charter School
6. Montessori Magnet School
7. Tech Valley High School

Private Schools

1. Blessed Sacrament School
2. St. Anne Institute

Universities

1. SUNY Albany

Government Services

1. Harriman State Campus

Community Services

Health Services:

1. Visiting Nurse Association of Albany
2. Professional Care Inc.
3. Whitney Young Jr. Health Center
4. Attentive Care of Albany Inc.

Housing Services:

5. St. Annes Institute
6. IDA Yarbrough Center
7. 157 Buchanan Street IRA
8. 7 Rawson Street IRA

Rehabilitation Services:

9. Northern Blvd Community Residence
10. SPARC Alcoholism Clinic

Social Services:

11. St. Annes Institute Day Treatment
12. Equinox Manning Blvd
13. Project Hope
14. Albany County Opportunity Inc.
15. Heery Center for Young Families
16. Parsons Child and Family Center

Youth Services:

17. Albany Barn, Inc.

Senior Services:

18. University Heights Nursing Home
19. Albany Guardian Society
20. Westview Senior Center

Multiple Co-Located Services:

22. Corporate Woods

Convenience Store and Specialty Markets

1. Montana Food
2. Livingston Market
3. New York Supermarket
4. Boulevard Grocery
5. A&M Groceries
6. One Star Market
7. Mexican Market

Grocery Stores and Supermarkets

1. ShopRite of Albany
2. Honest Weight Food Co-op
3. Hannaford Supermarket
4. Price Chopper

DESTINATIONS AND SERVICES: LOCAL AND REGIONAL DESTINATIONS



*See previous page for a corresponding list local destinations.

Data Source: The City of Albany



DESTINATIONS + SERVICES: KEY FINDINGS

- /// Parks are distributed throughout the study area and offer a diversity of amenities and experiences, from nature preserves to ice skating at Swinburne Park to sports fields at Westland Hills Park.
- /// Five major off-road trails are located in the study area. All of these trails are integrated into parks or public institutions. Connecting the future Greenway to these other trail systems will improve local and regional connectivity, as well as help to solidify biking and walking as viable modes of transportation.
- /// Two of the major trails provide important access under interstate highways. The new Albany Skyway provides an off-road connection between Broadway and the Hudson River waterfront and is one of the few opportunities for bicyclists and pedestrians to cross I-787. The trail system in Six Mile Waterworks provides bicycle and pedestrian access under I-87 and makes a critical multi-modal connection between the study area and western Albany.
- /// A diversity of destinations are clustered along Central Avenue between Main Avenue and Colvin Avenue. In particular, all of the study area's full-service grocery stores are located in this area. Given Central Avenue's importance as a community destination, connections between this area and the future Greenway will be critical.
- /// Smaller, community-oriented destinations tend to be concentrated in the eastern and central portions of the study area, near downtown Albany, in Arbor Hill, and along Central Avenue. These destinations include schools, health and social services, and retail.
- /// Larger, regional destinations are located in the northern and western portions of the study area. These destinations include Corporate Woods, SUNY Albany, and the Harriman State Campus. While these destinations serve the local community, they are also major employment and educational centers that draw visitors from the Capital District and beyond.





TRANSPORTATION SYSTEMS

This section describes the different transportation systems within the study area, including roadways, rail, public transportation, and bicycle and pedestrian infrastructure. Documenting the distribution, quality, and characteristics of these transportation systems will enable the identification of issues that the future Patroon Greenway may be able to improve as well as opportunities to connect the Greenway to other modes of transportation.

Roadways

The study area contains a diversity of road networks including interstates, U.S. and State highways, and local roads. These roadways provide important access to national, regional, and local destinations for study area residents and visitors.

INTERSTATES

Interstate 90 (I-90) bisects the study area from east to west. According to the New York State Department of Transportation (NYSDOT), this high speed roadway experiences annual average daily traffic (AADT) volumes ranging from 85,000 to 110,000 within the study area. This interstate represents a major barrier to mobility, dividing the study area in half and limiting connectivity between the City of Albany and the Town of Colonie. Within the study area, the following roadways either cross over or under I-90:

- Erie Boulevard (crosses under I-90)
- Broadway (crosses under I-90 with sidewalks on both sides of the street)

- N. Pearl Street (crosses under I-90 with sidewalks on both sides of the street)
- Loudonville Road (bridge over I-90 with sidewalks on both sides of the road)
- Northern Boulevard (bridge over I-90 with sidewalks and bike lanes on both sides)
- Everett Road (bridge over I-90 with a sidewalk on one side of the road)
- Central Avenue (crosses under I-90 with sidewalks on both sides of the street)
- Fuller Road (crosses under I-90 with a shared-use path on the west side of the road)

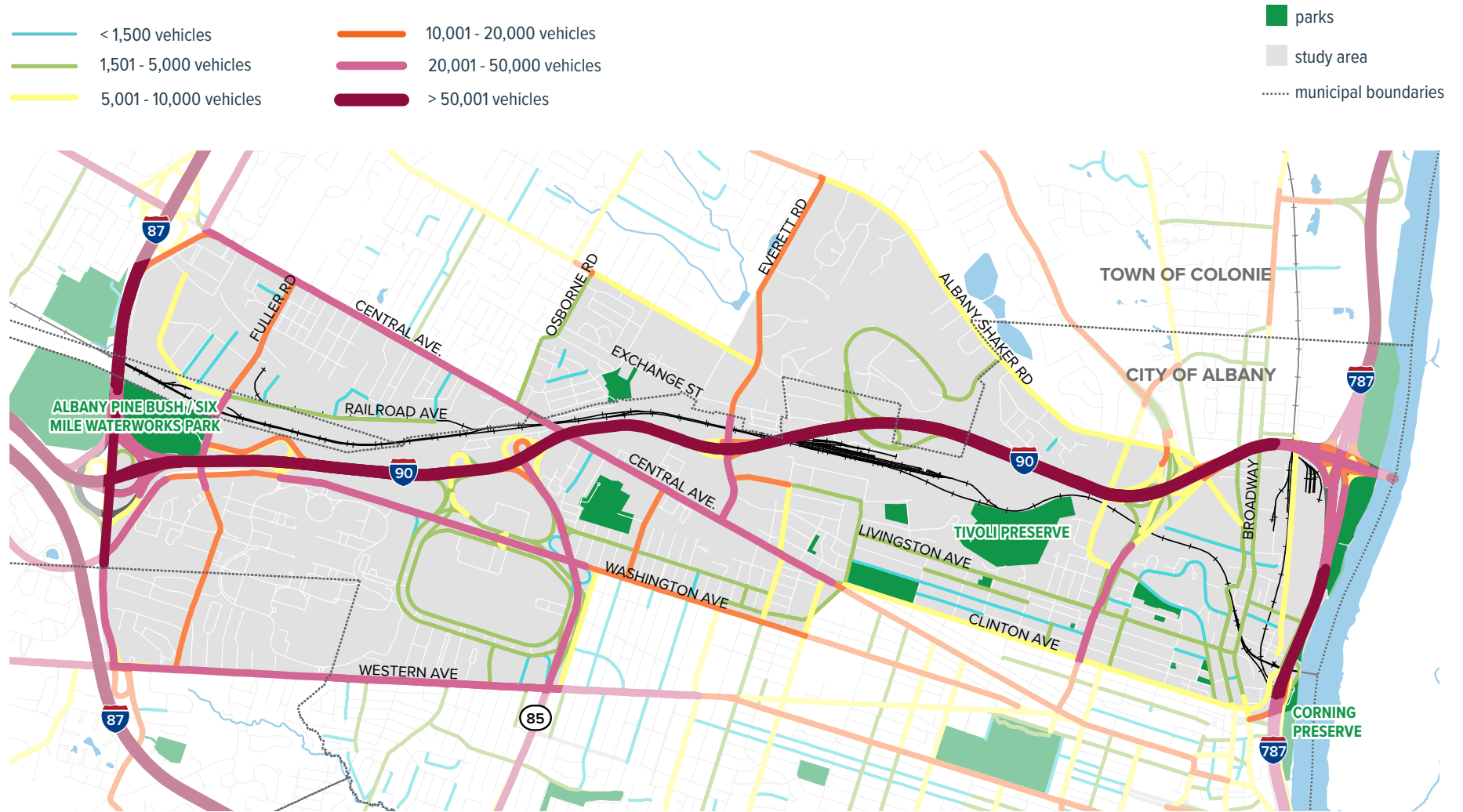
Interstate 87 (I-87) serves as the western boundary of the study area. North of the I-90 / I-87 interchange, traffic volumes exceed 100,000 AADT along I-87. Between Western Avenue and the I-90 / I-87 interchange, traffic volumes range from 40,000 - 60,000 AADT. Six Mile Waterworks Park provides an important off-road crossing under I-87, connecting the study area to western destinations.

Interstate 787 (I-787) parallels the eastern edge of the study area. Similar to I-90 and I-87, this high speed roadway experience high traffic volumes, ranging from 45,000 - 90,000 AADT. This interstate is a major barrier between downtown Albany and the Hudson River waterfront. Within the study area, the Hudson River can be reached via Colonie Street and the Albany Skyway, both of which cross under I-787.

HIGHWAYS

The following highways are located in the study area and provide access to regional and local destinations:

- **Henry Johnson Boulevard (U.S. 9):** Henry Johnson Boulevard coincides with U.S. Highway 9 from Clinton Avenue east to Livingston Avenue, which provides direct access to I-90. In the study area, Henry Johnson Boulevard experiences high traffic volumes (approximately 22,000 AADT).
- **Clinton Avenue (U.S. 9):** This mixed-use corridor and U.S. highway experiences relatively low traffic volumes, ranging from 5,000 - 7,000 AADT. It is an important connection between downtown Albany, Central Avenue, and the Arbor Hill, Sheridan Hollow, and West Hill neighborhoods.
- **Western Avenue (U.S. 20):** This U.S. highway connects downtown Albany to regional and national destinations. Within the study area, it provides important access to neighborhoods, commercial areas, the Harriman State Campus, SUNY Albany, and I-87 and experiences traffic volumes around 20,000 AADT.
- **Central Avenue (NY-5):** This state highway traverses the state, connecting the City of Albany to Schenectady and as far west as the Pennsylvania state line. Within the study area, this busy roadway experiences traffic volumes ranging from 15,000 - 35,000 AADT, with the highest volumes between Everett Road and Wolf Road.

TRANSPORTATION SYSTEMS: **ANNUAL AVERAGE DAILY TRAFFIC (AADT)**

Note: Data is not collected on local streets by the New York State Department of Transportation

Data Source: New York State Department of Transportation



- **NY-85:** The northern terminus of NY-85 is located in the study area and experiences traffic volumes between 35,000 and 45,000 AADT. This roadway connects the City of Albany west to the Towns of Bethlehem, New Scotland, Berne, Westerlo, and Rensselaerville.

OTHER ROADS

Other roadways in the study area generally experience lower traffic volumes, but still provide important connections between local destinations:

- **Everett Road:** This north-south road links the City of Albany and the Town of Colonie and provides one of the few opportunities to cross I-90 in the study area. From Everett Road Bridge to Central Avenue, traffic volumes exceed 20,000 AADT. North of the bridge, traffic volumes are relatively low (less than 5,000 AADT).
- **Washington Avenue:** This east-west corridor connects the study area to downtown Albany and residential neighborhoods to the east and to medical, office, and shopping complexes to the west. Within the study area, Washington Avenue provides access to the Harriman State campus, SUNY Albany, medical and office suites, apartments complexes, and hotels. Traffic volumes are relatively low along this roadway, with the exception of the section between Brevator Road and the Fuller Road access ramp, where traffic volumes exceed 20,000 AADT.
- **Fuller Road:** This north-south corridor connects Western Avenue to Central Avenue, providing direct access to shopping centers, SUNY Albany, Six Mile Waterworks Park, and several commercial and industrial uses between Railroad and Central Avenues. The highest traffic volumes occur adjacent to the I-90 access ramps and Six Mile Waterworks Park, where volumes exceed 20,000 AADT. Between Western and Washington Avenues traffic volumes are under 5,000 AADT and between Railroad and Central Avenues, traffic volumes are under 10,000 AADT.

Traffic Crashes in the City of Albany

The City of Albany Police Department provided crash data from January 1, 2016 to July 5, 2021 (this dataset does not include crashes in the Town of Colonie). During this time period, 6,702 crashes occurred within the study area. Traffic crashes are concentrated in the study area along Central Avenue, Washington Avenue, Western Avenue, Clinton Avenue, and Henry Johnson Boulevard. Crashes most frequently occur where cars are making turning movements (e.g. intersections and parking lots), and over 100 crashes occurred at the following locations:

- Central Avenue / Colvin Avenue intersection (265 crashes)
- Henry Johnson Boulevard / Livingston Avenue intersection (138 crashes)
- The Hannaford shopping plaza at 900 Central Avenue (123 crashes)

CRASHES INVOLVING PEDESTRIANS

Of the 6,702 traffic crashes recorded between 2016 and 2021, 188 crashes (3%) involved a pedestrian, with a high proportion occurring in the Arbor Hill and West Hill neighborhoods. The highest frequency of pedestrian-involved crashes occurred at the following locations:

- Washington Avenue / Colvin Avenue intersection (7 crashes)
- Lexington Avenue / Clinton Avenue (6 crashes)
- Henry Johnson Boulevard / Livingston Avenue intersection (6 crashes)
- Judson Street / Second Street (5 crashes)

CRASHES INVOLVING BICYCLISTS

Approximately 1% of all crashes recorded between 2016 and 2021 involved a bicyclist (53 crashes). Bicyclist-involved crashes also tend to be concentrated along Central Avenue and in the Arbor Hill and West Hill neighborhoods. The highest frequency of bicyclist-involved crashes occurred at the following locations:

- Lark Street / Livingston Avenue (2 crashes)
- Central Avenue / King Avenue (2 crashes)
- Central Avenue / Colvin Avenue (2 crashes)

TRANSPORTATION SYSTEMS: TRAFFIC CRASHES IN THE CITY OF ALBANY (2016 - 2021)

All Traffic Crashes:

• 1-5 crashes

• 6-10 crashes

• 11-50 crashes

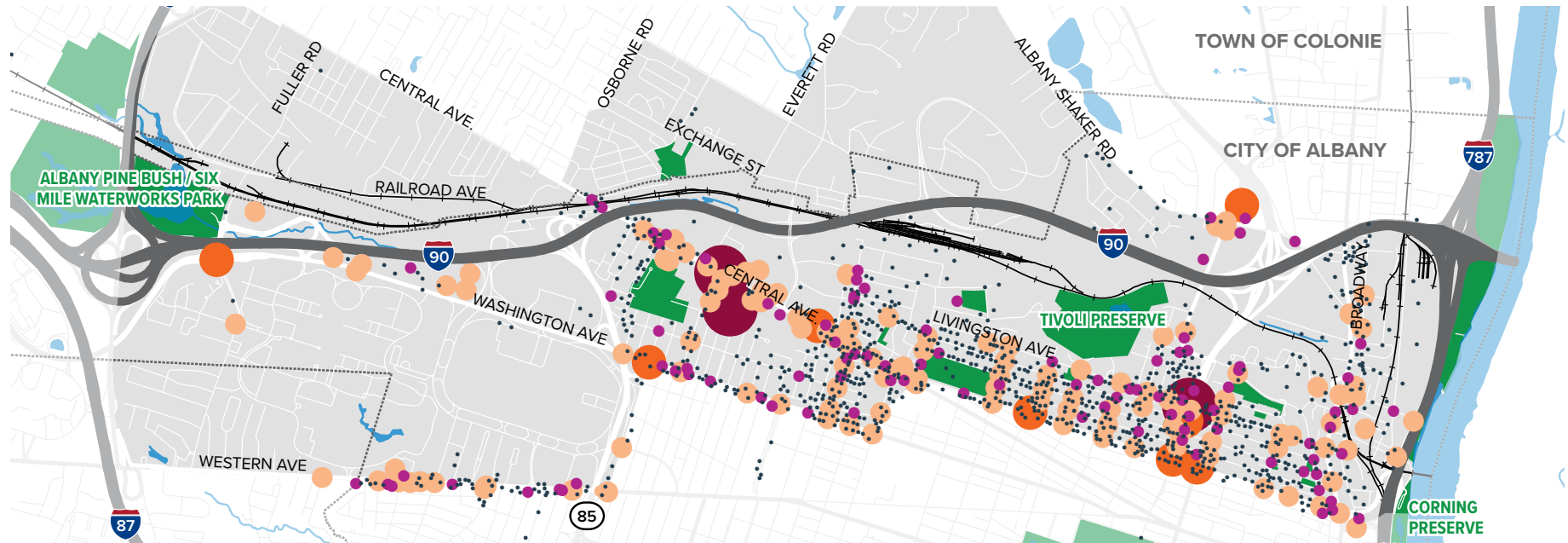
• 51-100 crashes

• 101-265 crashes

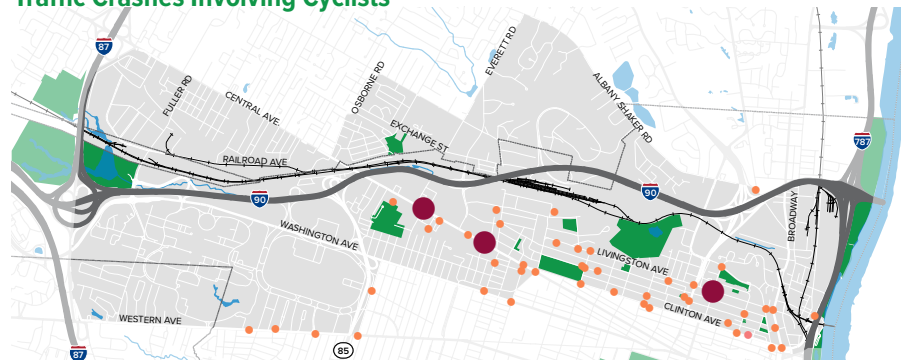
■ parks

■ study area

..... municipal boundaries



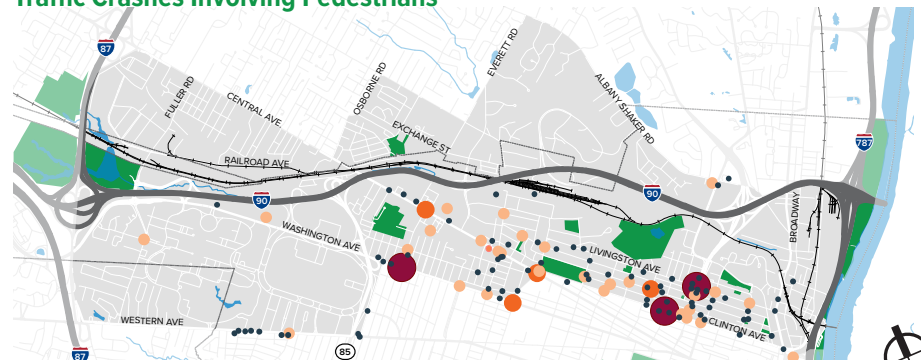
Traffic Crashes Involving Cyclists



• 1 crash

• 2 crashes

Traffic Crashes Involving Pedestrians



• 1 crash

• 2-3 crashes

• 4-5 crashes

• 6-7 crashes



Data Source: City of Albany Police Department (January 1, 2016 - July 5, 2021)

Railroad Corridors

Two existing railroad corridors are located within or adjacent to the study area. The Hudson Line (owned by CSXT Railroad and operated/maintained by Amtrak within the study area) is the mainline east-west corridor conveying both freight and transit, and the Kenwood Running Track (owned/operated by Canadian Pacific Railroad and also operated by CSXT) follows the I-787 corridor through the City of Albany primarily serving as a freight connection to the Port of Albany. In addition, the West Albany Yard (owned and operated by CSXT) located on Anderson Drive abuts the north side of the Hudson Line east of Everett Road Extension and south of Interstate 90.

Federal Railroad Administration (FRA) records indicate that up to 15 trains traverse the Hudson Line daily within the study area at maximum authorized speeds (MAS) of up to 90 mph (Amtrak). Freight trains on this segment of the Hudson Line operate at lower speeds, primarily serving local industries between Schenectady and Troy, including a bulk transfer facility located in West Albany Yard that is involved in the transloading of commodities between truck and railcar. There are no at-grade track crossings located on the Hudson Line within the study area.

FRA records indicate that Canadian Pacific operates an average of three (3) trains per day on the Kenwood Running Track at an MAS of 10 mph. These trains are primarily mixed freight manifest trains and originate or terminate at Kenwood Yard, located approximately 1.5 miles south of the study area. There are three at-grade

crossings located on the Kenwood Running Track within the study area, between Lawrence Street and I-90 roughly parallel to Erie Street.

RAILROAD CROSSING SAFETY

Over the last 25 years, the FRA database includes zero reports of incidents at railroad-roadway crossings (including at-, above-, and below-grade crossings) involving trains or other on-track railroad equipment and the public. For more detailed information regarding railroad crossing reports, please see Appendix B.

HAZARDOUS MATERIAL TRANSPORT

In addition to the voluntary actions of railroads to increase public knowledge and safety, all railroads in the United States are required to follow the Hazardous Materials Safety Administration requirements of the US Department of Transportation in accordance with Title 49 of the Code of Federal Regulations as covered in Part 174. These regulations include all classes of hazardous materials that a railroad may transport under the common carrier law of the United States in accordance with 49 U.S. Code Section 11101. As a common carrier, rail carriers shall provide transportation or service on reasonable requests and cannot outright refuse transportation of any commodity, and thus there is potential now or in the future for hazardous materials to be transported within the study area as may be authorized by the US Department of Transportation.

SPILL REPORTS

Twenty-nine (29) spills were reported to NYSDEC within the study area since 1978. Most of these spills occurred at the bulk transfer facility at West Albany Yard, were not located in public locations, and were satisfactorily handled per NYSDEC regulations. Spills commonly included equipment fueling, lubrication, and/or hydraulics, but did in some instances include commodities.

For more detailed information regarding spill incidents, please see Appendix B.

RAILROAD INDUSTRY GENERAL SAFETY STANDARDS



Railroads emphasize safety, especially in their interactions with the public, as a highest priority. All Class I freight railroads in the United States are contributing partners to Operation Lifesaver, a safety organization that is dedicated to educating the public and first responders regarding the dangers associated with railroads, and how to safely coexist. Operation Lifesaver provides training to first responders to assist them with reacting to emergencies such as a railroad derailment. This training is often tailored to the types of rail cars and materials that operate on the specific lines in a community.

TRANSPORTATION SYSTEMS: RAILROAD CROSSINGS

- over grade rail crossings
- under grade rail crossings
- at-grade rail crossings

- parks
- study area
- municipal boundaries



Data Source: U.S. Department of Transportation Federal Railroad Administration

Existing Pedestrian Infrastructure

Pedestrian infrastructure includes dedicated, accessible facilities for pedestrians that are separated from motor vehicle traffic, such as sidewalks and off-road, multi-use paths. In the City of Albany, most roadways in the study area have sidewalks on at least one side of the road. Conversely, in the Town of Colonie, only major roadways in the study area have sidewalks (e.g., Central Avenue, Northern Boulevard).

The following locations within the study area are lacking pedestrian infrastructure:

- Along Washington Avenue, adjacent to the Harriman State Campus and along Brevator Street;
- In the industrial area west of Tivoli Preserve, east of Everett Road, and north of Central Avenue; and,
- In the warehouse district between Broadway and the Hudson River waterfront.

Although pedestrian infrastructure is generally well distributed throughout the study area, the presence of frequent curb cuts and intersection crossings can make the use of and access to these facilities challenging. Central Avenue, for example, is a busy commercial corridor with several curb cuts providing access to parking areas and businesses. These curb cuts interrupt pedestrian infrastructure, creating accessibility challenges (e.g., grade changes) and increasing the potential for conflict between pedestrians and motor vehicles.

The City's Bicycle and Pedestrian Master Plan, which was finalized in 2021, also highlights roadways that are challenging to cross. In particular, Northern Boulevard (near Tivoli Preserve), Fuller Road, Washington Avenue (near the SUNY Albany and Harriman State Campuses), and Central Avenue west of Everett Road are very difficult to cross for pedestrians. The Master Plan also recommends several treatments and strategies to improve intersection crossings, including:

- ADA curb ramps, crosswalks, and pedestrian signals;
- Signalization modifications to prioritize pedestrians (e.g., no turn on red, pedestrian head starts);
- Curb extensions and parking restrictions to improve visibility at intersections.

Planned Pedestrian Infrastructure in the City of Albany

Recommendations in the City's Bicycle and Pedestrian Master Plan address several of the existing gaps in the City's pedestrian network within the study area. Specifically, new sidewalks are proposed in the following areas:

- Adjacent to the Harriman State Campus and along Brevator Street;
- In the industrial area between Tivoli Preserve, Central Avenue, Everett Road, and the railroad;
- Along Livingston Avenue and Manning Boulevard in Arbor Hill; and,
- In the warehouse district.

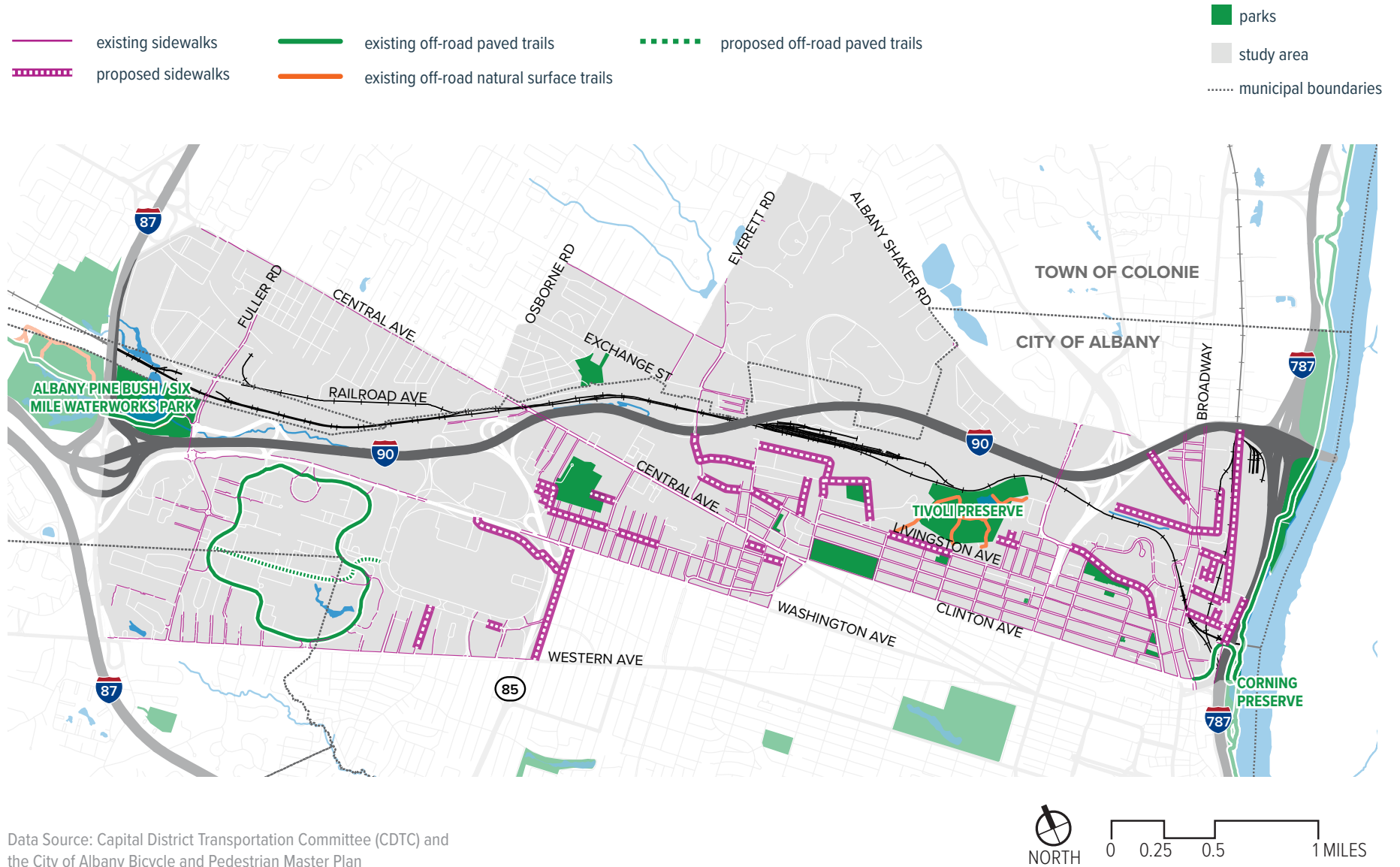


▲ Clinton Avenue.



▲ Pedestrian crossing infrastructure at Watervliet Avenue and Industrial Park Road.

TRANSPORTATION SYSTEMS: PEDESTRIAN INFRASTRUCTURE



TRANSPORTATION SYSTEMS (CONT.)

Existing Bicycle Infrastructure

Approximately 3.5 miles of dedicated bike facilities exist within the study area, excluding off-road multi-use paths. The following roadways in the study area have dedicated bicycle facilities:

- **Clinton Avenue:** Bike lanes (1.85 miles) from Pearl Street to N. Manning Boulevard
- **Colonie Street:** Separated bike lane (0.1 miles) connecting Erie Boulevard to the Mohawk-Hudson Bike-Hike Trail
- **Northern Boulevard:** Buffered and conventional bike lanes (0.5 miles) from the bridge over U.S. Highway 9 to the northern edge of the study area
- **Ten Broeck Street:** Bike lanes (0.25 miles) from Clinton Avenue to Livingston Avenue
- **Western Avenue:** Bike lanes (0.8 miles) from SUNY Albany to I-87

PAVED OFF-ROAD, MULTI-USE PATHS

Four paved, off-road multi-use path systems serve the study area: SUNY Albany's Purple Loop, Six Mile Waterworks Park, the Mohawk-Hudson Bike Hike Trail, and the Albany Skyway.

- The Purple Loop is approximately 2.8 miles long and provides access to the entire SUNY Albany campus perimeter.
- A short segment of Six Mile Waterworks trails (0.25 miles) is contained in the study area and connects west to over 20 miles of trails in the Pine Bush Preserve.

- Approximately 1.25 miles of the Mohawk-Hudson Bike-Hike Trail are located in the study area, which connects to statewide Erie Canalway and Empire State Trail system.
- The Albany Skyway is currently under construction, and once complete will provide an off-road connection between downtown Albany (at the Broadway and Clinton Avenue intersection) and the Mohawk-Hudson Bike-Hike Trail.

LEVEL OF TRAFFIC STRESS

According to the City of Albany's Bicycle and Pedestrian Master Plan, most of the major roadways within the study area currently operate at a high level of traffic stress (LTS) for cyclists (LTS 3), as they require cyclists to ride in mixed traffic conditions on two-lane roads with high traffic volumes and speeds exceeding 25 miles per hour. These roads include:

- Central Avenue
- Clinton Avenue
- Colvin Avenue
- Commerce Avenue
- Livingston Avenue (between N. Lake Avenue and Judson Street)
- Northern Boulevard
- Washington Avenue
- Western Avenue

BIKESHARE STATIONS

CDPHP Cycle! is the Capital Region's bikeshare program, and it is operated in partnership with the Capital District Transportation Authority and the Capital District Physicians' Health Plan, Inc. (CDPHP). There are three CDPHP Cycle! bikeshare stations in the study area at the following locations: the Corning Preserve, the Warehouse District, and the Clinton Avenue / Manning Boulevard intersection.

Planned Bicycle Infrastructure

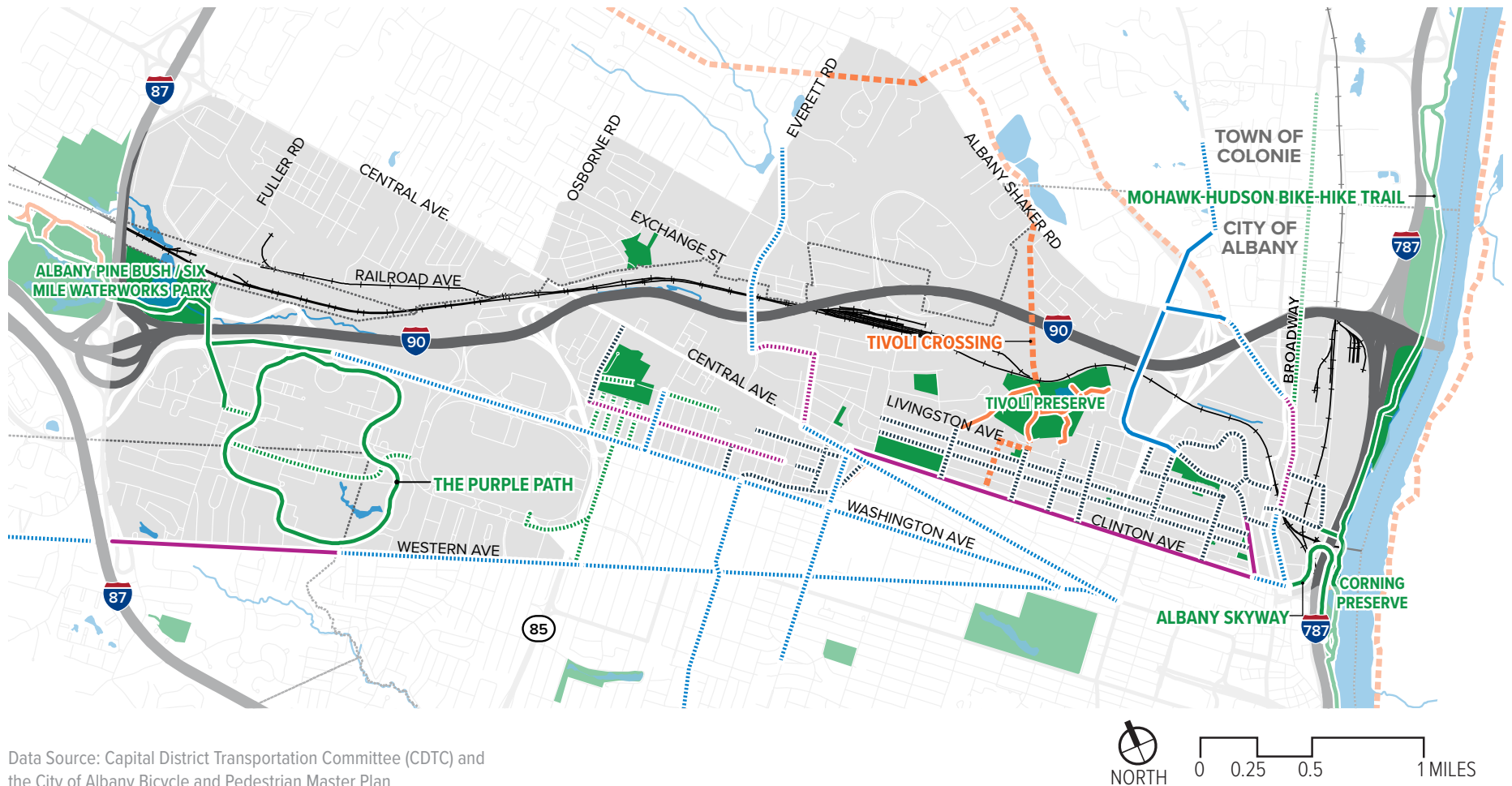
The City's Bicycle and Pedestrian Master Plan proposes several new bicycle facilities within the study area (see map on the next page).

- A dense network of bicycle boulevards are proposed in the eastern portion of the study area, around Tivoli Lake Preserve. Notably, bicycle facilities are not proposed on Livingston Avenue, which experiences a high level of traffic stress adjacent to Tivoli Preserve.
- New conventional bike lanes are proposed on Lincoln Avenue, Watervliet Avenue, and Broadway.
- Protected / buffered bike lanes are proposed on Clinton Avenue (between Pearl Street and Broadway), Broadway, Washington Avenue, Western Avenue, Main Avenue, Colvin Avenue, and Everett Road.

Additionally, the proposed Tivoli Crossing trail — a concept-level trail identified in the CDTC's Capital District Trails Plan — intersects the northern portion of the study area.

TRANSPORTATION SYSTEMS: **BICYCLE INFRASTRUCTURE**

- | | | | |
|--|--|--|--|
|  existing paved multi-use trail |  existing conventional bicycle lane |  existing off-road natural surface trails |  parks |
|  proposed paved multi-use trail |  proposed conventional bicycle lane |  proposed non-core regional trail connectors (from the CDTC Capital District Trails Plan) |  study area |
|  existing protected / buffered bicycle lane |  proposed bicycle boulevard | |  municipal boundaries |
|  proposed protected / buffered bicycle lane | | | |



Data Source: Capital District Transportation Committee (CDTC) and the City of Albany Bicycle and Pedestrian Master Plan

TRANSPORTATION SYSTEMS (CONT.)

Public Transit

The Capital District Transportation Authority (CDTA) provides extensive bus service within the study area, connecting communities to local and regional destinations. The different types of bus routes operating in the study area and their frequency of service are summarized below.

TRUNK ROUTES

Trunk routes provide frequent service (7 days a week) along major roadways and connect the study area to local destinations in the City of Albany, Town of Colonie, and surrounding municipalities. The following trunk routes operate in the study area:

- **Route 1, Central Avenue:** Connects downtown Albany to Colonie Center as well as major shopping destinations along Central Avenue.
- **Route 10, Western Avenue:** Connects downtown Albany to Stuyvesant Plaza and Crossgates Mall.
- **Route 11, SUNY Shuttle:** Connects SUNY Albany's downtown and main campuses via Western Avenue.
- **Route 12, Washington Avenue:** Connects downtown Albany, SUNY Albany, Crossgates Commons, and Crossgates Mall.
- **Route 22, Albany-Troy via Watervliet:** Connects downtown Albany, Menands, Watervliet, and Troy.

NEIGHBORHOOD ROUTES

Most neighborhood routes operate every day of the week and provide connectivity between neighborhoods and local destinations. In the study area, these routes

expand public transit to neighborhoods in the eastern portion of the study area and provide linkages to more bus routes providing more regional service (e.g., trunk routes). Neighborhood routes serving the study area include: the Mid-City Belt (100), Uptown Belt (106), Madison/Washington (114), Colonie Crosstown (117), Clinton / Sand Creek (125), Troy-Albany via Cohoes and Latham (182), and Fuller/Wolf (190).

REGIONAL CONNECTORS

Bus rapid transit (BRT) and the NX Express provide riders with efficient, limited-stop service to regional destinations. The NX Express operates on weekdays and targets commuters traveling between Saratoga and Albany. Three BRT lines serve the study area and operate every day of the week.

- **Route 905, BusPlus Red Line:** Connects downtown Albany and downtown Schenectady via Central Avenue (NY-5).
- **Route 922, BusPlus Blue Line, Cohoes to Delaware Station:** Connects the downtowns of Albany, Troy, and Cohoes along the Hudson River.
- **Route 923: BusPlus Blue Line, Waterford to Rail Trail Station:** Connects the Albany County Rail Trail on South Pearl Street to downtown Albany, Menands, Watervliet, Troy, and Waterford
- **BusPlus Purple Line (Planned):** Will connect downtown Albany, the Harriman State campus, SUNY Albany, Fuller Road, and Crossgates Mall via Washington, Madison, and Western Avenues.

LIMITED SERVICE ROUTES

Two commuter routes, which only operate on weekdays, serve the study area. Commuter Route 712 connects the West Hill neighborhood west to the Harriman State Campus, SUNY Albany, and Crossgates Mall. Commuter Route 737 connects downtown Albany to Corporate Woods and also provides limited service to the Albany International Airport.

Eight different shuttles serve the study area, providing limited connections to local and suburban destinations, such as City of Albany schools, North Greenbush, Crossgates Mall, and Stuyvesant Plaza. These shuttles only operate on weekdays and provide limited service.

CDTA'S NATURE BUS

Nature Bus is a free service offered by CDTA that connects Albany communities to nature preserves and open spaces. Nature Bus operated every Saturday from June 12, 2021 through September 25, 2021.

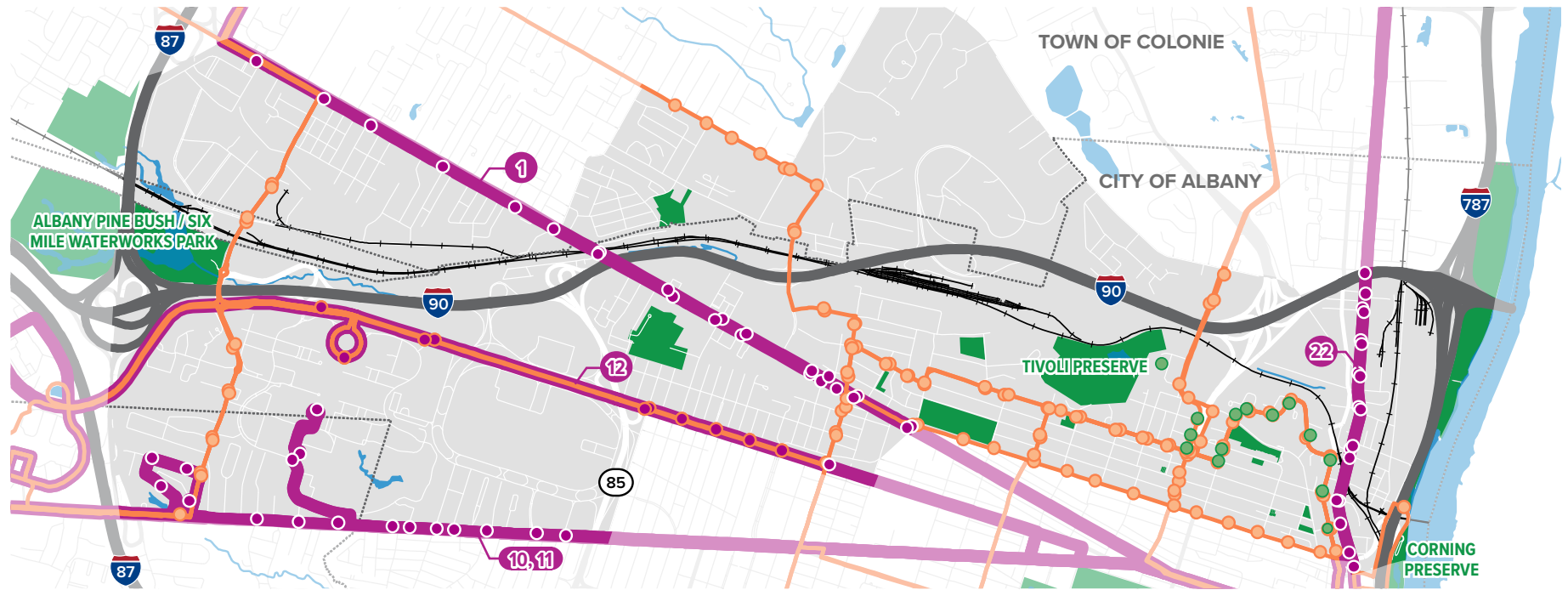
Nature Bus stopped at 13 locations in the Arbor Hill neighborhood within the study area and provided access to nine different outdoor destinations throughout Albany County, including: John Boyd Thacher State Park, Lawson Lake County Park, the Helderberg-Hudson Rail Trail, Five Rivers Environmental Education Center, and Pine Hollow Arboretum.

TRANSPORTATION SYSTEMS: PUBLIC TRANSIT

Trunk + Neighborhood Routes:

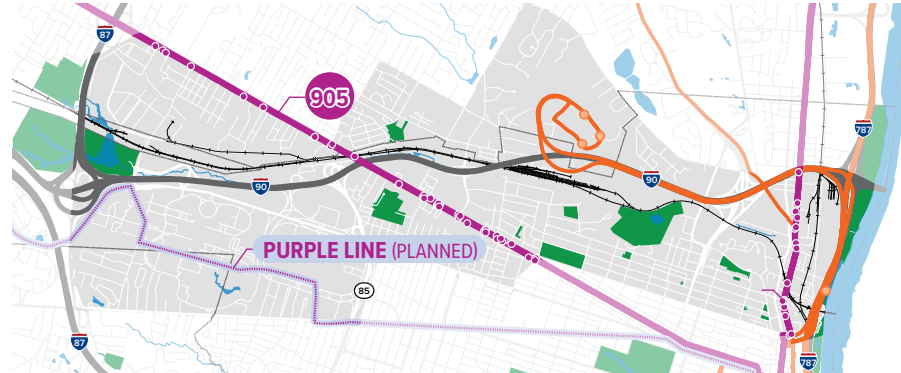
- trunk routes
- trunk stops
- trunk + neighborhood stops
- neighborhood routes
- neighborhood stops
- nature bus stops

- parks
- study area
- municipal boundaries



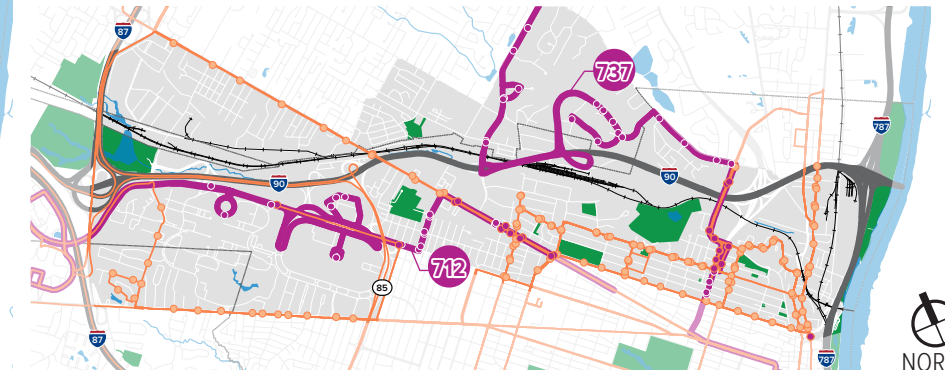
Regional Connectors:

- BRT
- NX express
- BRT stops
- NX Express stops



Limited Service Routes:

- commuter routes
- shuttle routes
- commuter stops
- shuttle stops



Data Source: Capital District Transportation Authority (CDTA)

TRANSPORTATION SYSTEMS: KEY FINDINGS

- /// The study area is bound and bisected by major interstates and highways. These roads are major obstacles to pedestrians and bicyclists; they carry high volumes of traffic traveling at high speeds with limited crossing opportunities.
- /// In the City of Albany, traffic crashes tend to be concentrated in the eastern portion of the study area and along major road corridors. The Central Avenue / Colvin Avenue intersection and Livingston Avenue at Lark Street and Henry Johnson Boulevard are particularly dangerous for all modes of transportation.
- /// The railroad operations within the study area, as evidenced by the historic lack of crashes between trains and public at existing crossings, pose a very low risk to the proposed Patroon Creek Greenway Trail. The development of proposed feasible trail alignment alternatives and details in accordance with FRA recommended best practices and railroad specific guidelines will help assure the continued safety of both railroad operations and public users of a future Patroon Creek Greenway.
- /// In the City of Albany, the study area has a relatively well-connected network of sidewalks. However, bicycle infrastructure is very limited. The City's Bicycle and Pedestrian Master Plan proposes several new bicycle facilities that could provide important connections to the future Patroon Greenway. In the Town of Colonie, sidewalks are sparse and there are no on-road bicycle facilities in the study area.
- /// The study area is well-served by public transportation. The major bus routes are concentrated along Central Avenue, Washington Avenue, and Western Avenue. Ensuring connectivity between bus stops and the future Patroon Creek Greenway will help expand access to and increase the use of the future Greenway. Additionally, improved bicycle and pedestrian crossing infrastructure across Central, Washington, and Western Avenues would benefit both future Greenway trail users and current public transit riders.





UTILITY INFRASTRUCTURE

This section provides an overview of the major water, sewer, and electrical utilities within the study area, which are generally concentrated along the I-90 and railroad corridors. These energy and water distribution systems are often associated with long narrow corridors with relatively low levels of activity (e.g., maintenance and repairs), creating an opportunity to layer other low-impact uses, such as multi-modal trails, into these corridors.

Electric

Lands owned by electric utilities are distributed throughout the study area, typically along the railroad corridors, and are comprised of transmission corridors, substations, and office buildings. Electric utility companies own approximately 90 acres in the study area and include National Grid, Niagara Mohawk, and Niagara Mohawk / National Grid.

Water Supply

The Albany Water Board and the Albany Water & Water Supply Department own approximately 20 acres in the study area. These lands, associated with the City's water supply, are located in Six Mile Waterworks Park, to the south and north of Tivoli Lake Preserve, and along the Kenwood Running Track railroad corridor.

Sewer

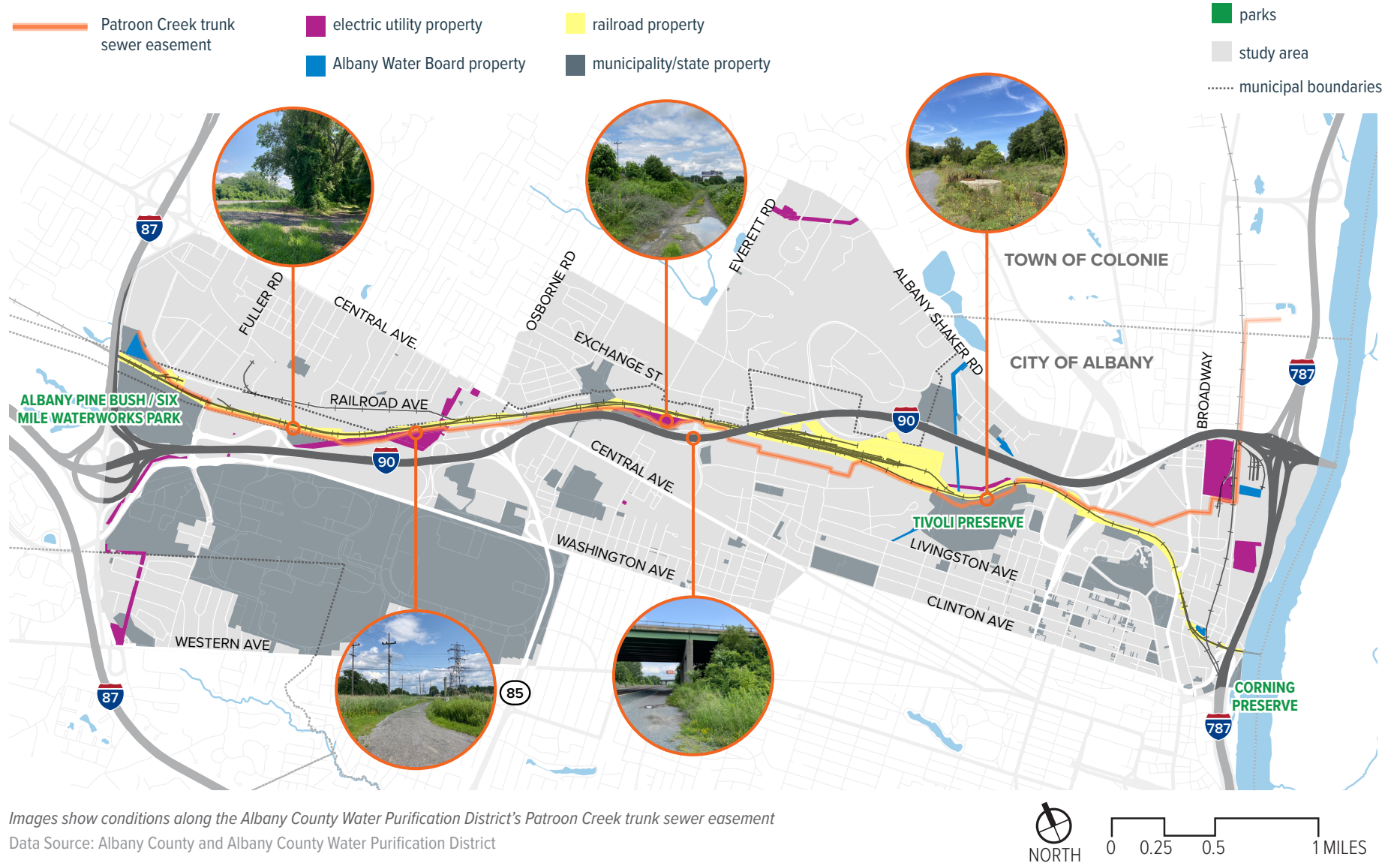
The Albany County Water Purification District provides waste removal and treatment services for eight member communities, including the Town of Colonie and the City of Albany. The County owns all trunk sewer lines that serve the District, as well as two 4A wastewater treatment plants that provide secondary treatment. The County-owned Patroon Creek Trunk Sewer bisects the study area, running along the I-90 and railroad corridors from Six Mile Waterworks Park east to the County Water Purification District's North Water Treatment Plant, located just north of the study area in the Village of Menands.

The Patroon Creek Trunk Sewer is located under several different publicly- and privately-owned parcels. Maintenance and metering access are preserved through an easement, which is approximately six miles long and 24 feet wide within the study area. From Six Mile Water Works Park to Everett Road, the County's Patroon Creek Trunk Sewer Easement is roughly defined by a compacted dirt trail or is co-located with existing roadways (e.g., Yardboro Avenue). From Everett Road to Tivoli Lake Preserve, the easement crosses under I-90, follows Industrial Park Road, and then follows the southern edge of the railroad to the northwestern corner of Tivoli Preserve. In the Preserve, the easement is defined by a gravel road, paralleling the daylight portion of Patroon Creek. The easement exits the northeast corner of Tivoli Preserve, crosses under the railroad, continues east on Tivoli Street, and then proceeds northeast to connect to Erie Boulevard, following this road north to the water treatment plant.

UTILITY INFRASTRUCTURE: KEY FINDINGS

- /// Electrical transmission corridors and the Albany County Patroon Creek Trunk Sewer easement provide long, linear east-west corridors along relatively level terrain. These corridors are intermittently used for infrastructure access and may provide an opportunity to co-locate multi-modal trail infrastructure.
- /// The Albany Water Board owns a narrow, north-south corridor connecting Tivoli Preserve to Albany Shaker Road. This corridor may be an opportunity to connect the Town of Colonie with the future Patroon Creek Greenway as well as introduce new I-90 crossing infrastructure for pedestrians and cyclists.
- /// The Albany County Patroon Creek Trunk Sewer easement often overlaps with railroad property and/or is located in close proximity to railroad tracks. If portions of the easement are utilized as a trail corridor, safety measures would have to be carefully explored and alternate routes identified in locations where the easement is adjacent to the railroad.

INFRASTRUCTURE: UTILITIES



CHAPTER 3: EXISTING CONDITIONS

NATURAL SYSTEMS

This section provides an overview of the natural systems and flood hazards within the study area. Despite the dense urban development that characterizes most of the study area, there are several nature preserves, wetlands, and waterways distributed throughout the study area, creating opportunities for the future Patroon Creek Greenway to improve access to these natural assets and connect local residents and visitors to restorative outdoor spaces.

Wetlands

Approximately 2% of the study area (114 acres) are covered by freshwater wetlands, most of which are classified by the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI)¹ as riverine, lake, or pond features (78 acres). Six Mile Waterworks contains a large portion of the study area's wetlands, including the headwaters of the Patroon Creek, which bisects the study area and flows into the Hudson River.

According to the USFWS NWI, there are approximately 14 acres of emergent wetlands in the study area and 22 acres of forested/shrub wetlands. Emergent and forested/shrub wetlands are located along the I-90 corridor, in Corporate Woods, and in Six Mile Waterworks Park and Tivoli Lake Preserve.

¹ The USFWS NWI provides publicly accessible data on the abundance, characteristics, and distribution of wetlands in the United States. This inventory is not regulatory and is intended to promote the understanding, conservation, and restoration of wetlands across the nation.

RIVERS

Within the study area, approximately 30 acres are classified by the USFWS NWI as riverine wetlands. In addition to the Patroon Creek, several small streams flow through the northern portion of the study area in the Town of Colonie. The Hudson River defines the eastern edge of the study area, and while not contained within the study area, this tidal river is a major destination and scenic resource.

NYS DEC REGULATED WETLANDS

The NYS Freshwater Wetlands Act protects large freshwater wetlands (12.4 acres or greater in size), as well as smaller wetlands deemed locally important. A 100 foot wide “adjacent area” is established around the perimeter of every protected wetland to ensure the benefits and function of the wetland are preserved.

Any activity that may adversely impact a protected wetland or its adjacent area is regulated by the NYS DEC and requires a permit. Typical trail-related activities that would require a permit if conducted in a wetland or its adjacent area include:

- Construction of roadways or shoreline stabilization structures
- Placement of fill, excavation, or grading
- Modification, expansion, or restoration of existing structures
- Drainage

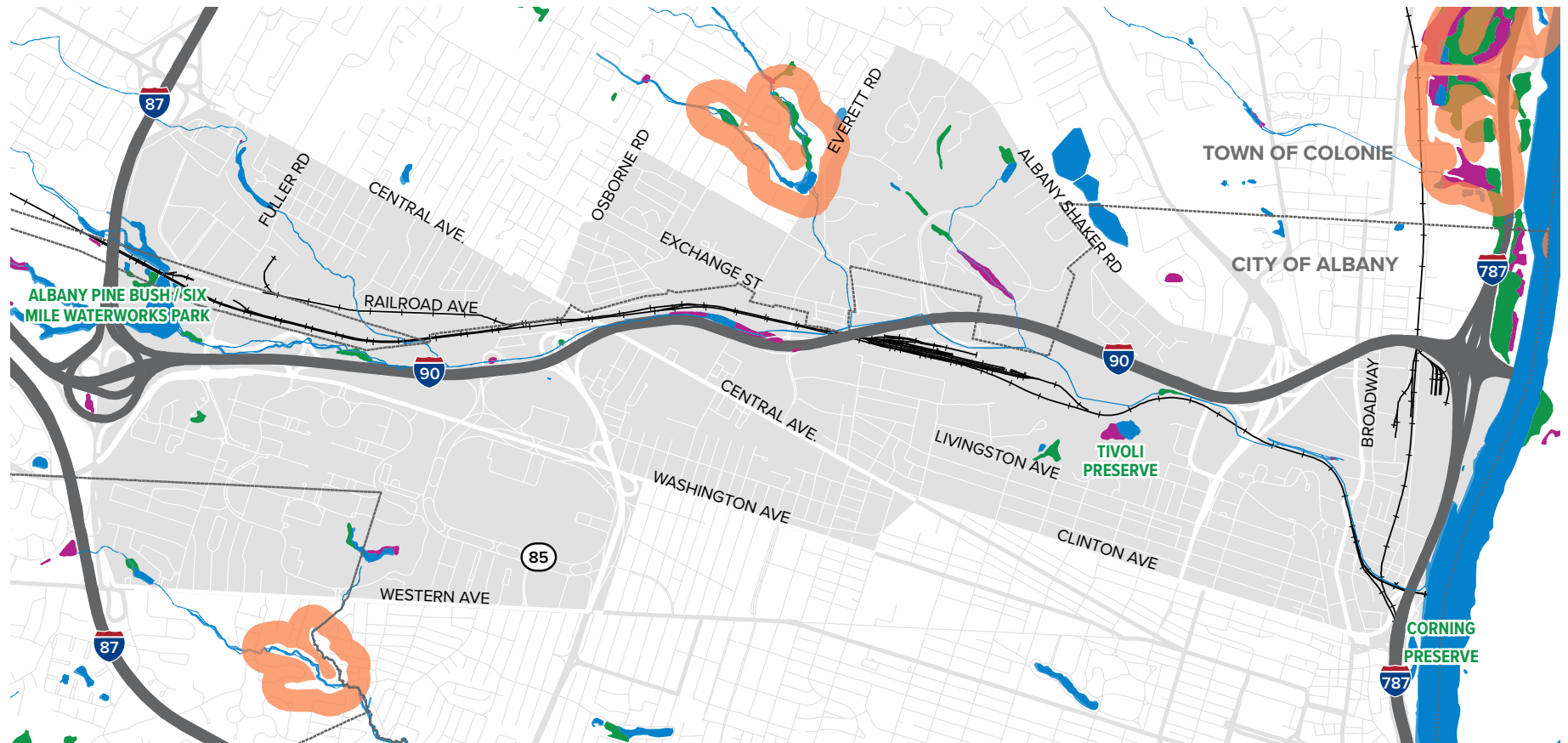
Within the study area, the only currently documented wetlands regulated by the NYS DEC are located along Everett Road, north of I-90.

PATROON CREEK DAYLIGHTING

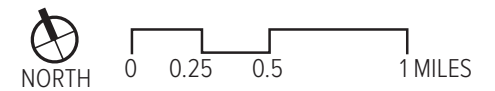
Patroon Creek — the namesake for the future Greenway — originates in the Pine Bush Preserve and flows east approximately 8 miles to its mouth at the Hudson River. Since the late 1800s, several portions of the creek have been culverted (confined to a large underground concrete pipes) to accommodate urbanization.

In 2019, a 1,500 foot portion of Patroon Creek was “daylit” in Tivoli Lake Preserve. The large concrete tile pipe containing Patroon Creek was removed and the creek was restored to an open water, naturalized condition. The newly established stream corridor provides habitat for aquatic and terrestrial species, native landscaping attracts a diversity of pollinator and bird species, and a new trail provides public access to this scenic natural refuge.



NATURAL SYSTEMS: **WETLANDS**

Data Source: New York State Department of Environmental Conservation; U.S. Fish and Wildlife Service National Wetland Inventory



CHAPTER 3: EXISTING CONDITIONS

NATURAL SYSTEMS (CONT.)

Flood Hazard Areas

Approximately 6% of the study area (332 acres) is located in the 100-year floodplain, which has a one percent annual chance of flooding, and approximately 1% of the study area (42 acres) is located in the 500-year floodplain, which has a 0.2% annual chance of flooding. The 100-year and 500-year floodplains are defined by the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps, which were updated in 2015 across Albany County.

Flood hazards are concentrated along the Hudson River, where all areas east of the Kenwood Running Track railroad are in the 100 year floodplain. Other flood-prone areas include:

- Tivoli Lake Preserve
- Six Mile Waterworks Park
- Between Everett Road and I-90
- Areas immediately north of I-90, between Everett Road and Six Mile Waterworks Park

Through the center of the study area, flood hazards generally align with Patroon Creek. Approximately 40% of the Creek is still confined to an underground pipe, and a majority of this condition occurs between Tivoli Lake Preserve and the Hudson River. Additionally, a significant portion of the Creek's watershed is paved, which results in large amounts of stormwater runoff and rapid changes in the stream's water level during storm events.



▲ **Patroon Creek Spillway in Tivoli Lake Preserve.** This area allows the creek to overflow during large storm events.

NATURAL SYSTEMS: KEY FINDINGS

- /// Wetlands and flood hazards are concentrated in the western and eastern portions of the study area and along Patroon Creek.
- /// If the future Greenway follows Patroon Creek, existing wetlands and other natural features provide opportunities to integrate ecological restoration, wildlife viewing, and educational and interpretive displays into the Greenway.
- /// Permeable trail surfacing and bioretention features should be considered along the future Greenway to reduce stormwater runoff in Patroon Creek's highly urbanized watershed.
- /// If sections of the future Greenway are located in the 100-year floodplain, floodable features and/or elevated structures should be integrated to ensure the resilience of the built trail and the safety of its users.

NATURAL SYSTEMS: FLOOD HAZARD AREAS





to see incorporated along the
INTERACTIVE SIGNAGE



CHAPTER 4

PUBLIC ENGAGEMENT

This chapter summarizes the different types of public engagement conducted throughout the planning process. To provide convenient, fun, and diverse opportunities for the public to participate, several different engagement strategies were used, including:

- Project and Citizen Advisory Committee
- Community Liaisons
- Stakeholder Meetings
- Public Events
- Project Website
- Online Survey

PUBLIC ENGAGEMENT

This section provides an overview of the public engagement conducted as part of the Patroon Creek Greenway Feasibility Study. Public engagement was a critical part of the planning and design process; it provided important opportunities to increase awareness about the project, gather local knowledge, better understand the community's needs, and identify, develop, and vet alternative trail alignments and proposed trail facilities.

Advisory Committees

Two advisory committees were established at the beginning of the project to guide the project and provide feedback on all project deliverables. Meetings were held approximately every three months and/or at major project milestones.

PROJECT ADVISORY COMMITTEE

The Project Advisory Committee (PAC) provided direction, technical support, and assisted with the coordination of other City projects and/or initiatives that may affect the Patroon Creek Greenway Feasibility Study. Additionally, the PAC reviewed interim project deliverables and provided feedback and guidance to the Project Team. The following organizations participated in the PAC:

- City of Albany, Dept. of Engineering
- City of Albany, Dept. of Fire & Emergency Services
- City of Albany, Dept. of General Services

- City of Albany, Dept. of Planning & Development
- City of Albany, Dept. of Police, Division of Traffic Engineering
- City of Albany, Dept. of Recreation
- City of Albany, Dept. of Water
- City of Albany, Office of Special Events
- Albany County Water Purification District
- Capital District Transportation Authority (CDTA)
- Capital District Regional Planning Commission (CDRPC)
- Capital District Transportation Committee (CDTC)
- NYS Department of Transportation, Region 1

CITIZEN ADVISORY COMMITTEE

The Citizen Advisory Committee (CAC) was comprised of a diverse group of stakeholders who were able to represent community concerns, needs, and desires. The CAC helped review and resolve feedback received from stakeholders and community members, reviewed and provided feedback on draft project deliverables, advised the Project Team on public outreach strategies, and assisted with the advertisement of public events. The following organizations participated in the CAC:

- Arbor Hill Neighborhood Association
- West Hill Neighborhood Association
- Sheridan Hollow Neighborhood Association
- Ten Broeck Triangle Neighborhood Association

- Upper Washington Neighborhood Association
- Albany Public Library
- Albany School District
- University at Albany (SUNY), Facilities Management
- Common Councils, Ward 3, 5, 11, & 12
- Downtown BID
- Albany Bicycle Coalition
- Albany Pine Bush Preserve
- Friends of Tivoli

Community Liaisons

Inclusive engagement that empowers the local community and builds a sense of ownership was an important component of the planning process and will continue to be critical aspect of the project as it moves forward into design and implementation. Several portions of the proposed Greenway trail overlap with or are adjacent to Environmental Justice populations and a variety of engagement strategies were used to engage the communities impacted by this project.

To effectively engage local residents and affected stakeholders, two part-time Community Liaisons were hired to assist the Project Team throughout the entirety of the Patroon Creek Greenway Feasibility Study. The Community Liaisons were responsible for identifying stakeholders and appropriate methods of outreach, assisting with event advertisement, facilitating and participating in public events, and reviewing and providing feedback on draft project deliverables.

PUBLIC ENGAGEMENT: OVERVIEW

**PAC****CAC****2** Advisory Committees**50+** Stakeholder Interviews**8+** Public Events + Targeted Outreach**350+**
responses generated from the
online public survey**1** Project Website

PUBLIC ENGAGEMENT (CONT.)

Stakeholder Meetings

Stakeholder Meetings were designed to obtain key information from individual stakeholders and/or interested/affected groups and organizations regarding the project. The Project Team worked with the advisory committees and community liaisons to identify key stakeholders.

Stakeholder meetings were conducted with the following organizations and agencies to discuss project challenges, opportunities, concerns, and answer any questions:

- National Grid
- Albany Housing Authority
- Albany County Water Purification District
- City of Albany Department of Water and Water Supply
- New York State Department of Transportation, Region 1
- Federal Highway Administration

Additionally, over 40 individual conversations were held with community organizations, business owners, and residents.

Public Events

Public events were held at key milestones in the planning process to gather local knowledge and solicit feedback on proposed improvements and opportunities along the Patroon Creek Greenway corridor. All public events were designed to be convenient, fun, and interactive.

KIPP TECH VALLEY TRUNK OR TREAT EVENT

The Project Team participated in KIPP Tech Valley's Trunk or Treat event that was held on October 27, 2022. The event was well attended (over 50 students and families), and people of all ages showed interest in the Patroon Creek Greenway project. The Project Team set-up boards to gather feedback related to the community's vision for the trail and trail amenity preferences.

DEMONSTRATION EVENT

The Project Team hosted an event on November 3, 2021 along the public right-of-way in front of KIPP Tech Valley Middle School. As part of this event, the proposed trail location was temporarily defined by a mowed path that included artwork from the students at KIPP and a "Story Walk" that included facts about Patroon Creek and Tivoli Preserve in order to demonstrate how an off-road multi-use trail would "feel" in this location. Approximately twelve people attended this event.

POP-UP EVENTS

A series of public pop-up events were hosted in May and June 2022 to share the proposed Patroon Creek Greenway alignment with the community and solicit feedback on potential trail facility types and amenities. The public pop-ups were held at the following locations:

- Tulip Fest under the Sustainability Tent on Saturday May 7 (11AM-6PM)
- Empire State Plaza Farmer's Market on Wednesday May 18 (10AM-2PM)
- Honest Weight Food Co-op on Thursday May 19 (4:30PM-6:30PM)
- In front of the Washington Avenue Library Branch on Thursday June 2 (4PM-7PM)

Public feedback at all events reinforced the community's desire for more protected trail facilities that provide a safe space for all ages and abilities.

OTHER ENGAGEMENT ACTIVITIES

The Patroon Greenway community liaisons also hosted and tabled at several community events over the course of the project to increase awareness about the project and gather feedback. These additional activities included:

- Tabling at UAlbany to gather feedback from University students
- Tabling at the Albany Youth Employment Fair
- Engagement with students and teachers at Sheridan Hollow Preparatory Academy and Albany School of Humanities

Project Website

A project website (<https://patroongreenway.com/>) was created at the onset of the planning process. The website was frequently updated and provided information regarding public events, draft project deliverables, and an overview of the project's purpose. The website also included a comment form, enabling the public to submit questions and feedback directly to the Project Team.

ONLINE PUBLIC SURVEY

An online public survey was launched in January 2022, and a total of 361 responses were collected from the two-part survey. The first part of the survey focused on bicycle access, current comfort cycling in the City of Albany, and preferred bicycle facility types and trail amenities. The second part of the survey solicited feedback regarding the public's preferred route for the Patroon Creek Greenway. The survey also provided the opportunity to submit open-ended comments and suggestions related to other potential trail routes and connections.

The survey was advertised by posting 11x17 laminated posters in several local businesses, offices, and bus shelters in and adjacent to the study area. Public notices advertising the survey were also displayed utilizing various social media platforms. Full survey results can be found in Appendix C.

BENITA LAW-DIAO | COMMUNITY LIAISON

Benita Law-Diao is a licensed dietitian and public health nutritionist who worked for the New York State Department of Health for 32 years. Much of her career has focused on public health, nutrition, and hunger prevention. She also worked as a Commissioned Officer and Contract Worker for the U.S. Department of Agriculture and the U.S. Food and Drug Administration.

Benita continues to be an active volunteer with several community organizations. She is also passionate about enhancing recreation access and resources to the City of Albany's youth. Benita assisted the Project Team by conducting over 40 individual stakeholder conversations, facilitating public events, and providing feedback on project deliverables.



▲ Benita Law-Diao tabling at the demonstration project at KIPP Middle School

SALAH HARRIS | COMMUNITY LIAISON

Salah Harris is currently a student at UAlbany where is active member of the student body. As a native to the Albany area, much of his work outside of his studies is community-focused. In addition to his activity on campus, Salah runs a non-profit that provides opportunities and mentorship to local youth. Salah also works with the City's Office of Community Engagement and the Violence Prevention Task Force.

Salah assisted the Project Team by conducting stakeholder interviews, tabling at UAlbany, facilitating public events, providing feedback on public engagement and project materials, and managing the project's Instagram account.



▲ Salah Harris providing project information to students at UAlbany

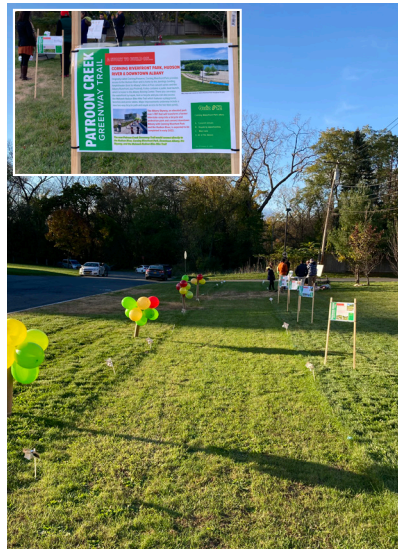


▲ KIPP Tech Valley Trunk or Treat Event. Parents and students shown placing sticker dots on preferred amenities for the Greenway.

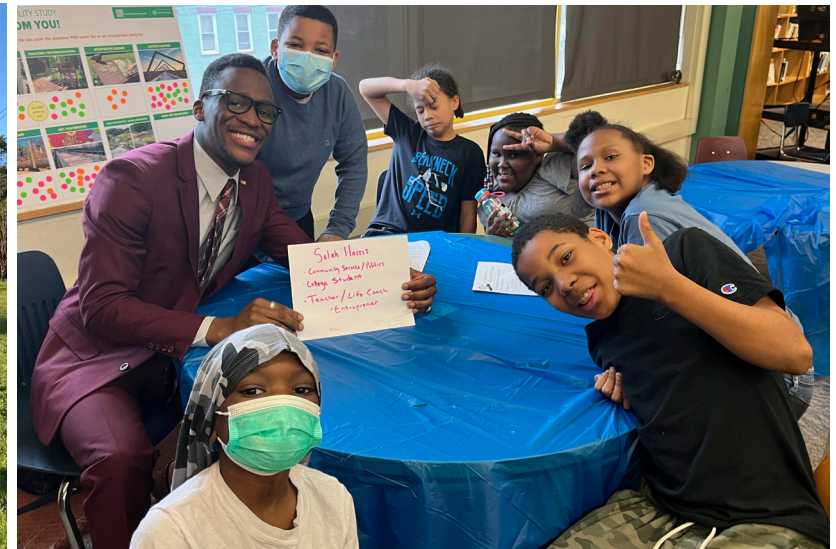
▲ KIPP Tech Valley Trunk or Treat Event. Student artwork displayed on the sidewalk as part of the “Slow Streets, Safe Streets” temporary demonstration project,



◀ **Albany Bike Coalition Slow Ride Event.** Bike tour through the Arbor Hill / West Hill neighborhoods and tour of the Underground Railroad Education Center.



▲ **Temporary Demonstration Event.** Attendees shown participating in the “Story Walk” along the temporary multi-use path proposed in front of KIPP Tech Vally Middle School



▲ **Youth Engagement.** Community Liaison, Salah Harris interacting with students from Sheridan Preparatory Academy.





CHAPTER 5

ALIGNMENT ANALYSIS

The alignment analysis explores several different corridor and crossing alternatives for the future Patroon Creek Greenway and provides a standardized framework for comparing the different alternatives. Selection and evaluation of the alignment and crossing alternatives was informed by the needs and opportunities identified in the Existing Conditions report, several stakeholder conversations, input from the Project and Citizen Advisory Committees, and feedback from the public. This analysis will directly inform the identification of preferred alignment and crossing alternatives.

The topics covered in this section include:

- An overview of the four character areas identified in the study area
- Introduction of the alignment and crossing alternatives
- Description of the evaluation criteria for each alternative
- Presentation of the alignment and crossing alternatives from west to east
- Summary of cost estimate assumptions



CHAPTER 5: ALIGNMENT ANALYSIS

INTRODUCTION

The purpose of the Patroon Creek Greenway alignment analysis is to identify and evaluate several trail corridor and crossing alternatives using standardized criteria to assist with the identification of a preferred alternative. This section begins with an overview of the alignment alternatives, a description of each evaluative metric, and a summary of trail design considerations, required coordination with other agencies and entities (e.g., electric utilities, railroads), and cost estimate assumptions. Following this introduction, a detailed analysis of each alignment alternative is provided.

Character Areas

Four different character areas were defined within the study area based on existing land use and land cover. These character areas provided the foundation for the identification of trail alignment alternatives and include the following:

- **Campus Character Area (CA):** This character area includes the areas adjacent to the SUNY Albany and Harriman State campuses. It is the western most character area and is bound to the west by the Albany Pine Bush Preserve's Six Mile Waterworks Park and to the east by Central Avenue. Within this character area, the trail alignment alternatives are located along Patroon Creek and generally follow the Albany County Water Purification District's Patroon Creek trunk sewer easement.
- **Commercial/Retail Character Area (CR):** This character area is defined by the presence of large-scale commercial destinations along Central Avenue. It is bound to the west by Central Avenue and to the east by Everett Road. Within this character area, the trail alignment alternatives are located along Patroon Creek, between I-90 and the railroad, and generally follow the Albany County Water Purification District's Patroon Creek trunk sewer easement.
- **Industrial Character Area (IN):** This character area is defined by the prevalence of industrial uses located to the north and south of I-90 along Exchange Street, Industrial Park Boulevard, and Commerce Avenue. This character area is bound to the west by Everett Road and to the east by Tivoli Park Preserve. Three different trail alignments are evaluated within this character area, one which circumvents the CSX railyard to the north through the Town of Colonie and two alignments that stay south of I-90 and the railyard and remain entirely in the City of Albany.
- **Neighborhood Character Area (NE):** This character area is defined by dense residential and mixed-uses in Albany's Arbor Hill, Ten Broeck, and Downtown neighborhoods. It is bound to the west by Tivoli Park Preserve and to the east by Corning Preserve and the Hudson River. Within this character area, three trail alignments are evaluated, one which utilizes neighborhood streets and two of which include a mix of on- and off-road trail facilities.

Trail Alternatives

Eight different trail alignments are evaluated as part of this analysis and were identified based on the following criteria:

- Proximity to the Patroon Creek;
- Connectivity to adjacent neighborhoods and local destinations;
- Ability to connect Albany Pine Bush Preserve, Tivoli Preserve, and the Corning Preserve as directly as possible;
- Use of public property and public rights-of-way; and,
- Support from the Technical Advisory Committee, Citizen Advisory Committee, and general public.

Below is a brief description of each trail alignment, organized by character area and proceeding from west to east. Beginning on page 10, a detailed description of each trail alignment alternative is provided.

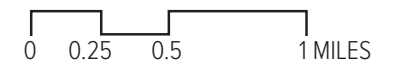
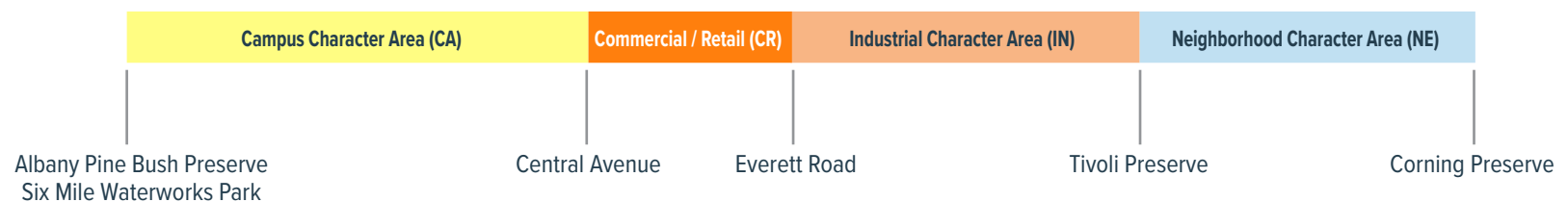
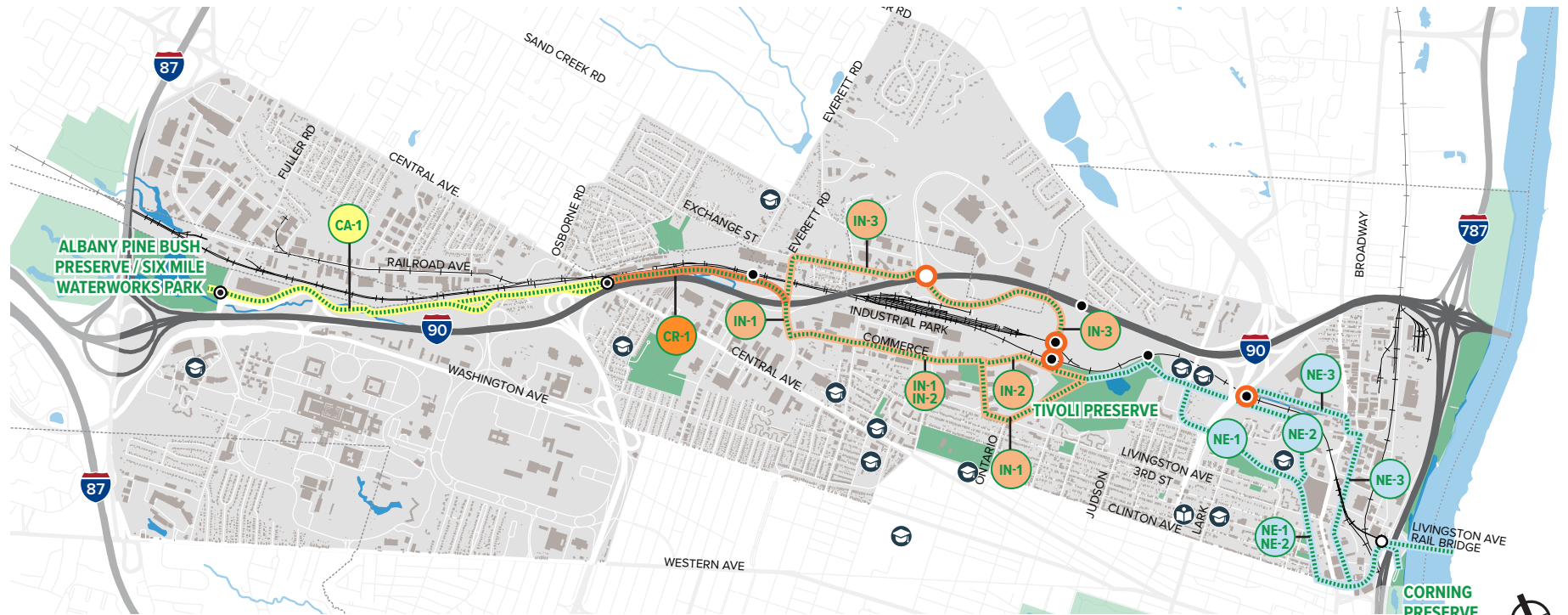
CAMPUS (CA)

Within this character area, one primary trail corridor was identified, which uses the open space between the railroad and I-90, roughly following Patroon Creek. Along this corridor, two potential alignment options are evaluated:

- **CA-1a:** This option is the most direct route between Fuller Road and Central Avenue. The trail is off-road between Fuller Road and Yardboro Avenue and then transitions to a shared roadway with a sidewalk until reaching Central Avenue.

ALIGNMENT ANALYSIS: CHARACTER AREAS AND TRAIL ALIGNMENT ALTERNATIVES

- Alignment Alternative CA-1
- Alignment Alternative CR-1
- Alignment Alternatives IN-1, IN-2, and IN-3
- Alignment Alternatives NE-1, NE-2, and NE-3
- Proposed bridge crossing
- Proposed at-grade crossing
- Ⓢ Existing tunnel
- Schools
- Libraries
- Structure is required with alignment alternative
- parks
- study area
- municipal boundaries



INTRODUCTION (CONT.)

- **CA-1b:** This alignment option is similar to CA-1a, but where the terrain allows, it heads south to avoid the railroad and County sewer easement. The trail is off-road between Fuller Road and Yardboro Avenue and then transitions to a shared roadway with a sidewalk for approximately 1,300 feet. At a vacant lot, the trail heads south to utilize the space between the buildings on Yardboro Avenue and the I-90 access ramps. Along this stretch of off-road trail, a boardwalk is recommended to limit disturbance due to the proximity to Patroon Creek and wetland conditions.

COMMERCIAL / RETAIL (CR)

Similar to the Campus character area, one primary trail corridor was identified in the Commercial/ Retail character area. The trail uses the open space between the railroad and I-90 and follows the northern shoreline of Patroon Creek from Central Avenue to Everett Road. Within this corridor, two potential options are evaluated:

- **CR-1a:** This alignment parallels Patroon Creek and follows the Albany County Water Purification District's Patroon Creek trunk sewer easement. A new ramp is proposed at the eastern end of this corridor to bring trail users up to Everett Road bridge.
- **CR-1b:** This alignment is identical to CR-1a, but also includes restoration of Patroon Creek and the surrounding wetland areas.

INDUSTRIAL (IN)

Three different alignments are evaluated in this character area, all of which connect Everett Road bridge to Tivoli Preserve :

- **IN-1:** This alternative is comprised of separated on-road trail facilities until reaching Tivoli Preserve. The alignment crosses Everett Road bridge using a new, proposed separated shared-use path and continues south on Everett Road to Watervliet Avenue Ext. The trail then continues east on the south side of Watervliet Avenue Ext. and then Commerce Avenue until reaching Terminal Street. It then continues south along the west side of Terminal Street and then east on the north side of Livingston Avenue for approximately one block. The trail then enters the southwest corner of Tivoli Preserve and transitions to an off-road facility.
- **IN-2:** This alternative uses the same route as IN-1, but follows the north side of Watervliet Avenue Ext. / Commerce Avenue and at Terminal Street it continues east and transitions to an off-road facility, following Patroon Creek and traveling through the forested area on the north side of the Freihofer Bakery property to enter the northwest corner of Tivoli Preserve.
- **IN-3:** This alternative heads north on Everett Road to Exchange Street using a new proposed shared-use path on the west side of Everett Road. The trail continues east on Exchange Street using a proposed shared roadway with sidewalks and passes under I-90 through a new proposed underpass next to the existing Anderson Road tunnel. The trail then continues off-road between

the CSX railyard and I-90 to head east and then south. Two new pre-cast bridge structures are proposed to replace the existing abandoned rail trestles and enable trail users to cross over the rail line and enter the northwest corner of Tivoli Preserve.

NEIGHBORHOOD (NE)

Three different alignments are evaluated in this character area, all of which connect Tivoli Preserve to the Albany Skyway and Corning Preserve. Each alignment exits the east side of Tivoli Preserve and includes a proposed shared-use path along the north side of N. Manning Boulevard to the intersection of Northern Boulevard. This new shared-use path would serve trail users and improve access to Tivoli Preserve for KIPP Tech Valley students.

- **NE-1:** This alternative is comprised entirely of on-road separated trail facilities. It heads south along Northern Boulevard and continues on Manning Boulevard, passing Arbor Hill Elementary School and the Ida Yarbrough Apartments. At Livingston Avenue, this trail alignment continues south along Ten Broeck Place and then heads east on the north side of Clinton Avenue to connect to the Albany Skyway.
- **NE-2:** At the intersection of N. Manning and Northern Boulevards, this alternative heads east past KIPP Tech Valley Elementary School as an off-road trail using City-owned property to pass under U.S. 9 and travel through the wooded areas behind the Capital Woods Apartments to connect

Trail Design Considerations

The Patroon Creek Greenway alignment alternatives utilize, cross, or are located in close proximity to property owned by the railroads, electric utilities, and county and local water utilities. This section provides an overview of important design criteria and considerations for the future Patroon Creek Greenway.



ELECTRIC UTILITIES National Grid

The following considerations were compiled based on a conversation with National Grid's right-of-way staff.

- National Grid has a standardized review procedure for municipalities requesting to use its right-of-way for recreational purposes. This review procedure focuses on the public's safety and any impacts to National Grid's infrastructure and assets.
- The use of National Grid's right-of-way in CA-1 and CR-1 would constitute a complex request, as these alignments are longitudinal occupations greater than 100-feet in length. National Grid would commence review of the trail proposal once the City of Albany (or other entity) entered into a commercial agreement to reimburse National Grid. Reimbursable charges may include costs associated with project management and review, construction supervision, and any costs associated with the modification or relocation of National Grid's facilities to accommodate the trail.



WATER UTILITIES Trunk Sewer Easement

The following design and maintenance considerations were compiled based on a conversation with Albany County's Water Purification District staff.

- Alignment alternatives in CA-1, CR-1, and Tivoli Preserve utilize the County's trunk sewer easement, which is approximately 24-feet wide.
- County staff regularly (weekly) access the trunk sewer easement to maintain, repair, and inspect their infrastructure.
- A 10- to 12-foot wide lane within the County's trunk sewer easement should remain clear at all times to allow access to sewer infrastructure and minimize conflicts with future trail users.
- Any new plant material along the sewer easement should be low maintenance with minimal root structure (i.e., no new large trees) to minimize damage to sewer infrastructure.
- Trail segments within the sewer easement should be designed to accommodate heavy trucks and machinery to prevent damage to trail assets during the County's routine maintenance and inspections.



RAILROADS CSX

The following considerations were compiled based on existing design requirements and input from Bergmann staff who regularly represent the railroads.

- Several alignment alternatives cross or are located adjacent to CSX railroad right-of-way (ROW), including CA-1, CR-1, IN-2, IN-3, and NE-3.
- It is likely CSX will object to the Greenway on their ROW.
- CSX opposes new at-grade crossings of their ROW. If a pedestrian bridge is constructed to cross the railroad, CSX requires a minimum vertical clearance of 23-feet, fencing on the bridge must be 8-feet high with a curved top or 10-feet high without a curved top, account for a future track 15-feet on center, span the railroad's entire ROW, and provide 25-feet of horizontal clearance on both sides.
- For trails within 50-feet of the railroad ROW, fencing must be provided and maintained. Fencing must be a minimum of 8-feet high with openings smaller than 2" x 2".
- Contractor's general liability insurance does not cover work within 50-feet of the railroad ROW; a special insurance policy is required.
- No drainage can be directed towards the railroad's ROW as a result of a project.
- Railroad coordination and protective services are required for any project on, over, or adjacent to the railroad. Railroad flagging/protective services is typically estimated as about \$1,500-\$2,000 per day.

INTRODUCTION (CONT.)

to Lark Drive. At Lark Drive, the trail transitions to an on-road separated facility. It follows Lark Drive to Arbor Hill Elementary School where the trail merges and expands the school's perimeter walkway to the Arbor Drive / Manning Boulevard intersection. The trail then follows the NE-1 alignment to the Albany Skyway.

- **NE-3:** This alignment follows the NE-2 route from Tivoli Preserve. After crossing under U.S. 9, the trail heads north across a new proposed bridge over the railroad and connects to Tivoli Street. The trail proceeds along Tivoli Street as a shared roadway (and potentially a waterfront trail in the future), following the Patroon Creek to Broadway. At the intersection of Tivoli Street and Broadway, the trail continues south along Broadway to the Skyway.

Crossing Alternatives

Several trail crossing alternatives were evaluated for Fuller Road, Central Avenue, and I-90 at Everett Road bridge. Every Patroon Creek Greenway alignment alternative crosses these roads, and therefore, improved crossing facilities at these junctures are critical to the success of the future Greenway. The crossing alternatives are summarized below and detailed descriptions are presented in the subsequent section and are introduced from west to east.

- **Fuller Road (2 alternatives):** An enhanced at-grade crossing and a new bicycle/pedestrian bridge are evaluated.
- **Central Avenue (3 alternatives):** A new signalized crossing at Yardboro Avenue and Central Avenue, a new crosswalk with a pedestrian refuge island and user-activated rectangular rapid flashing beacons

(RRFB), and a new bicycle/pedestrian bridge are evaluated.

- **Everett Road Bridge:** A new protected shared-use path is recommended as part of the future reconstruction of this bridge.

Alignment Evaluation Criteria

The following data were collected and provide a standardized set of metrics to assist with the evaluation of each alternative.

- **Land ownership:** The types of property (public vs. private) and the property owners are documented for each alignment.
- **Connectivity:** The number of direct connections to CDPHP Cycle! bike share stations, existing or proposed bicycle/trail facilities, and existing parks are quantified for each alignment. A connectivity score was assigned to each alternative by dividing the number of connections by the total length of the trail alignment (i.e., connections per mile).
- **Equity:** The number of direct connections to schools and public transit stops and whether a trail alignment is entirely or partially contained in a Potential Environmental Justice Area (PEJA, as defined by NYS DEC)* is documented for each alignment. An equity score was generated for each alternative using the following method: 3 points if an alignment is entirely contained within a PEJA; 2 points if an alignment is partially contained within a PEJA; 1 point if an alignment is immediately adjacent to a PEJA; and, 0.1 points for each bus stop or school to which the alignment connects.
- **Trail facility type(s):** Trail facility types are identified and illustrated for each alignment and serve as the basis for the cost estimates. To the extent possible, the most protected facility types are identified for each alignment.
- **Cost:** Planning level cost estimates are provided for each alignment alternative. These cost estimates include the features required to create a comfortable and accessible greenway for all that is separated from car traffic to the greatest extent possible. Additional placemaking features (e.g., lighting, public art, wayfinding signage) are not included, but will be considered once a preferred alignment(s) is selected. All cost estimates include materials and labor as well as soft costs (see page 88 for a summary of cost estimate assumptions).
- **Consistency:** This metric ranks each alignment alternative based on its ability to provide an off-road trail experience immersed in nature.
- **Implementation time frame:** The estimated amount of time (including design, permitting, and construction) necessary to implement an alignment is approximated for each alternative.
- **Public support:** An online public survey was created to gather feedback from the public regarding preferred trail alternatives in the Industrial (IN-1, IN-2, and IN-3) and Neighborhood (NE-1, NE-2, and NE-3) character areas. The results from this survey are presented in this section.
- **Challenges and required coordination:** The narrative describing each alignment alternative highlights engineering constraints (e.g., steep slopes) and required coordination and/or permits, all of which can increase the time and cost needed to implement an alternative.

**NYS DEC PEJAs were used to identify the most under-served populations in the study area, as they use more stringent socio-demographic thresholds and cover a smaller geographic area than the CDTC/federal environmental justice areas. Please see the Existing Conditions chapter to reference the CDTC/federal environmental justice areas.*



Alignment Analysis Summary

	Ownership % publicly-owned	Connectivity connections/mile	Equity Score	Cost Estimate planning-level	Public Support	Timeframe	Required Structures	Challenges
CA-1	50%	2.4	1.7	CA-1a: \$6M CA-1b: \$8.5M	N/A	5-10 years	CA-1a: None CA-1b: Boardwalk	Adjacent to railroad ROW; uses Natl Grid and interstate ROW; limited access points
CR-1	55%	3.8	1.3	CR-1a: \$4M CR-1b: \$10.5M	N/A*	5-10 years	Bridge to Everett	Uses interstate, Natl Grid, and railroad ROW; steep topography; limited access points
IN-1	100%	5	3.3	\$8M	28%	5-10 years	None	Uses Albany Water Board property
IN-2	65%	4	3.2	\$10	39%	10+ years	Retaining walls	Adjacent to railroad ROW; steep topography; uses private property
IN-3	70%	1.9	2.1	\$28.5M	33%	10+ years	Tunnel; 2 bridges; retaining walls	Uses interstate and railroad ROW; steep topography
NE-1	100%	12.7	4.0	\$8M	37%	5-10 years	None	Removes one lane of on-street parking
NE-2	90%	10	4.1	\$14M	20%	5-10 years	Retaining walls	Steep topography; adjacent to railroad ROW
NE-3	95%	3.7	4.0	\$25M	43%	10+ years	Bridge over railroad	Crosses railroad ROW

*85% of respondents identified native landscaping as a top amenity

FULLER ROAD

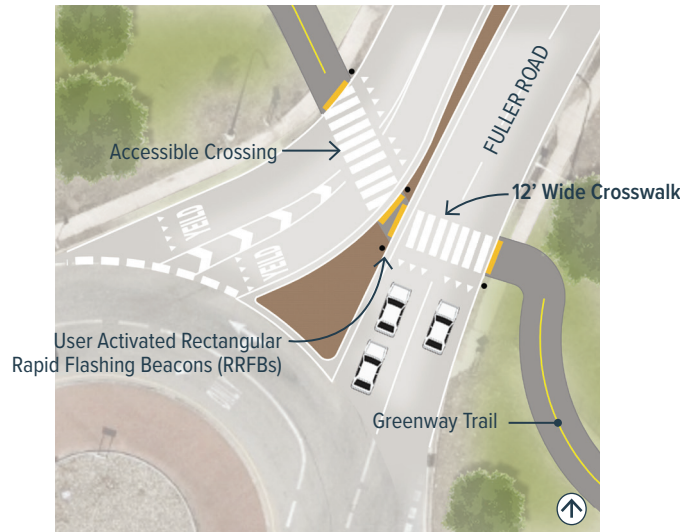


- TYPE: **CROSSING**
- CHARACTER AREA: **CAMPUS (CA)**
- CROSSING TYPES EXPLORED: **2**

In order to connect the future Patroon Creek Greenway to the Albany Pine Bush Preserve, Fuller road must be crossed. Currently, this busy roadway is challenging for bicyclists and pedestrians to cross due to minimal crossing infrastructure, relatively high traffic volumes, and the presence of a round-a-bout which only requires motor vehicles to yield, not stop.

Two different options for improving crossing conditions were explored at the intersection of Fuller Road and the Albany Pine Bush Preserve Six Mile Waterworks Park:

- **Option 1:** An enhanced at-grade crossing, including a wider crosswalk and median refuge area to accommodate trail users and user-activated Rectangular Rapid Flashing Beacons (RRFBs) to encourage cars to yield to trail users.
- **Option 2:** A new bicycle and pedestrian bridge providing a separated crossing for trail users and creating a new gateway to the Pine Bush Preserve and the Patroon Creek Greenway. This alternative would require the use of Interstate right-of-way for the eastern bridge approach.



OPTION 1: Enhanced At-Grade Crossing

This improved crossing includes:

- New high visibility crosswalks (12-feet wide)
- User-activated RRFBs (4 total)
- Accessible curb ramps with detectable warnings
- Existing pedestrian median refuge island reconfigured to meet new crossing width

COST ESTIMATE: \$150,000

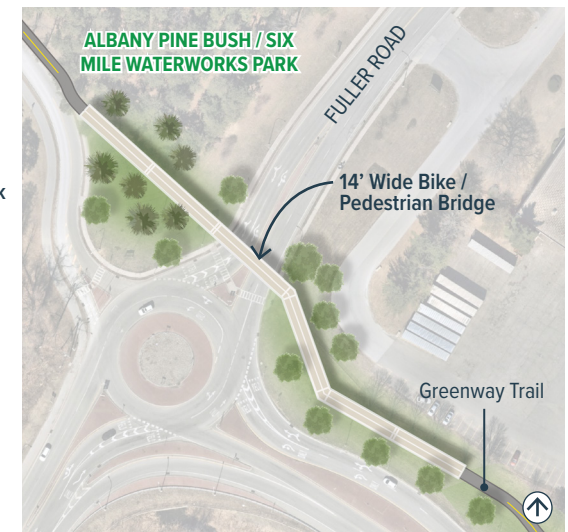
This planning level cost estimate includes the improvements listed above and also accounts for design, construction contingencies and inspection, and traffic control.

COMFORT LEVEL: ● ● ○ ○ ○

This option would minimally increase trail user comfort.

TIMEFRAME: Short-Term, 1-3 Years

This option requires minimal changes from the existing conditions and could be implemented quickly.



OPTION 2: New Pedestrian Bridge

Features of this new proposed bridge include:

- 14-foot clear width for trail users
- 17-foot vertical clearance above Fuller Road
- 100-foot long main span
- Accessible approaches (5% grade) totaling 522-feet in length

COST ESTIMATE: \$5,500,000*

This planning level cost estimate is for basic amenities only. Electric utilities on the west side of Fuller Road would be impacted by the bridge and would require relocation.

COMFORT LEVEL: ● ● ● ● ●

This option would significantly increase trail user comfort.

TIMEFRAME: Mid-Term, 5-10 Years

This option requires additional planning, design, and the identification of a funding source.

**See page 34 for a list of assumptions and soft costs included in cost estimates for new structures.*

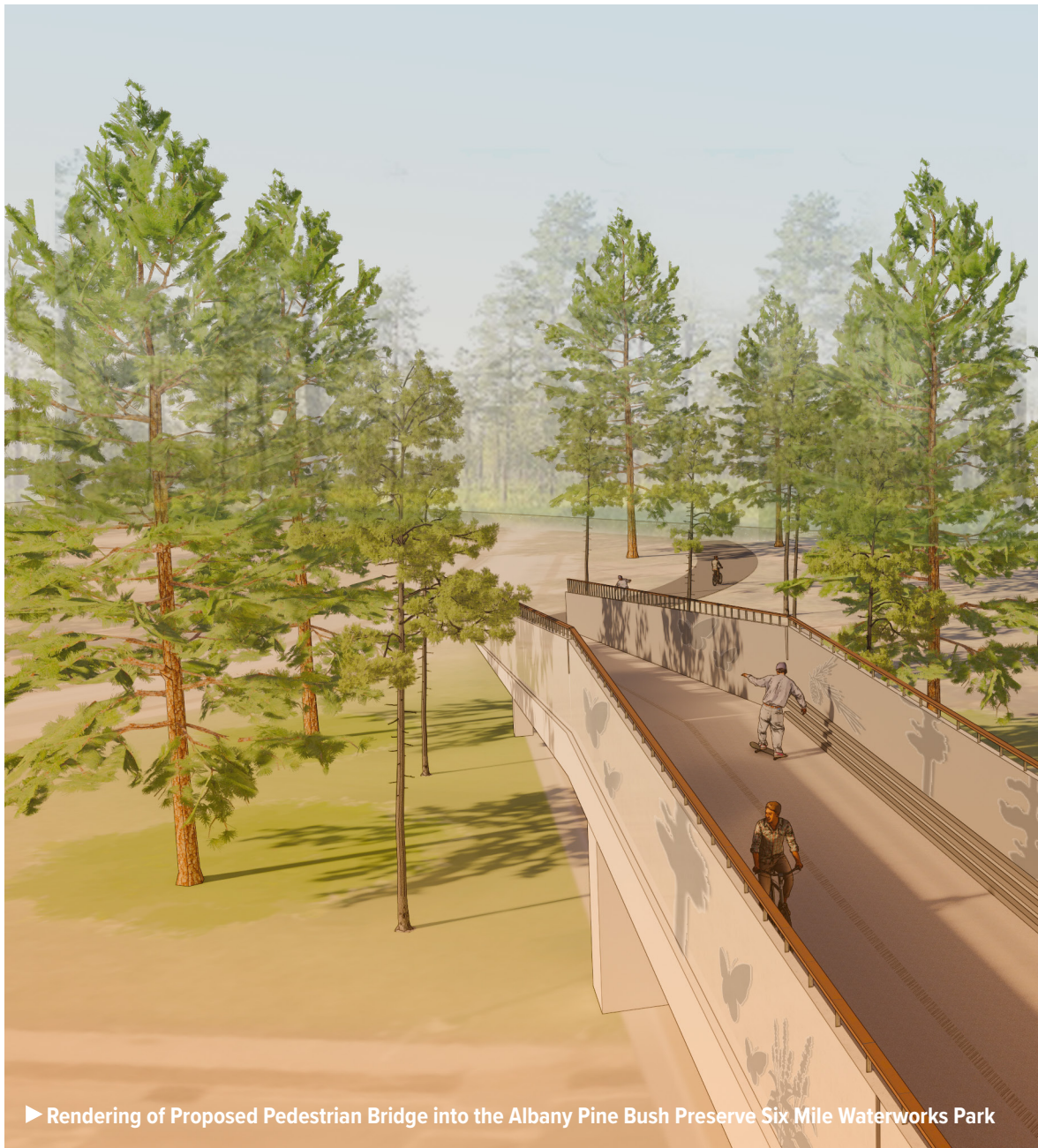


▲ **Existing Condition** at the intersection of Fuller Road and Six Mile Waterworks Park.

USING INTERSTATE ROW

The use of Interstate right-of-way (ROW) for the future Patroon Creek Greenway trail will require close coordination with the Federal Highway Administration (FHWA). The following permits and actions will likely be required:

- Any instance where the trail utilizes Interstate ROW, a use and occupancy permit will be required. This permit will also require regular renewal.
- Any instance where the trail crosses the Interstate ROW boundary line, a break in access permit will be required.
- ROW fencing must be relocated and replaced, as needed, to prevent trail users from accessing the Interstate ROW and to ensure access is maintained for FHWA.



► **Rendering of Proposed Pedestrian Bridge into the Albany Pine Bush Preserve Six Mile Waterworks Park**

CA-1

- TYPE: **TRAIL CORRIDOR**
- CHARACTER AREA: **CAMPUS (CA)**
- LENGTH OF CORRIDOR: **1.7 MI**



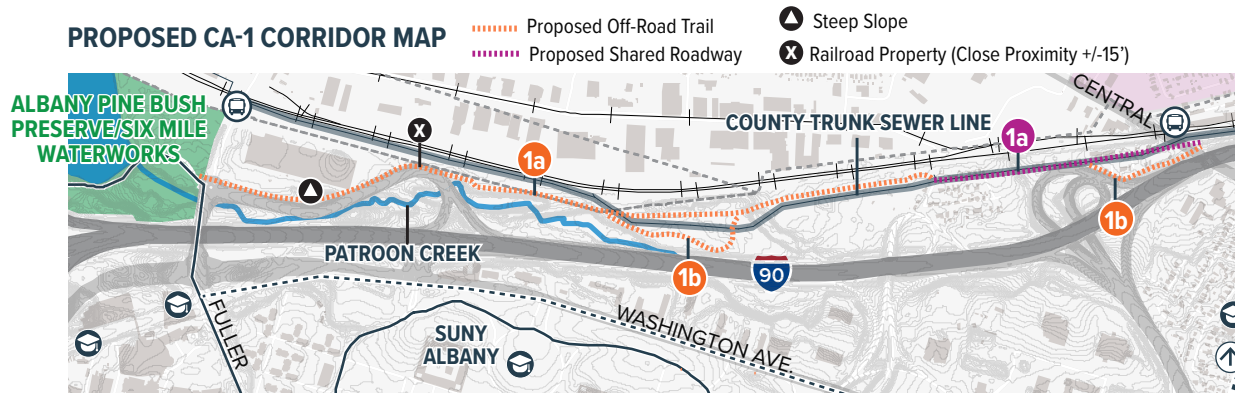
The CA-1 alignment connects the Albany Pine Bush Preserve Six Mile Waterworks Park east to Central Avenue. This alignment utilizes the space between the railroad and I-90 and generally follows the County's Patroon Creek trunk sewer easement. Two different options along this alignment corridor were identified. CA-1a is the most direct route and consists of an off-road trail between Fuller Road and Yardboro and then transitions to a shared roadway along the entire length of Yardboro Avenue. CA-1b generally follows CA1a, but deviates to the south,

where possible to provide more distance between the railroad and the trail. CA-1b also includes a shared roadway on Yardboro Avenue and an off-road trail (portions of which are an elevated boardwalk to minimize disturbance) along the northern shoreline of Patroon Creek using interstate right-of-way just south of Yardboro Avenue.

Potential challenges along this alignment include:

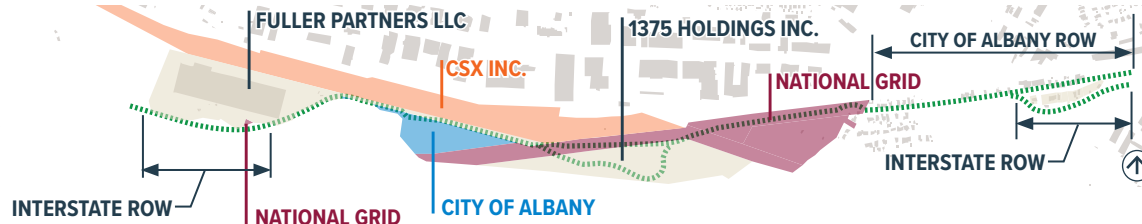
- Lack of north-south connectivity along the corridor;
- Steep slopes between the Fuller Road ramp and Fuller Partners LLC property;
- Use of private, electric utility, and Interstate ROW properties and the County's sewer easement; and,
- Close proximity to the railroad ROW. All sections of the future trail within 50-feet of the railroad ROW will require 8-foot high fencing.

PROPOSED CA-1 CORRIDOR MAP



*Note: alignment width is not to scale.

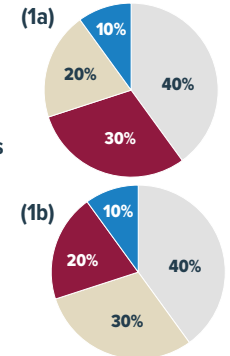
LAND OWNERSHIP



LAND OWNERSHIP

This alternative alignment is proposed on the following properties:

- **Road Right-of-Way**
 - City of Albany
 - Interstate
- **Private (Industrial) Properties**
 - Fuller Partners LLC
 - Fuller Realty
 - 1375 Holdings Inc.
- **Municipal Properties**
 - City of Albany
- **Electric Utility Properties**
 - National Grid



*Percentages are approximate.

CONNECTIVITY

This alignment alternative provides connections to the following bicycle/trail infrastructure and parks:

- **Existing Bicycle Infrastructure**
 - Multi-use path on Fuller Road
 - The Albany Pine Bush Preserve trail system
 - **Proposed Bicycle Infrastructure**
 - Proposed multi-use path on Washington Avenue
 - **Parks + Open Spaces**
 - The Albany Pine Bush / Six-Mile Waterworks Park
- CONNECTIVITY SCORE: 2.4 connections per mile**

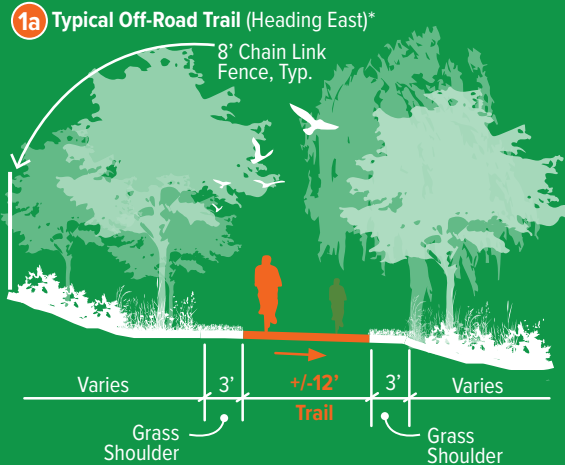
EQUITY

This alignment alternative connects to the following:

- 🚌 **Public Transit** (0.1 point each)
 - Bus stop on Fuller Road (routes 117 and 190)
 - Bus stop on Central Avenue (routes 1 and 807)
 - Planned BusPlus Purple Line via SUNY Albany
- 🎓 **Schools + Institutions** (0.1 point each)
 - Tech Valley High School
 - Colleges of Nanoscale Science & Engineering
 - SUNY Albany
 - Harriman Campus
- **Potential Environmental Justice Area (PEJA)**
 - Immediately adjacent to a PEJA (1 point)

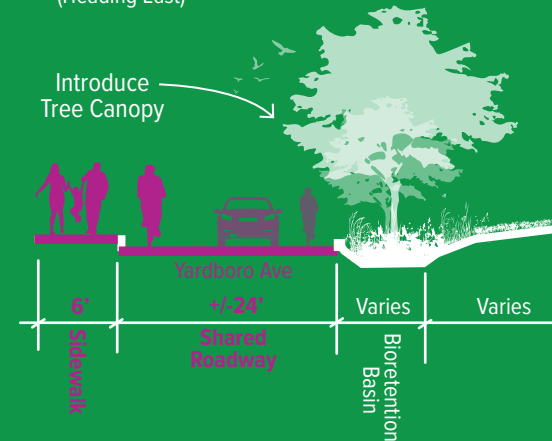
EQUITY SCORE: 1.7

► TYPICAL FACILITY TYPES: CA-1A



*Generally follows sewer easement and rail corridor

1a Typical Shared Roadway on Yardboro Avenue (Heading East)



COST: \$6,000,000

Approximately 4,700 linear feet of fencing is required along railroad and interstate ROW, which increases costs.

CONSISTENCY:

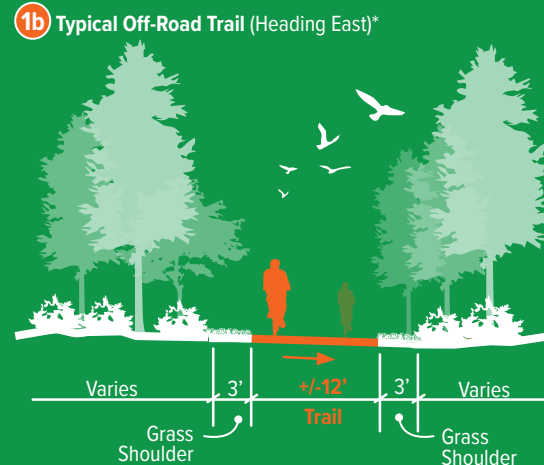


A majority of trail is off-road, however the shared road detracts from the greenway experience.

TIMEFRAME: Mid-Term, 5-10 Years

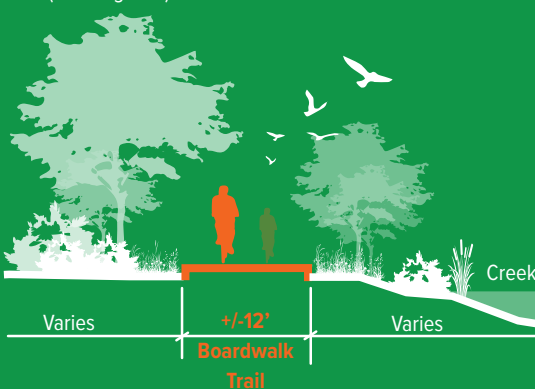
Requires significant coordination with utilities, additional design and analysis, and identification of a funding source.

► TYPICAL FACILITY TYPES: CA-1B



*Farther from rail corridor, generally follows Patroon Creek

1b Boardwalk Trail South of Yardboro Avenue (Heading East)



COST: \$8,500,000

The inclusion of approximately 550 linear feet of boardwalk to minimize disturbance along Patroon Creek increases costs.

CONSISTENCY:



Most of the trail is off-road and the boardwalk provides a unique experience. The shared road may detract from the trail experience.

TIMEFRAME: Mid-Term, 5-10 Years

Requires significant coordination with utilities, additional design and analysis, and identification of a funding source.



▲ Existing Conditions along CA-1.

ADDITIONAL CONSIDERATIONS

Other considerations related to environmental impacts and trail construction include:

- The trail corridor is often in close proximity to Patroon Creek. The future trail should be designed and constructed in a way that minimizes impacts to the creek, while also identifying opportunities to integrate restoration into the project to improve the ecological health of the creek and surrounding areas.
- Given the close proximity to the railroad ROW, construction contractors will be required to purchase a special insurance policy, drainage will have to be directed away from the railroad ROW, and railroad flagging and protective services will be required during construction.
- Construction access may be challenging along this corridor and could result in higher construction costs.

CENTRAL AVE.

- TYPE: **CROSSING**
- CHARACTER AREA: **COMMERCIAL/RETAIL (CR)**
- CROSSING TYPES EXPLORED: **3**



Central Avenue is an important crossing for the future Patroon Creek Greenway and it provides a critical connection between alignment alternatives CA-1 and CR-1. Currently, this busy roadway is challenging for bicyclists and pedestrians to cross due to a lack of crossing infrastructure at this location, high traffic volumes, and poor visibility due to the railroad and I-90 bridges to the north and south.

Three different options for improving crossing conditions were explored:

- Creation of a median refuge island with a user-activated Rapid Rectangular Flashing Beacon (RRFB) to encourage cars to yield to trail users. This crossing option could be paired with alternatives CA-1a or CA-1b. If paired with CA-1a, the existing sidewalk between Yardboro Avenue and the proposed crossing would need to be upgraded to a shared-use path.
- A new signalized intersection at Yardboro Avenue and Central Avenue. Challenges with this option include sight distances to the signal heads, proximity to the railroad, and a large number of overhead and underground utilities. Additional studies required to advance this option could include traffic counts, gap studies, warrant analyses, and sight distance measurements.
- A new pedestrian bridge over Central Avenue. This option would have to be paired with a western trail approach located to the south of Yardboro Avenue and north of Patroon Creek, which uses Interstate right-of-way.



OPTION 1: Median Refuge Island

This proposed crossing includes:

- A new high visibility crosswalk (12-feet wide)
- User-activated RRFBs (4 total)
- Accessible curb ramps with detectable warnings
- New pedestrian median refuge island

COST ESTIMATE: \$200,000

This planning level cost estimate includes the improvements listed above and also accounts for design, construction contingencies and inspection, and traffic control.

COMFORT LEVEL: ● ● ○ ○ ○

This option would slightly increase trail user comfort by providing a two-stage crossing.

TIMEFRAME: Short-Term, Less Than 5 Years

This option requires minimal changes from the existing conditions and could be implemented quickly.



OPTION 2: New Traffic Signal

This proposed crossing includes:

- A new traffic signal at the intersection of Yardboro and Central Avenues
- New high visibility crosswalks (12-feet wide)
- Accessible curb ramps with detectable warnings

COST ESTIMATE: \$550,000

This planning level cost estimate includes the improvements listed above and also accounts for design, construction contingencies and inspection, and traffic control.

COMFORT LEVEL: ● ● ● ○ ○

This option would increase trail user comfort by providing a dedicated signal phase for trail users to cross Central Avenue.

TIMEFRAME: Short-Term, Less Than 5 Years

This option requires additional planning, design, and the identification of a funding source. It also requires coordination with NYSDOT to determine whether a traffic signal could be permitted and installed in this location.



OPTION 3: New Pedestrian Bridge

Features of this new proposed bridge include:

- 14-foot clear width for trail users
- 17-foot vertical clearance above Central Avenue
- 130-foot long main span
- Accessible approaches (5% grade) totaling 587-feet in length

Potential Conflict

The eastern approach of the proposed bridge overlaps with the Albany County Water Purification District's access road. If this crossing alternative is advanced further, close coordination with the County will be required to avoid impacts to the County's sewer infrastructure and ensure their access is maintained at all times.

COST ESTIMATE: \$6,500,000*

This planning level cost estimate is for basic amenities only. Overhead electric utilities on the west side of Central Avenue would be impacted by the bridge and require relocation.

COMFORT LEVEL: ● ● ● ● ●

This option would significantly increase trail user comfort by providing a separated crossing.

TIMEFRAME: Mid-Term, 5-10 Years

This option requires additional planning, design, the identification of a funding source, and coordination with the railroads and the Albany County Water Purification District.

*See page 34 for a list of assumptions and soft costs included in cost estimates for new structures.



▲ Existing Conditions along Central Avenue at the intersection of Yardboro Avenue.

CR-1

- TYPE: **TRAIL CORRIDOR**
- CHARACTER AREA: **COMMERCIAL / RETAIL (CR)**
- LENGTH OF CORRIDOR: **.80 MI**



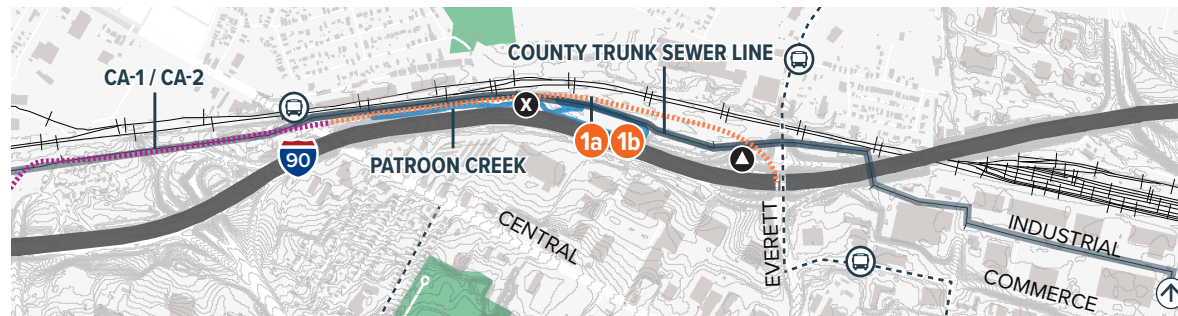
The CR-1 alignment connects the Central Avenue east to Everett Road. Similar to CA-1, this alignment utilizes the space between the railroad and I-90 and generally follows the County's Patroon Creek trunk sewer easement. Two different options along this alignment corridor were identified. The first option, CR-1a, parallels the County's trunk sewer easement. The second option, CR-1b, uses the same alignment as CR-1a, but also includes stream restoration along 80% of the trail's length (approximately 3,300 linear feet).

Potential challenges along this alignment include:

- A pedestrian bridge is needed to help trail users traverse the 24-foot elevation change between CR-1 and Everett Road Bridge at the east end of the trail corridor;
- The trail traverses property owned by the Consolidated Rail Corp. The trail corridor is also located within 50-feet of the railroad ROW along approximately 50% of its length, which will require 8-foot high fencing;
- Use of National Grid property and interstate ROW;
- Close proximity to the County trunk sewer line and in some areas it may not be possible to maintain a clear access lane of 10-feet wide for the County;
- This corridor is prone to flooding and drainage issues; and,
- Billboard companies share the County sewer easement and regularly access the existing gravel drive to maintain the billboards along I-90.

PROPOSED CR-1 CORRIDOR MAP

----- Proposed Off-Road Trail X On Railroad Property ▲ Steep Slope



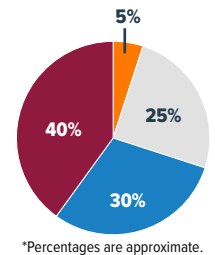
LAND OWNERSHIP



LAND OWNERSHIP

This alternative alignment is proposed on the following properties:

- Railroad**
 - Consolidated Rail Corp
- Road Right-of-Way**
 - Interstate
- Municipal Properties**
 - City of Albany
- Electric Utility Properties**
 - National Grid



*Percentages are approximate.

CONNECTIVITY

This alignment alternative provides connections to the following bicycle/trail infrastructure and parks:

- Proposed Bicycle Infrastructure**
 - Proposed protected / buffered bike lane on Everett Road
 - Proposed conventional bike lane on Watervliet Ave Ext
- Parks + Open Spaces**
 - Town of Colonie / West Albany Pocket Park (if bridge to First Prize redevelopment site was built)

CONNECTIVITY SCORE: 3.8 connections per mile

EQUITY

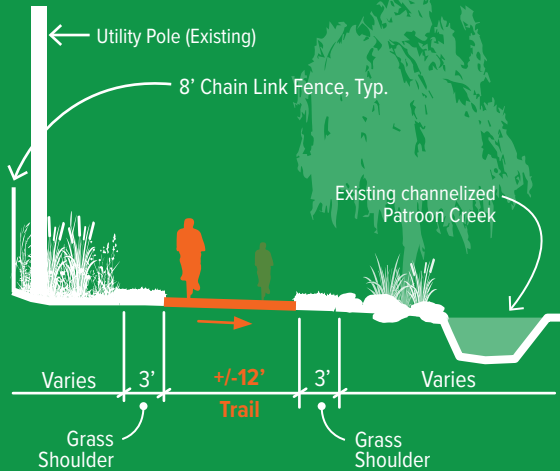
This alignment alternative connects to the following:

- Public Transit** (0.1 point each)
 - Bus stop on Central Avenue (routes 1 and 807)
 - Bus stop on Everett Road (routes 125 and 737)
 - Bus stop on Watervliet Ave Ext (route 125)
- Potential Environmental Justice Area (PEJA)**
 - Immediately adjacent to a PEJA (1 point)

EQUITY SCORE: 1.3

► TYPICAL FACILITY TYPES: CR-1A

1a Typical Off-Road Trail (Heading East)

**COST: \$4,000,000**

Significant coordination with utilities and the railroad and limited construction access contribute to the cost.

CONSISTENCY:

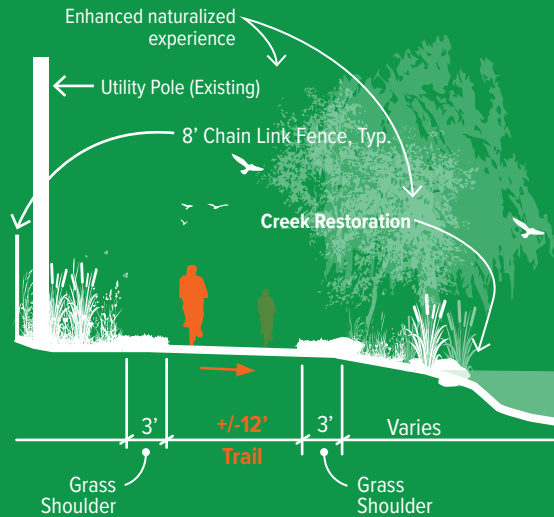
This entire alternative is off-road creating a comfortable and direct trail connection. The close proximity of the railroad and I-90 detract from the overall experience.

TIMEFRAME: Mid-Term, 5-10 Years

Requires significant coordination with utilities and the railroad.

► TYPICAL FACILITY TYPES: CR-1B

1b Typical Off-Road Trail with Creek Restoration (Heading East)

**COST: \$10,500,000**

Restoration of Patroon Creek's shoreline and floodplain constitute a majority of this option's cost.

CONSISTENCY:

Restoration of Patroon Creek in this alternative could transform the trail into a unique destination and provide a natural respite from the surrounding dense development.

TIMEFRAME: Mid-Term, 5-10 Years

If restoration of Patroon Creek and its floodplain is a priority, this project could be done at the same time as trail construction.



▲ Existing Conditions along the County sewer easement access drive.

Proposed Bridge to Connect First Prize**COST ESTIMATE: \$8,500,000**

- 14-foot clear width for trail users
- 23-foot vertical clearance above railroad
- 175-foot long main span
- Accessible approaches 415-feet in length each
- Requires relocation of overhead electric lines

*A +/- 15' buffer can generally be maintained from the edge of proposed trail to rail property. Exceptions to this are noted on the previous page.

EVERETT BRIDGE

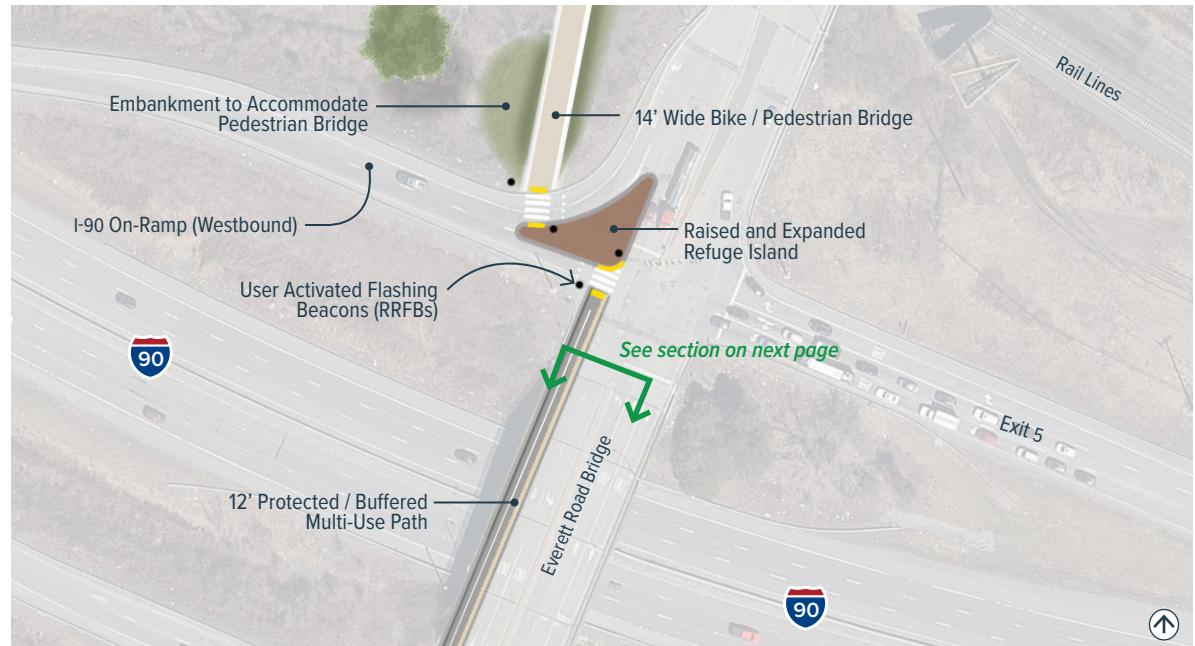


- TYPE: **CROSSING**
- CHARACTER AREA: **INDUSTRIAL (IN)**
- CROSSING TYPES EXPLORED: **1**

Everett Road Bridge provides an important crossing over I-90 and the railroad and is a critical north-south connector between the Town of Colonie and the City of Albany. Currently the bridge does not have any bicycle or pedestrian infrastructure, only narrow safety walks on the outer edges of the roadway.

This bridge is also a critical component in all of the alignment alternatives considered in this analysis. Alignment alternatives IN-1 and IN-2 head south across Everett Bridge to connect to Watervliet Avenue Extension and IN-3 heads north across Everett Bridge to connect to Exchange Street.

The project team engaged NYS DOT Region 1 as part of this alignment analysis. NYS DOT noted that the Everett Road Bridge project is currently listed in the Transportation Improvements Program (TIP). However, this project will not be fully progressed, as the bridge structure requires full replacement. Currently, NYS DOT Region 1 does not have the funding necessary to rebuild the Everett Road Bridge, but they expect full reconstruction in about 10 years. NYS DOT confirmed that any new bridge would include facilities that provide a higher level of mobility for all users (i.e., separated facility for bicyclists and pedestrians), and that reconstruction would also likely include reconfiguration of the interstate access ramps and an overall tightening of the intersection footprint.



EVERETT ROAD BRIDGE: POTENTIAL FUTURE IMPROVEMENTS

Recommended improvements to increase the safety and comfort of pedestrians and cyclists crossing the Everett Road Bridge include:

- 12-foot clear width (min.) for trail users
- Concrete protective barrier to separate trail users from motor vehicle traffic
- Pedestrian refuge islands, high visibility crosswalks, and ADA upgrades at all locations where the trail crosses Interstate on/off ramps

Cost estimates for these recommended improvements were not developed since they will likely be part of a much larger NYS DOT project to redesign and reconstruct Everett Road Bridge in the relatively near future.

COMFORT LEVEL: ● ● ● ● ○

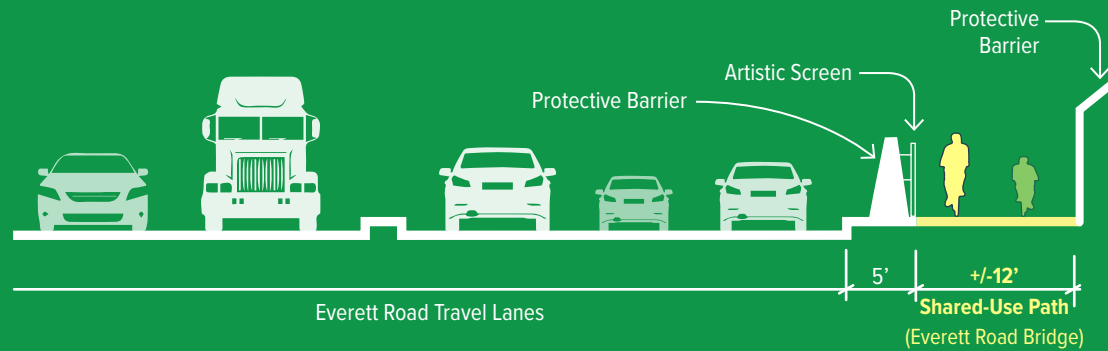
These proposed improvements would significantly increase trail user comfort by providing a protected bicycle and pedestrian lane crossing. Trail users would still likely have to cross the interstate on/off ramps and would be exposed to high traffic volumes.

TIMEFRAME: Mid-Term, 5-10 Years

These improvements will be led by NYS DOT and require additional planning, design, and funding.

► POTENTIAL MULTI-MODAL IMPROVEMENTS: EVERETT ROAD BRIDGE

Typical Separated Facility (Heading South)



**Reconstruction of this bridge is expected in the next 10 years; this conceptual design illustrates potential improvements once the bridge is rebuilt.*



▲ Existing Conditions on Everett Road Bridge



IN-1

- TYPE: **TRAIL CORRIDOR**
- CHARACTER AREA: **INDUSTRIAL (IN)**
- LENGTH OF CORRIDOR: **1.6 MI**



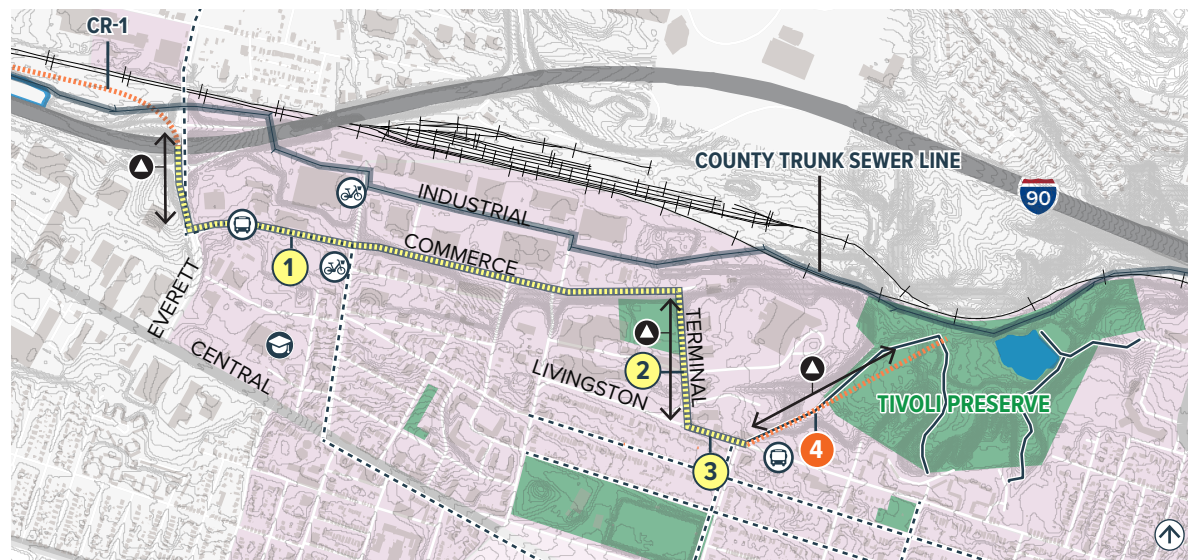
The IN-1 alignment connects Everett Road to the southwest corner of Tivoli Preserve. Unlike the CA-1 and CR-1 alignments, this alignment alternative consists almost entirely of on-road trail facilities separated from car traffic by a landscaped median. From Everett Road Bridge, this alternative proceeds south along Everett Road, turns onto Watervliet Avenue Extension and proceeds east along the south side of Commerce Avenue. At Terminal Street, the trail heads uphill along the western edge of the road to Livingston Avenue and then proceeds one block east to access Tivoli Preserve via a parcel owned by the Albany Water Board.

Considerations along this alignment include:

- Two lanes travel lanes on Watervliet Avenue Ext. (one travel lane in each direction) would have to be removed to accommodate the trail;
- The southern side of Commerce Avenue and the western side of Terminal Street, where the trail is proposed, are characterized by light industrial uses and large curb cuts; and,
- Use of the Albany Water Board property will require close coordination with the City of Albany Department of Water (see the next page for more detailed information).

PROPOSED IN-1 CORRIDOR MAP

Proposed Off-Road Trail Proposed On-Road, Separated Trail Steep Slope



*Note: alignment width is not to scale.

LAND OWNERSHIP

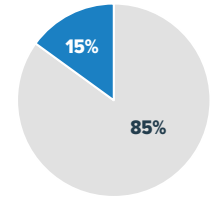
This alignment alternative is entirely on publicly-owned property:

Road Right-of-Way

- City of Albany

Municipal Properties

- Albany Water Board



*Percentages are approximate.

CONNECTIVITY

This alignment alternative provides connections to the following bicycle/trail infrastructure and parks:

CDPHP Cycle! Bike Share Stations (2 stations)

Existing Trail Infrastructure

- Tivoli Preserve

Proposed Bicycle Infrastructure

- Proposed protected/buffered bike lane on Everett Road
- Proposed conventional bike lane on Watervliet Ave Ext
- Proposed bike boulevard on Ontario Street

Parks + Open Spaces

- Field of Dreams
- Tivoli Preserve

CONNECTIVITY SCORE: 5 connections per mile

EQUITY

This alignment alternative connects to the following:

Public Transit (0.1 point each)

- Bus stop on Watervliet Ave Ext (route 125)
- Bus stop on Livingston Ave (routes 106,801,803, and 806)

Schools (0.1 point each)

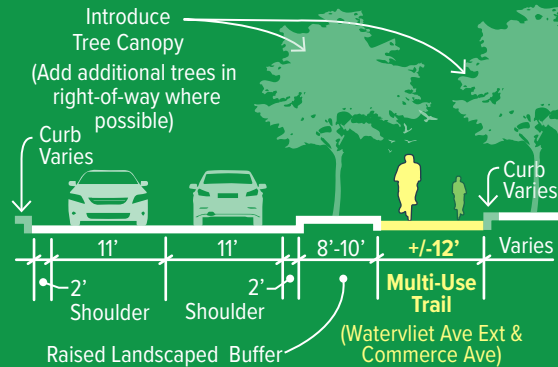
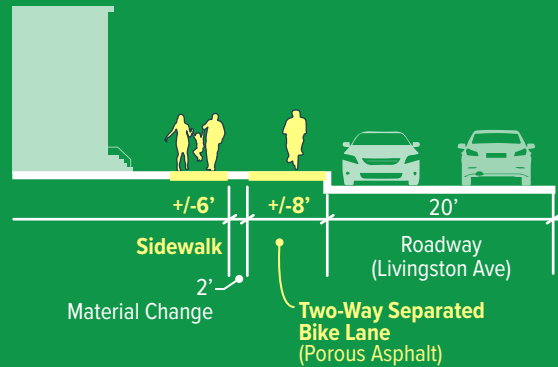
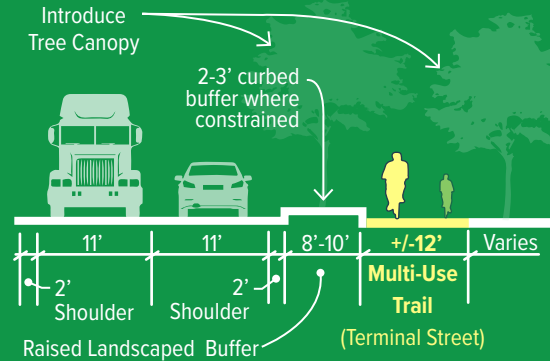
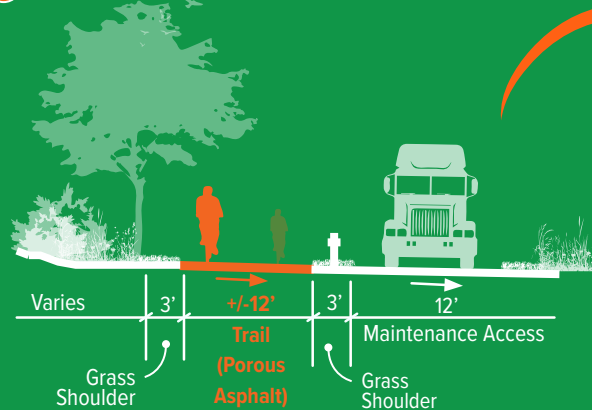
- Henry Johnson Charter School

Potential Environmental Justice Area (PEJA)

- Completely contained within a PEJA (3 points)

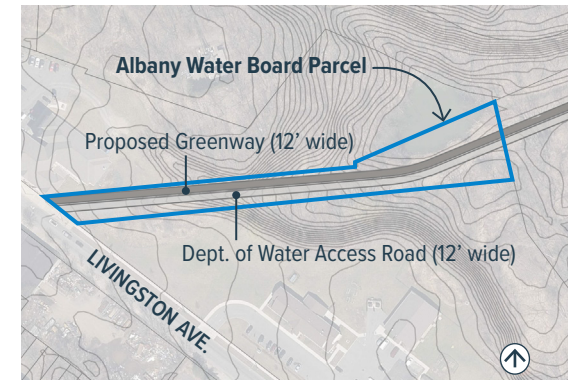
EQUITY SCORE: 3.3

► TYPICAL FACILITY TYPES: IN-1

1 Typical Separated Facility on Watervliet and Commerce Avenue (Heading East)**3 Typical Separated Facility on Livingston Avenue (Heading East)****2 Typical Separated Facility on Terminal Street (Heading South)****4 Typical Off-Road Trail in Tivoli Preserve (Heading North)**

▲ **Existing Condition** City of Albany Water Board access road into Tivoli Preserve.

Access to Tivoli Preserve via City of Albany Water Board Parcel



In order to co-locate the future Patroon Creek Greenway on the Albany Water Board parcel that provides access to Tivoli Preserve and critical water supply infrastructure, the following would be required at a minimum:

- Installation of gates at the Livingston Avenue entrance to prevent motor vehicles from accessing the trail.
- Provision of a 10- to 12-foot wide access road for the Department of Water to ensure clear access at all times to their infrastructure.

COST: \$8,000,000

CONSISTENCY: ● ● ○ ○ ○

TIMEFRAME: Mid-Term, 5 to 10 Years

PUBLIC SUPPORT: 28%

The landscaped buffer increases the cost of this alternative; however, in the long-term this buffer will provide significant air quality, stormwater, heat reduction, and beautification benefits.

This alternative does not include any off-road portions, however, the introduction of a landscaped buffer creates a more greenway-like experience.

This alternative uses all publicly-owned property, which could accelerate implementation. Additional analysis is needed to understand traffic impacts.

Of the three alternatives evaluated in the Industrial character area, this alternative received the least public support. Supporters of this alternative consistently noted the neighborhood connections.

IN-2

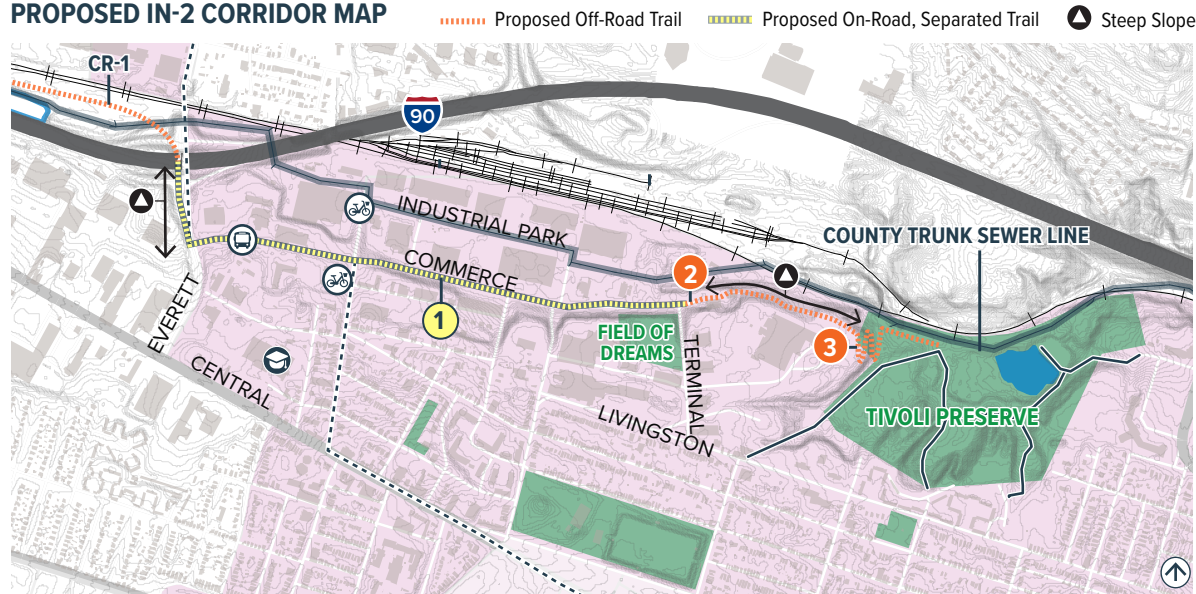
- TYPE: **TRAIL CORRIDOR**
- CHARACTER AREA: **INDUSTRIAL (IN)**
- LENGTH OF CORRIDOR: **1.5 MI**

Compared to IN-1, this alternative provides a more direct connection between Everett Road and Tivoli Preserve. From Everett Road Bridge, this alternative proceeds south along Everett Road, turns onto Watervliet Avenue Extension and proceeds east along the north side of the street. At Terminal Street, the trail continues east and heads off-road following Patroon Creek and northern edge of the Mag Properties Limited and Freihofer Baking Co. parcels. A series of switchbacks are proposed gradually bring the trail downslope and into Tivoli Preserve.

The off-road portions of the trail are characterized by very steep slopes, some of which are as steep as 60%. Constructing a trail in this area will require substantial earthwork, retaining walls, and will result in environmental impacts (i.e., erosion). Other considerations along this alignment include:

- Two lanes travel lanes on Watervliet Avenue Ext. (one travel lane in each direction) would have to be removed to accommodate the trail;
- The northern side of Commerce Avenue, where the trail is proposed, is characterized by light industrial uses and several curb cuts;
- The use of private property (Freihofer Baking Co., Capital District Concrete, and Mag Properties Limited); and,
- The off-road portion of the trail is up-slope from the railroad. This close proximity to the railroad combined with steep slopes will make construction access and trail construction challenging.

PROPOSED IN-2 CORRIDOR MAP



*Note: alignment width is not to scale.

LAND OWNERSHIP

This alignment alternative is proposed on the following properties:

Road Right-of-Way

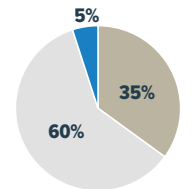
- City of Albany

Private (Industrial) Properties

- Charles Freihofer Baking Co.
- Capital District Concrete
- Mag Properties Limited

Municipal Properties

- City of Albany



*Percentages are approximate.

CONNECTIVITY

This alignment alternative provides connections to the following bicycle/trail infrastructure and parks:

CDPHP Cycle! Bike Share Stations (2 stations)

Existing Trail Infrastructure

- Tivoli Preserve

Proposed Bicycle Infrastructure

- Proposed conventional bike lane on Watervliet Ave Ext

Parks + Open Spaces

- Field of Dreams
- Tivoli Preserve

CONNECTIVITY SCORE: 4 connections per mile

EQUITY

This alignment alternative connects to the following:

Public Transit (0.1 point each)

- Bus stop on Watervliet Ave Ext (route 125)

Schools (0.1 point each)

- Henry Johnson Charter School

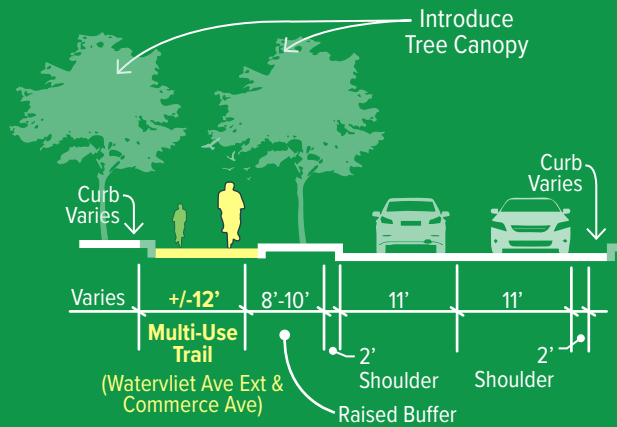
Potential Environmental Justice Area (PEJA)

- Completely contained within a PEJA (3 points)

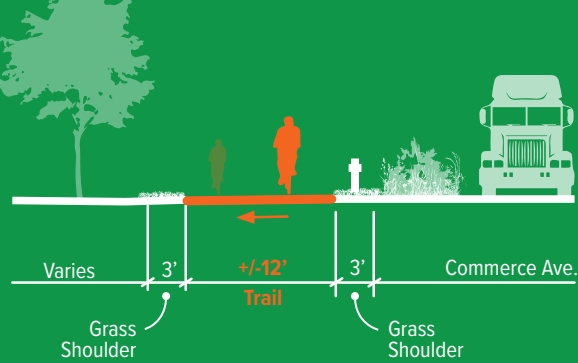
EQUITY SCORE: 3.2

► TYPICAL FACILITY TYPES: IN-2

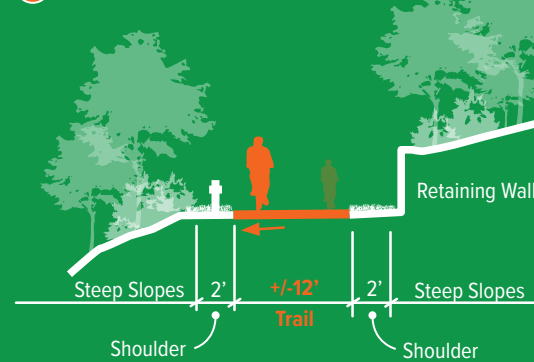
1 Typical Separated Facility (Looking East)



2 Typical Off-Road Trail (Heading East via Capital District Concrete and Mag Properties Limited parcels)



3 Off-Road Trail with Switchbacks (Heading Into Tivoli)



▲ **Existing Conditions** at the northwestern entrance to Tivoli Preserve (top) and looking west along Commerce Avenue (bottom).

COST: \$10,000,000

The need for extensive earthwork and retaining walls increases the cost. Private property impacts and limited construction access will increase costs.

CONSISTENCY:



The off-road portion of the trail provides access to nature, but travels through light industrial areas and is characterized by steep topography.

TIMEFRAME: Long-Term, 10+ Years

Several private properties are impacted and the off-road portion of the trail will require significantly more design and analysis due to the terrain.

PUBLIC SUPPORT: 39%

Of the three alternatives evaluated in the Industrial character area, this alternative received the most public support.

IN-3

- TYPE: **TRAIL CORRIDOR**
- CHARACTER AREA: **INDUSTRIAL (IN)**
- LENGTH OF CORRIDOR: **1.6 MI**



From the eastern terminus of CR-1, this alternative continues north along the western side of Everett Road as a shared-use path separated from motor vehicles by a concrete barrier. At Exchange Street, the trail continues east and a shared roadway is proposed. At I-90, a new 24-foot wide underpass is proposed next to the existing Anderson Road tunnel. The trail then continues off-road using Interstate ROW adjacent to the northern edge of the CSX railyard. At the eastern end of the railyard, the off-road trail utilizes railroad ROW (about 2,750' linear feet total) to continue east utilizing an existing approach to two abandoned rail

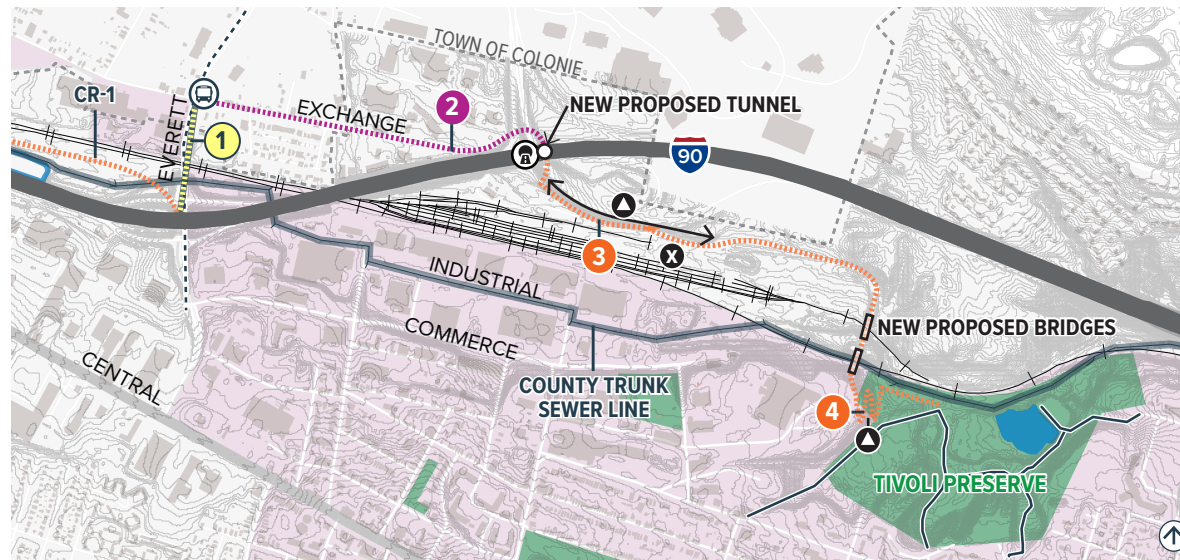
trestles and into Tivoli Preserve. Due to the anticipated costs to rehabilitate the existing rail trestles, two new prefabricated bridges are proposed to replace the existing rail bridges.

Key considerations along this alignment include:

- This alignment is located in both the City of Albany and Town of Colonie;
- A significant amount of interstate and railroad ROW is used in this alternative;
- Steep topographic conditions creates a challenge for trail construction and accessibility at several points along this alignment. Significant earthwork and new retaining walls will be required to make this alignment possible; and,
- Exchange Street is characterized by several light industrial uses and has several curb cuts along its length that may create conflicts between truck traffic and trail users.

PROPOSED IN-3 CORRIDOR MAP

Proposed On-Road, Separated Trail Proposed Shared Road Proposed Off-Road Trail



*Note: alignment width is not to scale.

ⓧ On Railroad Property from this point east to Tivoli ▲ Steep Slope

LAND OWNERSHIP

This alignment alternative is proposed on the following properties:

Road Right-of-Way

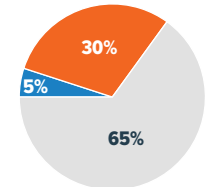
- City of Albany
- Town of Colonie
- Interstate

Private (Rail) Properties

- Consolidated Rail Corp.

Municipal Properties

- City of Albany



*Percentages are approximate.

CONNECTIVITY

This alignment alternative provides connections to the following bicycle/trail infrastructure and parks:

Existing Trail Infrastructure

- Tivoli Preserve

Proposed Bicycle Infrastructure

- Proposed protected/buffered bike lane on Everett Road

Parks + Open Spaces

- Tivoli Preserve

CONNECTIVITY SCORE: 1.9 connections per mile

EQUITY

This alignment alternative connects to the following:

Public Transit (0.1 point each)

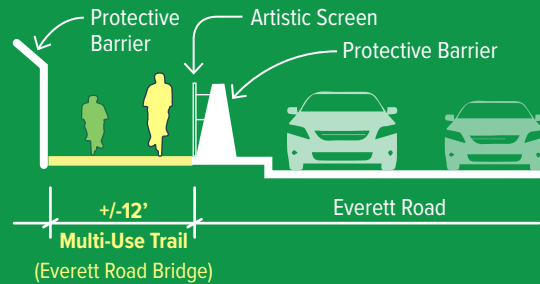
- Bus stop on Everett Road (routes 125 and 737)

Potential Environmental Justice Area (PEJA)

- Partially contained within a PEJA (2 points)

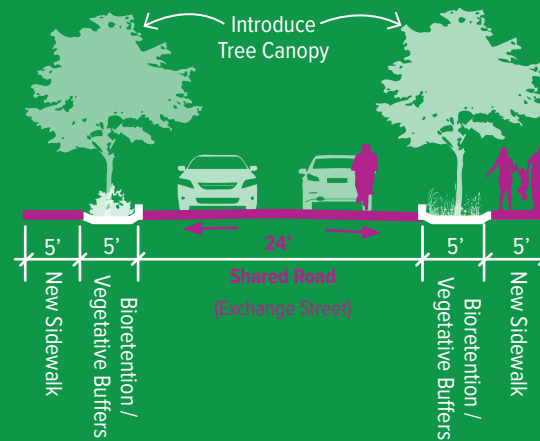
EQUITY SCORE: 2.1

► TYPICAL FACILITY TYPES: IN-3

1 Typical Separated Facility on Everett Road Bridge
(Heading north over railroad)

**Reconstruction of this bridge is expected in the next 10 years; this conceptual design illustrates potential improvements once the bridge is rebuilt.*

2 Typical Shared Facility (Heading East)



▲ Existing Condition (Abandoned Rail Trestle)

REQUIRED STRUCTURES

As part of this alignment alternative three new structures are proposed:

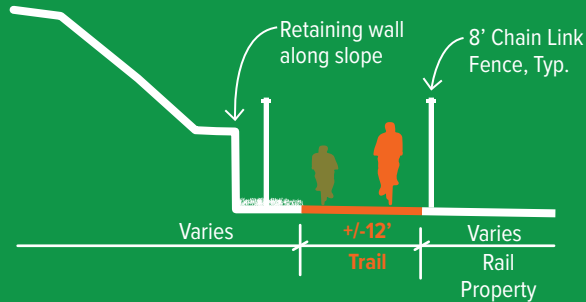
New proposed underpass under I-90

This proposed underpass would be located just east of the existing Anderson Drive tunnel. It would be approximately 220 feet in length and 24 feet wide.

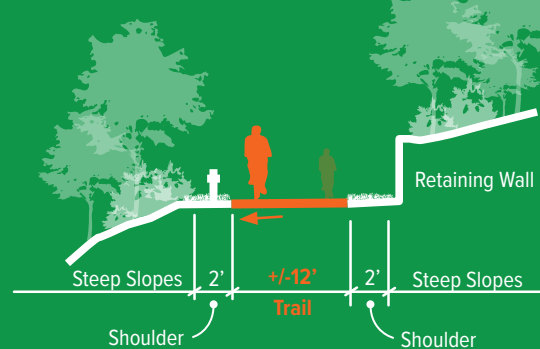
Two new proposed bridges over railroad

Replacing the two existing abandoned rail trestles in place with prefabricated structures is recommended as it would likely be cheaper than rehabilitating them. Rehabilitation would require removing ties, adding deck, painting, and installing protective fencing to meet current safety standards. Also, the need for railroad flagging would be greatly reduced for a bridge replacement compared to rehabilitation. These new bridges would not require approach ramps due to the existing grade.

3 Typical Off-Road Trail (Heading north using interstate ROW)



4 Off-Road Trail with Switchbacks (Heading Into Tivoli)



COST: \$28,500,000

The structures required to make this alternative possible significantly increase the cost and constitute over 50% of the total cost.

CONSISTENCY: ● ● ● ○ ○

Within the Industrial character area, this alternative has the most off-road trail. However, the shared road on Exchange Street, industrial setting, and close proximity to the railyard detract from the overall trail experience.

TIMEFRAME: Long-Term, 10+ Years

This alternative will require significant coordination with the railroad and FHWA due to the proposed use of their ROW, as well as additional design and analysis.

PUBLIC SUPPORT: 33%

Of the three alternatives evaluated in the Industrial character area, this alternative received the second most public support.

CHAPTER 5: ALIGNMENT ANALYSIS

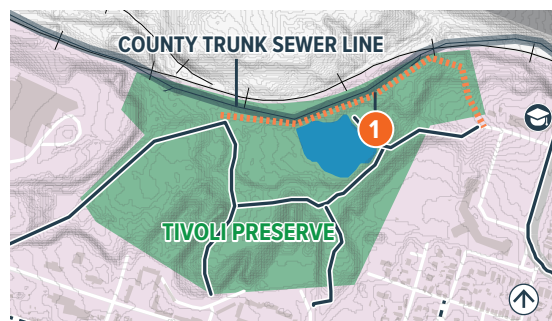
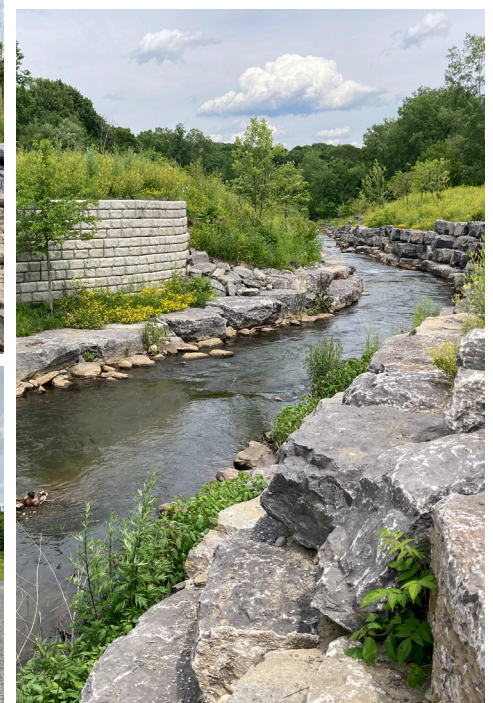
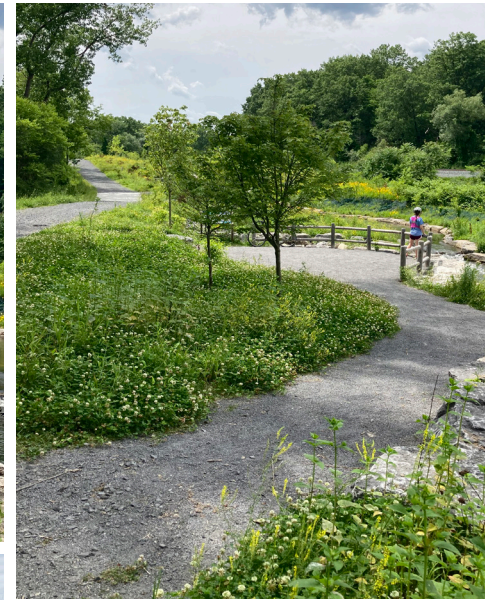
TIVOLI PRESERVE

- TYPE: **TRAIL CORRIDOR**
- CHARACTER AREA: **NEIGHBORHOOD (NE)**
- LENGTH OF CORRIDOR: **0.4 MI**



Given the significant recent investments the City of Albany has made in Tivoli Preserve, it is recommended that the Patroon Creek Greenway parallel the newly daylighted portion of Patroon Creek. The map below shows the approximate alignment for the future trail and the following improvements are recommended to ensure the Greenway is accessible to all:

- Surface the trail with porous asphalt to improve accessibility for all users. The existing gravel path can be challenging for individuals using wheelchairs or pushing strollers.
- Create a separated maintenance access road to ensure the County's Water Purification District and the City's Water Department can access, inspect, and maintain their infrastructure and minimize conflicts with trail users (see graphic on next page).
- Install a pre-fabricated pedestrian bridge over the existing Patroon Creek spillway to ensure the trail can safely be used during storm events (image of the existing spillway is shown to the right).



- Proposed Trail*
- Existing Trails
- Proposed Bike Infrastructure
- Potential Environmental Justice Areas

*Note: alignment width is not to scale.



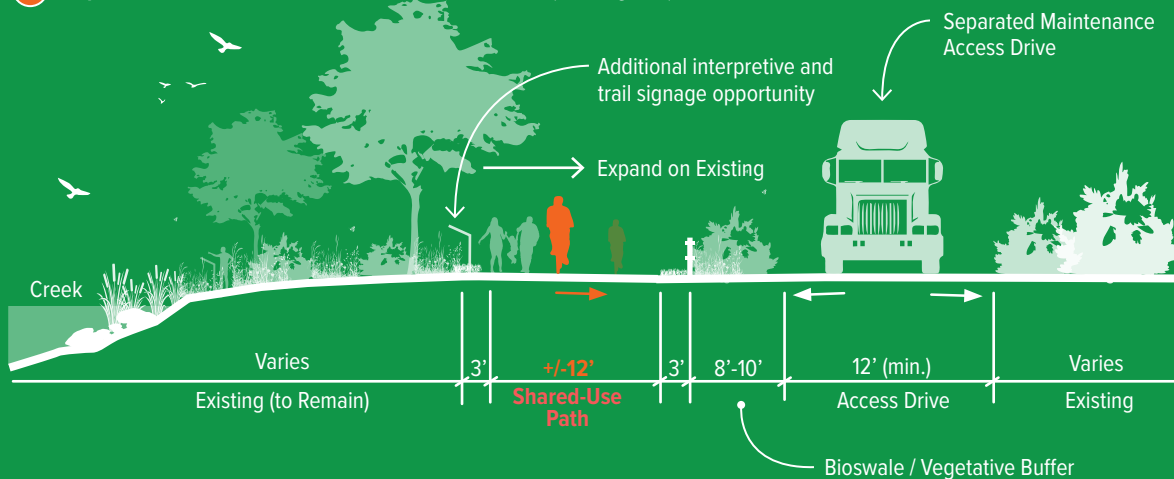
▲ Existing Conditions in Tivoli Preserve along the recently daylight Patroon Creek

► TRAIL IMPROVEMENT RECOMMENDATIONS: Tivoli Preserve

► Existing Condition (Heading East)



1 Proposed Off-Road Trail and Maintenance Access Drive (Heading East)



POROUS ASPHALT

Where possible, porous asphalt should be considered for surfacing the future Patroon Creek Greenway trail. Porous asphalt can improve drainage along the trail system, reduce environmental impacts by infiltrating and filtering stormwater runoff, and provide an accessible surface that is softer and more flexible than standard asphalt and concrete.

Snow and ice also melt more quickly on porous asphalt surfaces than traditional asphalt, reducing the maintenance costs associated with plowing. During the day when temperatures rise, porous asphalt absorbs the melting snow and reduces the likelihood ice will form. Conversely, snow melt on impervious asphalt tends to refreeze and form ice when temperatures drop at night.

Although the cost per linear foot is slightly higher than standard asphalt and new maintenance routines would need to be implemented to prevent the surface and underlying infiltration bed from being clogged with fine sediments (i.e., bi-annual vacuuming of the surface with a commercial cleaning unit), the multiple benefits provided by porous asphalt make it a cost effective option in the long-term.

CHAPTER 5: ALIGNMENT ANALYSIS

NE-1

- TYPE: **TRAIL CORRIDOR**
- CHARACTER AREA: **NEIGHBORHOOD (NE)**
- LENGTH OF CORRIDOR: **1.5 MI**



This alternative connects Tivoli Preserve to the Albany Skyway and is comprised entirely of on-road trail facilities separated from motor vehicles by a landscaped median. From the northeastern entrance of Tivoli Preserve, this alignment heads east on N. Manning Boulevard and then proceeds south and east along Northern and Manning Boulevards. At the intersection of Livingston Avenue, the trail proceeds south on Ten Broeck and then east along Clinton Avenue to connect to the Albany Skyway.

Two different trail configurations are proposed: one that includes a wide landscaped median in more

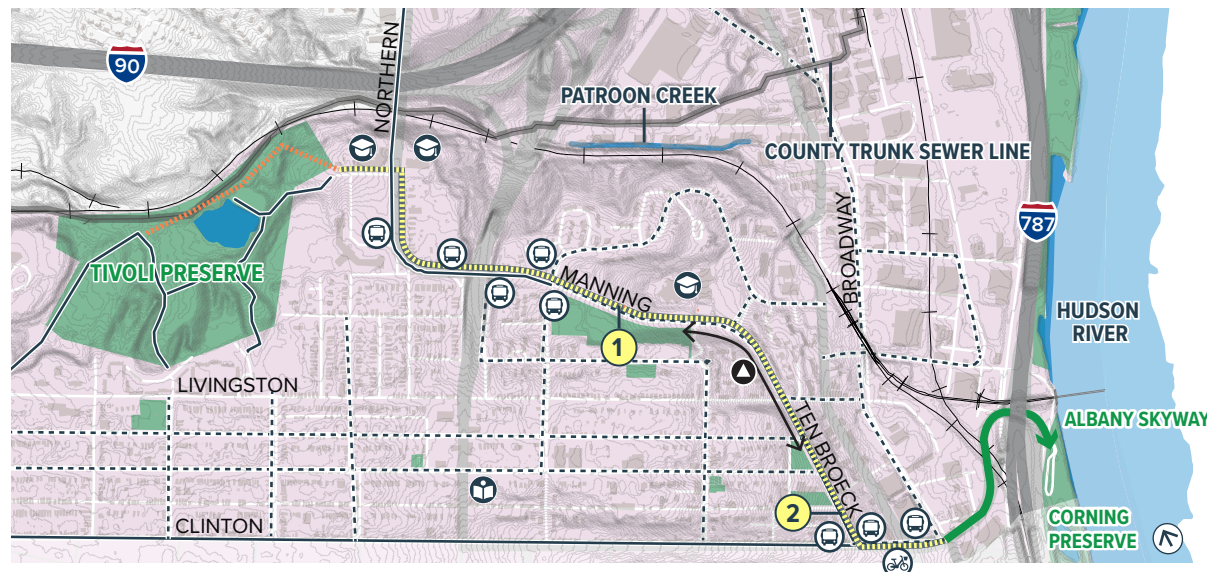
residential settings and another that integrates the trail into the sidewalk in more urban, space-constrained settings (e.g., Ten Broeck Street and Clinton Avenue).

Key considerations along this alignment include:

- This alignment connects to several arts and cultural destinations (e.g., Ten Broeck Mansion);
- The removal of one lane of on-street parking is proposed along the length of this alignment to accommodate the trail;
- This alignment is feasible on either side of the street between Tivoli Preserve and the intersection of Ten Broeck Street and Clinton Avenue. The trail is proposed on the north side of Clinton Avenue to connect to the future Clinton Market Collective; and,
- The landscaped median has several benefits, including increased trail user comfort, mitigation of the urban heat island effect, improved air quality, stormwater management, and streetscape beautification.

PROPOSED NE-1 CORRIDOR MAP

Proposed Off-Road Trail Proposed On-Road, Separated Trail Steep Slope



*Note: alignment width is not to scale.

LAND OWNERSHIP

This alignment alternative is entirely on publicly-owned property:

- Road Right-of-Way**
- City of Albany

100%

CONNECTIVITY

This alignment alternative provides connections to the following bicycle/trail infrastructure and parks:

- CDPHP Cycle! Bike Share Stations** (1 station)
- Existing Bicycle Infrastructure** (2 connections)
 - Protected / buffered bike lane on Northern Blvd
 - Conventional bike lane on Ten Broeck Street
- Proposed Bicycle Infrastructure** (9 connections)
 - Bike boulevards on Lark St, Lark Dr, 2nd St, 3rd St, Northern Blvd, Arbor Dr, and Livingston Ave
 - Protected / buffered bike lane on Clinton Ave and Broadway
- Parks + Open Spaces** (7 parks)
 - Tivoli Preserve
 - Arbor Hill Park
 - Wilkie Playground
 - Van Rensselaer Park
 - Saint Joseph's Park
 - Wallenburg Park
 - Albany Skyway

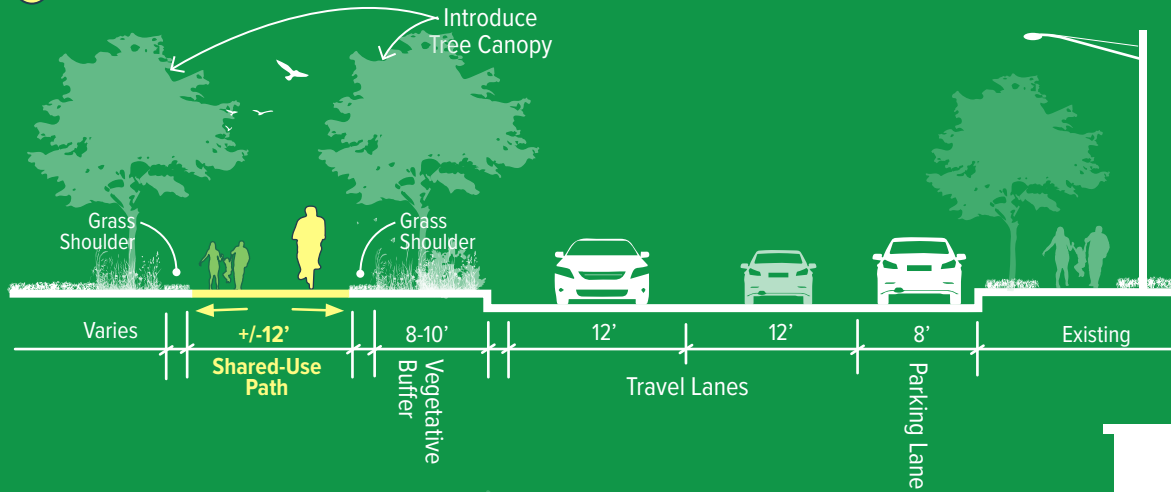
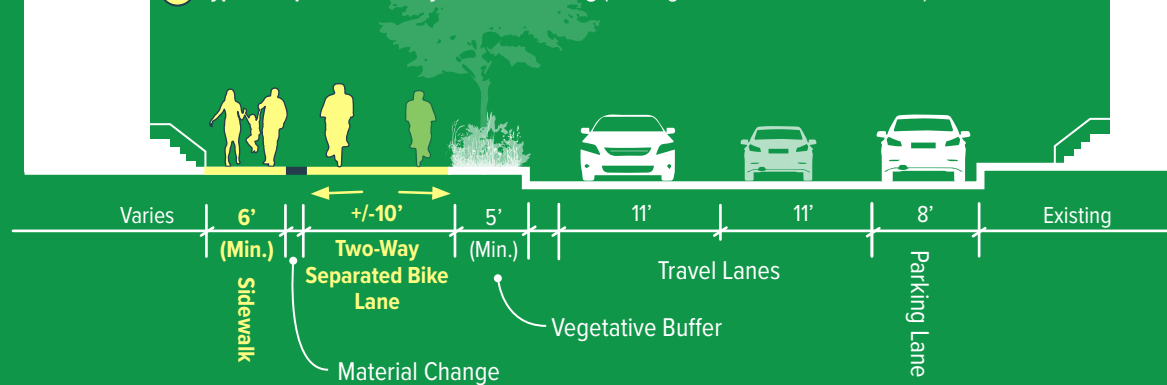
CONNECTIVITY SCORE: 12.7 connections per mile

EQUITY

This corridor provides connection to the following:

- Public Transit** (8 total stops; 0.1 point each)
 - Bus stops on Northern Blvd (routes 182, 737, & 803)
 - Bus stops on Lark Dr (routes 100, 106, 801, & 805)
 - Bus stops on Clinton Ave (routes 125, 801, & 803)
- Schools + Institutions** (0.1 point each)
 - KIPP Tech Vally Primary and Middle Schools
 - Arbor Hill Elementary School
- Potential Environmental Justice Area (PEJA)**
 - Completely contained within a PEJA (3 points)

EQUITY SCORE: 4.0

► **TYPICAL FACILITY TYPES: NE-1****1** Typical Separated Facility in Neighborhood Setting (Looking West on Manning Boulevard)**2** Typical Separated Facility in Urban Setting (Looking North on Ten Broeck Street)**COST: \$8,000,000***

This alternative narrows the existing roadway by introducing a landscape median which increases cost.

CONSISTENCY: ● ● ● ○ ○

This alternative is entirely along the roadway; however, introduction of a wide landscape buffer to separate trail users from motor vehicles increases comfort and creates a more greenway-like experience.

TIMEFRAME: Mid-Term, 5-10 Years

Coordination with adjacent property owners and more detailed design and analysis are needed. Short-term improvements are described to the right.

PUBLIC SUPPORT: 37%

This alternative was the second most popular among the public in the Neighborhood character area.

▲ **Existing Condition:** Northern Boulevard looking west**A SHORT-TERM OPTION**

The roads used for this alignment alternative already have existing sidewalks and many have bicycle infrastructure. Ten Broeck Street has bike lanes and Manning/Northern Boulevard has buffered bike lanes west of Lark Street to Tivoli Preserve.

This existing pedestrian and bicycle infrastructure could be used in the interim until funding is secured to fully implement this alternative. As part of this interim approach, striped bike lanes should be installed along Manning Boulevard to provide continuous bicycle infrastructure along this route. Wayfinding signage could also be installed to begin defining and building broader public awareness and support for the Patroon Creek Greenway.

*The portion of the trail in Tivoli Preserve is not included in the cost estimate for this alignment alternative

NE-2

- TYPE: **TRAIL CORRIDOR**
- CHARACTER AREA: **NEIGHBORHOOD (NE)**
- LENGTH OF CORRIDOR: **1.7 MI**



This alternative is comprised of both on- and off-road trail facilities. From the northeastern entrance to Tivoli Preserve, this alignment heads east on N. Manning Boulevard as a shared-use path along the southern border of KIPP Tech Valley Middle School. It crosses Northern Boulevard and then an off-road trail is proposed through KIPP Tech Valley Elementary School's property. The off-road trail continues east through the woods across steep terrain using City-owned property. It passes by the northern border of Capital Woods Apartments and then connects to Lark Drive. The trail then proceeds south on the

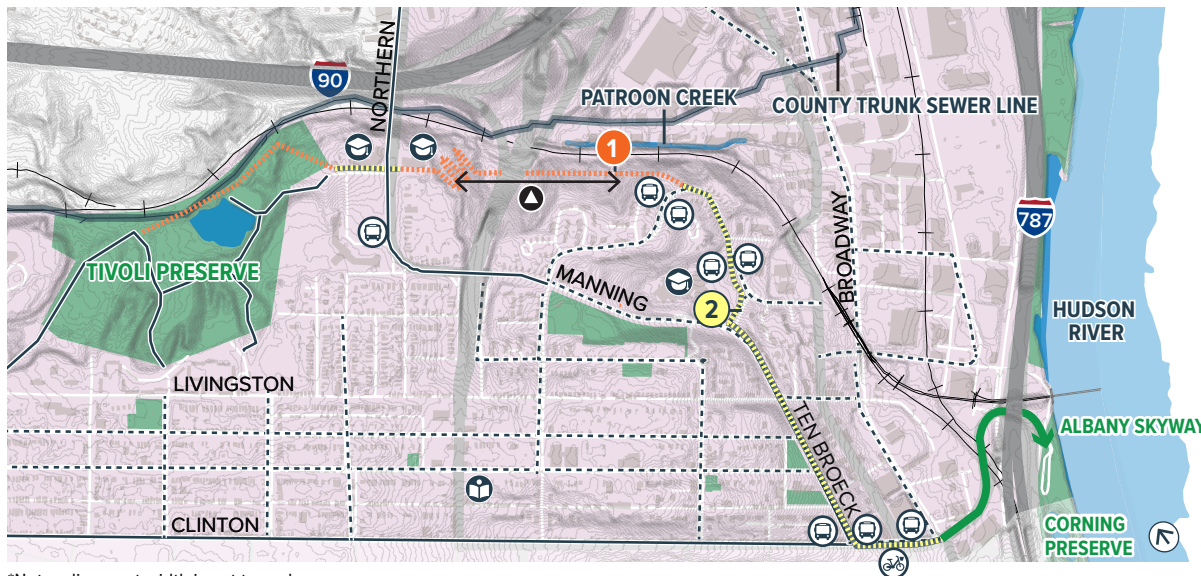
western side of Lark Drive as an on-road separated facility until reaching Arbor Hill Elementary School. The trail continues along the perimeter of the school, expanding the existing sidewalk and landscaped buffer to serve both the school and trail users. At the intersection of Arbor Drive and Manning Boulevard, the trail continues south on Manning Boulevard, passing by the Ida Yarbrough Apartments and using the same alignment proposed in NE-1 to reach the Skyway.

Key considerations along this alignment include:

- Proposed use of school property;
- The off-road portion of this trail is characterized by steep topography which will require significant earthwork, switchbacks, and retaining walls to make the trail accessible to all. This steep terrain will also complicate construction access; and,
- North-south access to the off-road portion of the trail will be limited due to steep terrain.

PROPOSED NE-2 CORRIDOR MAP

Proposed Off-Road Trail Proposed On-Road, Separated Trail Steep Slope

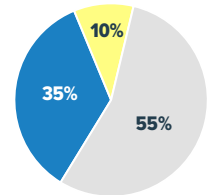


*Note: alignment width is not to scale.

LAND OWNERSHIP

This alignment alternative is proposed on the following properties:

- Road Right of Way**
 - City of Albany
- Municipal Properties**
 - City of Albany
- Private (Community-Based)**
 - KIPP Tech Valley Charter



*Percentages are approximate.

CONNECTIVITY

This alignment alternative provides connections to the following bicycle/trail infrastructure and parks:

- CDPHP Cycle! Bike Share Stations** (1 station)
- Existing Bicycle Infrastructure** (2 connections)
 - Protected / buffered bike lane on Northern Blvd
 - Conventional bike lane on Ten Broeck Street
- Proposed Bicycle Infrastructure** (8 connections)
 - Bike boulevards on Lark Dr, Arbor Dr, Manning Blvd, 2nd St, 3rd St, and Livingston Ave
 - Protected / buffered bike lane on Clinton Ave and Broadway
- Parks + Open Spaces** (6 parks)
 - Tivoli Preserve
 - Wilkie Playground
 - Van Rensselaer Park
 - Saint Joseph's Park
 - Wallenburg Park
 - Albany Skyway

CONNECTIVITY SCORE: 10 connections per mile

EQUITY

This alignment alternative connects to the following:

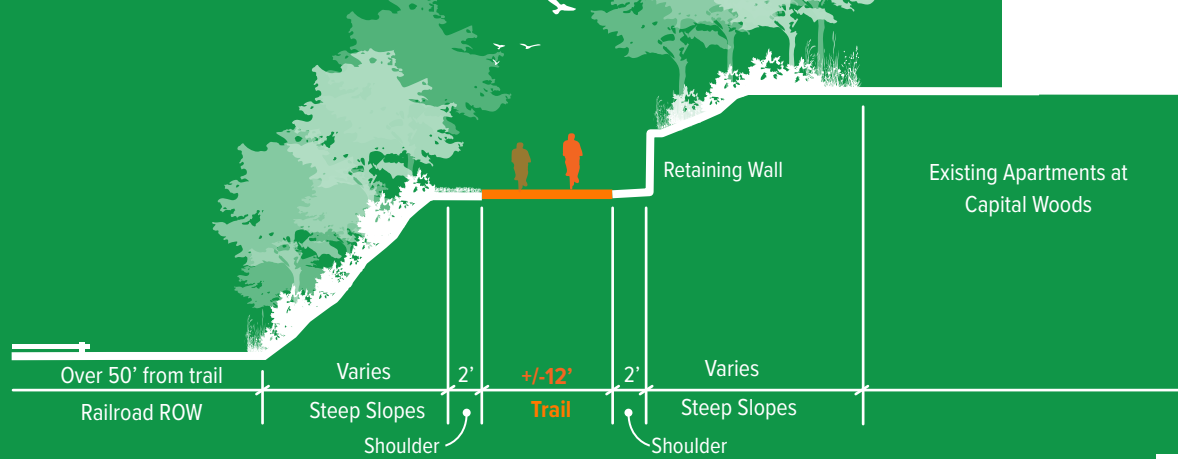
- Public Transit** (8 total stops; 0.1 point each)
 - Bus stops on Northern Blvd (routes 182, 737, & 803)
 - Bus stops on Lark Dr (routes 100, 106, 801, & 805)
 - Bus stops on Clinton Ave (routes 125, 801, & 803)
- Schools + Institutions** (0.1 point each)
 - KIPP Tech Vally Primary and Middle Schools
 - Arbor Hill Elementary School

- Potential Environmental Justice Area (PEJA)**
 - Completely contained within a PEJA (3 points)

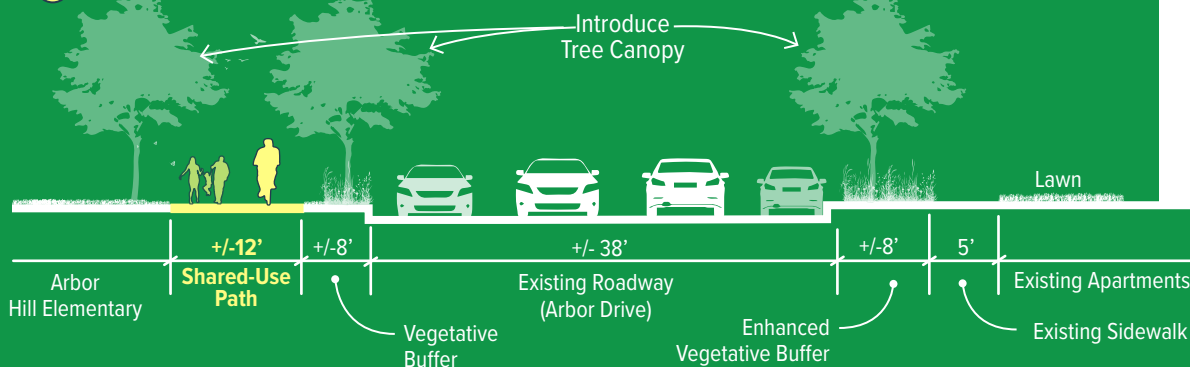
EQUITY SCORE: 4.1

► TYPICAL FACILITY TYPES: NE-2

1 Typical Off-Road Trail (Heading East)



2 Typical Separated Facility (Heading North on Arbor Drive)

**COST: \$14,000,000***

Steep terrain along the off-road portions of this trail will require significant earthwork and retaining walls, which drive up the cost for this alternative.

CONSISTENCY:

The off-road portion of this alternative creates a trail-like experience, while on-road portions include wide landscaped medians that increase comfort.

TIMEFRAME: Mid-Term, 5 to 10 Years

This alternative avoids proximity to the railroad and uses publicly-owned and school-owned lands. Additional design and analysis will be needed, especially for the off-road portion.

PUBLIC SUPPORT: 20%

This alternative was the least popular among the public in the Neighborhood character area.



▲ **Existing Condition:** Lark Drive adjacent to Arbor Hill Elementary School

SCHOOL CONNECTIONS

This alignment alternative uses property at three different schools: KIPP Tech Valley Elementary and Middle Schools and Arbor Hill Elementary School. By using space on the perimeter of these schools, the proposed trail can be expanded, achieve greater separation from the roadway, minimize interference with school activities, and most importantly, it would create direct access to and a sense of ownership of the Patroon Creek Greenway trail.

Several additional benefits could be realized if the future trail is connected to school property:

- Expanded outdoor recreational and educational opportunities;
- Student stewardship of the trail and associated green spaces; and,
- Improved access to neighborhood destinations and local nature preserves.

*The portion of the trail in Tivoli Preserve is not included in the cost estimate for this alignment alternative

NE-3

- TYPE: **TRAIL CORRIDOR**
- CHARACTER AREA: **NEIGHBORHOOD (NE)**
- LENGTH OF CORRIDOR: **1.9 MI**



This alternative is comprised of both on- and off-road trail facilities. From the northeastern entrance to Tivoli Preserve, this alignment follows the same route as NE-2, but after crossing under U.S. 9 this alignment proceeds north and crosses the railroad using a new proposed bridge to connect to Tivoli Street. At Tivoli Street, the trail proceeds east along a shared road with a new sidewalk proposed along the northern side to Broadway. At Broadway, the trail continues south to the Albany Skyway.

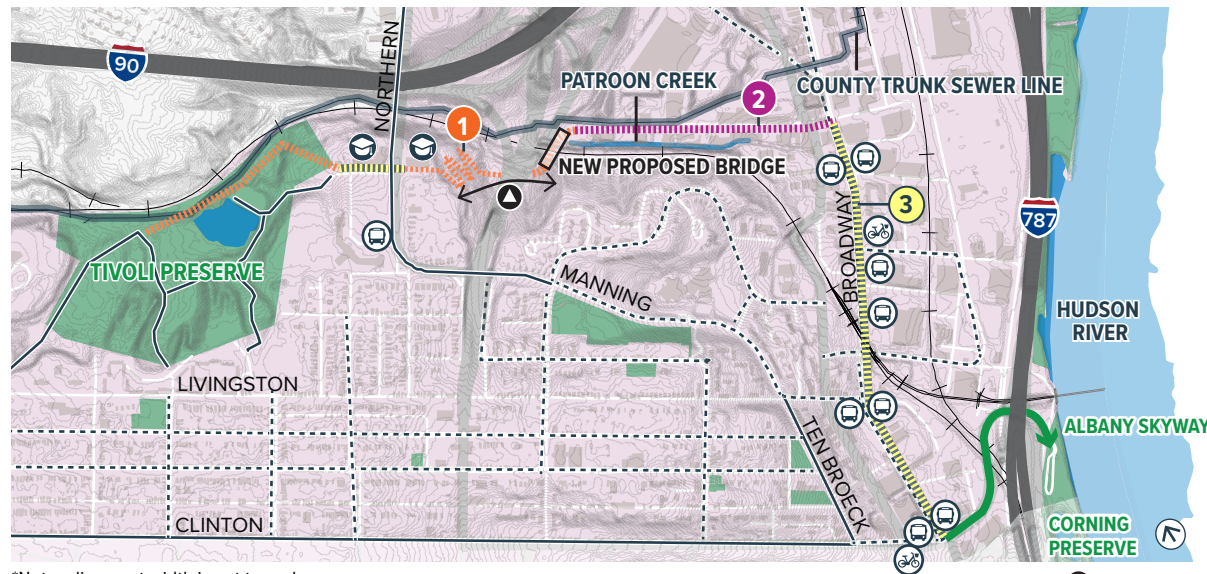
Due to the wide street ROW on Broadway, the ongoing redevelopment along this corridor, and its location in the 100-year floodplain, this alternative includes proposed improvements across the entire width of Broadway, including the narrowing of the street, integration of bioretention basins on either side of the street, new sidewalks, and a two-way separated bike lane at sidewalk level (see graphic on next page). The trail is proposed on the east side of Broadway to maximize connectivity to the waterfront.

Other considerations along this alignment include:

- The off-road portion of this trail is characterized by steep topography which will require significant earthwork, switchbacks, and retaining walls to make the trail accessible to all. This steep terrain will also complicate construction access; and,
- Tivoli Street is characterized by industrial uses that may conflict with trail users (i.e., truck traffic).

PROPOSED NE-3 CORRIDOR MAP

Proposed On-Road, Separated Trail Proposed Shared Road Proposed Off-Road Trail



*Note: alignment width is not to scale.

LAND OWNERSHIP

This alignment alternative is proposed on the following properties:

Road Right of Way

- City of Albany

Private Properties

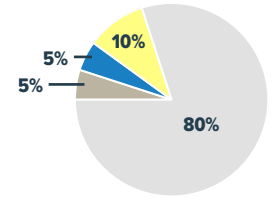
- Tax Parcel, 65.11-3-1

Private (Community-Based) Properties

- KIPP Tech Valley Charter

Municipal Properties

- City of Albany



*Percentages are approximate.

CONNECTIVITY

This alignment alternative provides connections to the following bicycle/trail infrastructure and parks:

CDPHP Cycle! Bike Share Stations (2 stations)

Proposed Bicycle Infrastructure (3 connections)

- Conventional bike lane on Broadway
- Protected / buffered bike lane on Broadway and Clinton Ave

Parks + Open Spaces (2 parks)

- Tivoli Preserve
- Albany Skyway

CONNECTIVITY SCORE: 3.7 connections per mile

EQUITY

This alignment alternative connects to the following:

- Public Transit (9 total stops; 0.1 point each)
 - Bus stops on Northern Blvd (routes 182, 737, & 803)
 - Bus stops on Broadway (routes 22, 801, 803, 805, 806, 922, & 923)

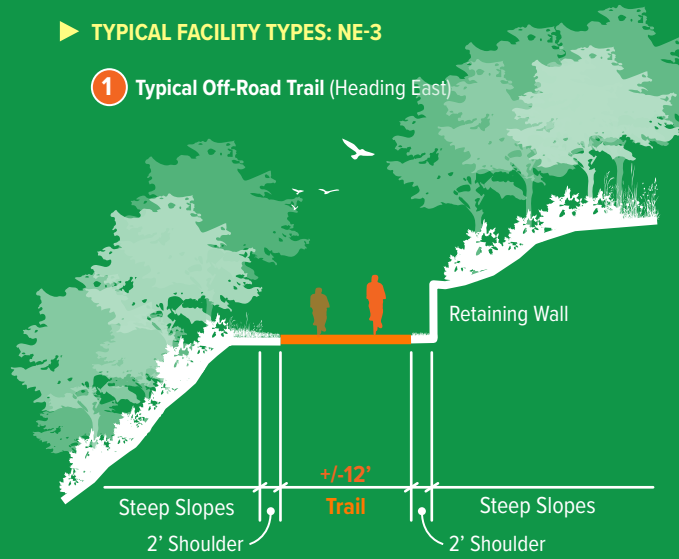
- Schools + Institutions (0.1 point each)
 - KIPP Tech Vally Primary and Middle Schools

- Potential Environmental Justice Area (PEJA)
 - Completely contained within a PEJA (3 points)

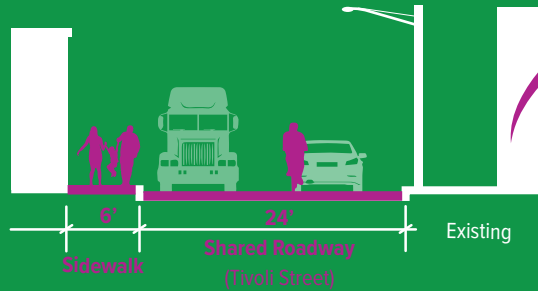
EQUITY SCORE: 4.0

► TYPICAL FACILITY TYPES: NE-3

① Typical Off-Road Trail (Heading East)

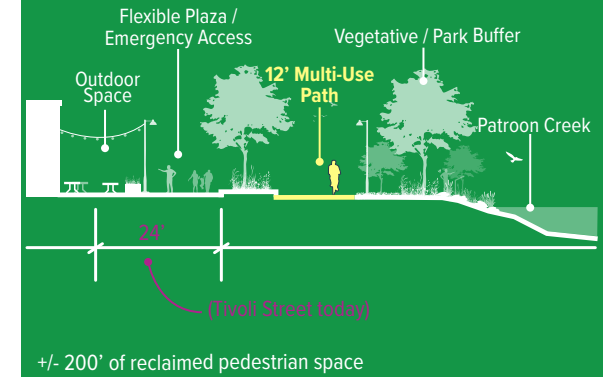


② Typical Shared Facility (Heading East on Tivoli Street)



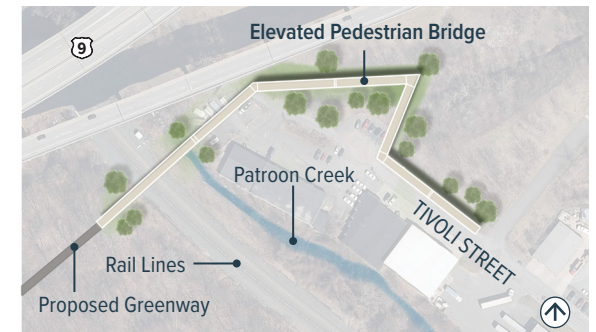
Thinking Big and Celebrating the Creek

► Future Potential Creek Walk (Looking East)



+/- 200' of reclaimed pedestrian space

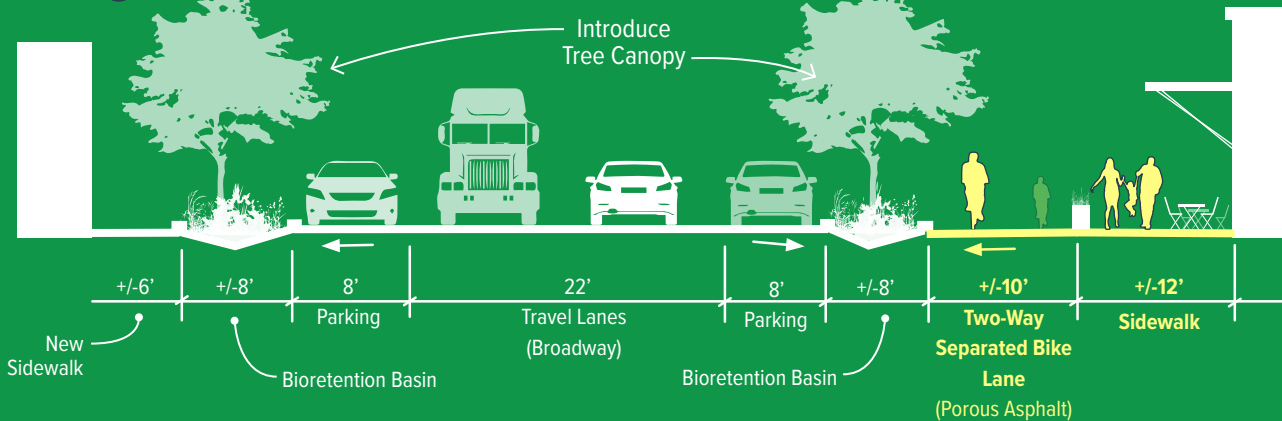
REQUIRED BRIDGE OVER THE RAILROAD



Features of this new proposed bridge include:

- 14-foot clear width for trail users
- 23-foot vertical clearance above railroad
- 220-foot long main span
- Accessible northern approach is 770-feet in length
- Southern approach is on-grade; no ramps required
- May relocation of overhead electric lines on Tivoli St.

③ Typical On-Road Separated Facility on Broadway (Looking North; ROW ranges from 65' - 100' along Broadway)

**COST: \$25,000,000***

The bridge over the railroad, steep terrain, and extensive improvements proposed along Broadway all increase the cost of this alternative.

CONSISTENCY: ● ● ● ○ ○

A portion of this alternative is off-road, however the shared roadway on Tivoli would detract from the greenway experience until more transformative improvements are made along this corridor.

TIMEFRAME: Long-Term, Over 10 Years

This alternative crosses the railroad ROW, requires a new bridge, and proposes extensive improvements on Broadway.

PUBLIC SUPPORT: 43%

This alternative was the most popular among the public in the Neighborhood character area.

**The portion of the trail in Tivoli Preserve is not included in the cost estimate for this alignment alternative*

COST ESTIMATE ASSUMPTIONS

Bridge Cost Estimates

1. Vertical clearance for new pedestrian bridges over a roadway is 17'-0", which exceeds NYS DOT minimum requirements to account for recent truck strikes in the region.
2. All bridges and approaches meet ADA requirements for pedestrians: 5% running slope or 8% maximum slope on ramps with 5'-0" flat landings for every 2'-6" of elevation change.
3. Per the NYS Bridge Manual (2.2.4), new pedestrian structures shall have a minimum of 14'-0" clear width. Cost estimates assume a 14'-0" clear width.
4. A 3'-0" structure depth is assumed (low chord/ bottom of structure to top of deck/walking surface).
5. Private utilities (electric, telecommunications, fiber optic, etc) located within the existing highway boundary would relocate (& design) at their expense. If on private property, relocation costs would be reimbursed/paid for by the project.
6. Public (water, sewer, etc) utilities are always paid for and designed by the project. Under current law, in general, municipally-owned utility facilities are eligible for reimbursement whether on highway right-of-way or private property. Non-municipally owned utility facilities (e.g., transportation corporations or private utilities) would only be eligible for reimbursement when on private right-of-way or for projects with Interstate categories of funding.

7. Railroad coordination & protective services would be required for any project on, over, or adjacent to the railroad.
8. Consideration of hydraulics and floodway / flood plain or wetlands was not performed. Permits would likely be required depending on that screening and may need to show no impact on flood elevations (i.e., filling in the floodway).

Trail Cost Estimates

1. A 12-foot trail width is assumed for all alternatives unless otherwise noted.
2. An asphalt trail surface is assumed unless otherwise noted.
3. New proposed sidewalks are concrete.

Soft Costs

The following soft costs are accounted for in all of the planning level cost estimates presented in the alignment analysis. Soft costs are calculated as a percentage of the total estimated construction costs, unless otherwise noted.

- Basic Work Zone traffic Control (5%)
- Mobilization (4%)
- Survey Operations (2%)
- Field Change Payment (5%)
- Erosion and Sediment Control (0.5%)
- Design Contingency (10%)
- Construction Contingency (25%)
- Construction Inspection Contingency (10%)
- ROW costs estimated at \$10,000 per property impacted
- For all alternative alignments within 50 feet of railroad ROW, railroad protective services and flagging were estimated to be \$2,000 per day. Construction of trail segments are estimated to take four months each. Construction of new structures (i.e., a bridge) are estimated to take six months each.







CHAPTER 5

RECOMMENDATIONS

This chapter describes the recommended route for the Patroon Creek Greenway. The recommended route was defined based on feedback from the project's advisory committees and the public, the alignment analysis, and the overarching project goals to provide equitable access, increase connectivity, enhance quality of place, and improve public health. To ensure the future Greenway not only serves as a conduit for moving people from one place to another, but as also provides a unique experience that enhances the public realm, increases access to nature, and expands recreational opportunities several recommendations related to community connections, access points, wayfinding, native landscaping, and placemaking are also made.

RECOMMENDED GREENWAY ALIGNMENT + FACILITY TYPES

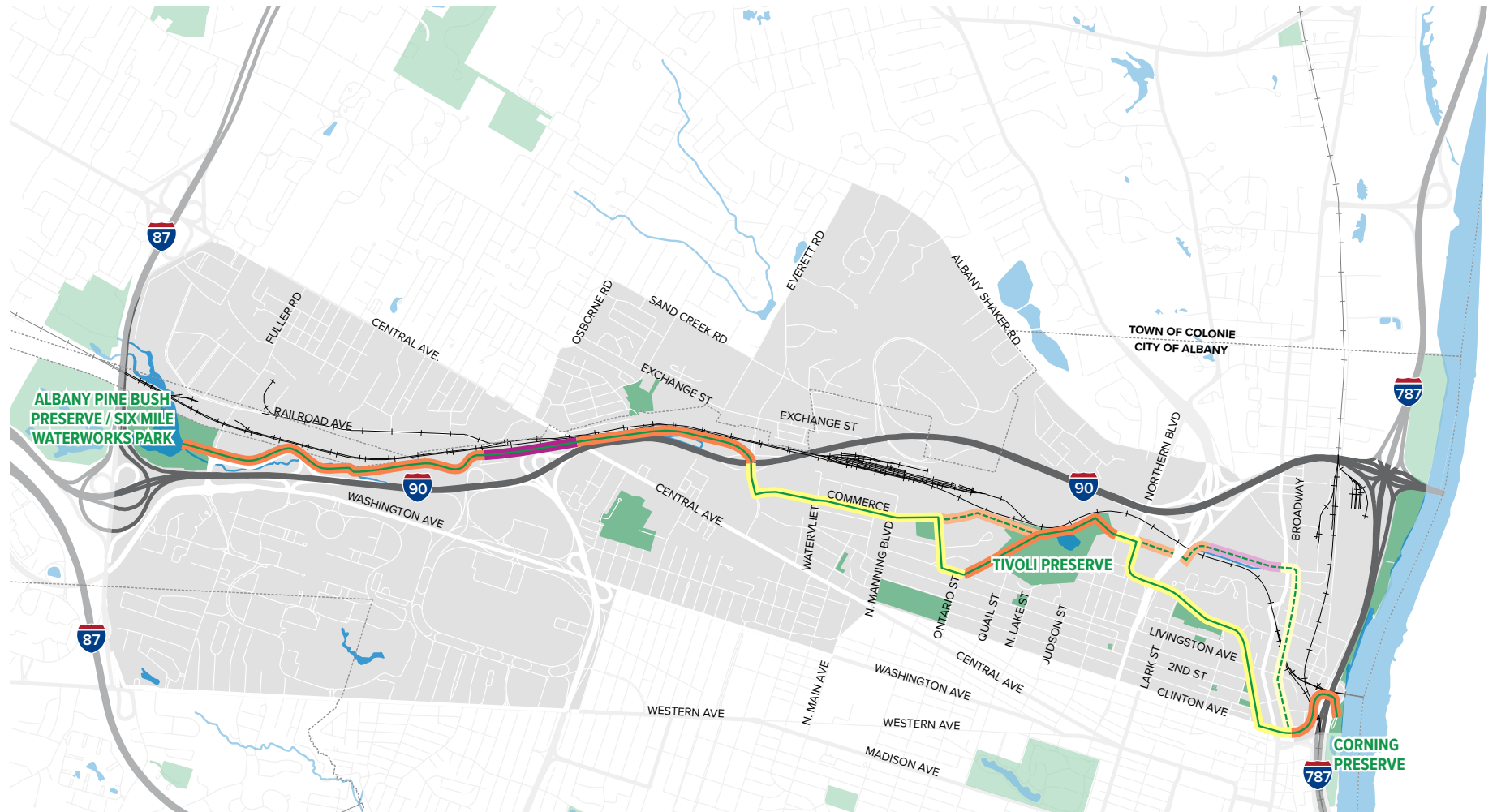
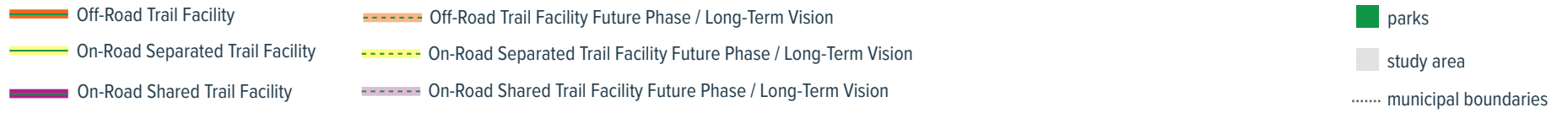
This section identifies and describes two recommended alignments for the future Patroon Creek Greenway: one that can be implemented relatively soon and another longer-term option that enables the Greenway to follow the entire length of Patroon Creek. The recommended alignments were selected based on their ability to achieve the project's goals, the results of the alignment analysis, and feedback from the project advisory committees and the public.

Recommended Alignment

From the Albany Pine Bush Preserve / Six Mile Waterworks Park east to the Hudson River waterfront, the following alignments and trail facility types are recommended for the Patroon Creek Greenway:

- Crossing Fuller Road:** Two different crossing options were explored for crossing Fuller Road in Chapter 5. Immediate improvements should focus on creating an enhanced at-grade trail crossing, including: widening the existing crosswalk and installing new ramps and detectable warnings, installing user-activated Rapid Rectangular Flashing Beacons (RRFBs), and expanding the existing median refuge island. The crosswalk should also be aligned to ensure there is sufficient vehicular storage adjacent to the round-a-bout exit for cars to stop and yield to trail users. Despite these immediate improvements, Fuller Road will likely remain challenging for pedestrians and cyclists to cross. As such, the proposed pedestrian bridge evaluated in the alignment analysis should also be considered as implementation of the Greenway advances.
- Crossing Central Avenue:** In the near-term, signalization of the Yardboro Avenue / Central Avenue intersection is recommended for further study and potential implementation. Given the site distance issues and high vehicular traffic volumes at this location, the pedestrian bridge evaluated in the alignment analysis should also be pursued as implementation of the Greenway advances.
- Fuller Road to Central Avenue:** CA-1a is the recommended alignment in the near-term. This option provides an off-road trail, roughly paralleling the Patroon Creek and then transitions to a shared roadway along Yardboro Avenue with an improved sidewalk for pedestrians. Given the proximity to Patroon Creek and lack of existing street trees, the installation of green infrastructure along Yardboro Avenue is also recommended to help manage stormwater runoff and enhance the experience along this portion of the Greenway.
- Central Avenue to Everett Road:** CR-1b is the recommended alignment for this section of the Greenway. This option provides an off-road trail along the Patroon Creek, a new embankment to connect the trail to Everett Road Bridge, and ecological restoration along the creek. Not only are there several funding sources currently available focused on pairing transportation improvements with natural infrastructure to increase climate resiliency, improving the overall health of the creek will enhance trail users' experience, mitigate flooding, and improve water quality.
- Everett Road Bridge:** The reconstruction of Everett Road Bridge to include a separated multi-use path across both the railroad and I-90 is critical to the success of the Patroon Creek Greenway as well as to improving connectivity between the Town of Colonie and the City of Albany. It is also anticipated that the portion of the Patroon Creek Greenway between Central Avenue and Everett Road, which is approximately 17-feet below Everett Road Bridge, is contingent on the reconstruction of this bridge.
- Everett Road to Tivoli Preserve:** IN-1 is the recommended alignment for this section of the Greenway. This option provides the most direct connection to the West Hill neighborhood and uses public right-of-way to create a separated shared-use path along Everett Road, Watervliet Avenue Ext., Commerce Avenue, and Terminal Street. At the intersection of Terminal Street and Livingston Avenue, the trail proceeds east about two blocks and then heads north onto Albany Water Board property and enters Tivoli Preserve where it transitions to an off-road facility. The trail facility along Livingston Avenue requires further outreach to residents — a two-way separated bike lane could be created if on-street parking is removed and the roadway is narrowed. However, there is currently only one lane of on-street parking along this section of Livingston Avenue and there are several residences with no access to off-street parking. Alternatively, a shared roadway with traffic calming could be provided along this short stretch of Livingston Avenue to minimize impacts to existing on-street parking.

RECOMMENDATIONS: RECOMMENDED GREENWAY ALIGNMENT



0 0.25 0.5 1 MILES

RECOMMENDED GREENWAY ALIGNMENT + FACILITY TYPES (CONT.)

- **Tivoli Preserve:** The construction of a new shared-use path is proposed through Tivoli Preserve to connect Livingston Avenue to N. Manning Boulevard, following Patroon Creek. All portions of the Greenway in Tivoli Preserve are recommended to be porous asphalt in order to provide an accessible surface and reduce stormwater runoff. As noted in Chapter 5, a pedestrian bridge will be needed to cross the spillway near the inlet of Patroon Creek into the Preserve. Finally, to prevent unauthorized motor vehicle access, gates or other physical structures narrowing entryways should be placed at all entrances into Tivoli Preserve.
- **Tivoli Preserve to the Albany Skyway:** NE-1 is the recommended alignment for this section of the Greenway. This option provides the greatest connectivity to public transit, other bicycle and trail infrastructure, bikeshare stations and other community destinations, such as schools and parks, of all the trail alignments evaluated. This option also entirely uses the public right-of-way. A shared use path is recommended along N. Manning Boulevard in front of KIPP Tech Valley Middle School and then a new shared-use path separated by an 8- to 10-foot wide landscaped buffer is recommended along the length of Northern and Manning Boulevards. This new separated shared-use path will require one lane of on-street parking to be removed. At the intersection of Manning Boulevard and Livingston Avenue, the Greenway continues along the west side of Ten Broeck passing Ten Broeck Mansion, Van Rensselaer Park, and St. Joseph's Park, and then proceeds east on Clinton Avenue to the Albany Skyway.

To accommodate the Greenway and enable the creation of a two-way separated bike lane, the removal of on-street parking along the west side of Ten Broeck is recommended in the long-term. However, further engagement with impacted residents and a parking study along Ten Broeck is recommended as an immediate first step to better understand the impacts of removing one lane of parking. Similarly, in order to identify the most suitable trail facility type along Clinton Avenue, additional engagement and design development of the trail is required and should be coordinated with other City efforts to improve the streetscape along Clinton and Livingston Avenues.

Long-Term Vision for the Greenway

The long-term vision for the Patroon Creek Greenway is to follow the entire length of Patroon Creek and provide as much off-road trail as possible. A large portion of the trail alignment recommended in the near-term achieves this vision. However, at the intersection of Commerce Avenue and Terminal Street, the longer-term vision for the Greenway is to continue east along Commerce Avenue, transitioning to an off-road trail and wrapping around the Freihofer Factory to enter the western part of Tivoli Preserve (IN-2 in the alignment analysis). After traveling through Tivoli Preserve, the Greenway continues off-road past KIPP Tech Valley Middle and Elementary Schools, passes under the U.S. Route 9 bridge and then requires a new pedestrian bridge to cross the rail line and connect to Tivoli Street. The Greenway continues east along Tivoli Street and then south along Broadway as a separated trail facility to connect to the Skyway (NE-3 in the alignment analysis).

TRAIL FACILITY TYPES: LIVINGSTON AVE.



Option 1: Shared roadway; on-street parking retained



Option 2: Two-way separated bike lane; roadway narrowed and on-street parking removed



TRAIL FACILITY TYPES: MANNING BOULEVARD



Recommended Long-Term Facility: A new shared-use path separated by a landscaped median with green infrastructure; on-street parking is removed from one side of the road



Short-Term Option: If immediate connectivity is desired, striped bike lanes could be installed in the near-term along the full length of Manning Boulevard

TRAIL FACILITY TYPES: TEN BROECK STREET



Recommended Long-Term Facility: A new two-way separated bike lane along the western side of the street (pending results of a parking study to better understand the impacts of removing one lane of parking)



Short-Term Option: Maintain the existing bike lanes along Ten Broeck Street

NEIGHBORHOOD CONNECTIONS

Several new connections are recommended to increase access to the future Patroon Creek Greenway. These recommendations build upon existing and planned bicycle and trail infrastructure as well as propose new bicycle infrastructure to enhance neighborhood, intermunicipal, and campus connectivity to the future Greenway.

Neighborhood Connections

Enhanced or new pedestrian and bicycle infrastructure is recommended along the following roads to improve connectivity between the Greenway and the Arbor Hill and West Hill neighborhoods:

- **Livingston Avenue:** This east-west corridor parallels the proposed Greenway and is home to several businesses, residences, and community resources, including the Underground Railroad Education Center. This corridor also experienced several crashes between 2016 and 2021, especially at the Livingston Avenue and Henry Johnson Boulevard intersection. Improved sidewalks and pedestrian crossing infrastructure are recommended along the length of this road. Additionally, new bicycle infrastructure should also be considered.
- **3rd Street:** This east-west corridor provides a direct connection between Ten Broeck Street and Watervliet Avenue. It also parallels the proposed Greenway and is home to several residences and community resources (e.g., churches). Improved sidewalks and pedestrian crossing infrastructure are recommended along the length of the road, and the bicycle boulevard recommended in the

City's Bicycle and Pedestrian Master Plan should also be implemented in coordination with the future Patroon Creek Greenway.

- **Colonie / Swan Street:** This north-south corridor provides a connection between the future Greenway, Arbor Hill Elementary School (via the pedestrian bridge), and Clinton Avenue. Improved bicycle and pedestrian infrastructure is recommended along the length of this road.
- **Lark Street:** This north-south corridor provides an important connection between the future Greenway, Arbor Hill Elementary School, the Albany International Center, and Clinton Avenue. In particular, students and teachers frequently walk along Lark Street between the two schools and sidewalk and crossing improvements are much-needed and should be prioritized.
- **Judson and Ontario Streets:** These north-south corridors provide connections between the future Greenway, parks (Tivoli Preserve via Judson and Swinburne Park via Ontario), residents, and Clinton Avenue. Improved bicycle, pedestrian, and crossing infrastructure is recommended along the length of these roads.
- **Watervliet Avenue:** This north-south road provides an important connection between the future Greenway, residents, Henry Johnson Charter School, and Central Avenue. In particular, several grocery stores are located on or near Watervliet Avenue and improved bicycle and pedestrian connectivity in this area would increase resident's access to food.

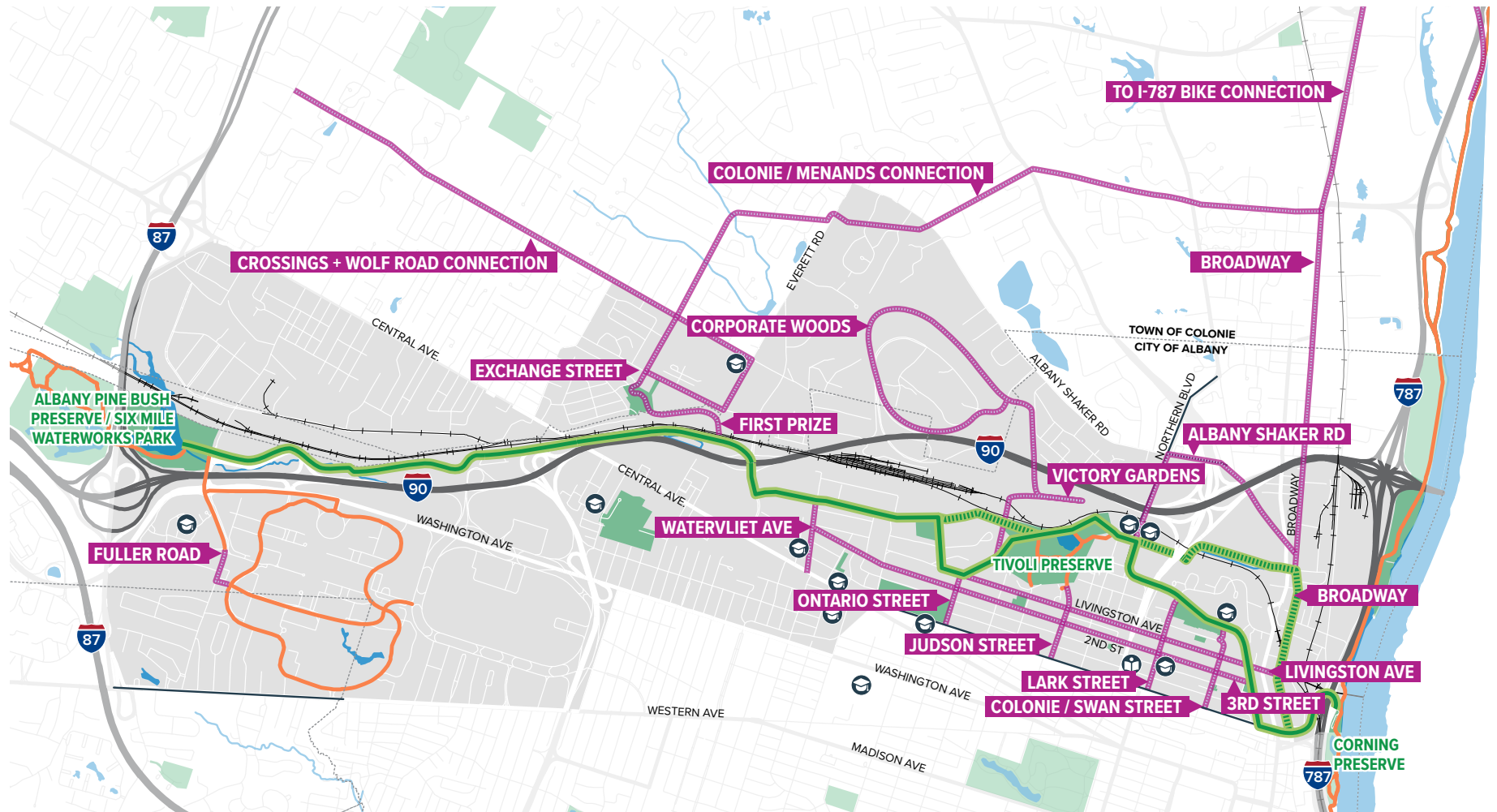
- **Albany Victory Gardens:** In addition to urban agriculture, this property is also home to an extensive mountain bike trail system. Utilizing an existing access easement the owner's of the Victory Gardens have with CSX, rehabilitation or replacement and then re-use of the abandoned rail trestle bridges is recommended to create a direct, separated rail crossing between Tivoli Preserve and the Albany Victory Gardens.

Intermunicipal Connections

Improved pedestrian and bicycle infrastructure is recommended at the following locations to improve connectivity between the Greenway and neighboring municipalities:

- **Broadway:** Bicycle and pedestrian improvements are recommended along Broadway to increase connectivity between the City of Albany and the Village of Menands and advance the long-term vision for the Patroon Creek Greenway.
- **First Prize:** As part of the redevelopment of this site, a new pedestrian bridge is recommended over the railroad to connect future residents, the Town of Colonie, and the Colonie Pocket Park to the future Greenway.
- **Colonie / Menands Connector:** This proposed connection builds on the First Prize connection and continues north and then east using an electrical utility corridor to connect the Greenway to the Village of Menands and the I-787 bike connection to the Mohawk-Hudson Bike-Hike Trail.

RECOMMENDATIONS: NEIGHBORHOOD CONNECTIONS



0 0.25 0.5 1 MILES

NEIGHBORHOOD CONNECTIONS (CONT.)

- **Crossings + Wolf Road Connection:** Improved bicycle, pedestrian, and crossing infrastructure is recommended along Sand Creek Road to connect the Greenway to the Town of Colonie and major shopping destinations.
- **Northern Boulevard / Shaker Road / Loudonville Road:** Building on existing bicycle infrastructure (bike lanes) and recommendations in the City's Bicycle and Pedestrian Master Plan, providing continuous bicycle infrastructure from Northern Boulevard to Shaker Road to Loudonville Road would improve connectivity to Broadway, the City's warehouse district, and Menands.

Campus Connections

Improved pedestrian and bicycle infrastructure is recommended at the following locations to improve connectivity between the Greenway and employment and educational campuses:

- **Corporate Woods:** The CDTC Capital District Trails Plan proposes a connection between Tivoli Preserve and Corporate Woods via an Albany Water Board parcel. This proposed connection would also require a new pedestrian bridge over I-90. Although this is likely a long-term project, this future connection would provide an important link between the Patroon Creek Greenway and Corporate Woods, which is a major employment center and is also home to several community services, including health care and daycare.
- **Fuller Road / Washington Avenue:** Bicycle and pedestrian crossing improvements at the series of round-a-bouts on Fuller Road are critical to providing a safe, comfortable connection between UAlbany, the future CDTA Purple Line, and the Greenway. To better connect the Greenway to UAlbany, additional bicycle improvements along Fuller Road are recommended as well as enhancements to and extension of the existing multi-use path along Washington Avenue.

PRIORITY CONNECTIONS

The following connections have been identified by the City of Albany and stakeholders as high priority connections that should be implemented in the short-term and could be constructed prior to the Greenway. These connections would provide immediate benefits to the local community by expanding bicycle and pedestrian infrastructure:

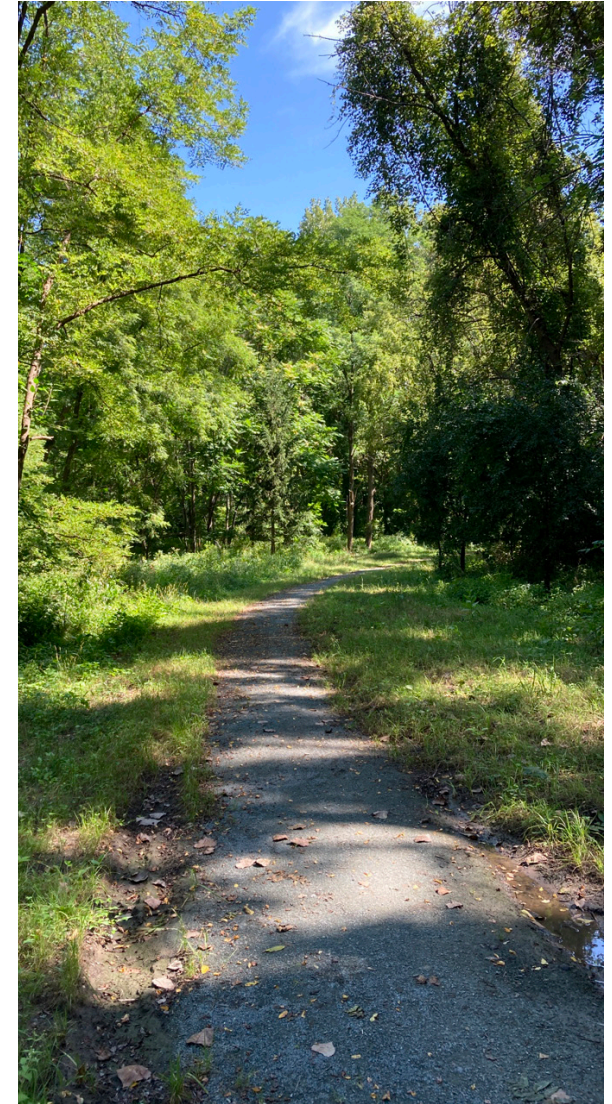
- **Broadway:** Identified as an important component of the City's future bicycle network, the installation of protected bicycle facilities would provide an important north-south connection between downtown Albany, the warehouse district, and Menands. This connection is also a key part of the long-term vision for the Greenway.
- **Livingston Avenue:** Pedestrian infrastructure improvements on Livingston Avenue, between Ten Broeck Street and Broadway, are a high priority due to their ability to improve connectivity between Broadway, the future Greenway, and existing transit stops and destinations along this corridor.
- **Lark Street:** An important local connector, pedestrian infrastructure improvements along this corridor would immediately benefit local schools and residents.
- **Northern Boulevard / Shaker Road / Loudonville Road:** Identified as a priority in the City's Bicycle and Pedestrian Master Plan, implementation of this connection would build on existing bicycle infrastructure to provide a continuous bicycle facility connecting Northern Boulevard to Broadway.



Connections to...improve access to community resources



Connections to...increase safety for all users



Connections to...increase access to nature

TRAILHEADS, ACCESS POINTS + INTERPRETIVE STOPS

A network of trailheads and trail stops is recommended for the Patroon Creek Greenway as a way to promote access, encourage greater use and highlight local cultural and natural history.

Trailhead Hierarchy

Trailheads and trail stops provide the perfect opportunity for incorporating complementary elements into trail design. It is recommended that the Patroon Creek Greenway incorporate three different types of trailheads, as well as trail stops:

- **Major Trailheads:** Major trailheads should be located at each of the three preserves, which allows for one at each entry to the trail and one near the trail's midpoint.
- **Minor Trailheads:** Minor trailheads should occur at prominent locations along the trail that have the potential to draw a lot of attention to the trail and incorporate significant placemaking components.
- **Minimal Trailheads:** Minimal trailheads should occur at prominent locations along the trail that have the potential to draw a lot of attention to the trail but have minimal room for accommodating complementary trail components.
- **Interpretive Stops:** Interpretive stops should be located at places of interest along the trail that provide opportunities for exploring cultural and environmental themes. Depending upon the space available in these locations, they could be very simple with just interpretive signage or they could be larger and include additional components such as seating or art installations.

Greenway Trail Components

Greenways are unique in that they promote sustainable means of travel and recreation while also incorporating elements of environmental access and protection. The many layers of cultural and environmental history that surround Patroon Creek make the Patroon Creek Greenway a perfect opportunity to tell those stories and connect both residents and visitors with the opportunity to appreciate and learn from their surroundings.

Residents identified the following components as components they would like to see incorporated into the Patroon Creek Greenway:

- Art Installations
- Artistic Lighting
- Bike Rental Facilities
- Bike Repair Stations
- Interpretive Signage
- Native Landscaping
- Playgrounds
- Restroom Facilities

Native Landscaping, Art Installations and Playgrounds scored especially high among participants.

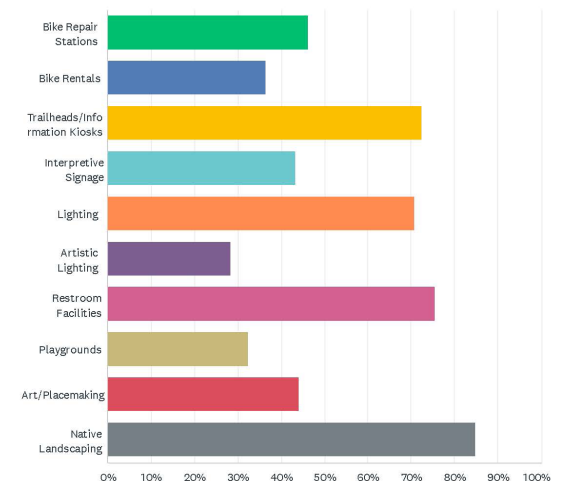
The majority of trail components should be located at trailheads and trail stops with the inclusion of basic components such as street trees, wayfinding and native plantings throughout the greenway.



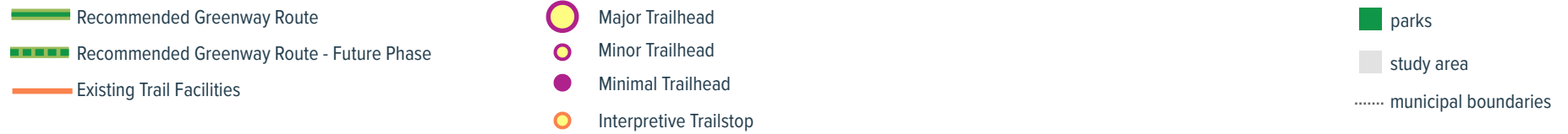
▲ **Patroon Creek Greenway Outreach Event.** An opportunity for the public to weigh in on preferred trail amenities for the Greenway.

Q9 What kind of amenities would you like to see along the Patroon Creek Greenway? Please select your top 5.

Answered: 356 Skipped: 4



SUGGESTED TRAILHEADS: HIERARCHY, LOCATIONS AND THEMES



- | | |
|--|---|
| 1 Albany Pine Bush Preserve / Six Mile Waterworks Park Trailhead | 5A Tivoli Lake Preserve and Farm Interpretive Trailstop |
| 1A Patroon Creek History Interpretive Trailstop | 5 East Tivoli Lake Preserve Trailhead |
| 2 Central Avenue Trailhead | 6 Lark Park Trailhead |
| 2A Native Vegetation Interpretive Trailstop | 7 Arbor Hill Elementary Trailhead |
| 2B Invasive Vegetation Interpretive Trailstop | 8 Manning Blvd/Livingston Ave Trailhead |
| 3 Watervliet Ave/Commerce Ave Trailhead | 9 Clinton Ave/Ten Broeck St Trailhead |
| 3A Engine 999 Interpretive Trailstop | 10 Albany Skyway Trailhead |
| 4A Charles Young Memorial Park Interpretive Trailstop | 11 Corning Preserve Trailhead |
| 4 West Tivoli Lake Preserve Trailhead | |



TRAILHEADS, ACCESS POINTS + TRAIL ELEMENTS (CONT.)



▲ **Proposed Major Trailhead at Tivoli Lake Preserve at the N. Manning Boulevard Entry.** This rendering shows how several of the different trail components could be incorporated and used to create a sense of place and draw attention to the Greenway.

MAJOR TRAILHEAD: TIVOLI LAKE PRESERVE AT THE MANNING BOULEVARD N ENTRY



- 1 Patroon Creek Greenway
- 2 Patroon Creek Greenway Trailhead with Wayfinding Pillars
- 3 Trailhead Parking
- 4 Outdoor Classroom / Seating
- 5 Educational Loop Trail

- 6 Brother Yusuf Burgess Trailhead with Interpretive Panels and Seating
- 7 Gravel Access Road
- 8 Relocated Livingstone Manor Access Drive Entry
- 9 Patroon Creek Nature-Themed Playground
- 10 Tivoli Lake Preserve Interpretive Area

- 11 Landscaping to match Patroon Creek Daylighting
- 12 Patroon Creek Greenway Interpretive Area
- 13 Bike Parking
- 14 Bike Share / Rental Station
- 15 Plant new trees along Greenway and at trailheads

TRAILHEADS, ACCESS POINTS + TRAIL ELEMENTS (CONT.)

Major Trailheads

Major trailheads are intended to serve as important gateways to the greenway. They should draw attention to the greenway, provide desirable amenities that encourage and support use of the greenway and visually celebrate what the greenway has to offer.

Three major trailheads are proposed with one occurring at each of the three nature preserves touched by the Patroon Creek Greenway:

- **Albany Pine Bush / Six Mile Waterworks Trailhead:** This trailhead marks the westernmost point of the Patroon Creek Greenway and is located in the Albany Pine Bush and 6 Mile Waterworks Park.
- **Tivoli Lake Preserve Trailhead:** This trailhead is recommended at the easternmost entry to Tivoli Lake Preserve, located at the end of Manning Boulevard North.
- **Corning Preserve Trailhead:** This trailhead marks the easternmost point of the Patroon Creek Greenway and is located in the Corning Preserve on the banks of the Hudson River.

Major trailheads should be larger and have the potential to incorporate more of the desired trail components.

Minor Trailheads

Minor trailheads are intended to bring awareness to the Patroon Creek Greenway while also serving as wayfinding and interpretive stops.

Six minor trailheads are proposed along the Patroon Creek Greenway to promote greater awareness and access from surrounding areas. Located in high profile areas, they are great opportunities for highlighting both the trail and connections to surrounding points of interest such as nearby institutions, parks and points of cultural interest. The type and number of complementary trail components should vary based on the context and amount of space available.

Minimal Trailheads

Minimal trailheads are intended to bring awareness to the Patroon Creek Greenway in critical locations where visibility is high but space is limited.

Two minor trailheads are proposed along the Patroon Creek Greenway. Located in high profile areas, they are great opportunities for highlighting both the trail and connections to surrounding points of interest such as nearby institutions, parks and points of cultural interest.

Interpretive Stops

Interpretive Stops will occur along the greenway in locations that may not be suited to serving as entry points, but offer a chance for users to either stop and rest or explore interpretive exhibits. They will also help in building the character of the Patroon Creek Greenway and making it not just a connector, but also a destination.

Six interpretive stops are proposed along the Patroon Creek Greenway and more can be added should further detailed study or community engagement recommend them. The type and number of complementary trail components should vary based on the context and amount of space available.

Other Points Along the Greenway

There may be some points along the Greenway where signage is not warranted, but the simple addition of street trees, native plantings and/or art installations can supplement the identity and experience of the Patroon Creek Greenway.

Recommended Placement of Trailhead and Trail Stop Elements

● Recommended ● Optional

Locations	Number Proposed	Trail Branding and Signage	Interpretive Signage	Street / Trail Trees	Native Landscaping	Seating such as Benches or Boulders	Waste and Recycling Stations	Bike Parking	Bike Repair Stations	Bike Rental Facilities	Access to Vehicular Parking	Art Installations	Artistic Lighting	Playgrounds (space permitting)	Individual Elements of Play	Restroom Facilities (space permitting)
Major Trailheads	3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Minor Trailheads	6	●	●	●	●	●	●	●	●	●	●	●	●		●	
Minimal Trailheads	2	●	●	●	●								●			
Interpretive Stops	4	●	●	●	●	●						●			●	
Points Along the Greenway	TBD			●	●							●				



▲ Six Mile Waterworks Park

A major trailhead in 6-Mile Waterworks Park could be located near the parking area in the beautifully shaded pine grove.



▲ Tivoli Lake Preserve Entrance off Manning Blvd. North

A demonstration project was set up to illustrate the trail connection to the Tivoli Lake Preserve Trailhead.



▲ Patroon Creek

A trail stop along Patroon Creek could increase visual access to the creek while improving edge conditions.

PLACEMAKING OPPORTUNITIES

Through its connection to historic Patroon Creek and three nature preserves, the Patroon Creek Greenway presents a tremendous opportunity to explore cultural and natural history while providing a peaceful place for recreation and inspiration and serving as an important transportation connection.

Elements of Placemaking

Trail components can be used to make a greenway unique and specific to its own location and story. Patroon Creek Greenway components should draw inspiration not only from the environmental and cultural history of Patroon Creek, but also the Albany Pine Bush, Tivoli Lake Preserve, and Corning Preserve.

The following palette of materials draws on themes found at each of the three preserves and establishes a framework for developing the character of the Patroon Creek Greenway and allowing for it to vary in interesting ways along its length.

TRAIL BRANDING

Given the rich and varied context of the Patroon Creek Greenway, trail branding will need to function in multiple ways:

- **Trail Recognition:** Branding will be needed to market the trail's existence and encourage widespread use. The regular incorporation of specific materials, including street trees; native plantings; amenities such as benches, waste and recycling receptacles, and bike racks; interpretive exhibits, and signage is an effective means of branding a trail.

- **Part of a Regional Trail Network:** The Greenway should be marketed as part of the larger regional and statewide network of trails to maximize its usefulness and appeal. More detailed recommendations for signage can be found in the following section on wayfinding.
- **Within the Context of Multiple Destinations:** As a trail that connects three preserves and shares an alignment with notable destinations like Clinton Market Square and the Albany Skyway, there will be competing needs for identification, wayfinding and placemaking in some locations and efforts will need to be collaborative so that these destinations and efforts can complement and strengthen one another in a cohesive and attractive way.

SCULPTURAL TRAIL SIGNAGE

Incorporating larger, sculptural signage into the branding could help build trail recognition in a way that calls attention to trailheads that may not otherwise be immediately visible in their locations. The design for these totems or pillars could be flexible so as to allow for inclusion of other attractions such as the incorporated preserves or adjacent trails where appropriate.

INTERPRETIVE SIGNAGE

Interpretive signage should match the interpretive signage used for the Patroon Creek Daylighting project. This signage can already be found along the Patroon Creek and recommended alignment and visually ties into themes of nature and sustainability.



▲ **Example of Sculptural Signage.** Image credit: Copyright N Chadwick and licensed for reuse under the Creative Commons License.



▲ **Existing Interpretive Signage for the Patroon Creek Daylighting project in Tivoli Preserve.**

INTERPRETIVE AND EDUCATIONAL OPPORTUNITIES: POTENTIAL CULTURAL THEMES

INTERPRETIVE AND EDUCATIONAL OPPORTUNITIES

Interpretive and educational content for the Patroon Creek Greenway should stem from its connection to Patroon Creek and the three preserves that it connects. Themes should seek to:

- Explore **Cultural History**
- Study the **Environmental Context** of the trail
- Encourage **Sustainable Practices**

TRAILHEAD AND WAYFINDING SIGNAGE

Trailhead and wayfinding signage should follow the recommendations as set forth in the following section on Wayfinding.

Regional and Local Connections

Interpretive, educational and wayfinding content for the Patroon Creek Greenway should tell the story of Patroon Creek in a way that connects it to the surrounding context and relevant nearby destinations. Cross-promotional content will increase support for the Greenway while also adding interest to the experience. In addition to the Albany Pine Bush Preserve, the Tivoli Lake Preserve and Farm, and the Corning Preserve, the trail is within easy walking or riding distance of many other attractions including the Albany Skyway, SUNY Albany, the Ten Broeck Mansion, the Underground Railroad Education Center, multiple historic theaters, and many other attractions.

/// Native American Heritage

/// Early European Settlement around Patroon Creek

/// Industrial History of Patroon Creek

/// Surrounding Neighborhood History

/// Cultural History of the Three Preserves

/// Underground Railroad

/// Railroad and Locomotive History



▲ **Early Railroad History.** The Mohawk & Hudson Railroad was one of the first railroads in the United States and many of the earliest train engines were built in the Capital Region. The Tivoli Hollow Line was established along Patroon Creek in 1844 and the railroad continues to operate in the same general area. Image Credit: Howard C. Ohlhaus, June 25, 2010.



▲ **Educational Tour of the nearby Underground Railroad Education Center.** Image credit: Underground Railroad Education Center



▲ **Prescribed burns at the Albany Pine Bush.** Humans have historically occupied the Albany Pine Bush for over 6,000 years. Native Americans used prescribed fires to maintain the landscape as a place for hunting game and collecting wild edibles. The Albany Pine Bush Preserve Commission continues this practice today. Image Credit: Albany Pine Bush.

PLACEMAKING OPPORTUNITIES (CONT.)

INTERPRETIVE AND EDUCATIONAL OPPORTUNITIES: ENVIRONMENTAL THEMES

/// Environmental History of the Patroon Creek

/// Ecosystems Found Along the Patroon Creek

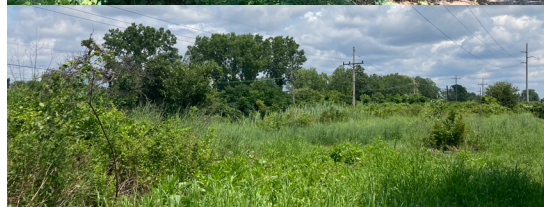
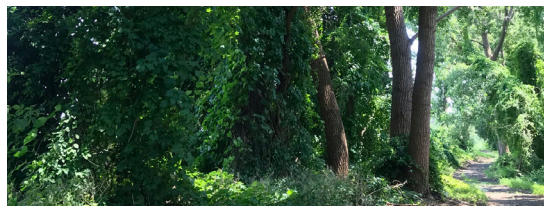
/// Native Vegetation, Species Diversity, and Wildlife Habitat

/// Importance of the Urban Canopy

/// Invasive Species and the Threats They Pose



▲ Educational Tour along Patroon Creek at Tivoli Lake Preserve. Image credit: Friends of Tivoli Lake Preserve and Farm



▲ Ecosystems Along Patroon Creek
The proposed alignment for the Patroon Creek Greenway provides access to a variety of different ecosystems.



▲ Invasive Species
The Patroon Creek Greenway offers many opportunities to educate users about the negative impacts invasive species have on the environment, human health, and the economy; as well as the importance of preventative measures.



▲ Patroon Creek

MATERIALS PALETTE: NATURAL, THEMATIC + SUSTAINABLE MATERIALS

Materials

A palette of materials that relates to Patroon Creek and the three preserves that it connects should be incorporated into the structure of the greenway as a way of branding and distinguishing the trail.

Native Landscapes

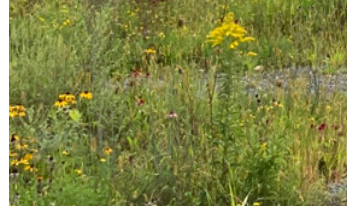
One of the strengths of the Patroon Creek Greenway is the opportunity to draw upon the many different ecosystems encompassed within the trail. Trailheads and trail stops should incorporate native vegetation as a way to create a better sense of place, educate users about the benefits of these systems and the importance of protecting them,



▲ Native Plants and Patroon Creek Daylighting.

The Patroon Creek Daylighting project incorporates many native and pollinator-friendly plants that could be used as placemaking tools along the Patroon Creek Greenway.

/// Natural and Environmentally-Themed Materials



/// Industrial Materials



/// Sustainable Materials



PLACEMAKING OPPORTUNITIES (CONT.)

Street / Trail Trees

Trees can enhance the Greenway through their ability to visually define the trail, provide vertical barriers that separate pedestrians and cyclists from vehicular traffic, and provide shade for trail users. For already vegetated areas, trees should be selected to complement the ecosystem that surrounds the trail. In more developed, urban areas, street trees should be included wherever possible. In any areas adjacent to the Albany County Patroon Creek Trunk Sewer easement, large trees with significant root structures should be avoided to minimize impacts to sewer infrastructure.

To maximize their effectiveness, tall shade trees should be planted whenever there are no vertical conflicts. Low, flowering trees should be planted under utility lines. Low maintenance, disease and pest resistant fruit trees should be considered in appropriate locations where trail users and residents could potentially harvest fruit. There may be opportunities for maintenance partnerships with local not-for-profits and community organizations and educational institutions. Additional recommendations for trees can be found in the following section on Native Landscapes.

Bike Parking

Bike parking should be included at major and minor trailheads and should either use materials from the recommended materials palette or be thematic in nature. All bike racks should be sturdy, well-anchored, and enable locking of the bike frame and at least one wheel with a U-lock.

Bike Repair Stations

Bike repair stations should be located at all major trailheads as well as those minor trailheads where space permits and the stations could benefit nearby residents.

Seating

Three different types of seating are recommended for the Patroon Creek Greenway:

- **Trail and Trailhead Benches:** A single model of benches that uses either sustainably harvested wood or recycled plastic designed to look muted and natural should be used to provide seating at trailheads, interpretive stops and along the greenway. A simple, open model that places emphasis on the surroundings as opposed to the bench itself is recommended. A combination of backed and backless benches can be used to provide a variety of seating that best suits the users and the context.
- **Boulders:** Drawing from the materials used along the daylighted portion of Patroon Creek, boulders can be used to supplement seating options at trailheads, interpretive stops and along the greenway.
- **Sculptural Theme-related Seating** can be used at trailheads and interpretive areas where seating may also serve as a focal point and add to the character of the greenway.

THEMATIC SELECTIONS: SEATING AND BIKE RACKS

/// Sustainable Materials



credit: Kay Park

/// Natural Materials

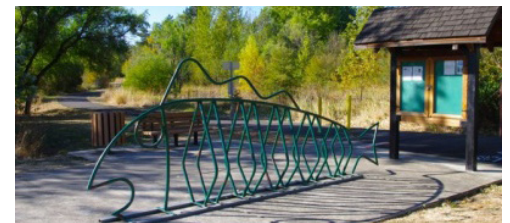


credit: Streetlife

/// Theme-Related / Sculptural



credit: Phoenix Creative Metal Art



Waste and Recycle Stations

Combined waste and recycling bins with clear graphics and different size and shape holes tend to be more effective in keeping trash out recycling bins. Waste and recycle stations should be located at trailheads wherever possible.

Art Installations

Art installations can greatly enhance the recognition and appeal of trail systems. They have the ability to:

- Draw attention to the trail
- Strengthen thematic narratives
- Include local artists in the process and build neighborhood ownership
- Add beauty and interest to the trail in a way that makes it unique and specific to the place

Artistic Lighting

Artistic lighting could be used at major trailheads and some of the minor trailheads to highlight art elements and vegetation as a way to increase safety and draw further attention to the presence of the Patroon Creek Greenway. All lighting should be dark-sky compliant.

Restroom Facilities

Since restrooms are recommended primarily at major trailhead locations, they may already be provided nearby. If new restrooms are considered and there is maintenance capacity, environmentally sustainable features such as solar panels and composting toilets should be considered.



▲ Combined Waste and Recycling Stations

Combined waste and recycling bins with clear graphics and different size and shape holes tend to be more effective in keeping trash out recycling bins. Image Credit: Waste Wise Products.



▲ Bike Repair Station

Bike repair stations would benefit both greenway users and nearby residents. Image Credit: Bike Dock Solutions.



▲ Kinetic Monarch Sculpture

Image Credit: Addison Arbor Foundation



▲ Student Art from Arbor Hill Elementary School makes this sign meaningful and unique.

PLACEMAKING OPPORTUNITIES (CONT.)

Playgrounds

Playgrounds could be located at or near major trailheads and should be designed to help tell the story of Patroon Creek.

Individual Elements of Play

Individual elements of play could be incorporated at minor trailheads and interpretive stops where space may be more limited. Studies have shown that placing a series of play elements along a trail can increase use from families and children and promote healthy and regular exercise.

PATHS FOR PLAY

Studies show that creating networks of play along path and trail systems encourages active lifestyles in children, families and communities.

- Integrating play into walkable, bikeable, trail systems can increase use and make greenways more desirable as regular destinations.
- Including nature-themed elements of play along the greenway can increase engagement with nature and environmental literacy.



▲ **Susquehanna River Themed Playground at Southern Tier New York Welcome Center.** Image Credit: I♥NY



▲ **Public Restroom on the Johnson Creek Trail in Austin, TX.** Image Credit: Sabre Commercial / The Trail Foundation



▲ **Giant Cattails evoke nature and create a sense of play at Walker Mill Regional Park.** Image Credit: cre8play



▲ **Prefabricated Unit with Solar Power and Composting Toilet.** Image Credit: Clivus Multrum Inc.



▲ **Nature-inspired Play Elements.** Image Credit: Playscape Creations



▲ Rendering of the proposed minor trailhead at Lark / Arbor Hill Park incorporating several of the placemaking amenities described in this section.

CHAPTER 6: RECOMMENDATIONS

WAYFINDING

To be recognizable and effective, the Patroon Creek Greenway will need to strike a balance of being recognizable as both an entity unto itself and also part of a larger regional system of trails and connections as well as series of popular destinations.

Trailhead and Wayfinding Signage

Signage is a crucial component for marking the presence of a trail so that those in the area are aware of its presence and those using it are able to follow it easily. For this project, several types of signage are recommended:

- **Sculptural Pillars:** Larger, sculptural signage should be incorporated to create a sense of place, increase the visibility of trailheads, and support the branding of the trail system.
- **Major and Minor Trailhead Signs:** Trailhead signs should be located at trail heads and should contain a trail map and trail network map that alerts users to other nearby trails and attractions.
- **Minimal Trailhead Signs:** Minimal trailhead signs should be located at trail heads where space is limited and the larger map sign cannot be accommodated.
- **Pole Banners:** Where possible, pole banners should be used in high traffic areas where the trails may overlap with roads or sidewalks.
- **Directional Signage:** Directional signage with distance information and connections to other trails and nearby attractions should be included.

- **Trail Markers:** Trail markers should be placed on trees or posts throughout greenway.
- **Parking Signs:** Parking signs should be incorporated in locations where trailhead parking exists.

When appropriate, Patroon Creek Greenway signage should include the Capital Trails NY branding so that it ties into and is easily recognizable as part of the Capital Region trails network.



Patroon Creek Greenway Logo

A logo that captures the spirit of the Patroon Creek Greenway should be incorporated into the trail wayfinding and signage. Utilizing a graphic logo will immediately convey to viewers something about the experience they can expect on the greenway and will thereby increase interest and awareness.

The logo should be graphically strong and flexible so that it can be modified to suit the different signage needs.



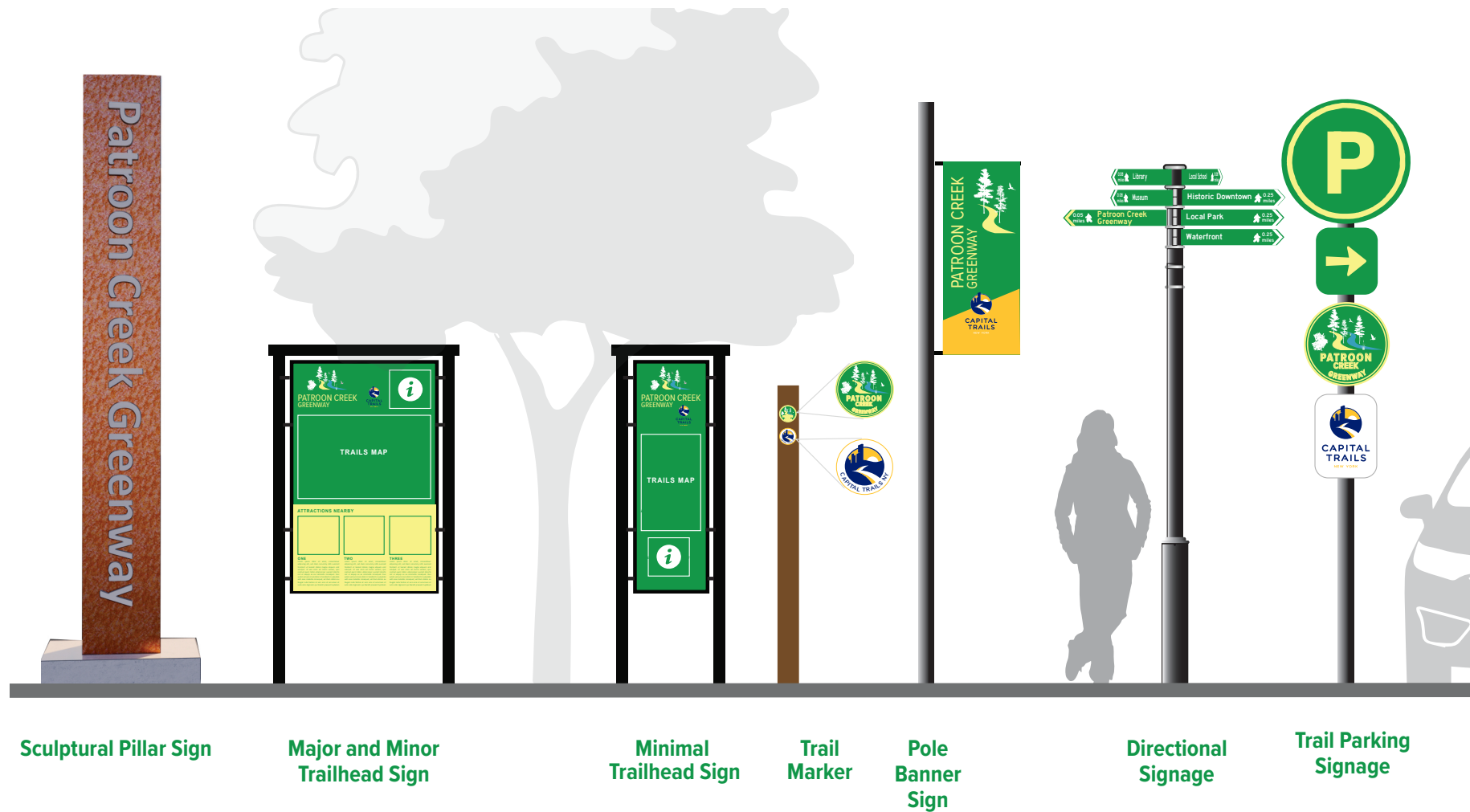
CAPITAL TRAILS NEW YORK

Capital Trails New York is a regional network of trails serving and connecting the four Capital District counties of Albany, Rensselaer, Saratoga and Schenectady.

In 2007, the Capital District Transportation Committee (CDTC), released “Tech Valley Trails: A Greenway Concept for the Capital District,” a regional plan for a system of trails and greenways that together create a connected regional network of trails. Much like the Empire State Trail, the goal of the concept is to provide an opportunity for the Capital Region’s different communities to work together on an achievable common vision that provides a safe space for walking and bicycling, protects the environment, improves quality of life, conserves energy, and promotes tourism and economic development.

While there are many individual trails with their own unique identity that make up the regional network, the goal of incorporating the Capital Trails NY branding will provide a cohesive look for all trails while promoting greater awareness and use of both the network and individual trails.

PATROON CREEK GREENWAY WAYFINDING SIGNAGE PALETTE



CHAPTER 6: RECOMMENDATIONS

WAYFINDING (CONT.)



► Major and Minor Trailhead Sign



► Minimal Trailhead Sign



► Pole Banner Sign



▲ Proposed Patroon Creek Greenway Minor Trailhead at Central Avenue

NATIVE LANDSCAPES

As a greenway intended to incorporate elements of environmental access and protection, the Patroon Creek Greenway offers an opportunity to explore and enhance a range of ecosystems, as well as an opportunity to educate users about the threats of invasive species and the need to promote native landscapes.

Defining the Greenway Through Vegetation

Incorporating a range of trees, grasses and pollinator plants at trailheads, interpretive stops and appropriate locations along the Patroon Creek Greenway will help brand the trail system, provide opportunities for environmental education, and strengthen local ecosystems.

The New York State Department of Environmental Conservation (NYSDEC) provides many resources and recommendations for native plants on their website, which should be used as a resource for identifying plants that could and should be incorporated into the Patroon Creek Greenway landscapes. The Albany Pine Bush, Five Rivers Environmental Center, and the Albany County Cornell Cooperative Extension are also excellent resources.

THE IMPORTANCE OF THE URBAN TREE CANOPY

Urban Tree Canopy refers to the area of leaves or tree needles that covers the ground in an urban area. Studies have shown that improving a city's urban tree canopy can have numerous benefits, including reducing summer peak temperatures and air pollution, cutting air conditioning and heating costs, improving mental health, providing wildlife habitat, providing aesthetic benefits, reducing crime levels, improving social ties among neighbors, and reducing negative stormwater impacts.

The VALUE of TREES

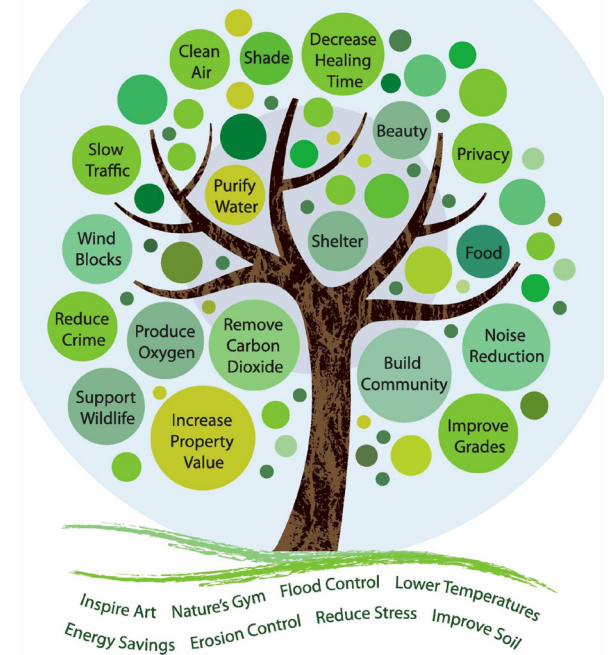


Image Credit: Pennsylvania Parks and Forest Foundation



▲ Rendering of the proposed trail and interpretive stop where it passes through the Albany Pine Bush at 6-Mile Waterworks Park

NATIVE LANDSCAPES (CONT.)

Existing Native Ecosystems

Through its connection to Patroon Creek, the Albany Pine Bush Preserve, Tivoli Lake Preserve and Farm, and the Corning Preserve, the Patroon Creek Greenway touches many different ecosystems, including:

- Pine Bush
- Patroon Creek riparian system
- Stormwater retention lakes and ponds
- Meadows located under utility line easements
- Upland forests
- Urban ecologies
- Hudson Riverfront

As design of the Greenway advances, proposed landscaping should reflect and complement these native landscapes where possible.

Thematic Display Gardens

In addition to highlighting native ecosystems, the Patroon Creek Greenway could host a series of thematic display gardens that could provide users with ideas and resources for how they can apply sustainability in their own community.

- Rain Gardens
- Pollinator Gardens
- Edible Gardens
- Bird Gardens
- Native Plant Gardens

Invasive Species Education

Invasive species out-compete native plants and animals and devastate natural systems that are critical to the health of the ecosystems that the planet depends upon for survival. It is estimated that the harm caused by invasive species in the United States totals over \$100 billion per year.

Patroon Creek and the three preserves that the Patroon Creek Greenway connects all face threats from multiple types of invasive species:

- Edge Condition Invasives
- Threats to Forested Areas
- Wetland Invasives
- Open Waters Invasives

The Albany Pine Bush and the Friends of Tivoli Lake Preserve and Farm both incorporate invasive species education into their educational programming and the Patroon Creek Greenway should build on this important educational opportunity. Educating users to recognize commonly found species could raise awareness and support for combating invasive species.



▲ **Busch Garden Greenway Rain Garden**
Image Credit: Great Rivers Greenway.



▲ **Sheep are used to help control invasive species at Tivoli Lake Preserve and Farm**
Image Credit: Friends of Tivoli Lake Preserve and Farm.



Patroon Creek Daylighting and Restoration

The Patroon Creek Daylighting project restores native habitat in and along the segment of the creek that was daylighted and provides interpretive signage along the adjacent trail that would be integrated into the Patroon Creek Greenway.

NATIVE LANDSCAPES (CONT.)

NATIVE PLANT PALETTE: ICONIC PLANTS FOR TRAIL RECOGNITION

Below is a sampling of native trees, grasses and perennials that could be incorporated along the Patroon Creek Greenway. Richly textured and colorful plants will build a sense of place and draw attention to the trail. Where openness and visibility are a concern, consideration should be given to using dwarf cultivars of some species.



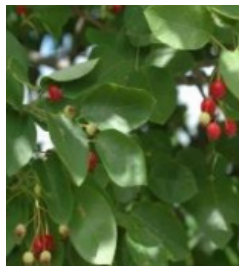
TREES



Pitch Pine
Pinus rigida



Shingle Oak
Quercus imbricaria



Serviceberry
Amelanchier spp.



Birch Species
Betula spp.



SHRUBS



Chokecherry
Aronia spp.



**Currant and
Gooseberry Shrubs**
Ribes spp.



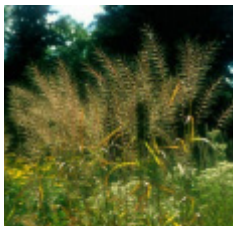
New Jersey Tea
Ceanothus americanus



GRASSES



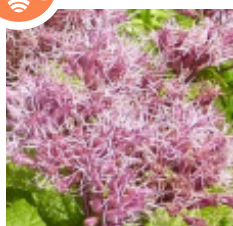
Little Bluestem
Schizachyrium scoparium



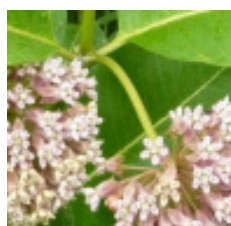
Bottlebrush Grass
Elymus hystrix



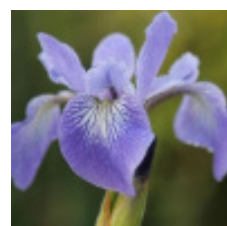
POLLINATOR PLANTS



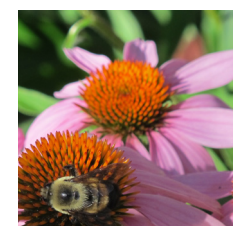
Joe Pye Weed
Eutrochium spp.



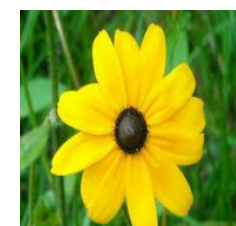
Common Milkweed
Asclepias incarnata



Northern Blue Flag
Iris versicolor



Purple Coneflower
Echinacea purpurea



Black-Eyed Susan
Rudbeckia spp.

Image Credits: Albany Pine Bush, NYSDEC, Cornell University, Cornell Cooperative Extension

INVASIVE SPECIES: COMMON THREATS IN NEW YORK STATE

Below is a sampling of invasive species that threaten New York ecosystems.



INSECT INVASIVES



Emerald Ash Borer



Asian Longhorn Beetle Botanical



Hemlock Woolly Adelgid



Spongy Moth
(formerly Gypsy Moth)



Jumping Worms



WETLAND INVASIVES



Japanese Knotweed
Polygonum cuspidatum



Giant Reed
Phragmites australis



Purple Loosestrife
Lythrum salicaria



Giant Hogweed
Heracleum mantegazzianum



FOREST INVASIVES



Oriental Bittersweet
Celastrus orbiculatus



Kudzu
Pueraria montana



Multiflora Rose
Rosa multiflora



WATER INVASIVES



Water Chestnut *Trapa natans*



Water Thyme
Hydrilla verticillata



Zebra Mussels



DISEASES



Oak Wilt



Beech Leaf Disease

Image Credits: Howard Russell (MI State U, www.forestryimages.org); NYSDEC; CT Agriculture Experiment Station, Bugwood.org; Invasive Species Centre; Amy Benson (USGS); Karla Salp (Washington State Dept. of Agriculture, Bugwood.org); Division of Lands and Forests' Forest Health Imaging Lab

CHAPTER 7: IMPLEMENTATION



A person wearing a red shirt and dark shorts is riding a bicycle away from the viewer on a paved path. The path is bordered by a green lawn and trees in the background. The image is partially covered by a large green diagonal overlay on the left side.

CHAPTER 7 IMPLEMENTATION

This chapter establishes an action plan for implementing the Patroon Creek Greenway, including phasing recommendations, cost estimates for each phase, and a summary of potential funding sources.

OVERVIEW

This chapter provides an action plan for the City of Albany to implement the Patroon Creek Greenway. It identifies several ongoing and related initiatives that directly relate to and provide momentum for implementing the future Greenway; it establishes a phasing plan with estimated costs for implementing the recommendations in the previous chapter; and, it provides an overview of potential funding sources.

Recent, Related Initiatives

Several initiatives that are directly related to the Patroon Creek Greenway and focus on improving access to the waterfront and inter-municipal connectivity received funding and heightened attention in the Spring of 2022, including:

- **I-787 Feasibility Study:** The State budget included \$5 million in funding for a feasibility study to better understand the impacts of modifying and/or removing all of or part of I-787. This roadway is a major barrier to the Hudson River waterfront and future improvements could significantly increase pedestrian access to the river and the future Patroon Creek Greenway.
- **Livingston Avenue Bridge Replacement:** The U.S. Department of Transportation's capital plan includes up to \$400 million to replace the existing Livingston Avenue bridge with a modernized structure including separated bicycle and pedestrian access. If this bridge is rebuilt with bicycle and pedestrian infrastructure, the Patroon Creek Greenway would have a direct link across the Hudson River and could interconnect into existing and proposed trails in Rensselaer County.

As these initiatives advance, the connection to the Patroon Creek Greenway should continue to be highlighted, including the Greenway's ability to provide a link between these major multi-modal improvements and the local community.

Environmental Review

In order to position the Patroon Creek Greenway for future federal and state funding, environmental reviews pursuant to the State Environmental Quality Review Act (SEQR) and the National Environmental Policy Act (NEPA) should be conducted on the full length of the proposed Greenway as an immediate next step. For the federal NEPA review, the Federal Highway Administration (FHWA) would likely serve as lead agency. For the state SEQR review, the City of Albany would likely serve as the lead agency. It is expected that the Greenway will not have a significant negative impact.

Many funding sources are looking for shovel-ready projects. By completing environmental reviews for the entire length of the Greenway in the near-term, the City of Albany will be better positioned to apply for grant funding and design and implementation of the Greenway will be able to proceed as soon as funds are secured.

Other Pre-Development Work

Because this report represents a planning-level feasibility study, several additional actions will need to be undertaken prior to initiating construction of the proposed Greenway trail. Pre-development work may include, but is not limited to:

- **Grant Writing:** This is a necessary next step in securing additional funding for design and construction of the Greenway. There are several state and federal funding sources that focus on improving equitable access to active transportation options, sustainably managing stormwater, and reducing greenhouse gas emissions to address climate change. The Patroon Creek Greenway is well-aligned with all of these priorities as it increases active transportation infrastructure, integrates green infrastructure, expands the urban tree canopy, and is located in federal and state environmental justice areas.
- **Community Engagement:** Continued dialogue and door-to-door outreach with impacted residents is critical as the design of trail facilities along the Greenway are advanced.
- **Parking Study:** A parking study focused on the impacts of removing on-street parking along Ten Broeck Street is recommended. Parking utilization within approximately one-quarter mile of Ten Broeck Street should be quantified for representative time periods throughout the day on weekends and weekdays. The results from this study will inform the design of the Patroon Creek Greenway along this section of the trail.



- **Construction Document Preparation:** Construction documents detailing how the Greenway will be constructed are a necessary next step. This action can be phased, per the recommendations in the next section.
- **Permitting:** Coordination with involved agencies should occur early in the design process and throughout construction document development to ensure permit requirements are fully integrated into final designs.
- **Easements / Right-of-Way Acquisition:** Several sections of the Greenway will require easements and/or right-of-way acquisition, particularly in the segments west of Everett Road. Partnerships between the City of Albany, Albany County, and the Mohawk Hudson Land Conservancy are recommended to provide ample capacity to negotiate and secure easements. The Capital District Trails Plan provides a sample easement for right-of-way.
- **Maintenance:** The long-term maintenance of the Greenway and the amenities along the Greenway should be considered as this project advances. Inter-municipal partnerships as well as partnerships with local community groups, institutions (e.g., schools), and land conservancies will be critical to maintaining the full length of the Greenway as well as cultivating a sense of local stewardship and ownership of the trail.



▲ Rendering of the proposed Patroon Creek Greenway along Ten Broeck Street in downtown Albany (long-term vision)

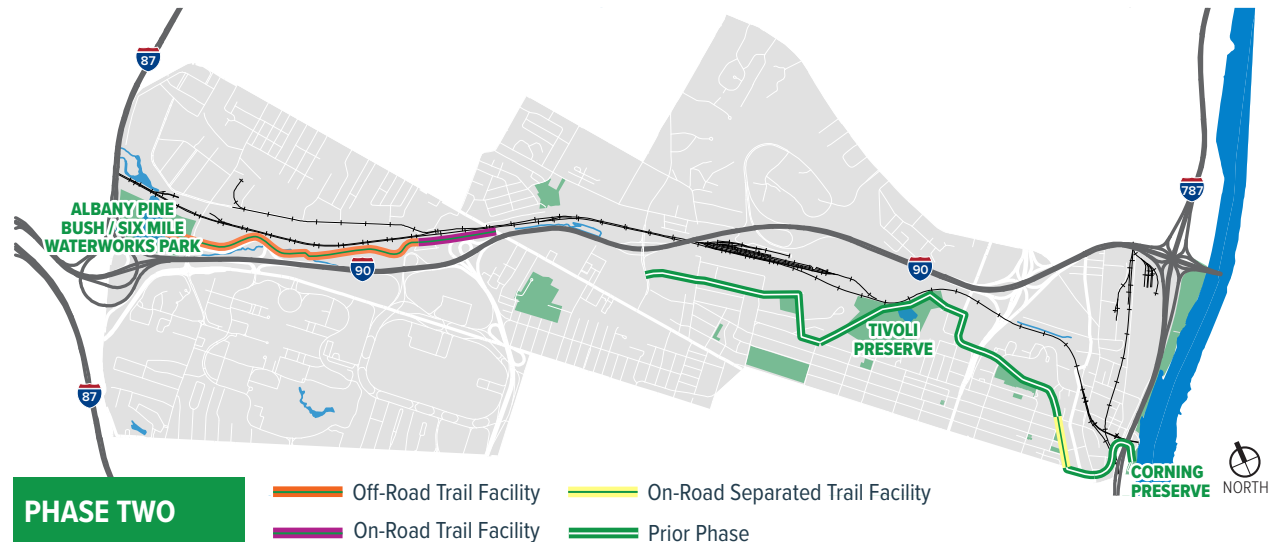
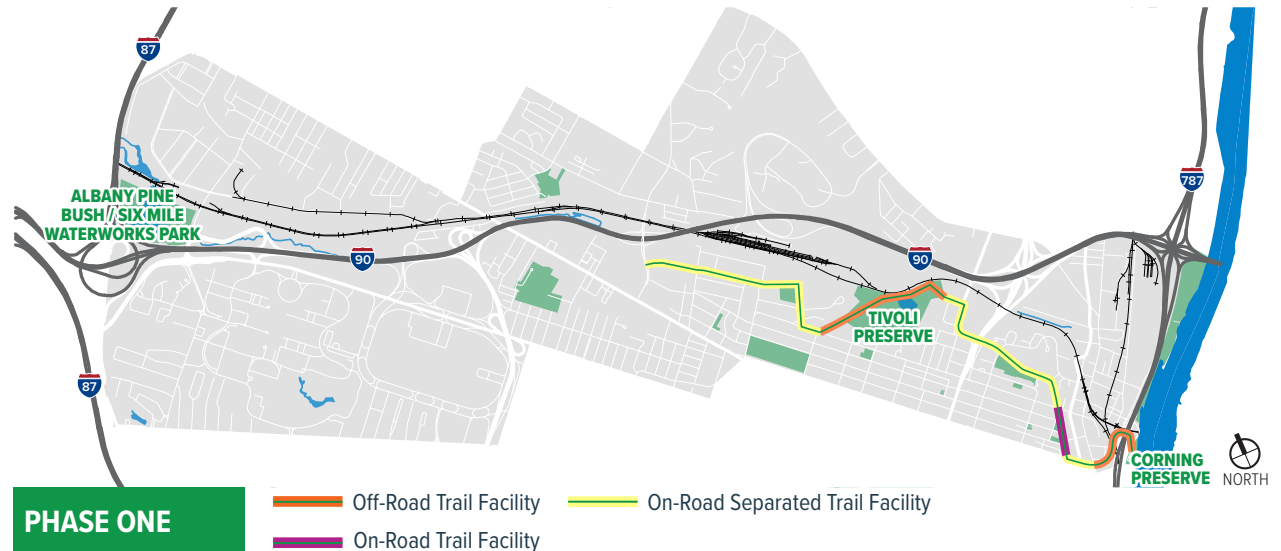
PHASING

This section outlines a phased approach to the design and construction of the Patroon Creek Greenway. Improvements in the eastern portion of the study area that directly benefit the local community, particularly historically under-served populations, are prioritized in the near-term and longer-term improvements focus on extending the Greenway west to Six Mile Waterworks Park.

Phase One

This phase includes the design and construction of Patroon Creek Greenway segments from Everett Road east to the riverfront. These improvements will provide immediate benefits to the local neighborhood by increasing connectivity and access to Tivoli Preserve, the Hudson River waterfront, and local community destinations (e.g., schools). From west to east, proposed improvements include:

- A new 12-foot wide shared-use path separated by a landscaped median providing stormwater management (where space allows) and connecting Everett Road to Tivoli Preserve via Watervliet Avenue Extension, Commerce Avenue, Terminal Street, and Livingston Avenue.
- A new permeable asphalt path in Tivoli Preserve following Patroon Creek and connecting the Preserve's entrance at Manning Boulevard N. to its entrance at Livingston Avenue via Albany Water Board property. All entrances to Tivoli Preserve should be designed to prevent any unauthorized motor vehicle access, and all portions of the Greenway through the Preserve must maintain clear maintenance access for the Albany County Water Board and the City of Albany Department of Water and Water Supply.





PATROON CREEK GREENWAY: PHASE ONE

TRAIL SEGMENT	ACTION	COST ESTIMATE	NOTES
Everett Road to Tivoli Preserve (IN-1)	Creation of a new 12-foot wide shared-use path separated by a landscaped median (where space allows) along Commerce Avenue and Terminal Street; removal of on-street parking to create a separated bike lane along Livingston Avenue (or retain parking and create a shared roadway)	\$7.5 million	Additional engagement with adjacent and impacted property owners is needed to further develop design
Tivoli Preserve	New permeable asphalt trail along the Patroon Creek, connecting the northeast entrance of Tivoli Preserve at Manning Boulevard N. to the southwest entrance at Livingston Avenue	\$2 million	Coordination with County Water Purification District and City of Albany Department of Water and Water Supply is needed to ensure access to their infrastructure
Tivoli Preserve to the Albany Skyway (NE-1)	Removal of one lane of parking to create a new 12-foot wide shared-use path separated by a landscaped median (where space allows) along Northern and Manning Boulevards; integration of stormwater management into the landscaped buffer; new shared use path on Clinton Avenue; retain bike lanes on Ten Broeck Street	\$6.5 million	Additional engagement with adjacent and impacted property owners is needed to further develop design, including a parking study in the Ten Broeck area
PHASE ONE COST ESTIMATE		\$16 MILLION	

PATROON CREEK GREENWAY: PHASE TWO

TRAIL SEGMENT	ACTION	COST ESTIMATE	NOTES
Six Mile Waterworks Park to Central Avenue (CA-1a)	New off-road trail between Fuller Road and Yardboro Avenue; new shared roadway along Yardboro with sidewalk improvements and green infrastructure	\$6 million	Requires easements and/or right-of-way acquisition from private property owners and coordination with the railroad, FHWA, National Grid, the Albany County Water Purification District, and property owners along Yardboro Avenue
Fuller Road Crossing Improvements	Option 1: Enhanced at-grade crossing Option 2: New pedestrian bridge	Option 1: \$150,000 Option 2: \$5.5 million	At-grade enhancements could be made immediately; the pedestrian bridge should be considered as funding becomes available
Ten Broeck Street Improvements	New two-way separated bike lane and landscaped buffer along western side of Ten Broeck Street	\$1.5 million	Design of this facility to be informed by a parking study
PHASE TWO COST ESTIMATE		\$7.6 - \$13 MILLION	

PHASING (CONT.)

- A new 12-foot wide shared-use path separated by a landscaped median providing stormwater management (where space allows) along Northern and Manning Boulevards, connecting Tivoli Preserve to Livingston Avenue. This option requires the removal of one lane of on-street parking and additional engagement with residents and property owners is needed to refine the Greenway design and minimize any negative impacts to residents.
- Continued maintenance of the bike lanes on Ten Broeck Street.
- A parking study to assess the potential impacts of removing one of lane parking along Ten Broeck Street to provide space for a separated trail facility.
- A new multi-use path along Clinton Avenue, connecting trail users directly to the Albany Skyway.

The estimated cost to implement this first phase is approximately \$16 million.

Phase Two

This phase includes the design and construction of the Patroon Creek Greenway segments in the Campus character area to provide an off-road connection between Six Mile Waterworks Park and Central Avenue. This phase also includes upgrades to trail facilities in the Neighborhood character area. From west to east, proposed improvements include:

- An enhanced crossing at Fuller Road; depending on additional public engagement and available funding these enhancements could be at-grade or a new pedestrian bridge.
- A new, off-road 12-foot wide shared-use path in the woods between Fuller Road and Yardboro Avenue.
- A shared roadway with an upgraded sidewalk and green infrastructure along the length of Yardboro Avenue.
- Pending the results of a parking study, a new two-way separated bike lane along the western side of Ten Broeck Street to provide a continuous, separated trail from Tivoli Preserve to the Albany Skyway.

The estimated cost to implement this second phase is approximately \$13 million if a pedestrian bridge is constructed at Fuller Road or \$7.6 million if only at-grade crossing improvements are made at Fuller Road.



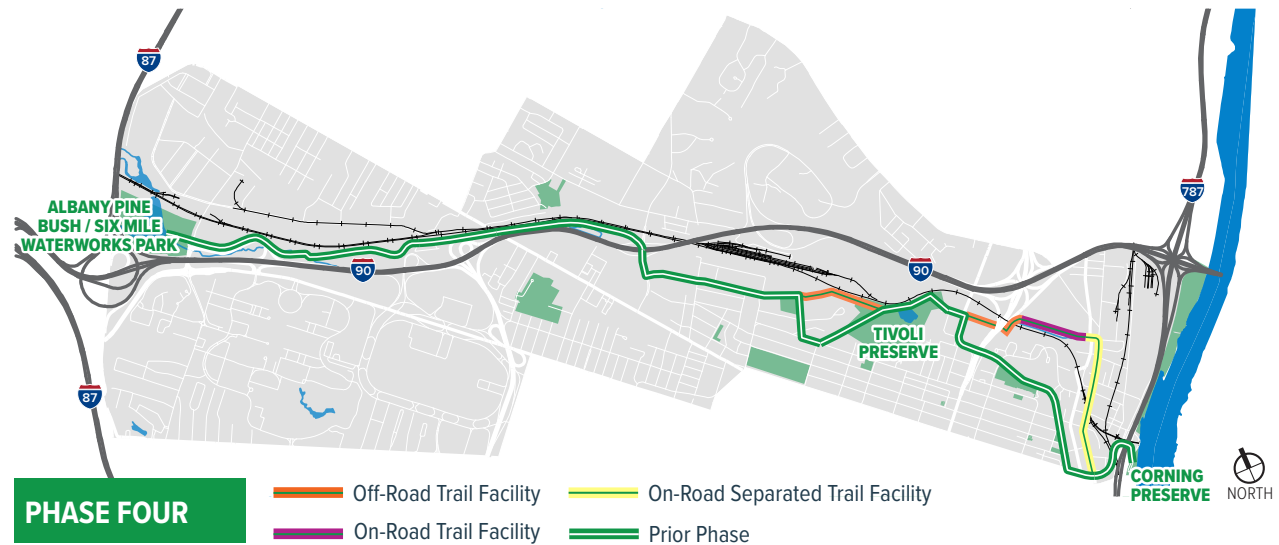
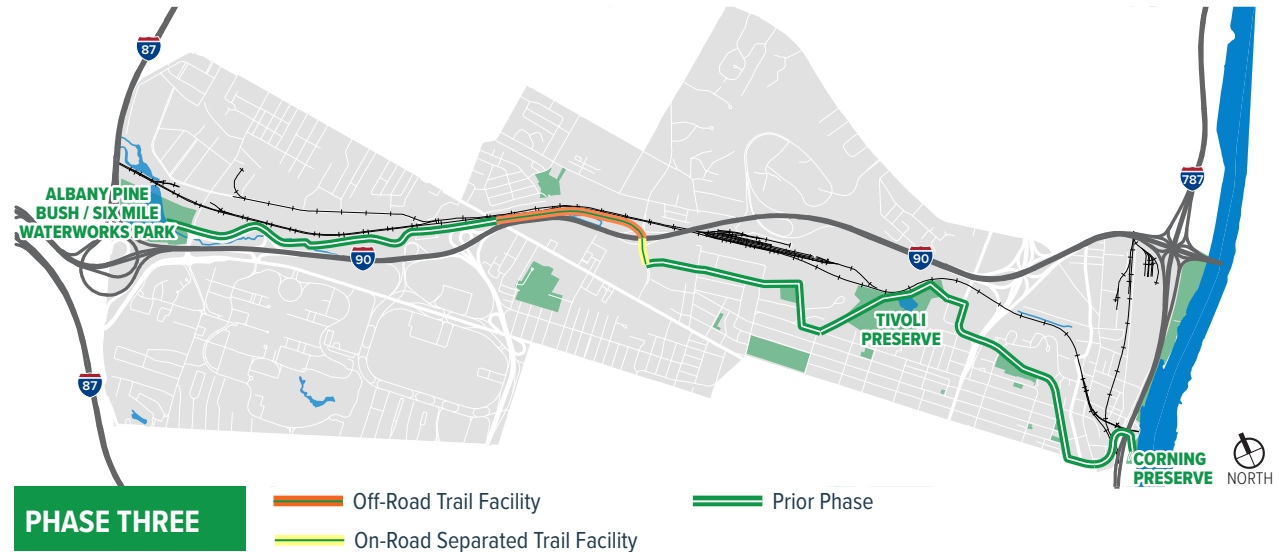
Geese crossing Northern Boulevard near Tivoli Preserve.

Phase Three

The implementation of this phase relies on the redesign and replacement of the Everett Road Bridge. Once the bridge is replaced with a separated shared-use path for cyclists and pedestrians, the off-road section of the Patroon Creek Greenway between Central Avenue and Everett Road can be constructed. From west to east, proposed improvements in this phase include:

- An enhanced crossing at Central Avenue; depending on additional public engagement, further study, and available funding these enhancements could be at-grade or a new pedestrian bridge. A new pedestrian bridge would also require a boardwalk as part of the western approach to the bridge to minimize disturbance to the Patroon Creek.
- A new, off-road 12-foot wide shared-use path following Patroon Creek between Central Avenue and Everett Road, including a new embankment and ramp at the east end of this segment to traverse the grade change between the trail and Everett Road Bridge.
- Restoration of the shoreline along Patroon Creek between Central Avenue and Everett Road.

The estimated cost to implement this third phase ranges from approximately \$4.5 million to \$19 million. The upper end of the cost estimate includes the construction of a new pedestrian bridge over Central Avenue and ecological restoration along Patroon Creek.



PHASING (CONT.)

Phase Four

This final phase includes the implementation of the long-term vision for the Greenway, which more closely follows the Patroon Creek for its entire length. Proposed improvements include:

- A new, off-road 12-foot wide shared-use path proceeding east from Commerce Avenue, wrapping around the Freihofer Bakery, and entering the western side of Tivoli Preserve.
- A new, off-road 12-foot wide shared-use path continuing east from Tivoli Preserve, passing under U.S. 9 and then crossing the railroad via a new pedestrian bridge to connect to Tivoli Street.
- A shared roadway with an upgraded sidewalk along the length of Tivoli Street.
- A new separated trail facility along Broadway south to the Albany Skyway.

The estimated cost to implement this fourth phase is approximately \$29 million.

Potential Funding Sources

Several state and federal funding sources are available to support the design, construction, and maintenance of trail and active transportation systems. The following pages summarize several of the existing funding sources that are aligned with the proposed Patroon Creek Greenway.



Public event at Washington Avenue Branch Library



PATROON CREEK GREENWAY: PHASE THREE

TRAIL SEGMENT	ACTION	COST ESTIMATE	NOTES
Central Avenue to Everett Road (CR-1b)	New off-road trail between Central Avenue and Everett Road; new embankment and ramp to traverse grade change between the trail and Everett Road Bridge; ecological restoration along the Patroon Creek	Trail + Restoration: \$10.5 million Trail Only: \$4 million	Requires easements and/or right-of-way acquisition from CSX and coordination with NYS DOT, FHWA, National Grid, and the Albany County Water Purification District
Central Avenue Crossing Improvements	Option 1: Signalized intersection Option 2: New pedestrian bridge (including boardwalk approach)	Option 1: \$550,000 Option 2: \$8.5 million	At-grade enhancements could be made immediately; the pedestrian bridge should be considered as funding becomes available
PHASE THREE COST ESTIMATE		\$4.5 - \$19 MILLION	

PATROON CREEK GREENWAY: PHASE FOUR

TRAIL SEGMENT	ACTION	COST ESTIMATE	NOTES
Commerce Avenue to Tivoli Preserve (IN-2)	New off-road trail between Commerce Avenue and Tivoli Preserve	\$4 million	Requires easements and/or right-of-way acquisition from private property owners and coordination with the railroad; terrain is very steep (slopes exceeding 30%)
Tivoli to the Albany Skyway (NE-3)	New off-road trail between Tivoli Preserve and Tivoli Street; new pedestrian bridge over the railroad; shared roadway on Tivoli Street; separated bicycle and pedestrian facilities along Broadway	\$25 million	Requires coordination with the railroad and property owners along Tivoli Street and Broadway
PHASE FOUR COST ESTIMATE		\$29 MILLION	

POTENTIAL FUNDING SOURCES

SUMMARY OF POTENTIAL FUNDING SOURCES

PROGRAM	DESCRIPTION	FUNDED PROJECT TYPES	AGENCY	NOTES
Transportation Alternatives Program / Air Quality Improvement Program (TAP/CMAQ)	Supports bicycle, pedestrian, multi-use path, and non-motorized transportation-related projects. Projects must be related to surface transportation.	Construction of pedestrian and bicycle facilities, recreational trails, and safe routes to schools, as well as community improvements, such as projects that reduce congestion and gas emissions.	This is a federally funded program, administered by the NYS DOT.	Application timing varies year to year. Up to 80% of total project costs eligible, with 20% local share.
Consolidated Local Street and Highway Improvement Program (CHIPS)	Funds support the construction and repair of highways, bridges, highway railroad crossings, and other facilities not in the State highway system.	Funds can be used for resurfacing, shoulder improvements, new drainage systems, sidewalk improvements, traffic calming installations, and bus shelters.	Funding is administered through the NYS DOT.	Appropriations are defined annually.
Recreation Trails Program (RTP)	Provides funds to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Funded projects must be identified in, or further a specific goal of, the Statewide Comprehensive Outdoor Recreation Plan.	Funds the maintenance and restoration of existing trails, the purchase and lease of trail construction equipment, acquisition of easements, construction of new trails and assessments.	An assistance program of the U.S. DOT's Federal Highway Administration (FHWA). The RTP is administered by the Office of Parks, Recreation and Historic Preservation (OPRHP).	Funding is through the states' CFA process. Specific guidelines provided in association with each grant cycle. This is the only federal funding source providing funds for trail maintenance.
Surface Transportation Block Grant program (STBG)	Provides flexible funding that may be used by states and localities to preserve and improve the conditions and performance on: any Federal-aid highway, bridge, and tunnel projects; any public road; pedestrian and bicycle infrastructure; and transit capital projects.	Funds can be used for transportation alternatives and recreational trail projects.	Funding is provided through the US Department of Transportation. Program is competitive at national level.	Available funding varies.



SUMMARY OF POTENTIAL FUNDING SOURCES (cont.)

PROGRAM	DESCRIPTION	FUNDED PROJECT TYPES	AGENCY	NOTES
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Discretionary Grants	Funding for a range of planning and capital transportation improvement projects, with an emphasis on equity and sustainability.	Funds can be used for capital transportation improvements, including: roads and bridges, public transportation, and intermodal projects. Pre-construction activities (e.g., design) are also eligible.	Funding is provided through the US Department of Transportation. The program is competitive at the national level.	Available funding varies. This year (2022), \$2.275 billion of funding is available and at least \$35 million in funding is guaranteed for projects in Areas of Persistent Poverty or Historically Disadvantaged Communities. The maximum grant award is \$25M and no more than \$100M could be awarded to a state.
Infrastructure Investment and Jobs Act / Bipartisan Infrastructure Law	This recent law allocates \$550 billion in funding between 2022 and 2026 to improve our nation's infrastructure, including roads, bridges, and mass transit	Project eligibility depends on the funding program	Funding is provided through federal agencies, including the Federal Highway Administration (FHWA)	Some of the released and anticipated discretionary funding programs related to this project include: • Carbon Reduction Program • Safe Streets for All program • Reconnecting Communities • Health Streets Program
Environmental Protection Fund (EPF)	Funding for a range of planning and capital projects that protect the environment and enhance local communities.	Eligible projects include a range of parks, open space, historic preservation and waterfront revitalization activities.	Multiple state agencies administer funding programs through the EPF, including DOS, DEC and OPRHP.	Funding is through the State's Consolidated Funding Application (CFA) process. Specific guidelines provided in association with each grant cycle.
Green Innovation Grant Program (GIGP)	Provides grants on a competitive basis to projects that improve water quality and implement green infrastructure in New York State.	A range of green infrastructure-focused installation projects, including the installation of permeable pavements, bioretention and stormwater street trees.	Funded and overseen by the NYS Environmental Facilities Corporation (EFC).	Typically funded through the State's CFA process and can be used to cover up to 75% - 90% of total project costs.
Market New York	Promotes efforts that strengthen tourism in New York State, with an emphasis on projects that "create family memories through activities including but not limited to outdoor recreation, historic sites and museums, food and drink, festivals and the performing arts."	Eligible costs include acquisition or leasing of land, buildings, machinery and/or equipment; pre-development costs; remediation costs; accessibility services; purchase of equipment and/or event amenities; and new construction, renovation or leasehold improvements.	Funding is offered and administered through Empire State Development (ESD).	Funding is through the State's CFA process. Specific guidelines are provided with each grant cycle.