

A COMMUNITY-DRIVEN CONCEPTUAL PLAN FOR THE

# KINGSTON GREENLINE

MARCH 2014







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## ACKNOWLEDGEMENTS

*The Kingston Land Trust thanks the many individuals and organizations who were involved in the visioning process for the Kingston Greenline. The following groups provided input and assistance to craft this report.*

THE KINGSTON LAND TRUST'S RAIL TRAIL COMMITTEE  
CITY OF KINGSTON  
ULSTER COUNTY  
HUDSON RIVER VALLEY GREENWAY  
PARKS AND TRAILS NEW YORK  
LAND TRUST ALLIANCE  
NATIONAL PARK SERVICE,  
RIVERS TRAILS & CONSERVATION ASSISTANCE PROGRAM

REPORT PREPARED BY:  
ALTA PLANNING + DESIGN  
RONDOUT CONSULTING



*Financial support for this project comes from the Environmental Protection Fund (EPF) and the New York State Conservation Partnership Program in collaboration with the Land Trust Alliance and the New York State Department of Environmental Conservation.*







# EXECUTIVE SUMMARY

## ABOUT THIS DOCUMENT

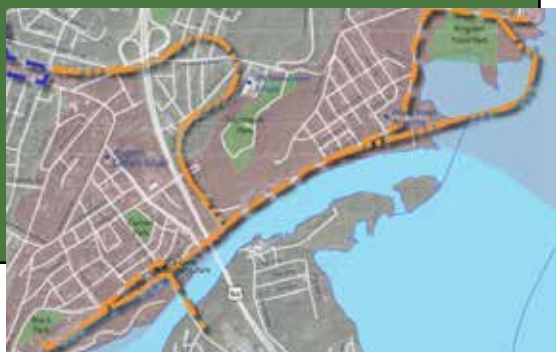
This Concept Plan provides an overview of the Kingston Greenline, a proposed network of urban trails, complete streets, bike lanes and linear parks in the City of Kingston, NY. The purpose of this document is to continue a conversation with residents, local businesses and community groups about the Kingston Greenline, and to elicit additional input from these important stakeholders about the benefits and challenges associated with the development of the Greenline.

## ABOUT THE KINGSTON GREENLINE

The Kingston Greenline is a special project of the Kingston Land Trust, in partnership with the City of Kingston. In 2010, the Kingston Land Trust launched its Rail Trail Connections project to transform the City's neglected and under-utilized railroad corridors into rail trails. As the project evolved, our volunteer Rail Trail Committee came to see a larger opportunity to work with other dedicated groups - the City of Kingston's Complete Streets Advisory Committee, the Conservation Advisory Council, Live Well Kingston, Bike-Friendly Kingston and others - to advance a vision of a more connected, healthier, more resilient and vibrant city.

The Kingston Greenline comprises four separate sections across the City of Kingston that will weave together an emerging regional network of trails and street enhancements that promote non-motorized travel, connecting residents and visitors to all of the City's rich amenities and resources. The Greenline will be a combination of shared use paths, sidewalks, and on-road bicycle accommodations to provide an intuitive system that is safe and comfortable for all users. The Greenline complements ongoing City and County efforts to create more walkable and bikable communities.

### RONDOUT SECTION



In the Rondout, the Kingston Greenline connects Midtown to the Rondout Creek, the lower Broadway business district and the Hudson River.

Starting as a multi-use trail, the Greenline links neighborhoods across busy US Route 9W with parks and schools. At East Strand, the trail gives way to on-street connections that link Broadway and the existing Rondout Promenade to North Street and Delaware Avenue. A pedestrian pathway is envisioned next to the trolley tracks out to Kingston Point. Farther up North Street, the trail connects with the proposed Hudson Landing Promenade.

### WALLKILL VALLEY SECTION



In the vicinity of the Wallkill Valley Rail Trail, the Kingston Greenline establishes a route that will eventually link Midtown to Rosendale, New Paltz, Gardiner, Highland and Poughkeepsie.

The Wallkill Valley Rail Trail is complete to Rockwell Lane, at Kingston's southern border. A multi-use path along the former railroad bed may prove challenging, but several route alternatives exist. These alternatives converge on Greenkill Avenue, where the trail heads into midtown to connect with the Broadway Corridor and, further, to the other sections of the Kingston Greenline.



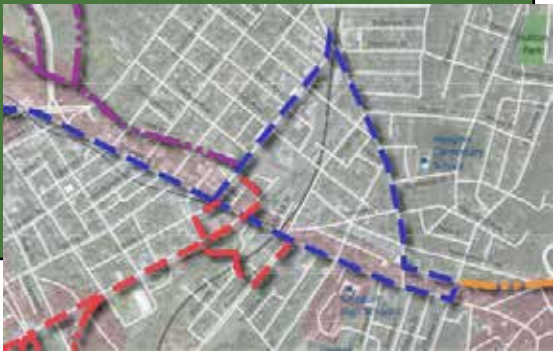
## UPTOWN SECTION



In Uptown Kingston, the Greenline provides a protected pedestrian and bicycle link from midtown to the Kingston Plaza and the Stockade business district. This section is also the gateway to the Rondout Valley, via the O&W Link Trail, and the Catskill Mountains, via the proposed Catskill Mountain Rail Trail.

A multi-use trail is envisioned along the former Ulster & Delaware railroad corridor. Near the I-587 underpass, two side trails offer connections to the Esopus Creek. At Washington Avenue, the trail splits to provide access to the Hurley Rail Trail, via the O&W Link Trail, and the Ashokan Reservoir via the Catskill Mountain Rail Trail.

## MIDTOWN HUB



Midtown Kingston, long the center of the region's railroad network, is a natural hub for the growing network of trails in Ulster County.

The Midtown Hub connects the region's three major trail corridors - the Wallkill Valley, the Rondout Valley and the Catskill Mountains - to the City's emerging midtown arts district, and to the Rondout Creek and the Hudson River.

A network of shared and dedicated bicycle and pedestrian pathways is envisioned as part of the City's overall complete streets initiative.

## WHAT COMES NEXT?

This document is a big step forward, but it's also just the beginning of a long process. While the Kingston Land Trust plans to work closely with the City of Kingston in the coming years to develop further designs and - eventually - to begin construction of the Kingston Greenline, our efforts will provide answers to a number of important questions:

- How will the Kingston Greenline be paid for?
- Who will take care of the Greenline?
- How will we make sure the Greenline is safe?
- How will we address abuses or misuses on the Greenline?
- How will we help avoid conflicts between Greenline users and neighbors?
- How will we make the most of the potential health, economic and social benefits of the Greenline?

We've already gone to great lengths to address these questions, and over time we hope to share our responses with interested residents and Greenline neighbors. Keep an eye on our website ([kingstongreenline.org](http://kingstongreenline.org)) and our Facebook page (Friends of Kingston Rail Trails) for future updates and to learn about opportunities to share your thoughts.

## WE NEED YOUR HELP

The Kingston Greenline relies on the hard work and support of a broad base of volunteers. If you share our excitement for the Greenline, please lend a hand in whatever way works best for you: come to a clean-up event, volunteer for a maintenance crew, join our Rail Trail Committee, or make a financial contribution via our web site.













# 1

## THE KINGSTON GREENLINE

### WHAT IS THE KINGSTON GREENLINE?

The Kingston Greenline is a network of urban trails, bike-paths, complete streets and linear parks in the City of Kingston proposed by the Kingston Land Trust and the City of Kingston. The project is the vision of a group of dedicated volunteers who share a vision for a more connected, healthier, more resilient and more vibrant city. Since 2010, this vision has gained momentum and is beginning to attract significant funding from federal, state and local sources.

**WE BELIEVE THAT URBAN TRAILS, BIKE-PATHS, COMPLETE STREETS AND LINEAR PARKS CAN TRANSFORM KINGSTON INTO A MORE VIBRANT SMALL CITY.**

### WHY IS THE KINGSTON GREENLINE IMPORTANT?

The City of Kingston, long the County's vital transportation hub, is poised to become the hub of a renewed system of non-motorized travel as Ulster County's regional trail network continues to expand. Through this network, Kingston will soon connect to the Rondout Valley, the Ashokan Reservoir and the Route 28 corridor, the Wallkill Valley and the Walkway Over the Hudson. City, County and regional efforts over the last decade have drastically increased the number, length, and accessibility of these trails. The Kingston Greenline will provide direct access to over 100 miles of existing and proposed shared use paths. It continues and supports the City and County efforts to become more walkable and bikable.

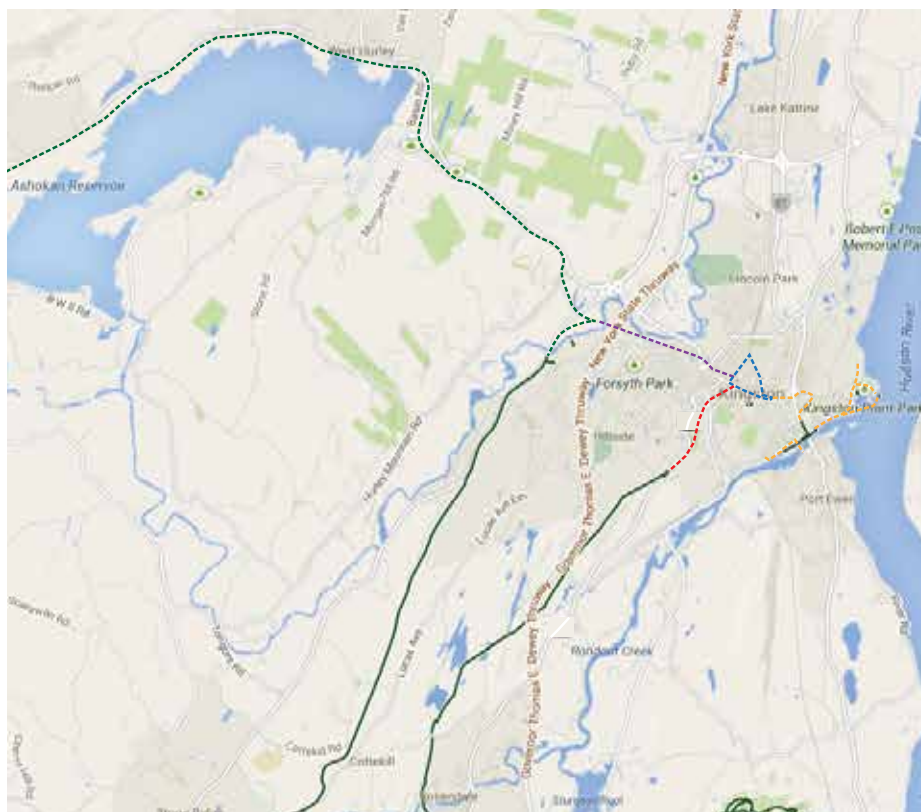
### WHERE DOES IT GO?

#### IN THE RONDOUT...

The Kingston Greenline will connect midtown to the Rondout Creek and Hudson River along the former Ulster & Delaware Railroad, and links existing neighborhoods to the lower-Broadway business district. Extending out to Kingston Point, the Kingston Greenline will also incorporate the proposed Hudson Landing Promenade along the Hudson River and offer connections to the Hudson River Water Trail and the Hudson River School Art Trail.

#### IN THE WALLKILL VALLEY...

The Kingston Greenline will link to the newly-opened northern section of the Wallkill Valley Rail Trail, connecting midtown Kingston to the future Williams Lake Resort, the trestle and historic Main Street in Rosendale, and New Paltz. Eventually, as further connections are completed, this section of the Greenline will provide a direct route to



the Walkway Over the Hudson, weaving together the growing trail networks of Ulster and Dutchess County.

### IN UPTOWN KINGSTON...

The Greenline will provide a bike- and pedestrian-friendly connection between the midtown neighborhood and the historic Stockade business district, including an important link to the Kingston Plaza. Extending farther along the Ulster & Delaware Railroad, the Uptown Section will provide access to the scenic beauty and outdoor recreation opportunities of the Ashokan Reservoir and the high-peaks region of the Catskill Mountains. Alternately, visitors and residents will connect to the Hurley Rail Trail, part of the chain of trails that comprise the Delaware & Hudson Heritage Trail, to access the scenic farmland and open spaces of the Rondout Valley, including Hurley, Marbletown, High Falls and Ellenville.

### IN THE MIDTOWN HUB...

At the center of the network, the Midtown Hub will act as the nexus for the Kingston Greenline, linking trail users to Ulster County's mountains, valleys and rivers and to the City's growing arts and cultural scene. As the three Greenline sections converge on the Midtown Hub, linear parks and urban rail trails will give way to complete streets, bike lanes and public plazas, which help to redefine the role of midtown – home of City Hall, the Kingston High School, Benedictine Hospital, the YMCA and the SUNY Ulster satellite campus – as the City's vital heart of public life.



**QUESTIONS OR COMMENTS ON THE GREENLINE?**  
**SEND THEM TO [THEKINGSTONLANDTRUST@GMAIL.COM](mailto:THEKINGSTONLANDTRUST@GMAIL.COM)**  
**OR SCAN THE QR CODE WITH YOUR SMART PHONE TO**  
**CONTACT US ON THE WEB.**



### WHAT'S THE PURPOSE OF THE CONCEPT PLAN?

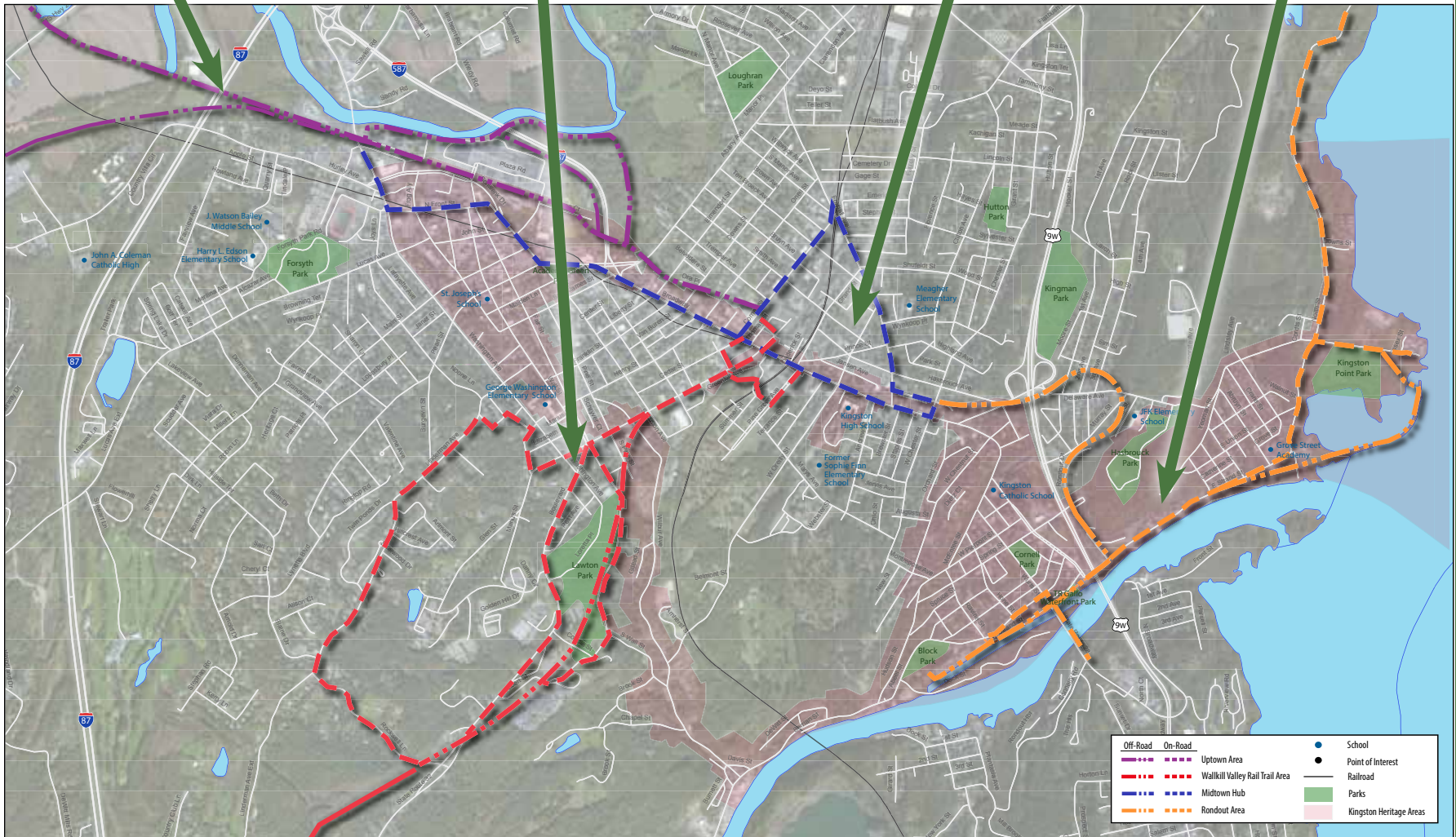
Through this document, the Kingston Land Trust's Rail Trail Committee aims to start a community-wide conversation about our vision for a more connected network of trails, bike paths, complete streets and linear parks. Our vision – the Kingston Greenline – is about building on all that Kingston has to offer: its history, its scenic beauty, its thriving arts and cultural scene, its creative and innovative residents. By weaving together Kingston's strongest community assets, the Kingston Greenline contributes to the health of our residents, the strength of our local businesses, and the stability of our neighborhoods and social institutions.

This Conceptual Plan is meant to spark the conversation by raising questions. If you like what you see, please let us know. If you don't, then it's even more important that we hear your concerns! Through input from a wide range of sources – residents, businesses, community leaders, potential trail users – we hope to refine our vision to provide the strongest proposal for the Kingston Greenline. We are committed to the vision, and as our plans move from concept to reality we look forward to an ever-expanding circle of informed and engaged participants that will help support our efforts to build the Kingston Greenline.





[UPTOWN SECTION] [WALLKILL VALLEY SECTION] [MIDTOWN HUB] [RONDOUT SECTION]



Source: Data Obtained from  
Kingston, NY, & Google  
Date: September, 2013  
Author: CP/LZ

# **Kingston Greenline System** Complete System Map

0 0.25 .5 Miles



In the sections that follow, this plan turns to a more technical treatment of each section of the Kingston Greenline. Through the guidance of Alta Planning & Design, a nationally-recognized leader in pedestrian- and bike-friendly transportation design, these sections present a range of design concepts that help the reader picture what the Greenline might look like, where it might go, and how it might achieve the vision outlined above.

Each section of this report follows a common outline. First, the report describes a section of the Kingston Greenline and explains that section's role in the development of the overall Greenline system. Next, the report provides a summary of opportunities and challenges identified for that section during public walking tours held in the fall of 2013. Two maps for each section follow: 1) a map showing the route or route options for each section with location-specific opportunities and challenges identified; and 2) an orientation map for the proposed design elements recommended by Alta Planning & Design. Following the second map are the proposed design elements, which include cross-section designs, plan-view diagrams and photographic simulations. These conceptual design recommendations are subject to change based on public input, engineering requirements and budget constraints, but help to show what the Greenline might look like when completed.

Finally, each section includes a planning-level cost estimate to help the Kingston Land Trust and the City of Kingston identify the overall project cost for developing the Kingston Greenline. It is fully expected that these estimates will change based on more detailed design proposals. To augment the grants already awarded to the City of Kingston for this project, the City and the Kingston Land Trust will seek funding through a variety of public and private sources to help fund the development of the Kingston Greenline in the years to come.

## DESIGN STANDARDS USED IN THIS REPORT

The following references were used and should continue to be used as the alternatives for the Kingston Greenline are developed:

- AASHTO: A Policy on Geometric Design of Highways and Streets
- NACTO Urban Bikeway Design Guide
- Manual for Uniform Traffic Control Devices and NYS Supplement
- NYSDOT Highway Design Manual

These manuals and references provide guidance on trail cross sections, horizontal and vertical alignments, on-road bikeway treatment specifications, such as widths, markings, and signage, and details for crossing and intersection treatments.

## NEXT STEPS IN THE DESIGN OF THE GREENLINE

Alta Planning + Design, the project consultants engaged to develop this Conceptual Plan, have identified a series of next steps for evolving design of the Kingston Greenline. These action items form the basis for ongoing efforts by the City of Kingston and the Kingston Land Trust. Throughout the process, the Kingston Land Trust will work to engage residents and neighbors so that the Kingston Greenline represents a shared vision, and we will work with a range of other partners to ensure that the Greenline fits within the larger context of city and regional planning efforts.

1. **Define the Greenline Route:** Where several options are proposed, work toward a preferred alternative
2. **Prioritize Greenline Development:** Develop a prioritization matrix for sections of the Greenline Trail to inform a phased approach to implementation
3. **Engage Residents, Businesses and Partners:** Continue to reach out to the community to market the Kingston Greenline, identify challenges and opportunities, and gain public support
4. **Pursue Project Funding:** Apply for federal, state and private grants to support final design and construction of the Kingston Greenline. Coordinate with on-going and future construction projects. Build capacity to support ongoing operations and maintenance of the Greenline after construction.
5. **Plan for Maintenance:** Develop long-range management plans that identify roles and responsibilities to ensure safety and proper maintenance and operation of the Kingston Greenline.













# 2

## RONDOUT SECTION

### INTRODUCTION

The Rondout Section of the Kingston Greenline begins in the Midtown Hub area as the Kingston Point Rail Trail (KPRT). The KPRT starts at the intersection of Jansen Avenue and E. Chester Street and follows the Ulster-Delaware railroad corridor to the Rondout waterfront. The KPRT is proposed as a 10 foot shared use path. There are several at grade crossing and a tunnel under Delaware Avenue. A feasibility study for this portion of the Rondout Trail was completed in 2013.

Once at the Waterfront, the Kingston Greenline leads both north and south. The southern route will continue along the existing esplanade. Continuation of the trail along Dock Street or via Abeel Street provides a connection to Block Park. An additional complete streets connection on Abeel Street will connect the trail to the sidewalks that exist on the Wurts Street Bridge, allowing passage over the Rondout Creek.

To the north, the Greenline will follow the existing railroad corridor along E Strand Street. A pedestrian only path alongside the railroad will provide a connection along the causeway to Kingston Point. On-road accommodations along North Street to Delaware Avenue will allow cyclists to safely travel to Kingston Point. Both pedestrian and bicycle accommodations on North Street, north of Delaware Avenue, will allow the Greenline to connect to the Hudson Landing Promenade.



*Kingston Maritime Museum at the Rondout waterfront*

### OPPORTUNITIES

The Rondout Section of the Kingston Greenline is a significant component to the continued development of the Rondout waterfront. The trail will provide bicycle and pedestrian access to and along the waterfront where none currently exists. Specific opportunities include:

- A connection between Midtown and the waterfront
- Access to community gardens, neighborhoods, parks, and schools
- Complete street opportunities to fill gaps in the proposed off-road network
- Off-road pedestrian access to Kingston Point Park and the BMX park

### CHALLENGES

There are several structures within the Rondout Section that require improvements to accommodate bicycles and pedestrians. Other challenges include:

- Several mid-block crossings, particularly in the northern portion
- Active trolley line from E. Strand Street to Kingston Point
- Transitions between on and off road trail segments, particularly between the existing waterfront trail and E. Strand Street
- Narrow sidewalks and no bicycle accommodations on the bridge over Rondout Creek



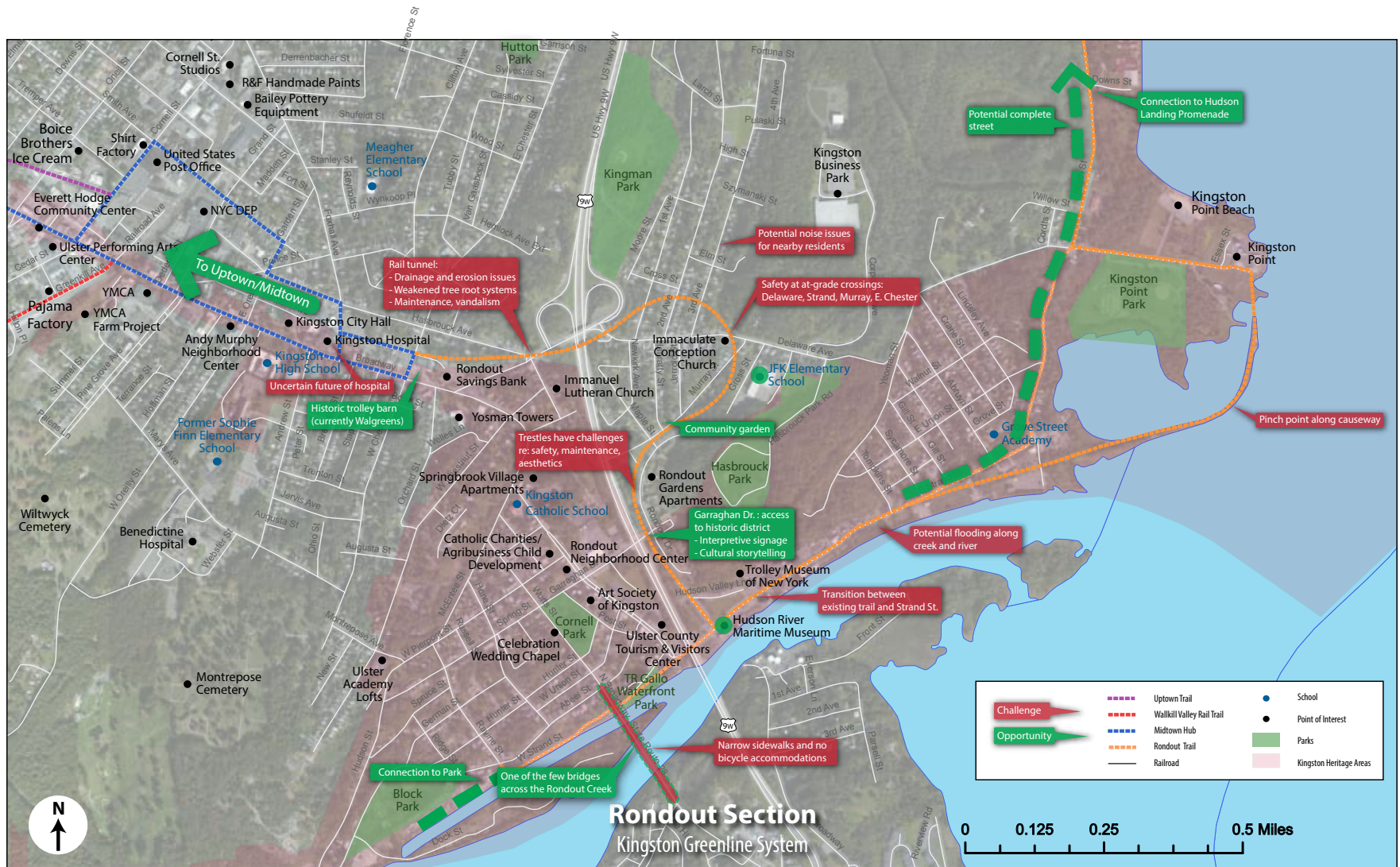
*BMX Park at Kingston Point Park*



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Source: Data Obtained from  
Kingston, NY, & Google  
Date: December, 2013

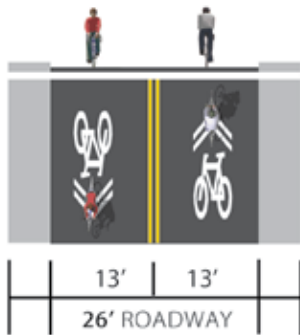








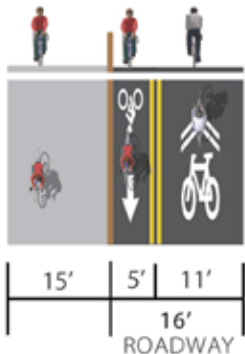
# RONDOUT SECTION CONCEPT



### A: ABEEL STREET

Abeel Street is an important connection to Wurt Street to provide access across the Rondout Creek. Sidewalks on both sides of the roadway are present. Shared lane markings are proposed to provide two 13 foot shared use lanes.

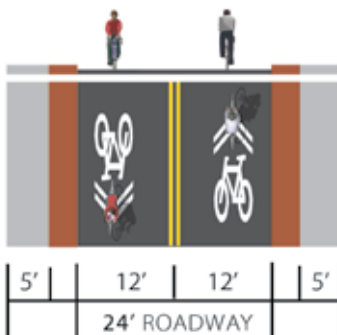
#### SHARED LANES & SIDEWALKS



### B: DOCK STREET

The existing esplanade along Dock Street provides bicycle and pedestrian access along most of Dock Street. The esplanade should continue as far as possible along the waterfront, to Block Park. During busy times such as festivals or weekends, the esplanade may be too congested for cyclists to move freely. Alternatively, a shared lane marking and counterflow bike lane are proposed on Dock Street to facilitate faster moving cyclists.

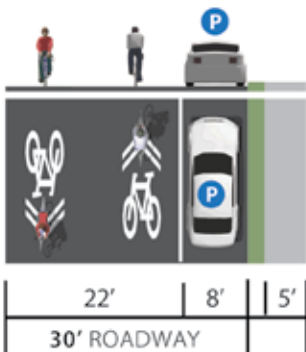
#### ESPLANADE & COUNTERFLOW BIKE LANE



### C: E STRAND STREET

A current project on E Strand Street proposes 5 foot wide sidewalks on both sides of the roadway with a paved utility strip. The curb to curb width will be 24 feet. Shared lane markings are proposed for two 12 foot shared lanes. Additional signage and traffic calming measures should be considered.

#### SHARED LANES & SIDEWALKS



### D: NORTH STREET

This first section of North Street has an existing sidewalk on the east side of the roadway. Existing pavement width is 30 feet. A shared lanes width of 22 feet is proposed with marked on-street parking. Additional signage and traffic calming would be beneficial.

#### SHARED LANES & SIDEWALKS

### E: NORTH STREET

North Street transitions to a 22 foot wide roadway with little to no shoulders and no sidewalks. Since pedestrians are accommodated along the railroad tracks to the point, only shared lane markings are proposed. The roadway is narrow and shoulder widening and bike lanes should be considered when the roadway is repaved in the future.

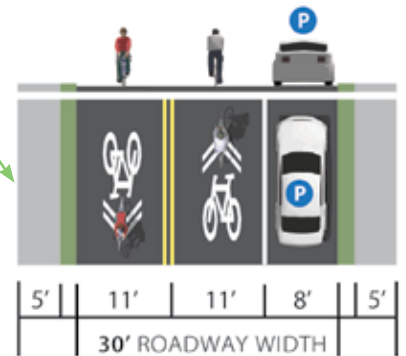
#### CYCLE TRACK & SIDEWALKS



## F: NORTH STREET TO HUDSON LANDING PROMENADE

North of Delaware Avenue, North Street is 30 feet wide, curb to curb, with sidewalks present on either side of the roadway. Two 11 foot shared lanes are proposed to maintain on-street parking on the east side of the roadway.

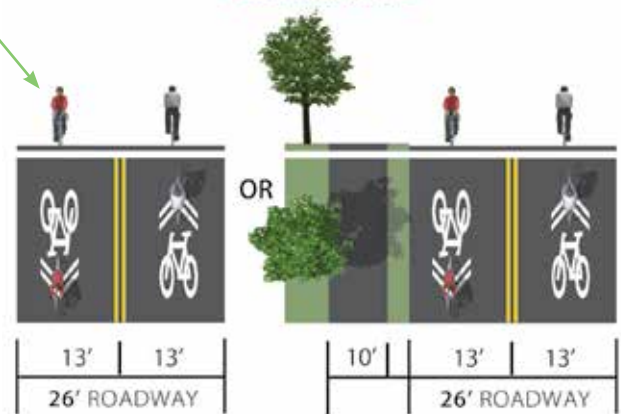
### SHARED LANES & SIDEWALKS



## G: DELAWARE AVENUE

Delaware Avenue provides a connection between North Street and Kingston Point / Kingston Point Park. 13 foot shared lanes can be provided using the existing pavement width. In the future, a 10 foot wide shared use path is recommended for the south side of the roadway. Existing trees should be maintained or replanted where possible.

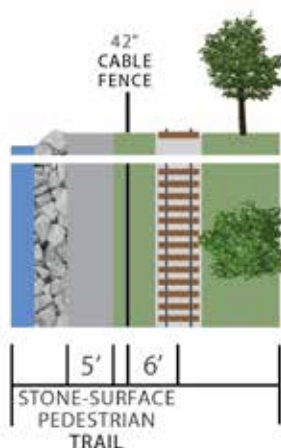
### SHARED LANE OR SHARED USE PATH



## H: KINGSTON POINT PEDESTRIAN PATH

The existing trolley line follows the waterfront out to Kingston Point. The space between the waterfront and the tracks varies along the corridor. It is recommended that a 5 foot stone pedestrian path be constructed to the east of the tracks. A 6 foot separation between the center of the tracks and a fence should be maintained. To accommodate the width of the pedestrian path, the existing bank will need to be built out several feet in a few locations.

### PEDESTRIAN PATH

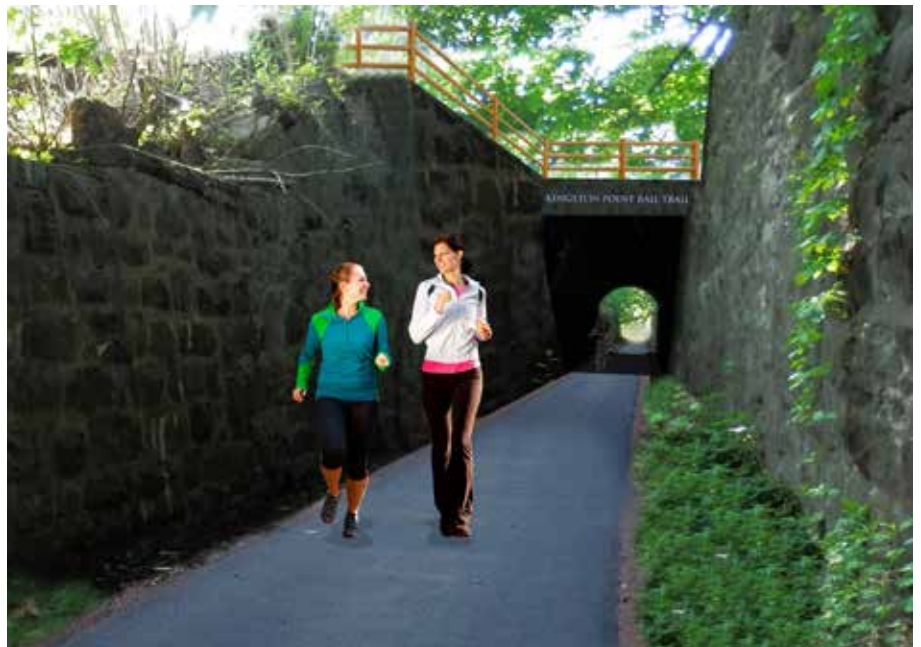




## PLANNING LEVEL COST ESTIMATE

The table below summarizes the cost options associated with the Rondout Greenline Trail. Two options for Delaware Avenue are presented and two associated total costs are included below. Unit costs are based on NYSDOT pay item catalog and similar projects in the Northeast. These estimates include design fees and contingencies.

Section	Facility Type	Unit	Cost / Unit	Quantity	Cost
<b>Rondout Trail</b>					
Kingston Point Rail Trail	trail	ls	\$740,000	1	\$740,000
Kingston Point Rail Trailheads		ls	\$610,000	1	\$610,000
E Strand St	shared lane	lf	\$4	4050	\$16,200
Railroad line to Point-Ped only	rail with trail	lf	\$120	4750	\$570,000
Delaware Ave - Opt 1	shared lane	lf	\$4	1175	\$4,700
Delaware Ave - Opt 2	trail	lf	\$60	1175	\$70,500
North St - Section 1	shared lane	lf	\$4	1925	\$7,700
North St - Section 2	shared lane	lf	\$4	750	\$3,000
North St - Section 3	shared lane	lf	\$4	875	\$3,500
Dock St	CF bike lane	lf	\$6	2050	\$12,300
Esplanade Extension		lf	\$300	1700	\$510,000
Abeel St	shared lane	lf	\$4	1225	\$4,900
Crosswalk		each	\$800	3	\$2,400
				<b>Total Cost-low</b>	<b>\$1,874,700</b>
				<b>Total Cost-high</b>	<b>\$2,550,500</b>







# 3

## WALLKILL VALLEY SECTION

### INTRODUCTION

The Wallkill Valley section of the Kingston Greenline is an extension of the existing Wallkill Valley Rail Trail (WVRT) from its current terminus at Rockwell Lane to midtown Kingston. Much of the abandoned railroad right-of-way from Rockwell north has been developed, absorbed into other properties, or encounters steep grades. Three alternatives have been developed to provide a trail connection from the existing trailhead to Midtown and the other Greenline sections. All alternatives include utilizing the Greenkill Avenue right-of-way, including the sidewalks and a proposed mix of cycle track, shared use path, and shared lanes/counterflow bike lane.

The first alternative is to utilize the lower-volume and lower-speed roadways to the west, Rockwell Lane and Linderman Avenue, by installing shared lane markings and signage. The second alternative is to provide a connection along NYS Route 32 by constructing bike lanes or a two-way cycle track. The third alternative utilizes the railroad right-of-way through the Ulster County Jail property with a connection to South Wall Street. Shared lane markings along South Wall Street will continue to Greenkill Avenue then to Midtown.

### OPPORTUNITIES

The WVRT extension will provide direct access to miles of trails, the Town of Rosendale and the Village of New Paltz for the residents of Kingston. The proposed trail will also provide connections to the YMCA, the Boys & Girls Club, the Golden Hill facility, and residential and highway commercial areas. Other opportunities include:

- Destinations at the “Six Points” intersection
- Low volume and low speed streets including Greenkill Avenue, South Pine Street, Linderman Avenue, Rockwell Lane, and South Wall Street
- Several potential routes, including Route 32, Wall Street, and Linderman Avenue
- A gentle slope along the railroad right-of-way by the Ulster County Jail
- Private property for sale near Lawton Park
- Limited obstructions along the railroad right-of-way in Lawton Park with scenic views

### CHALLENGES

There are also several challenges to extending the WVRT. The existing trailhead for example only has two parking spaces. Route 32 provides a direct route, but the pavement width is limited and would need to be widened in several locations. Other challenges include:

- Any crossings of Route 32 will encounter high speeds and volumes; some locations have poor sight distance
- A Central Hudson utility easement along Route 32 is privately owned except the substation and may come with public concerns regarding health impacts



- Steep topography along Route 32 and into Lawton Park
- Private ownership of the railroad bed in the southern portion
- Safety concerns at “Six Points” intersection
- There are private and City encroachments on the railroad right-of-way north of Lawton Park
- The proposed Railroad Avenue Bridge replacement over Broadway does not include sidewalks or bicycle accommodations

# WALLKILL VALLEY RAIL TRAIL (WVRT) CONCEPT

## ALTERNATIVE 1

### A : ROCKWELL LANE

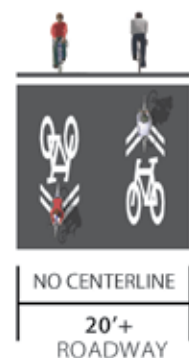
There is a small trailhead located on Rockwell Lane for the existing portion of the trail that leads south. This alternative would continue the Wallkill Valley section of the Greenline northwest with shared lanes on Rockwell Lane.

#### SHARED LANES

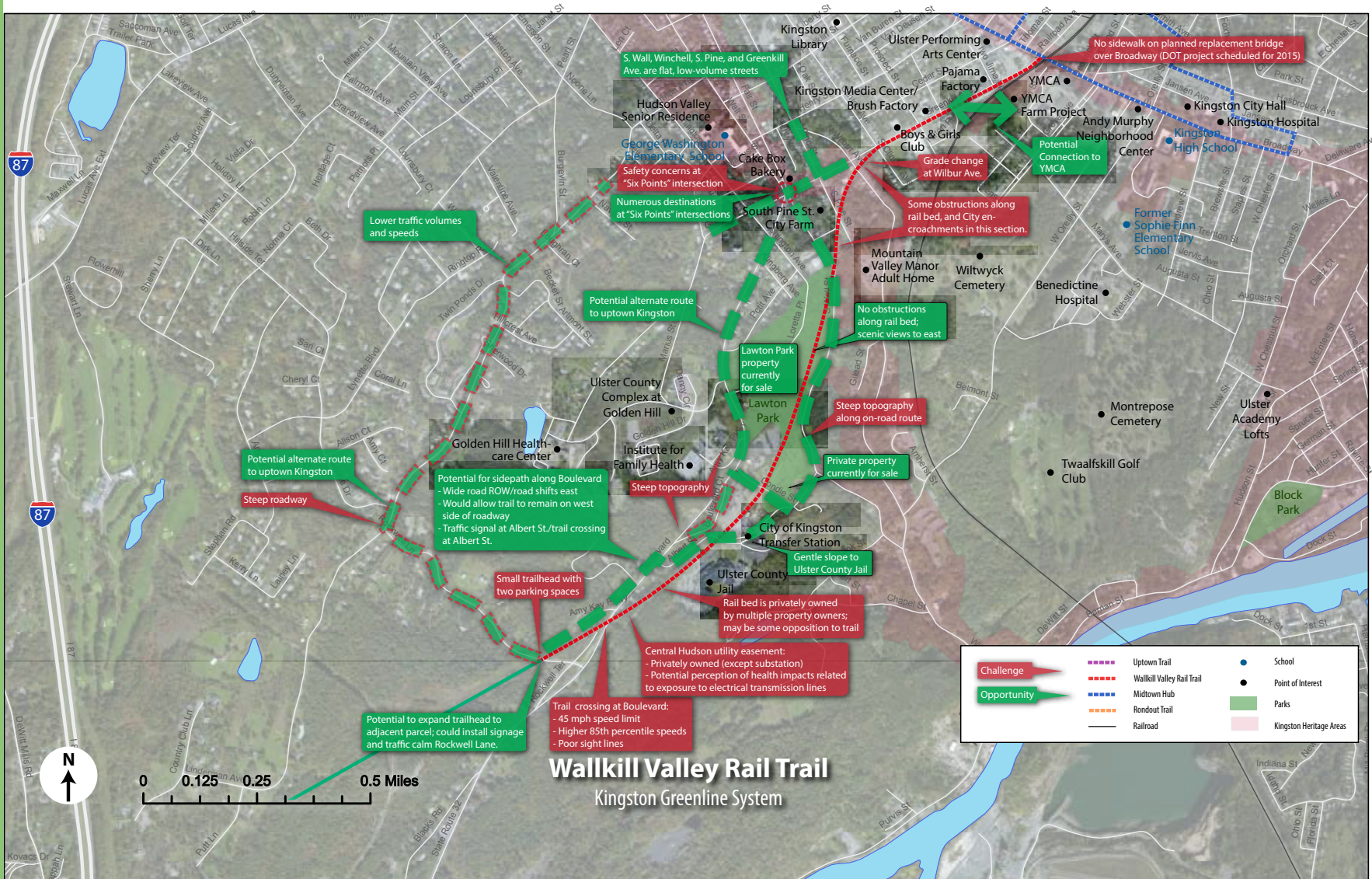
### B : LINDERMAN AVENUE

Linderman Avenue is a low volume roadway with a width of 20 feet or more. Shared lane markings are proposed. Due to the narrow width of the roadway, additional traffic calming is recommended if speeds warrant.

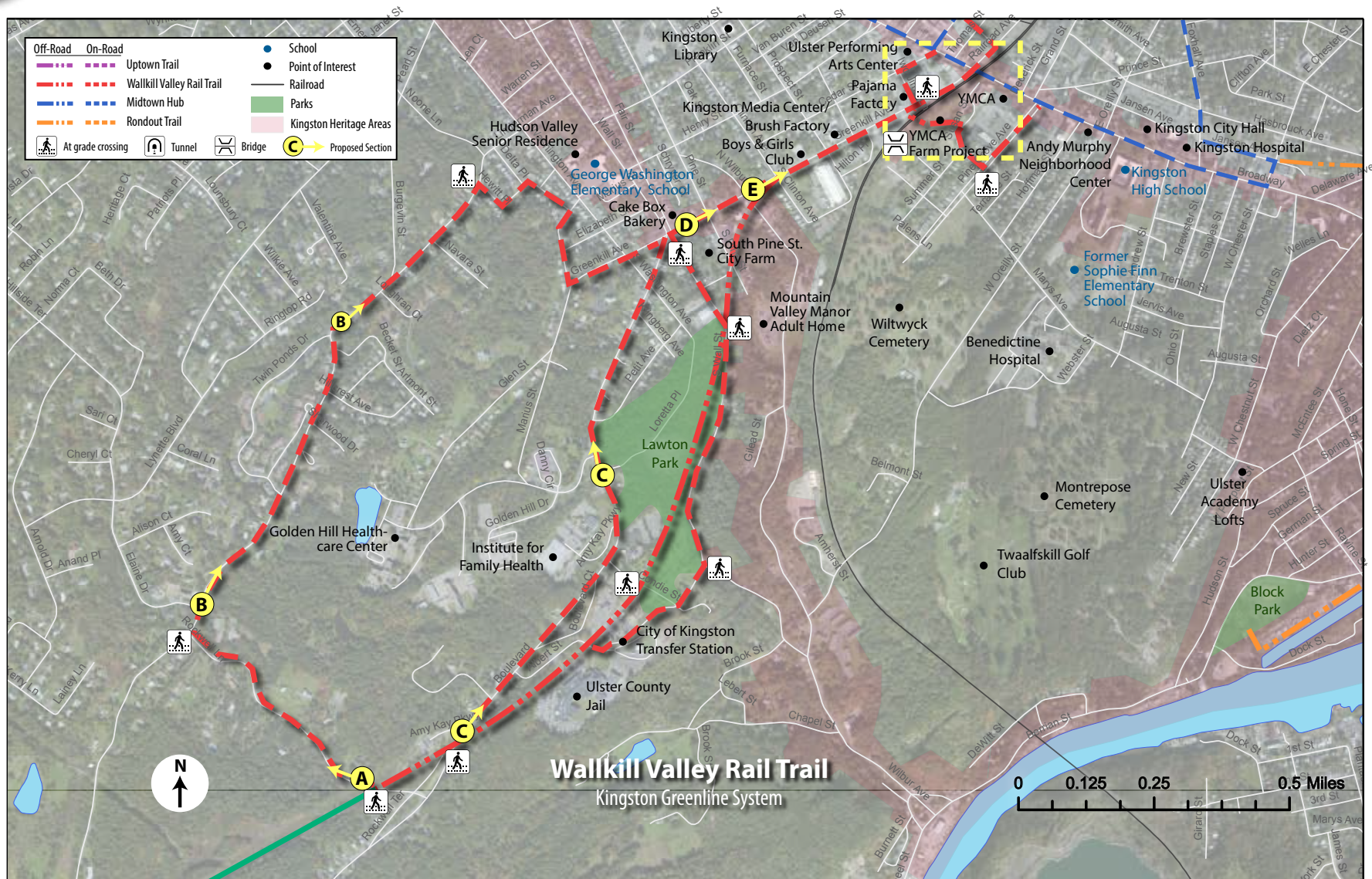
#### SHARED LANES











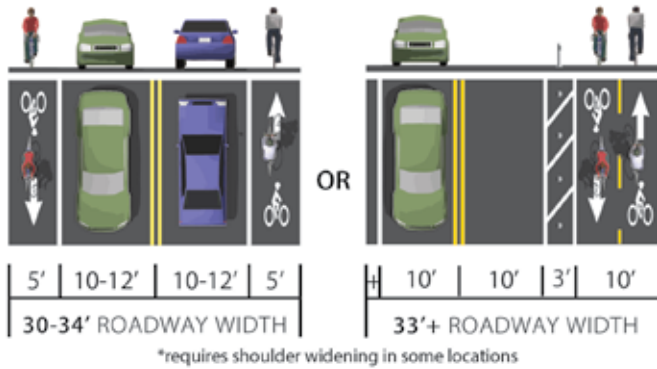


## ALTERNATIVE 2

### C : ROUTE 32

NYS Route 32 is a direct but higher volume alternative for the Wallkill Valley Rail Trail. The existing width varies between approximately 30 and 34 feet. Two possible sections include: 5 foot bike lanes with 10 to 12 foot wide travel lanes or a 10 foot wide cycle track with a 3 foot buffer on the east side of Route 32. Both options require the pavement to be widened in some locations.

#### BIKE LANES OR CYCLE TRACK

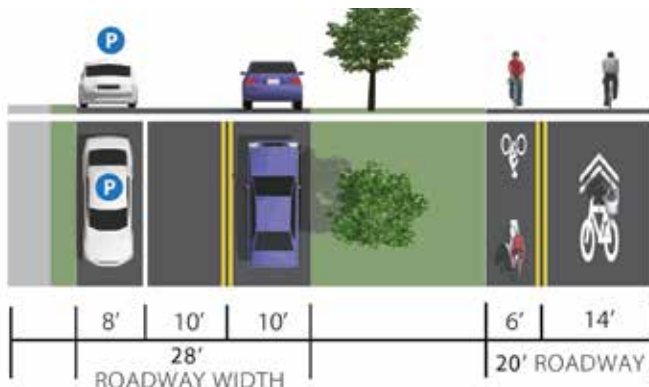
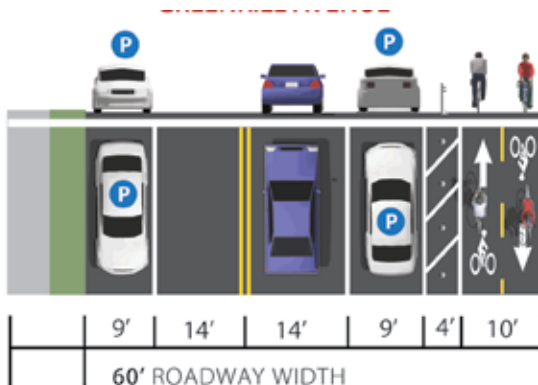


## ALTERNATIVE 3

### SOUTH WALL STREET

The abandoned railroad corridor, after crossing Route 32, is located in front of the Ulster County Sheriff's Department. This is proposed as a shared use trail that connects to the end of South Wall Street at Lawton Park. Shared lane markings along South Wall Street and traffic calming elements are recommended to continue the trail north to Greenkill Avenue.

#### SHARED USE PATH & SHARED LANES



### D : GREENKILL AVENUE

The southern portion of Greenkill Avenue is 60 feet side from curb to curb. There is an existing sidewalk on the north side of Greenkill Avenue. A cycle track, located on the south side of the roadway is proposed with a 4 foot buffer. On street parking is maintained on both sides.

#### CYCLE TRACK & SIDEWALKS

### E : GREENKILL AVENUE / SIDEROAD

The northern portion of Greenkill Avenue is 28 feet from curb to curb with sidewalks on the north side of the roadway. There is also a side road, 20 feet wide, to the south. It is proposed to convert this roadway to one-way with a counterflow bike lane.

#### COUNTERFLOW BIKE LANE & SIDEWALKS

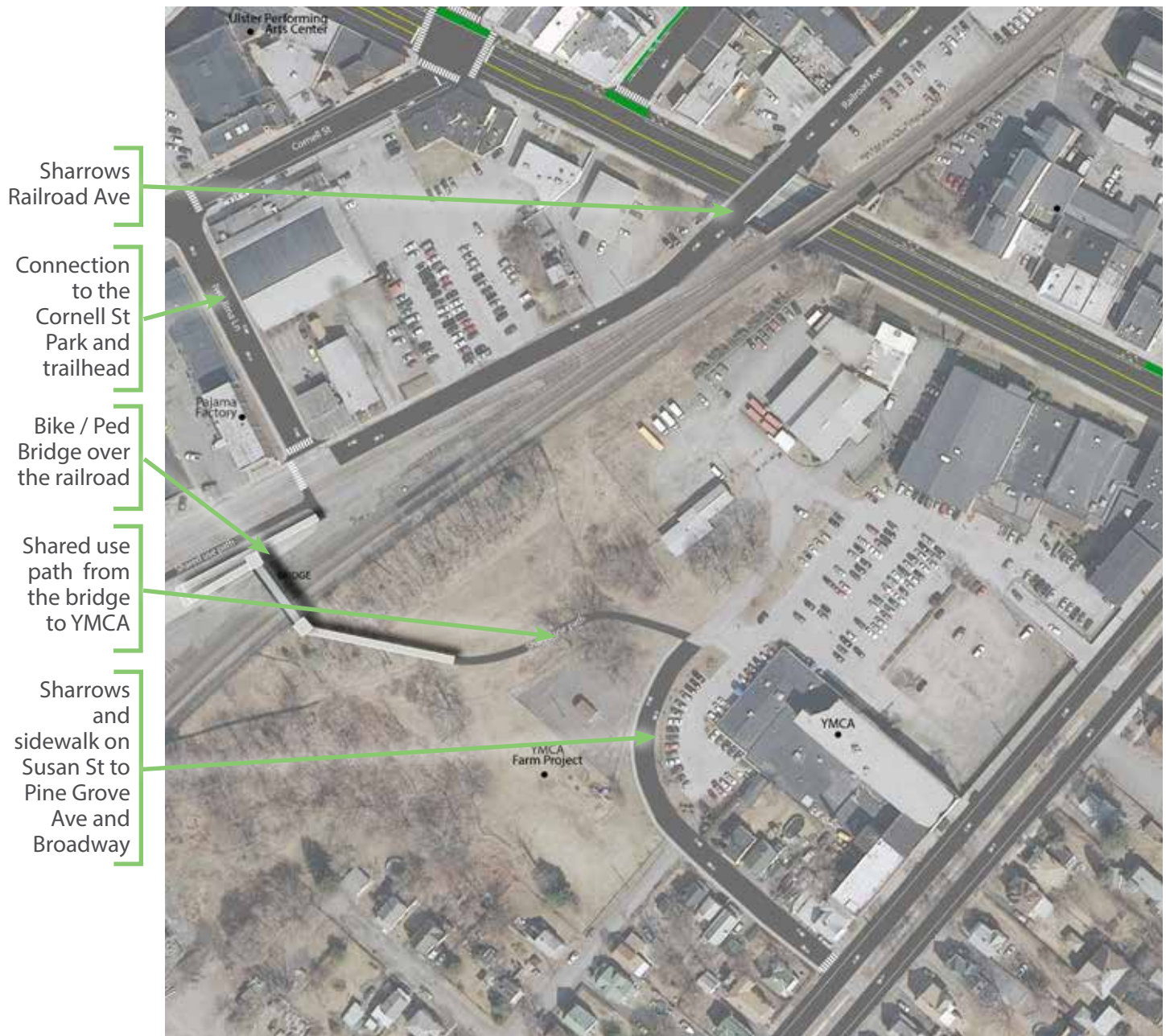


## MIDTOWN HUB & YMCA LINKS

To connect to the Midtown Hub and the trailhead, there are two options:

1. Shared lanes and sidewalk on Iwo Jima Lane and bike lanes on Cedar Street to connect to bike lanes proposed on Cornell.
2. Shared lanes and sidewalk on Greenkill Avenue, Railroad Avenue, and Fashion Lane to connect to the trailhead through the municipal parking lot.

To connect to the YMCA requires crossing the active railroad tracks. A bridge over the railroad right of way is proposed. It will be need to have a 22 foot clearance and ramps approximately 270 feet long. A shared use path will connect the ramp to the YMCA and shared lanes and sidewalk on Susan Street.





## PLANNING LEVEL COST ESTIMATE

The table below summarizes the cost options associated with the Wallkill Valley Rail Trail. Each alternative and connection is included below. Unit costs are based on NYSDOT pay item catalog and similar projects in the Northeast. These estimates include design fees and contingencies.

Section	Facility Type	Unit	Cost / Unit	Quantity	Cost
<b>WVRT Trail</b>					
Greenville Ave - Section 1	trail	lf	\$60	525	\$31,500
Greenville Ave - Section 2	CF bike lane	lf	\$6	950	\$5,700
Greenville Ave - Section 3	trail	lf	\$60	325	\$19,500
Greenville Ave - Section 4	cycle track	lf	\$30	825	\$24,750
				<b>Total Cost</b>	<b>\$81,450</b>
<b>Rt 32 Alternative</b>					
Route 32 - Opt1 + crosswalk	bike lane	lf	\$8	6150	\$50,000
				<b>Total Cost</b>	<b>\$50,000</b>
Route 32 - Opt2 + crosswalk	cycle track	lf	\$30	6150	\$185,300
				<b>Total Cost</b>	<b>\$185,300</b>
<b>Trail/Wall St Alternative</b>					
WVRT Trail	trail	lf	\$60	3325	\$199,500
South Wall St	shared lane	lf	\$4	3800	\$15,200
crosswalk		each	\$800	1	\$800
				<b>Total Cost</b>	<b>\$215,500</b>
<b>Rockwell/Linderman Alternative</b>					
Rockwell Ln/Linderman Ave	shared lane	lf	\$4	10650	\$42,600
crosswalk		each	\$800	1	\$800
				<b>Total Cost</b>	<b>\$43,400</b>
<b>YMCA Connection</b>					
YMCA path	trail	lf	\$60	275	\$16,500
Susan St	shared lane/sidewalk	lf	\$104	550	\$57,200
Pine Grove Ave	shared lane	lf	\$4	800	\$3,200
Bike/Ped bridge over RR		ls	\$750,000	1	\$750,000
				<b>Total Cost</b>	<b>\$826,900</b>
<b>Railroad Avenue Connection</b>					
Railroad Ave	shared lane	lf	\$4	1175	\$4,700
Municipal Parking Area	cycle track	lf	\$30	350	\$10,500
				<b>Total Cost</b>	<b>\$15,200</b>
<b>Cedar Street Connection</b>					
Cedar St	bike lane	lf	\$8	350	\$2,800
Iwo Jima Ln	shared lane	lf	\$4	325	\$1,300
crosswalk		each	\$800	2	\$1,600
				<b>Total Cost</b>	<b>\$5,700</b>







# 4

## UPTOWN SECTION

### INTRODUCTION

The Uptown section of the Kingston Greenline follows the Ulster-Delaware railroad corridor west from Midtown to the City of Kingston line. The existing railroad corridor provides a key opportunity to provide a shared use trail through the Stockade District. There are several tunnels that provide grade-separated roadway crossings. Only a few locations cross at-grade, Washington Avenue for example.

The Uptown section provides links to several key destinations, the most important being the continued railroad corridor out of the city. A shared use path is planned for portions of the Ulster-Delaware railroad corridor. The Kingston Greenline will allow trail users to start and end their trip in Midtown with several amenities along the way.

There is also potential to create a spur trail from the railroad corridor to provide access to the Esopus Creek. A loop can be created by providing a trail along the creek and access through Kingston Plaza.

### OPPORTUNITIES

Opportunities within the Uptown Trail area include access to several key destinations, and the existing railroad corridor allows for a separated facility for pedestrians and cyclists. Specific opportunities include:

- Connections to the stockade district, the Trailway Bus Station, Kingston Plaza, Esopus Creek, Academy Green Park, Forsyth Park, ball fields, Midtown Hub, and the Hurley Rail Trail
- The railroad corridor has a gentle grade, not exceeding ADA requirements
- Several crossings are already grade separated, such as Route 578
- The trail connects several natural and park areas, which provide both gardening and educational potential

### CHALLENGES

Challenges within the Uptown Trail area include:

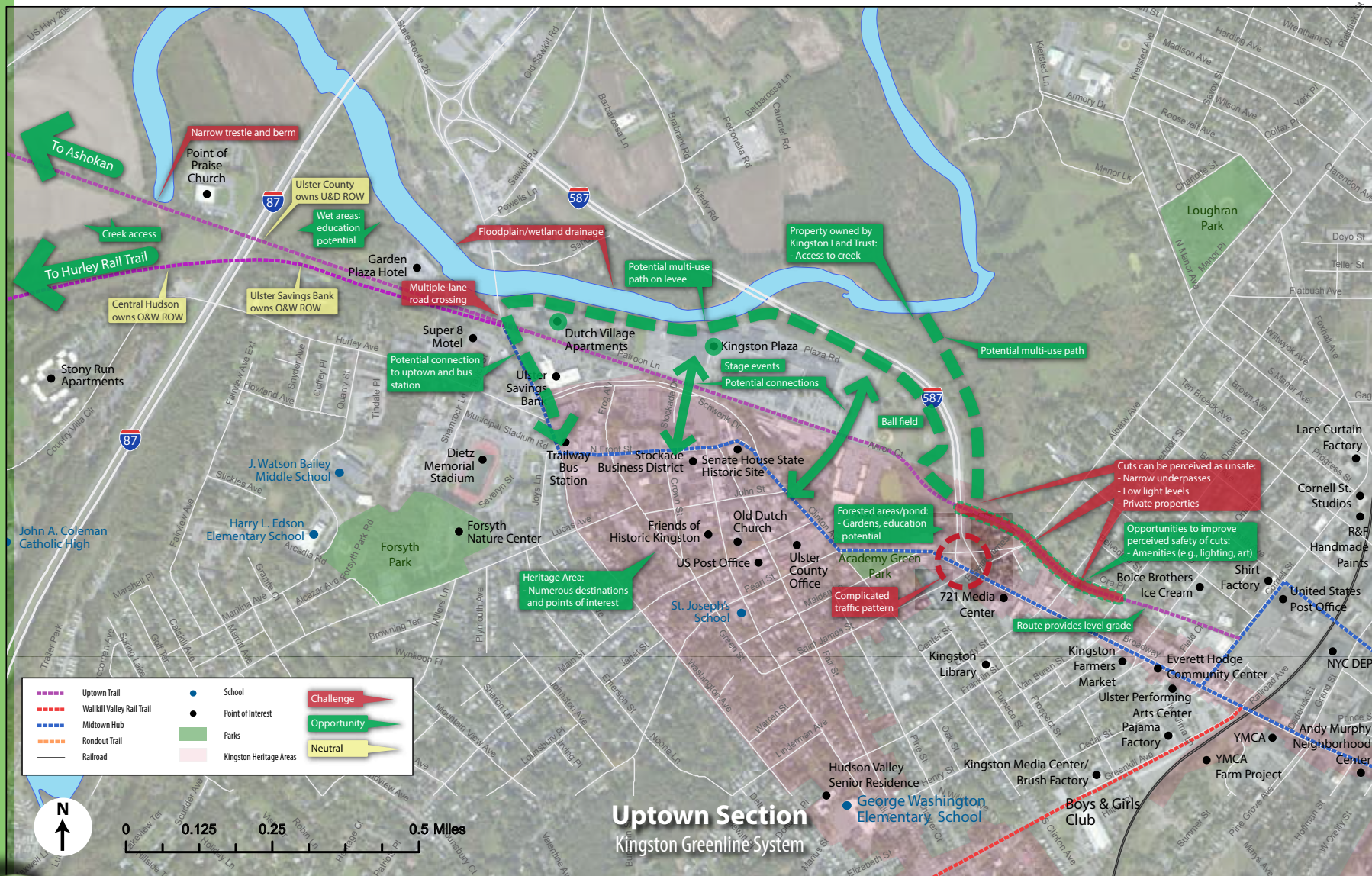
- There are still several at-grade crossings that will require additional treatments
- The Washington Avenue crossing will need to cross four lanes of traffic
- Wetland and drainage issues need to be considered for the Esopus Creek spur
- Tunnels and narrow passages create real and perceived safety concerns and additional maintenance



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# UPTOWN TRAIL CONCEPT

## RAILROAD CORRIDOR WEST

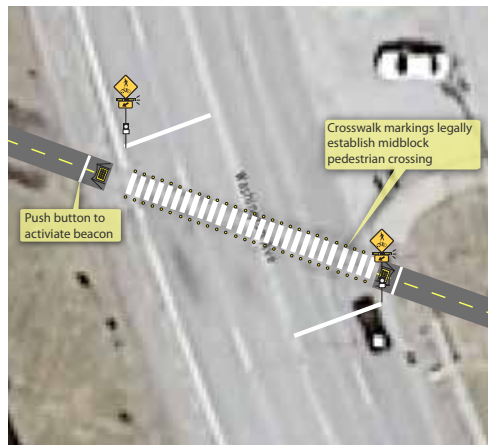
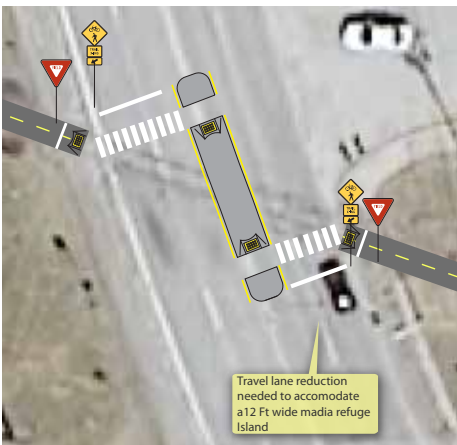
The railroad corridor, and proposed shared use path, will continue into the City of Kingston from the west. The trail will cross a bridge just before entering the City of Kingston. A 10 foot wide shared use path is recommended.

### SHARED USE PATH

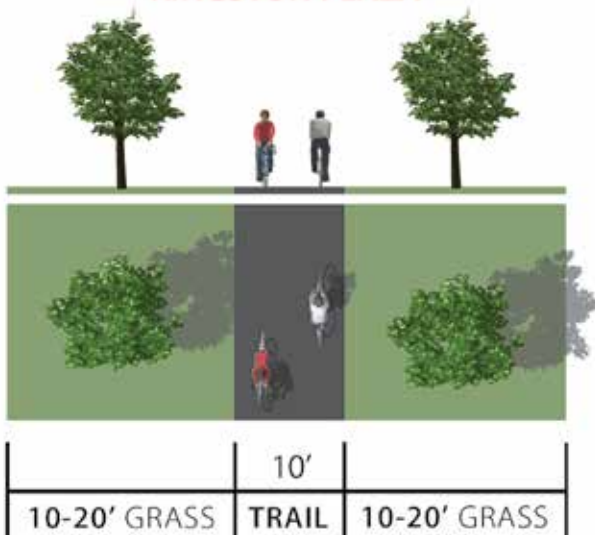
## WASHINGTON AVENUE CROSSING

The crossing at Washington Avenue requires that the trail cross four lanes of traffic. Two alternatives are proposed. The first requires vehicles to yield to cyclists and pedestrians with a two stage crossing. A center refuge island allows for trail users to wait for gaps and traverse the diagonal crossing safely. The second alternative requires vehicles to stop using a rectangular rapid flashing beacon (RRFB).

### CENTER REFUGE ISLAND OR RRFB



## KINGSTON PLAZA



## A: KINGSTON PLAZA TRAIL SECTION

After the Washington Avenue crossing, the trail passes Kingston Plaza to the south. A 10 foot wide shared use path is proposed for the remaining portions of the corridor. In most areas, at least a 10 foot buffer can be provided on either side of the trail. Existing landscaping and trees should be maintained as much as possible and additional trees planted to provide shade for the trail.

### SHARED USE PATH





## B: PROPOSED TRAIL SECTION EAST OF KINGSTON PLAZA

### ROADWAY CROSSINGS

The following is a summary of all the roadway crossings, from west to east, and their type within the corridor:

- Washington Avenue - at grade
- Kingston Plaza - at grade
- Westbrook Lane - at grade
- Route 587 - tunnel
- Albany Avenue - tunnel
- Elmendorf Street - tunnel
- Downs Street - at grade
- Oneil Street - at grade
- Cornell Street - at grade



*One of the tunnels along the Uptown Corridor*





## PLANNING LEVEL COST ESTIMATE

The table below summarizes the cost options associated with the Uptown Greenline Trail. This includes the primary rail trail and options for extension to the trail. Unit costs are based on NYSDOT pay item catalog and similar projects in the Northeast. These estimates include design fees and contingencies.

Section	Facility Type	Unit	Cost/Unit	Quantity	Cost
<b>Uptown Trail</b>					
Shared Use Trail	trail	lf	\$60	9700	\$582,000
crosswalks		each	\$800	5	\$4,000
Washington Ave crossing		each	\$15,000	1	\$15,000
Tunnels		each	\$15,000	3	\$45,000
				<b>Total Cost</b>	<b>\$646,000</b>
<b>Extention 1</b>					
Shared Use Trail	trail	lf	\$60	6425	\$385,500
I-587 overpass		lf	\$300	125	\$37,500
				<b>Total Cost</b>	<b>\$423,000</b>
<b>Extension 2</b>					
Shared Use Trail	trail	lf	\$60	2450	\$147,000
				<b>Total Cost</b>	<b>\$147,000</b>



A group of residents complete a walk-tour of the Uptown Trail







# 5

## MIDTOWN HUB

### INTRODUCTION

The Midtown Hub is a proposed trail in the heart of downtown Kingston. This loop will be comprised of complete streets and will link several key areas with the surrounding trail network.

The Midtown Hub includes the Broadway Corridor, Foxhall Avenue, and Cornell Street. Sidewalks and crosswalks will provide accommodations for pedestrians. A mix of cycle track, bike lanes, and shared lane markings will provide accommodations for cyclists.

In addition to providing bicycle and pedestrian infrastructure, it is important to provide wayfinding signage to inform trail users of change in trail direction and destinations within the Midtown Hub area. Trailheads will also be particularly important within the Midtown Hub, to facilitate access to this trail and other Greenline trails that spur from it.

### OPPORTUNITIES

There are a number of opportunities for complete street solutions to accommodate pedestrians and cyclists within the Midtown Hub area. There are also several opportunities to connect destinations and other Greenline and regional trails.

- There are sidewalks currently on most of the roadways throughout the Midtown area
- There are several opportunities for on-road improvements or “complete streets”
- Numerous at grade crossings will allow easy access to the trail
- Potential destinations include:
  - Kingston City Hall
  - Kingston High School
  - Ulster Performing Arts Center
  - Living Arts District
  - YMCA
- The Midtown Hub provides connections to the other three Greenline trails and links them together
- There is potential for increased economic develop and increased real estate potential in the area

### CHALLENGES

There are several challenges to the Midtown Hub area. The most significant challenge is the active railroad line that runs north-south. The Broadway corridor provides an underpass for the railroad. The connection to the north will require crossing the railroad at grade. Complicated traffic patterns at the intersection of I-587 and several large intersections along Broadway pose safety concerns under the current conditions.



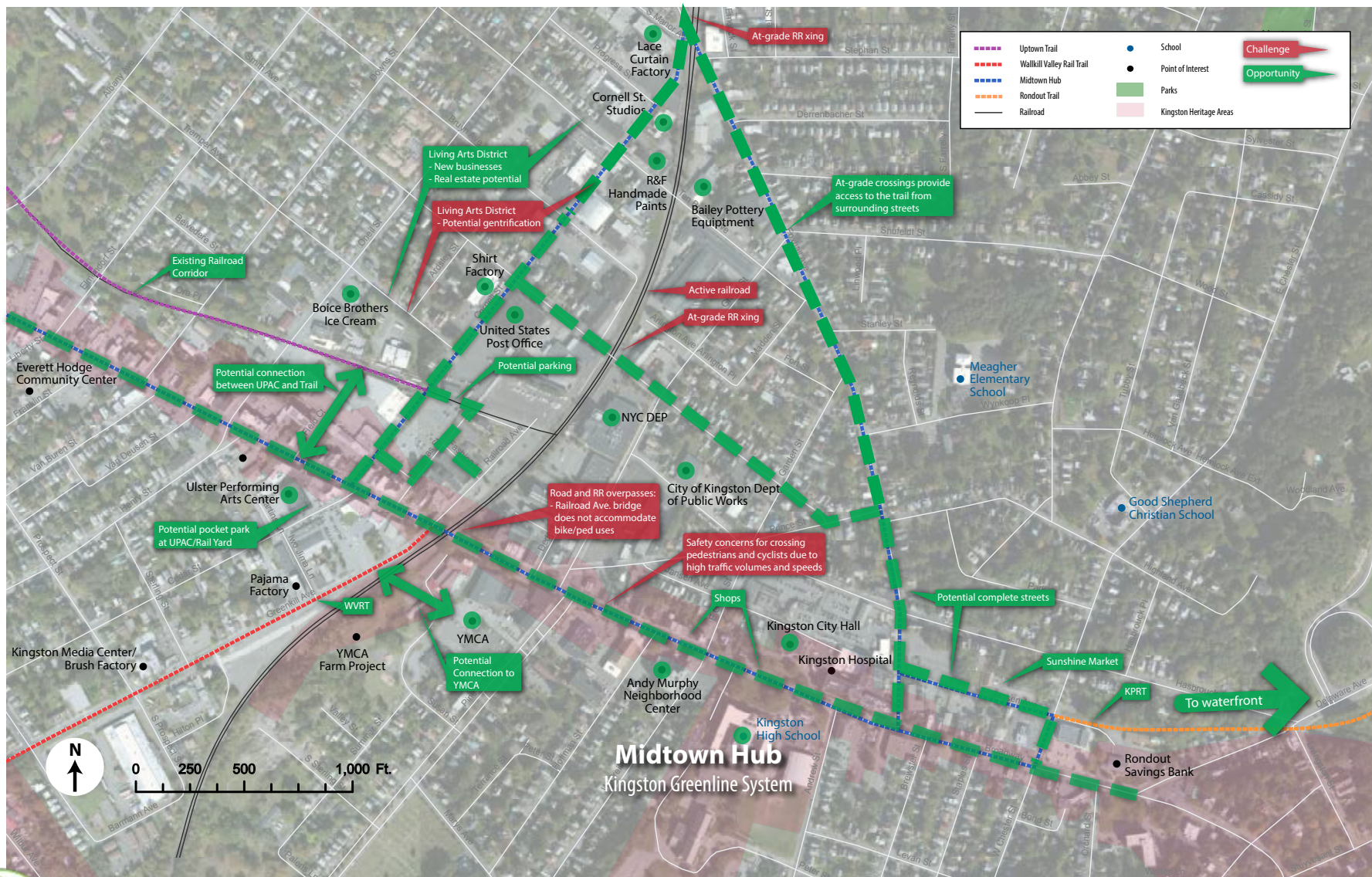
*Kingston High School, located on Broadway*



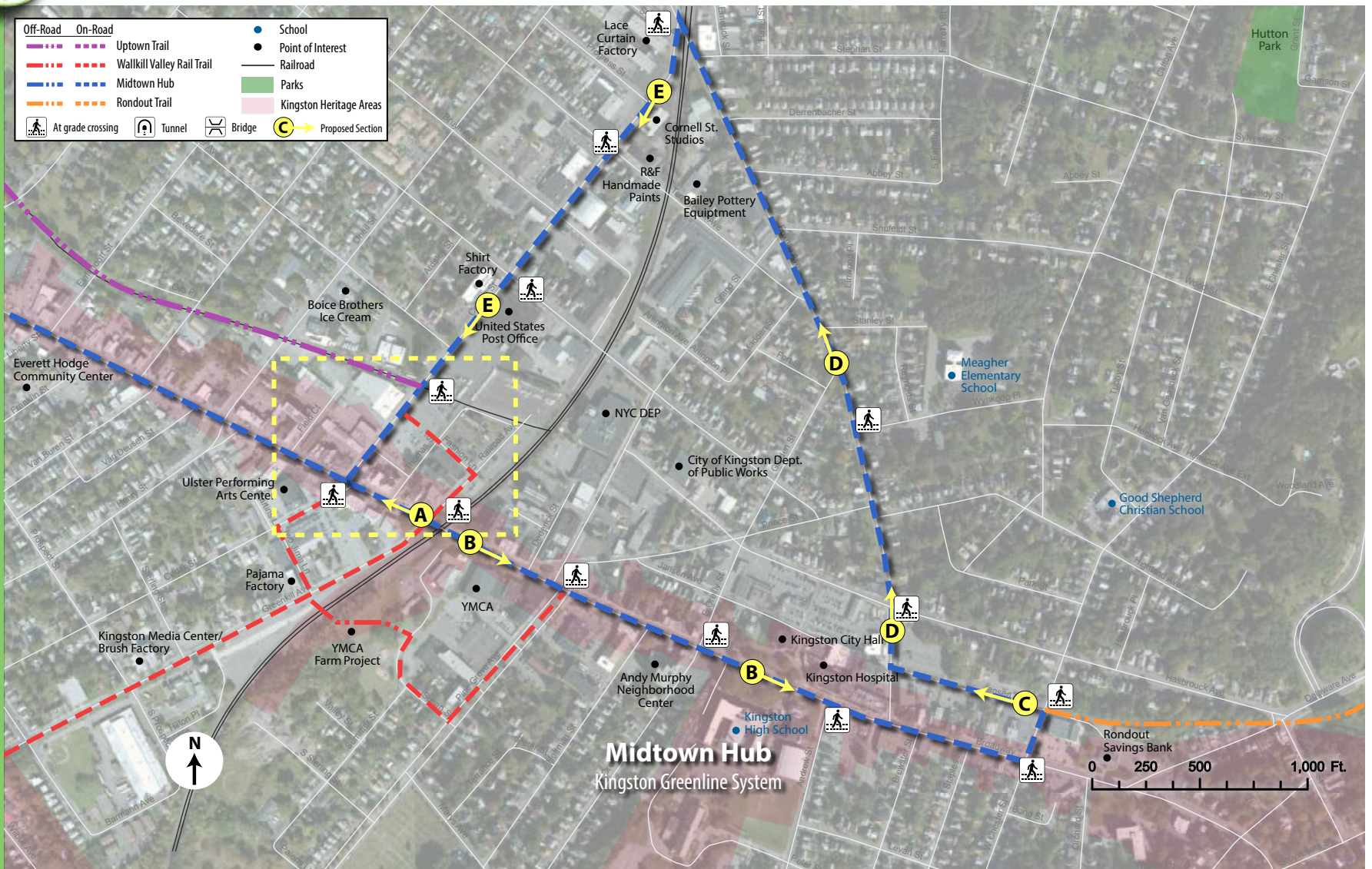
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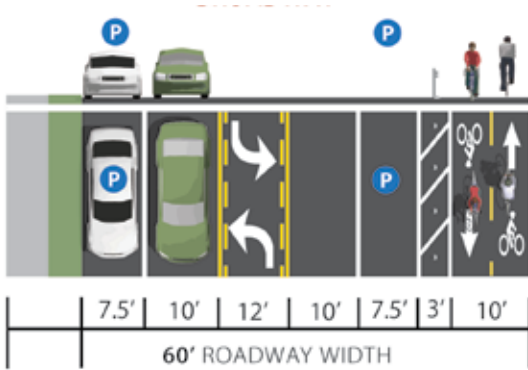


# MIDTOWN HUB CONCEPT

## A : BROADWAY WEST

West of the railroad, Broadway has a 60 foot curb to curb width. A road diet, from four travel lanes to three, is proposed. A 10 foot wide cycle track is proposed on the north side of Broadway. A 3 foot separation is recommended between the cycle track and the westbound parking lane.

### CYCLE TRACK & SIDEWALKS



## B: BROADWAY EAST

East of the railroad, Broadway has a curb to curb width of approximately 40 feet. A 10 foot wide cycle track is proposed on the north side of Broadway, in place of the existing parking lane. A 3 foot separation is recommended between the cycle track and the westbound parking lane.

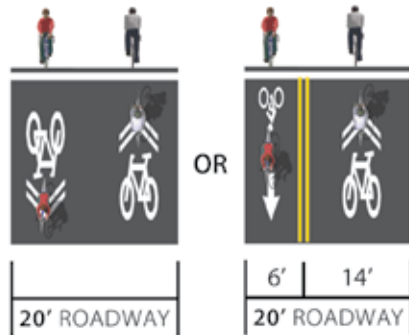
### CYCLE TRACK & SIDEWALKS



## C: JANSEN AVENUE

Jansen Avenue assists in connecting the Midtown Hub, and also connects the Uptown Trail to the system. Two alternatives to accommodate cyclists include: a shared roadway with shared lane markings, or converting the roadway to one-way with a shared lane and a counter-flow bike lane.

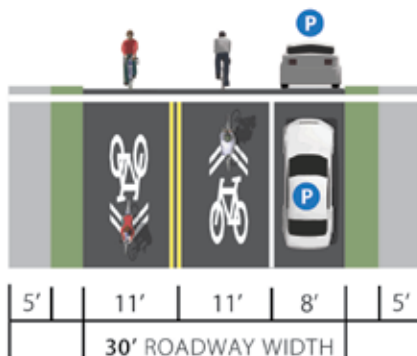
### SHARED LANE OR COUNTERFLOW BIKE LANE



## D: FOXHALL AVENUE

Foxhall Ave has a width of 30 feet between curbs and a sidewalk on the east side of the roadway. To maintain parking on the east, shared lane markings are recommended to accommodate cyclists.

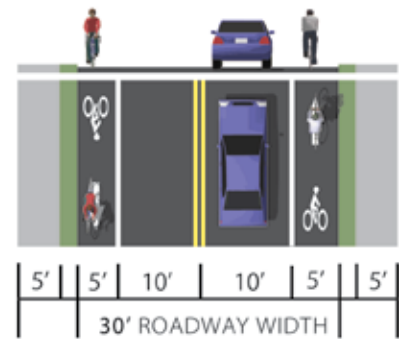
### SHARED LANE & SIDEWALKS



## E: CORNELL STREET

Cornell Street has a width of 30 feet between curbs and sidewalks on both sides. 5 foot wide bike lanes are proposed with 10 foot travel lanes.

### BIKE LANES & SIDEWALKS



## MIDTOWN HUB TRAIL CONNECTIONS

Near the intersection of Broadway and Cornell Street, three of the four Greenline trails meet. On-street improvements are recommended to link each of these trails to a central trailhead. A new park can be created at the site of the railroad yard to accommodate this need.





## PLANNING LEVEL COST ESTIMATE

The table below summarizes the cost options associated with the Midtown Greenline Trail. Unit costs are based on NYSDOT pay item catalog and similar projects in the Northeast. These estimates include design fees and contingencies.

Section	Facility Type	Unit	Cost / Unit	Quantity	Cost
<b>Midtown Trail</b>					
Cornell St	bike lanes	lf	\$8	2675	\$21,400
Foxhall Ave	bike lanes	lf	\$8	3150	\$25,200
Jansen St - Opt1	shared lane	lf	\$4	750	\$3,000
Jansen St - Opt2	bike lane	lf	\$6	750	\$4,500
E. Chester Street	shared lane	lf	\$4	275	\$1,100
Broadway - East	cycle track	lf	\$30	3400	\$102,000
Foxhall RR crossing		each	\$15,000	1	\$15,000
crosswalk		each	\$800	1	\$800
Green cycle track crossing		each	\$6,000	4	\$24,000
New Park		ls	\$30,000	1	\$30,000
Field Ct		lf	\$4	330	\$1,320
				<b>Total Cost-low</b>	<b>\$223,820</b>
				<b>Total Cost-high</b>	<b>\$225,320</b>
<b>Midtown Trail Extension</b>					
Broadway - West	cycle track	lf	\$30	2675	\$80,250
Green cycle track crossing		each	\$6,000	4	\$24,000
Albany Ave	shared lane	lf	\$4	875	\$3,500
Clinton Ave / Front St	shared lane	lf	\$4	2975	\$11,900
Washington Ave	bike lane	lf	\$8	1250	\$10,000
				<b>Total Cost</b>	<b>\$129,650</b>



Broadway, west of the rail-road, is 60 feet wide from curb to curb and has existing sidewalks on both sides