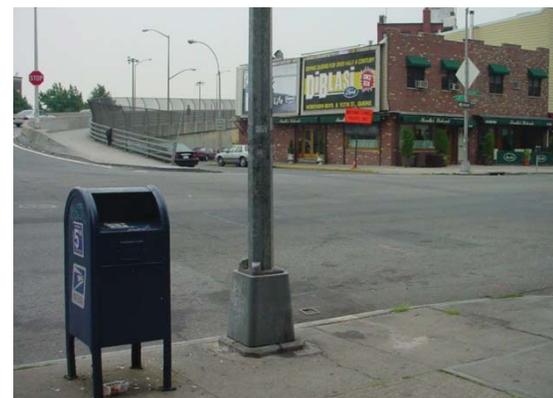


Segment 1: Pulaski Bridge to Queensboro Bridge

Length:	1.9 miles
Neighborhoods:	Hunters Point, Long Island City in Community District 2
Major Destinations:	PS 1, Queens West, major employers
Transportation:	7 train at Jackson Avenue and 51st Avenue; buses through the Queens-Midtown Tunnel to the Pulaski Bridge: X51, X63, X64, and the X68. Q102 bus runs the length of Vernon Boulevard to Roosevelt Island and from 36th Avenue to 41st Street
Typical Roadbed Width:	Jackson Avenue: 60 feet, Vernon Boulevard: 45 feet
On-Street Treatment:	Distinctive greenway signs, shared parking/bicycling lanes
Major Waterfront Uses:	Residential: Queens West Commercial: Former Fink Baking Corp., Anheuser Busch Distribution, Pepsi Co., Water's Edge restaurant, River East, Con Edison training facility Industrial: NY Power Authority temporary plant Parks: Gantry Plaza State Park
Existing Waterfront Access:	Gantry Plaza State Park between 48th and 50th avenues, 44th Drive Pier
Potential Waterfront Access:	2nd Street to 46th Avenue after completion of Queens West North of the 44th Drive Pier, including River East, South of Queensboro Bridge (at Silvercup West)
Waterfront Access Unlikely:	Con Edison



Pulaski Bridge path at Jackson Avenue



Vernon Boulevard at 51st Avenue, looking north



Vernon Boulevard at 50th Avenue, looking north

Existing

On-Street

Spanning the Newtown Creek, the Pulaski Bridge provides access to the study area and the Queens-Midtown Tunnel, the Long Island Expressway (LIE), and commercial streets and local truck routes. The bridge's shared-use path is an important entrance into Queens for Brooklyn residents who bicycle

or walk to the 7 train to commute to Midtown Manhattan. To the west of the bridge-exit Jackson Avenue connects to Vernon Boulevard. Jackson Avenue is 60 feet wide, with two 11-foot travel lanes in both eastbound and westbound directions. It is a local truck and bus route and provides access to the Queensboro Bridge, Queens Plaza, and the Queens-Midtown Tunnel. As a result it carries moderate to heavy vehicular traffic at most hours. There is parking on both sides of the Street between the Pulaski Bridge and Vernon Boulevard during



Access to the Water's Edge Restaurant on 44th Drive



Vernon Boulevard at ConEd training facility



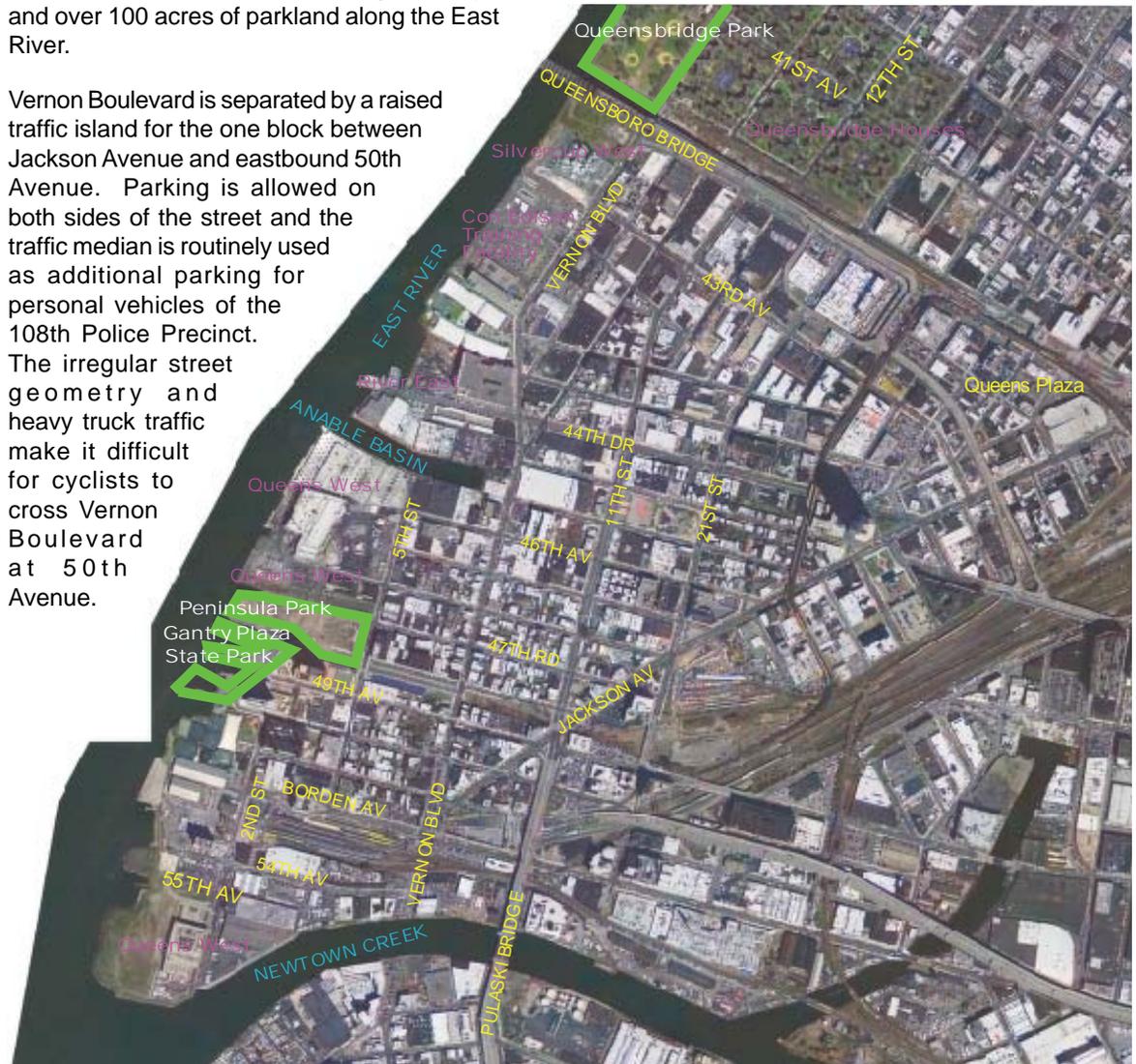
Vernon Boulevard along ConEd training facility

non-peak hours. (For more information about the tunnels and bridges in the study area, see Appendix 2).

Vernon Boulevard carries north-south traffic parallel to the East River. It is a bus and local truck route, and provides access to several large employers and over 100 acres of parkland along the East River.

Vernon Boulevard is separated by a raised traffic island for the one block between Jackson Avenue and eastbound 50th Avenue. Parking is allowed on both sides of the street and the traffic median is routinely used as additional parking for personal vehicles of the 108th Police Precinct. The irregular street geometry and heavy truck traffic make it difficult for cyclists to cross Vernon Boulevard at 50th Avenue.

Between 50th Avenue and 45th Road, Vernon Boulevard is two blocks from the shoreline. Apartments with ground-floor retail stores line Vernon Boulevard, and there are intermittent residential uses on many of the side streets of Hunters Point and Long Island City. The street is 45



Segment 1: Pulaski Bridge to Queensboro Bridge

feet wide, with one northbound and one southbound travel lane. Double parking is prevalent in this southern section of Vernon Boulevard, but does not occur as regularly north of 45th Road.

At 44th Drive, Vernon Boulevard parallels the waterfront one block from the shoreline. Larger industrial uses with active driveways occupy the east side of the street. The parking regulations in this area are standard street cleaning, opposite side postings. The street continues under the Queensboro Bridge, with connections at Queens Plaza to the bicycle and pedestrian paths on the bridge.

Waterfront

Starting in the south along the north side of Newtown Creek are several industrial facilities, such as a distribution facility by Anheuser Busch, and the former Fink Baking Corporation. There is presently no easy access to Newtown Creek in this area. A DCP study is currently looking at possible access points, and street end improvements have been designed for the area immediately under the Pulaski Bridge. Queens West is located slightly to the west and bordered by the Newton Creek, the East River and Anable Basin. It is a planned nine million square-foot development project, with 6.4 million square-feet of residences and 2.6 million square-feet of commercial and retail space. Two residential towers of the 19 planned commercial and residential buildings have been built.

The Queens West project includes the construction of a new street system which extends the grid of the adjacent neighborhood, and adds a central north-south boulevard. While any street on the grid may be used to reach the river, Queens West has designated Borden Avenue, 50th Avenue, 48th Avenue, and 46th Road as the main points of ingress and egress at the site. These gateway streets will be landscaped to tie the new neighborhood to the existing one. In addition, the City has received funds from the NYS Environmental Protection Fund (EPF) to improve Borden Avenue, the only pedestrian connection between the LIRR Long Island City Station and the Queens West ferry terminal.

The north side of Anable Basin is occupied by industrial and manufacturing businesses that extend to the water line. Immediately north, surrounded by commercial uses, is the Water's Edge restaurant, located prominently on the East River adjoining a pedestrian pier that allows great views of the river and the Manhattan skyline. The restaurant and pier are only accessible by water or via 44th Drive. Warehouse buildings are located on the north and south sides of 44th Drive. Loading and unloading



Gantry Plaza State Park



Queens West



North side of Anable Cove



Public Pier at the Water's Edge Restaurant



Pier at Water's Edge Restaurant, looking south



Bulkhead north of Water's Edge Restaurant

causes congestion and there are no sidewalks for pedestrians wishing to walk to the public pier.

The city-owned property immediately north of the restaurant is vacant, used as a parking lot and stabilized by bulkhead, which is in poor condition and needs repair. The bulkhead leads to the River East, where its members may enjoy a waterfront terrace and garden. The site is zoned for residential use and its redevelopment as a mixed-use residential and commercial complex is scheduled to begin in 2005. Just north of the club is the Con Edison Skills Testing and Development/Overhead Line Construction Training Center. The site is occupied by a large building and an accessory parking lot, but there is a strip of unused land between the facility and the water's edge, containing a closed-off waterfront path.

Continuing north, Silvercup Studios owns the site immediately north of 43rd Avenue, where the New York Power Authority plant and the Terra Cotta Building sit. The recently-built 79 megawatt temporary power-generating plant operated by NYPA will be dismantled and removed by the end of 2006 to make way for the Silvercup West project. On the adjacent property, and just south of the Queensboro Bridge, a designated landmark, is the Terra Cotta Building, another designated city landmark dating from 1892. The Silvercup West development will renovate the Terra Cotta Building as part of its studio/office/entertainment/residential project to be built in 2007.

Proposed

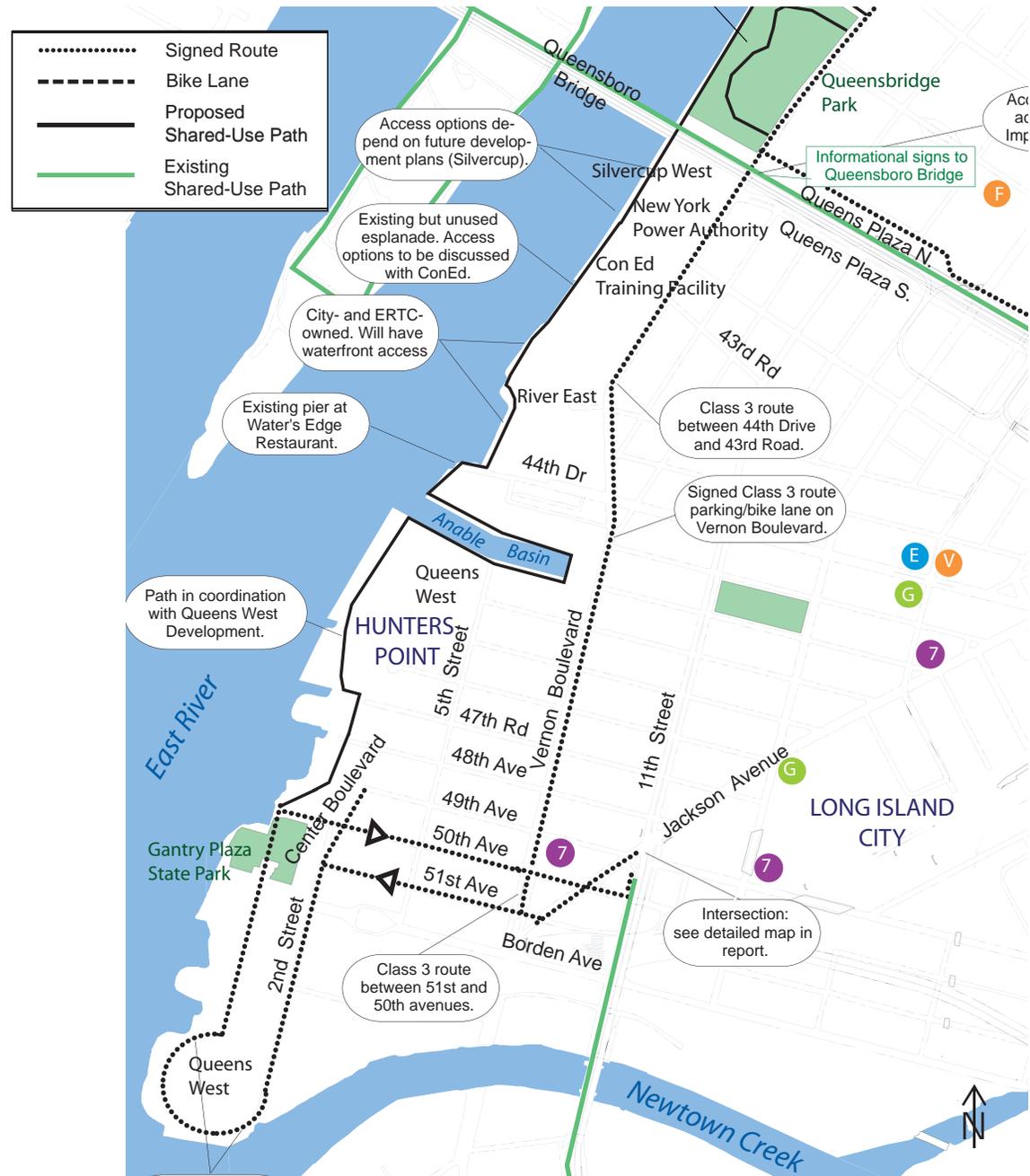
On-Street Route and Design

The route begins at the Pulaski Bridge then travels southwest for two blocks on Jackson Avenue, a short but critical connection between the bridge and Vernon Boulevard. At Vernon Boulevard the route continues parallel to the East River.

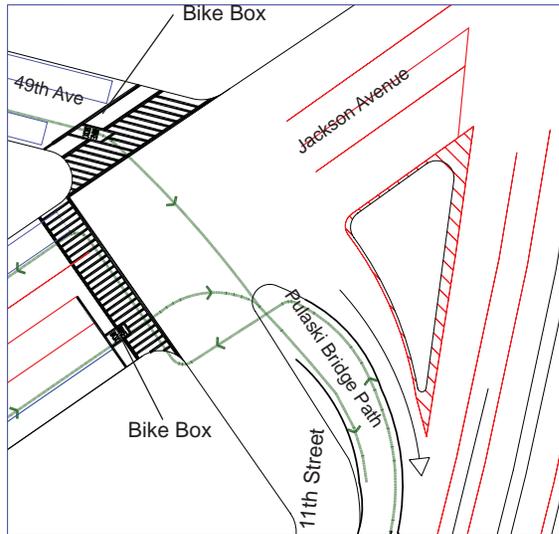
Pulaski Bridge/Jackson Avenue

The shared-use path on the west side of the Pulaski Bridge ends at the intersection of the bridge, Jackson Avenue, and 11th Street, where four streets with substantial traffic intersect at an unusual angle. The intersection is difficult to navigate and the accident analysis for 1998-2000 shows a cluster of 44 reportable accidents at this intersection, involving one pedestrian and four bicycles (see Appendix 3). The intersection was recently redesigned, but is still in need of improvement. For this reason, the intersection has been identified for study within DCP's Long Island City Links Project, and a consultant team will inspect the current conditions more closely and provide recommendations for improvement. In the meantime, the following ways are recommended for greenway users to navigate through this portion of the route:

The recent signalization of Jackson Avenue and 49th Avenue has improved the means of crossing these two streets. Cyclists and pedestrians traveling west from the bridge should dismount, cross 11th Street and Jackson Avenue using the crosswalks, then cautiously merge into traffic on the Class 3 Jackson Avenue route (see map at right). Informational signage at the end of the bridge path should be installed to direct greenway users properly. A local BID or civic group may be the appropriate entity to install such signs.



Segment 1: Proposed Route



Navigation of the Pulaski Bridge Access/Exit

As an alternative to dismounting and merging with vehicular traffic, cyclists may turn left on 11th Street to reach either the subway station on that street or a controlled intersection at 11th Street and 50th Avenue, which is two-way at this location. Bike parking should be made available at the subway stop. The southeast corner of the intersection of Jackson and 50th Avenues has a sidewalk of approximately 14 feet that wraps around the rounded building corner. Bike racks could be installed perpendicular to the wall, sheltered by the back wall of the subway entrance.

Eastbound cyclists traveling to the Pulaski Bridge should use 49th Avenue or 50th and Jackson Avenues. The installation of a bike box is recommended at both 49th and Jackson Avenues to increase visibility and allow cyclists to enter the intersection before the turning traffic (see drawing above for routes off the Pulaski Bridge, further analysis of bike box feasibility is necessary).

The route on Jackson Avenue should be signed, since the existing street geometry, vehicular traffic, and double parking on Jackson Avenue leaves

insufficient roadbed width to incorporate bicycle lanes in either direction.

Vernon Boulevard

At its southern end, between 51st Avenue and 50th Avenue, Vernon Boulevard is divided by a 29-foot wide median. The roadbed in each direction is 33 feet wide, with a single wide traffic lane and parking lanes on both sides of the street. The Economic Development Corporation (EDC) has proposed that the road be divided into two 12-foot moving lanes and one nine-foot parking lane. This would preclude a bike lane being implemented.

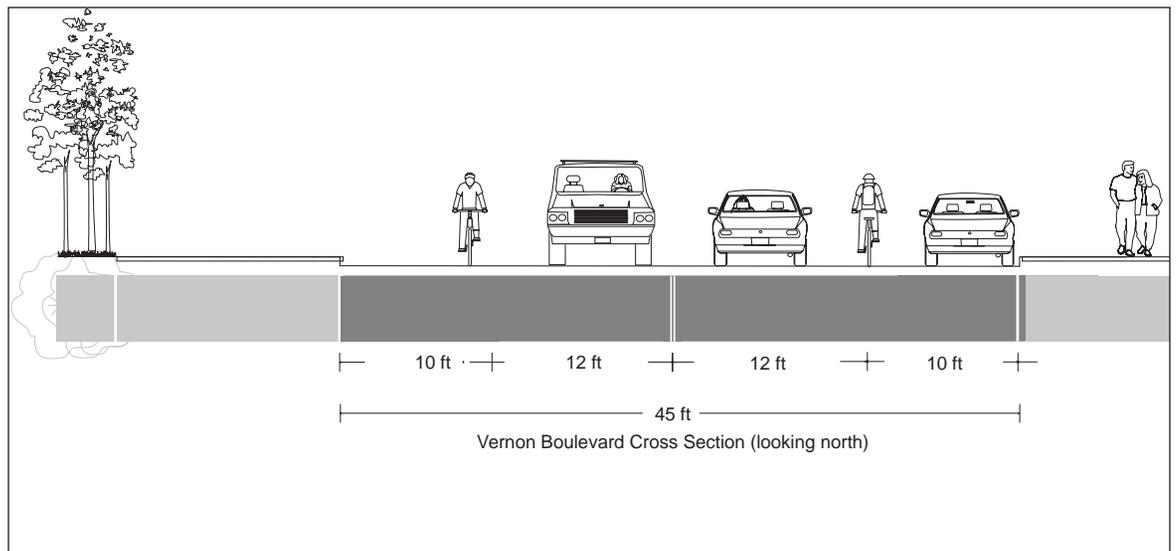
North of 50th Avenue, Vernon Boulevard is 45 feet wide and there is not sufficient room to stripe a bike lane. Vernon Boulevard should be signed a Class 3 route.

Alternative for Vernon Boulevard

Starting at 44th Drive and continuing north there is a 15-foot sidewalk along the west side of Vernon Boulevard. This sidewalk continues along the Con Edison training facility to 43rd Avenue and is roughly

1600 feet long. Due to the space constraints on Vernon Boulevard an alternative for this segment is a shared-use sidewalk. An eight- to ten-foot shared-use path could be accommodated easily on the existing sidewalk. Current conditions in this section are suitable for this kind of facility as the on-street conditions do not permit sufficient room for a bike facility, and as there are no cross streets and only three driveways (two for Con Edison training and one at the tennis club) intersecting the sidewalk. The existing pedestrian volumes are light. In the future, however, pedestrian volumes may increase or more obstructions may be added, making a shared-use sidewalk more difficult and unlikely to be implemented.

Shared-use sidewalks would be set up much like greenways, with pedestrians and cyclists divided by a marked (either a painted or raised) barrier and all users separated from the street. They face several legal issues, chief among them whose jurisdiction they would lie under. Please refer to Appendix 4 for a more detailed discussion of shared-use sidewalks and criteria for implementation, as well as a description of the shared-use sidewalk proposal for Vernon Boulevard along Segments 1 and 2.



The intersections of 44th Drive and 43rd Road are signalized and crosswalks are striped. Northbound greenway users would dismount and cross the boulevard with the pedestrian light to reach the shared-use sidewalk or return to the on-street route. Eventually, the shared-use sidewalk along the west side of Vernon Boulevard could be extended north along the temporary power plant and the Terra Cotta Building. This additional stretch of approximately 700 feet would provide a seamless connection to Queensbridge Park. EDC has a project underway at Vernon Boulevard and 43rd Avenue, but it should not affect the greenway.

Shared use sidewalks are for the purposes of this document, only suggested as a possible alternative to the recommended Class 3 route along Vernon Boulevard. It is not the preferred alternative for the NYC Department of Transportation. NYC DOT proposes that bicycle facilities take advantage of the streets, parks or other public access areas; and that sidewalks be reserved for pedestrians and hence, will not be considered a viable solution to the space constraints along Vernon Boulevard. As such, riders heading south to Queens West could use one-way 5th Street (via 46th Avenue) as an alternative to Vernon Boulevard.

Waterfront Route

Private industrial uses at the water's edge constrain the building of a continuous waterfront route at this time.

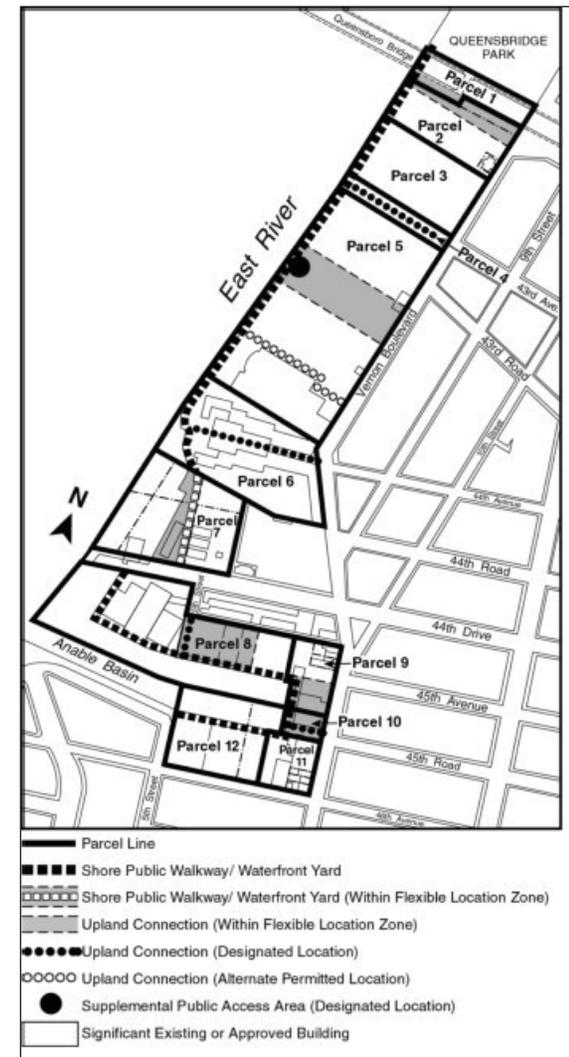
Newtown Creek North (Pulaski Bridge to 2nd Street)

Light industrial uses line the water on the north side of Newtown Creek between the Pulaski Bridge and 2nd Street. The route from the bridge to the waterfront is impeded by the vehicular entrance to the Queens-Midtown Tunnel, and it does not seem desirable to provide an esplanade in this industrial neighborhood at this time.

As part of City Planning's Newtown Creek Access Study, the area immediately underneath the Pulaski Bridge will be improved as a public recreation area, with basketball courts and waterfront access. This area can be reached either by stairs leading down from the bridge or via Borden Avenue. Signs should be installed at the bridge and on Borden Avenue.

2nd Street to Anable Basin

Beginning at 2nd Street, a good opportunity for improved waterfront access arises with the Queens West mixed-use development, where an esplanade along the waterfront between 2nd Street and Anable Basin is planned. 2nd Street and the new Center Boulevard would serve as the major north-south spine within the site. The waterfront esplanade to be built offers a unique opportunity to access the waterfront along this 1.2 mile stretch. Although cycling would be allowed on the esplanade, fast moving bikes and heavier bicycle traffic would be directed to use a Class 3 route on Center Boulevard or 2nd Street between Queens West and 50th Avenue, while pedestrians, skaters and others would use the waterfront esplanade.



Waterfront Access Plan
Source: *New York City Zoning Resolution: Article 6, Chapter 2 62-851 (DCP)*

Queens West is slightly west of the proposed on-street route on Vernon Boulevard. While any Street of the grid may be used to reach the river, Queens West has designated Borden Avenue, 50th Avenue, and 48th Avenue as landscaped gateway streets to tie the new neighborhood to the existing one.

Anable Basin to the Water's Edge Restaurant (44th Drive)

Anable Basin is similar to the north side of Newtown Creek. Manufacturing uses are immediately adjacent to the Anable Basin waterfront and there is no extra space for a promenade. The restaurant, at this time quite isolated, is only accessible via Vernon Boulevard and 44th Drive. The major property owner around Anable Basin has some plans for a future residential community, including a possible marina within the basin.

Water's Edge Restaurant (44th Drive) to Queensboro Bridge

From the 44th Drive pier, the route would continue on the Water's Edge Restaurant's terrace, which directly overlooks the river. After the terrace, the route could continue along the existing bulkhead, which needs to be renovated. The waterfront path will then continue along the River East. In 1991 the River East property was rezoned for residential use with commercial overlays. Redevelopment of the site is anticipated to begin by early 2007, with two 28-story condominium towers and attached low-rise units, adding up to 910 residential units to the site. As part of the redevelopment there will be a public esplanade accessible from 44th Avenue, which is currently a paper street.

After the River East site is a Con Edison training facility, which has an existing but unused waterfront esplanade. Waterfront access at the Con Edison training facility will require further research and negotiations due to the company's security concerns.

Regardless of whether there is public access at the Con Edison training facility, there will be a new esplanade at the Silvercup West site, which encompasses the New York Power Authority site and the Terra Cotta building. Silvercup West has developed plans for a mixed-use development that includes a waterfront esplanade.

Summary of Recommendations

- Sign Class 3 route from Pulaski Bridge to Vernon Boulevard.
- Sign Vernon Boulevard, north of 51st Avenue.
- Further explore the potential for a shared-use sidewalk along the west side of Vernon Boulevard between 44th Drive and 43rd Road.
- Connect the waterfront route with the planned Queens West esplanade at 50th and 51st Avenues.
- Install directional signs to Queens West and Gantry Plaza State Park to promote on- and off-street connections along the route. (Signs of this type would potentially be installed by a BID or other similar local group.)
- Repair the bulkhead north of Water's Edge restaurant to continue waterfront path and clarify maintenance.

Segment 2: Queensboro Bridge to Hallets Cove

Length:	1.5 miles
Neighborhoods:	Long Island City, Astoria, Ravenswood in Community Districts 1 and 2
Major Destinations:	Queensbridge Park, Rainey Park, Socrates Sculpture Garden, Noguchi Museum
Transportation:	The Q102 bus runs the length of Vernon Boulevard to Roosevelt Island and from 36th Avenue to 41st Street. The Q103 runs from 41st Street to 51st Street and 40th Street to 27th Street. The Q104 runs from 34th Avenue to Broadway
Typical Roadbed Width:	Vernon Boulevard: 45 feet
On-Street Treatment:	Distinctive greenway signs, bicycle lanes, shared parking/bicycling lanes
Major Waterfront Uses:	Residential: Wharf conversions at Hallets Cove Commercial: Costco wholesale Industrial: Keyspan power plant and distribution facilities Parks: Queensbridge Park, Rainey Park and Socrates Sculpture Park
Existing Waterfront Access:	Queensbridge Park (bulkhead in disrepair), Rainey Park, Costco esplanade, Socrates Sculpture Park, Vernon Boulevard at Hallets Cove
Potential Waterfront Access:	Keyspan property north of Roosevelt Island Bridge and adjacent properties
Waterfront Access Unlikely:	Keyspan power-generating plant (active waterfront), Hallets Cove wharfs

Existing

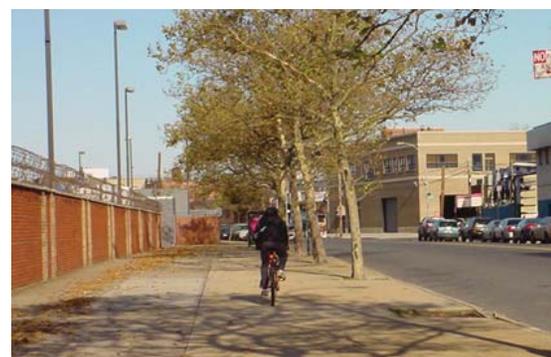
carrying two-way traffic, with a typical width of 45 feet and one travel lane in each direction. There are intermittent traffic controls on local cross streets, but few crosswalks traverse Vernon Boulevard. At the Queensboro Bridge, Vernon Boulevard abuts Queensbridge Park on the west side and Queensbridge Houses on the east side. Built in 1939, Queensbridge Houses has over 3,000 units in 26 six-story buildings. Farther north and inland are

On-Street

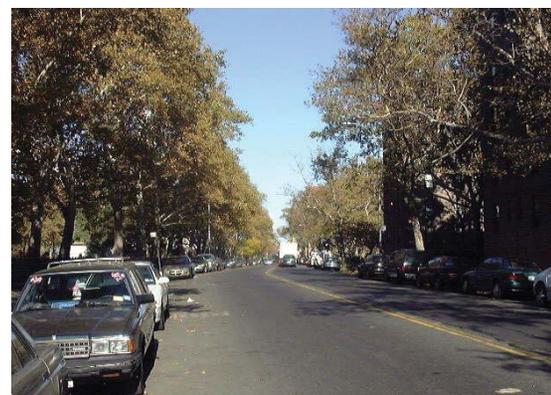
Vernon Boulevard is the main street parallel road to the riverfront area and is generally located one block from the shoreline. From the Queensboro Bridge to its terminus at Hallets Cove it is a tree-lined street



Sidewalk along Vernon Boulevard and Keyspan



Cyclists currently use wide sidewalk on Vernon Boulevard along Keyspan facility



Vernon Boulevard at Queensbridge Houses looking north



Vernon Boulevard near 33rd Avenue/Costco



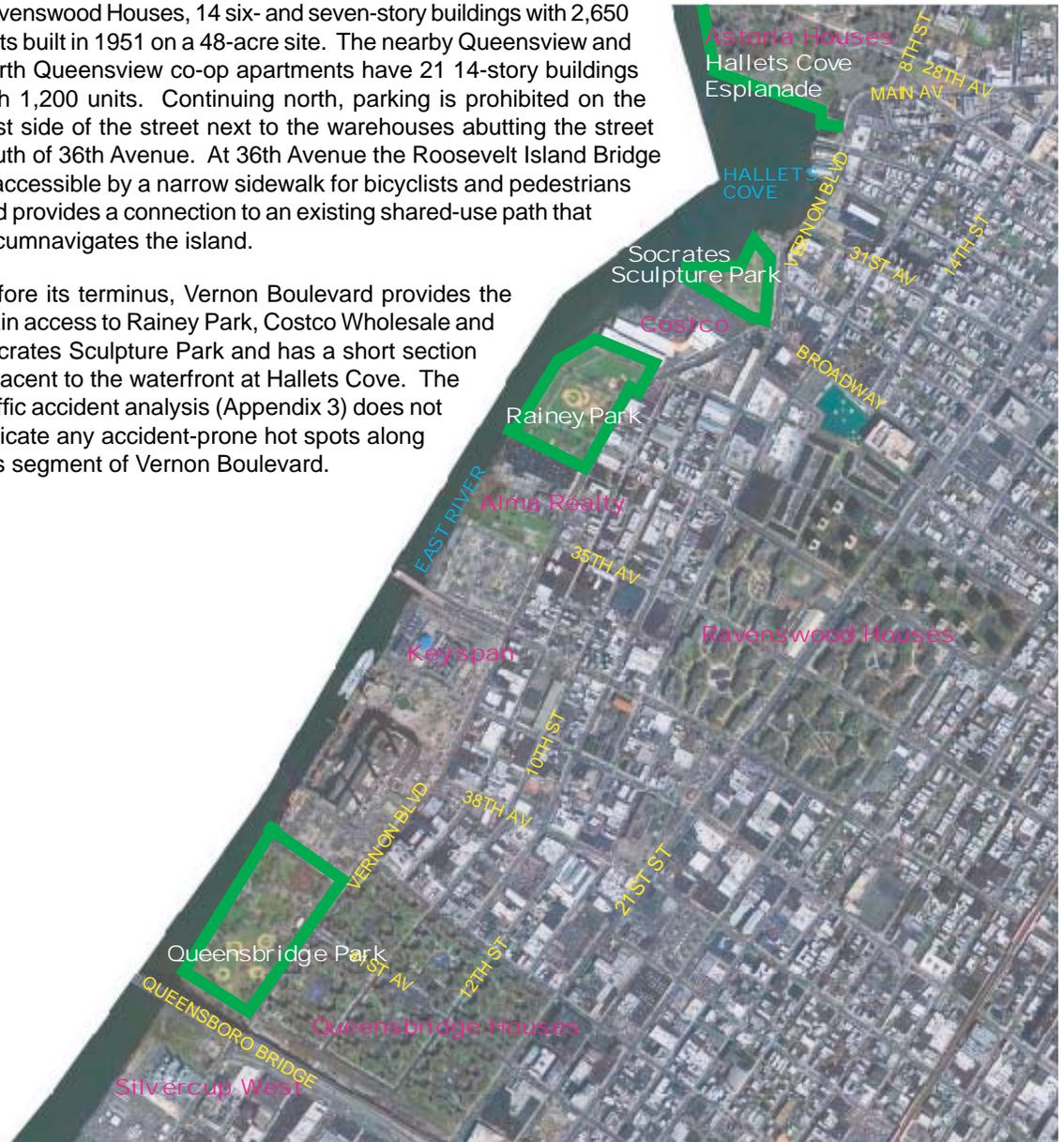
Vernon Boulevard near 38th Avenue



Vernon Boulevard at Halletts Cove

Ravenswood Houses, 14 six- and seven-story buildings with 2,650 units built in 1951 on a 48-acre site. The nearby Queensview and North Queensview co-op apartments have 21 14-story buildings with 1,200 units. Continuing north, parking is prohibited on the east side of the street next to the warehouses abutting the street south of 36th Avenue. At 36th Avenue the Roosevelt Island Bridge is accessible by a narrow sidewalk for bicyclists and pedestrians and provides a connection to an existing shared-use path that circumnavigates the island.

Before its terminus, Vernon Boulevard provides the main access to Rainey Park, Costco Wholesale and Socrates Sculpture Park and has a short section adjacent to the waterfront at Halletts Cove. The traffic accident analysis (Appendix 3) does not indicate any accident-prone hot spots along this segment of Vernon Boulevard.



Segment 2: Queensboro Bridge to Halletts Cove

Waterfront

At the south end of the segment, between Vernon Boulevard and the waterfront, is Queensbridge Park, the second largest park in the district at almost 20 acres. The park offers baseball, shared-use fields, a playground, picnic areas, and a new comfort station. Public access to the park's 30-foot waterfront esplanade is currently prohibited due to failing seawall conditions, with one portion collapsed completely. Parks & Recreation plans to remove the existing seawall to create a soft-edge waterfront to improve habitat and water quality.

Keyspan's Ravenswood 1,000 mega-watt power-generating plant occupies the waterfront from Queensbridge Park to the Roosevelt Island Bridge. Barges dock along the active waterfront to load and unload. North of the Roosevelt Island Bridge is another Keyspan property, a transformer station. There is vacant land between the station and the waterfront, but it narrows to about three feet at several points.

North of the transformer station are three residentially-zoned waterfront parcels that contain non-conforming utility and industrial uses. A rezoning request has been filed to permit an increase in residential density to allow for two 19-story buildings.

Rainey Park, immediately adjacent to these parcels, is another local park with immediate waterfront access. Built in 1912, it has a softball field, a basketball court, and a comfort station. The park also features a lawn that slopes down to the water. The main paved path in Rainey Park connects to the Costco public esplanade, which is not as wide as a standard shared-use path. The path was constructed and is maintained by Costco as per the city's waterfront zoning requirements. Parts of the esplanade had fallen into the East River due to problems with the bulkhead, but Costco has plans to reconstruct the esplanade in the spring.

The Costco esplanade merges into a sidewalk on the north side of the property and leads pedestrians along a parking lot to Vernon Boulevard. Socrates Sculpture Park is immediately adjacent to Costco, but the two properties are separated by fences and there is no access to the park on the waterfront side. Socrates Sculpture Park, opened in 1986, is the only public space devoted to large-scale outdoor sculpture and artist work areas. A small path with pavers loops around the park and connects to two access gates at Vernon Boulevard. Parks has acquired 1.01 acres of land north of the park to add to Socrates Sculpture Park in the future.

North of the park, Vernon Boulevard runs immediately along the waterfront, with only the sidewalk separating the Street and the water. Immediately south of Halletts Cove are two privately-owned scrap yards and several boathouses and wharfs at the water's edge. The existing esplanade at Astoria Houses begins just north of the wharfs.



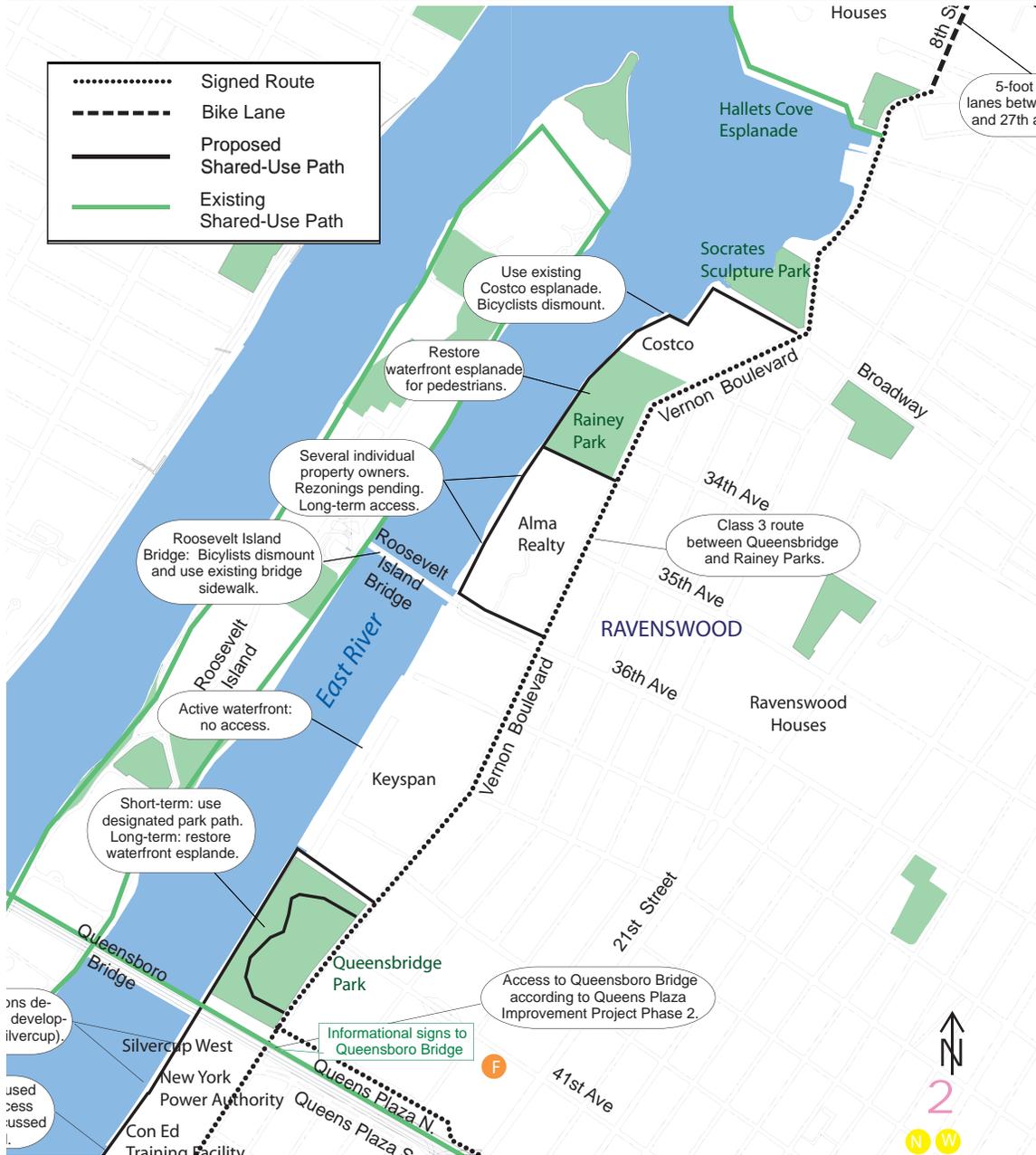
View from Queensboro Bridge, looking north:
Queensbridge Park and Keyspan Ravenswood



Queensbridge Park



Queensbridge Park, looking north



Proposed

On-Street Route and Design

The route would continue on Vernon Boulevard from the Queensboro Bridge to its terminus at Halletts Cove. Two options are recommended:

(1) As in the previous segment, Vernon Boulevard would be signed, Class 3 route. Directional signs to the Queensboro Bridge shared-use path in Queens Plaza should be installed on Vernon Boulevard. The connection will most likely be along Queens Plaza North, where shared-use paths are proposed to approach the bridge. Destination signs highlighting park and waterfront access should also be installed.

(2) A shared-use sidewalk as described in Segment 1 could be built for the stretch between the northern edge of Queensbridge Park and the southern edge of Rainey Park along the Keyspan generating plant and the Con Edison Ravenswood substation north of the Roosevelt Island Bridge. Cyclists and pedestrians would be allowed in Queensbridge and Rainey parks. The west side of Vernon Boulevard is a minimum of 15 feet-wide. The first 350 feet of existing sidewalk north of the park are 15 feet wide. For the next 650 feet the sidewalk widens to 25 feet, and then returns to 15 feet for the remaining 1000 feet to the Roosevelt Island Bridge. The sidewalk has a five-foot curbside amenity strip with tree plantings and Street lights.

As mentioned in the previous segment, NYC Department of Transportation proposes that bicycle facilities take advantage of the streets, parks or other public access areas; and that sidewalks be reserved for pedestrians.

Segment 2:
Proposed Route

Waterfront Route

The opportunities for a continuous waterfront esplanade offered by the numerous city parks on the East River are counterbalanced by major constraints in the form of several power-generating plants with active waterfront uses.

Queensbridge Park

Queensbridge Park is a major destination within the study corridor. A new synthetic soccer field, volleyball courts, and a picnic area are currently under construction. A 30-foot esplanade formerly extended along the entire 1450 linear feet of the park that parallel the waterfront. Currently, the esplanade is fenced off from the rest of the park. The bulkhead is in unsound condition and parts of the esplanade have fallen into the water. Parks is redesigning the shoreline to have an ecologically-sustainable soft edge and will build a path, potentially designed to shared-use specifications.

The park currently slopes slightly down to the waterfront and the esplanade lies hidden from view at Street level. This is a potential safety concern, but the area is well-lit. The main park path wraps around the perimeter of the park and offers access to the park at several points.

In the short term, the main path could serve as the greenway connection. This upland path at Street level is well-lit, making visibility relatively high. The path is 12 feet wide and suitable for shared use by pedestrians and wheeled users. The cracks in the path indicate an eventual need for repaving, but the surface condition is not of concern should the greenway ultimately be rerouted onto the repaired existing esplanade.

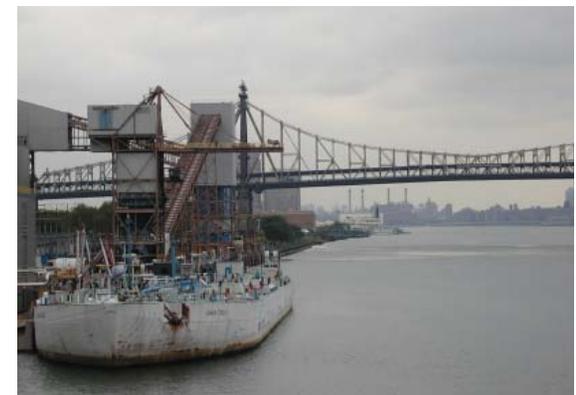
Unless explicitly allowed, bicycling is not permitted on park paths. The Parks & Recreation borough commissioners, however, do have the authority to designate paths for use by wheeled users (bicyclists,



Designated paths in Queensbridge Park



Keyspan facility from Roosevelt Island Bridge



Keyspan active waterfront



Water's edge north of Roosevelt Island Bridge



Existing western path at Rainey Park



View from Rainey Park towards Costco



Costco Esplanade

in-line skaters). Park paths recommended in this study for greenway use have been approved by the current Queens Borough Commissioner. A new playground is also planned for the park.

Keyspan Ravenswood (between Queensbridge Park and Roosevelt Island Bridge)

The Ravenswood power-generating facility is a major impediment to the realization of a waterfront route. With its industrial use, strict security regulations, and – most importantly – active waterfront, public access to the property along the waterfront is unlikely, and therefore the greenway would be limited to the on-Street route. The existing 12-foot path at the north end of Queensbridge Park would lead to Vernon Boulevard where greenway users would continue on a shared-use sidewalk or the on-Street bike route.

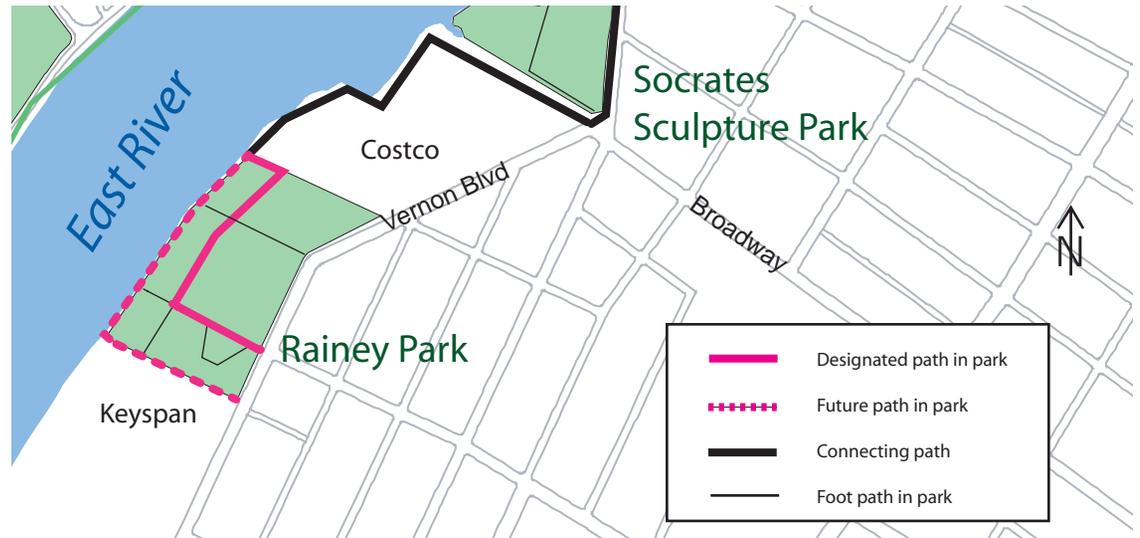
Roosevelt Island Bridge to Rainey Park

At the Roosevelt Island Bridge, the waterfront route would return to the East River. 36th Avenue runs underneath the bridge ramp and dead-ends at the

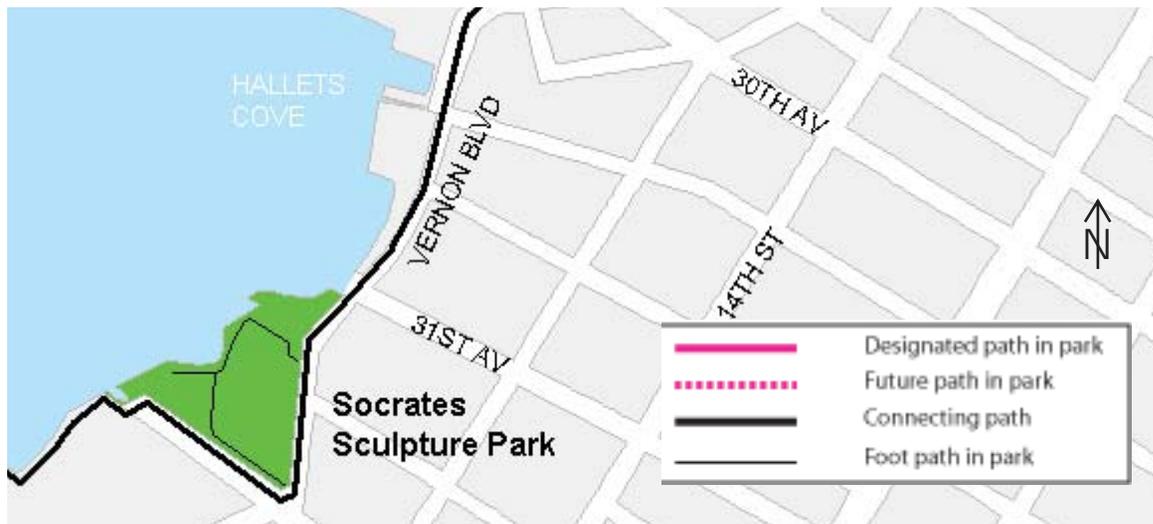
shore. The bridge provides pedestrian and bicycle access to Roosevelt Island on a narrow sidewalk, which requires bicyclists to dismount. Directional signage should be installed to direct greenway users to the existing Roosevelt Island esplanade.

The next property to the north, a Keyspan transformer station, does not make active use of the waterfront. There is a strip of land of varying width between the transformer station and the water's edge, which could be used to connect the waterfront route. Further research needs to be conducted to assess its feasibility.

The three parcels immediately north of the transformer site are slated for development of two 19-story residential buildings consistent with waterfront zoning regulations. Parks & Recreation has been working with the developer to ensure that the required waterfront esplanade will connect to future segments of the greenway. A large two-story industrial building, owned by Modell's, occupies the lot to the north of the development site. Waterfront access along this site will have to be negotiated with the corporation.



Designated paths in Rainey Park



Designated paths by Socrates Sculpture Park



Socrates Sculpture Park

Rainey Park to Halletts Cove (at Vernon Boulevard)

Rainey Park's waterfront esplanade has always been a grassy path, but as the bulkhead is in good condition, construction to current standards would be relatively easy. Parks & Recreation plans to improve the path and designate it for shared use. Due to changes in terrain the waterfront is at a much lower grade than the rest of the park, limiting visibility from the street. Stairs connect these first and second tiers, making access from the main walking path above more difficult. Lighting may have to be upgraded to insure safe and secure conditions for the lower waterfront level.

Two entrances to the park provide at-grade access

from Vernon Boulevard. The path at 34th Avenue is 12 feet wide and leads from the sidewalk to the 12-foot main path, which runs on the upland western edge of the park, parallel to the closed waterfront esplanade. The short-term plan allows greenway users to use this existing path. In the long term, Parks & Recreation plans to create a new path along the southern edge of the park; this path would connect to the restored waterfront esplanade. The restored waterfront esplanade would be for pedestrians while cyclists would be allowed to use the park's existing western path.

Both the existing western path and the restored waterfront esplanade connect to the north to the public waterfront esplanade along Costco, where a narrow gate separates the two properties. Bicyclists must dismount to pass. The bulkhead is in bad condition and parts of the Costco esplanade have



Path alongside Costco between Rainey Park and Socrates Sculpture Park

become unstable, but reconstruction is planned to begin in 2006. At six feet, the Costco esplanade is too narrow to meet standards for a shared path and difficult for bicyclists to navigate because of its winding curves. Parks & Recreation and DCP are working with Costco to widen the esplanade and the southern entrance to the esplanade.

The greenway continues along the waterfront until Socrates Sculpture Park, where the shore path is blocked by a 50-foot wide bay. Greenway users should be directed to walk their bikes on the sidewalk adjacent to the northern edge of Costco's parking lot to return to Vernon Boulevard once the sidewalk ends. Those wishing to access Socrates Sculpture Park can do so from Vernon Boulevard. As a future possibility, Parks & Recreation will investigate creating a midblock connection between the Costco sidewalk and the park. This would have

to be negotiated with Costco as they own the land between the sidewalk and the park.

Access to Costco and Socrates Sculpture Park is limited. Costco's esplanade is open from dawn until dusk; the park is open from 10 a.m. to sunset. When these two sites are closed, greenway users would connect to the on-Street route at Rainey Park and Vernon Boulevard. Pedestrians would use the existing sidewalk; bicyclists would continue on-Street.

At Halletts Cove, Vernon Boulevard abuts the waterfront and, at this point, the separate routes would merge. Pedestrians would use the existing sidewalk on the west side of Vernon Boulevard and bicyclists would continue on the Class 3 route to connect to the existing esplanade at Astoria Houses.

Summary of Recommendations

- Sign Vernon Boulevard a Class 3 route.
- Reconstruct the waterfront esplanade in Queensbridge Park as part of the edge reconstruction project
- In the interim, use the main 12-foot park path as the greenway connection.
- Reconstruct the waterfront esplanade in Rainey Park.
- Replace bike rack in Socrates Sculpture Park.
- Widen the Costco esplanade.