Connecting Communities:

A Vision for the Harlem River Bridges
Connecting Communities: A Vision for the Harlem River Bridges was prepared by the NYC Department of Transportation’s Office of Bicycle and Pedestrian Programs with the support of AECOM. We thank the many residents of New York City who participated in our planning process, as well as Council Member Mark Levine and former Assembly Member Keith Wright for providing outreach assistance. Funding provided through OneNYC.
A Note from Commissioner Trottenberg

To our fellow New Yorkers,

In 2015, after years of rehabilitation, the NYC Parks Department reopened the High Bridge, New York City’s oldest bridge, a gorgeous structure from 1848 that flies high over the Harlem River connecting Washington Heights in Manhattan to Highbridge in the Bronx.

The bridge didn’t simply provide passage over what was for years a literal chasm between two vibrant communities and boroughs, its gorgeous views and easy access made it a destination, immediately popular to thousands of pedestrians and cyclists. The bridge also connected neighborhoods with some of New York City’s highest rates of asthma, diabetes and childhood obesity – and brought residents outdoors, in many cases to rediscover cycling and walking – healthy exercise that is affordable, sustainable and fun.

For us at the Department of Transportation, the High Bridge illustrated the enormous demand for walkable and bikeable crossings over the Harlem River – but it also underscored just how much work we have to do. That bridge also served as something of an inspiration for this new report, Connecting Communities: A Vision for the Harlem River Bridges, which captures our commitment to expanding access over the Harlem River. Crossing the Harlem River by foot or bike can often right now be charitably called an unwelcoming experience, and we seek to change that by making changes that would bring more cyclists and pedestrians onto these -- or even new - crossings, tying together neighborhoods on both sides of the Harlem River.

The thirteen spans over the Harlem River certainly present some challenges, which this report recounts in some expert detail. However, our experience with the four iconic East River crossings tell us that the changes we propose here are definitely achievable. In fact, over the last twenty years, since DOT first began its dramatic expansion of safer bike access to the Brooklyn, Manhattan, Williamsburg and Queensboro bridges, we have seen enormous growth, with total bicycle ridership on those bridges alone climbing from 3,000 to over 20,000 trips per day. I am confident that the DOT traffic planners, engineers and construction crews who have transformed those crossings can work that same magic on the bridges over the Harlem River.

Updating these bridges is also an imperative. While New York City marked its fourth consecutive year of fatality declines in 2017 under Mayor de Blasio’s Vision Zero plan, cyclist fatalities tragically rose for the second straight year. Part of Connecting Communities is dedicating DOT to a multi-year vision that makes traveling by foot or bike from the Bronx to Manhattan (and vice versa) an attractive transportation option – but our foremost priority is that crossing those bridges must continue to be safe for all.

Thank you – and happy riding and strolling,

Polly Trottenberg
Commissioner

Executive Summary

Beginning in the spring of 2015, the New York City Department of Transportation’s (DOT) Office of Bicycle and Pedestrian Programs led a community-driven planning process to increase pedestrian and bicycle mobility between the Bronx and Manhattan across the Harlem River, and the 13 spans that connect Manhattan and the Bronx. The vision for Connecting Communities is to knit together vibrant communities on both sides of the river, improve safety, and provide additional options for people to access the different jobs, schools, parks, and transit options separated by the Harlem River.

In addition to improving vehicular traffic flow and traffic safety for pedestrians, the goal of Connecting Communities is to identify a feasible new bicycle crossing roughly every 1 mile, so that no detour would require more than a 10-minute ride on a bicycle. When bicycle lanes were successfully installed on the East River bridges in the late 1990s and early 2000s, DOT achieved this detour goal, and in the years since, bicycle traffic between Brooklyn and Manhattan has ballooned nearly seven-fold. In general, most of the recommendations include creation of new, cantilevered space as the preferred method to accommodate cyclists. With growing demand for cycling, further study is recommended to consider new, exclusive bicycle and pedestrian crossings.

DOT proposes to create a safe and continuous inter-borough experience for New Yorkers who walk and bike. In multiple efforts – from workshops and surveys to mobile outreach -- DOT compiled community preferences for short and long-term transportation improvements that incorporate bridge paths, approaches, wayfinding, and lighting. The result of this outreach, Connecting Communities: A Vision for the Harlem River Bridges, includes descriptions of community preferences for capital projects on bridges as well as on-street approaches that will enhance safety and pedestrian and bicycle mobility between Manhattan and the Bronx. It will be used as a framework from which to consider new capital projects as well as to develop short-term implementation projects going forward.

The projects described in the following pages consist of 3 types:

**Bridge Path Potential Project**

Proposals to enhance safety and pedestrian and bicycle access across the Harlem River on DOT-owned Bridges.

**On-Street Potential Project**

Short and potential long-term proposals to create safe, comfortable pedestrian and bicycle routes to bridge approaches on DOT right-of-way in both Manhattan and the Bronx.

**Partnership Opportunity**

Proposed enhancements to a bridge or connector project that requires participation by another agency or property owner.

Feasible new bridge projects could reduce distance between bicycle crossings from 3+ miles to roughly every 1 mile
Harlem River Bridges Overview

<table>
<thead>
<tr>
<th>Bridges</th>
<th>Year Built</th>
<th>Special Features</th>
<th>Walkers</th>
<th>Bikers</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadway Bridge</td>
<td>1837; rebuilt 2015</td>
<td>Exclusive pedestrian &amp; bicycle facility</td>
<td>not available</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>University Heights Bridge</td>
<td>1908; swing span replaced in 1992</td>
<td>Swing bridge with pedestrian access on south side</td>
<td>1,209</td>
<td>335</td>
<td>1,042 NB 1,358 WB</td>
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<tr>
<td>Washington Bridge</td>
<td>1889</td>
<td>Two hinged arch, ramp connections to George Washington Bridge/195</td>
<td>517***</td>
<td>352***</td>
<td>2,138 EB 1,599 WB</td>
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<tr>
<td>High Bridge (NYC Parks)</td>
<td>1837; rebuilt 2015</td>
<td>Exclusive pedestrian &amp; bicycle facility</td>
<td>not available</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Macombs Dam Bridge</td>
<td>1895</td>
<td>Swing bridge; ramp connections diverge on Manhattan sides</td>
<td>1,181</td>
<td>636</td>
<td>1,116 EB 1,400 WB</td>
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<tr>
<td>145th St Bridge</td>
<td>1957; swing span replaced 2007</td>
<td>Local street; swing bridge</td>
<td>2,388</td>
<td>350</td>
<td>1,261 EB 1,118 WB</td>
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<tr>
<td>Madison Ave Bridge</td>
<td>1910</td>
<td>Swing bridge</td>
<td>1,479</td>
<td>288</td>
<td>1,561 EB 1,605 WB</td>
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<tr>
<td>Third Ave Bridge</td>
<td>1898; replaced 2016</td>
<td>Swing bridge; ramp connections to E 128th St</td>
<td>793</td>
<td>215</td>
<td>3,308 WB</td>
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<tr>
<td>Willis Ave Bridge</td>
<td>1901; rebuilt 2010</td>
<td>Dedicated shared pedestrian &amp; bicycle path installed in 2010</td>
<td>527</td>
<td>996</td>
<td>3,535 EB</td>
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<tr>
<td>Wards Island Bridge</td>
<td>1951; rebuilt in 2012</td>
<td>Exclusive pedestrian &amp; bicycle facility</td>
<td>1,479</td>
<td>288</td>
<td>0</td>
</tr>
</tbody>
</table>

*Data collected by hand one weekday with good weather in Summer 2015
**Data represents average of midweek Tues-Thurs peak hour counts collected by automated collectors over one week period in fall, 2015
***Data collected summer 2016; counts unavailable at this location for 2015
1. BROADWAY BRIDGE
- Broadway Bridge Enhancements
  - Install on-street, buffered bicycle lanes as part of planned bridge replacement.
- Bronx: W 225 St and Bailey Ave Approach
  - Install traffic calming, wayfinding, and on-street bicycle markings from bridge to Van Cortlandt Park.
- Manhattan: 10 Ave and Broadway Approach
  - Install intersection improvements, wayfinding, and on-street bicycle markings on Broadway and 10 Ave from bridge to Van Cortlandt Park.
- Bronx: Van Cortlandt Park Greenway Link
  - Explore traffic calming, enhanced pedestrian connections, and bicycle infrastructure connecting Macombs Palisades Greenway to Broadway and Van Cortlandt Park.

2. UNIVERSITY HEIGHTS BRIDGE
- 207 St/University Heights Bridge
  - Install pedestrian, trails, and transit improvements on W 207 St between bridge and Post Rd, add bicycle and expanded pedestrian facility using cantilevered space.
- Bronx: W Fordham Rd Approach
  - Shorten crossing distances at bridge approach. Install bicycle connection continuing to north side of bridge.
- Manhattan: 9 Ave Approach
  - Explore bicycle route connection between Grand Concourse and Bronx: W Fordham Rd Approach.
- Bronx: Van Cortlandt Park Greenway Link
  - Install protected two-way bicycle path on north side of bridge, cantilevered space preferred. Explore replacing south stairs with at-grade pedestrian crossing on north side.
- Bronx: Edward L. Grant Highway
  - Create pedestrian and bicycle gateway to bridge as part of planned NYSDOT capital project. Upgrade existing bicycle route on 11 L Court Hwy to protected path from W 167 St to Arnot Ave.
- Manhattan: Amsterdam Ave Approach
  - Shorten crossing distances at bridge approach. Install two-way bicycle path on west side of street from W 180 St to bridge.
- Bronx: Tremont Ave
  - Extend the bicycle route on Tremont Ave and Sedgwick Ave to connect to Roberto Clemente State Park. Note: A portion of this route was installed in 2016 as a result of this planning process.
- Manhattan: Hudson River Greenway Route Enhancement
  - Explore enhancement of westbound connection between Bridge and Greenway entrance.

3. WASHINGTON BRIDGE
- Washington Bridge Bicycle Path
  - Install protected two-way bicycle path on north side of bridge, cantilevered space preferred. Explore replacing south stairs with at-grade pedestrian crossing on north side.
- Bronx: High Bridge Connections
  - Install pedestrian crossing and protected path from waterfront Bridge Park to Van Cortlandt Park.
- Manhattan: High Bridge Connections
  - Upgrade existing bicycle route to off-street path where feasible from Hudson River Greenway to High Bridge.
- Bronx: 170 St Extension
  - Explore possible eastward extension of existing bicycle route on 170 St in The Bronx as part of Vision Zero traffic calming.

4. HIGH BRIDGE
- Bronx: High Bridge Connections
  - Install pedestrian crossing and protected path from waterfront Bridge Park on Depauw Pt to upland neighborhood, High Bridge, and existing bicycle network. Install sidewalk on Undercliff Ave.
- Manhattan: High Bridge Connections
  - Upgrade existing bicycle route to off-street path where feasible from Hudson River Greenway to High Bridge.
- Bronx: 170 St Extension
  - Explore possible eastward extension of existing bicycle route on 170 St in The Bronx as part of Vision Zero traffic calming.

5. MACOMBS DAM BRIDGE
- Macombs Dam Bridge Bike and Pedestrian Enhancements
  - Enhance on-street cycling with markings, signage, and signal changes where feasible. Install cantilevered shared-use path on north side of bridge.
- Bronx: Yankee Stadium-Grand Concourse Connector
  - Install on-street bicycle lanes on E 161 St between Macombs Dam Bridge/ Yankee Stadium/Heritage Field and Grand Concourse.
- Manhattan: Harlem River Park Connection
  - Install signalized pedestrian crossing at E 155 St and ACP Blvd that install safety improvements and on-street bicycle markings on ACP Blvd from bridge to W 150 St.
- NYSDOT: Mill Pond Park Connection
  - Work with NYSDOT and NYC Parks to improve connection to Mill Pond Park from Macombs Dam Bridge, as outlined in the Harlem River Brownfields Opportunity Area plan (2015).
Executive Summary

Project Summary, Southern Section

6. 145 ST BRIDGE
145 ST Bridge Path Enhancements
Move crossing gates to create shared-use path on both sides.

Bronx: E 149 St Vision Zero Enhancements
Install traffic calming and pedestrian enhancements at key intersections along E 149 St, a Vision Zero Priority Lumber future capital project: remove pedestrian fencing, add curb extensions and bicycle facilities connecting bridge to bicycle network, and explore 4 to 3 lanes conversion.

Manhattan: Harlem River Greenway Link
Create pedestrian and bicycle gateway to Manhattan Waterfront Greenway at W 143 St entrance with on-street bicycle markings from bridge to greenway. Explore off-street shared use path through Colonel Charles Young Playground and future cycling connections to the existing bike network from planned connection across 145 St Bridge. Options include short one way pair on W 143 St and W 142 St.

Bronx: East-West Bicycle Route to Hub
Create short term alternate route on E 149 St to connect 145 St Bridge to the Hub.

7. MADISON AVE BRIDGE
Madison Ave Bridge Enhancements
Install pedestrian and bicycle gate on south side of bridge by re-purposing excess on street space on Madison Ave approach. Allow shared use pedestrian and bicycle access on the bridge span, or convert to capital reconstruction.

Bronx: E 138 St Bicycle Lane Extension
Capitalize project to reduce pedestrian crossing distances, calm traffic, and install bicycle connection between existing bicycle route on E 138 St to Madison Avenue Bridge by reconfiguring median.

Manhattan: Madison Ave Bridge Network Link
Explore installation of bicycle infrastructure connecting to proposed Madison Ave Bicycle path as part of 135 St Vision Zero traffic calming plan.

NYSDOT: 5 Ave Greenway Connector
Work with NYSDOT and MTA Parks to re-purpose unused ramp space to provide additional pedestrian and bicycle access to Harlem River Greenway.

8. THIRD AVE BRIDGE
Third Ave Bridge Bicycle and Pedestrian Improvements
Open crossing to provide Willis Ave Bridge pedestrian and bicycle access route with wayfinding signage. Improve pedestrian access to the Bronx with ADA ramp. Explore all grade crossing from bridge to Harlem River Park. Explore bicycle connection to future Manhattan Waterfront Greenway segment.

9. WILLIS AVE BRIDGE, RANDALL’S ISLAND CONNECTOR
Bronx: Willis Ave Approach
Shrink crossing distance at bridge approach. Upgrade existing bicycle route to two-way protected bicycle path from bridge to E 140 St.

Bronx: Bruckner Blvd
Install protected two way path on E 132 St and Willis Ave from Randall’s Island Connector to existing bicycle network at E 138 St. Future extension along Bruckner Blvd to Longwood Ave.

Bronx: Willis Ave-Randall’s Island Connector
Upgrade existing bicycle route to protected two way path on E 135 St from Randall’s Island Connector to existing bicycle network at St. Ann’s Ave. Future extension to Willis Ave Bridge.

Manhattan: Willis Ave Bridge Access Routes and Intersection Improvements
Improve Willis Ave Bridge access with on-street bicycle markings on 1 Ave and E 124 St from bridge path to 2 Ave.

Manhattan: Crosstown Network Links
Explore crosstown bicycle connection between Manhattan River Greenway entrance at W 129 St and Willis Ave Bridge. Possible routes include one-way pair along portions of 124 St and 125 St.

10. WARDS ISLAND BRIDGE
Manhattan: E 111 St
Create pedestrian and bicycle gateway to Manhattan Waterfront Greenway at E 111 St entrance.

Manhattan: Wards Island Bridge Access Improvements
Install street and sidewalk pedestrian and bicycle gateway to Manhattan Waterfront Greenway and Wards Island Bridge.

Manhattan: Crosstown Central Park Links
Explore crosstown bicycle connection to Greenway entrance at E 111 St, connecting to Wards Island Bridge and Randall’s Island. Possible routes include one way pair on E 110 and E 111 St and Cathedral Parkway.

NYC Parks: Central Road
Work with NYC Parks to install on-street bicycle markings and build off-street shared use path connecting the Bronx, Queens, and Manhattan access points.
Overview

Beginning in the spring of 2015, the New York City Department of Transportation’s Office of Bicycle and Pedestrian Programs (NYC DOT) has led a community-driven planning process to increase pedestrian and bicycle mobility between the Bronx and Manhattan across the Harlem River. Through workshops, surveys, and mobile outreach, NYC DOT compiled community preferences for short- and long-term transportation improvements incorporating bridge paths, approaches, wayfinding, and lighting that create a safe and continuous cross-borough experience for pedestrians and cyclists. The result of this outreach, the Connecting Communities: A Vision for the Harlem River Bridges, includes descriptions of community preferences of capital projects for bridges and their on-street approaches that will enhance safety and pedestrian and bicycle mobility between Manhattan and the Bronx. It will be used as a framework from which to consider new capital projects as well as to develop short-term implementation projects going forward.

General Recommendations

Vision Zero Action Plan

Safety is at the core of NYC DOT’s mission. Connecting Communities includes 18 projects that propose safety engineering improvements on Bronx and Manhattan Priority Corridors, Intersections and Areas identified by the Vision Zero Borough Action Plans.

More Frequent Harlem River Bicycle Crossings

Community response was overwhelmingly in favor of creating new cycling facilities to cross between Manhattan and the Bronx. This plan recommends prioritizing projects that will allow for bicycle crossings roughly every one mile along each shoreline. In general and where feasible, projects that create new, cantilevered space are preferred over those that repurpose space within existing bridge structures.

Lighting

NYC DOT is currently retrofitting all of New York City’s street lights with energy-efficient LEDs. The new lighting will save approximately $6 million in energy and $6 million in maintenance each year. This plan recommends that sufficient lighting be installed on Harlem River bridges and their approaches to allow for safe and accessible crossing.

WalkNYC Wayfinding

WalkNYC is New York City’s standard for pedestrian wayfinding. WalkNYC signs are recommended to be installed at crucial decision points at Harlem River bridge approaches to provide wayfinding information to pedestrians and bicycles.

Leveraging Prior Investments

Many of the recommendations in Connecting Communities will build on the successes of recently-completed and ongoing NYC DOT street improvement projects. These in-house improvements typically utilize temporary materials, allowing for changes to be tested before being made permanent. In order to extend their useful life, the Plan recommends leveraging these investments by building them out as capital projects using permanent materials.

Future Study of New Structures

New bridge structures were not considered as part of this project but are recommended for future study.

Planning Goals

Achieve Vision Zero

Improve safety and reduce traffic crashes through outreach, education, and new street designs throughout the five boroughs.

Enhance Mobility Across the Harlem River

Provide safe options for commuting and recreation with improved connections between Bronx and Manhattan, as part of OneNYC’s commitment to improve bike access on bridges.

Create a Continuous Cross-Borough Experience

Pursue short and long term improvements to bridge access and crossings by installing temporary materials while seeking funding for full capital build-outs.

Increase Waterfront Access

Create safe new transportation and recreation options that connect waterfront neighborhoods to the rest of the city.

Engaging Communities

Workshops, surveys, and mobile outreach have been a part of the Connecting Communities outreach process to determine community preferences for short and long term improvements. NYC DOT held three rounds of community planning workshops in the Bronx and upper Manhattan in order to identify destinations, discuss alternative routes and designs, and select priority projects on and around the Harlem River bridges. In addition, over 200 pedestrians and cyclists using the bridges were surveyed throughout the summer and fall of 2015.

Intercept surveys conducted:

- June 10, 2015 - University Heights Bridge
- July 15, 2015 - Third Ave Bridge, RFK Bridge, Willis Ave Bridge
- July 21, 2015 - Broadway Bridge, University Heights Bridge, Washington Bridge
- August 25, 2015 - 145th St Bridge, Madison Ave Bridge, Macombs Dam Bridge
- October 3, 2015 - Broadway Bridge
Broadway Bridge
The first bridge at this approximate site was built in 1693 and was known as the “Kings Bridge,” as everyone except soldiers and other representatives of the king had to pay tolls to use it. The construction of the alternative “Free Bridge” by merchants and farmers in 1758 was considered a significant revolutionary act. Both the Kings and Free Bridges had draws to admit small craft. The Broadway Bridge was the first bridge at this approximate site. It opened in 1888, 43 years before the better known George Washington Bridge that connects to New Jersey.

Washington Bridge
The Washington Bridge carries six lanes of traffic, and has direct ramps to both I-95 and the Major Deegan Expressway. This bridge was named after George Washington, and opened in 1888, 43 years before the better known George Washington Bridge that connects to New Jersey.

Macombs Dam Bridge
Opened in 1895, this landmark is the oldest extant swing-type bridge in its original form in New York City. Furthermore, it is the City’s third-oldest major bridge. The mainline structure is a through-truss swing span. It was designated an official New York City landmark in January 1992. This bridge carries two lanes of traffic in each direction. The roadway (curb to curb) width on the swing span is about 40 feet. The pedestrian sidewalk width varies from 6 feet to 9.5 feet.

NYC DOT Bridge History

Workshops held:
- June 15, 2015 - Taino Towers (MN)
- June 16, 2015 - Hostos Community College (BX)
- June 22, 2015 - Wilson Major Morris Community Center (MN)
- June 23, 2015 - Lehman College (BX)
- September 10, 2015 - Mullaly Recreational Center (BX)
- September 17, 2015 - Wilson Major Morris Community Center (MN)
- September 21, 2015 - Davidson Community Center (BX)
- March 22, 2016 - Rio II Gallery (MN)
- March 23, 2016 - Hostos Community College (BX)
- March 29, 2016 - Bronx Lebanon Hospital (BX)
- March 30, 2016 - Church of the Good Shepherd (MN)
145th Street Bridge
The 145th Street Bridge is a swing bridge with three through-trusses. It is an eight-span structure carrying four lanes of vehicular traffic over the Harlem River Drive, the Harlem River, and Metro-North Railroad. Spans 1 and 2 were constructed in 1957 when the bridge was extended to span the Harlem River Drive. Spans 6, 7 and 8 were reconstructed in 1990 in place of the original Bronx flanking span to provide a right-of-way for the Oak Point Link. The bridge carries four 12-foot lanes, two in each direction, plus a 9-foot sidewalk on each side of the bridge.

Madison Avenue Bridge
Madison Avenue is a local street, located between Fifth and Park Avenues on the east side of Manhattan. The road extends from 23rd Street in Manhattan to East 138th Street in the Bronx. The Madison Avenue Bridge is a four-lane, four-span swing bridge, carrying traffic between Madison and Fifth Avenues and East 138th Street in Manhattan and East 138th Street and Grand Concourse in the Bronx. The bridge is located approximately 2100 feet south of the 145th Street Bridge and about 2450 feet north of the Third Avenue Bridge. The bridge has two roadways, each 27 feet wide, as well as two 9-foot sidewalks.

Third Avenue Bridge
Third Avenue is a local City street, running north from the Bowery and Fourth Street in the Bronx. The bridge is a four-lane, four-span swing bridge, carrying traffic between Madison and Fifth Avenues and East 138th Street in Manhattan and East 138th Street and Grand Concourse in the Bronx. The bridge is located approximately 2100 feet south of the 145th Street Bridge and about 2450 feet north of the Third Avenue Bridge. The bridge has two roadways, each 27 feet wide, as well as two 9-foot sidewalks.

Willis Ave Bridge
The Willis Avenue Bridge extends from First Avenue and East 124th Street in Manhattan to Willis Avenue and East 134th Street in the Bronx. Oriented north-south, the bridge is a northbound route and works in concert with the nearby Third Avenue Bridge, which carries southbound traffic. The bridge crosses the Harlem River Drive, a concrete plant, the Harlem River, the Metro-North Railroad Oak Point Link, the Harlem River Rail Yard, and Bruckner Boulevard. Over 70,000 drivers use the bridge each day.

The Willis Ave Bridge was reconstructed in 2010 as part of the Harlem River Bridges Program. The new bridge has wider lanes as well as dedicated bicycle and pedestrian space.

On July 12, 2010 the new swing span was loaded onto barges and began a 135 nautical mile journey to NY Harbor passing underneath 14 bridges. On July 26, the bridge traveled on barges to its permanent location along the East River. The bridge is 350 feet long and weighs 2,400 tons.

Wards Island Bridge
The first known bridge to Wards Island (formerly Great Barn Island) was built in 1807 with the money of two private citizens, Philip Milledolar and Bartholomew Ward, to aid their cotton business on the small island. This wooden drawbridge, connecting East 114th Street in Manhattan to the northwest corner of the island, lasted until 1821, when a storm destroyed all but the stone piers. The current pedestrian bridge was built in 1951. It was designed to accommodate visitors to Wards Island’s park, stadium, psychiatric hospitals, and athletic facilities.

The Wards Island Bridge underwent a $1.5 million rehabilitation, completed in early 2012. DOT upgraded the bridge deck, replaced the electrical system, and improved lighting and security.
Project Types

Connecting Communities: A Vision for the Harlem River Bridges includes three types of projects.

**Bridge Path Potential Projects**

Bridge capital projects are proposals to enhance safety and pedestrian and bicycle access across the Harlem River on DOT Bridges.

**On-Street Potential Projects**

Bridge connector projects include both short- and long-term proposals to create safe, comfortable pedestrian and bicycle routes to bridge approaches on NYC DOT right-of-way.

**Partnership Opportunity**

Agency partnership projects are proposed enhancements to a bridge or connector project that requires participation by another agency or property owner.

Note:

All project proposals require additional feasibility study including traffic analysis, as well as Community Board review.
1. Broadway Bridge

Existing Conditions

The Broadway Bridge crosses the northernmost section of the Harlem River, connecting Inwood to Marble Hill, Spuyten Duyvil, and Kingsbridge as well as providing a link between the Manhattan Waterfront Greenway, Fort Tryon Park, and Inwood Hill Park in Manhattan and Van Cortlandt Park in the Bronx. The Broadway Bridge permits pedestrian access on both sides of the street. Bicycles are permitted to ride with traffic but have no existing dedicated facility. Southbound bicycles coming from Marble Hill can use a shared-lane facility on W 225 St adjacent to the Marble Hill train station.

Bicycle, Pedestrian, and Vehicle Counts

Bicycle and pedestrian counts were conducted on the Broadway Bridge from 7am-7pm on a weekday in August, 2015.

2,978 499

Vehicular counts were conducted on the continuously for one week in September, 2015. Data represents the average midweek counts Tuesday - Thursday.

AM Peak Hour (7AM): 774 NB / 1437 SB
PM Peak Hour (5PM): 1395 NB / 1180 SB

Potential Improvements

1A Broadway Bridge Enhancements
Install on-street, buffered bicycle lanes as part of planned bridge replacement.

1B W 225 St / Bailey Ave
Install traffic calming, wayfinding, and on-street bicycle markings from bridge to Van Cortlandt Park.

1C 10 Ave / Broadway
Install intersection improvements, wayfinding, and on-street bicycle markings on Broadway and 10th Ave from bridge to existing bicycle network; parking-protected bike lanes preferred if feasible.

1D Van Cortlandt Park Greenway Connector
Explore traffic calming, enhanced pedestrian connections, and bicycle infrastructure connecting Mosholu-Pelham Greenway to Broadway and Van Cortlandt Park.

1 Henry Hudson Bridge Access Improvements
Work with MTA to build out sidewalk and accommodate bicycles on bridge. Install crossing and wayfinding at Henry Hudson Bridge entrance.
2. University Heights Bridge

Existing Conditions
Pedestrian access across the historic University Heights Bridge is along a path on the south side of the bridge. Bicyclists must dismount to use the path. Pedestrians approaching the bridge on both sides face long crossings and turning conflicts.

Bicycle, Pedestrian & Vehicle Counts
Counts were conducted on the University Heights Bridge from 7am-7pm on a weekday in August, 2015.

1,209 335

Vehicular counts were conducted on the continuously for one week in September, 2015. Data represents the average midweek counts Tuesday - Thursday.

AM Peak Hour (7AM): 1358 WB / 803 EB
PM Peak Hour (5PM): 1193 WB / 1042 EB

Potential Improvements

2A 207 St/University Heights Bridge
Install pedestrian, traffic, and transit improvements on W 207 St between the bridge and Post Rd. Long-term: add bicycle facility.

2B W Fordham Rd, University Heights Bridge Approach
Shorten crossing distances at bridge approach. Install bicycle connection continuing to north side of bridge.

2C 9 Ave Bridge Access Enhancements
Improve pedestrian, vehicular, and transit access to University Heights Bridge from 9 Ave. Explore future bicycle connections as part of bridge improvements.

2D University Heights Bicycle Route Connection
Explore bicycle route connection between Grand Concourse and University Heights Bridge.

2E Sedgwick Ave
Create north-south bicycle route connection between University Heights Bridge and Roberto Clemente State Park.

Legend
- Bridge Path
- On-Street Potential Project
- Protected Bicycle Path with Access Point
- Existing Bicycle Facility
- Dirt Path or Trail
- Pedestrian, Traffic, and Transit Improvements on W 207 St between the bridge and Post Rd.
3. Washington Bridge

**Existing Conditions**

The Washington Bridge has pedestrian access on both sides of the bridge; however, this access can be difficult to get to. On the south side of the bridge, pedestrian access from Manhattan is accommodated via an underpass with stairs to avoid the on-ramp connecting from I-95. On the north side, access to the bridge is from Laurel Hill Terrace, which is not obvious. More wayfinding and lighting is needed at this location. No bicycle facilities exist on this bridge.

**Bicycle, Pedestrian, & Vehicle Counts**

Counts were conducted on the Washington Bridge from 7am-7pm on a weekday in August, 2016.

- Pedestrian: 517
- Bicycle: 352

Vehicular counts were conducted on the continuously for one week in November, 2015. Data represents the average midweek counts Tuesday - Thursday.

- AM Peak Hour (7AM): 955 WB / 2028 EB
- PM Peak Hour (5PM): 1222 WB / 2174 EB

**Potential Improvements**

- **Washington Bridge Bicycle Path**
  Install protected two-way bicycle path on north side of bridge, cantilevered path preferred as part of full reconstruction. Explore south side -grade pedestrian crossing.

- **Edward L Grant Highway / University Ave**
  Create pedestrian and bicycle gateway to bridge as part of planned NYSDOT capital project. Upgrade existing bicycle route on E L Grant Hwy to protected path from E 167 St to Tremont Ave.

- **Amsterdam Ave-Washington Bridge Approach Improvements**
  Shorten crossing distances at bridge approach. Install two way bicycle path on west side of street from W 180 St to bridge.

- **Tremont Ave**
  Extend the bicycle route on Tremont Ave and Sedgwick Ave to connect to Roberto Clemente State Park. Note: A portion of this route was installed in 2016 as a result of this planning process.

- **Hudson River Greenway WB Cycling Route Enhancement**
  Improve access to George Washington Bridge and Hudson River Greenway with marked cycling facilities from Amsterdam Ave.
4. High Bridge

Existing Conditions

The High Bridge is a pedestrian and bicycle bridge that connects the neighborhoods of Washington Heights in Manhattan and Highbridge in the Bronx, and is accessible from both boroughs during the parks' open hours. The High Bridge is owned and operated by NYC Parks, and reopened to the public after decades of closure in 2015.

Potential Improvements

High Bridge Bronx Connections
Install pedestrian crossing and protected path from waterfront Bridge Park on Depot Pl to upland neighborhood, High Bridge, and existing bicycle network. Install sidewalk on Undercliff Ave.

High Bridge Manhattan Connections
Upgrade existing bicycle route to off-street path where feasible from Hudson River Greenway to High Bridge.

170 St Extension
Explore possible eastward extension of existing bicycle route on 170 St in the Bronx as part of Vision Zero traffic calming.
5. Macombs Dam Bridge

Existing Conditions

Macombs Dam Bridge connects to major destinations, including Yankee Stadium. Pedestrians report difficulty with wayfinding and turn conflicts on the bridge. No cycling infrastructure exists on the bridge.

Bicycle, Pedestrian, & Vehicle Counts

Counts were conducted on the Macombs Dam Bridge from 7am-7pm on a weekday in August, 2015

1,181 636

Vehicular counts were conducted on the continuously for one week in September, 2015. Data represents the average midweek counts Tuesday - Thursday.

AM Peak Hour (8AM): 1400 WB / 1058 EB
PM Peak Hour (6PM): 1081 WB / 1116 EB

Potential Improvements

5A. Macombs Dam Bridge Bike and Pedestrian Enhancements
Enhance ramp crossings with markings, signage, and signal changes where feasible. Install off-street shared-use path on north side of bridge by expanding decking.

5B. Yankee Stadium-Grand Concourse Connector
Install on-street bicycle lanes on E 161 St between Macombs Dam Bridge/Yankee Stadium/Heritage Field and Grand Concourse.

5C. Harlem River Park Connection
Install signalized pedestrian crossing at E 155 St and ACP Blvd. Install safety improvements and on-street bicycle markings on ACP Blvd from bridge to W 150 St.

Potential Projects

5A. Macombs Dam Bridge, existing

5B. On-street, curbside bicycle lanes, potential configuration

5C. Painted curb extensions and crosswalk, potential configuration

ii. Ramp to Macombs Dam Bridge from Exterior St, existing

Historic Macombs Dam Bridge

Potential Projects
6. 145 St Bridge

Existing Conditions

The 145 St Bridge is one of only two Harlem River crossings that does not intersect a limited-access highway. This bridge, therefore, presents the best opportunity to provide expanded bicycle and pedestrian access between the Bronx and Manhattan. There are no existing bicycle markings on the bridge. Connections to and from the bridge on both sides lack dedicated bicycle facilities.

Bicycle & Pedestrian Counts

Counts were conducted on the 145 St Bridge from 7am-7pm in August, 2015

2,388  
350

Vehicular counts were conducted on the continuously for one week in September, 2015. Data represents the average midweek counts Tuesday - Thursday.

AM Peak Hour (7AM): 1118 WB / 766 EB
PM Peak Hour (5PM): 754 WB / 1264 EB

Potential Improvements

6A. 145 St Bridge Enhancements
Move crossing gates to cantilevered space to create shared-use path on both sides.

6D. 145 St Bridge-Harlem River Greenway Connections
Explore future cycling connections to the existing bike network from planned connection across 145 St Bridge. Options include short one-way pair on W 143 St and W 142 St.

E 149 St Vision Zero Enhancements
Install traffic calming and pedestrian enhancements at key intersections along E 149 St, a Vision Zero Priority Corridor. Future capital project: remove pedestrian fencing; add curb extensions and bicycle facilities connecting bridge to bicycle network; and explore 4-to-3 lanes conversion.

Harlem River Greenway Connections
Create pedestrian and bicycle gateway to Manhattan Waterfront Greenway at W 143 St entrance with on-street bicycle markings from bridge to greenway. Explore off-street shared use path through Colonel Charles Young Playground.

East-West Bicycle Route to Hub
Create short-term alternate route to E 149 St to connect 145 St Bridge to the Hub.
7. Madison Ave Bridge

Existing Conditions

The Madison Ave Bridge has a relatively wide sidewalk on both sides of the bridge that could potentially accommodate shared use with bicycles; excess capacity on the Madison Ave approach is currently taken up by a wide buffered space.

Bicycle & Pedestrian Counts

Counts were conducted on the Madison Ave from 7am-7pm on a weekday in August, 2015

1,479 pedestrians

288 bicyclists

Vehicular counts were conducted continuously for one week in September, 2015. Data represents the average midweek counts Tuesday - Thursday.

AM Peak Hour (7AM): 1596 WB / 1101 EB
PM Peak Hour (4PM): 1160 WB / 1596 EB

Potential Improvements

7A Madison Ave Bridge Enhancements

Expand pedestrian and bicycle space on south side of bridge by re-purposing excess on-street space on Madison Ave approach and allowing shared-use pedestrian and bicycle access on the bridge span, or expand in capital reconstruction (preferred).

7B E 138 St Bicycle Lane Extension

Capital project to reduce pedestrian crossing distances, calm traffic, and install bicycle connection between existing bicycle route on E 138 St to Madison Ave Bridge by reconfiguring medians.

7C Madison Ave Bridge Bicycle Access (135 St)

Explore installation of bicycle infrastructure connecting to proposed Madison Ave bicycle path as part of 135 St Vision Zero traffic calming plan.

7C 5 Ave to Harlem River Greenway Connector

Work with NYSDOT and NYC Parks to re-purpose unused ramp space to provide additional pedestrian and bicycle access to Harlem River Greenway.
8. Third Ave Bridge

Existing Conditions

The recently reconstructed Third Avenue Bridge is signed as a shared-use bicycle and pedestrian route; however, the narrow width of the path cannot accommodate two-way bicycle traffic as well as a pedestrian at the same point.

Potential Improvements

**Third Ave Bridge Bicycle and Pedestrian Improvements (Vision Zero)**

Direct cyclists to preferred Willis Ave Bridge route with wayfinding signage. Improve pedestrian access to the Bronx with ADA ramp. Explore at-grade crossing from bridge to Harlem River Park. Explore bicycle connection to future Manhattan Waterfront Greenway segment.

**Bicycle & Pedestrian Counts**

Counts conducted from 7am-7pm on a weekday in August, 2015

<table>
<thead>
<tr>
<th></th>
<th>793</th>
<th>215</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicular</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vehicular counts were conducted on the continuously for one week in September, 2015. Data represents the average midweek counts Tuesday - Thursday.

AM Peak Hour (7AM): 1474 SB
PM Peak Hour (5PM): 1159 SB
9. Willis Ave Bridge, Randall’s Island Connector

Existing Conditions

The recently completed Randall’s Island Connector provides new bicycle and improved pedestrian access to Randall’s Island from the Bronx. Improved access to this new facility along Bruckner Blvd and Willow Ave is proposed for 2017. The Willis Ave Bridge was reconstructed in 2010 to include a wide, shared-use pedestrian and bicycle path.

Bicycle & Pedestrian Counts

Counts conducted from 7am-7pm on a weekday in August, 2015

Willis Ave Bridge

<table>
<thead>
<tr>
<th>Bicycle &amp; Pedestrian Counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willis Ave Bridge</td>
</tr>
</tbody>
</table>

Vehicular counts were conducted on the continuously for one week in September, 2015. Data represents the average midweek counts Tuesday - Thursday.

AM Peak Hour (7AM): 3535 NB
PM Peak Hour (7PM): 3209 NB

Potential Improvements

9A. Willis Ave Protected Path

- Shorten crossing distances at bridge approach.
- Upgrade existing bicycle route to two-way protected bicycle path from bridge to E 140 St.

9B. Bruckner Blvd

- Install protected two-way path on E 132 St and Willow Ave from Randall’s Island Connector to existing bicycle network at E 138 St. Future extension along Bruckner Blvd to Longwood Ave.

Willis Ave-Randall’s Island Connector

- Upgrade existing bicycle route to protected two-way path on E 133 St from Randall’s Island Connector to existing bicycle network at St. Ann’s Ave. Future extension to Willis Ave Bridge.

Potential Projects

9A. Willis Ave Bridge Access Routes and Intersection Improvements

- Improve Willis Ave Bridge access with on-street bicycle markings on 1 Ave and E 124 St from bridge path to 2 Ave.

9E. Willis Ave Bridge Access Routes and Intersection Improvements

- Explore crosstown bicycle connection between Hudson River Greenway entrance at W 129 St and Willis Ave Bridge. Possible routes include one-way pair along portions of 124 St and 126 St.

9D. Willis Ave Bridge, Randall’s Island Connector

9C. Willis Ave Bridge, Randall’s Island Connector

Legend

- Bridge Path
- Potential Project
- On-Street Potential Project
- Partnership Opportunity
- Bicycle Path
- Protected Bicycle Path with Access Point
- Existing Bike Facility
- Walk Bike
- Dirt Path or Trail

Willis Ave Bridge, Randall’s Island Connector

Potential Projects
10. Wards Island Bridge

Existing Conditions

The Wards Island Bridge is a heavily used, exclusively pedestrian and bicycle bridge connecting the Manhattan Waterfront Greenway to Randall’s Island Park.

Bicycle & Pedestrian Counts

Counts were conducted on the Wards Island Bridge from 7am-7pm on a weekday in August, 2015

1,479  288

Potential Improvements

10A. Wards Island Bridge Access Improvements

Install street-end improvement with pedestrian and bicycle gateway to Manhattan Waterfront Greenway and the Wards Island Bridge.

110 St and 111 St and Cathedral Parkway

Explore crosstown bicycle connection to Greenway entrance at E 111 St, connecting to Wards Island Bridge and Randall’s Island. Possible routes include one-way pair on E 110 and E 111 St and Cathedral Parkway.

Central Road / Hell Gate Circle

Work with NYC Parks to install on-street bicycle markings and build off-street shared use path connecting The Bronx, Queens, and Manhattan access points.

Wards Island Bridge, existing

Wards Island Bridge Area Projects

Legend

Bridge Path

Potential Project

On-Street Project

Partnership Opportunity

Bicycle Path

Potential Bicycle Path with Access Point

Existing Bike Facility

Walk Bike

Dirt Path or Trail

Perpendicular Parking

Moving Lane

Moving Lane

East Sidewalk

iv. Hell Gate Circle, existing

iv. Hell Gate Circle, proposed

10A. Two-way parking protected path, potential configuration

10B. Street end park, gateway to Greenway, potential configuration
## Overview of Potential Improvements

<table>
<thead>
<tr>
<th>Project</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Henry Hudson Bridge</td>
<td>Improve bicycle access and connectivity to the bridge, including installing crossing wayfinding and accommodating bicycles on the bridge.</td>
</tr>
<tr>
<td>1. Broadway Bridge</td>
<td>Install on-street buffered bicycle lanes and improve pedestrian and bicycle connections.</td>
</tr>
<tr>
<td>2. University Heights</td>
<td>Enhance bicycle access and connectivity, including upgrading existing bicycle routes and installing new connections.</td>
</tr>
<tr>
<td>3. Washington Bridge</td>
<td>Improve bicycle and pedestrian access to the bridge, including creating new connections and upgrading existing infrastructure.</td>
</tr>
<tr>
<td>4. High Bridge</td>
<td>Enhance bicycle and pedestrian access to the bridge, including creating new connections and upgrading existing infrastructure.</td>
</tr>
<tr>
<td>5. Macombs Dam Bridge</td>
<td>Improve bicycle and pedestrian access to the bridge, including creating new connections and upgrading existing infrastructure.</td>
</tr>
</tbody>
</table>

### Project Status Chart

<table>
<thead>
<tr>
<th>ID</th>
<th>Project Lead</th>
<th>Bridge / Project Title</th>
<th>Project Description</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>MTA</td>
<td>HH Bridge Access</td>
<td>Improve bicycle access, accommodate bicycles on bridge, install crossing wayfinding at HH Bridge entrance.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1A</td>
<td>DOT</td>
<td>Broadway Bridge</td>
<td>Install on street, buffered bicycle lanes as part of planned bridge replacement.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1B</td>
<td>DOT</td>
<td>W 225 St &amp; Bailey Ave</td>
<td>Install traffic calming, wayfinding and on street bicycle markings from bridge to Van Cortlandt Park.</td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>1C</td>
<td>DOT</td>
<td>10th Ave &amp; Broadway</td>
<td>Install intersection improvements, wayfinding, on street bicycle markings on Broadway &amp; 10th Ave from bridge to existing bicycle network.</td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>1D</td>
<td>DOT</td>
<td>Van Cortlandt Park Greenway Connector</td>
<td>Explore traffic calming, enhanced pedestrian connections, and bicycle infrastructure connecting Moshulu-Pelham Greenway to Broadway and Van Cortlandt Park.</td>
<td>Ongoing</td>
<td></td>
</tr>
<tr>
<td>2A</td>
<td>DOT</td>
<td>207 St/University Heights Bridge</td>
<td>Install pedestrian, traffic, and transit improvements on W 207 St between bridge and Post Rd.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2B</td>
<td>DOT</td>
<td>West Fordham Rd, University Heights Bridge Approach</td>
<td>Shorten crossing distances at bridge approach, install bicycle connection continuing to north side of bridge.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2C</td>
<td>DOT</td>
<td>9 Ave Bridge Access</td>
<td>Improve pedestrian, vehicular, and transit access to University Heights Bridge from 9th Ave; explore future bicycle connections as part of bridge improvements.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2D</td>
<td>DOT</td>
<td>University Heights Bicycle Route Connection</td>
<td>Explore bicycle route connection between Grand Concourse and University Heights Bridge.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2E</td>
<td>DOT</td>
<td>Sedgwick Ave</td>
<td>Create north-south bicycle route connection between University Heights Bridge and Roberts Clemente State Park.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3A</td>
<td>DOT</td>
<td>Washington Bridge Bicycle Path</td>
<td>Install 2 way bicycle path on north side of bridge as part of full bridge reconstruction. Explore replacing south stairs with at grade pedestrian crossing.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3B</td>
<td>DOT</td>
<td>Edward L Grant Highway</td>
<td>Create pedestrian and bicycle gateway to bridge as part of planned SDOT capital project. Upgrade existing bicycle route on E L Grant Hwy to protected path from E 167 St to Tremont Ave.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3C</td>
<td>DOT</td>
<td>Amsterdam Ave/Washington Bridge Approach Improvements</td>
<td>Shorten crossing distances at bridge approach. Install 2 way bicycle path on west side of street from W 180 St to bridge.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3D</td>
<td>DOT</td>
<td>Tremont Ave</td>
<td>Extend the bicycle route on Tremont Ave &amp; Sedgwick Ave to connect to Roberts Clemente State Park.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3E</td>
<td>DOT</td>
<td>Hudson River Greenway WB Cycling Route Enhancement</td>
<td>Install westbound cycling route to link Washington Bridge to Hudson River Greenway Entrance.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4A</td>
<td>DOT</td>
<td>High Bridge Bronx Connections</td>
<td>Install pedestrian crossing and protected path from Bridge Park on Depot Pl to upland neighborhood. High Bridge and existing bike network. Install sidewalk on Undercliff Ave.</td>
<td>Complete</td>
<td>Completed in 2015</td>
</tr>
<tr>
<td>4B</td>
<td>DOT</td>
<td>High Bridge Manhattan Connections</td>
<td>Upgrade existing bicycle route to off-street path where feasible from Hudson River Greenway to High Bridge.</td>
<td>Complete</td>
<td>Completed in 2015</td>
</tr>
<tr>
<td>4C</td>
<td>DOT</td>
<td>170 St Extension</td>
<td>Explore possible eastward extension of existing bicycle route on 170 St in the Bronx as part of Vision Zero traffic calming.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>5A</td>
<td>DOT</td>
<td>Macombs Dam Bridge Bike/Pad Enhancements</td>
<td>Enhance ramp crossings with markings, signage and signal changes where feasible; install off-street shared use path on north side of bridge through cantilevered expansion.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>5B</td>
<td>DOT</td>
<td>Yankee Stadium-Grand Concourse Connector</td>
<td>Install on street bicycle lanes on E 161 St between Macombs Dam Bridge/Yankee Stadium/Heritage Field and Grand Concourse.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>5C</td>
<td>DOT</td>
<td>Harlem River Park Connection</td>
<td>Install signalized pedestrian crossing at E 155 St and ACP Blvd. Install safety improvements and on street bicycle markings on ACP Blvd from bridge to W 150 St.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>ii</td>
<td>NYS DOT</td>
<td>Mill Pond Park Waterfront Connection</td>
<td>Work with NYS DOT and NYC Parks to improve connection to Mill Pond Park from Macombs Dam Bridge, as outlined in the Harlem River Brownfields Opportunity Area plan (2015).</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### Project Status Chart

#### Overview of Potential Improvements

<table>
<thead>
<tr>
<th>ID</th>
<th>Lead</th>
<th>Project</th>
<th>Bridge / Project Title</th>
<th>Project Description</th>
<th>Design</th>
<th>Construction</th>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>6A DOT Bridges</td>
<td>145th St Bridge Enhancements</td>
<td>145 St Bridge Enhancements (Vision Zero)</td>
<td>Short-Term: Move crossing gates to cantilevered space to create shared-use path on both sides</td>
<td>N/A</td>
<td>N/A</td>
<td>Recommended for CPSD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6B DOT</td>
<td>E 149th St Bridge Enhancements</td>
<td>Install traffic calming and pedestrian enhancements at V2 intersections on E 149th St. Future capital project: Remove pedestrian fencing, add curb extensions and bicycle facilities connecting bridge to bicycle network; explore 4-to-3 conversion.</td>
<td>Ongoing</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6C DOT</td>
<td>Harlem River Greenway Connections</td>
<td>Create pedestrian and bicycle gateway to Manhattan/Waterfront Greenway at W 143rd St entrance with on-street bicycle markings from bridge to greenway; explore off-street shared use path through Colonel Charles Playground.</td>
<td>Ongoing</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6D DOT</td>
<td>East-West Bicycle Route to Hub</td>
<td>Create short-term alternate route to E 149th St to connect 145th St Bridge to the Hub</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6E DOT</td>
<td>145th St Bridge/Harlem River Greenway Connections</td>
<td>Explore future cycling connections to existing bike network from planned connection across 145th St bridge. Options include short one-way pair on W 143rd St and W 142nd St.</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7A DOT Bridges</td>
<td>Madison Ave Bridge Enhancements</td>
<td>Expand pedestrian and bicycle space on south side of bridge by re-purposing excess on-street space on Madison Ave approach; allow shared-use pedestrian and bicycle access on the bridge span</td>
<td>N/A</td>
<td>N/A</td>
<td>Recommended for CPSD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7B DOT</td>
<td>E 138th St Bicycle Lane Extension</td>
<td>Capital project to reduce pedestrian crossing distances, calm traffic, and install bicycle connection between existing bicycle route on 138th St to Madison Ave Bridge by reconfiguring medians</td>
<td>Complete</td>
<td>Completed in 2017</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7C DOT</td>
<td>Madison Ave Bridge Bicycle Access (135th St)</td>
<td>Explore installation of bicycle infrastructure connecting to proposed Madison Ave bicycle path as part of 135th St Vision Zero traffic calming plan</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii NYC Parks / NYSDOT</td>
<td>5th Ave to Harlem River Greenway Connector</td>
<td>Work with NYS DOT and NYC Parks to re-purpose unused ramp space to provide additional pedestrian and bicycle access to Harlem River Greenway</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8A DOT Bridges</td>
<td>Third Ave Bridge Pedestrian/Bicycle Improvements (Vision Zero)</td>
<td>Direct cyclists to preferred Willis Ave Bridge route with wayfinding signage; improve pedestrian access to Bronx with ADA ramp. Explore at-grade crossing from bridge to Harlem River Park. Explore bicycle connection to future Manhattan/Waterfront Greenway segment.</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9A DOT</td>
<td>Willis Ave Pedestrian Path</td>
<td>Shorten crossing distances at bridge approach. Upgrade existing bicycle route to 2-way protected bicycle path from bridge to E 147th St</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9B DOT</td>
<td>Bruckner Blvd</td>
<td>Install protected 2-way path on E 132nd St and Willis Ave from RT Connector to existing bicycle network at E 138th St. Future extension along Bruckner Blvd to Longwood Ave</td>
<td>Complete</td>
<td>2017 (projected)</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9C DOT</td>
<td>Willis Ave -Randall's Island Connector</td>
<td>Upgrade existing bicycle route to protected 2-way path on E 133rd St from RT Connector to existing bicycle network at St. Ann's Ave. Future extension to Willis Ave Bridge</td>
<td>Complete</td>
<td>2017 (projected)</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9D DOT</td>
<td>Willis Ave Access Routes &amp; Intersection Improvements</td>
<td>Improve Willis Ave Bridge access with on-street bicycle markings on 1 Ave and E 124th St from bridge path to 2 Ave</td>
<td>Complete</td>
<td>Completed in 2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9E DOT</td>
<td>Willis Ave Bridge Access Routes &amp; Intersection Improvements</td>
<td>Explore crosstown bicycle connection between Hudson River Greenway entrance at W 129th St and Willis Ave Bridge. Possible routes include one-way pair along portions of 120th St and 126th St.</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10A DOT</td>
<td>E 111 St</td>
<td>Create pedestrian and bicycle gateway to Manhattan/Waterfront Greenway at E 111th St entrance</td>
<td>Partially complete</td>
<td>2017 (projected)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10B DOT</td>
<td>Wards Island Bridge Access Improvements</td>
<td>Install street end improvement with pedestrian and bicycle gateway to Manhattan/Waterfront Greenway and Wards Island Bridge</td>
<td>Complete</td>
<td>Completed in 2015</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10C DOT</td>
<td>110 &amp; 111 St/Cathedral Parkway</td>
<td>Explore crosstown bicycle connection to Greenway entrance at E 111th St, connecting to Wards Island Bridge and Randall’s Island. Possible routes include one-way pair on E 110th and E 111th St and Cathedral Parkway.</td>
<td>Partially complete</td>
<td>2017 (projected)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv NYC Parks</td>
<td>Central Rd</td>
<td>Work with parks to install on-street bicycle markings and build off-street shared use path connecting Bronx, Queens and Manhattan access points</td>
<td>Complete</td>
<td>2018 (projected)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Overview

This appendix describes the details of 11 potentially feasible capital projects to improve access across the Harlem River for people walking and biking. These projects are proposed to be implemented over time and as funds become available, leveraging planned bridge maintenance projects as they come on line. NYC DOT will also pursue short-term improvements along selected routes using in-house crews and existing resources to improve the greenway, when and where feasible.

Community response was overwhelmingly in favor of creating new cycling facilities to cross between Manhattan and the Bronx. This plan recommends prioritizing projects that will allow for bicycle crossings roughly every one mile along each shoreline. In general and where feasible, projects that create new, cantilevered space are preferred over those that repurpose space within existing bridge structures. In addition, it is recommended that further study investigate the feasibility of installing new, exclusive pedestrian and bicycle crossings instead of retrofitting existing structures.

Potential projects to enhance bridges not originally designed to accommodate cyclists have been developed with consideration of structural feasibility and potential to add value to bicycle and pedestrian networks. All proposals will require additional study and analysis in order to determine traffic impacts and necessary mitigations during and post-construction.

All projects will be subject to the standard review process, including review by the appropriate Community Boards, before implementation.
### Potential Capital Bridge Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Overview of Potential Improvements</th>
<th>Cost</th>
<th>Length</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Broadway Bridge</strong>&lt;br&gt;1(a) Broadway Bridge Pedestrian Enhancements</td>
<td>Install additional pedestrian crossing at W 225 St to connect to MetroNorth</td>
<td>Funded</td>
<td>W 225 St</td>
</tr>
<tr>
<td>1(b) Broadway Bridge Bicycle Enhancements</td>
<td>Install on-street, buffered bicycle lanes in both directions as part of planned bridge replacement</td>
<td>$55</td>
<td>9 Ave</td>
<td>Cedar Ave</td>
</tr>
<tr>
<td>2</td>
<td><strong>University Heights Bridge</strong> 2A 207 St/University Heights Bridge</td>
<td>Conduct traffic study to analyze potential for 4 to 3 conversion</td>
<td>$55</td>
<td>9 Ave</td>
</tr>
<tr>
<td>3</td>
<td><strong>Washington Bridge</strong>&lt;br&gt;3A(i) Washington Bridge Bicycle Path</td>
<td>Install two-way barrier-protected bicycle path on north side of bridge connecting to Laurel Hill Terrace by removing one WB travel lane between I-95 and off-ramp</td>
<td>$55</td>
<td>Edward L Grant-Hwy</td>
</tr>
<tr>
<td>3(ii) Washington Bridge Access Enhancements</td>
<td>Install wayfinding to direct pedestrians to existing at-grade pedestrian crossing from Laurel Terrace; work with NYC Parks to enhance lighting on underpass on south side of bridge</td>
<td>$55</td>
<td>Edward L Grant-Hwy</td>
<td>Amsterdam Ave</td>
</tr>
<tr>
<td>5</td>
<td><strong>Macombs Dam Bridge</strong>&lt;br&gt;5A(i) Macombs Dam Bridge Approach Bike and Pedestrian Enhancements</td>
<td>Install off-street shared-use path on north side of bridge by re-allocating space from south side on 155 St approach</td>
<td>$55</td>
<td>Harlem River Dr</td>
</tr>
<tr>
<td>5A(ii) Macombs Dam Bridge Bike and Pedestrian Path Enhancements</td>
<td>Cantilever out immobile section of bridge to create min. 11'-wide path on north side; possible hellings location for cantilever (if necessary) is in parking lot below bridge Swing portion of bridge to remain as is</td>
<td>$55</td>
<td>Eastern end of swing bridge</td>
<td>Major Deegan Expy</td>
</tr>
<tr>
<td>5A(iii) Macombs Dam Bridge Ramp Crossing Enhancements</td>
<td>Enhance ramp crossings with markings, signage, and signal changes</td>
<td>$55</td>
<td>Adam Clayton Powell Jr Blvd</td>
<td>E 161 St</td>
</tr>
<tr>
<td>6</td>
<td><strong>145 St Bridge</strong>&lt;br&gt;6A 145 St Bridge Enhancements</td>
<td>Install curb extensions at intersections on both approaches</td>
<td>$55</td>
<td>Malcolm X Blvd</td>
</tr>
<tr>
<td>7</td>
<td><strong>Madison Ave Bridge</strong>&lt;br&gt;7A Madison Ave Bridge Enhancements</td>
<td>Expand pedestrian and bicycle space on south side of bridge by re-purposing excess on street space on Madison Ave approach and removing one southbound lane from merge; allow shared use pedestrian and bicycle access on the bridge span</td>
<td>$55</td>
<td>135 St</td>
</tr>
<tr>
<td>8</td>
<td><strong>Third Ave Bridge</strong>&lt;br&gt;8A Third Ave Bridge Bicycle and Pedestrian Improvements</td>
<td>Direct cyclists to preferred Willis Ave Bridge route with wayfinding signage; improve pedestrian access to Bronx with ramp improvements</td>
<td>$55</td>
<td>n/a</td>
</tr>
</tbody>
</table>