



# 2013 NYC DOT BRIDGES & TUNNELS ANNUAL CONDITION REPORT



Bill de Blasio  
Mayor



Polly Trottenberg  
Commissioner

**NEW YORK CITY DEPARTMENT OF TRANSPORTATION  
DIVISION OF BRIDGES  
2013 BRIDGES AND TUNNELS ANNUAL CONDITION  
REPORT**



Manhattan Bridge Tower Detail. (Credit: Brian Gill)

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Manhattan Bridge. (Credit: John Ensor Parker)

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## A Message from the Commissioner



Dear Friends,

On behalf of the many dedicated men and women who staff the Division of Bridges, I am pleased to present the 2013 Edition of the New York City Department of Transportation's Annual Bridges and Tunnels Condition report as mandated under the New York City Charter. This report provides DOT with an opportunity to display the many achievements, innovations and improvements that were realized by the Division of Bridges in 2013.

The Division of Bridges includes 787 hard working professionals who manage the City's Capital Bridge Program, conduct bridge inspections and monitoring, and keep the entire bridge network in a state of good repair. Our inventory includes the iconic East River Bridges, Harlem River Bridges, the Belt Parkway Bridges and pedestrian bridges and elevated roadways across the five boroughs.

To underscore the critical importance of infrastructure investment, City, State, and Federal governments contributed more than \$5 billion to bridge reconstruction over the past years. As a result, for the first time in DOT history, all but one of our 789 bridges are rated "Fair" or above, or are in construction.

- The completion of a \$217 million project to rehabilitate eight bridges accessing the Staten Island Ferry Terminal, which serve upwards of 60,000 daily commuters. The FTA provided \$175 million to support the project and DOT completed its work with minimal disruption to passengers.
- The Manhattan Bridge cable project included the rehabilitation or replacement of all of bridge's 168 cables and suspenders. The project also provided for the operation of the HOV lane for minimal disruption to traffic. Using federal, state and local funds, DOT completed the \$149 million project on time and within budget.
- The completion of the Fresh Creek Bridge, Rockaway Parkway Bridge and the Paerdegat Basin Bridge on the Belt Parkway one year ahead of schedule with a contract value of \$365 million.

Many other accomplishments are outlined in the pages ahead, but there is even more important work to be done. The Independent Budget Office recently reported that a significant number of bridges are now rated at the low end of "Fair", meaning their need for rehabilitation is fast approaching. All of the East River Bridges are well over 100 years old, requiring continual care and attention. The remaining network of over 700 bridges serving neighborhoods across the city are subject to the continuing effects of heavy traffic and rough winters with long cycles of ice, snow, rain, sleet and de-icing activities. Aside from the East River and Movable Bridges, a replacement program of 16

bridges per year needs to be in place to maintain a 50 year life cycle. The current average life of our bridges exceeds 70 years.

DOT is committed to preserving all of the City's bridges; they are crucial links in our transportation network and support millions of multi-modal trips each day. The Agency has a rich tradition of bridge design, construction, maintenance and administration, and will continue to use its resources and attract additional funds to provide safe spans that meet the needs of all 8.4 million New Yorkers.

Sincerely,



Polly Trotterberg  
Commissioner

## Inventory

In calendar year 2013, the inventory of bridges under the jurisdiction of the Division increased to 789. NYCDOT owns, operates, and/or maintains 760 non-movable bridges, 24 movable bridges, and five tunnels. Over the past 10 years, there has been a decline in the number of bridges rated "Poor," and an increase in the number of bridges rated "Very Good," as shown below.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Poor</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>1</b>
<b>Fair</b>	456	458	456	459	455	456	462	459	460	456
<b>Good</b>	212	210	210	215	213	209	207	215	212	217
<b>Vgood</b>	<b>116</b>	<b>118</b>	<b>118</b>	<b>111</b>	<b>116</b>	<b>116</b>	<b>113</b>	<b>109</b>	<b>114</b>	<b>114</b>
<b>Closed</b>				1	1	1	1	1	1	1
	<b>*790</b>	<b>790</b>	<b>787</b>	<b>789</b>	<b>788</b>	<b>786</b>	<b>787</b>	<b>787</b>	<b>788</b>	<b>789</b>

\* In 2004, 32 Department of Parks and Recreation structures, 1 Department of Education structure, and 7 Division of Ferries structures were absorbed into the inventory. 30 of these additions (22 from Parks, 6 from Ferries, and the 1 from Education) were rated "Fair," which accounted for the increase in Fair rated bridges. 1 of the Parks additions, Flushing Meadow Park Pedestrian Bridge over Willow Lake and 76<sup>th</sup> Road, was rated "Poor." It has since been closed.

<sup>†</sup> In 2009, the newly "Poor" rated Hill Drive Bridge in Prospect Park was closed to vehicular traffic. In 2009, 93 of the Parks bridges accounted for 20.4% of the "Fair" rated structures. In 2013, 100 of the Parks bridges accounted for 21.9% of the "Fair" rated structures.

The City has only one bridge that was rated "poor" after its last inspection. A poor rating means that there are components of the bridge that must be rehabilitated; it does not mean that the bridge is unsafe. If a bridge was deemed unsafe, it would be closed. The term "structural deficiency" is an engineering term-of-art used by the Federal government to indicate a defect requiring corrective action. According to the FHWA, "structurally deficient" means there are elements of the bridge that need to be monitored and/or repaired. The fact that a bridge is "deficient" does not imply that it is likely to collapse or that it is unsafe. It means it must be monitored, inspected, and maintained. Because we use the New York State rating system, we do not use that term and instead use the terms "very good," "good," "fair" and "poor." As with the Federal term, the terms "fair" and "poor" describe the condition of bridge elements and whether they are functioning as designed. Although these elements are not considered hazardous, the ratings are used to determine whether the elements require repair or rehabilitation. Again, any bridge deemed unsafe would be shut to the public.

The City bridge that is rated "poor" is the Brooklyn Bridge. It was given a "poor" rating during its last inspection because there are certain elements of the bridge that need to be rehabilitated. While the main spans are in good condition, the decks on both the Manhattan and Brooklyn ramps and approaches to the bridge are aging and are being replaced during a rehabilitation project that began on January 19, 2010. It should be noted that of the 75 spans of the bridge, only 6 spans contribute to the low condition rating. None of them are among the three suspended spans (i.e. between the anchorages).

## Contract Acceleration

Acceleration measures are a contract provision used in some reconstruction projects that is implemented through a contract pay item. This contract provision provides a mechanism to implement measures to accelerate the contractor's work to maintain critical path milestones. This provision does not apply to measures undertaken by the contractor to make up for time it lost in the progress schedule. Only the NYCDOT representative invokes this provision when the contract schedule is compromised due to unforeseen conditions during construction that are out of the contractor's control, and when it is deemed in the City's interests to accelerate.

Incentive and disincentive (I/D) clauses are another contract provision used in some reconstruction projects that are implemented through a contract pay item. Under this provision, the contractor is compensated a certain amount of money for each day if the identified work in a critical milestone is completed ahead of schedule and is assessed a deduction for each day the contract overruns the allocated time. The amounts for the I/D clauses are based upon such items as traffic safety, maintenance and road user delay costs, Resident Engineering & Inspection (REI) expenses and cost of traffic enforcement agents. These amounts are implemented in accordance with guidelines established by Federal Highway Administration (FHWA).

### **East River Bridges Anti-Icing Program**

The Division's Anti-Icing Program uses the liquid chemical potassium acetate and aggregate chemical sodium acetate. The anti-icing fleet consists of twenty-two application trucks, five plow trucks and several smaller plows. Ten of the spray trucks are combination spray/plow trucks with a 1,000 gallon tank capacity, and five are spray-spreader/plow trucks with a 360 gallon spray capacity, and a nine cubic yard spreader capacity. There are twenty chemical storage tanks, with a total storage capacity of 114,250 gallons.

In the winter of 2012-2013, a total of 43,540 gallons of potassium acetate and 107 tons of sodium acetate were applied on the roadways of all four East River Bridges.

### **Marine Borer Remediation**

In October 1999, the Department began a study to assess the present damage caused by marine borers as well as the potential for future damage at several waterfront DOT structures, including the supporting structures of the relieving platforms along the FDR and Harlem River Drives, and the timber piles and structures of the Carroll Street and Ocean Avenue bridges in Brooklyn. The underwater inspection of timber piles supporting the FDR Drive began on May 8, 2000. Inspection of the Brooklyn sites was conducted during the week of October 23, 2000. The inspections were completed in October 2000, and the Marine Borer Evaluation Report was published in June 2001. Using the results of the underwater inspections, preliminary plans were developed for the implementation of repairs and remediation measures to protect the structures from attack. These preliminary plans were completed in December 2001. An updated underwater inspection was performed within the limits of the proposed contract in 2009. The construction work commenced in April 2012, and is expected to be complete in August 2016.

### **2013 Awards**

In 2013, the outstanding work of the Division was recognized by the receipt of several awards.

In April 2013, the American Council of Engineering Companies of New York selected the reconstruction of the East 8<sup>th</sup> Street Access Ramp (Guider Avenue Ramp to Belt Parkway) over Belt Parkway for a Gold Award in the structural systems category in its 2013 Engineering Excellence Awards.

In June 2013, the Metropolitan Section of the American Society of Civil Engineers selected the rehabilitation of the St. George Staten Island Ferry Terminal Ramps as its Design-Build Project of the Year.

In September 2013, Director of Component Rehabilitation Krishan Baweja received an Outstanding Achievement Award from the South Asian American Association.

## ***EXECUTIVE SUMMARY***

In November 2013, the *Engineering News-Record of New York* selected the rehabilitation of the St. George Staten Island Ferry Terminal Ramps for an Award of Merit in the Airports/Transit category in its 2013 Best Projects Competition, spanning the New York, New Jersey and Connecticut region.

The dedication and hard work of all members of the Division ensures that the Department is stronger than ever and more capable than ever to meet the challenges of maintaining a diverse and impressive bridge infrastructure.

As an integral part of New York City's Department of Transportation, the Division of Bridges has a two-fold mission: to maintain an optimal transportation network by ensuring smooth mobility on the city's bridges, and to ensure the safety of the public.

The New York City Department of Transportation's Division of Bridges is comprised of four major bureaus. The **Chief Bridge Officer** is responsible for formulating policy and providing executive direction. He oversees all aspects of the design, construction, rehabilitation and reconstruction, maintenance, operation and administration of the 789 bridges (including 5 tunnels), and 53 culverts presently under the jurisdiction of the New York City Department of Transportation (NYCDOT). In addition to broad supervision, the Chief Bridge Officer also provides overall executive and administrative direction for the Division of Bridges, and ensures that all contractors are promptly paid.

Reporting to the Chief Bridge Officer, the **Community Affairs Unit** maintains liaison with elected officials, community boards, community groups, and civic/neighborhood associations. The Unit takes a pro-active approach in addressing design issues, roadway closures, and detours by reaching out to communities prior to the onset of construction. This enables the Division to proceed with its rehabilitation program with community input, and allows the Agency and its contractors to co-exist in a more harmonious manner with the community surrounding the project. Issues and problems of concern to the communities are brought to the attention of the appropriate Division personnel and addressed.

The **Bureau of Bridge Maintenance, Inspections and Operations** employs almost 500 engineering, professional, administrative, and skilled trades employees in the maintenance and smooth operation of New York City's elevated infrastructure, and in specialized skilled trades and contract supervision functions. It is composed of six major sections:

The **Flag Engineering** section is an engineering group that reviews, routes, and tracks hazardous or potentially hazardous safety and structural conditions ("flags") in or on the city's 789 bridges (including 5 tunnels). The Flags staff is on call 24 hours a day to respond to bridge emergencies. The section can be alerted to flag conditions by city and state inspectors and other sources, such as the Communications Center. All conditions undergo an evaluation involving review of the flag report and photographs of the condition, and, if necessary, a visit to the site. Subsequently, a "flag packet" describing the type of repair or response that is required is created and routed to an appropriate group, in-house or contractor, for elimination. The section monitors the status of each flag, reporting on all activities on a monthly basis.

The **Bridge Repair and Preventive Maintenance** section is composed of three major units. *Bridge Repair* performs repairs to resolve flagged conditions. Flag repairs include structural and safety work, such as the repair of steel members damaged by corrosion or accident impact, the replacement of box beams and bridge railings, the replacement of roadway gratings, repairs to traffic control devices, and the rebuilding of wooden walkways. Much of this work is performed in the off-hours, either to accommodate traffic or in response to emergencies.

This section also rehabilitates and replaces damaged, worn, or defective components whose failure can affect service. This type of work, known as corrective repair, primarily involves the electrical, mechanical and operational control systems for the twenty-four movable bridges, as well as the travelers (movable underdeck access platforms) on the four East River bridges. The Bridge Repair Section is also responsible for the lubrication of the movable bridges as well as the mechanical components and the main cables of the East River bridges.

*Preventive Maintenance* is a vital part of the overall bridge program. This section is responsible for functions including debris removal; mechanical sweeping; pointing of masonry brick and block; and emergency response, such as snow removal, oil/cargo spills, and overpass hits. The section

also performs some corrective repair work such as asphalt and concrete deck repairs, sidewalk patching, fence repair, and brick and masonry repairs. Preventive Maintenance is responsible for conducting the Department's anti-icing operations on the four East River bridges.

The *East River and Movable Bridges Preventive Maintenance* unit administers federal funds for selected preventive maintenance activities on the East River and movable bridges. Work is performed with a combination of in-house and contracted personnel.

The ***Bridge Inspections and Bridge Management*** section performs three essential functions: *Bridge Inspections*, *Bridge Management*, and *Research and Development*.

The *Inspections Unit* inspects the city's bridges in accordance with state and federal standards; monitors bridge conditions with a high hazard potential, such as temporary repairs, outstanding flags, and fire hazards; responds to emergency inspection requests from NYCDOT and external sources; recommends repairs and remedial measures for hazardous conditions; generates flag and inspection reports for the Division; engages in special programs such as non-destructive monitoring of sensitive bridge components by advanced techniques; supervises inspections by consultants working for the Division; conducts inspections and inventories of expansion joints; conducts acoustic emission monitoring; and inspects non-structural cladding.

The *Bridge Management Unit* develops and maintains the database for the City's bridge inventory, condition ratings, and inspection information. The unit is also responsible for maintaining records of privately-owned bridges in the City. The database is the source of information used in a variety of reports, including the present Bridges and Tunnels Annual Condition Report. This unit uses the bridge and span condition database to determine current and future needs for bridge rehabilitation, bridge component rehabilitation, flag forecasting, inspections and monitorings.

This Section is also responsible for investigating new materials and methods to improve existing bridge conditions. It sponsors a series of lectures by experts on subjects relevant to design, construction, and maintenance, such as seismic retrofitting of bridges, salt substitutes, cathodic protection against corrosion, concrete patching materials, new paint strategies, non-destructive bridge testing, and deck resurfacing. The unit also participates in research programs with interested transportation and infrastructure entities. In conjunction with the Port Authority, MTA Bridges and Tunnels, and NYS Bridge Authorities, it sponsored a report on suspension bridge cables that led to a federal project for the entire United States. A number of articles on bridge management are published by the unit in technical journals in the United States, Japan, France, and elsewhere. This section created the system for generating bridge inspection reports with portable computers; a similar system is now being adopted by the NYSDOT.

***Bridge and Tunnel Operations*** is responsible for operating the 24 City-owned movable bridges that span city waterways. This section operates under a variety of federal mandates that call for 24-hour coverage at many locations; its mission is to provide safe and expedient passage to all marine and vehicular traffic under and on movable bridges. In calendar year 2013 Bridge Operations effected a total of 4,271 openings, 3,812 of which allowed 6,855 vessels to pass beneath the bridges. The remaining 459 openings were for operational and maintenance testing. The section also operates the city's five mechanically-ventilated tunnels, performing electrical maintenance and arranging for roadway cleaning.

The ***Bridge Painting*** section's function is to maintain the protective coating of the City's bridges. The section is divided into two programs, the in-house (expense) program and the capital program. The capital program oversees total paint removal and repainting, performed by contractors; this is done at twelve-year intervals on bridges measuring more than 100,000 square feet of painted area, and bridges over railroads. In-house personnel provide the inspection services on East River Bridge preventive maintenance contracts for quality control purposes. The in-house program is responsible for full steel painting of bridges measuring less than 100,000 square feet, and bridges that are not over railroads. This includes local surface preparation of deteriorated areas and overcoating of the entire bridge. In addition, the in-house program is responsible for salt splash/spot painting.

Salt splash/spot painting is performed four years after full steel painting, and again four years later. After another four years, we once again perform full steel painting. The interval between full steel applications remains twelve years.

Members of the in-house program respond to emergency flag repairs alongside the in-house repair forces, to perform surface preparation prior to, and painting upon completion of, the steel work. In-house painting personnel also perform environmental clean-up after the iron workers finish their repair work.

The engineers and inspectors of the ***When and Where Unit*** supervise the contractors' repairs of structural and safety flags citywide under both marine and general repair contracts, as well as a new capital contract. The use of these contracts allows the unit greater flexibility in deploying the contractors' resources as necessary, and in obtaining a variety of construction equipment and materials that are not readily available to in-house forces. In addition, the unit responds to bridge emergencies, providing on-site inspection to verify field conditions, taking measurements for repairs and providing emergency lane closures. The section also supervises the repair work performed during night hours to reduce the impact on traffic and on public safety.

The overall mission of the Bureau of Bridge Maintenance, Inspections and Operations is to maintain the structural integrity of elevated structures and tunnels and to prolong their life by slowing the rate of deterioration. While our objective may be seen as "maintaining the status quo" of the infrastructure, we continue to take a new look at our methods, procedures, and general focus as we formulate our operational plans for the next several years.

As more bridges are rehabilitated, it becomes incumbent upon us to protect the government's investment in the infrastructure by developing and implementing a more ***substantive preventive maintenance program*** to keep these bridges in good condition.

The Deputy Chief Engineer for Bridge Maintenance, Inspections and Operations also acts as the **Deputy Chief Bridge Officer**, assuming the responsibilities of the Chief Bridge Officer in that person's absence.

The **Bureau of Bridge Capital Design & Construction** is made up of four major sections:

The **East River and Movable Bridges Section** is responsible for all design and construction activities for all rehabilitation/reconstruction work that is planned, or currently taking place on the four East River Bridges, as well as all City-owned movable bridges and tunnels. This involves overseeing and supervising design consultants who prepare plans and specifications for bridge rehabilitation/reconstruction projects on the four East River Bridges and all Movable Bridges, as well as overseeing and supervising contractors, Resident Engineers and Inspection Consultants, and Construction Support Services Consultants during the construction phase.

This Section consists of two major areas: ***East River Bridges***, and ***Movable Bridges***. Each of these areas is headed by a Director to whom Section Heads or Engineers-in-Charge report. Each is assigned a specific bridge, or bridges, where they are responsible for all design and construction activities. The Directors, in turn, report to the Deputy Chief Engineer of the Bureau.

The **Roadway Bridges Section** is responsible for both design and construction activities for all rehabilitation/reconstruction work that is planned, or currently taking place on all City-owned, non-movable bridges, with the exception of the four East River Bridges. This involves overseeing and supervising design consultants who prepare plans and specifications for bridge rehabilitation/reconstruction projects, as well as overseeing and supervising contractors, Resident Engineers and Inspection Consultants, and Construction Support Services Consultants during the construction phase.

This Bureau covers two major geographic areas; ***Brooklyn and Manhattan Bridges***, and ***Bronx, Queens and Staten Island Bridges***. In each geographic area, the workload is divided by

Community Board. Engineers-In-Charge report to the Directors of each major area, who, in turn, report to the Deputy Chief Engineer of the Bureau.

**Component Rehabilitation** is the revamping or replacement of damaged, worn or defective bridge components. This type of work is performed primarily on those structures not classified as being “deficient,” but which contain specific components that have low condition ratings. By rehabilitating these components, the Division can ensure that these bridges remain in “good” or “very good” condition; usually extending the bridge’s useful life by up to 10 years. Section Heads or Engineers-in-Charge report to the Director of Component Rehabilitation. Each is assigned a specific bridge, or bridges, for which they are responsible for all component rehabilitation activities. The Component Rehabilitation Program is an ongoing program with cumulative effects. Each Fiscal Year, a number of bridges are selected for inclusion in the program and construction is completed on others. For the ten year period ending fiscal year 2018, the program will obligate approximately \$152.1 million.

The **Design-Build/Emergency Contracts Group** provides technical and procurement expertise related to the following areas: preparing Emergency Declarations for unsafe conditions that require immediate remediation; assisting the Chief Bridge Officer in the contractor selection process for declared emergency situations; providing technical expertise related to the development, procurement and administration of Design-Build contracts throughout the various areas of the Division; preparing and administering Design-Build agreements; and supervision of Design-Build project design, construction, and inspection services.

The **Engineering Review and Support Bureau** is responsible for providing Division-wide engineering support services. The following areas make up this Bureau: ***In-House Design, Engineering Support, Engineering Review, and Quality Assurance***.

***In-House Design*** staff (comprised of the Structural, Electrical, and CADD Groups) prepare plans and specifications for bridge rehabilitation/replacement projects that enable the Division to restore bridges considered “structurally deficient,” to a “very good” condition rating. This unit also handles urgent Division projects, as well as special repair projects of the **Bureau of Bridge Maintenance, Inspections and Operations**. Over the last 20 years, In-House Design has completed contract documents for over 30 major replacement/rehabilitation projects. Some of these structures were in highly environmentally sensitive areas, such as the FDR Drive from 42<sup>nd</sup> to 54<sup>th</sup> Streets, Hylan Boulevard over Lemon Creek, Chelsea Road over Sawmill Creek, Cropsey Avenue over Coney Island Creek, the Exterior Street Ramp, Belt Parkway Bridge over Paerdegat Basin, 145<sup>th</sup> Street Bridge over Harlem River, and the Greenpoint Avenue Bridge over Newtown Creek. The staff also provided plans, working drawings, and shop drawings for in-house built projects such as the temporary Pedestrian Bridge for PS-5, Ferry Terminals at 34<sup>th</sup> Street, the Hamilton Avenue Asphalt Plant conveyor supports, the Yankee Stadium Ferry Access, the concrete barrier at Cross Bay Boulevard, the fencing at Navy Street Pedestrian Bridge, and the bridge railing at Van Name Street Bridge.

The Electrical Group reviews and/or prepares contract documents for the electrical and street lighting work for all projects in the Division’s capital program. They further review plans and specifications prepared by consultants and review test results of electrical systems conducted by vendors on the movable bridges.

The ***Engineering Support Section*** is comprised of four units: *Specifications, Survey, Records Management, and Special Projects*.

The *Specifications Unit* prepares and reviews contract bid documents and specifications for all Federal and City-funded, private developer, City-let in-house and consultant-designed bridge and various other construction projects, processes the contracts for bidding, after ensuring that they comply with the City, New York State and Federal standards, prepares, reviews, and transmits addenda, maintains and updates City-let bridge construction boiler plates in compliance with

FHWA and NYSDOT Engineering bulletins and instructions, and updates and maintains an inventory of all NYC and NYS special specifications used in bridge and other construction projects. This Unit approves and issues item numbers for newly written special specifications for the city funded projects. In addition, it prepares “Revisions to NYSDOT Standard Specifications” (R-pages), which are compiled from NYSDOT Engineering Bulletins and Engineering Instructions, and reviews contract drawings for compliance with contract bid proposal books.

The *Survey Unit* performs field surveys and visual inspections of bridges and retaining walls, monitorings of cracks and longitudinal and transverse movements in bridge structures as well as foundation settlement. This unit surveys bridge girder alignments and twisted movements in steel girders and floor beams due to damage by oversized trucks or fires. It also prepares and verifies elevations in the field to find existing vertical clearances of bridge structures.

The *Records Management and Electronic Media Unit* establishes drafting guidelines for contract plans and digital media standards for the archiving of bridge records. It reviews design, as-built and shop drawings prepared by consulting firms, as well as CDs and DVDs containing pdf and CAD files. This unit maintains original plan files, upgrades the records database and converts original drawings into electronic media in retrievable formats. It also responds to requests received from private, public and other agencies for information regarding records of City-owned bridges.

The *Special Projects Unit* reviews contract bid documents and specifications for public and private agencies to ensure compliance with City, State and Federal standards and guidelines.

The ***Engineering Review Section*** consists of ten units: *Structural Review, Retaining Wall, Bridge Hold, Cost Estimate, Other Agency/Private Developer, Scope Development, Overweight Truck Permit, Geotechnical, Land Use Planning, and Utilities.*

The *Structural Review Unit* reviews all City-let bridge construction contract drawings, oversees seismic design requirements for City-let contracts for bridge projects, reviews analysis and design calculations and ensures that the work to be performed conforms to NYCDOT requirements. This unit establishes design standards, including seismic requirements.

The *Retaining Wall Unit* is responsible for inspecting City-owned retaining walls, identifying walls in poor condition, and creating an inventory of all City-owned retaining walls. Retaining walls in poor condition requiring immediate attention are referred to in-house repair staff or When and Where contractors. Data on poorly rated retaining walls are developed into scope packages and forwarded to the New York City Department of Design and Construction for permanent rehabilitation with DOT funding. Walls of questionable ownership are researched for ownership and jurisdiction. A consultant has been assisting the unit in the inspection, condition assessment, temporary repair design, inventorying and budgeting for the permanent rehabilitation of the retaining walls.

The *Bridge Hold Unit* was established in February 2011, based on OCMC requests to review construction permit applications for any proposed work located within 100 feet of any City-owned bridge structure. The permit applications may also originate from other City agencies, private developers, and utility companies. The Unit reviews the proposed work to ensure that it does not compromise the integrity of the structure and that it is in compliance with Agency requirements. Based on the review’s recommendations, the hold will be released or rejected.

The *Cost Estimate Unit* reviews and oversees design and construction cost estimates of City projects.

The *Other Agency/Private Developer Unit* currently provides engineering review supervision of projects from other agencies and private developers such as the Atlantic Yards Project, the Eastside Access Project, and the Riverside South Project. In addition, the unit conducts non-bridge engineering projects, such as the annual balloon wind study for the Macy’s Thanksgiving Day Parade.

The *Scope Development Unit* reviews inspection reports, as-built drawings, and structural condition ratings, performs field inspection of bridges to develop the scope of work for the

rehabilitation of deficient and poorly rated bridges, and initiates the procurement of Design Consultant contracts. The Unit is also responsible for reviewing of quarterly budgetary plans for bridge rehabilitation projects and coordinates these reviews with the Bureau of Bridge Maintenance, Inspections and Operations, and the Capital Procurement and Capital Planning Sections.

The *Overweight Truck Permit Unit* in coordination with the Division's Truck Permit Unit reviews the engineering aspects of overweight and over-dimensional truck and self-propelled crane permit applications, performs load rating analyses, and reviews load postings for City owned bridges. The Unit also reviews resurfacing, snow removal and other heavy equipment permit requests from within the Agency and from other agencies.

The *Geotechnical Engineering Unit* provides geotechnical-engineering services. This unit reviews bridge rehabilitation/reconstruction project reports, soil investigation/geotechnical foundation reports, City-let bridge construction contract drawings and other agency/private developers' geotechnical work which impacts City-owned projects.

The *Land Use Planning Unit* reviews and maintains a database of easement issues, right-of-way, and Uniform Land Use Review Procedures. This unit also reviews Design reports and Environmental Impact Statements of various other Agency projects with respect to their impact on City-owned bridges.

The *Utilities Unit* coordinates all issues related to utility design as they affect City-owned bridge projects and related projects.

The ***Quality Assurance Section*** ensures that materials installed for the Bridge Rehabilitation Program meet contractual requirements and are incorporated in strict compliance with plans and specifications. This section operates under its own formulated Quality Assurance Plan that is based on NYSDOT requirements and procedures. Quality Assurance has contractually retained the services of private inspection/testing firms. The provision of services required for various projects is better coordinated through this centralized method, which is also timely and cost effective.

Off-site Quality Assurance services relative to a wide variety of basic and manufactured construction materials including concrete, asphalt, soils, reinforcing steel, bridge bearings, timber, structural steel and precast/prestressed structural components for all bridge projects, irrespective of the funding source, are handled by this section. Through its engineers at bridge construction sites, Quality Assurance ensures that only acceptable materials are incorporated into rehabilitation/reconstruction work in strict accordance with plans, specifications and acceptable construction practice. Current major projects include the Brooklyn Bridge, Manhattan Bridge, Willis Avenue Bridge, Roosevelt Island Bridge, Belt Parkway Bridge over Paerdegat Basin, Belt Parkway Bridge over Rockaway Parkway, Belt Parkway Bridge over Fresh Creek Basin, Belt Parkway Bridge over Gerritsen Basin, St. George Staten Island Ferry Terminal Ramps, Protection Against Marine Borers, Shore Road Circle Bridge, Ocean Avenue Bridge over NY Atlantic Railroad, Carlton Avenue Bridge over LIRR Yard, and the Claremont Parkway Bridge. In addition, the Section provides services to the Component Rehabilitation Section on an as-needed basis.

The Section is currently involved in extending its services for inspection of concrete at batching plants for the Sidewalk and Inspection Management Citywide Concrete Program via its contract with a City-contracted inspection firm.

Through its *Environmental Engineering Unit*, Quality Assurance also oversees the implementation of the Final Environmental Impact Statement on bridge construction projects involving the removal and disposal of lead-based paint. The unit's active involvement in training the supervisors and overseeing the abrasive blasting operations has resulted in the successful completion of various paint removal projects. This unit also oversees the proper and safe disposal of other hazardous waste and regulated waste encountered during construction activities.

## ***DIVISION OVERVIEW***

In addition to enforcing the lead paint removal protocols, the unit handles other environmental concerns. Typically, the unit participates in the design stage to ensure that any environmental issues are addressed during the construction phase of the project. These issues include, but are not limited to, asbestos abatement, soil sampling, groundwater sampling, remediation of contaminated soils and groundwater, worker exposure to environmental contaminants, management of waste oil, storage of hazardous waste, management of storm water runoff, soil erosion controls, management of concrete washout wastewater, site safety, and OSHA compliance. The role of this unit in ensuring public safety has been recognized and commended by the community.

The unit continues to monitor waste water discharge for numerous projects involving dewatering activities, such as the Belt Parkway Bridges project. This includes dewatering of cofferdams, dredge spoil dewatering, and treatment of water for discharge to recharge basins.

The unit is responsible for discharge monitoring in conjunction with the NYS SPDES Discharge Permits for discharges at the Eastern Boulevard Bridge, Hunters Point Avenue Bridge, Greenpoint Avenue Bridge, Cropsey Avenue Bridge, Manhattan Plaza Underpass, Battery Park Underpass, and the Metropolitan Avenue Bridge. The unit continues to provide environmental oversight and compliance on major capital projects such as Willis Avenue Bridge, Manhattan Bridge, Williamsburg Bridge, Brooklyn Bridge, and Belt Parkway Bridges, as well as Component Rehabilitation, Roadway Bridge, and Design/Build projects such as the reconstruction of the ramps at the St. George Ferry Terminal in Staten Island, Bruckner Expressway over the Bronx River and the Bruckner Expressway Bridges over Conrail/Amtrak.

The unit is currently coordinating mitigation tasks at the Marine Borers project with the NYSDEC to satisfy the permit mitigation requirements. Additionally, the unit has been involved with various NYSDEC mitigation projects such as the Floyd Bennett Field Wetland Mitigation and the Wetland Mitigation at Bergen Beach.

The **Bureau of Management and Support Services** provides essential administrative and analytic services to each of the operational bureaus of the Division of Bridges. The Bureau is divided into five primary sections: ***Office of the Executive Director, Administration and Finance, Capital Procurement, Capital Coordination, and the Truck Permit Unit.*** Each highly-specialized section is designed to address those issues and requirements that are critical to the operation of the respective Bureaus within the Division.

In addition to the Division-wide responsibility for conflict resolution, Equal Employment Opportunity enforcement, confidential investigations, Bridges' Engineering Service Agreements, space allocation, and special projects, the ***Executive Director*** oversees, on an executive level, the following areas and functions:

The ***Senior Director of the Administration and Finance Section*** oversees and administers all administrative/personnel-related functions for the Division, acting as a liaison with the Central Personnel Coordinator in NYCDOT Personnel including, but not limited to, recruiting for vacancies (this includes reviewing for completeness and submitting the necessary paperwork, and reviewing and distributing candidates' resumes); maintaining all Managerial Position Descriptions; maintaining all Division organization charts; scheduling training; confidential investigations; maintaining records of IFA-funded positions; initiating and assisting in resolving disciplinary/grievance actions; serving as Conflicts of Interest and Financial Disclosure Officer; collecting and reviewing managerial and non-managerial performance evaluations; absence control; providing interpretive advice to Division management regarding City and Agency policy and procedures; and overseeing telephone and facility-related issues for personnel located at 55 Water Street and 59 Maiden Lane in Manhattan.

The Senior Director of the Administration and Finance Section also oversees the following three units:

The *Analytic Unit* prepares comprehensive bi-weekly and monthly reports that address major issues confronting the Division; compiles statistical data detailing the Division's productivity; processes and monitors all FOIL requests; frames issues in which oversight assistance is required for use by the Division, NYCDOT Executive Management and the Mayor's Office; and prepares the City Charter-mandated ***Bridges and Tunnels Annual Condition Report***.

The *Vehicle Coordination Unit* tracks the placement and condition of all vehicles under the jurisdiction of Bridges. It maintains a database and prepares reports containing this information; provides information and reports to appropriate inquiring Divisions and Agencies such as the Auditor General's Office, NYCDOT Legal Department and NYCDOT Litigation Support Services; coordinates the assignments of vehicles and their movement throughout various borough field locations and job sites; prepares reports on Vehicle Status and replacement; prepares reports for the purpose of tracking Overnight Vehicle Assignments for all Division vehicles; receives and routes vehicle Accident Reports, Police Reports and Security Incident Reports relating to vehicle accident, theft and/or vandalism; coordinates priorities for vehicle and equipment repair with Fleet Services; prepares reports and memoranda regarding vehicle safety issues and communication procedures for the NYCDOT Communication Center; and collects required documentation from field personnel for checking Driver Certifications with the Department of Motor Vehicles and EZ Pass.

The *Finance Unit* oversees the Division's entire expense budget process including, but not limited to, base-line preparation, spending plans, overtime control, financial plan changes, and budget modifications. The unit further oversees all Division-wide fiscal activities, including the establishment and monitoring of all IFA-related project budgets, while simultaneously ensuring that the budget and plans represent the Division's priorities.

The ***Capital Procurement Section*** serves as a liaison between the Division of Bridges and the Office of the Agency Chief Contracting Officer, other Agency Divisions, the public and private railroads, and the various consulting firms involved with the procurement process. The duties of this unit include: overseeing the Division's capital consultant contract procurement from scope to registration; preparing status reports; processing of the Division's change orders through registration, and coordinating Railroad Force Account Agreements and railroad invoice payments for Division construction projects.

*Railroad Force Account Agreements* are a vital component in the rehabilitation/reconstruction program since train traffic affects 327 (41.4%) of City-owned bridges. Careful cooperation between the NYCDOT and the various railroad agencies that service the metropolitan area is required. The Railroad Coordinator provides a single point of contact for all railroad issues. This coordination includes the use of railroad personnel for track safety, approval of reconstruction design drawings, track shutdowns and reductions in train service for bridge construction work. The coordinator informs managers of "typical" railroad problems and attempts to avoid them through proactive measures. Upon registration of the railroad force account contracts between the City of New York and the respective railroad, Notices to Proceed [NTPs] are issued, and invoices are generated. The invoices, once approved by the engineers for the railroad and the corresponding DOT Project Manager, are sent to the Railroad Coordinator for processing and actual payment by the New York City Comptroller's Office.

NYCDOT bridge designers make every effort to prepare accurate and complete contract documents. Unfortunately, in many instances, the original design drawings for the deteriorating bridges no longer exist, and previous records of modifications and repairs are not available. When the contract documents for the bridge reconstruction projects do not accurately address conditions found in the field, Contract Change Requests (CCR) are needed. Change order work can not proceed until the CCR is registered. Due to the nature of bridge construction projects, change order work is often on the critical path. Any delay in the issuance of a change order affects the overall project, and adds substantial overruns to the final cost. A tracking process for change orders has been implemented that significantly reduces the time for the approval process.

Certificates to Proceed [CPs] are a critical component for the registration of any Construction, Consultant Programs, Force Account, Change Order and Engineering Service Agreement and assigned ESA tasks. Coordinating the submission of New and Revised Certificates to Proceed for submission to the Capital Budget is overseen by the Capital Procurement Unit.

The **Capital Coordination Section** is responsible for preparing, coordinating and updating the capital budget and capital program initiative within the Division of Bridges. Currently, the Division's Ten Year Capital Plan is worth approximately \$4.5 billion. This plan is designed to rehabilitate the City's bridges. Responsibilities include: administering and participating in the development and implementation of planning capital projects; acting as liaison with oversight agencies, DOT Administration and all responsibility centers within Bridges; reviewing and processing transfer of fund requests in an attempt to resolve funding issues; and maintaining the Division's registration report for all current year capital contracts. In addition, this section coordinates the Division's submission of Initial Financial Plans, Annual Financial Plan and Construction Management Plans prepared by Project Managers that must be submitted to the Office of Finance, Contracts & Program Management.

The **Truck Permit Section** issues approximately 1000 Annual Overweight Load Permits (renewals only), and approximately 40,350 other permits, including Annual Self-Propelled Crane Permits, Daily Oversize/Overdimensional/Supersize Truck Permits, and Bulk Milk Permits; all in accordance with the New York City Department of Transportation Policy and Procedures and the New York City Traffic Rules and Regulations section 4-15.



In July 2013, the Section Coordinated the Move of a 423,464 Pound Consolidated Edison Transformer in Queens. In December 2013, the Koenig "Sphere" was moved 500 within Battery Park, crossing over the Battery Park Underpass with speed restriction of not more than 5 miles per hour, to reduce the impact on the structure. The 25-foot-tall bronze globe, which still bears the scars of Sept. 11, 2001, was relocated to a spot closer to Castle Clinton, to accommodate the park's renovations.

(Credit: Lawrence V. Mauro)

## **JANUARY**

### ***Anti-Icing***

Anti-icing crews were deployed on the East River bridges from 12:30 AM to 6:00 PM on January 6, 2013; no applications of chemicals were necessary.

### ***Harper Street Asphalt Plant (Queens)***

On January 2 – 4, 2013, Division ironworkers performed emergency repairs to a broken link-pin atop the silo.

### ***Jamaica Avenue Bridge over Cross Island Parkway (Queens)***

Cleaning and painting of this bridge, which began on December 24, 2012, was completed on January 7, 2013.

### ***Harper Street Asphalt Plant (Queens)***

On January 12 and 19, 2013, Division ironworkers repaired the chute and cold-feed bins.

### ***Anti-Icing***

Anti-icing crews were deployed on the East River bridges from 10:00 PM on January 15, 2013 until 6:30 AM the following morning. The Brooklyn and Ed Koch - Queensboro Bridges received one application of chemicals each.

### ***Ocean Avenue Pedestrian Bridge over Sheepshead Bay (Brooklyn)***

After Hurricane Sandy, extensive damage was found on the bridge. Damages to the timber hand rail, timber deck planks, light pole and electrical components were attributed to the intensity of the storm and ships striking the bridge. Repairs were made in-kind to the damaged components. The planks and handrails were repaired by in-house forces, along with uprighting, resetting and rewiring the damaged light pole. Bridge repair work began on November 9, 2012, and the bridge reopened on January 18, 2013. Work was completed on February 22, 2013. The repainting of the bridge was performed in the spring.



Inspecting the Damaged Bridge in December 2012.



Newly Repaired Ocean Avenue Pedestrian Bridge. (Credit: Russell Holcomb)

### ***Anti-Icing***

Anti-icing crews monitored deck conditions on the East River bridges from midnight to 4:30 AM on January 18, 2013, and from 2:30 PM to midnight on January 21; no applications of chemicals were necessary. Icicle patrols were active the night of January 18 on the FDR Drive, Battery Park Underpass, and the Brooklyn-Queens and Cross-Bronx Expressways.

### ***Council Member Juanita E. Watkins Tribute***

The American flags on the Brooklyn Bridge were lowered to half-mast by Division painters on January 24, 2013, in tribute to former Council Member Juanita E. Watkins, 78, who died on January 20. Council Member Watkins served in the Council from 1992 to 2001. She represented District 31 in Queens for 3 terms, covering the communities of Arverne, Bayswater, Edgemere, Far Rockaway, JFK Airport, Laurelton, Rosedale, Springfield Gardens, and parts of Cambria Heights and South Ozone Park. Council Member Watkins made advocacy for senior citizens one of her top priorities, sponsoring Senior Empowerment Conferences for seniors within her district. During her political career, she served in many functions including: delegate and member to the Democratic National Convention, Queens County Democratic District Leader and Queens County Committee Chair, before being elected to the City Council. The flags were raised on January 29, 2013.



Council Member Juanita E. Watkins.

### ***Anti-Icing***

On January 25, 2013, 1.5 inches of snow fell in Central Park, 0.7 at La Guardia Airport, and 0.8 at JFK Airport. On January 28, 2013, 0.2 inches of snow fell at La Guardia Airport, and 0.1 inches at JFK Airport. Anti-icing crews were deployed on the East River bridges from 4:00 PM on January 25 until 5:00 AM the following morning; 9,600 gallons of liquid chemicals and 20 tons of solid were applied. Crews were again deployed from 8:30 AM until 12:30 PM on January 28; no applications were necessary. Icicle patrols were active on the FDR Drive, Battery Park Underpass, and the Brooklyn-Queens and Cross-Bronx Expressways.

### ***Harper Street Asphalt Plant (Queens)***

On January 26, 2013, Division ironworkers repaired the main, feed, and cold-feed bins.

### ***Eight Ramps and One Pedestrian Bridge at the St. George Staten Island Ferry Terminal (Staten Island)***

On January 26, 2013, all of the ramps and bus gates, serving both vehicular and bus traffic, were restored to their original configuration.

### ***Belt Parkway Bridge over Paerdegat Basin (Brooklyn)***

Demolition of the existing bridge structure commenced in January 2013.



Paerdegat Basin Bridge in January 2013: Demolition of and Removal Bridge Deck at the Old Paerdegat Basin Bridge. The Timber Debris Shielding was Supported on the Lower Flanges of the Bridge Stringers. Demolition of Span 10 in February 2013.

## ***Belt Parkway Bridge over Rockaway Parkway (Brooklyn)***

Structural pile installation was completed, and abutment footing construction commenced in January 2013.



Rockaway Parkway Bridge in January 2013: Driving Steel Pipe Piles at the South East Abutment. Pumping and Vibrating Concrete into Steel Pipe Piles at the Southwest Abutment. Southwest Abutment Epoxy Coated Rebars for the Abutment Walls.

## ***FEBRUARY***

### ***Mayor Edward I. Koch Tribute***

The American flags on the Brooklyn Bridge were lowered to half-mast by Division painters on February 1, 2013, in tribute to former Mayor Edward I. Koch, 88, who died that morning. He served as the City's 105<sup>th</sup> Mayor from 1978 to 1989. He is credited with leading the City government back from near bankruptcy in the 1970's to prosperity in the 1980's. He also began one of the city's most ambitious housing programs, which continued after he left office and eventually, over the next 15 years and four mayoral administrations, built or rehabilitated more than 200,000 housing units, revitalizing once-forsaken neighborhoods. He earned a European-African-Middle Eastern Campaign Medal with two campaign stars, a World War II Victory Medal, and the Combat Infantryman Badge for service in the European Theater of Operations in World War II. Before becoming mayor, Mr. Koch served two years as a Council Member and nine more in Congress representing the 17<sup>th</sup> District, the East Side of Manhattan. He later represented the 18<sup>th</sup> District after a redistricting. He supported public transportation and housing, Social Security

and tax reform, home health care for the elderly, aid to Israel, amnesty for draft resisters, solar energy research, federal financing of abortions and consumer protection measures.

Mayor Koch was known for addressing constituents at subway stations and street corners with his trademark saying, "How'm I doin'?" After leaving public service, he was active as a television judge, radio talk-show host, author, law partner, newspaper columnist, movie reviewer, professor, commercial pitchman and political gadfly. A prolific author, Mayor Koch wrote 17 books, including political commentaries, murder mysteries, and, together with his sister, even a children's book. On March 23, 2011, the New York City Council voted to rename the Queensboro Bridge as the "Ed Koch Queensboro Bridge" in honor of the former mayor. The flags were raised on March 3, 2013.



Mayor Edward I. Koch.

### ***Harper Street Asphalt Plant (Queens)***

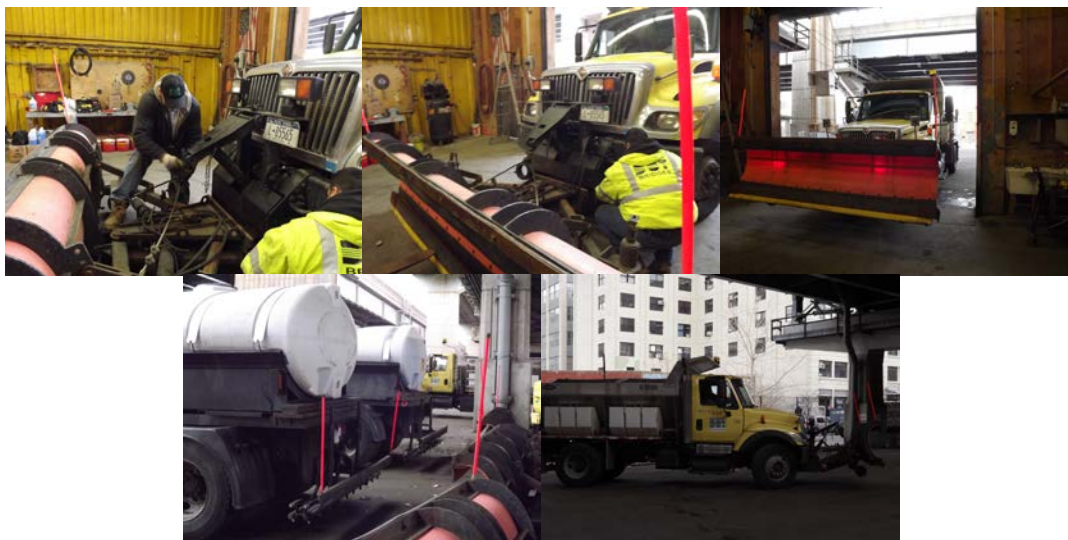
On February 2 and 16, 2013, Division ironworkers repaired the silo and main drum.

### ***Anti-Icing***

On February 2, 2013, 0.1 inches of snow fell in Central Park, 0.4 at La Guardia Airport, and 0.3 at JFK Airport. On February 3, 2013, 0.3 inches of snow fell in Central Park, 0.3 at La Guardia Airport, and 0.5 at JFK Airport. Anti-icing crews were deployed on the East River bridges from 4:00 PM on February 2 until midnight; three applications of liquid chemical were made. Crews were again deployed on February 3 from midnight until 4:00 PM; four applications of liquid chemical and one of solid were made. Crews were again deployed from 11:00 PM on February 4 until 8:00 AM the following morning; two applications of liquid chemical were made. Icicle patrols were active on the FDR Drive, Battery Park Underpass, and the Brooklyn-Queens and Cross Bronx Expressways.

### ***Anti-Icing***

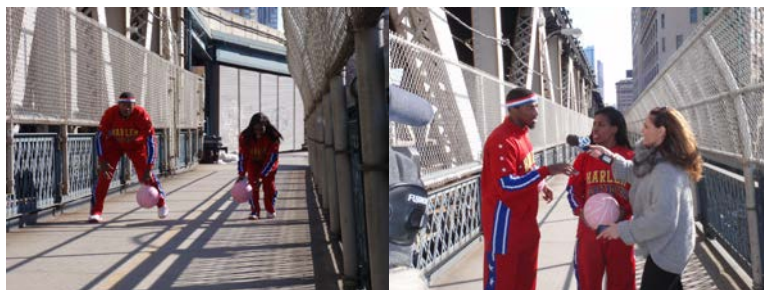
On February 8, 2013, 6.3 inches of snow fell in Central Park, 6.4 at La Guardia Airport, and 2.9 at JFK Airport. On February 9, 2013, 5.7 inches of snow fell at La Guardia Airport. Anti-icing crews were deployed on the East River bridges from 2:00 AM on February 8 until 6:00 AM on February 10; 29 applications of liquid chemical and 13 applications of solid were made. Snow was cleared from priority overpasses, and icicle patrols were active on the FDR Drive, Battery Park Underpass, and the Cross-Bronx and Brooklyn-Queens Expressways.



Preparing the Plows and Spray Trucks. (Credit: Thomas Whitehouse)

### ***Manhattan Bridge***

On February 12, 2013, members of the Harlem Globetrotters, including their first female player in nearly 20 years, Fatima “TNT” Maddox, dribbled a basketball across the Manhattan Bridge to celebrate Globetrotter Week in New York City.



Harlem Globetrotters on the Manhattan Bridge.

### ***Anti-Icing***

Anti-icing crews for the East River bridges were on standby on February 13, 2013 from 5:00 PM to 3:00 AM, on February 16 from 3:00 PM to noon, and again from 7:00 PM to 4:00 AM the following morning; no applications of chemicals were necessary. Snow was cleared from priority overpasses on February 14. Icicle patrols were active on the FDR Drive, Battery Park Underpass, and the Brooklyn-Queens and Cross -Bronx Expressways.

### ***Douglaston Parkway Bridge over Cross Island Parkway (Southbound) (Queens)***

Cleaning and painting of this bridge's railings, which began on January 11, 2013, was completed on February 19, 2013.

### ***Belt Parkway Bridge over Gerritsen Inlet (Brooklyn)***

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of February 25, 2013.

### ***Francis Lewis Boulevard Bridge over Laurelton Parkway (Eastbound) (Queens)***

Cleaning and painting of the bridge, which began on February 20, 2013, was completed on February 28, 2013.

**MARCH****Anti-Icing**

Anti-icing crews were deployed on the East River bridges from 7:00 PM on March 6, 2013 until 4:30 AM the following morning; no applications of chemicals were necessary. On March 8, 2013, 4 inches of snow fell in Central Park, 3.1 inches at La Guardia Airport, and 3 inches at JFK Airport. Crews were deployed from 7:00 PM on March 7 until 4:00 PM the following day; six applications of liquid chemical and one of solid were made. Snow was cleared from priority overpasses.

**Commissioner Irene R. Halligan Tribute**

The American flags on the Brooklyn Bridge were lowered to half-mast by Division painters on March 13, 2013, in tribute to former Commissioner Irene R. Halligan, Chief of Protocol (1994-2002) and Commissioner for the United Nations, Consular Corps and Protocol (1997-2002), 83, who died on March 11. Commissioner Halligan's office was responsible for coordinating official visits to the World Trade Center site following the events of September 11, 2001. She escorted heads of state, prime ministers, foreign ministers and defense ministers to the site. Earlier during her political career, she served as president of the Women's National Republican Club and three times as a New York delegate to the Republican National Convention. The flags were raised on March 16, 2013.



Commissioner Irene R. Halligan.

**Harper Street Asphalt Plant (Queens)**

On March 16, 23, and 30, 2013, Division ironworkers repaired the main mixer drum, brackets, and platform and supporting angles.

**Anti-Icing**

On March 18, 2013, 3 inches of snow fell in Central Park, 2.9 inches at La Guardia Airport, and 1.4 inches at JFK Airport. Anti-icing crews were deployed on the East River bridges from 2:00 PM on March 18 until 1:00 AM the following morning; eight applications of liquid chemicals were made. Icicle patrols were active on the FDR Drive and Cross -Bronx Expressway.

**Belt Parkway Bridge over Rockaway Parkway (Brooklyn)**

The new concrete entrance ramp from Canarsie Circle to the eastbound Belt Parkway opened on March 22, 2013.



New Entrance Ramp D.

### APRIL

#### **Award**

In April 2013, the American Council of Engineering Companies of New York selected the reconstruction of the East 8<sup>th</sup> Street Access Ramp (Guider Avenue Ramp to Belt Parkway) over Belt Parkway for a Gold Award in the structural systems category in its 2013 Engineering Excellence Awards.

#### **Belt Parkway Bridge over Rockaway Parkway (Brooklyn)**

The new eastbound exit ramp from the Belt Parkway to Canarsie Circle opened on April 5, 2013.



New Exit Ramp C. The Old Ramp is on the Left.

#### **Harper Street Asphalt Plant (Queens)**

On April 6, 2013, Division ironworkers repaired the main drum and bins.

#### **Houston Street Bridge over FDR Drive (Manhattan)**

Cleaning and painting of the bridge, which began on March 22, 2013, was completed on April 11, 2013.

#### **Harper Street Asphalt Plant (Queens)**

On April 13 and 20, 2013, Division ironworkers repaired the hot tower motor, mixer drum, and silo.

#### **Boston Marathon Tribute**

The American flags on the Brooklyn Bridge were lowered to half-mast by Division painters on April 16, 2013 as a mark of respect for the victims of the bombings that occurred on April 15 at the Boston Marathon. The flags were raised on April 20, 2013.

#### **Division Years of Service Ceremony**

Division personnel were honored on April 17, 2013 for their years of service to the City. The awards were presented by Chief Bridge Officer Henry D. Perahia, Executive Director Management and Support Services Dorothy Roses, Chief Staff Manager/Executive Director of Community Affairs Joannene Kidder, and Deputy Chief Engineer Maintenance, Inspections and Operations George W. Klein.

##### 40 Years of Service

Staff Analyst Valerie Kemp.

##### 35 Years of Service

Secretary Patricia Foster and Associate Staff Analyst Alice Todd.

##### 30 Years of Service

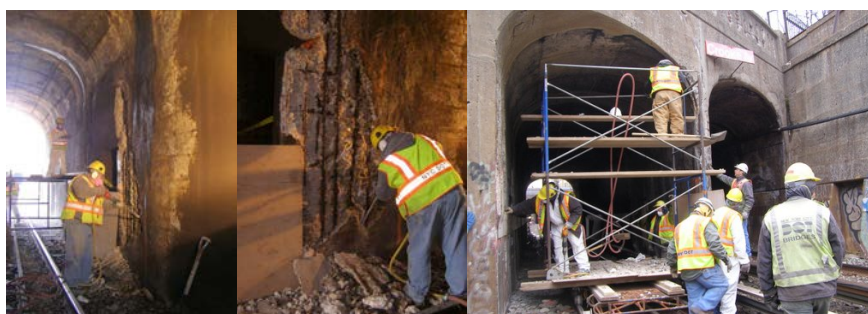
Administrative Manager Rona Brown, Electrician Gary Emmanuel, Supervisor Highway Repairer Joseph Flood, Oiler Rene Francis, Highway Repairer Roosevelt Gee, Jr., Bridge Operator David Leifer, Supervisor Bridge Operator Domingo Porrata, Principal Administrative Associate Marija Raborg, and Electrician Robert Stackpole.

### 25 Years of Service

Highway Repairer Angelo Capone, Bridge Repairer and Riveter Michael Collins, Clerical Associate Maritza Costan, Area Supervisor Highway Maintenance Thomas Cupo, Jr., Electrician Patrick Fitzgerald, Administrative Staff Analyst James Gallagher, Associate Project Manager Richard Gwasda, Associate Staff Analyst Maria Holland, Principal Administrative Associate Milagros Jorge, Administrative Engineer Walter Kulczycki, Principal Administrative Associate Doreen Langhorne, Associate Project Manager Reza Lotfi, Civil Engineer Omar Makki, Cement Mason Lawrence Marks, Carpenter Joseph Moschella, Administrative Manager Diana Neal, Bridge Repairer and Riveter James Philip, Carpenter William Sic, Administrative Manager Beverly Smith, and Oiler Tom Strommen.

### ***Ocean Avenue, Parkside Avenue, and Crooke Avenue Bridges over NYCT Brighton Line (Brooklyn)***

The project to remove spalled concrete from these bridges over train tracks, which began on the weekend of March 8, 2013, was completed over the weekend of April 19, 2013.



Removing Spalled Concrete From Bridges Over Train Tracks.

### ***Brooklyn Bridge***

On April 27, 2013, the Massachusetts Institute of Technology Club of New York visited the Brooklyn Bridge. Divisional responsibilities and capabilities were discussed and questions were answered.



Oiler Thomas McAuliffe, Supervisor Highway Repairer Joseph Flood, and Deputy Chief Engineer George Klein With the MIT Alumni on the Bridge.

### ***Harper Street Asphalt Plant (Queens)***

On April 27, 2013, Division ironworkers repaired the hopper and the mixer bins.

### ***Wards Island Pedestrian Bridge over Harlem River (Manhattan)***

The reconstruction of this bridge was substantially completed on April 30, 2013.

**MAY*****Belt Parkway Bridge over Rockaway Parkway (Brooklyn)***

The bridge deck concrete was placed on May 3, 2013.



Cleaning the Eastbound Bridge Deck.

***Harper Street Asphalt Plant (Queens)***

On May 1 – 4, 6 – 7, and 18, 2013, Division ironworkers repaired the crusher.

***36<sup>th</sup> Annual Five Borough Bike Tour***

In preparation for the 42-mile Five Borough Bike Tour on May 5, 2013, Division personnel swept the Ed Koch – Queensboro, Pulaski, Madison Avenue, and Third Avenue Bridges along the route and patrolled them for potholes. Carpenters installed temporary plywood covers over the finger joints of the Pulaski Bridge, which were removed after the tour concluded that day.



Cyclists on the Madison Avenue, Third Avenue, and Ed Koch Queensboro Bridges. (Credit: Mark Feinman)

***Commissioner Joel A. Miele, Sr. Tribute***

The American flags on the Brooklyn Bridge were lowered to half-mast by Division painters on May 9, 2013, in tribute to former Commissioner Joel A. Miele, Sr., 78, who died on May 6. A professional civil engineer, he served as New York City Department of Buildings Commissioner from 1994 to 1996, Department of Environmental Protection Commissioner from 1996 to 2002, and as a Commissioner at the New York City Board of Standards and Appeals from 2002 to 2005. Commissioner Miele oversaw the opening, in 1998, of the first segment of a new water tunnel system linking the city to its upstate water supply — a 13.5-mile tunnel under Brooklyn and Queens. Earlier during his political career, he held posts as the Queens representative on the Department of City Planning and as chairman of Community Board 10 covering Howard Beach, Ozone Park and Richmond Hill for more than a decade.

He was commissioned in the United States Navy's Civil Engineer Corp, serving over three years on active duty and 29 years on inactive duty, retiring in 1988 at the rank of Captain in the Corp's Reserve. This service included two years as commander and commodore (Rear Admiral New York Naval Militia) of the 7<sup>th</sup> Naval Construction Regiment, which comprised over 2,600 officers and men located throughout the Northeastern United States. The flags were raised on May 10, 2013.



Commissioner Joel A. Miele, Sr.

### ***Shore Road Circle Bridge over Amtrak (Bronx)***

The reconstruction of this bridge was substantially completed on May 10, 2013.



New Shore Road Circle Bridge. New Fence.

### ***Brooklyn Bridge***

On May 14, 2013, the student association of the departments of Building Engineering and Structural Engineering at the Civil Engineering faculty of the Delft University of Technology (Netherlands) visited the Brooklyn Bridge. Divisional responsibilities and capabilities were discussed and questions about the Brooklyn Bridge reconstruction project were answered.



Deputy Chief Engineer Robert O. Collyer (in Safety Vest) With the Delft University of Technology Students on the Bridge.

### ***Peace Officers Memorial Day Tribute***

The Brooklyn Bridge American flags flew at half-mast on May 15, 2013, to commemorate Peace Officers Memorial Day.

### ***Guyon Avenue Bridge over SIRT South Shore (Staten Island)***

Contractor cleaning and painting of the bridge, which began on September 4, 2012, was completed on May 16, 2013.

### ***Memorial Day Tribute***

The Brooklyn Bridge American flags flew at half-mast until noon on May 27, 2013, to commemorate those who died serving the nation during war.

### ***Northern Boulevard Bridge over Cross Island Parkway (Queens)***

Cleaning and painting of the bridge, which began on April 1, 2013, was completed on May 30, 2013.

### ***Richmond Valley Road Bridge over SIRT South Shore (Staten Island)***

Contractor cleaning and painting of the bridge, which began on December 19, 2012, was completed on May 30, 2013.

### ***Belt Parkway Bridge over Mill Basin (Brooklyn)***

Due to heat expansion, the Mill Basin Bridge was closed to marine traffic beginning at 11:44 AM on May 30, 2013. It was returned to service at 10:03 PM.

### ***Hutchinson River Parkway Bridge over Hutchinson River (Bronx)***

Due to heat expansion, the Hutchinson River Parkway Bridge was closed to marine traffic beginning at 1:30 PM on May 31, 2013. It was returned to service at 1:00 AM on June 1.

### ***Belt Parkway Bridge over Fresh Creek (Brooklyn)***

Installation of the box beam and single rail on the westbound bridge barrier commenced in May 2013.

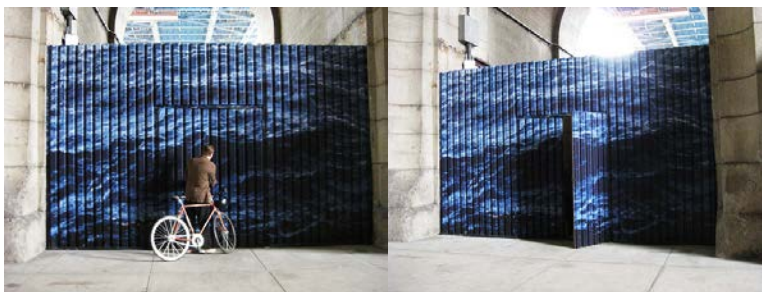


Drilling Through the Back of the Barrier to Install Box Beam Rail on the Face of the Barrier.

### ***Water Street Arch***

The Agency's Urban Art Program enhances public space through art and improved street design and streetscapes. Launched in October 2008, the program brings the vision of the Agency's World Class Streets initiative to life by partnering with community organizations to install murals, sculptures and other art forms in plazas and on medians, triangles, sidewalks, Jersey barriers and construction fences for up to 11 months on NYCDOT properties.

Casey Opstad's "Water Gate" is a 275 square foot pixelated mural painted onto a corrugated metal fence located within the Arch under the Manhattan Bridge in DUMBO, between Adams Street and Anchorage Place. The artist selected water imagery for the fence because of the neighborhood's proximity to the East River waterfront and the overall global importance of water. Over the two-week installation period, the artist hand-painted over 100,000 half-inch squares according to an eight-color schema inspired by the East River. Laid in a straight line, the pixelated squares would stretch out for more than a mile. The exhibit opened in May 2013.



"Water Gate" Exhibit on the Manhattan Bridge.

### JUNE

#### **Award**

In June 2013, the Metropolitan Section of the American Society of Civil Engineers selected the rehabilitation of the St. George Staten Island Ferry Terminal Ramps as its Design-Build Project of the Year.

#### **Harper Street Asphalt Plant (Queens)**

On June 1, 2013, Division ironworkers repaired the hopper and stairs.

#### **Water Street Arch**

From June 1 to 16, 2013, the Water Street Arch hosted one of the 88 baby grand pianos placed in New York City public spaces courtesy of arts nonprofit Sing for Hope. Local artists performed various genres of music, including cowboy country, Latin jazz, New Orleans brass, pop karaoke, and alternative country.

#### **Harper Street Asphalt Plant (Queens)**

On June 8, 2013, Division ironworkers repaired the crusher bin and installed catwalks over the hopper and drum

#### **17<sup>th</sup> Avenue Bridge over NYCT (Brooklyn)**

Remedial repairs of the pre-cast pier elements were originally scheduled to take place in November 2012, but were cancelled due to higher priority MTA Hurricane Sandy recovery work. The repairs were rescheduled to spring 2013 and were completed by the contractor on June 8, when the ambient temperatures were adequate for the repair materials.



Smoothing the Upper Repaired Wall After Stripping Forms. Grinding the Repaired Wall.



Removing Form Nails From the Stripped Keyway. The Completed Repairs.

***Williamsburg Bridge***

On June 20, 2013, Division electricians assisted a film crew for a Nike commercial at the Williamsburg Bridge.

***East 156<sup>th</sup> Street Bridge over Access to Housing (Bronx)***

Cleaning and painting of the bridge, which began on March 25, 2013, was completed on June 21, 2013.

***Harper Street Asphalt Plant (Queens)***

On June 22, 2013, Division ironworkers repaired the drum and silo.

***Huguenot Avenue Bridge over SIRT South Shore (Staten Island)***

Contractor cleaning and painting of the bridge, which began on February 1, 2013, was completed on June 22, 2013.

***Sequine Avenue Bridge over SIRT South Shore (Staten Island)***

Contractor cleaning and painting of the bridge, which began on January 15, 2013, was completed on June 22, 2013.

***Ninth Street Bridge over Gowanus Canal (Brooklyn)***

Due to heat expansion, the Ninth Street Bridge was closed to marine traffic beginning at 3:23 PM on June 25, 2013. It was returned to service at 7:30 PM.

***Harper Street Asphalt Plant (Queens)***

On June 29, 2013, Division ironworkers repaired the crushers and compressor door.

***Giffords Lane Bridge over SIRT South Shore (Staten Island)***

Contractor cleaning and painting of the bridge, which began on March 15, 2013, was completed on June 30, 2013.

***Manhattan Bridge***

Jen Liu's "Melon Mysticism for Everyone," part of the Agency's Urban Art Program, is a series of vinyl banners on the chain link fence located on the Manhattan Bridge adjacent to the bike lane at Canal and Forsyth Streets in Manhattan. The artwork's content was inspired by the neighboring fruit and vegetable markets located below the site. The artist carved mandala patterns into a watermelon and then documented various animals (cats, dogs and chickens) eating the fruit. Within the playful imagery, the communal enjoyment of the watermelon by the animals acts as a humorous and poetic allegory for the cohesion of immigrant communities in New York City. The exhibit opened in June 2013.



"Melon Mysticism for Everyone" Exhibit on the Manhattan Bridge.

## JULY

### **Jackie Robinson Parkway and Union Turnpike Bridge over Austin Street (Queens)**

The component rehabilitation of this bridge was substantially completed on July 2, 2013.



Jackie Robinson Parkway Bridge. (Credit: NYSDOT). Retaining Wall Repair – Before, During, and After. Deck and Joint Repairs. Under Deck Repairs.

### **13<sup>th</sup> Avenue Bridge over LIRR and Sea Beach (Brooklyn)**

The component rehabilitation of this bridge was substantially completed on July 2, 2013.



13<sup>th</sup> Avenue Bridge. (Credit: NYSDOT) Repairing the Under Deck and Deck Joint. Bridge After Repair.

### **Harper Street Asphalt Plant (Queens)**

On July 6, 2013, Division ironworkers repaired the drum, ducts, and the compressor protection room.

### **Greenpoint Avenue Bridge over Newtown Creek (Brooklyn/Queens)**

Due to heat expansion, the bridge was closed to marine traffic beginning at 5:10 PM on July 8, 2013. It was returned to service at 8:50 PM.

***Metropolitan Avenue Bridge over English Kills (Brooklyn)***

Due to heat expansion, both marine and vehicular traffic were delayed from 8:55 PM until 11:20 PM on July 8, 2013.

***Carroll Street Bridge over Gowanus Canal (Brooklyn)***

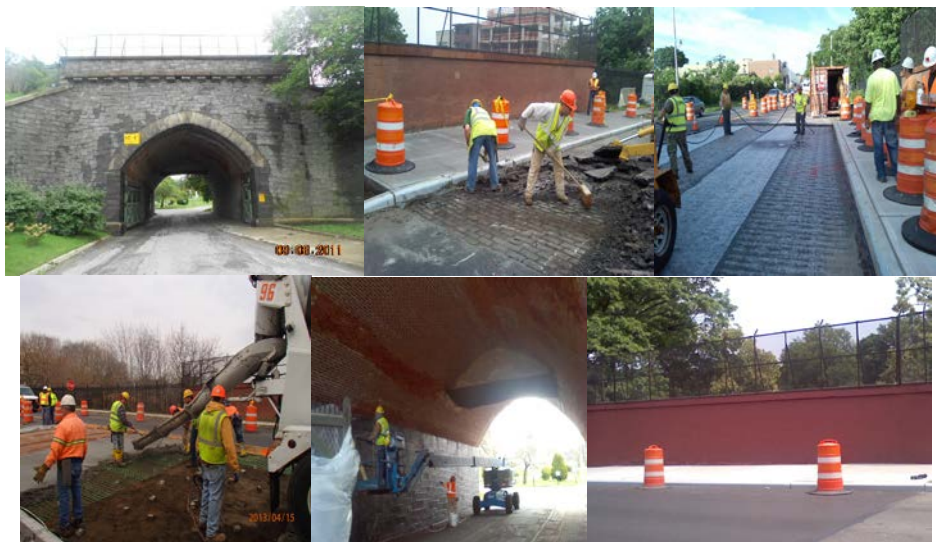
The bridge is a two span movable–retractile type bridge. The bridge roadway carries a single travel lane in the east direction. There are no parking lanes on the bridge. There is a sidewalk on each side of the bridge. The scope of rehabilitation work included the following: replace the deteriorated timber deck; restore the expansion joints; clean masonry walls at the west abutment; replace impacted stiffeners, angles, and plates; clean and paint structural steel; reset roadway paving units at west abutment and repair/replace concrete sidewalks at both approaches; install new timber curbs on both sides of the roadway; and install new rubber dock fenders at both abutments. The component rehabilitation of this bridge was substantially completed on July 9, 2013.



Carroll Street Bridge. (Credit: NYSDOT) Repairing the Deck, Approach, Fender, and Steel. Bridge After Repair.

***Fifth Avenue Bridge over Greenwood Cemetery (Brooklyn)***

The bridge is a one span masonry arch structure. The brick arch can be classified as a gothic style arch. The bridge carries one travel lane and one parking lane in each direction. The sidewalk consists of grass and dirt on both side of a 5 feet wide concrete walkway. The scope of rehabilitation work included the following: remove and replace existing asphalt from the bridge and approach slabs; clean and seal cracks in asphalt at both approach pavements; remove existing 5 foot wide sidewalk on both sides of the bridge and replace with a 13 foot wide sidewalk; replace existing stone curb with cast-in-place concrete curb; clean, repair, tuck point and restore the stone masonry; and rehabilitate the brick arch. The component rehabilitation of this bridge was substantially completed on July 9, 2013.



Fifth Avenue Bridge. (Credit: NYSDOT). Repairing the Deck and Approach, Waterproofing, Concrete Sub Base, and Under Deck. Bridge After Repair.

### ***Council Member Walter McCaffrey Tribute***

The American flags on the Brooklyn Bridge were lowered to half-mast by Division painters on July 10, 2013, in tribute to former Council Member Walter McCaffrey, 64, who died that day. Council Member McCaffrey served in the Council from 1985 to 2001. He represented District 26 in Queens, covering the communities of Woodside, Sunnyside and Long Island City, and counting among his successes legislation that banned or restricted adult entertainment venues from residential neighborhoods. Earlier during his political career, he served as chief of staff to former Manhattan Borough President Andrew Stein. The flags were raised on July 16, 2013.



Council Member Walter McCaffrey.

### ***Eight Ramps and One Pedestrian Bridge at the St. George Staten Island Ferry Terminal (Staten Island)***

The design-build reconstruction of these bridges was substantially completed on July 15, 2013.



St. George Ferry Terminal Ramps A, B, C and D.



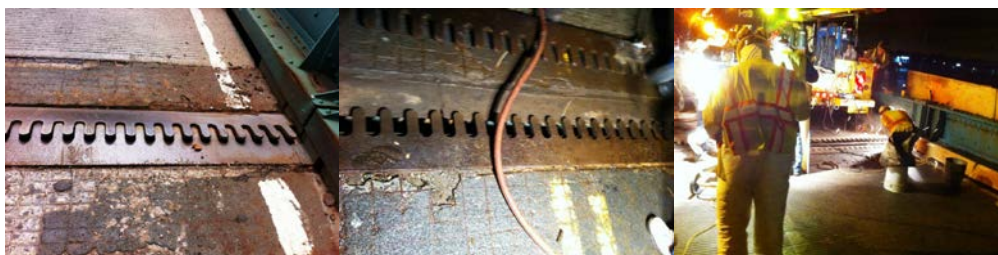
St. George Ferry Terminal Bus Canopy Grating. North Ramp. Project Site Overview.

***Greenpoint Avenue Bridge over Newtown Creek (Brooklyn/Queens), Hutchinson River Parkway over Hutchinson River (Bronx), Belt Parkway Bridge over Mill Basin (Brooklyn), Bruckner Expressway (Northbound and Southbound Service Road) over Westchester Creek (Unionport Bridge) (Bronx), and Pulaski Bridge over Newtown Creek (Brooklyn/Queens)***

Due to heat expansion, these bridges were all closed to marine traffic for various periods from July 16 through July 21, 2013. Division staff used water trucks to cool down the bridges.

***City Island Road Bridge over Eastchester Bay (Bronx)***

On July 17, 2013, the Division received word of an urgent condition affecting the finger joints on the City Island Bridge that occurred after the City's record-breaking heat wave. The joints, steel plates that resemble overlapping human fingers, allow the bridge to expand and contract in response to changes in temperature or load. Division crews were on the scene quickly closing down the effected lane of traffic to protect motorists. Overnight repairs were scheduled on July 25 when it was determined that the bridge had cooled sufficiently for the work to proceed. The repairs involved opening the joint plates and installing plug welds, which helped correct the plates' position and recreated the proper gap to allow the bridge to expand and contract safely.



City Island Bridge Finger Joint Before the Repair. Open Finger Joint. Division Crews Repairing the Joints.



City Island Bridge: View Beneath the Finger Joint. The Joint Plates are Placed to Check for the Proper Gap. Leveling the Plate Before Welding. Close-Up of a Plug Weld. After 17 Plug Welds, the Finger Joints Sit Flush on the Roadway.

### ***Harper Street Asphalt Plant (Queens)***

On July 20, 2013, Division ironworkers repaired the hopper, silo, and support ducts.

### ***Manhattan Bridge***

On July 25, 2013, the Agency's summer interns visited the Manhattan Bridge. Divisional responsibilities and capabilities were discussed and questions were answered.



Manhattan Bridge Engineer-in-Charge Brian Gill Answering Interns' Questions, Along With Supervisor Carpenter Joseph Vaccaro and Assistant Civil Engineer Clara Medina (in Safety Vests). (Credit: Russell Holcomb) Project Manager Sergey Kholdarov, Assistant Civil Engineer Clara Medina, Retired Deputy Chief Engineer Russell Holcomb, and Manhattan Bridge Engineer-in-Charge Brian Gill With the Interns. (Credit: Anita Navalurkar)

### ***Harper Street Asphalt Plant (Queens)***

On July 26 – 28, 2013, Division ironworkers dismantled and removed the old duct structure from the hopper and installed a new one.

### ***9<sup>th</sup> Street Bridge over Gowanus Canal (Brooklyn)***

Due to heat expansion, the 9<sup>th</sup> Street Bridge was closed to marine traffic beginning at 1:35 PM on July 29, 2013. It was returned to service at 6:00 AM on July 30.

### ***Seeley Street Bridge over Prospect Avenue (Brooklyn)***

Cleaning and painting of the bridge began and was completed in July 2013.

### ***Dorchester Road Bridge over BMT Subway, Brighton (Brooklyn)***

Lev Zeitlin's "Now & Then," part of the Agency's Urban Art Program, is a decorative mural at the Dorchester Avenue Bridge between East 16<sup>th</sup> Street and Marlborough Road in Brooklyn. The

simple painting technique utilized a color palette complimentary to the tree-lined streets and Victorian architecture in the neighborhood. Over the course of two weeks, volunteers assisted the artist with implementation of the mural. The exhibit opened in July 2013.



“Now & Then” Exhibit on the Dorchester Avenue Bridge.

## AUGUST

### ***Park Avenue Tunnel over 34<sup>th</sup> Street (Manhattan)***

As part of the sixth annual Summer Streets program in August 2013, the Park Avenue Tunnel, which runs from 33<sup>rd</sup> Street to 40<sup>th</sup> Street, was open to pedestrians at the 33<sup>rd</sup> Street entrance between the hours of 7 AM and 1 PM on August 3, 10, and 17, 2013. “Voice Tunnel” was an interactive light and sound installation by Mexican-Canadian artist Rafael Lozano-Hemmer, and transformed the 1,400 foot long Park Avenue Tunnel with 360 theatrical spotlights that produced glimmering arches of light along the tunnel’s walls and ceiling. Participants were able to influence the intensity of each light by speaking into a special intercom at the tunnel’s center which recorded their voice and looped it. Louder speech increased the lights’ brightness proportionally, creating a Morse-like code of flashes throughout the tunnel. The individual voices were heard as pedestrians walked through the tunnel, on 180 loudspeakers, one beside each light arch and synchronized with it. At any given time, the tunnel was illuminated by the voices of the past 90 participants: as new participants spoke into the intercom, older recordings were pushed away by one position down the array of light fixtures until they left the tunnel, so that the content of the piece changed constantly.



“Voice Tunnel” Exhibit in the Park Avenue Tunnel. (Credit: Russell Holcomb)

### ***Eagle Avenue Bridge over East 161<sup>st</sup> Street (Bronx)***

Cleaning and painting of the bridge, which began on May 20, 2013, was completed on August 20, 2013.

### ***Flatbush Avenue Bridge over Belt Parkway (Brooklyn)***

Cleaning and painting of the bridge, which began on October 15, 2012, was completed on August 20, 2013.

### ***Belt Parkway Bridges over Paerdegat Basin, Fresh Creek, and Rockaway Parkway (Brooklyn)***

The first part of the seven bridge Belt Parkway reconstruction program was substantially completed on August 22, 2013. Contract #1 included the Paerdegat Basin, Fresh Creek, and Rockaway Parkway bridges.



Paerdegat, Fresh Creek, and Rockaway Bridges.

### ***Belt Parkway Bridge over Paerdegat Basin (Brooklyn)***

On August 27, 2013, a chain linked fence with privacy glare screens was installed behind the timber rail fencing on the westbound Belt Parkway at the Paerdegat Basin Bridge. Residents of the Bergen Beach community had expressed their concerns regarding the rapid succession of vehicular lights coming from the newly constructed Paerdegat Basin Bridge. The fence will prevent vehicular headlight glare from streaming directly into the adjacent Bergen Beach community. The privacy glare fence measures 6 feet high by 392 feet long.



Installing the Privacy Glare Fence.

### ***9<sup>th</sup> Street Bridge over Gowanus Canal (Brooklyn)***

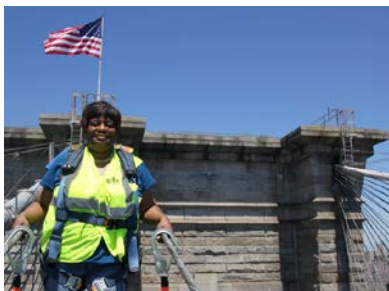
Due to heat expansion, the 9<sup>th</sup> Street Bridge was closed to marine traffic beginning at 9:30 AM on August 28, 2013. It was returned to service at 4:30 PM.

### ***Harper Street Asphalt Plant (Queens)***

On August 31, 2013, Division ironworkers repaired the crusher and mixer.

### **Earlene Powell**

Deputy Director of In-House Painting Earlene Powell was the subject of the “Staff Spotlight” feature in the August 2013 edition of “Byways,” the official Agency newsletter.



Deputy Director of In-House Painting  
Earlene Powell on the Brooklyn Bridge.

## **SEPTEMBER**

### **Claremont Parkway Bridge over Metro North (Bronx)**

The reconstruction of this bridge was substantially completed on September 3, 2013.

### **Highland Boulevard Bridge (Northbound) over Vermont Avenue (Brooklyn)**

Cleaning and painting of the bridge, which began on August 9, 2013, was completed on September 3, 2013.

### **Harper Street Asphalt Plant (Queens)**

On September 7, 2013, Division ironworkers repaired the cold feed bin and duo drum.

### **Patriot Day Tribute**

The Brooklyn Bridge flags flew at half-mast on September 11, 2013 to commemorate the National Day of Service and Remembrance.



Brooklyn Bridge Flag at Half-  
Mast at Dusk. (Credit:  
Michele N. Vulcan)

### **Harper Street Asphalt Plant (Queens)**

On September 14, 2013, Division ironworkers repaired the bin support beams.

### **Washington D.C. Navy Yard Tribute**

The American flags on the Brooklyn Bridge were lowered to half-mast by Division painters on September 17, 2013 as a mark of respect for the victims of the shooting violence that occurred on September 16 at the Washington D.C. Navy Yard. The flags were raised on September 21, 2013.

### ***Astoria Boulevard Bridge (Eastbound) over Brooklyn-Queens Expressway (West Leg) (Queens)***

Cleaning and painting of the bridge, which began on April 29, 2013, was completed on September 18, 2013.

### ***Award***

On September 19, 2013, Director of Component Rehabilitation Krishan Baweja received an Outstanding Achievement Award from the South Asian American Association.

### ***Department of Transportation Shops at Kent Avenue (Brooklyn)***

On September 19, 2013, a Division construction project manager assisted a film crew from the television series "Person of Interest" at the Kent Avenue Facility.

### ***Harper Street Asphalt Plant (Queens)***

On September 28, 2013, Division ironworkers repaired the bins, material elevator, and the conveyor belt.

### ***City Island Road Bridge over Eastchester Bay (Bronx)***

A Notice to Proceed for the replacement of this bridge was issued to the contractor with a start date of September 30, 2013.

## **OCTOBER**

### ***Grand Concourse Bridge over East 175<sup>th</sup> Street (Bronx)***

Cleaning and painting of the bridge, which began on August 22, 2013, was completed on October 2, 2013.

### ***American Cancer Society's "Making Strides Against Breast Cancer" Campaign***

During September and October 2013, Division personnel and their friends and families participated in bake and book sales and other fundraisers, and sponsored the DOT Teams for the American Cancer Society's annual "Making Strides Against Breast Cancer" walk.

### ***Roosevelt Island Bridge over East River/East Channel (Manhattan/Queens)***

On October 7 and 15, 2013, a Division engineer and Supervisor of Bridge Operations assisted a film crew from the television series "Elementary" at the Roosevelt Island Bridge.

### ***Ed Koch Queensboro Bridge***

A truck caught fire on the bridge on August 16, 2013, and damaged three stringers that support the eastbound upper roadway. Division engineers measured the displacement and determined that one could be repaired but the other two required replacement. While preparatory work began in September, the Queens-bound right lane of the upper roadway remained closed over the affected area. Using nighttime lane closures, rivets were replaced with bolts to speed the replacement process once the new stringers would be fabricated and ready for installation. Replacement of the two damaged stringers and the repair of a third were completed on the weekend of October 12, 2013. The Queens-bound upper and lower roadways were closed from 1:00 a.m. on October 12 to 3:00 p.m. on October 13. All work was performed by in-house forces.



August 2013: Firefighters Examining the Damage. Repairing the Bridge Included Custom Designing the Steel Beams, as Well as Fabrication and Installation. Division Ironworkers Fabricated Two 26-Foot-Long, 1.5-Ton Beams in Their Brooklyn Shop. October 2013: Removing the Warped Beams. The New Beams.

### ***Grand Concourse Bridge over East Kingsbridge (Bronx)***

Cleaning and painting of the bridge, which began on September 19, 2013, was completed on October 21, 2013.

### ***Hurricane Sandy Tribute***

The Brooklyn Bridge flags flew at half-mast on October 29, 2013 as a mark of respect for the memory of those who lost their lives one year earlier due to Hurricane Sandy.

### ***Mosholu Parkway Bridge over Webster Avenue (Bronx)***

Cleaning and painting of the bridge, which began on October 4, 2013, was completed on October 29, 2013.

### ***Albee Avenue Bridge over SIRT South Shore (Staten Island)***

The component rehabilitation of this bridge was substantially completed on October 31, 2013.



Albee Avenue Bridge. Repairing Fence and Fence Post, Pier Bent, and Deck Concrete. Bridge After Repair.

### **Hunts Point Avenue Bridge over Amtrak – CSX (Bronx)**

Sharon De La Cruz's "Ruby Walks," part of the Agency's Urban Art Program, is a series of painted metal panels depicting Ruby Bridges along a bridge at Hunts Point Avenue between Bruckner Boulevard and Garrison Avenue. Ms. Cruz chose the iconic image of Ruby Bridges, the first African-American student to attend an all-white elementary school in the South, because she represents change, community and female empowerment. The exhibit opened in October 2013.



"Ruby Walks" Exhibit on the Hunts Point Bridge.

## **NOVEMBER**

### **Award**

In November 2013, the *Engineering News-Record of New York* selected the rehabilitation of the St. George Staten Island Ferry Terminal Ramps for an Award of Merit in the Airports/Transit category in its 2013 Best Projects Competition, spanning the New York, New Jersey and Connecticut region.

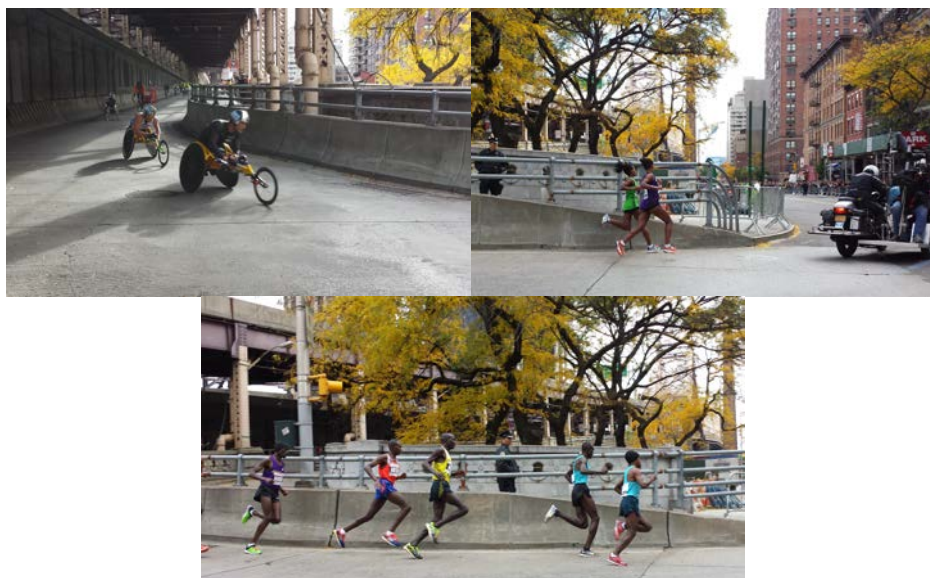
### **Hamilton Avenue Asphalt Plant (Brooklyn) and Harper Street Asphalt Plant (Queens)**

On November 2 and 3, 2013, Division ironworkers repaired the dryers and conveyor belt.

### **New York City Marathon**

In preparation for the Marathon on November 3, 2013, Division personnel mechanically swept the Madison Avenue, Pulaski, and Ed Koch Queensboro (lower level) bridges, reconfigured the

Jersey barriers on the Ed Koch Queensboro Bridge's outer roadway and 60<sup>th</sup> Street ramp, and installed hay bales. Operations were also performed by the Willis Avenue Bridge contractor.



At Mile 16 – the Ed Koch Queensboro Bridge, Coming Down the South Outer Roadway onto 59<sup>th</sup> Street. Australia's Kurt Fearnley (3<sup>rd</sup> place Male Pushrim Wheelchair – On Left) and Switzerland's Marcel Hug (Winner – On Right). United States' Tigist Tufa Demisse (8<sup>th</sup> Place – On Left) and United States' Buzunesh Deba (2<sup>nd</sup> place – On Right). Kenya's Stanley Biwott (5<sup>th</sup> Place – On Left), South Africa's Lusapho April (3<sup>rd</sup> Place – 2<sup>nd</sup> From Left), Kenya's Geoffrey Mutai (Winner – 4<sup>th</sup> From Right), Kenya's Peter Cheruiyot Kirui (8<sup>th</sup> Place – 3<sup>rd</sup> From Right). (Credit: Paul Schwartz)

### ***Belt Parkway Bridge over Bay Ridge Avenue (Brooklyn)***

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of November 4, 2013.

### ***Division Hurricane Sandy Response Recognition Ceremony***

On October 29, 2012, the New York Metropolitan area was impacted by Hurricane Sandy (Post-Tropical Cyclone Sandy), causing flooding, loss of power and damage to many components of New York City's infrastructure. Division employees ensured the safety of City residents and infrastructure. Division personnel were honored on November 4, 2013 for their outstanding work before, during, and after Hurricane Sandy. The awards were presented by Chief Bridge Officer Henry D. Perahia, Deputy Chief Engineer Maintenance, Inspections and Operations George W. Klein, Deputy Chief Engineer Bridge Capital Design and Construction Robert O. Collyer, Deputy Chief Engineer Engineering Review and Support Anilkumar Vyas, Administrative Superintendent Bridge Operations George Kern, and Administrative Superintendent Highway Operations Paul Schwartz.

#### Bridge Painting Team

Supervisor Bridge Painters Hughie Flood, Reynaldo Grant, and David Yanolatos.

#### Bridge and Tunnel Operations Team

Supervisor Electrician Ronald Marano, and Electrician Steven Radice.

#### Preventive Maintenance Team

Highway Repairer Danny Alvarado, Supervisor Highway Repairer Victor Andrade, Highway Repairers Rudolph Bentley, Andrew Bondi, and Sharon Britt, Assistant City Highway Repairer Anthony Brucculeri, Area Supervisor Highway Maintenance James Campbell, Assistant City Highway Repairer Luciano Cardona, Highway Repairers Thomas Cruz, Michael Cunningham, and Joseph Davis, Assistant City Highway Repairer Deon Francois, Highway Repairers Gary George and John Godfrey, Assistant City Highway Repairer James Kelleher, Tractor Operator Andrew Mondy, Highway Repairer Ralston Myers, Supervisor Highway Repairer Michael Parise, ,

Assistant City Highway Repairer Nigel Ramirez, Area Supervisor Highway Maintenance Charles Remi, Highway Repairer David Russell, Supervisor Highway Repairer Joseph Turchiano, and Assistant City Highway Repairer Danny Wright.

### Roadway Bridges Team

Construction Project Manager Syed Alam and Administrative Engineer Daniel Hom.

### Truck Permit Team

Assistant Civil Engineer Darlyn Alvarez, Administrative Manager Monique Bryson-Sambula, Computer Aide Lisa Burns, Administrative Engineer Udaya Dommaraju, Administrative Manager David-Paul Gerber, Assistant Civil Engineer Jafar Haider, Clerical Associate George Liang, Associate Staff Analyst Kevin Lobat, Administrative Manager Diana Neal, Civil Engineering Intern Monica Palacio-Rodriguez, Civil Engineer Farid Tadros, Clerical Associate Tiffany Utley, and Associate Project Manager Mariya Zhurakhinskaya.

### Individual Awards

Bridge Painting: Supervisor Bridge Painter Cesar Pazmino

Bridge Painting/Office of Emergency Management: Staff Analyst Earlene Powell

Preventive Maintenance Administration: Administrative Superintendent Highway Operations Paul Schwartz

Preventive Maintenance – Pulaski Yard: Motor Grader Operator Peter Paramithis

Office of Emergency Management/Shelter Relief: Principal Administrative Associate Milagros Jorge

Shelter Relief: Administrative Manager Lourdes Acevedo

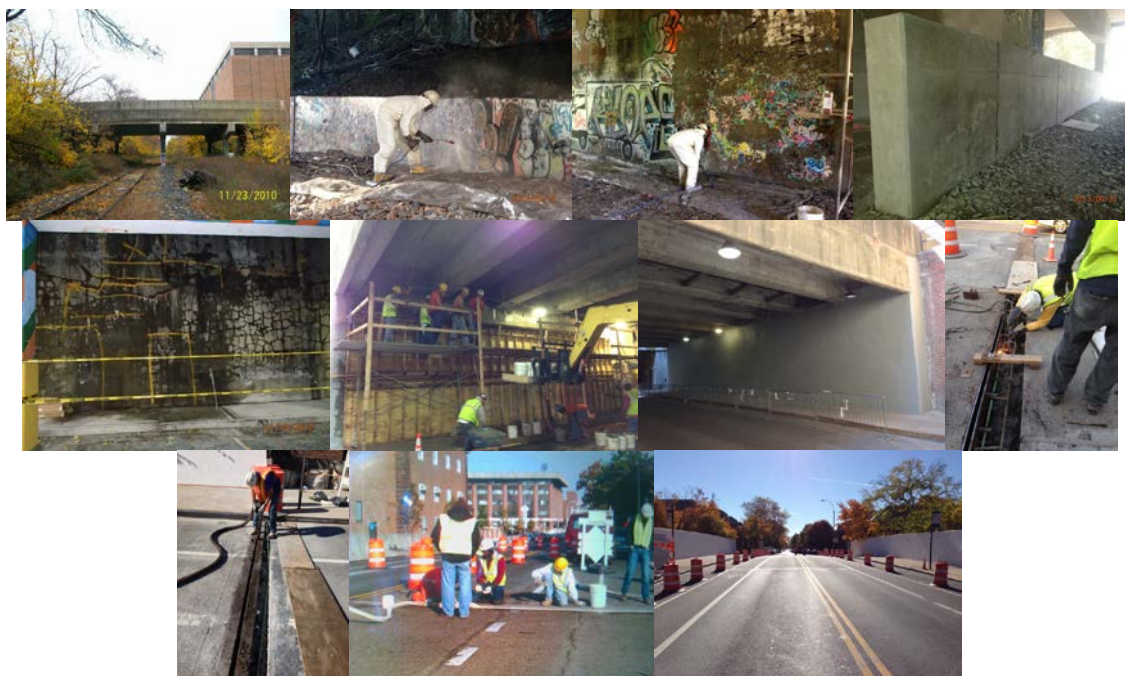
Lifesaving: Assistant City Highway Repairer Deon Francois



Hurricane Sandy Response Award Ceremony Participants.

### ***Bedford Avenue Bridge over LIRR Bay Ridge (Brooklyn)***

The bridge is a 6 span structure, and carries one travel lane in each direction. There is a parking lane and a bicycle lane on each side of the bridge. The scope of rehabilitation work included the following: seal and repair cracks and spalls at the deck, abutments and piers; replace compression seals; and clean concrete and apply an anti-graffiti protective coating on the abutments and piers. The component rehabilitation of this bridge was substantially completed on November 6, 2013.



Bedford Avenue Bridge. (Credit: NYSDOT) Removing Graffiti and Applying Anti-Graffiti Coating – Before and After. Abutment Wall Concrete Repair – Before and After. Armored Joint Repair. Bridge After Repair.

## **Brooklyn Bridge**

On November 6, 2013, 3<sup>rd</sup> year civil engineering students at the Rensselaer Polytechnic Institute visited the Brooklyn Bridge. Divisional responsibilities and capabilities were discussed and questions about the Brooklyn Bridge reconstruction project were answered.



Deputy Chief Engineer Robert O. Collyer (in Safety Vest) and Assistant Civil Engineer Clara Medina With the Rensselaer Polytechnic Institute Students on the Bridge.

## **Department Recognition Ceremony**

Division personnel were honored on November 12, 2013 for their outstanding work on various projects. The awards were presented by Commissioner Janette Sadik-Khan and First Deputy Commissioner Lori A. Ardito.

## **Belt Parkway Bridge Reconstruction**

Administrative Engineer Muhammad Afzal, Construction Project Manager Syed Alam, Highway Transportation Specialist Eric Callender, Administrative Engineer Andre Celestin, Deputy Chief

Engineer Bridge Capital Design and Construction Robert O. Collyer, Administrative Engineer Udayakumar Dommaraju, Administrative Engineer David Dunn, Assistant Civil Engineer Getachew Gedfe, Civil Engineer Mikhail Geller, Administrative Engineer Daniel Hom, Administrative Engineer Ayman Jacob, Civil Engineer Edvard Jeamgocian, Chief Staff Manager/Executive Director of Community Affairs Joannene Kidder, Administrative Engineer John Kurre, Associate Project Manager Tajul Lodhi, Assistant Civil Engineer Ramakumar Magge, Assistant Civil Engineer Khalid Mohammed, Civil Engineer Gregory Novofastovsky, Administrative Engineer Sanjeev Patel, Administrative Engineer Roly Parroco, Civil Engineer Jagdish Patel, Associate Project Manager Alina Platonova, Civil Engineer Serge Rigaud, Civil Engineer Reza Sharif, Administrative Engineer Mahabal Shah, and Deputy Chief Engineer Engineering Review and Support Anilkumar Vyas.

### Brooklyn Bridge Rehabilitation

Administrative Engineer Hasan Ahmed, Civil Engineer Li-Ping Chao, Deputy Chief Engineer Bridge Capital Design and Construction Robert O. Collyer, Civil Engineer Thomas DeLuca, Civil Engineer Mohammad Hossain, Civil Engineer Jagtar Khinda, Chief Staff Manager/Executive Director of Community Affairs Joannene Kidder, Administrative Engineer Walter Kulczycki, Assistant Civil Engineer Ramakumar Magge, Civil Engineer Maria Mikolajczyk, Industrial Hygienist Vismit Patel, Civil Engineer Mohammad Rahman, Civil Engineer Kamran Sikandar, and Associate Project Manager Vadim Sokolovsky.

### Coverage During Citywide Emergencies

Staff Analyst Earlene Powell.

### Ed Koch Queensboro Bridge Emergency Repairs

Bridge Repairer and Riveter Shawn Ahearn, Assistant Civil Engineer Andrew Hoang, Civil Engineer Edvard Jeamgocian, Supervisor Bridge Repairer and Riveter John Jones, Deputy Chief Engineer Maintenance, Inspections and Operations George W. Klein, Assistant Civil Engineer Aleksandr Kotlyanskiy, Civil Engineer Alfred Lee, Bridge Repairer and Riveter Yiu Liu, Civil Engineer Thirugnanam Mohan, Supervisor Bridge Painter Cesar Pazmino, Supervisor Bridge Repairer and Riveter Gean Pilipiak, Administrative Superintendent Highway Operations Paul Schwartz, Administrative Engineer Mahabal Shah, Civil Engineer Jiaji Shi, Construction Project Manager Hany Soliman, and Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse.

### Manhattan Bridge Contract #14

Administrative Engineer Hasan Ahmed, Civil Engineer Adam Caplan, Deputy Chief Engineer Bridge Capital Design and Construction Robert O. Collyer, Administrative Engineer Brian Gill, Administrative Engineer John Kurre, Civil Engineer Masroor Mahmood, Administrative Engineer Abdur Razzaq, Assistant Civil Engineer Giuseppe Sanfilippo, Civil Engineer Javed Sarwar, and Assistant Civil Engineer Dinesh Shah.

### Plaza Program

Chief Staff Manager/Executive Director of Community Affairs Joannene Kidder.

### St. George Ferry Terminal Ramps

Administrative Engineer Muhammad Afzal, Project Manager Tamara Berlyavsky, Industrial Hygienist Alex Bezchastnov, Deputy Chief Engineer Bridge Capital Design and Construction Robert O. Collyer, Civil Engineer Thomas DeLuca, Administrative Engineer Udayakumar Dommaraju, Construction Project Manager Beatriz Duran, Civil Engineer Mikhail Geller, Assistant Mechanical Engineer Nancy Guernsey, Administrative Engineer Ayman Jacob, Chief Staff Manager/Executive Director of Community Affairs Joannene Kidder, Assistant Civil Engineer Sarah-Ann Klein, Associate Project Manager Reza Lotfi, Civil Engineer Masroor Mahmood, Associate Project Manager Patrick Nestor, Civil Engineer Andreas Paraschos, Civil Engineer Mohammad Rahman, Civil Engineer Javed Sarwar, and Administrative Engineer Mahabal Shah.

### ***Borden Avenue Bridge over Dutch Kills (Queens)***

On November 13, 2013, a Division engineer assisted a film crew from the television series “Elementary” at the Borden Avenue Bridge.

**President John F. Kennedy Tribute**

The Brooklyn Bridge flags flew at half-mast on November 22, 2013 to observe the 50<sup>th</sup> anniversary of the assassination of President John F. Kennedy, and as a mark of respect for his memory.

**87<sup>th</sup> Annual Macy's Thanksgiving Day Parade**

Division engineers reviewed and approved the design specifications of Toothless – How to Train Your Dragon, Snoopy and Woodstock, Finn and Jake – Adventure Time, SpongeBob SquarePants, and Oz Hot Air Balloon, four new and one returning large balloons to be introduced in the parade. A balloon is classified as large if it is larger than 5,000 cubic feet. However, the balloons in the parade cannot be taller than 70 feet, wider than 40 feet, or longer than 78 feet. Division representatives attended the test flights of the balloons at the Meadowlands Sports Complex in New Jersey on November 9, 2013, with NYPD and other agencies.

On November 28, 2013, wind speeds were relatively low and all 16 large balloons flew in the parade without incident. The maximum wind speed was approximately 22.1 miles per hour. All the balloons were flown safely and no significant incident was reported. Chief Bridge Officer Henry D. Perahia, Deputy Chief Engineer Anil Vyas, Director of Engineering Review Udaya Dommaraju, Construction Project Manager George Jarvis, Assistant Civil Engineers Jana Krettova and Jafar Haider, and three consultant engineers were positioned at various locations along the parade route to observe compliance with the approved procedures. Seven anemometers were mounted on top of light poles along the route between 77<sup>th</sup> Street and 34<sup>th</sup> Street to measure the wind speed during the parade. Division and consultant engineers were assigned to the anemometer locations to monitor the wind gusts.



Testing the Balloons (Finn and Jake – Adventure Time, Snoopy and Woodstock, Toothless – How to Train Your Dragon, and SpongeBob SquarePants) in New Jersey on November 9. (Credit: George Jarvis)



Parade 2013: Director of Engineering Review Uday Dommaraju, Deputy Chief Engineer Anil Vyas, Assistant Civil Engineer Jana Krettova, Construction Project Manager George Jarvis, and Consultant Engineers Erik Zuker and Juan Garcia. Typical Weather Station Fixed to the Top of a Light Pole.



Snoopy and Woodstock. SpongeBob SquarePants. Toothless – How to Train Your Dragon. Oz Hot Air Balloon. Finn and Jake – Adventure Time.

### ***Manhattan Bridge***

Contract #14, which included the rewrapping of the main cables and the replacement of the suspenders, was substantially completed on November 27, 2013.

### ***Belt Parkway Bridge over Gerritsen Inlet (Brooklyn)***

Driving of piles for the west and east abutments and for the cofferdam at Pier #2 was completed in November 2013.



Gerritsen Bridge Facing North (Eastbound) - Driving Piles at Pier #2.

## ***DECEMBER***

### ***Traffic Enforcement Agent Kalyanarat Ranasinghe Tribute***

The American flags on the Brooklyn Bridge were lowered to half-mast by Division painters on December 2, 2013, in tribute to NYPD Traffic Enforcement Agent Kalyanarat Ranasinghe, who was struck and killed by a vehicle while on-duty in Midtown Manhattan on November 30, 2013. Mr. Kalyanarat, 71 years-old, served as member of the Department for more than six years. He immigrated to the United States in 2001, and became a Traffic Enforcement Agent in 2006. Within 18 months of his appointment, he was promoted to Traffic Enforcement Agent Level II.



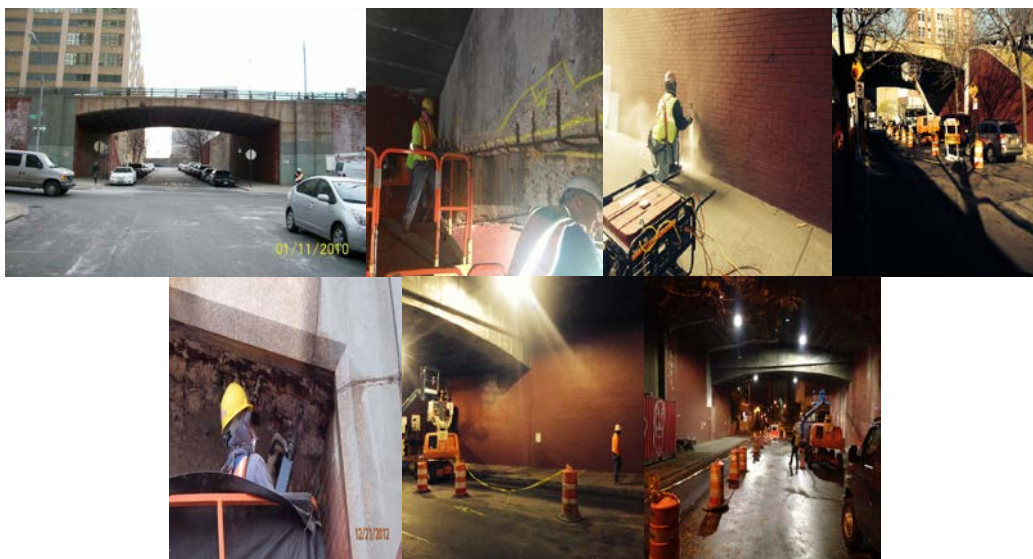
Traffic Enforcement Agent  
Kalyanarat Ranasinghe.

***Brooklyn-Queens Expressway over Adams Street (Northbound and Southbound) (Brooklyn)***

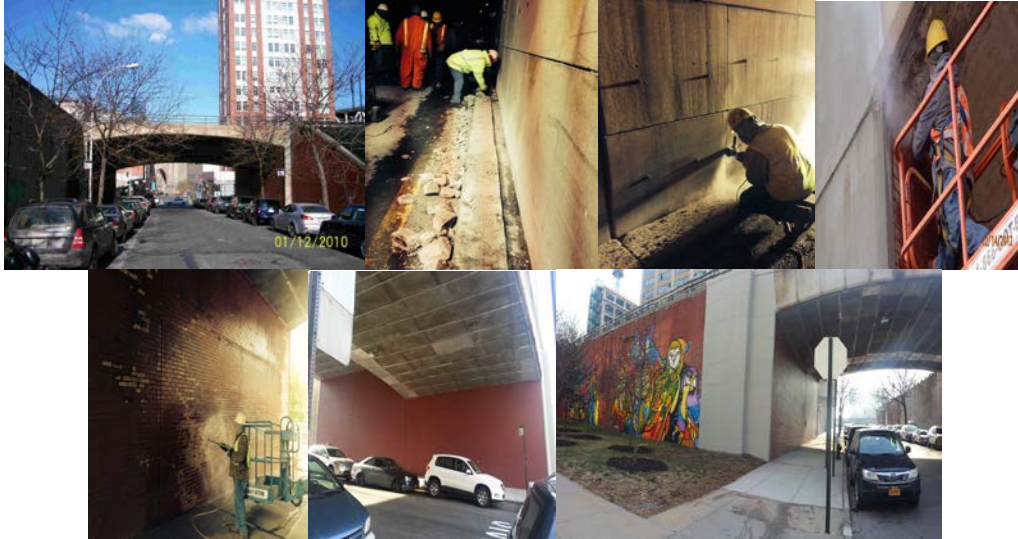
The northbound bridge is a one-span reinforced concrete arch structure, and carries three southbound travel lanes. There is a safety walk on each side of the bridge. The scope of rehabilitation work included the following: clean and seal cracks in asphalt overlay on top of bridge and approaches; remove unsound concrete and repair the underdeck concrete deteriorated areas; clean and seal cracks in brick finish at both abutments; clean the brick finish at abutments and wingwalls and apply an anti-graffiti protective coating; clean scupper; and restore the bridge expansion joint system between NB and SB structures.

The southbound bridge is a one-span reinforced concrete arch structure, and carries three northbound travel lanes. There is a safety walk on each side of the bridge. The scope of rehabilitation work included the following: clean and seal cracks in asphalt overlay on top of bridge and approaches; remove unsound concrete and repair the underdeck concrete deteriorated areas; clean and seal cracks in brick finish at both abutments; clean the brick finish at abutments and wingwalls and apply an anti-graffiti protective coating; clean scuppers; and remove deteriorated lamppost and install a new one.

The component rehabilitation of these bridges was substantially completed on December 3, 2013.



BQE over Adams Street Bridge (Northbound). (Credit: NYSDOT) Repairing Curtain Wall, Abutment, Lighting, and Under Deck. Bridge After Repair.



BQE over Adams Street Bridge (Northbound). (Credit: NYSDOT) Repairing Water Leakage, Tile Joint, Under Deck, and Masonry. Bridge After Repair.

### ***South African President Nelson Rolihlahla Mandela Tribute***

The American flags on the Brooklyn Bridge that had been lowered to half-mast in tribute to NYPD Traffic Enforcement Officer Kalyanarat Ranasinghe remained at half-mast in tribute to former South African President and global icon for human rights Nelson Mandela, 95, who died on December 5.

Mr. Mandela joined the African National Congress in 1944 when he helped to form the ANC Youth League. He was sentenced to life imprisonment on June 11, 1964 and was not released until February 11, 1990, nine days after the unbanning of the ANC and the Programme of Action and nearly four months after the release of his remaining comrades. Throughout his imprisonment he had rejected at least three conditional offers of release. Mr. Mandela immersed himself in official talks to end white minority rule and in 1991 was elected ANC President. In 1993 he and President FW de Klerk jointly won the Nobel Peace Prize and in April 1994 he voted for the first time in his life. On 10 May 1994 he was inaugurated South Africa's first democratically elected President. True to his promise President Mandela stepped down in 1999 after one term as President.



South African President Nelson Mandela.

### ***National Pearl Harbor Remembrance Day***

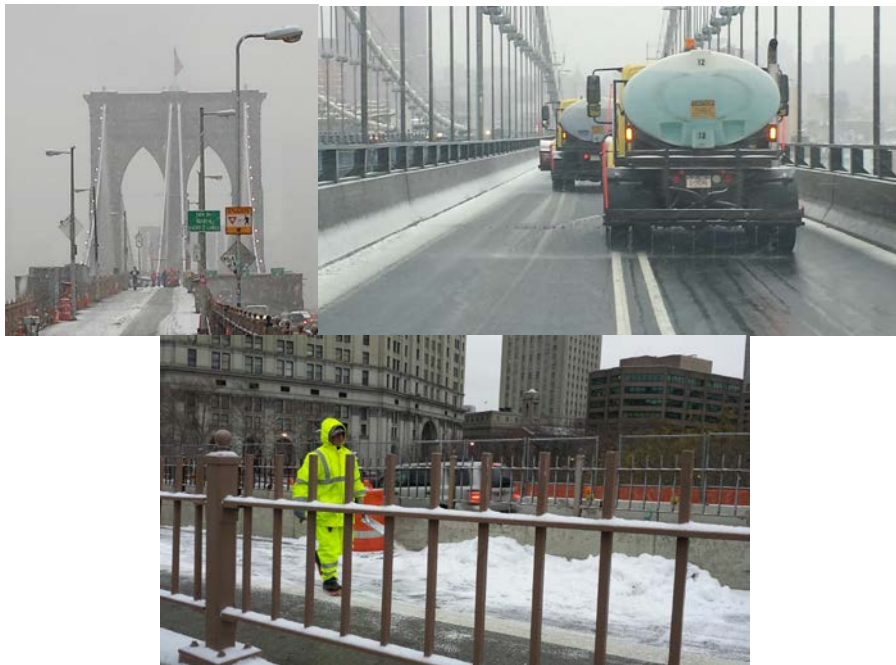
The Brooklyn Bridge flags remained at half-mast on December 7, 2013 to commemorate National Pearl Harbor Remembrance Day, in honor of those who died as a result of their service at Pearl Harbor and to pay special tribute to veterans of World War II. The flags were raised on December 10, 2013.

### ***Anti-Icing***

On December 10, 2013, a record 1.5 inches of snow fell in Central Park, 1.1 inches at La Guardia Airport, and 2.1 inches at JFK Airport. On December 14, 2013, 5 inches of snow fell in Central

## *CHRONOLOGY*

Park, 4.7 inches at La Guardia Airport, and 3.2 inches at JFK Airport. Anti-icing crews were deployed on the East River bridges from December 8 at 4:00 PM until 5:00 AM on December 9; 3,300 gallons of liquid anti-icer and 5 tons of solid de-icer were applied. From 5:00 AM until 3:30 PM on December 10, crews applied a total of 900 gallons of liquid anti-icer. Crews were again deployed from 6:00 AM on December 14 until 1:00 AM on December 15 and applied 10,750 gallons of liquid anti-icer and 36 tons of solid de-icer.



Plowing the Bicycle Path on the Brooklyn Bridge. Applying Anti-Icing Chemicals on the Manhattan Bridge. Cement Mason Victor Porowski Spreading Sodium Acetate on the Walkway of the Brooklyn Bridge. (Credit: Paul Schwartz)

## ACCOMPLISHMENTS & PLANNED PROJECTS

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### Bridge Capital Design & Construction

- East River Bridges

- Movable Bridges

- Roadway Bridges

  - Brooklyn and Manhattan Roadway Bridges

  - Bronx, Queens, and Staten Island Roadway Bridges

- Design-Build/Emergency Contracts

- Component Rehabilitation

### Engineering Review & Support

- In-House Design

- Engineering Support

- Engineering Review

- Quality Assurance

### Bridge Maintenance, Inspections & Operations

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## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

### ***East River Bridges***

#### **BROOKLYN BRIDGE**

Arguably the most influential bridge in American history, the Brooklyn Bridge remains one of New York City's most celebrated architectural wonders. Designed by the brilliant engineer John Augustus Roebling, and completed by his equally ingenious son Washington Roebling and daughter-in-law Emily Roebling, this elegant structure was, at the time of its completion in 1883, the longest suspension bridge in the world. It was declared a National Historic Landmark in 1967.



Brooklyn Bridge. (Credit: Bojidar Yanev and Earlene Powell)

The Brooklyn Bridge carries some 100,288 vehicles and 2,661 commuter bicyclists daily. The \$936 million reconstruction commenced in 1980 with Contract #1, and continues with Contract #6, scheduled for completion in 2015. This contract includes the rehabilitation of both approaches and ramps, the painting of the entire bridge, as well as the seismic retrofitting of the structural elements that are within the Contract #6 project limits.

Work completed on the bridge to date includes reconditioning of the main cables, replacement of the suspenders and cable stays, rehabilitation of the stiffening trusses, and the replacement of the suspended spans deck and the four travelers.

#### **Contract #6**

A Notice to Proceed for this \$508 million project was issued to the contractor with a start date of January 19, 2010. The ramps and approaches to the Brooklyn Bridge are in need of rehabilitation and repair, to improve safety and reduce congestion along both the Brooklyn-side and Manhattan-side approaches, particularly from the FDR Drive. With stimulus money from the federal government's American Recovery and Reinvestment Act, the ramps in Brooklyn and Manhattan will be rehabilitated and widened and the entire bridge will be repainted to prevent steel corrosion on the structure.

The approach roadway to the Brooklyn Bridge is aging, with a failed membrane system and deteriorated closure walls. The existing roadway pavement above the historic arch blocks and masonry structures will be rehabilitated. A precast concrete roadway slab will be installed in segments, over sprayed-on waterproofing membrane. Rusted historic railings at Franklin Square, York, and Main Street structures, some from the original bridge construction, will be refurbished and reinstalled. The existing ramp from the FDR southbound roadway will be widened from one to two lanes to reduce bottlenecks and pinch points in traffic flow. All steel structures, including the ramp structures and the main span, will be painted, restoring them to their original Brooklyn Bridge Tan color, as chosen by the Landmarks Preservation Commission.

On all the bridge approach structures on both the Manhattan and Brooklyn sides, the existing deck will be removed by lifting out sections and replacing them panel by panel with precast concrete-filled steel grid deck panels. This approach will greatly reduce noise from drilling and jackhammers, and will also increase the reliability of the start and end times of construction activities every night.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Painting work, to prevent steel corrosion and improve aesthetics, will occur in negative-pressure containment units that travel along the bridge structure, high above the traffic. All three travel lanes will be maintained during the course of this work, and painting will take approximately two years. Equipment will be placed underneath the FDR Drive, and on land abutting the Brooklyn tower. Dust collection, vacuum and recycle units will be employed to minimize environmental air quality risks, and there will be continuous air monitoring during operations. All painting work will be conducted in accordance to the US Environmental Protection Act and NYS Department of Environmental Conservation requirements. Noise generated by these units will conform to the NYC Noise Code standards adopted in 2007.

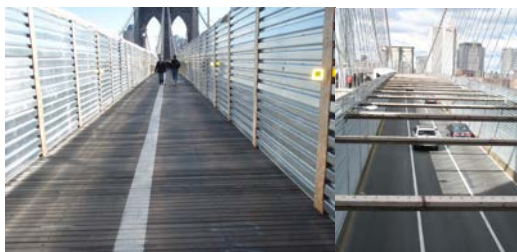
In order to facilitate the reconstruction and associated painting work, the contractor began to mobilize in the area known as the Brooklyn Banks and Red Brick Park, between Pearl Street and Park Row on the north side of the Manhattan approach of the Brooklyn Bridge. The area was closed to the public starting June 2, 2010. The security plan for this area requires that the Red Brick area be completely closed to the public for the duration of this phase of work. Pedestrian access between Pearl Street and the Rose Street/City Hall area is maintained through a walkway adjacent to the banks along Avenue of the Finest.

On the Brooklyn side, two lanes of free-flowing traffic will be created at the Cadman Plaza exit, and approach roadways will be rehabilitated to replace the membrane system and deteriorated closure walls. On the Manhattan side, rusted railings and safety barriers will be replaced, and two lanes of free-flowing traffic will be created from the southbound FDR Drive onto the Brooklyn Bridge.

The contract allows for 24 full weekend closures over the duration of the contract; however, the contract also contains clauses that encourage fewer weekend closures with monetary compensation. Although the promenade will be open, there will be sections immediately under the painting area, which will be narrowed by a foot on each side to facilitate work.

## ACCOMPLISHMENTS & PLANNED PROJECTS

In 2010, after mobilization, the contractor started work on the ramp foundation; installed protective shielding under the Brooklyn main and Brooklyn side spans, the Franklin Square structure, and some of the Manhattan ramps; installed vertical walls at both sides of the Brooklyn and Manhattan-bound roadways at the Brooklyn main and Brooklyn side spans; began the set-up of the containment for the lead paint removal at all of these locations; and proceeded with blasting and painting activities. Other activities included detailed surveying, installation of super slabs and the fabrication of precast members.



Bicycle/Pedestrian Path with Protective Shielding in November 2010. Roadway Shielding in October 2010.

Lead paint removal operations are conducted in a Class 1A containment unit. Rigid containment walls, HEPA filters, and negative air pressure are used to prevent material release. Ambient air quality readings are conducted during lead paint abatement work. Airborne lead levels are continuously monitored using high-volume total suspended particulate samplers at multiple locations in Brooklyn and Manhattan. Additional in-depth testing for volatile organic compounds was conducted at five locations in the summer of 2011.

In March 2012, airborne particulate samples were collected in accordance with regulatory guidelines, at locations where dust is most likely to be deposited during dust-generating activities. Additional tests were replicated in June 2012 for respirable silica, suspended particulates and asbestos. All results were acceptable according to standards set by the Occupational Safety and Health Administration, the National Institute for Occupational Safety and Health, and the American Conference of Industrial Hygienists.



Noise Reduction Along the Sound Pathway – Acoustical Barriers on the Bridge During Night Construction Activities. Acoustical Curtains Along Frankfort Street. Two Crews Work Along Frankfort Street in April 2012. Cranes (On Left) Lift Material In And Out of Walled Enclosures of Sound Blankets. Inspector Taking Noise Measurements.

In 2011, painting was completed at the Franklin Square structure and is currently in progress at the Manhattan ramps and Brooklyn main and Brooklyn side spans with continuous installation of protective shielding and containment. Painting of the truss top struts was also started, and is currently in progress at the Brooklyn-bound Manhattan side span. The following construction work was started in 2011 and is currently in progress: on the Manhattan approach, activities include Brooklyn-bound roadway removal, waterproofing and super slab installation, Franklin Square floor beam replacement, south cantilever beam excavation and repair, and arch block strengthening. On the Manhattan ramps, work includes bearing replacement, widening, and deck replacement, and fascia removal. Asbestos abatement work is taking place in the Brooklyn maintenance shop. Electrical work is also in progress with activities that include light pole and abandoned equipment removal, temporary lightning installation, and temporary power provisions.

## ACCOMPLISHMENTS & PLANNED PROJECTS

Other activities include detailed surveying, testing and repairing of dry-standpipe system, fabrication of precast and steel members.



December 2011: Painted Top Struts of the Brooklyn-Bound Manhattan Side Span.  
Summer 2011: Manhattan Approach - Ramp C Deck Replacement.  
December 2011: Ramp C.

In 2012, work continued on the Manhattan side of the bridge, including deck replacement on ramps and the south cantilever, super-slab installation and arch block strengthening. Painting under the Brooklyn main and side spans was completed, as well as the top struts along the Brooklyn-bound roadway. Painting of the Manhattan main and side spans started in 2012 and will continue through 2013.

In Brooklyn, new shielding was installed under the Prospect and Washington Street structure in anticipation of deck removal. In addition, preparatory work is ongoing for superstructure replacement of the York and Main Street structures.

As part of the contract to rehabilitate the Brooklyn Bridge ramps and approaches, a full closure of the Manhattan-bound lanes of the bridge was performed on two full weekends: from 11:59 PM October 5 to 6:00 AM October 8, and again from 11:59 PM October 12 to 6:00 AM October 15. The first weekend closure was for work on Ramp A (from the southbound FDR Drive to the bridge) for concrete placement. Brooklyn-bound approach work and abrasive blasting was also progressed. The second weekend closure was for work on Ramp A (from the southbound FDR Drive to the bridge), South Cantilever closure pour concrete placement, Brooklyn-bound approaches rehabilitation work, painting of Ramp D/Span 4, Franklin Square Structure orthotropic deck welding, Ramp F (from the southbound FDR Drive to Pearl Street) Stage I grid deck removal/replacement, and preparatory work for widening the exit ramp to Cadman Plaza.

Asbestos abatement was completed in the Brooklyn maintenance shop and was in progress in the Manhattan arch blocks. By the end of 2012, 321 bearings were replaced under the Manhattan ramps and the flag repairs on the suspended spans were in progress.



April 2012: Overview. (Credit: Maria Mikolajczyk) Manhattan Approach Existing Deck Demolition. June 2012: Brooklyn Side Span Netting Protection for Main Cable and Suspender Rope Painting. June 2012: Structural Steel Repairs. June 2012: Duct Hose Platform Over Esplanade. July 2012: Painting Brooklyn-Bound Top Struts. August 2012: Manhattan Main Span Vertical Wall. August 2012: Manhattan Side Span Containment at Manhattan Tower.

## ACCOMPLISHMENTS & PLANNED PROJECTS



First Full Roadway Closure: Ramp A Concrete Placement. Second Full Roadway Closure: Brooklyn Approach. December 2012: Brooklyn Main Span in Finish Coat.

In 2013, lead-based paint removal and new coating applications were completed on the Manhattan main and side spans including all four stiffening trusses, the under-deck system, and the promenade. The main bridge vertical protective shield systems were removed. Painting of the main cables, suspender cables and overhead struts continues and is approximately 60% complete. In addition to the Main Bridge painting, paint removal and coating application continues on the Manhattan side ramps and is also approximately 70% complete.



May 2013: Painter Applying Primer Stripe Coat on the Manhattan Main Span. June 2013: Painter on Sway Bracing on the Brooklyn Side Span. (View Credit: Earlene Powell)



November 2013: Painting Fascia Steel on Ramp C.

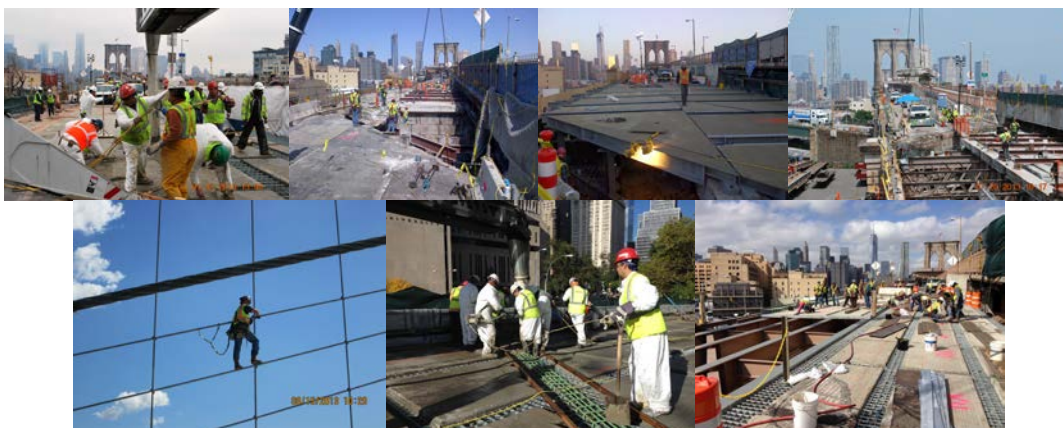
2013 saw significant progress for structural rehabilitation work, which included: completion of the Brooklyn-bound orthotropic deck panel installation at the Franklin Square Structure; the installation of the new concrete-filled grid deck systems at the outbound York Street, Main Street and Park Row structures as well as Prospect Street, Washington Street and the maintenance shop deck systems for both inbound and outbound directions. Concrete-filled grid deck installation for the inbound York Street, Main Street, North Cantilever and Franklin Square structures is in progress. The approach super slab installation was completed in the outbound direction and was about 20% complete inbound. The main bridge structural steel flag repairs continue to be identified by biennial and special inspections.

In 2013 three significant traffic improvements were implemented that changed exits from one-lane exit to two-lane exits, thereby reducing queuing-related congestion. In May 2013, key access ramps to and from the Brooklyn Bridge and the FDR Drive were expanded. Each of the two enhanced ramps now accommodates two traffic lanes and simplifies traffic patterns, easing notorious traffic bottlenecks for many of the 120,000 vehicles that cross the bridge daily as the bridge rehabilitation continues. The first ramp, connecting the exit from the bridge's Manhattan-

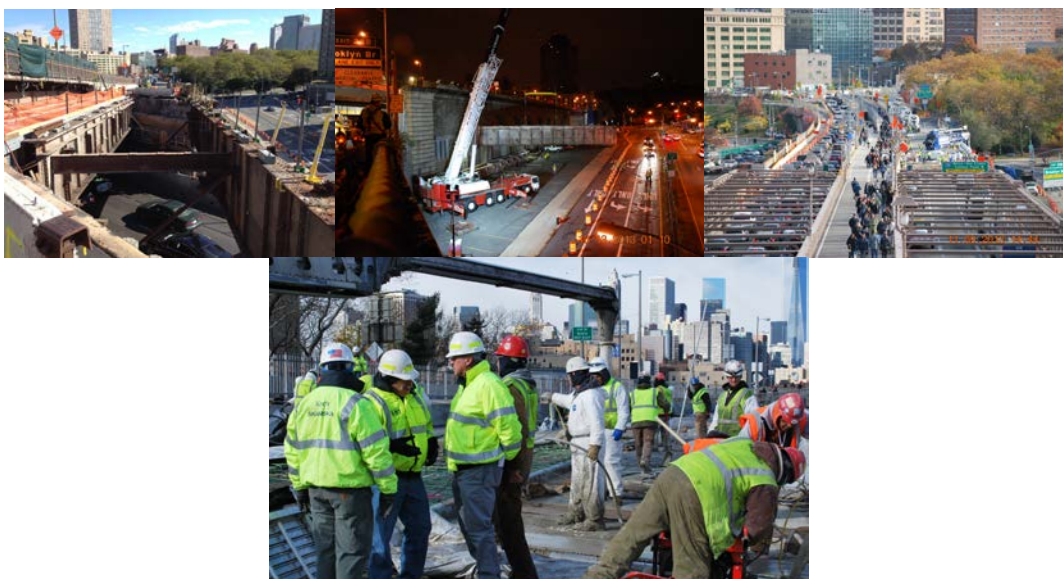
## ACCOMPLISHMENTS & PLANNED PROJECTS

bound lanes with the FDR Drive, was expanded from one to two lanes, easing backups that often extend across the bridge. The second ramp, connecting the southbound FDR Drive with the approach to the bridge's Brooklyn-bound lanes, was also expanded from one to two lanes, easing congestion and reducing the impact of cars that aggressively cut into the queue of cars at the entrance to the ramp. The work on a third ramp, connecting the bridge's Brooklyn-bound lanes to Cadman Plaza West and Old Fulton Street in Brooklyn Heights, which was also expanded to two travel lanes, was completed in September 2013.

Noise monitoring and mitigation efforts continue for all night-time project operations with ongoing community and sensitive receptor coordination.



January 2013: Concrete Placement on Eastbound Prospect Street Structure. April 2014: Removal of Existing Deck and Installation of Temporary Deck Units at the York Street Structure Over Brooklyn-Queens Expressway. July 2013: Removal of the Existing Concrete Slab on the Eastbound Main Street Structure. August 2013: Ironworker Replacing Cable Clamp Assemblies on the Suspended Span. October 2013: Concrete Placement and Grid Deck Panel Installation at the Eastbound Park Row Structure.

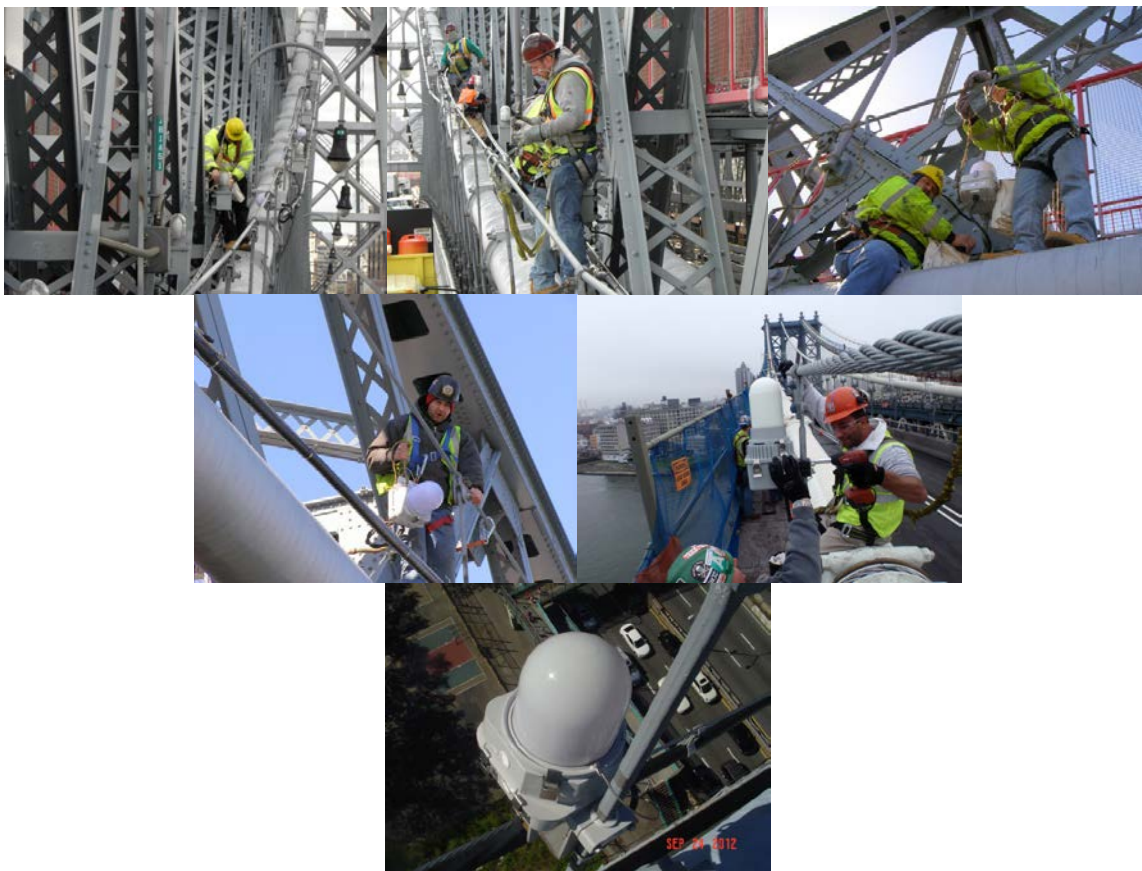


October 2013: Eastbound Brooklyn-Queens Expressway Traffic Flowing Under the Exposed Steel of the Eastbound York Street Structure. Removing the Fascia Steel From the Eastbound York Street Structure. November 2013: Concrete Placement at the Eastbound York Street Structure. Chief Bridge Officer Henry D. Perahia (2<sup>nd</sup> From Left) Observing the Concrete Placement at the Westbound Washington and Prospect Street Structures.

## ACCOMPLISHMENTS & PLANNED PROJECTS

### NECKLACE LIGHTS

In the fall of 2008, to compare options for energy efficiency, we replaced 20 100-watt mercury vapor lamps of the necklace lights on the Brooklyn and Manhattan Bridges with 10 LED fixtures and 10 induction fixtures. The test was completed in spring 2009; we chose an LED fixture in a dish style and will obtain them for the Ed Koch Queensboro, Williamsburg and Brooklyn Bridges. The test fixtures were removed on April 24, 2009. The replacement of the existing mercury vapor lights on the Williamsburg Bridge was completed in summer 2012. The replacement of those on the Ed Koch Queensboro and the Manhattan Bridges was completed in June 2013. The replacement of the Brooklyn Bridge necklace lights will not be scheduled until the completion of Contract #6. Approximately 80% of the old fixtures from the Ed Koch Queensboro and Williamsburg Bridges have been sold at auction.



Installing New LED Necklace Lights on the Williamsburg Bridge in April 2012: Electrician Thomas Cipriano, Supervisor Bridge Repairer and Riveter Gean Pilipiak (in Front). (Credit: Thomas Whitehouse) May 2012: Electricians Thomas Cipriano and Ropert Stackpole on the Williamsburg Bridge. Bridge Repairer and Riveter Neil Dalton. (Credit: Hany Soliman). Installing New LED Necklace Lights Along D Cable on the Manhattan Bridge in May 2012. New LED Necklace Light on Cable D of Williamsburg Bridge. (Credit: NYSDOT)

### MANHATTAN BRIDGE

The youngest of the three NYCDOT suspension bridges that traverse the East River, the Manhattan Bridge carries some 484,087 commuters – 89,087 vehicles, 5,000 bicyclists, and 390,000 mass transit riders - between Manhattan and Brooklyn daily. The bridge's total length is 5,780 feet long abutment to abutment at the lower level, and 6,090 feet on the upper roadways portal to portal; its main span length is 1,470 feet and each of its four cables is 3,224 feet. It was designed by Leon Moisseiff and first opened in 1909. The bridge supports seven lanes of vehicular traffic, a bikeway and walkway, as well as four transit tracks upon which four different train lines operate.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Manhattan Bridge in July 2009 and June 2012. (Credit: Bernard Ente and NYSDOT) Arch and Part of the Colonnades in March 2011. (Credit: Bojidar Yanev)

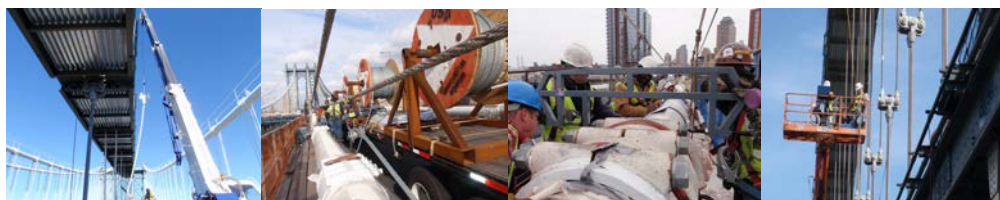
The \$963.9 million reconstruction program commenced in 1982 with Contract #1, and continues with Contract #14 (substantially completed in November 2013) to rewrap the cables and replace the suspenders and 166 necklace lights. Work completed on the bridge to date includes reconstruction of the south and north upper roadways, re-anchoring the north interior main cable, reconstruction of the north and south subway lines, installation of a truss stiffening system to reduce twisting, restoration of the Manhattan Plaza, including the historic arch and colonnades, reconstruction of the south walkway, installation of a new north bikeway, replacement of the lower roadway, and rehabilitation of the Brooklyn Plaza.

### Contract #14

Most of the existing suspenders on the Manhattan Bridge were installed under a \$2.2 million contract with Roebling and Sons in 1956 and was one of their last before closing their Bridge Division in 1964. Under Contract #14, the existing main cables were rehabilitated with new wire wrapping and a neoprene barrier to insulate from weather. In addition, all vertical suspenders were replaced. A Notice to Proceed for this \$149 million construction project was issued to the contractor with a start date of December 28, 2009.

Major activities undertaken during 2010 included the modifications to the approach span subway stringers (to repair flagged cracks), microsurfacing of the North upper roadway, truss vertical rehabilitation, beginning of the main cable rewrapping, suspender replacement, and continuity plate replacement.

Major activities completed during 2011 included the replacement of all suspenders along two of the four cables, replacement of the wire wrapping with new wire and neoprene wrapping along two of the four cables, and replacement of the cable band bolts along two of the cables.



March 2011: Removal of Existing Suspender, 'C' Truss. April 2011: Installation of New Hand Ropes for 'C' Cable. April 2011: Checking Bolt Tension in New Cable Band Bolts. August 2011: Checking Suspender Loads With an Accelerometer.

Major activities completed during 2012 included the replacement of suspenders on three cables, replacement of wire wrapping with new wires and neoprene wrapping on three cables, replacement of cable band bolts on all four cables and replacement of the necklace lights on the north exterior cable. Also completed was the bearing replacement for the north trusses at the towers during a weekend train outage.

## ACCOMPLISHMENTS & PLANNED PROJECTS



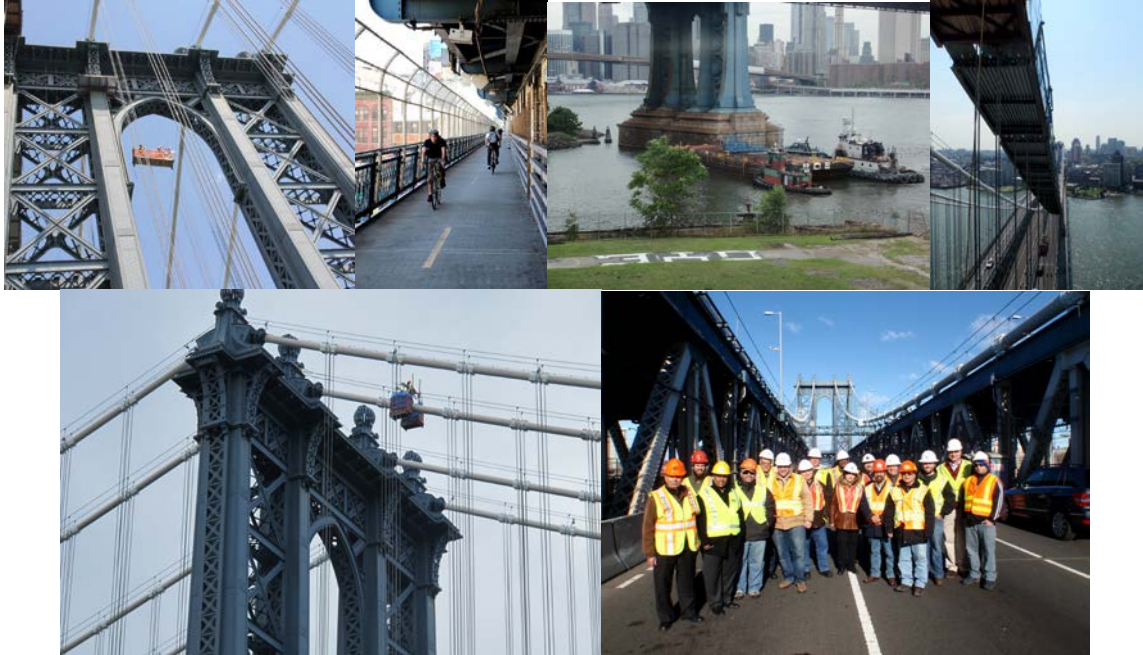
June 2012: Measuring New Cable Band Bolts. September 2012: Main Cable Work Platforms. New Suspenders Along Truss B. September 2012: Jacking Struts and Work Platforms. November 2012: Sidewalk Protection Sheds. April and September 2012: Manhattan Bridge Suspender Replacement. (Credit: Bojidar Yanev)

On-going activities completed during 2013 included the replacement of suspenders, wire wrapping and neoprene wrapping, installation of maintenance platforms at the towers, bearing replacement for the south trusses at the towers during a weekend train outage, and replacement of light poles and conduit on the south upper roadway. Contract #14, which included the rewinding of the cables and the replacement of the suspenders, was substantially completed on November 27, 2013.



January 2013: Removal of Caulking and Existing Wrapping Wires. March 2013: Bridge Detail. April 2013: Ironworkers Relocating the Main Cable Wrapping Machine, And Installing Elastomeric Cable Wrapping. Ironworkers Preparing to Hoist Temporary Platform. May 2013: Removal of TA Platforms.

## ACCOMPLISHMENTS & PLANNED PROJECTS



June 2013: Ironworkers Descending in a Spider After Temporary Platform Installation. Bicycle Path. August 2013: Delivering the Inspection Platform Brooklyn Side Span Via Barge. August 2013: Main Cable Platforms Along the South Cable. Inspecting the Suspenders in October 2013. (Credit: Bojidar Yanev) Project Inspection on November 11, 2013: Civil Engineer Javed Sarwar, Dustin Doroshuk, Civil Engineer Shaikh Islam, Associate Project Manager Vadim Sokolovsky, Civil Engineer Adam Caplan, Sam Summerville, Miron Kuchuk, Greg Zenk, Civil Engineer Antoine Aubourg, Lyudmila Bord, Sammy Miraglia, Joseph Mondillo, James Tarpey, King Fong, Louis Perry, Manhattan Bridge Engineer-in-Charge Brian Gill, and Peter Deligiannis.



Brooklyn and Manhattan Bridges in July 2013. (Credit: Alexander Engel)

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

### ***Movable Bridges***

As NYCDOT completes reconstruction work on the East River Bridges, more attention is being devoted to other key City-owned bridges, such as the movable bridges. Building on the success of the East River Bridge projects, the Department is implementing many of the innovative concepts originated during the rehabilitation of East River Bridges on these other major reconstruction projects.

### **BATTERY PARK UNDERPASS AND WEST STREET UNDERPASS (MANHATTAN) – EMERGENCY CONTRACT**

The Battery Park Underpass is a two-span rigid frame reinforced concrete tunnel structure connecting eastbound and westbound traffic between the FDR Drive and West Street (Route 9A) at the southern end of Manhattan. The West Street Underpass is a one-span rigid frame reinforced concrete tunnel structure connecting southbound traffic from West Street heading toward the entrance to the Brooklyn Battery Tunnel (Hugh L. Carey Tunnel).

On October 29, 2012, the New York Metropolitan area was impacted by Hurricane Sandy, causing flooding, loss of power and damage to many components of New York City's infrastructure. On October 30, 2012, a site inspection by the Department revealed major damage to both tunnels. Specifically, certain electrical, mechanical and structural issues with regard to the tunnels must be addressed.

Salt water penetrated the electrical and mechanical equipment in both tunnels, including but not limited to, motors, lighting and pumps. It is therefore, necessary to solicit the services of a specialty contractor to perform all necessary repairs.

Due to the potentially serious danger to life and public safety posed by the current condition, it is critical that the repair work be performed as expeditiously as possible.

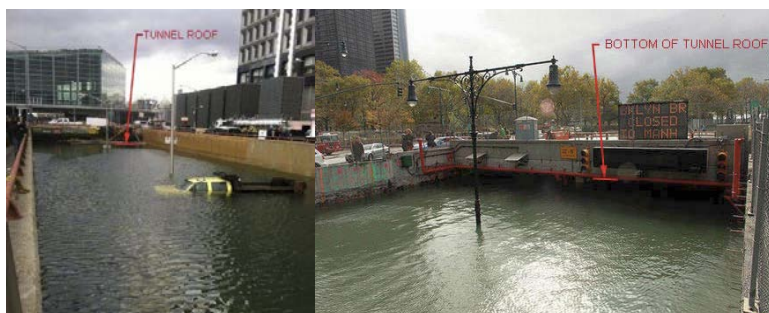
On November 7, 2012, in the interest of public safety, pursuant to Section 103(4) of the General Municipal Law and Section 315 of the New York City Charter, the Department declared that an emergency exists relative to the Battery Park Underpass and West Street Underpass on Route 9A in Manhattan.

A temporary repair of the Battery Park Underpass ventilation system which allowed normal traffic flow as opposed to single-lane traffic is began in April 2013. A permanent repair of the systems in the underpass is expected to begin in Spring 2014 and to be complete in Summer 2016.

A Letter of Intent for the emergency repairs of these underpasses is expected to be issued in Fall 2014.

A project to mitigate future flooding at both underpasses by adding protection measures for the repaired systems in the underpasses will be undertaken in a separate contract.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Battery Park Underpass - View Looking West at the South Portal Entrance Near the FDR Drive. View Looking South at the North Portal Entrance Near West Street. Both Tunnels Were Flooded to Their Roofs, Which Means That all Tunnel Ventilation, Electrical, and Mechanical Systems Were Entirely Submerged in Saltwater.

**METROPOLITAN AVENUE BRIDGE OVER ENGLISH KILLS (BROOKLYN), GRAND STREET BRIDGE OVER NEWTOWN CREEK (BROOKLYN/QUEENS), GREENPOINT AVENUE BRIDGE OVER NEWTOWN CREEK (A.K.A. J. J. BYRNE MEMORIAL BRIDGE (BROOKLYN/QUEENS), PULASKI BRIDGE OVER NEWTOWN CREEK (BROOKLYN/QUEENS), BORDEN AVENUE BRIDGE OVER DUTCH KILLS (QUEENS), HUNTERS POINT AVENUE BRIDGE OVER DUTCH KILLS (QUEENS), UNION STREET BRIDGE OVER GOWANUS CANAL (BROOKLYN), CARROLL STREET BRIDGE OVER GOWANUS CANAL (BROOKLYN), THIRD STREET BRIDGE OVER GOWANUS CANAL (BROOKLYN), NINTH STREET BRIDGE OVER GOWANUS CANAL (BROOKLYN), THIRD AVENUE BRIDGE OVER HARLEM RIVER (BRONX/MANHATTAN), MADISON AVENUE BRIDGE OVER HARLEM RIVER (BRONX/MANHATTAN), 145<sup>TH</sup> STREET BRIDGE OVER HARLEM RIVER (BRONX/MANHATTAN), MACOMBS DAM BRIDGE OVER HARLEM RIVER (BRONX/MANHATTAN), AND WEST 207<sup>TH</sup> STREET/WEST FORDHAM ROAD BRIDGE OVER HARLEM RIVER (BRONX/MANHATTAN) (A.K.A. UNIVERSITY HEIGHTS BRIDGE) – EMERGENCY CONTRACT**

On October 29, 2012, the New York Metropolitan area was impacted by Hurricane Sandy, causing flooding, loss of power and damage to many components of New York City's infrastructure. On October 30, 2012, a site inspection by the Department revealed major damage to the operational portions of these bridges. Specifically, certain electrical and mechanical issues parts must be repaired or replaced immediately.

Salt water penetrated the electrical and mechanical equipment in the bridges, including but not limited to, motors, electric relays, lock control devices, gates, pier lights, and pumps. It is therefore, necessary to solicit the services of a specialty contractor to perform all necessary repairs.

The Metropolitan Avenue Bridge over the English Kills is located between Queens and Brooklyn and is a double-leaf trunnion bascule that carries four lanes of vehicular traffic and two sidewalks. The bridge was subject to heavy flooding.

The Grand Street Bridge over the Newtown Creek is located between Queens and Brooklyn and is a rim-bearing swing bridge that carries two lanes of vehicular traffic and two sidewalks. The bridge was subject to extreme surge tide.

The Greenpoint Avenue Bridge over Newtown Creek is located in Queens and is a double-leaf trunnion bascule that carries four lanes of vehicular traffic and two sidewalks. The bridge was subject to an extreme surge tide and minor repairs are necessary. The navigation lights on the fender system were flooded.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

The Pulaski Bridge over Newtown Creek is located in Queens and is a double leaf trunnion bascule that carries four lanes of vehicular traffic and two sidewalks. The bridge was subject to heavy winds. Minor repairs are required to the warning gate arms damaged during storm.

The Borden Avenue Bridge over Newtown Creek is located in Queens and is a single-leaf retractile span that carries two lanes of vehicular traffic and two sidewalks. The bridge and its mechanical and electrical systems were subject to heavy flooding.

The Hunters Point Avenue Bridge over the Dutch Kills is located in Queens and is a single-leaf rolling bascule bridge that carries two lanes of vehicular traffic and two sidewalks. The bridge was subject to heavy flooding as well as high winds. The warning gate arm was damaged due to high winds.

The Union Street Bridge over the Gowanus Canal is located in Brooklyn and is a double leaf rolling bascule that carries two lanes of vehicular traffic and two sidewalks. The bridge was subject to heavy flooding.

The Carroll Street Bridge over the Gowanus Canal is located in Brooklyn and is a single-leaf retractile span that carries one lane of vehicular traffic and two sidewalks. The bridge and its mechanical and electrical systems were subject to heavy flooding which resulted in extensive damage.

The Third Street Bridge over the Gowanus Canal is located in Brooklyn and is a double-leaf rolling bascule that carries two lanes of vehicular traffic along with two sidewalks. The bridge and its mechanical and electrical systems were subject to heavy flooding.

The Ninth Street Bridge over Gowanus Canal is located in Brooklyn and is a tower-drive vertical lift bridge that carries four lanes of vehicular traffic and two sidewalks. The bridge and portions of its mechanical and electrical systems were subject to minor flooding.

The Third Avenue Bridge over the Harlem River bridge is located between Manhattan and the Bronx and is a center-bearing swing bridge that carries four lanes of vehicular traffic and two sidewalks. The bridge was subject to flooding of the land on either side of bridge as well as the center pivot fender system.

The Madison Avenue Bridge over the Harlem River is located between Manhattan and the Bronx and is a rim-bearing swing bridge that carries four lanes of vehicular traffic and two sidewalks. The bridge was subject to flooding of the land on either side of bridge as well as the center pivot fender system.

The 145<sup>th</sup> Street Bridge over the Harlem River is located between Manhattan and the Bronx and is a rim-bearing swing bridge that carries four lanes of vehicular traffic and two sidewalks. The bridge center pivot pier was subject to an excessive high tide.

The Macombs Dam Bridge over the Harlem River is located between Manhattan and the Bronx and is a rim bearing swing bridge that carries four lanes of vehicular traffic and two sidewalks. The bridge was subject to an extreme surge tide, and the center pivot pier and fender were flooded.

The West 207<sup>th</sup> Street (University Heights) Bridge over the Harlem River is located between Manhattan and the Bronx and is a rim-bearing swing bridge that carries four lanes of vehicular traffic and two sidewalks. The bridge was subject to an extreme surge tide and the center pivot pier was subject to flooding. The traffic signal assembly was subject to high winds and was damaged.

Common to all the bridges will be the need for the maintenance and protection of traffic. This shall primarily consist of daily temporary lane or shoulder closures to allow contractor access to the bridge for material delivery and equipment usage. For the structures that have extensive damage to the electrical system, full roadway closures will be performed to allow the operating systems to be tested. This will be done at night and occurs over a period of evenings.

Also common to all the bridges will be the local removal of hazardous or asbestos containing

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

materials. Areas where suspect materials that may contain lead, PCB and/or asbestos have been identified based on visual inspection. Testing will be performed as part of the contract prior to the start of work to confirm their presence. This will include PCB caulking, lead paint and/or asbestos containing material in various components. If testing proves their presence exists, abatement will be done before repairs occur to the mechanical and electrical systems.

These bridges provide a necessary service in compliance with federal law which requires that the bridges be operational for marine traffic. It is critical that the repair work be performed as expeditiously as possible.

On November 20, 2012, in the interest of public safety, pursuant to Section 103(4) of the General Municipal Law and Section 315 of the New York City Charter, the Department declared that an emergency exists relative to these 15 movable bridges in the Bronx, Brooklyn, Manhattan, and Queens.

As of May 28, 2013, all Hurricane Sandy-related damages on the Pulaski Bridge and Greenpoint Avenue Bridge were repaired by the in-house bridge maintenance group. As such, these two bridges will now be eliminated from the first group of bridges, leaving only the Metropolitan Bridge in this category.

A Letter of Intent for the emergency repairs of the Metropolitan Avenue Bridge over English Kills (Brooklyn) is expected to be issued in Summer 2014.

The second group of bridges consists of Macombs Dam Bridge over Harlem River (Bronx/Manhattan), 145th Street Bridge over Harlem River (Bronx/Manhattan), Third Avenue Bridge over Harlem River (Bronx/Manhattan), Madison Avenue Bridge over Harlem River (Bronx/Manhattan), Hunters Point Avenue Bridge over Dutch Kills (Queens), Carroll Street Bridge over Gowanus Canal (Brooklyn), Ninth Street Bridge over Gowanus Canal (Brooklyn), Third Street Bridge over Gowanus Canal (Brooklyn), and Union Street Bridge over Gowanus Canal (Brooklyn). A Letter of Intent for the emergency repairs of the second group of bridges is expected to be issued in September 2014.

The third group of bridges consists of West 207<sup>th</sup> Street/West Fordham Road Bridge over Harlem River (Bronx/Manhattan), Borden Avenue Bridge over Dutch Kills (Queens), and Grand Street Bridge over Newtown Creek (Brooklyn/Queens). A Letter of Intent for the emergency repairs of these bridges is also expected to be issued in September 2014.



East End of the West 207<sup>th</sup> Street Bridge - Missing Traffic Signal was Knocked Down by the Hurricane Winds. Borden Avenue Bridge Operator's House Basement Level - Depicted Flood Line was Approximately 5 Feet Above the Floor.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Grand Street Bridge – Standing Water in the Access Light Fixture at the East Wedge Walkway. Madison Avenue Bridge - General View of Fender and Center Pier—the Red Line Depicts the Approximate Water Level.

### BELT PARKWAY BRIDGE OVER MILL BASIN (BROOKLYN)

Opened on June 29, 1940, the Mill Basin Bridge is adjacent to the Jamaica Bay Wildlife Refuge and the Gateway National Recreation Area. It is the only movable bridge on the Belt Parkway. The current clearance over Mean High Water is 35-feet. When the Mill Basin Bridge was constructed during the first half of the 20<sup>th</sup> century, New York City's inland waterways were among the most heavily navigated thoroughfares in the country. However, as maritime traffic in New York City steadily decreased since the mid-1960s, the need for movable bridges lessened as well. In 1941, during its first full year of operation, the Mill Basin Bridge was opened 3,100 times; by 1953, that figure decreased to 2,173; by 2013, the number of openings declined further to a total of only 246 openings.

In addition, significant and costly traffic congestion results from the operation of this outmoded drawbridge. In 2012, the Mill Basin Bridge carried 136,875 vehicles per day. The average opening and closing time for the bridge (and others like it) is ten minutes. Thus, this structure's operation has a negative and significant effect on the efficiency of New York City's vehicular traffic flow.

In 2013, on a New York State-mandated scale from 1 to 7, this bridge had a condition rating of 3.284, or "fair." While the bridge is not in any immediate danger of structural failure, its reconstruction is required in order to maintain mobility and public safety on this vital artery.

The existing Mill Basin Bridge is 864-feet long and 14 spans, including double movable leaf bascule spans and a steel superstructure, supported on reinforced concrete pier on timber piles, and abutments supported on pre-cast concrete piles. The existing structure and immediate approaches will be demolished and replaced.

The replacement will be a 2,645-foot, 17 span fixed bridge. It will consist of a steel composite superstructure and reinforced concrete substructure on piled footings, and will be constructed on a new alignment set on the north side of the existing bridge and partially overlapping with the existing bridge. The new bridge and approach will have three 12-foot wide traffic lanes, a 12-foot wide right shoulder on the bridge, a 10-foot wide right shoulder on the approaches, and a minimum left shoulder in each direction. The eastbound side will carry a dedicated pedestrian/bicycle path along the south fascia. The new bridge will be a fixed structure with a 60-foot vertical clearance over Mean High Water, obviating the need for opening and closing the structure to accommodate tall vessels. The new design of the bridge will result in increased sight distances, an increase in lane width from 11-feet 4-inches to 12-feet, and the inclusion of safety shoulders in both directions. The channel will remain navigable during construction, and the clear channel width will remain the same after the new structure is in place. A new fender system will be installed to protect the bridge substructure from marine traffic. The reconstruction of the Mill Basin Bridge (part of the second Belt Parkway Group) is scheduled to start in winter 2014, and to last approximately 4 years.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

### **BROADWAY BRIDGE OVER THE HARLEM RIVER (BRONX/MANHATTAN)**

Broadway extends from the southern tip of Manhattan, through the Bronx and terminates in Westchester County. The Broadway Bridge, a lift type movable bridge crossing the Harlem River, is located between West 220<sup>th</sup> Street in Manhattan and West 225<sup>th</sup> Street in the Bronx. In 2012, the bridge carried 35,411 vehicles per day. Three tracks of the IRT subway are carried on its upper deck and a five-lane two-way roadway with sidewalks on either side is carried on its lower deck. The two roadways each measure 34 feet and the sidewalks are 7 feet wide.

The vertical lift bridge is the third movable steel structure at this location. The original steam powered single-deck swing span built in 1895 carried only highway and pedestrian traffic. The second structure was built in 1905 to accommodate the extension of IRT subway into the Bronx from Manhattan. The second bridge was again a double deck swing span to carry the subway line on the upper deck and highway traffic on the lower deck. The current structure, a double deck vertical lift bridge to carry the subway and vehicular traffic, was built in 1960.



Broadway Bridge – West and East Elevations. (Credit: Bhaskar Gusani)

The bridge underwent a protective coating project to protect the steel components of the bridge against the effects of corrosion. This project was completed in October 2003 at a cost of approximately \$8.7 million.

The bridge also underwent a recent component rehabilitation, including miscellaneous steel repairs, grating replacement, sealing and waterproofing of its deck, repair of spalled concrete pavement, new expansion joints and new median barrier at an approximate cost of \$2.14 million. This project was completed in May 2004.

Currently in its final design phase, the reconstruction of the bridge is scheduled to start in August 2016. The project's scope of work includes a major rehabilitation of the roadway deck, superstructure steel and substructure elements of the vertical lift span, as well as the approach spans. It will also include the replacement and rehabilitation of the electrical and mechanical components of the vertical lift span, as well as replacement of the existing fender system with a new larger and stronger one. Construction is expected to be complete in July 2019.

### **BRUCKNER EXPRESSWAY (NB & SB SERVICE ROAD) OVER WESTCHESTER CREEK (UNIONPORT BRIDGE) (BRONX)**

A bridge has been located in this location since the late 19<sup>th</sup> century: the original swing-type bridge was built around 1872, replaced by a new double-leaf bascule bridge in 1918. The current double-leaf trunnion bascule bridge was built in 1953, and underwent major modifications in 1971, including the demolition of the north side of the bridge, to allow for the construction of the overhead Bruckner Expressway.

The Unionport Bridge lies in the midst of the Bruckner Expressway (I-278) interchange which is comprised of the Bruckner Expressway (I-278), the Cross Bronx Expressway (I-95) and the Hutchinson River Parkway. Along with providing a connection to the Bruckner Interchange and

## ACCOMPLISHMENTS & PLANNED PROJECTS

Cross Bronx Expressway, the Unionport Bridge also connects the local streets including Brush Avenue, east of the bridge, and Zerega Avenue, west of the bridge. It is an important link between the Unionport section and Schuylerville sections of the Bronx. This 17-span structure (three waterway spans and fourteen concrete approach spans) carries five lanes of the Bruckner Boulevard Expressway service road traffic over Westchester Creek. This bridge opens for important fuel oil deliveries up to 300 times a year. The bascule span open deck grating and grating support channels were all replaced by Division staff during the late part of 1997 and early part of 1998. In 2012, the bridge carried 62,485 vehicles per day. The reconstruction design of the bridge underwent a Value Engineering Study by the Office of Management and Budget which recommended several changes to the design that are being incorporated.

Subsequent to the study, concepts for two temporary movable bridges (for MPT purposes only) were developed in lieu of a complete bridge closure during construction. However, an assessment revealed a significant impact on local traffic would occur, due to the required traffic rerouting via local streets to the temporary bridges, and the location of the temporary bridges would have a severe impact on the operations of the Department of Sanitation and a Department of Environmental Protection pump station. In addition, the cost of implementing the temporary bridges for only a couple of years was very high, in the order of \$40 million. The concept of rehabilitating the bridge by constructing new temporary bridges for MPT purposes was then abandoned.

A follow-up feasibility study was conducted for completely replacing the existing bridge with a new wider bridge in phases while maintaining traffic on the existing bridge. The project's new scope of work includes: a complete replacement of the bascule, flanking, and approach substructures and superstructures, providing six 12-foot travel lanes with standard shoulders on both sides of the bridge; a new 15-foot bicycle/pedestrian path, separated from traffic with a barrier; replacement of the existing mechanical and electrical systems for the bascule span; reconstruction of the bridge operator and control houses, and replacement of the existing fender system, drainage system, street lighting, traffic signal facilities, and gates. Construction is expected to start in fall 2016.



Unionport Bridge in 1953 and 2009.



Unionport Bridge (#1066510) in 2010 and 2002. (Credit: NYSDOT) Eastbound View.

## ACCOMPLISHMENTS & PLANNED PROJECTS

### MACOMBS DAM BRIDGE OVER THE HARLEM RIVER (BRONX/MANHATTAN)

The Macombs Dam Bridge, which has one of the longest swing spans in the world, was opened in 1895, and was designated a City landmark in 1992. The bridge and the West 155<sup>th</sup> Street Viaduct carry two lanes of traffic in each direction. In 2012, the bridge carried 39,020 vehicles per day. The \$145 million reconstruction of this landmark bridge, which was completed in May 2007, included the West 155<sup>th</sup> Street viaduct, the west approach plaza over the Harlem River Drive and Seventh Avenue, the swing span over the Harlem River, the deck and camelback trusses over Metro-North Railroad and Conrail, the Major Deegan interchange (consisting of the east approach and four ramps), and the Jerome Avenue viaduct. The rehabilitation work not only strengthened the structure, it returned the bridge's appearance to its turn of the century grandeur.

As part of this project, the historic John Hooper Fountain, which dates from 1894, was fully rehabilitated in 2000. After studying detailed old photographs, the globe and weather vane were recast and replicated. Cast aluminum was used with high impact glazing similar to the lanterns installed in Central Park in the 1980's. Just east of the fountain, a garden of rose bushes was added for the community's pleasure. Other additions included a new paved island, new curbs, and a steel fence. Bollards were installed at the western end of the island to protect the fountain from vehicular traffic.



Close-up of the 1894 Dedication Plaque. (Credit: Hani Faouri) Bridge After Reconstruction in May 2007. West Approach to Bridge.

A new project will rehabilitate the West 155<sup>th</sup> Street Viaduct and the fender system. The scope of work includes replacement of columns, floorbeams, girder ends, bearings, expansion deck joints above floorbeams, cross frames and lateral bracings, and the ornamental brackets. The existing swing span fender is misaligned, and the timber cribbing is under attack by marine borers which could lead to the failure of the timber cribbing and the collapse of the stone fill. The project's scope of work includes installing formwork around the perimeter of the existing fender, filling the voids in the fender sand-cement grout, bonding the existing timber and rock into one solid mass, and constructing a fender extension on the northeast corner. The rehabilitation project is currently scheduled to start in March 2015 and end in September 2017.



Aerial View. West 155<sup>th</sup> Street Viaduct. The Timber Fender.

## ACCOMPLISHMENTS & PLANNED PROJECTS

### MADISON AVENUE BRIDGE OVER HARLEM RIVER (BRONX/MANHATTAN)

A project for electrical, mechanical, and miscellaneous operating system-related work is scheduled to be performed between March 2017 and September 2018. The bridge is currently operating with the very old machinery components, along with a temporary electrical system known as the “Interim Drive System” installed during the 1994 rehabilitation contract. Some of the machinery components currently in service are over 100 years old and have far exceeded their service life. Moreover, the bridge does not have any back-up operating system which renders the bridge inoperable in case of failure of any component of the Interim Drive System. The preliminary design phase of this project began in early 2011. In 2012, the bridge carried 41,782 vehicles per day.



Madison Avenue Bridge Sign in 2007. (Credit: Duane Bailey-Castro) Bridge in 2009. (Credit: Bernard Ente) General View of Truss Swinging in 2010 and Right Elevation of Span 15 in 2012. (Credit: NYSDOT)

### PARK AVENUE TUNNEL OVER 34<sup>TH</sup> STREET (MANHATTAN)

The Park Avenue Tunnel was originally built as an open cut in 1836 to accommodate horse drawn trolley cars between East 33<sup>rd</sup> Street and East 42<sup>nd</sup> Street. In 1854, a five course brick arch roof was constructed and the underground tunnel was used by the New York and Harlem River Railroad steam engine trains from East 42<sup>nd</sup> Street to its terminal then located at East 30<sup>th</sup> Street and Park Avenue. In 1870 the rail road was converted to electric powered trolleys.

The tunnel in its present form was converted to vehicular traffic only in 1917, when trolley tracks were covered with fill and roadway pavement was built. In its present form, the tunnel is located under the center mall of Park Avenue South. The roadway width inside the tunnel varies from 19'-2" to 22'-5" and used to carry a single lane of traffic in each direction. On August 3, 2008, the traffic in the tunnel was restricted to only a single northbound lane.

Some rehabilitation work was completed on the tunnel in November 2005. That contract included the rehabilitation of the fans and the ventilation system. The new project is currently in its final engineering design phase. The scope of work includes complete rehabilitation of civil and structural components of the tunnel as well as upgrading of fire detection and ventilation system of the tunnel. Construction is expected to start in May 2015 and be complete in May 2017.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Two Views of Park Avenue Tunnel in 2010. (Credit: NYSDOT)

### SHORE ROAD BRIDGE OVER THE HUTCHINSON RIVER (BRONX)

This bridge, built in 1908, was originally called the Pelham Parkway Bridge over Eastchester Bay. The existing bridge consists of a double leaf, rolling lift bascule span, flanked on each end by three earth filled concrete spandrel arch approach spans. The bridge is 864 feet in length. It carries two traffic lanes in each direction, and a sidewalk on its south side. The existing bascule leaves at mid-span consist of steel grating deck which is concrete filled over the machinery portion of the structure. In 2012, the bridge carried 17,668 vehicles per day. The \$5 million interim rehabilitation of the existing bridge superstructure and substructure enables the Department to keep it operational while a new bridge is being designed and built adjacent to the existing bridge. The existing bridge will be demolished once the new bridge is in service. The rehabilitation project began in April 2001, and all traffic lanes were reopened to traffic on April 24, 2002, three days earlier than scheduled. The interim rehabilitation of this bridge was substantially completed on June 17, 2002.



Shore Bridge in 2007. (Credit: Peter Basich)

A new mid-level, single leaf bascule movable bridge will be designed. It will be constructed to the south of the existing bridge, with a wider navigation channel, and incorporate a raised profile to effectively increase the vertical clearance above the navigation channel of the main span. In its closed position, the bascule main span will have a vertical clearance above mean high water of 35 feet. This clearance will accommodate 83% of marine vessels passing beneath. For taller vessels, the bascule's single leaf will be drawn to its open position providing unlimited vertical clearance. With a longer main span than the existing structure, the mid-level bascule bridge will offer a widened navigation channel as well as improved lateral clearance to the structure. These improvements are expected to lessen the likelihood of vessel damage to the fender system and the bascule substructure when compared to the existing structure configuration. The increased vertical clearance above the navigation channel would also reduce wear on the bridge's mechanical and electrical components by decreasing the frequency of bascule openings and closings. The completed structure will be comprised of ten spans totaling 1,442 feet, including a 110-foot steel bascule span and nine continuous steel multi-stringer approach spans. Substructures will consist of conventional multi-column or hammer head concrete piers founded on either spread footings or piles. The new design consultant, upon its procurement, will perform

## ACCOMPLISHMENTS & PLANNED PROJECTS

the required Environmental Study as required under NEPA. Construction of the proposed bridge is expected to begin in 2020, with the new bridge open to traffic in late 2025.



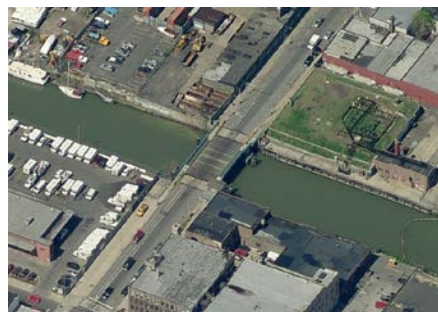
Open Bridge in 2007. (Credit: Peter Basich) Bridge Closing in 2010. (Credit: NYSDOT)  
General View of Bridge Operator House #3 in 2011.

### UNION STREET BRIDGE OVER GOWANUS CANAL (BROOKLYN)

The original Union Street Bridge over the Gowanus Canal was constructed in 1870 as part of the construction of Prospect Park. A major crossing over the Gowanus Canal, this bridge is the last in a series of five eastbound crossings, and it is 885 feet from the canal's end. The neighborhood, located in the Gowanus section of Brooklyn, is primarily industrial; however, public facilities such as schools, parks, and public transportation are nearby.

In its current configuration, the bridge is a double-leaf Scherzer type (rolling lift) bascule bridge, which was opened in 1905. The bridge carries two lanes of eastbound traffic, a delineated bike lane and a sidewalk.

During the preliminary design, eight alternatives were identified for the rehabilitation of the bridge. The recommended design alternative proposes a replacement of the entire bridge structure with a new single leaf fixed trunnion bascule bridge on a reinforced concrete substructure and new pile foundation. Preliminary plans have been developed. However, during the Value Engineering study in 2009, the team recommended converting the movable span into a low level fixed bridge. NYCDOT, OMB and other affected agencies are currently reviewing the feasibility of this alternative. The construction is anticipated to begin around April 2019.



Aerial View of Union Street Bridge.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Union Street Bridge - 2010 and Schoolchildren Crossing in 2012. (Credit: NYSDOT)

### WARDS ISLAND PEDESTRIAN BRIDGE OVER HARLEM RIVER (MANHATTAN)

The Wards Island Bridge is a pedestrian bridge connecting the East River Housing Project at East 103<sup>rd</sup> Street in Manhattan to Wards Island. Located on the East River, this bridge is located between exits 14 and 15 of the FDR Drive. This vertical-lift bridge has a total of twelve spans. Four spans are located on the Manhattan side of the bridge and are oriented in the south/north direction, whereas the remaining spans are oriented in the west/east direction. The curb-to-curb width of the lift span is 3.66 meters, the clear width of the Manhattan approach ramp is 3.66 meters and the clear width of the Wards Island approach ramp measures about 3.76 meters. The bridge's Wards Island approach provides immediate pedestrian access to the 68-acre Wards Island Park.



Wards Island Bridge August 2011. (Credit: Duane Bailey-Castro)

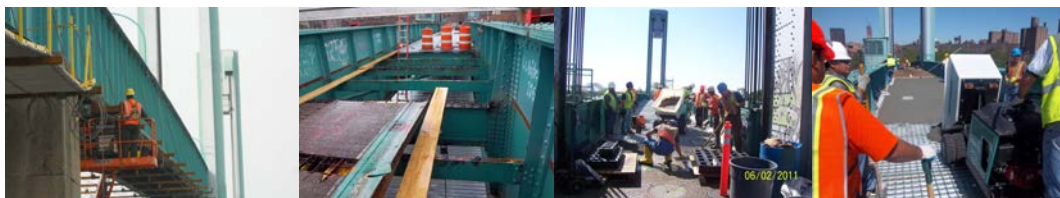
The bridge was built by the U.S. Army Corps of Engineers in 1951 and was designed by Othmar Hermann Ammann.

A protective coating project was completed in May 2003 at an approximate cost of \$1.2 million. A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of June 14, 2010. The project's scope of work includes the replacement of the electrical components, the replacement of the walkway deck on the lift span, the repair and overlay of the deck on the other spans and approaches, the rehabilitation of the steel superstructure members, new fencing and lighting, and restoring the control and tender houses to their original condition.

In 2010, the contractor mobilized and began the installation of protective containment shielding. Following training from Division Bridge Operations personnel, the contractor took over operational control of the bridge on November 12, 2010. Deck cracks were repaired, and the old bridge railing and protective fencing were removed in preparation for removal of the steel grid decking.

In 2011, the contractor installed a new concrete-filled steel grid deck on the lift span. Concrete repairs were performed on piers over land as well as in the East River. The bridge was temporarily opened to pedestrians on June 30, 2011 for the summer months and was closed from November 21, 2011 through May 7, 2012 for remainder of the construction. The bridge was reopened to pedestrian and bicycle use at 10:45 AM on June 1, 2012. The reconstruction of the bridge was substantially completed on April 30, 2013.

## ACCOMPLISHMENTS & PLANNED PROJECTS



January 2011: Under-Deck Shield Installation for Manhattan Approach Span 6. April 2011: Removing Concrete Decking Material. June 2011: Pouring Concrete Decking at Span 7.



Construction in August, October, and December 2011. Installing Handrails Between Spans 7 and 9.



June 2012: Pedestrians and Bicyclist on Bridge. (Credit: Nicole Garcia) July 2012: Pier #8 Looking Northwest.

### **WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER (BRONX/MANHATTAN)**

Measuring 3,212 feet in length and opened to traffic on August 23, 1901, the old Willis Avenue Bridge was one of New York City's most heavily traveled bridges. The bridge was a bowstring truss swing bridge which spanned the Harlem River, and connected Manhattan's First Avenue and 125<sup>th</sup> Street to Willis Avenue and Bruckner Boulevard in the Bronx. Engineered by Thomas C. Clarke, the bridge was designed to relieve traffic congestion on the Third Avenue Bridge.

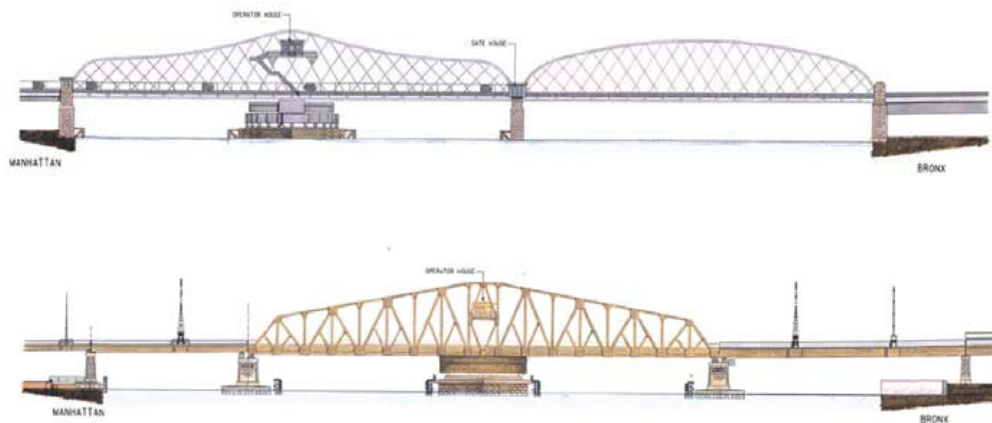
A major hub between the FDR Drive in Manhattan, the Major Deegan Expressway and the Bruckner Boulevard in the Bronx, the Willis Avenue Bridge carried approximately 62,062 vehicles per day in 2012. Ten local and interstate bus lines use the bridge as a principal route from New York City to points throughout the northeastern United States.

Because of substandard curves that were present on the structure's approaches, the Willis Avenue Bridge was one of the City's most accident-prone crossings. Between 1992 and 1994, there were 809 vehicular accidents on the bridge, for an average of 269 per year.

Because of the advanced age and condition of the Willis Avenue Bridge, the City of New York decided to replace the existing bowstring truss swing bridge with a new swing span bridge constructed just to the south of the existing bridge. The project also replaced the FDR Drive approach ramp and the ramp onto Bruckner Boulevard, and improved the alignment. NYCDOT will also reconstruct Willis Avenue over the Major Deegan Expressway for the New York State Department of Transportation. It also included a direct connection to the northbound Major Deegan Expressway in the Bronx with wider travel lanes and shoulders, and a broader, combined pedestrian/bicycle pathway along the north side of the bridge.

## ACCOMPLISHMENTS & PLANNED PROJECTS

The old swing bridge, which opened for tall vessels, had a vertical clearance of 24 feet above Mean High Water Level (MHWL) when closed. The new swing bridge when closed has a 25 foot clearance above the Mean High Water Line which makes it consistent with other bridges along the river. It also incorporated the placement of a solid riding surface on the swing span instead of the existing open grating deck. In addition, modern electrical, mechanical and communications systems are being installed.



Old and New Willis Avenue Bridge Span.

A Notice to Proceed for the replacement of this bridge was issued to the contractor with a start date of August 27, 2007. Foundation construction work was in progress by the end of 2007.

Traffic continued to use the current bridge until the new bridge opened, resulting in limited impact to motorists and nearby communities. The NYC Marathon was not impacted: runners continued to use the old bridge each year until the new swing span was completed.

Throughout the project, little impact to marine traffic was experienced. The new swing span was fabricated and assembled off site, and floated into place once the foundations, center pier and rest piers were ready to receive it.

On January 3, 2008, the East 125<sup>th</sup> Street exit ramp off the northbound FDR Drive was closed. This closure was necessary so that work on the construction of a temporary loop ramp, as well as construction of the new north-bound FDR Drive ramp to the Willis Avenue Bridge, could begin. The East 125<sup>th</sup> Street exit ramp, which typically carries only a low volume of traffic, was reopened after its reconstruction in June 2012.

In 2008, the project focused on foundation construction work, along with construction of a temporary ramp from the north-bound FDR Drive onto the bridge. At the end of 2008 the loop ramp was nearing completion. It went into service on January 24, 2009. This allowed the removal of the existing ramp and the construction of the new ramp to proceed. One half of the foundations for the new FDR Ramp were installed. Additionally one of the four piers in the river was in place, and work on a second had begun. The foundations in the Harlem River Rail Yard were more than 50 percent complete, and work had begun on the footings for the new Bruckner Boulevard Ramp.

In 2009, the project continued to focus on foundation construction work, with the installation of footings and piers for the new ramp from the FDR Drive as well as the one-half of the 1<sup>st</sup> Avenue Approach. The precast concrete pier box for River Pier 5 was transported in February 2009 by oceangoing tug and barge from the fabrication yard in Virginia to the contractor's yard in Jersey City, New Jersey. Over 30 automobiles were removed from the Manhattan channel in spring 2009. At the end of 2009 the contractor began the installation of the steel superstructure over the FDR Drive. The work in the river consisted of the installation of the drilled shafts for the four river

## ACCOMPLISHMENTS & PLANNED PROJECTS

piers and the installation of three of the four precast pier boxes in the river. The assembly of the new swing span began in Coeymans, near Albany, New York in June 2009.

In the Bronx, a temporary pedestrian bridge was installed in May 2009 over the Major Deegan Expressway, just south of the existing bridge, to carry pedestrians until the new bridge is constructed. More than half of the paving and drainage work on the expressway was completed. One-half of the bridge over the Major Deegan was removed and work on the new abutment wall began. One-half of the abutment at Bruckner Boulevard was reconstructed and the piers to carry the south half of the new bridge were installed. The foundations in the Harlem River Rail Yard were completed and the first phase of the new Bruckner Boulevard exit ramp was also completed.

The contractor began 2010 with construction of the FDR Drive entrance ramp, and the First Avenue Approach on the Manhattan side of the bridge. On the Bronx side, the new Bruckner Boulevard exit ramp was partially opened to traffic on February 12, 2010. The work then proceeded with the demolition of the existing ramp. Assembly of the new swing span along with new machinery and electrical system was continued.

The swing span was floated down the river and towed to the bridge site on July 26, 2010. The new swing span was floated on to the new pier on August 9, 2010.



Voyage up the East River on July 26, 2010. New Willis Avenue Bridge Span Passing Under the Brooklyn Bridge. (Credit: Douglas Reese)

Work continued on the new bridge span in August 2010 with the placement of a new lightweight concrete deck surface, bridge machinery and electrical utility work. Demolition of the existing Willis Avenue Overpass over the Major Deegan Expressway was completed by September 2010.

On October 2, 2010, with the completion of the FDR Drive approach, partial First Avenue Approach, and the Willis Approach in Bronx, traffic was allowed over the new swing span and the existing bridge was closed to traffic. The old bridge was retired after 109 years of service.



New and Old Willis Avenue Bridges on October 2, 2010. Old Willis Avenue Spans in December 2010. (Credit: Duane Bailey-Castro) Aerial View in September 2011. (Credit: Hardesty and Hanover)

The float-out of the old existing swing span took place on October 21, 2010, and the adjacent, flanking bow-string arch span was floated out on November 3, 2010. Both spans remained on site through November for the asbestos abatement process before being floated to the contractor yard in Jersey City. The first bridge test operation of the new swing span was conducted successfully during the early morning hours of December 23, 2010.

## ACCOMPLISHMENTS & PLANNED PROJECTS

In 2011, the contractor completed work on the existing swing and flanking spans and towed them to the recycling facility in New Jersey. In Manhattan, work continued on the remaining half of the First Avenue approach roadway and spans, the demolition of the temporary loop ramp, and the reconstruction of the 125<sup>th</sup> Street exit and local streets. In the last quarter of 2011, work also continued on the Manhattan ramp and stairs and the auxiliary bridge operator's house.

In the river, the contractor started removal of the river piers and continues work to complete the demolition of center pier and the west rest pier by blasting. They also worked on the installation of the fender system for the new piers as well as the final alignment of the bridge machinery and testing of the electrical and mechanical system. In the last quarter of 2011, the contractor completed demolition work at pier 10 and carried out blasting of pier 9. Post-blasting excavation continued at Pier 9 for removal of the pier, and fender building work continued in the river. Work also continued for the construction of bridge machinery and testing of the electrical and mechanical systems. Installation of granite continued throughout the project.

In the Bronx, the contractor continued work on the relieving platforms, construction of the remaining superstructure and decks for the spans over the Harlem River Yard and mainline. They also worked on the construction of combined pedestrian/bicycle bridge over the Major Deegan Expressway as well as the new direct ramp to the northbound Major Deegan Expressway.



June 2011 River Work: Picking Up Waste With a Clamshell Bucket. July 2011: Demolition of Old Pier 9. March 2011: Stage III Caisson Concrete Placement at Caisson #2 at Pier 11. Setting Granite Stone Facing at Pier 11. Finished Stage VB Removal of Steel Girder at South Bay at Existing Span 15.



February 2011: Pedestrian/Bicycle Bridge and Ramp to Major Deegan Expressway. September 2011: Granite Installation for Approach to Connector Ramp. Bridge in November 2011. (November Credit: Hardesty and Hanover)

2012 started with the opening of the ramp to the northbound Major Deegan Expressway as well as the complete opening of the Bruckner Ramp and Bruckner Boulevard. Ramp C, which provides a direct connection to the Major Deegan Expressway, was opened on January 10. The contractor opened the sidewalk to the North Access Road on January 30. Most of the landscaping was done in the spring with some minor work left for the fall. Reconstruction of the 125<sup>th</sup> Street exit ramp and the 127<sup>th</sup> Street work was completed and opened to traffic. In the river, fenders for the new piers were completed and testing of electrical, machinery and control system continued. Reconstruction of Willis Avenue between 132<sup>nd</sup> Street and Bruckner Boulevard was completed and was opened to traffic on September 24, 2012.

Architectural work at the bridge operator house is near completion. By October 2012, all of the traffic lanes and shoulders throughout the project were completed with final pavement markings. The pedestrian bridge over the Major Deegan Expressway and the adjacent walkway/bikeway were opened to the public on November 1, 2012.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Demolition of Old Piers 13 – 15 in May and June 2012. May 2012: Pier 6 North Fender. Preparing and Installing Granite Stone Pavers at Ramp-C End Abutment.

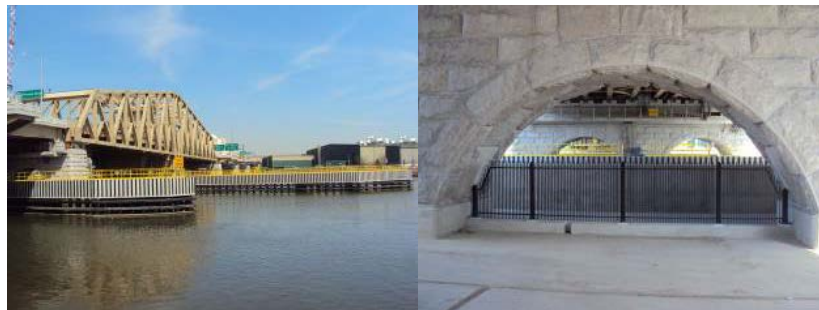


September 2012: Bridge Fender North Elevation Looking South. Bridge South Elevation Looking North. Pier 6 South Fender Looking South.

In 2013, the contractor completed granite masonry work in the Bronx, architectural work at the bridge, and landscaping, and began testing of the bridge's electrical and mechanical systems. In addition, all construction work on the Manhattan Ramp and stairs connecting to the waterfront area below was substantially completed in 2013, however, these structures will not be opened to the public until the waterfront area is developed for public use. The project is slated for completion in November 2014.



February 2013: Bridge Operator House. General View Taken From the West Side – Looking East. Pier 11- Continued installation of granite stone retrofit anchors.



March 2013: Fenders of the River Piers. Pier 4 Picket Fence.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Willis Avenue Bridge Plaque.

### WILLIS AVENUE GRANITE IN PUBLIC PLAZAS

New York City has a program to encourage public plazas in neighborhoods lacking in open space. The program plays a key role in ensuring that all New Yorkers live within a 10-minute walk of quality open space, as proposed in the PlaNYC 2030. Public plazas improve the quality of life and transform the cityscape by providing spaces where people can sit, socialize, and enjoy public life. During the reconstruction of the Willis Avenue Bridge, more than 7,500 square yards of granite (approximately 5,000 blocks) were removed from the site, mostly excavated from the bridge piers, abutments and gate houses both in Manhattan and the Bronx. These granite slabs have been repurposed as seating in several of the plazas.

In 2013, the slabs were added to the following plazas: Borinquen Place, George B. Post Plaza, and Frost Street Plaza in Williamsburg, Old Fulton in Dumbo, West 12<sup>th</sup> Street Plaza in Coney Island, Ozone Park Plaza on the City line between Brooklyn and Queens, Marcus Garvey Park in Harlem, Washington Street in the Financial District, Water Street in Lower Manhattan, and the Grand Concourse in Mosholu.



Frost Street, Ozone Park, and Washington Street Plazas.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

### ***Roadway Bridges***

#### **INNOVATIONS**

Innovations in the design and construction of Roadway Bridges continued in 2013. Where feasible, the continued use of accelerated bridge construction methods helped reduce construction duration and the resulting negative impacts on the traveling public. In addition, the use of Best Management Practices (BMP) in all applicable projects, most notably in stormwater drainage design, will mitigate the impact of bridge projects on the surrounding environment.

#### ***BROOKLYN AND MANHATTAN BRIDGES***

##### **ATLANTIC AVENUE BRIDGE OVER LIRR – ATLANTIC BRANCH (BROOKLYN)**

The Atlantic Avenue Bridge is a 75 span viaduct located between Eastern Parkway and Georgia Avenue in Brooklyn. The bridge carries two traffic lanes each eastbound and westbound, divided by a center median. Two LIRR tracks (of the Atlantic Branch) run under and parallel to the bridge for its entire length. The bridge was built in 1942 by the Transit Commission. The bridge superstructure consists of steel stringers and floor beams. The substructure consists of steel piers and concrete bearing walls founded on spread footings. The Agency replaced the structural deck in 1985 with a new concrete deck slab overlay. The project will include rehabilitating the deteriorated steel members, concrete abutments and bearing walls; replacing the bridge wearing surface, drainage scuppers, and expansion joints; performing localized concrete deck repairs; and retrofitting the viaduct to meet current seismic requirements. Construction is expected to begin in early 2017.

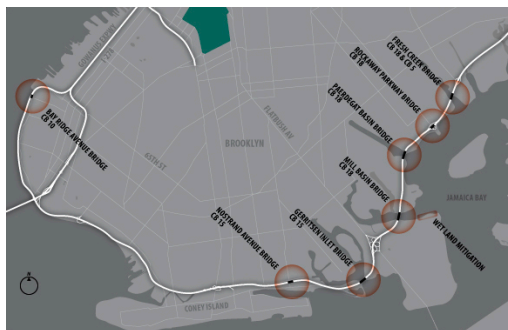


Aerial View in 2009. Elevation Left Spans 38 -43 and Elevation Right Spans 20 – 34. (Credit: NYSDOT)

##### **BELT PARKWAY BRIDGES OVER PAERDEGAT BASIN, FRESH CREEK, ROCKAWAY PARKWAY, GERRITSEN INLET, MILL BASIN, BAY RIDGE AVENUE, AND NOSTRAND AVENUE (BROOKLYN)**

The newly constructed Paerdegat Basin Bridges and the reconstructed Fresh Creek and Rockaway Bridges are now rated “very good.” On a New York State-mandated scale from 1 to 7, the remaining four of the seven bridges possess a condition rating of “fair” (3.001 – 4.999). In 2013, the Gerritsen Inlet Bridge was 3.463; the Mill Basin Bridge was 3.284; the Bay Ridge Avenue Bridge was 3.625; and the Nostrand Avenue Bridge was 3.986. All are original structures, which were built beginning in 1939. While none of the bridges are in any immediate danger of structural failure, their reconstruction is required in order to maintain mobility and public safety on this vital artery.

## ACCOMPLISHMENTS & PLANNED PROJECTS



The Seven Belt Parkway Bridges.

Reconstruction of the seven bridges and their approaches on the Belt Parkway (over three local streets and four waterways) began in the fall of 2009. Group 1 (Paerdegat Basin, Fresh Creek, and Rockaway Parkway Bridges) were substantially completed in August 2013. Gerritsen Inlet Bridge started in February 2013 and is expected to be complete in summer 2017. Mill Basin Bridge is expected to start in winter 2014, and to be complete in summer 2020. Bay Ridge Avenue Bridge started in November 2013 and is expected to be complete in fall 2015. Nostrand Avenue Bridge is expected to start in Fiscal Year 2022.

During the past 65 years, traffic demand along the Belt Parkway corridor has increased dramatically. The opening of New York International Airport (now JFK Airport) in 1948, the development of suburban communities on Long Island post World War II, and the opening of the Verrazano-Narrows Bridge in 1964 have dramatically increased demand on the Belt Parkway. When the parkway first opened the two-way average daily traffic was about 20,000 vehicles per day. Presently it is about 150,000 vehicles per day.

Reconstruction of these bridges and their approach roadways is necessary to alleviate substandard conditions and bring these areas into compliance with current state and federal standards. These standards require wider lanes, safety shoulders, concrete median barriers, super-elevation of the roadway around curves, and realignment of the approach roadways to improve sight distances. The Department anticipates that these improvements will reduce the current accident rate on this section of the Belt Parkway by approximately 45%.

NYCDOT conducted research to provide recommendations and design guidelines for the treatment of the parkway corridor. The goals of the analysis were threefold: first, to propose improvements to the parkway to satisfy safety and accessibility standards; second, to preserve and re-establish the historic character of the parkway; and third, to retain and improve public access for all parkway users. The recommendations also include complementary designs of the seven bridges.

The research provided detailed recommendations on how common elements should be incorporated to achieve a consistent and historical character to the corridor. Items considered included trees and vegetation, lighting fixtures, railings and fences, design of bicycle and pedestrian paths across the bridges, as well as stonework detailing on bridge abutments with relief detailing on bridge parapets.

On July 18, 2006, the Art Commission (now known as the Public Design Commission) selected the Seven Belt Parkway Bridge reconstruction project for a Design Award in its 24<sup>th</sup> annual Excellence in Design Awards.

All of the bridges, except for the Bay Ridge Avenue and Nostrand Avenue Bridges, are located adjacent to the Gateway National Recreation Area, (GNRA) a division of the National Park Service. This bridge and highway program is in full compliance with New York City Department of Environmental Protection requirements for the initiation of a long-term plan that will increase wetlands, decrease pollution into the bay, and decrease the highway's footprint around the rim of Jamaica Bay. NYCDOT is also working closely with New York City Department of Parks and Recreation, the New York State Department of Environmental Conservation, Gateway National

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

Recreation Area, the US Coast Guard, and the US Army Corps of Engineers to ensure compliance with all environmental protocols.

An upland mitigation project, to be administered by the New York City Department of Parks and Recreation, will include the planting of replacement trees to offset the number of trees being removed during the course of the bridge replacement project. The number of trees that will be planted will be determined in accordance with the caliper rule for tree replacement.

In addition to mitigating environmental impacts along the Belt Parkway corridor, an off-site Tidal Wetland Mitigation project was performed. A Notice to Proceed was issued to the Belt Group 1 contractor with a start date of March 8, 2011. The plan focused on compensating for wetland losses at the waterway bridges by increasing and improving the quality of habitats at a nearby location. Approximately 2.3 acres of land at Floyd Bennett Field was cleaned of rubbish and debris and converted to tidal wetland area. The project was substantially completed during 2012.

The overall goal of the mitigation project was to restore selected areas of the Floyd Bennett shoreline with productive habitats, including unvegetated intertidal areas, vegetated intertidal areas restored with naturally occurring *Spartina* marsh, and high marsh habitats. A significant portion of the area involved the removal of approximately 20,000 cubic yards of previously filled areas and the restoration of the areas to productive vegetated and unvegetated wetland resources.

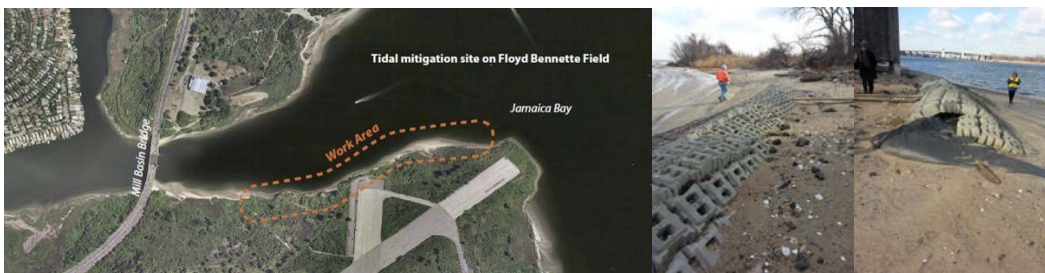
Restoration of the area, specifically, the removal of existing fill and debris from the Floyd Bennett Field Mitigation site has increased the functional value of the area. This area is an important contributor to primary production and breakdown of organic materials. In addition, algal communities often found in these areas are producers, and provide a food source for snails and other benthic organisms, which in turn, provide food sources for larger animals that forage along the shorelines of Jamaica Bay.

Planting at the intertidal wetland and the high marsh zones was completed in summer 2011. The installation of cabled concrete erosion control revetment was started in June 2011 and completed in July 2011. In fall 2012, all replacement and final upland tree plantings were completed. Monitoring of the wetland mitigation project, as mandated by the New York State Department of Environmental Conservation, is expected to be complete in early 2017.

On October 29, 2012, Hurricane Sandy impacted the east coast and caused major damage. A survey after the storm discovered severe plant and revetment damage at the contract site. The established site grades were overwhelmed by the storm surge, ground protection and slope stabilization measures were displaced, and the plantings were uprooted and washed away. The National Park Service put the worksite off limits while Hurricane Sandy cleanup operations were in progress. A site inspection was held on January 23, 2013. The contractor had access during March, and was asked to furnish a cost proposal to restore the site. As a result of an August 26, 2013 site inspection, GNRA agreed to explore other possible suitable sites for restoration in place of the original areas.

In June 2011, the contractor was directed to perform Bergen Beach Wetland Mitigation of 1.4 acres for the work associated with outfalls at the Paerdegat and Rockaway bridges, the temporary trestles at Paerdegat Bridge, and the temporary bridge at Fresh Creek. Later, the Agency decided to increase the mitigated wetland area to 3.6 acres at the Bergen Beach site. The additional acreage will be used to offset future impacts on upcoming Belt Parkway bridge projects. The Bergen Beach mitigation work is planned to occur in two phases. The first phase of 1.4 acres was started in the first week of June 2013. By the end of June 2013, grading was completed. Planting started on July 9, 2013, and was completed by the end of the month. The second phase grading started in mid-September 2013, and was completed on November 13, 2013. It is anticipated that planting will occur in the spring of 2014.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Tidal Wetland Mitigation Site. Inspecting the Hurricane Sandy Damage at the Site in January 2013.



July 2013: Phase I Planting at the Bergen Beach Mitigation Area.

The old Paerdegat Basin Bridge was a 692-foot long, 13 span, multi-girder, simple supported steel superstructure, supported on reinforced concrete pier cap beams and abutments supported on reinforced concrete piles. The bridge had two 34-foot wide roadways carrying three lanes of traffic in each direction; with a 3-foot safety walk on the north side, a 4-foot wide center median/barrier, and an 8-foot wide south pedestrian/bicycle sidewalk. The existing structure and immediate approaches were demolished and replaced by two new bridges and new approach roadways on split alignments. The existing structure was permanently closed to traffic on December 20, 2012, upon opening of the new westbound structure. Demolition of the existing structure was completed in May 2013.

The old bridge consisted of 12 cast-in-place concrete bents. Two navigation channels crossed under the bridge. At one of these channels (bent number 7) a concrete pier was damaged. Because of this damage and other structural concerns, the Paerdegat Basin Bridge was under continuous monitoring since September of 2004.

The replacement bridges consist of two trapezoidal steel box girder structures: the 825-foot, 3 span westbound bridge, north of the existing structure, and the 1,227-foot, 5 span eastbound bridge, south of the existing structure, remaining at 28 feet over the navigable channel. Both bridges have a 36-foot wide roadway with a 12-foot wide right shoulder. The eastbound bridge has a 4-foot wide left shoulder, while the westbound bridge has a 10-foot wide left shoulder. The southern structure carries eastbound traffic while the northern structure accommodates westbound traffic. Both the horizontal and vertical alignments changed resulting in improved sight distances on the bridge and its approach roadways. The bridge carrying eastbound traffic also has a dedicated pedestrian/ bicycle path along the south side. The pedestrian/bicycle path is separated from traffic lanes by a concrete barrier on the bridge, and by a 15-foot wide grass mall on the approach roadways.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Old Paerdegat Basin Bridge.

The Fresh Creek Bridge was a 264.5 foot, 5 span, multi-girder, simple supported steel superstructure, supported on pre-cast concrete columns founded on four reinforced concrete piers on concrete piles with concrete gravity abutment walls on timber piles. One navigation channel crossed under the bridge. The bridge had two 34'-2" wide roadways, a 5-foot wide center median/barrier, and a 10-foot wide south sidewalk. The parkway, east and west of the bridge, has a 10-foot wide bicycle/pedestrian path on the south side. The existing structure and immediate approaches were demolished in spring 2012, and the replacement structure was fully opened in August 2013.

The replacement bridge is a 316-foot, 3 span structure; the new structure has only two support piers, resulting in a wider channel. The bridge deck and approaches were widened to 126 feet from the former 86 feet to accommodate three 12-foot lanes in each direction, 12-foot wide right shoulders, and a 12-foot wide bicycle/pedestrian path, separated from the traffic lanes by a barrier system. The profiles of the approach roadways and bridge structure accommodate stopping sight distances for a design speed of 60 miles per hour. The remainder of the construction will result in improved landscaping on the bridge approaches. The existing pedestrian and bicycle pathway were maintained and open at all times during construction.



Old Fresh Creek Bridge in 2002. (2002 Credit: NYSDOT)

The Rockaway Parkway Bridge was a 150-foot, 4 span, multi-stringer, simple supported steel superstructure, supported on steel cap beams on concrete filled steel pipe columns, and reinforced concrete abutment walls supported by concrete pile foundations. The bridge had two 34'-2" wide roadways, a 5-foot wide center median/barrier, and a 10-foot wide south sidewalk. The existing structure and immediate approaches were demolished in fall 2012, and the replacement structure was fully opened in August 2013.

The replacement bridge is a single span structure to improve visibility along Rockaway Parkway. The new structure was built in the same alignment as the existing bridge. The bridge deck was widened to 109 ½ feet from the former 84 feet to accommodate three 12-foot lanes with a 12-foot wide right shoulder and 4-foot left shoulder in each direction, including 5 ½ feet for median and parapet width. The right shoulder on each approach is 10 feet wide (while the width of the right shoulders on the bridge structure are 12 feet), with the other dimensions the same width as those on the bridge. In addition to reconstruction of the bridge, four access ramps were also reconstructed as was Rockaway Parkway in the vicinity of the Belt Parkway.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Old Rockaway Parkway Bridge in 2002. (Credit: NYSDOT)

A Notice to Proceed for the reconstruction of the Group 1 bridges was issued to the contractor with a start date of October 26, 2009.

In 2010, 2011, 2012, and 2013, work on the Paerdegat Basin bridges progressed on the construction of the new eastbound and westbound bridges, and the project was substantially completed on August 22, 2013. Various construction milestones have been completed to date, including the temporary relocation of the bicycle/pedestrian path which runs along the eastbound roadway; the removal of the existing median and installation of temporary roadway lighting; the replacement of the existing sludge force main within the project area using open cut and directional boring methods; the installation of earth embankments for the new eastbound and westbound approach roadways; the installation of new drainage structures and pipe, the opening of both the new eastbound bridge (including the new bicycle/pedestrian path), and the new westbound bridge, and the completion of the approach roadway sections and concrete median barriers.

All substructure work for the new eastbound bridge, including the pier and abutment footings, pier columns, pier caps and abutments, was completed during the spring of 2011. The erection of the 51 sections of trapezoidal steel box girders was completed during the summer and was followed by nine concrete deck placements in the early fall. Installation of the concrete barrier sections and modular joints were completed during the fall, as was the construction of the eastbound approach roadway sections, drainage and electrical work. The new eastbound bridge, including the new bicycle/pedestrian path, was formally opened to traffic on December 19, 2011. Traffic was switched from the former westbound bridge to the existing eastbound bridge on December 29 to enable construction of the new westbound bridge.



February 2011: Pumping Concrete at Paerdegat Basin Cofferdam for Pier No.3. April 2011: Setting Tub Girder Sections at Eastbound Bridge Between West Abutment and Pier No. 1. June 2011: Hammer Being Positioned to Drive Steel Sheet Piling for Cofferdam at Westbound Bridge – Pier # 2. July 2011: Setting Final Tub Girder Section at East Abutment.



Paerdegat Bridge in August 2011. (Credit: Daniel Hom) Placing Concrete at Headers for Modular Joints in November 2011. November Aerial View. December 2011: New Eastbound Bridge.

For the new westbound bridge, cofferdams were constructed in 2011 and pile installation commenced for the construction of the new bridge piers and abutment substructures. All substructure work for the new westbound bridge, including the pier and abutment footings, pier

## ACCOMPLISHMENTS & PLANNED PROJECTS

columns, pier caps and abutments, was completed during the summer of 2012. The erection of the 33 sections of trapezoidal steel box girders was completed during the summer and was followed by five concrete deck placements in the early fall. Installation of the concrete barrier sections and modular joints were completed during the fall, as was the construction of the westbound approach roadway sections, drainage and electrical work. The new westbound bridge was formally opened to traffic on December 19, 2012. Final demolition of the existing bridge commenced at the end of 2012 and was completed in May 2013.



Paerdegat Basin Bridge in February 2012: Driving Piles for Temporary Work Trestles on the North Side for the Future Westbound Bridge. April 2012: Galvanized Steel Rebars for Westbound Pier 1 Cap Beam. June 2012: Erecting Steel Falsework Temporary Supports for the Westbound Paerdegat Tub Girders. Unloading Tub Girder Section for Westbound Paerdegat Basin Bridge at Contractor's Storage Yard. August 2012: Paerdegat Basin- Eastbound Belt Parkway Traffic on New Eastbound Bridge Shown at Left. Westbound Belt Parkway Traffic on Old Paerdegat Basin Bridge at Center. Tub Girder Erection in Progress at Right Side by Crane on a Temporary Work Platform at Future Westbound Bridge. September 2012: Setting the Last Tub Girder Section for the Westbound Bridge at the East Abutment.

The removal of the bridge superstructure was completed in March 2013. The traffic switch to Stage 4B was completed during the overnight of May 3, 2013. The contractor completed demolition of the existing bridge sub-structure in May. The approach roadway sections were completed on either side of the new bridges in the summer of 2013, along with the installation of the concrete median barriers and the final street lighting system. The bridges and approach roadway sections were fully opened in their final configuration on August 22, 2013. It is anticipated that work will continue on punch list work and change order work through the summer of 2014.

In summer 2013, the contractor was directed to install approximately 2297 feet of a new, temporary concrete barrier at the Mill Basin-Paerdegat interface. The barrier is intended to stay in place through the early stages of MPT for the Mill Basin Bridge project. Material was delivered to the jobsite, and installation work started on October 3, 2013. Final installation, pinning and reflectorization, was completed on November 18, 2013.



Paerdegat Basin Bridge in January 2013: Driving Support Piles for the Drainage System at the West Side. February 2013: Demolishing the Old Bridge. March 2013: Removing Temporary Piles for the Falsework Structure.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Paerdegat Basin Bridge in May 2013: New Bridges: Eastbound on Left, Westbound on Right. July 2013: Setting a Precast Concrete Median Barrier Section.



August 2013: Working on the Fencing and Bicycle Path. Administrative Engineer Daniel Hom at the Site. (Hom Credit: Russell Holcomb)

During 2011, the contractor's Value Engineering proposal to utilize a temporary Fresh Creek bridge to facilitate the reconstruction of the existing bridge was implemented. The temporary bridge was opened to traffic in March and traffic was shifted to allow for the demolition of the south half of the bridge during the summer. As demolition was completed, deep foundation cofferdams were constructed in advance of the pile installation work, which was completed in late summer. Substructure work, including the pier and abutment footings, pier columns, pier caps and abutments, proceeded accordingly through the fall and were completed in advance of steel erection. All steel was erected during November and concrete deck placements continued through the winter of 2011-2012 in tight adherence to the Agency's winter concrete guidelines and procedures. Relocation of the existing sludge force main within the project area, using open cut and jacking methods, was also completed during 2011, as was the installation of permanent drainage structures and outfalls. The contractor also continued the installation of new permanent lighting, and completed the lead abatement of the existing superstructure steel in advance of demolition.



Fresh Creek Bridge March 2011: Westbound Temporary Bridge at Left, Existing Bridge at Right. July 2011: Concrete Pouring in Piles. November 2011: The Remaining Bridge Carrying East Bound Traffic and Temporary Bridge Carrying West Bound Traffic. (Credit: NYSDOT) December 2011: Commenced Installation of Winter Tent Enclosure for Stage IIB Concrete Bridge Deck Placement. (Tent Credit: Daniel Hom)

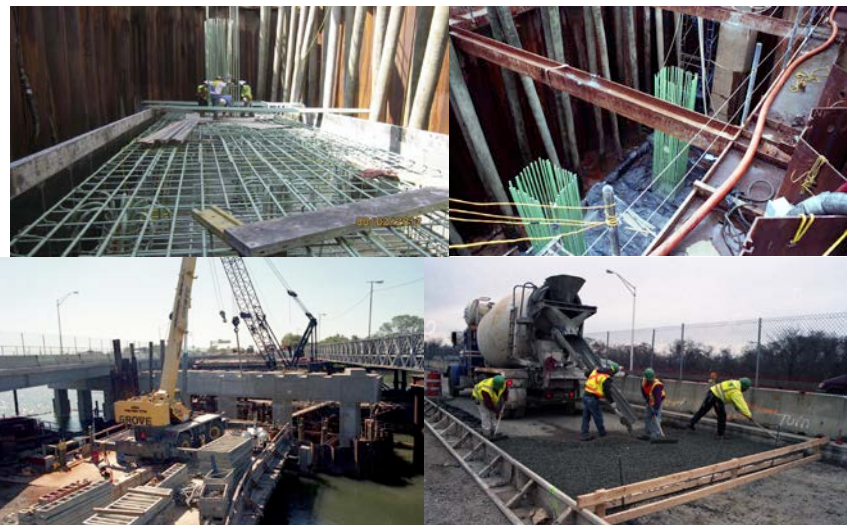
On March 24, 2012, the new eastbound side of the bridge, including the new bicycle/pedestrian path, was formally opened to traffic. Demolition of the final half of the existing bridge continued and was completed in the spring. As demolition was completed, deep foundation cofferdams were constructed in advance of the pile installation work, which was completed in the spring, followed by the substructure work, which was completed in the summer. Steel erection commenced and was completed in the fall, and concrete deck placements continued through the

## ACCOMPLISHMENTS & PLANNED PROJECTS

winter in accordance with specified winter concrete guidelines and procedures. The new westbound side of the bridge was opened to traffic on February 15, 2013, followed by removal of the temporary bridge.



Fresh Creek Bridge in January 2012: Winter Tent Enclosure for Stage IIB Concrete Bridge Deck Placement. Fresh Creek Bridge in April 2012: Stage 3 Demolition of Piers of Old Fresh Creek Westbound Bridge. Workers Cutting off Excess Steel Pipe Casing for Cast-in-Place Concrete Piles at Future Westbound Bridge. Temporary Bridge at Left.



August 2012: Pier #1 Westbound. Setting Rebars for Piers and Footing Inside the Cofferdam. September 2012. November 2012.

The traffic switch to the new westbound bridge was performed in the early morning of February 16, 2013. The approach roadway sections were completed on either side of the new bridge in the summer of 2013, along with the installation of the concrete median barriers and the final street lighting system. The bridge and approach roadway sections were fully opened in their final configuration on August 22, 2013. It is anticipated that work will continue on punch list work and change order work through the summer of 2014.



Fresh Creek Bridge in February, March, and April 2013: Timber Pier Protection Fender Under Construction, Turbidity Curtain, and New Pier.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Fresh Creek Bridge in April 2013: View. Southeast Quadrant Rip Rap. May 2013: Site Overview.



June 2013: Preparing Recess in the Deck Prior to Installation of Elastometric Expansion Joint. Placing Concrete for On-Grade Pavement at Bridge Approach by Means of Conveyor Belt. September 2013: Bicycle/Pedestrian Path on South Side of Bridge - Timber Rail on the Bridge Approach Leads to 7 Rail Bridge Rail on the Bridge.

In 2010, significant progress was made in moving the Rockaway Parkway Bridge through Stage 1 and into Stage 2A. Stage 1 activities that were completed included the removal of the center median slab and curb; the installation of a temporary center median barrier; the paving of the center median and right shoulders to create the additional travel lanes necessary to allow for construction shifts; the installation of temporary street lighting in the center median and along the shoulders; the installation of construction fences and tree protection; the removal of existing trees as specified in the contract; and the installation of soil stabilization and erosion control measures. The existing water main along the east side of Rockaway Parkway was also relocated.

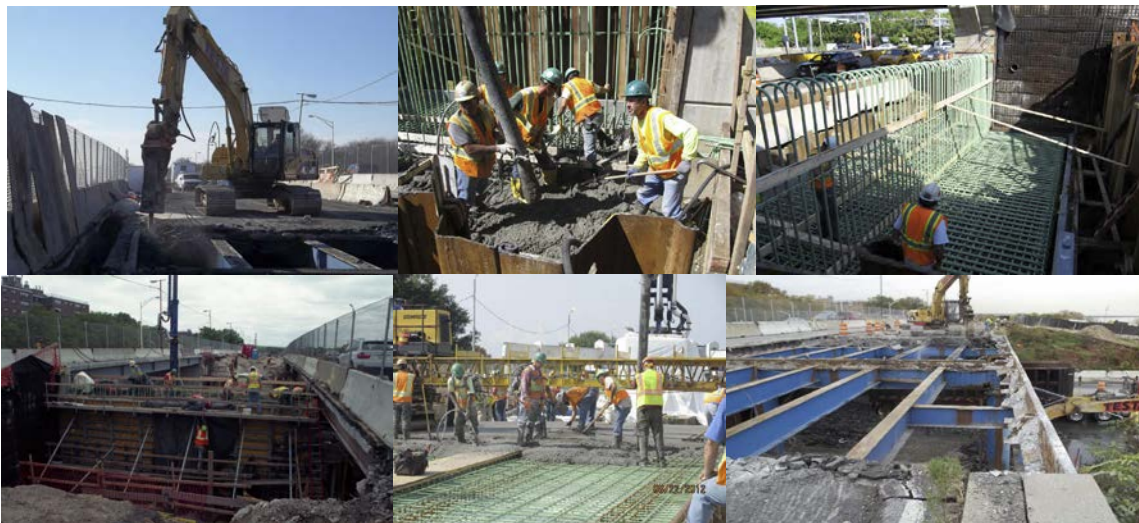
In 2011, construction moved through Stages 2A and 2B, and into Stage 3. Stage 2A began with the shift of traffic to the south side on the approaches and over the bridge to create a work zone for the removal of the north portion of the existing Rockaway Parkway Bridge. Work on the bridge and approaches included the installation of temporary support steel; and the removal of existing deck and support steel. In addition, the widths of the existing westbound entrance and exit ramps were reduced to allow for construction of the new portion of the highway along the west bound shoulder. Excavation, fill and grading to elevation for the new north section of the bridge on the northeast and northwest slopes between the main line and the two ramps was completed and approach pavement sections were placed. The contractor completed the excavation and removal of the existing substructure and the installation of piles and new abutments. Steel erection was completed during overnight hours in early August 2011, and the new concrete bridge deck was placed in late September. Barrier and approach roadway construction, including drainage and electrical work, continued through the fall. The northern section of the new bridge was opened to traffic on December 8 and the traffic pattern shifted to Stage 3 to replace the center portion of the structure. The new ramps were opened in sections with the northern sides of the ramps (Stage 2A) opening in the early summer and the southern sides of the ramps (Stage 2B) opening in line with the December opening of the bridge and the shift to Stage 3. Work also continued on the installation of new street lighting around Canarsie Circle to the south of the bridge.

## ACCOMPLISHMENTS & PLANNED PROJECTS



May 2011: Preparing Rebar for Northeast Abutment Footing. October 2011: Pouring Concrete for Northeast Approach. Aerial View in November 2011.

In 2012, construction moved through Stage 3 and into Stage 4. Excavation, fill and grading to elevation for the new center section of the bridge along the main line were completed and approach pavement sections were placed. The contractor completed the excavation and removal of the existing substructure and the installation of piles and new abutments in the spring. Steel erection was completed during overnight hours in July 2012, and the new concrete bridge deck was placed in August. Approach roadway construction, including drainage and electrical work, continued into the fall. The center section of the new bridge was opened to traffic on October 18, and the traffic pattern shifted to Stage 4 to replace the southern section of the structure and the ramps on the south side of the parkway. The final section of the existing bridge was demolished in the fall, and excavation, fill and grading to elevation for the new southern section of the bridge between the main line and ramps commenced. Excavation and removal of the existing substructure and the installation of piles and new abutments continued through winter 2012 - 2013.



Rockaway Parkway Bridge in January 2012: Stage III Deck Removal and Concrete Demolition. May 2012: Pumping and Vibrating Plastic Concrete Into West Abutment Forms. June 2012: Rebars for Footing and East Abutment Wall of Eastbound Bridge. August 2012: Placing Deck Concrete at Eastbound Bridge. October 2012: South Side of Old Bridge Under Demolition, Facing East. Eastbound Traffic on New Bridge at Left.

Traffic was shifted to the new eastbound ramp on April 5, 2013. The approach roadway sections were completed on either side of the new bridge in the summer of 2013, along with the installation of the concrete median barriers and the final street lighting system. The final section of the new bridge was opened to traffic in July 2013, and the ramps were opened to traffic in August 2013. The bridge, ramps and approach roadway sections were fully opened in their final configuration on August 22, 2013. It is anticipated that work will continue on punch list work and change order work through the summer of 2014.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Rockaway Parkway Bridge in January 2013: Placing On-Grade Concrete Pavement at Ramp "D" Eastbound Entrance to the Belt Parkway. February 2013: Southeast Abutment Area Showing Steel Sheeting, Cast-in-Place Concrete-Filled Steel Pipe Piles, and Concrete Footing With Epoxy Coated Rebars. East Abutment Concreting.



March 2013: Pumping Concrete for the West Abutment Wall. April 2013: Ironworkers Installing Structural Steel. East Abutment at Right. May 2013: Site Overview. July 2013: Nighttime Sign Structure Erection.

Milestone A consisted of all work required to complete the reconstruction of the Paerdegat Basin, Fresh Creek, and Rockaway Parkway Bridges, including all roadway sections and ramps, within the limits of the construction, adjacent to and between the bridge structures. The contract provided for an incentive of \$35,000 per day for each day that milestone A was finished early, with a maximum incentive of \$14.98 million. There was a similar disincentive if the milestone date were to be exceeded, with no maximum. By reaching substantial completion on August 22, 2013, the contractor earned the maximum incentive. On December 12, 2013, the project was awarded the Excellence in Partnering Award for Informal Partnering from the AGC of New York State, LLC.

## *ACCOMPLISHMENTS & PLANNED PROJECTS*



Paerdegat, Fresh Creek, and Rockaway Bridges.

The existing Gerritsen Inlet Bridge is a 520-foot long, 9 span, steel girder and reinforced concrete beam superstructure, supported on reinforced concrete piers, and abutments supported on timber piles. The existing structure and immediate approaches will be demolished and replaced.

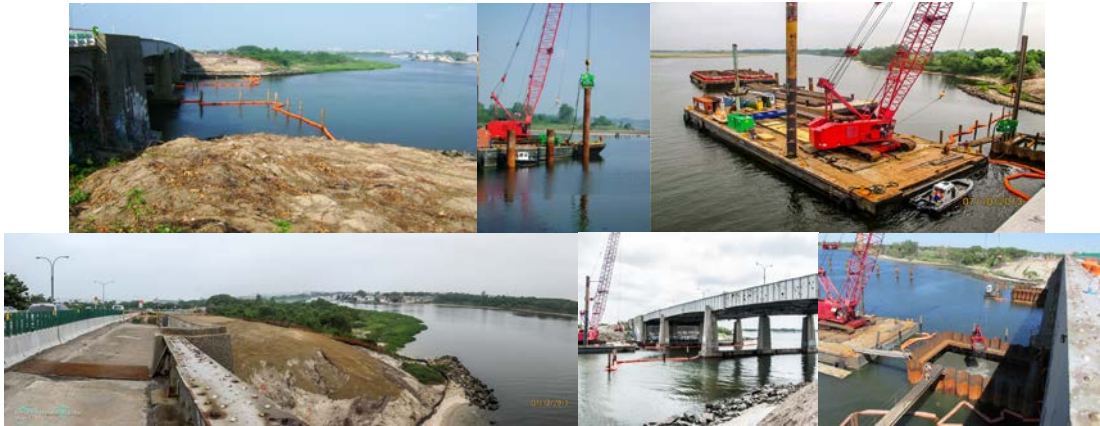
The replacement bridge will consist of a 496-foot, 3 span bridge, aligned 10'-6" north of the centerline of the existing structure, and remaining 35 feet over the navigable channel. The bridge will have a 36-foot wide roadway with a 12-foot wide right shoulder and a 4-foot wide left shoulder in each direction. The eastbound side will carry a dedicated pedestrian/bicycle path along the south fascia. A Notice to Proceed was issued to the contractor with a start date of February 25, 2013.

Construction operations performed in spring 2013 included the installation of temporary concrete barriers as part of the Stage 1 maintenance and protection of traffic; the installation of construction fences and tree protection; clearing and grubbing along the north side of the parkway including the removal of existing trees as specified in the contract; and the installation of soil stabilization and erosion control measures. As the summer and Stage 1 progressed, the contractor installed earth embankments for the new eastbound and westbound approach roadways; installed new drainage structures and pipe; and repaired bridge flags on the existing bridge structure. In the fall, the Stage I abutment piles and footings were constructed, as were the two deep foundation cofferdams for the new water piers. The pier pile installation work was completed in December 2013, in advance of the substructure work, including the pier footings, plinths, columns and pier caps, which are scheduled to conclude in the spring of 2014.

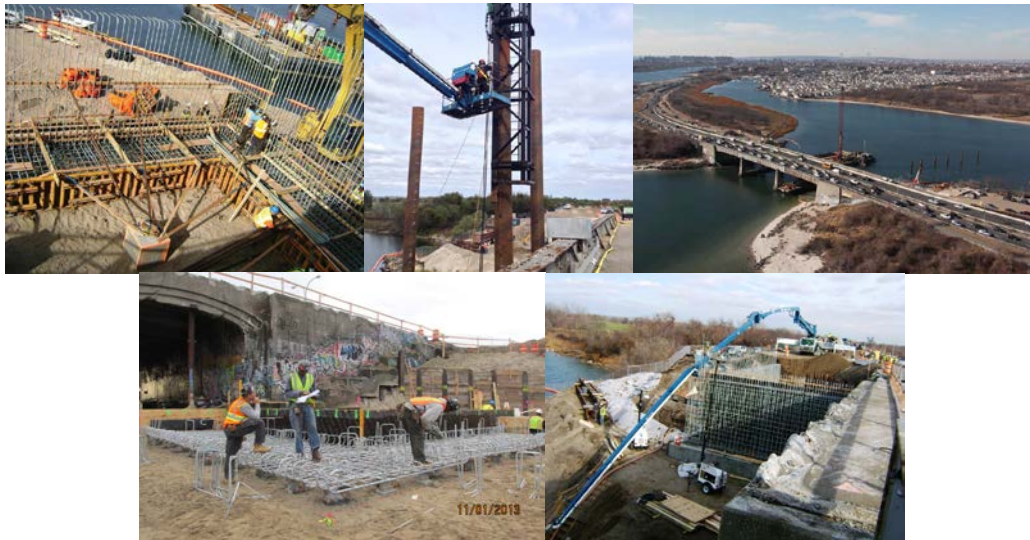
## ACCOMPLISHMENTS & PLANNED PROJECTS



Gerritsen Inlet Bridge in 2013. Proposed Gerritsen Inlet Bridge.



June 2013: North Side of Gerritsen Bridge - Turbidity Curtains Placed on Both Sides of Navigable Channel. Driving Temporary Piles From Work Barge on North Side of Bridge. July 2013: Work Barges Driving Steel Sheet piling for Pier #1 Cofferdam. View of Site And Bay. North Face of Bridge, Seen From South Shore. September 2013.



October 2013: Rebars and Form Work for Footing and Walls at the Northwest Abutment. Stage 1 Piles. November 2013: Northwest View. Inspecting Rebar. December 2013: Tremie Concrete Pour at Pier #2.

Opened on June 29, 1940, the Mill Basin Bridge is adjacent to the Jamaica Bay Wildlife Refuge and the Gateway National Recreation Area. It is the only movable bridge on the Belt Parkway. The current clearance over Mean High Water is 35-feet. When the Mill Basin Bridge was constructed during the first half of the 20<sup>th</sup> century, New York City's inland waterways were among the most heavily navigated thoroughfares in the country. However, as maritime traffic in

## ACCOMPLISHMENTS & PLANNED PROJECTS

New York City steadily decreased since the mid-1960s, the need for movable bridges lessened as well. In 1941, during its first full year of operation, the Mill Basin Bridge was opened 3,100 times; by 1953, that figure decreased to 2,173; by 2013, the number of openings declined further to a total of only 246 openings.

In addition, significant and costly traffic congestion results from the operation of this outmoded drawbridge. In 2012, the Mill Basin Bridge carried 136,875 vehicles per day. The average opening and closing time for the bridge (and others like it) is ten minutes. Thus, this structure's operation has a negative and significant effect on the efficiency of New York City's vehicular traffic flow.

The existing Mill Basin Bridge is 864-feet long and 14 spans, including double movable leaf bascule spans and a steel superstructure, supported on reinforced concrete piers on timber piles, and abutments supported on pre-cast concrete piles. The existing structure and immediate approaches will be demolished and replaced.

The replacement will be a 2,645-foot, 17 span fixed bridge. It will consist of a steel composite superstructure and reinforced concrete substructure on piled footings, and will be constructed on a new alignment set on the north side of the existing bridge and partially overlapping with the existing bridge. The new bridge and approach will have three 12-foot wide traffic lanes, a 12-foot wide right shoulder on the bridge, a 10-foot wide right shoulder on the approaches, and a minimum left shoulder in each direction. The eastbound side will carry a dedicated pedestrian/bicycle path along the south fascia. The new bridge will be a fixed structure with a 60-foot vertical clearance over Mean High Water, obviating the need for opening and closing the structure to accommodate tall vessels. The channel will remain navigable during construction, and the clear channel width will remain the same after the new structure is in place. A new fender system will be installed to protect the bridge substructure from marine traffic.



Current Belt Parkway Bridge Over Mill Basin. Aerial Views. Proposed Bridge. Open Bridge.

## ACCOMPLISHMENTS & PLANNED PROJECTS



May 2013 – Inspecting the Bridge From a Barge. Freshwater and Tidal Wetland Mitigation Sites.

The existing Bay Ridge Avenue Bridge is a 58-foot long, single span, reinforced concrete deck on a multi-girder system superstructure over Bay Ridge Avenue. The superstructure is supported by concrete gravity type abutments on pile foundations. There is pedestrian access under the bridge to both the American Veterans Memorial Pier and the Shore Parkway Seawall pedestrian and bicycle paths. The underpass is also access to the NYCDEP Owl's Head Wastewater Treatment Plant. The existing superstructure will be demolished and replaced.

The replacement bridge superstructure will consist of precast, pre-stressed concrete box beams and a reinforced concrete slab. The bridge will have three 12-foot wide lanes in the eastbound direction and two 12-foot wide lanes separated by a 4-foot wide painted stripe flush median in the westbound direction. There is no pedestrian/bicycle path on the structure. The clearance will be increased to 14-feet 6-inches, which removes the need for clearance signs currently posted for a substandard condition and will obviate the need for underdeck wood shielding. A Notice to Proceed was issued to the contractor with a start date of November 4, 2013. The only construction operations performed in fall 2013 were the survey and stake out of the project.



Bay Ridge Avenue Bridge in 2012. (Credit: NYSDOT) Proposed Bay Ridge Avenue Bridge. Current Aerial View.

The existing Nostrand Avenue Bridge is a 140-foot long, 3 span, multi-girder superstructure, consisting of a concrete deck with an asphalt overlay over Nostrand Avenue. The superstructure

## ACCOMPLISHMENTS & PLANNED PROJECTS

is supported by concrete pier columns with a steel cap beam, and abutments on concrete filled steel pile foundations. The existing structure and immediate approaches will be demolished and replaced. Reconstruction is anticipated to start in 2021. The condition rating of this bridge is better than the other remaining bridges in this program; rescheduling will not negatively impact the bridge users.



Nostrand Avenue Bridge in 2010. (Credit: NYSDOT) Right Girder in November 2012.

A computerized traffic simulation model was developed to analyze traffic conditions in connection with the Division's plans to reconstruct these seven bridges on the Belt Parkway. This model was a useful tool for understanding the impact of construction on the traveling public and helped us determine appropriate construction schedules. It enabled us to rapidly evaluate the impact of a variety of combinations of construction staging.

### HENRY HUDSON PARKWAY OVER 72<sup>ND</sup> STREET VIADUCT (MANHATTAN)

The viaduct was originally constructed in 1937. Since then, several rehabilitation projects were performed, including deck replacement and structural steel repair at various locations. The reconstruction project will consist of repairs of the deck and steel elements of the viaduct superstructure in ten spans from West 72<sup>nd</sup> Street to West 82<sup>nd</sup> Street. The deck repairs will include top pavement replacement, concrete barrier repairs and deck joints replacement. The steel repairs will include installation of reinforcements to the deteriorated girders, columns, connections and bearings. The deck top work will be performed in stages to minimize the parkway closures. Construction is expected to begin in 2016.



Aerial View of the Viaduct.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

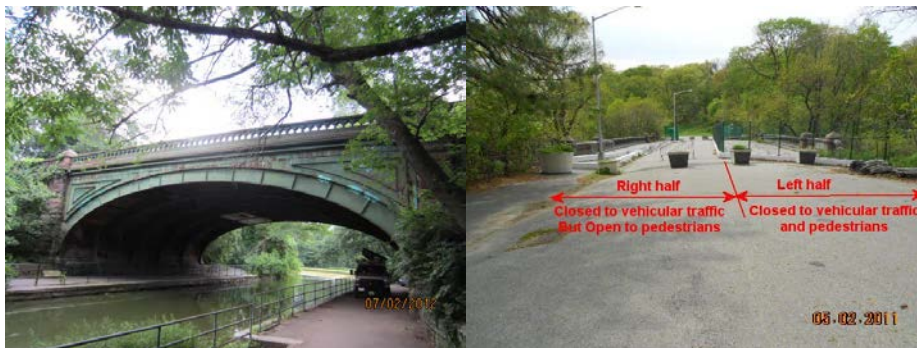
### **HILL DRIVE BRIDGE (TERRACE BRIDGE) OVER PROSPECT PARK LAKE (BROOKLYN)**

The landmark Hill Drive Bridge was built in 1890, and was designed by Calveart Vaux. It was previously known as the Breeze Hill Bridge. The existing Parks bridge is a three span simply supported steel girder/beam structure, with the center arch span crossing Prospect Park Lake, and the other two spans consisting of underground masonry cellular structures with multiple interior masonry-bearing walls and non-composite concrete deck and concrete sidewalk. The substructure of the bridge consists of solid gravity masonry abutments with U-type wing walls.

This project will include the replacement of the existing masonry cellular abutments with new reinforced concrete abutments clad with existing stone and new brick masonry; the removal, storage, and reinstallation of the existing stone wing walls with a new reinforced concrete core; the replacement of the existing stringers and floor beams with new steel stringers; the reinforcement of the existing arch girders with new cover plates; the reinstallation of the steel arch girders at their current locations to replicate original construction; and the replacement of the existing masonry arches spanning between floor beams by masonry cladding on the underside of the new arched concrete deck. The concrete deck, approaches, sidewalk, and roadway will be replaced within the project limits.

The ornamental cast iron and stones will be rehabilitated and reinstalled, replicating all the historic features and aesthetics of the original bridge. New bridge lighting and drainage systems will be installed. The park landscape will be restored, and trees identified by the Prospect Park Alliance as rare and/or historic shall remain undisturbed during construction.

The project to reconstruct the bridge has been suspended until such time as Parks funding is available. Repairs requiring immediate attention are performed by the When and Where contractor. This bridge is closed to vehicular traffic.



Hill Drive Bridge in 2012. End Approach in May 2011: The Bridge is Closed to Vehicular Traffic. The Left Half of the Bridge is Closed to Pedestrians. (Credit: NYSDOT)

### **MARINE BORER REMEDIATION (MANHATTAN & BROOKLYN)**

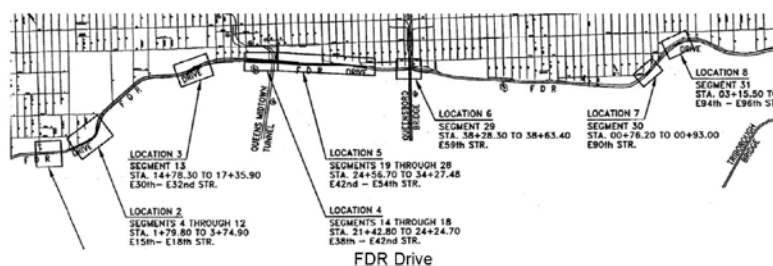
Marine borers pose an immediate and serious danger to the thousands of piles and other structures of timber built in the marine environment. In New York Harbor, as the water quality improved due to many years of clean-up efforts, marine borer (limnoria, teredo, etc.) activity has increased significantly in recent years. The recent inspections of timber structures by various local agencies (such as The Port Authority of NY & NJ, NYS Department of Transportation, NYC Department of Sanitation, and NYC Economic Development Corporation) indicate increasing damage to their structures resulting from marine borer activity. These agencies are implementing measures to protect the structures against marine borers.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Marine Borer – Limnoria Species. Marine Borer – Teredo Species. Teredo Damage (Holes up to ¼" Diameter).

In October 1999, the Department began a study to assess the existing damage caused by marine borers as well as the potential for future damage at several waterfront DOT structures, including the supporting structures of the relieving platforms along the FDR (from East 15<sup>th</sup> to East 96<sup>th</sup> Street) Drive, and the timber piles and structures of the Carroll Street and Ocean Avenue bridges in Brooklyn. The underwater inspection of timber piles supporting the FDR Drive began on May 8, 2000. Inspection of the Brooklyn sites was conducted during the week of October 23, 2000. The inspections were completed in October 2000, and the Marine Borer Evaluation Report was published in June 2001. Using the results of the underwater inspections, preliminary plans were developed for the implementation of repairs and remediation measures to protect the structures from attack. These preliminary plans were completed in December 2001. An updated underwater inspection was performed within the limits of the proposed contract in 2009.



Carroll St



Ocean Ave

Project Locations.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Severe Marine Borer Infestation in Timber Cribbing of Carroll Street Bridge and Moderate Marine Growth Below Waterline on the Ocean Avenue Pedestrian Bridge in 2009. (Credit: NYSDOT)

The construction project will be performed almost entirely underwater and will include barrier wrapping (placement of plastic barrier wrap around a timber pile to prevent marine borers from settling on and penetration into exposed wood); pile encasement (concrete encasement of selected severely damaged piles to reinforce and protect them from marine borers); pile posting (cutting off deteriorated upper portion of pile and replacing it with a new treated timber post); pile cap encapsulation (encapsulation of submerged timber pile caps and timber fascia with plastic lumber and synthetic mastic); bracing replacement (replacement of structural timber bracing with new treated lumber); timber removal (removing timber stays, bracing and formwork located at the top of the piles); installation of additional two-way bracing (installation of two-way bracing using tread lumber to upgrade the strength of piles by reducing the unbraced length); placement of light weight concrete fill (filling in locations where the distance from underside of the platform deck to the top of the mudline is less than one meter creating insufficient headroom for divers to wrap or jacket piles); and superstructure timber replacement (timber pile caps, railing members and other timber superstructure elements along with severely corroded steel correction hardware located above the high water line will be replaced in kind). A Notice to Proceed was issued to the contractor with a start date of April 2, 2012. The construction work is expected to be complete in August 2016.

### RIVERSIDE DRIVE BRIDGE OVER WEST 158<sup>TH</sup> STREET (MANHATTAN)

The Riverside Drive Viaduct is located between West 153<sup>rd</sup> Street and West 161<sup>st</sup> Street. It is approximately 1,924 feet long and has 77 spans. This viaduct consists of intermittent straight portions, and six curves of different radii. The bridge carries four lanes (two each way). The superstructure is made of two types of framing. The northern part is a steel bent type structure, whereas the southern part is a steel cantilever type structure with half of the deck over Amtrak railroad tracks. The area below the entire bridge is utilized for storage of Agency vehicles and roadway maintenance materials. Construction is expected to begin in 2017.



Riverside Drive Bridge in 2010. (Credit: NYSDOT)

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

### **TRANS-MANHATTAN EXPRESSWAY CONNECTOR RAMP FROM THE HARLEM RIVER DRIVE (HARLEM RIVER DRIVE RAMP TO GEORGE WASHINGTON BRIDGE OVER HARLEM RIVER DRIVE SOUTHBOUND) (MANHATTAN)**

The Trans-Manhattan Expressway Connector Ramp is an elevated viaduct that consists of a multi-span steel superstructure supporting a concrete deck. The ramp connects the Trans-Manhattan Expressway to the Harlem River Drive and it was built in 1939. The project will rehabilitate the bridge steel and concrete components. Construction is expected to begin in fall 2014.



Trans-Manhattan Expressway Connector Ramp in 2010 – Elevation Rights Spans 13 to 1, and 43 to 13. (Credit: NYSDOT)

### **17<sup>TH</sup> AVENUE AND 27<sup>TH</sup> AVENUE PEDESTRIAN BRIDGES OVER BELT PARKWAY (BROOKLYN)**

The 17<sup>th</sup> Avenue and 27<sup>th</sup> Avenue Bridges are three-hinged, steel arch girder bridges with granite-faced concrete abutments and Art Deco steel railings. These two pedestrian overpasses have deteriorated over time, and due to low vertical clearance, have suffered impact damage from overheight vehicle traffic on the Belt Parkway below. In addition, these structures are not in compliance with American Disability Act (ADA) requirements.

The 17<sup>th</sup> Avenue Bridge provides the only pedestrian access to the shoreline promenade from the surrounding Bath Beach and Bensonhurst communities. The 27<sup>th</sup> Avenue Bridge provides the main pedestrian access from the community to Dreier Offerman-Calvert Vaux Park.

In this project, the overpasses at 17<sup>th</sup> and 27<sup>th</sup> Avenues will be completely replaced. The structures will be designed to current codes and standards and all substandard features will be eliminated. Additionally, as the existing bridges were constructed under the Robert Moses era Master Plan for NYC, the proposed bridge designs will follow the Shore (Belt) Parkway Design Guidelines which were developed in November 2006, in order to preserve and reestablish the historic character of the parkway for drivers and pedestrians while enhancing and strengthening the visual cohesiveness of the greenspace connected to the adjacent park and recreation land. Construction is anticipated to begin in 2015, and is expected to be complete in 2016.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***



17<sup>th</sup> Avenue Bridge. 27<sup>th</sup> Avenue Bridge in 2012.

### **WEST 79<sup>TH</sup> STREET BRIDGE OVER AMTRAK (MANHATTAN)**

The West 79<sup>th</sup> Street Bridge over Amtrak, built in 1937, is a single span structure, with steel, non-composite girders and a reinforced concrete slab. The bridge carries two lanes of traffic in each direction and has a sidewalk on each side. The project work will include the removal of the existing concrete deck, sidewalks and the pedestrian safety barrier. The deck will be replaced with a 9.5 inch concrete slab with integral wearing surface, a new sidewalk and safety barriers on a rehabilitated superstructure. Construction is expected to begin in 2017.



West 79<sup>th</sup> Street Bridge Over Amtrak  
in 2010. (Credit: NYSDOT)

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

### ***BRONX, QUEENS, AND STATEN ISLAND BRIDGES***

**TEN CULVERTS: GALLOWAY AVENUE OVER MARIANNE STREET, FOREST AVENUE OVER CRYSTAL AVENUE, NAUGHTON AVENUE OVER PATTERSON AVENUE, MIDLAND AVENUE OVER HYLAN BOULEVARD, ROCKLAND AVENUE OVER BRIELLE AVENUE, FOREST AVENUE OVER RANDALL AVENUE, GREGG PLACE OVER RANDALL AVENUE, ARTHUR KILL ROAD OVER MULDOON AVENUE, RICHMOND HILL ROAD OVER RICHMOND ROAD, AND ARTHUR KILL ROAD OVER RIDGEWOOD AVENUE (STATEN ISLAND)**

This ten culvert reconstruction project is in the final design stage.

The Galloway Avenue culvert is a single span timber pedestrian culvert supported on a concrete abutment. It is located approximately 262.4' east of the intersection of Galloway Avenue and Crystal Avenue. The channel beneath the culvert bisects Galloway Avenue, thereby making the culvert the only means of carrying pedestrians from one side of the channel to the other. The existing culvert will be removed and a new culvert will be constructed. The culvert will be closed during construction.

The Forest Avenue culvert over Crystal Avenue is a single span reinforced concrete box culvert. It is located approximately 230' east of the intersection of Forest Avenue with Crystal Avenue. The reconstruction will consist of the demolition of the existing culvert, clearance of debris from the channel, replacement of the culvert with a concrete deck slab supported on steel beams on reinforced concrete abutment and wingwalls. The construction work is planned to be performed in four stages with proposed four traffic lanes being maintained at all times.

The Naughton Avenue culvert consists of three parallel reinforced concrete pipes at the north and south ends separated by a twin barrel box culvert. It is barricaded at the east end by guide rail and bordered at the west by a wooded area. The rehabilitation will include repairing the concrete cracks and spalls, cleaning the debris, and replacing the missing anchor bolts for the retractable steel grates. The construction is planned to be performed in one stage and no lane closure is required during construction.

The Midland Avenue culvert consists of a single span reinforced concrete box, which will be replaced with a new pre-cast box culvert. It is located on Midland Avenue between Boundary Avenue and Mason Avenue. The rehabilitation will include replacing the existing concrete box structure with a new concrete box structure, new sidewalk, curb, pipe railing, chain link fence and asphalt wearing surface. The work will be performed in three stages, with one lane of traffic maintained in each direction at all times.

The Rockland Avenue reinforced concrete culvert project will include concrete repair and a lined and stabilized north embankment. It is located approximately 361' west of the intersection of Rockland and Manor Avenue. The rehabilitation work includes clearing the debris and vegetation from the channel and installing a structural lining. The construction is planned to be performed in one stage and no street closures will be required during construction.

The Forest Avenue culvert over Randall Avenue is a single span concrete box culvert, located at Forest Avenue between Randall Avenue and University Place. It will be replaced with a new precast concrete box culvert with new sidewalks and asphalt pavement. The work will take place in three stages while maintaining one traffic lane in each direction during construction.

The Gregg Place culvert is a single span reinforced concrete box culvert, located approximately 98.4' west of the intersection of Gregg Place and Randall Avenue. The rehabilitation includes replacing the southern portion with a new precast box culvert with new pavement. The construction is planned to be performed in one stage and the north side of the road will remain open to through traffic.

The Arthur Kill Road culvert over Muldoon Avenue consists of a reinforced concrete pipe at north

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

and a reinforced box culvert at south. It is located on Arthur Kill Road between Muldoon Avenue and Arden Avenue. The box culvert will be replaced with a new box culvert, and a structural lining will be installed in the pipe culvert. The construction will be performed in one stage with one lane of traffic maintained in each direction.

The Richmond Hill Road culvert consists of a single span stone masonry arch, built in 1845 according to a sign posted by the wingwall of the culvert. It is located on Richmond Hill Road between Richmond and Old Mill Roads. The rehabilitation work will include removing and re-pointing the stone masonry, removing and replacing the fill and asphalt wearing surface above the arch, and cleaning the vegetation and sedimentation. The work is proposed to be completed in one stage and no road closures will be necessary.

The Arthur Kill Road culvert over Ridgewood Avenue consists of a non-reinforced concrete pipe at south and a corrugated metal pipe at north. It is located approximately 100' west of the intersection of Arthur Kill Road and Ridgewood Avenue. The rehabilitation work will include installing a structural lining inside the concrete pipe and repairing the concrete at the head walls and catch basins. There will be one stage of construction and one lane of traffic will be maintained in each direction.

This project to rehabilitate and/or replace the ten culverts is currently in the final design stage, and is expected to begin in August 2014 and to be complete in 2016.



Galloway Avenue over Marianne Street, Forest Avenue over Crystal Avenue. Naughton Avenue over Patterson Avenue, Midland Avenue over Hylan Boulevard. Rockland Avenue over Brielle Avenue, Forest Avenue over Randall Avenue. Gregg Place over Randall Avenue, Arthur Kill Road over Muldoon Avenue. Richmond Hill Road over Richmond Road, Arthur Kill Road over Ridgewood Avenue.

### **BRYANT AVENUE BRIDGE OVER AMTRAK AND CSX (BRONX)**

The Bryant Avenue Bridge, oriented east to west between Buckner Boulevard and Garrison Avenue, is a one span structure constructed in 1908. It spans 90 feet over four railroad tracks. This project includes replacement of the steel superstructure, bearings, approaches, water mains and rehabilitation of the existing substructures by removing and replacing the top portion of the concrete abutments to accommodate the new superstructure. The abutments will be retrofitted to meet seismic criteria. The proposed superstructure will consist of a reinforced concrete deck over pre-stressed concrete adjacent box beams. The two existing water mains will be removed and replaced. Both water mains will be installed on top of the north sidewalk in a fenced-off area. The Division's in-house design staff will now complete the design for this project. Construction is expected to begin in June 2014, with a duration of eighteen months.

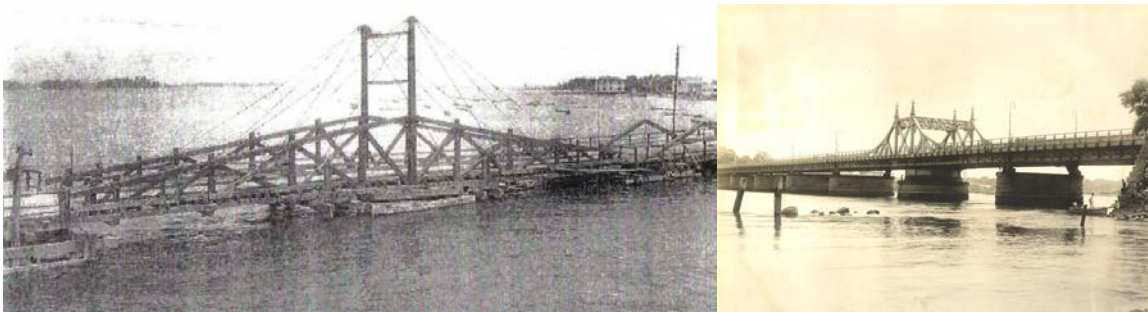
## ACCOMPLISHMENTS & PLANNED PROJECTS



Bryant Avenue Bridge in 2011. (Credit: NYSDOT) Bridge View From the Pedestrian Overpass. Rendering of the Bridge After Construction.

### CITY ISLAND ROAD BRIDGE OVER EASTCHESTER BAY (BRONX)

The existing City Island Road Bridge was built in 1901 and is the only vehicular, bicycle and pedestrian access between the mainland Bronx and City Island. In 2012, the bridge carried 16,424 vehicles per day. The bridge is part of City Island Road, which is located within Pelham Bay Park and crosses over Eastchester Bay. With seven spans and six piers in the water, the bridge has outlived its useful life and requires extensive continuous maintenance. Spans two and three are supported by an overhead truss that originally functioned as a movable swing span but was permanently fixed in 1963.



Original City Island Bridge in 1873. Bridge in 1928.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Aerial View of Current Bridge. Welcome Sign.

The existing bridge will be replaced along the same alignment with a new three span bridge with two piers in the water. The new bridge will be approximately 17 feet wider than the existing one to accommodate three standard 12-foot wide traffic lanes, a 6-foot wide bicycle lane and a 6-foot wide pedestrian walkway on each side. The bridge will be a multi-girder continuous bridge with an integral deck. The new bridge will be designed to current standards and with its wider roadway width, will allow future repair and rehabilitation to be carried out while maintaining one 12-foot lane in each direction. It will also eliminate the vehicle height restriction caused by the existing overhead truss. In order to maintain traffic during the demolition of the existing bridge and construction of the new bridge, a temporary bridge will be constructed on the south side of the existing bridge. Marine traffic will remain undisturbed beneath the bridge during peak boating season.

At the City Island side there is a seawall along the shore which is about 500 feet in length starting from the bridge and heading in a southerly direction. This seawall will be rehabilitated and turned over to the Department of Parks and Recreation along with the esplanade which it is supporting. The rehabilitation of the existing concrete seawall will include a steel rod tieback system as a precaution against loss of stability due to overturning or sliding. In addition, all unsound concrete will be removed from the face of the wall and a new reinforced concrete facing will be cast along the entire length. The esplanade will receive landscape improvements such as a new railing above the wall, new plantings, trees, grass, and paver blocks.



Existing Seawall.

Turtle Cove Culvert is located under City Island Road approximately half a mile west of the existing bridge. As part of the wetland impact mitigation activities for the project, this culvert will be replaced with a larger one that will allow for greater tidal flooding from Eastchester Bay to the upland portions of Turtle Cove.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***



City Island Road Bridge in 2010. (Credit: Bojidar Yanev) Span 4, Right Sidewalk Near Pier 4 in October 2013. Vertical Clearance Posting. (Credit: NYSDOT) 9 Foot Tall Ornamental Finial.

A Notice to Proceed for the project was issued to the contractor with a start date of September 30, 2013. At the end of 2013, the contractor was preparing to proceed with test pits, staging area work, building surveys, and the installation of construction signing. The construction phase for this Federally-funded project has an approximate duration of 3 years.



Rendering of New City Island Road Bridge. Side View Rendering of New City Island Road Bridge.

### **CLAREMONT PARKWAY BRIDGE OVER METRO NORTH RR (BRONX)**

The Claremont Parkway Bridge was built in 1889, with major reconstruction in 1938. Claremont Parkway is a roadway link in the Crotona Park section of the Bronx where the street system

## ACCOMPLISHMENTS & PLANNED PROJECTS

features few continuous east-west routes. The existing bridge is a steel superstructure encased in concrete supported on the original stone masonry abutments. It spans the tracks of the extremely busy Harlem Valley and New Haven lines of Metro-North Railroad, an essential regional commuter link between the northern areas of the metropolitan region, key points in the Bronx and Harlem, and the Manhattan central business district. Reconstruction will extend the life of the bridge by 40 years.



Claremont Parkway Bridge. (Credit: NYSDOT) Looking Northwest in 2008.

The reconstruction of the bridge included removal of the entire superstructure and approaches. The new bridge consists of pre-stressed concrete box beams supporting a reinforced concrete deck and approach slab, concrete sidewalks and reinforced concrete parapet walls with protective fencing, and reconstructed approach roadways. A portion of both existing abutments was removed to accommodate the new bridge profile. The utility work included the installation of two new water mains, a gas main, and electrical conduits. The bridge was constructed in four stages, with one traffic lane and one sidewalk open in each direction at all times during construction. A Notice to Proceed for the project was issued to the contractor with a start date of April 4, 2011.

The contractor began setting up the maintenance and protection of traffic for stage 1 construction on July 11, 2011. All Stage 1 demolition was completed in October 2011. By the end of 2011, the contractor completed the installation of vertical protective shielding above the existing abutment, the demolition of the existing abutment caps and forming, the placement of reinforcing bars, and the placement of concrete on each of the abutment caps.



Existing North Side Guardrail and Fence. Proposed Guardrail and Fence. Stage 1 in October 2011: Removal of the Existing Bridge Girders.



Installation of Pre-Cast Box Beams for Stage 1 in November 2011.

In 2012, the contractor completed the removal and reconstruction of the southern half of the bridge (Stage 1 Construction) and reconfigured the work zone traffic control. Traffic was detoured onto the newly constructed half of the bridge in August 2012. The contractor then began

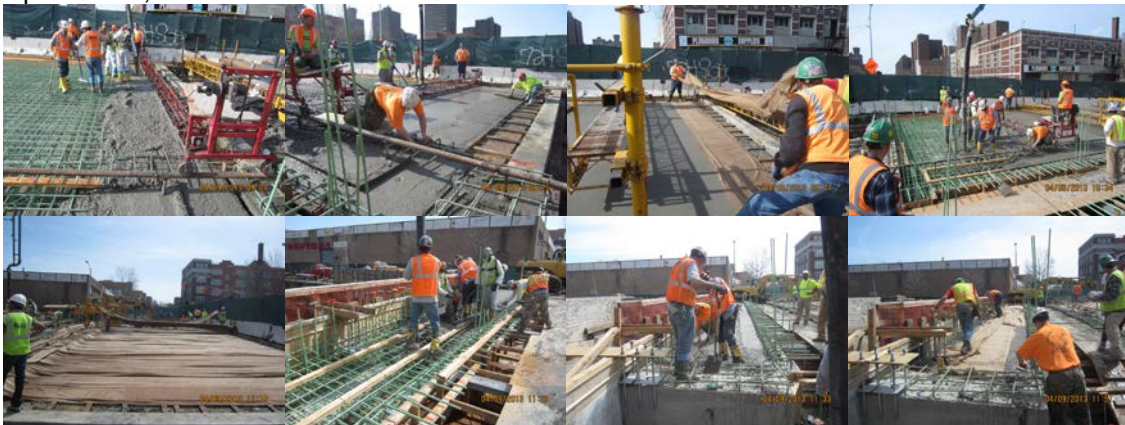
## ACCOMPLISHMENTS & PLANNED PROJECTS

preparatory work (such removing existing utilities, saw cutting concrete deck for removal, removing exiting bridge rails and the protective fence) for the removal and reconstruction of the remaining portion of the existing structure as part of Stage 2 Construction activities.



October 2012: Second Stage Demolition: Removal of the Remaining Portion (10 Concrete-Encased Steel Girders) of the Existing Bridge Superstructure.

In the beginning of 2013, the contractor constructed utilities, curb, roadway sub-base and concrete base at the approaches; and began preparatory work (grouting and post-tensioning the concrete girders, installation of utility supports, formwork) for the placement of concrete for the bridge deck – Stage 2 Construction. Lightweight concrete fill was placed at the approaches; and concrete was placed for the bridge backwalls, deck, sidewalk, railing, approach slabs and sidewalk approaches. The water main and Con Ed electric work were completed, as were the installation of catch basins, street lighting and traffic signals, and the construction of roadway, curb and sidewalk at the northeast and southeast corners of Claremont Parkway and Park Avenue. The new wall and chain link fence at Little Claremont Park were constructed, and the asphalt roadway paving, installation of street signs and placement of thermoplastic pavement markings were completed. The reconstruction of the bridge was substantially completed on September 3, 2013.



Stage 2 Bridge Deck Concrete Placement on April 9, 2013. Placement of Burlap Blankets on Concrete.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

### **GRAND CONCOURSE BRIDGE OVER METRO NORTH (BRONX)**

The bridge was originally built in 1906. It is a single span bridge consisting of a concrete deck supported on five steel plate girders, one truss, and a steel truss subway structure located in the center of the bridge. The bridge carries three lanes of vehicular traffic in each northbound and southbound direction as well as NYCT subway traffic underneath the Grand Concourse Boulevard and above the Metro North railroad right of way. The upper portion of the bridge carrying the roadway is now structurally supported by the lower portion carrying the subway. The two portions of the bridge are dependent upon each other for support and stability but are being maintained individually by two separate agencies, the NYC Department of Transportation, and NYC Transit Subways respectively. The subway portion of the structure, comprised of four warren trusses, is stabilized by the roadway portion floor beams and the roadway portion is supported by the subway trusses.

In the new rehabilitation scheme, the roadway will be supported independently from the subway structure: the structures will be physically separated. Steel members will be added to the subway trusses to provide the stability previously provided by the roadway portion floor beams. The substructure consists of two concrete abutments bearing on rock ledges. The tops of these abutments lie at two levels, an upper level which supports the bridge stringers and a lower level which supports the subway trusses. The bridges stringers over the subway tracks bear on a composite steel beam/concrete backwall which will be replaced as part of this project. The foundation for the new trusses being installed to carry the roadway superstructure will bear on the rock behind the existing abutments.

The reconstruction project will also include building new sidewalks, as well as bridge railings with protective fencing, expansion deck joints, electrical conduits and fixtures, and the relocation of the existing water main under the sidewalk. Two lanes of vehicular traffic and the pedestrian walkway will be maintained in each direction on the Grand Concourse. Deterioration was discovered during a final design inspection to assess the structural condition of the bridge, and the consultant has been instructed to prepare an interim load rating to establish the structural capacity. This project, currently in the final design phase, is expected to begin construction in February 2018, and is expected to be complete in May 2020.



Grand Concourse Bridge over Metro North in 2010. (Credit: NYSDOT) Aerial View. Sidewalk.

### **GRAND CONCOURSE BRIDGE OVER EAST 174<sup>TH</sup> STREET (BRONX)**

The bridge was originally built in 1914 as a reinforced concrete arch and in early 1931, a major reconstruction was performed to accommodate a truss bridge structure to carry subway trains. The subway structure is supported on its own concrete piers. The superstructure consists of two single in-fill concrete arches carrying Grand Concourse across East 174<sup>th</sup> Street. In between those two arches, NYCT has a steel structure supporting their tracks underneath Grand Concourse and crossing above East 174<sup>th</sup> Street. The arch substructures consist of massive reinforced stem walls bearing on rock. The subway structure piers are supported on individual concrete footings with steel grillage bearing on rock.

The project will include replacing the existing roadway, sidewalks and parapets with new reinforced concrete deck slab, providing bridge railing and fencing, repairing concrete arches by adding reinforcing bars with concrete encasements to the entire underside and top of arches to

## ACCOMPLISHMENTS & PLANNED PROJECTS

make the bridge seismically resistant, repairing east/west spandrel walls, and replacing the subway bearings at pier support.

This project is expected to begin construction in September 2018, and is expected to be completed in August 2020.



Grand Concourse Bridge over East 174<sup>th</sup> Street in 2007. Northbound View and Right Elevation in 2012. (Credit: NYSDOT)

### HIGH BRIDGE PEDESTRIAN BRIDGE OVER THE HARLEM RIVER (BRONX/MANHATTAN)

This eleven span landmark structure is the oldest (circa 1848) bridge over the Harlem River. The bridge is under the Department of Parks and Recreation's (DPR) jurisdiction. It was erected to carry water from the Croton aqueduct, and has been closed since 1970. The bridge spans the Harlem River, connecting the neighborhoods of Highbridge in the Bronx and Washington Heights in Manhattan.

Designed on principles of Roman aqueduct architecture, the granite bridge is about 116 feet in height, with the peak of its arches 100 feet above the Harlem River. The bridge is 1,450 feet long, measured from gatehouse to gatehouse, with a 1,200-foot-long brick walkway. The High Bridge was begun in 1839 and completed in 1848. Larger water pipes were added and the walkway was built in 1861-64. In 1927-28, after many years of calls for complete demolition of the bridge, the city replaced five of the original 15 arches with a central steel span to ease the passage of large ships. The rest of the majestic stone arches still stand, the majority on the Bronx side of the river. The bridge has never carried vehicles.

In support of DPR, the Division prepared a detailed scope of work for the comprehensive in-depth inspection of the bridge. Engineering consultants conducted this inspection, which was completed in the summer of 2006, at an estimated cost of \$2.5 million. The Division administered and supervised this work.



High Bridge Pedestrian Bridge in 2004. (Credit: Michele N. Vulcan)

The \$61.73 million restoration of the bridge is being managed by the New York City Department of Design and Construction in partnership with DPR. The reopened High Bridge will be an essential link in New York City's expanding waterfront Greenway. It will allow Bronx residents to

## ACCOMPLISHMENTS & PLANNED PROJECTS

reach the Highbridge Pool and Recreation Center, and Manhattan residents to reach the Harlem River shoreline. Planned improvements will make the bridge more accessible and safe. The rehabilitation will follow historic preservation principles to restore the architectural details of this landmarked structure for public enjoyment.

Both the central steel span and the stone arches will be cleaned and repaired; the steel span will be repainted and the masonry structure will be repointed and strengthened. Architectural lighting will be installed beneath both spans. The brick paver walkway on top of the structure will be removed and reconditioned, new waterproofing and concrete will be installed, then the historic brickwork will be reinstalled. The aqueduct running beneath the structure will be repaired and stabilized. New lampposts and safety fencing will be installed and the original iron railing will be repaired. Barrier-free access ramps will be built on both sides of the bridge to allow access for the disabled. Three viewing platforms with bench seating will be installed along the length of the bridge.

The design of the restoration of the bridge was completed in December 2011. Construction began in August 2012, and is expected to be complete in December 2014.



Rendering of the Restored High Bridge, View From the Bronx to Manhattan, View From Manhattan to the Bronx, and ADA Access Area. Repairs in Progress in April 2013. May and December 2013. (May and December Credits: NYCDDC)

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

### **HIGHLAND PARK PEDESTRIAN BRIDGE OVER PEDESTRIAN PATH (QUEENS)**

The Highland Park Pedestrian Bridge, built in 1935, is a single span arch structure with a clear opening of 60 feet under the bridge. Unlike a conventional steel or concrete bridge structure, the main structure is a brick masonry arch, with wing walls and parapet walls consisting of stacks of random size rocks set in mortar. The height of the parapet walls from the roadway surface varies from two to four feet. The bridge, located inside Highland Park, spans a hiking trail, and carries pedestrian and bicycle traffic. It is 27 feet wide with neither sidewalks nor shoulders.

A recent inspection revealed significant deterioration of the masonry arch. The project, currently in the final design phase, will include the rehabilitation of the existing brick masonry arch structure and the specialized wearing surface. The bridge will be closed to all traffic and will be reconstructed in one stage. Construction is expected to begin in July 2014, and is expected to be complete in eighteen months.



Highland Park Bridge.

### **METROPOLITAN AVENUE (FRESH POND) BRIDGE OVER LIRR -NY&ATL (QUEENS)**

This bridge is a two span structure built between 1914 and 1915. It spans over the Long Island Railroad (LIRR) Montauk Branch and carries the roadway that is part of the intersection of Metropolitan Avenue with Fresh Pond Road and the adjoining property of the former Mobil gasoline station which was acquired by the City. The superstructure consists of concrete encased steel beams with a concrete deck and varying depths of asphalt wearing surface. The substructure consists of a reinforced concrete pier and gravity type plain concrete abutments and wing walls.

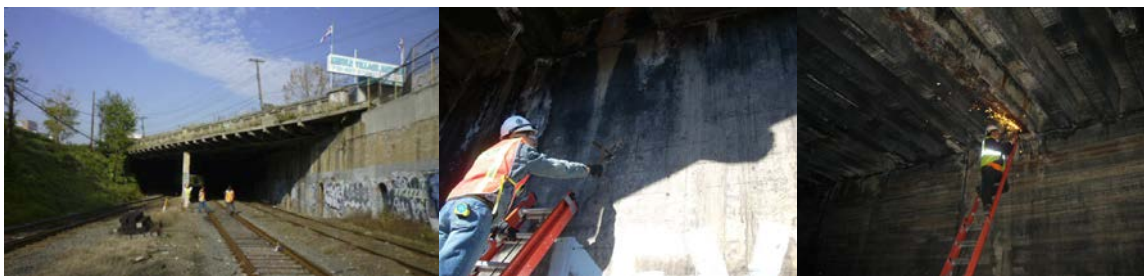
The existing vertical clearance over LIRR tracks is 15 feet 9 inches. Per New York State Railroad Law Section 51-a (7), a minimum clearance of 22 feet is required over a railroad whenever a structure built prior to 1959 is to be reconstructed unless a waiver is granted by NYSDOT. Since a 22 foot clearance was not achievable due to the existing grades of the bridge being restricted by adjacent buildings and the constraint from an existing sewer line under the tracks, the waiver request was not granted by NYSDOT. However, NYSDOT agreed to a clearance of 20 feet 6 inches. In May 2012, NYCDEP conceptually accepted the modification of the existing sewer to achieve the requisite clearance of 20 feet 6 inches.

One alternative to achieve the required 20 feet 6 inches clearance is to lower the railroad tracks. The primary obstruction to lowering the railroad tracks is the existing 60" diameter combined sewer which runs along the centerline of Fresh Pond Road. The sewer crosses beneath the tracks and is approximately 3 feet below the top of rail. To lower the tracks, the combined sewer must be rerouted or reconfigured (or both).

In September 2012, the LIRR and NY Atlantic Railways agreed to have 17 feet 6 inches clearance as an immediate goal and 20 feet 6 inches as a future goal. In response to the LIRR waiver request made in December 2012, NYSDOT accepted LIRR waiver request of railroad 17 feet 6 inches above the top of rail, incorporating provisions for lowering the track to a clearance of 20 feet 6 inches in the future. Currently, NYCDOT is coordinating with LIRR and all the utilities

## ACCOMPLISHMENTS & PLANNED PROJECTS

and proceeding with the final design of the bridge. Construction is expected to begin in the end of 2014 and expected to be complete in 2017.



Metropolitan Avenue Bridge in 2009. (Credit: NYSDOT) 2010 Inspection - Hands-On Inspection of A Pier. Obtaining a Steel Coupon Sample From a Stringer.

### ROOSEVELT AVENUE BRIDGE OVER VAN WYCK EXPRESSWAY (QUEENS)

The existing bridge is a two level dual-use steel viaduct consisting of 27 spans. The first level, which carries Roosevelt Avenue, consists of a plate girder floor beam system supported by steel columns, intermediate piers supporting a bascule span spanning over the Van Wyck Expressway, and end abutments. This level carries two lanes of vehicular traffic in each direction and pedestrian sidewalks on each side. The second level of the viaduct supports and carries the overhead NYC Transit Authority's #7 – Flushing line three track subway structure. It is an essential regional facility and truck route that links communities east and west over the Grand Central Parkway and provides access to Flushing Meadows Park, the National Tennis Center, and Citifield, home of the New York Mets.

The viaduct structure consists of 22 steel bents supporting longitudinal steel girders at the roadway and track level. The length of the east viaduct is approximately 284 feet and the length of the west viaduct is 809 feet. The overall length of the bascule and viaduct structures is 1400 feet. The bridge was originally built between 1925 and 1927. The original bridge had a double leaf bascule span, which was used as a draw bridge, providing clearance for boat traffic passing beneath. When the Van Wyck Expressway was built in the late 1950's and the river was no longer navigable, the bridge was permanently set in a closed position. Subsequently, major roadway modifications were performed in the early 1980's. Concrete deck repairs were performed in July, August, and October of 2003, June and July of 2004, April, May, June, and July of 2005, and June and July of 2006. In the summer of 2005, the When and Where contractor repaired red and yellow flag conditions caused by damage by over-sized trucks using the Van Wyck Expressway. Red-flagged steel shoring and yellow-flagged cracked stringer connection angles were repaired in the spring of 2008.

The project, currently in the final design phase, will include the construction of a new concrete-filled steel grid deck, rehabilitation of the existing east and west viaduct sections, bascule span, piers, abutments, and painting of the entire bridge. In addition, a new bicycle/pedestrian path will be constructed on the north and south sides of the bridge.

The lower level carrying Roosevelt Avenue will be reconstructed in three stages. Both vehicular and pedestrian traffic will be maintained throughout the construction of the bridge, with one lane in each direction.

This federally-funded project is currently in the final design phase with construction anticipated to start in summer 2014 and to be complete in August 2018.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Roosevelt Avenue Bridge (#2240507) in 2002, 2004, and 2010.. (Credit: NYSDOT) Aerial View.

### SHORE ROAD CIRCLE BRIDGE OVER AMTRAK (BRONX)

This project will include the removal of the existing two span bridge and the construction of a new single span bridge structure with a reinforced concrete deck over steel girders. The work will also include the construction of new reinforced concrete abutments and wing walls, as well as new parapet walls with protective steel fences. The bridge will be reconstructed in three stages, with one lane of traffic maintained in each direction during construction. A Notice to Proceed for the project was issued to the contractor with a start date of May 18, 2008.



July 2008: Track Level View of the Existing Superstructure (Left) and Substructure (Right). Roadway Level View of the Existing Bridge (Left) and Bridge Sidewalk and Fence (Right).

Construction was expected to begin in May 2008, however, due to Amtrak's inability to provide the electric traction crew services for track outage, the construction activities on this project were on hold from September 21, 2008 until April 15, 2009.

Construction activity during 2010 included the following: High voltage overhead cables were relocated, allowing construction work to proceed at the west abutment; temporary shoring towers were erected to allow the demolition of the super structure; and soldier piles were drilled behind the abutments and excavation supporting systems installed prior to start of the removal of the existing stone abutments. In the fall of 2010, the contractor started excavating behind the abutments to prepare for the removal of the old abutments and wing walls.

Construction activity during 2011 included the following: Removal of existing sidewalk and steel beams for Stage-1B; installation of protective shielding for Stage-2; demolition of Stage-1A/3A and 1B/3B east and west abutments; pouring of concrete for abutments Stage-1A/3A and 1B/3B; installation of prefabricated structural drain behind Stage-1A/3A and 1B/3B abutments; backfilling behind Stage-1A/3A and 1B/3B east and west abutments; application of protective sealant for Stage-1A/3A and 1B/3B substructure; erection of steel beams for Stage-1A and Stage-1B superstructure; installation of protective shielding for Stage-1A and 1B; pouring of concrete for Stage 1A and Stage 1B superstructure slabs; installation of conduits for Street lighting, high

## ACCOMPLISHMENTS & PLANNED PROJECTS

voltage, and communications; and placement of temporary asphalt concrete pavement for stage-1A and Stage-1B east and west approaches.



December 2010: Demolition of Existing Stage-1A Deck. April and May 2011: Formwork for Stage-1 Abutment Footing and Abutment. July 2011: Backfill Behind New Stage-1 Abutment.

Construction activity during 2012 included the following: Demolition of Stage 2 concrete deck; removal of Stage 2 steel girders, floor beams and pier; demolition of Stage 2 east and west abutments; excavation for and installation of new abutment footings, stem walls and back walls; installation of new bridge pedestals and bearings at Stage 2; setting Stage 2 steel superstructure; installing new 2" conduit and electric cables for street lighting; placement and curing of new Stage 2 concrete superstructure slab; placement of new east and west approach slabs; installation of armored joints; placement of closure pour concrete; placement of new bridge sidewalk and steel face curb at north side of bridge; paving of approach roadway sub-base and binder on the north side of the bridge; placement of north cast-in-place concrete curbs with underdrain; installation of street lighting lamppost foundation on northwest corner; installation of chain link fence on north side of the bridge; and planting of trees in Pelham Bay Park as directed by the Department of Parks and Recreation.



February 2012: Demolition of Existing Stage-2 Superstructure. April 2012: Existing Stage-2 Section of Bridge Demolished and Rebar for New Stage-2 Abutment Footing Placed. July 2012: Stage-2 Steel Erection. Formwork, Rebar Placement, and Concrete Placement for Stage-2 Superstructure Slab. December 2012: Removing Shielding and Formwork.

Construction activity during 2013 included the following: Placement of new bridge sidewalk and steel face curb at south side of bridge; paving of approach roadway sub-base and binder on the south side of the bridge; placement of south cast-in-place concrete curbs with underdrain and south approach sidewalks; installation of street lighting lamppost foundation on southeast corner; installation of chain link fence on south side of the bridge; installation of guiderail at all four bridge corners; placement of top course asphalt pavement for entire east and west approach roadways; pavement striping and installation of traffic signs; installation of new lampposts and cables for street lighting; and all site restoration. The reconstruction of the bridge was substantially completed on May 10, 2013.

## ACCOMPLISHMENTS & PLANNED PROJECTS



January 2013: Cleanup And Grading at Track Level. Stage 3C: Grading West Approach. Installing Guide Rail.



April 2013: Final Paving Operations - East and West Approach Roadways. Placing And Rolling Asphalt. Tack Coat.



April 2013: Density Testing. Final Striping.



June 2013: Track Level View of the New Superstructure (Left) and Substructure (Right). May 2013: Roadway Level View of the New Bridge (Left) and Bridge Sidewalk and Fence (Right).

### WESTCHESTER AVENUE BRIDGE OVER THE HUTCHINSON RIVER PARKWAY (BRONX)

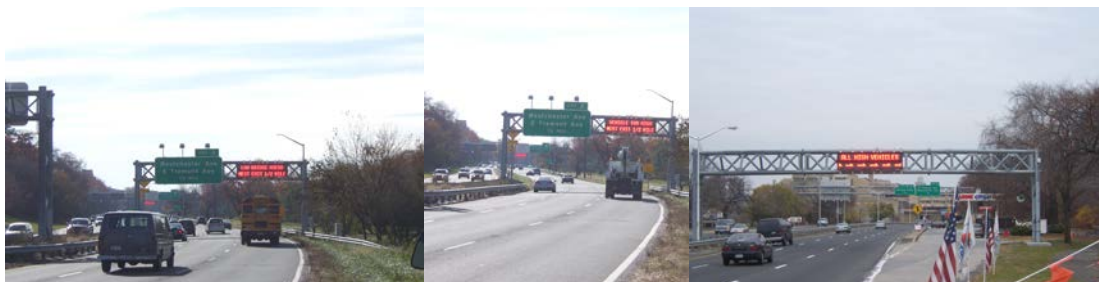
This two span continuous multi-stringer bridge is supported by reinforced piers and abutments. The bridge spans over the Hutchinson River Parkway and it supports the NYCT elevated subway structure of the Pelham Bay Line. It was built in 1940 by the Triborough Bridge and Tunnel Authority. No major modifications to the bridge are recorded except for minor repairs at the south approach sidewalk and temporary flag repairs to bridge girders damaged by vehicle impacts in the southbound and northbound roadway. A project to install an ITS solution, which includes an overheight vehicle detection system that flashes signs directing vehicles identified as being over 9' in height to exit the parkway, was substantially completed on December 3, 2004. The contractor completed extra work associated with landscaping in the spring of 2006. The underdeck at both spans is currently covered by approximately 154 square feet of timber

## ACCOMPLISHMENTS & PLANNED PROJECTS

planking. In addition, the underdeck at span 1 is covered with approximately 18 square feet of steel wire mesh netting.



Westchester Avenue Bridge Elevation Left and Right in 2012. (Credit: NYSDOT) Overheight Sensor Unit on the Hutchinson River Parkway. (Credit: Roly Parroco)



Vehicle Detection System.

The Westchester Avenue Bridge's vertical clearance over the Hutchinson River Parkway is sub-standard. Due to the number of truck and bus vehicles that mistakenly enter the Hutchinson River Parkway, where commercial vehicles are not allowed, the fascia steel girders of the bridge have been severely impacted and damaged numerous times.



Damaged Bridge, Cargo Container, and Contractor Truck After An Over-Height Trailer Struck the Bridge in January 2012.

The rehabilitation of the bridge will include the replacement of the existing reinforced concrete deck slab with a new reinforced concrete deck, steel faced curbs, a new parapet wall and protective screenings, concrete sidewalks, rehabilitation of the damaged steel fascia girders, and replacement of the diaphragms and other bridge elements, including a new steel water main.

In March 2011, a value engineering study was conducted in which it was recommended that further studies of alternative options be performed to raise the bridge clearance through a shallower bridge structure and/or by raising the roadway profile above the bridge.

Following the recommendation of the value engineering study, a hazardous material field investigation of the bridge was conducted in May 2013 and a hazardous material report was issued in June 2013. The report included the results of asbestos, lead and other hazardous materials field investigations, including laboratory testing results.

The consultant is currently investigating the feasibility of the study's recommendations to modify the bridge superstructure in order to improve the vertical clearance under the bridge without lowering the highway, and is studying ways to increase the vertical clearance of the bridge over the parkway without adversely impacting the NYCT elevated structure and its transit train operations. This may entail temporary support of the transit structure in order to replace the

## ACCOMPLISHMENTS & PLANNED PROJECTS

existing roadway bridge structure in stages with a thinner more efficient structure to gain additional clearance over the parkway below. Expected completion of this feasibility study is in the spring of 2014.

This rehabilitation project is currently in final design. Construction is expected to begin in September 2015, and is expected to be complete in May 2018.

### WHITESTONE EXPRESSWAY/VAN WYCK EXPRESSWAY (SB) TO CROSS ISLAND PARKWAY (EB) OVER ACCESS ROAD FROM WHITESTONE EXPRESSWAY/VAN WYCK EXPRESSWAY (QUEENS)

The bridge is a multi-girder, single span, simply supported structure with a span length of 77 feet and is 24 feet wide curb to curb. There are two lanes (one way) on the bridge. The substructure consists of two gravity type concrete abutments. The west and east abutments of the existing bridge are a continuation of the abutments of the overhead bridge. Construction is expected to begin in August 2018, and is expected to be completed in 2020.



Bridge (Lower Structure) in 2010. (Credit: NYSDOT)

### EAST 175<sup>TH</sup> STREET BRIDGE OVER METRO NORTH (BRONX)

The East 175<sup>th</sup> Street Bridge over Metro North was originally built in 1889 and it underwent reconstruction in 1938. The reconstruction work included a new steel superstructure, concrete deck slab and sidewalk in conjunction with repairs to the existing stone masonry substructure and relocation of various utilities. It is a single span multi-girder steel structure with a steel reinforced concrete deck, and it measures 61.68 feet long from abutment to abutment and 60 feet wide from parapet to parapet. Construction is expected to begin in 2019.



East 175<sup>th</sup> Street Bridge in 2002 and 2012. (Credit: NYSDOT) South Sidewalk.

## ACCOMPLISHMENTS & PLANNED PROJECTS

### Design-Build

Design-Build contracts retain the same company for both design and construction on selected projects. It is evident that there are many advantages to the Design-Build program, including the use of one consolidated procurement rather than two or more, resulting in significant time savings; the ability to commence construction before design completion; the avoidance of project escalation costs as construction commences two or three years earlier than with the conventional design-bid-build method; minimization of design change orders; and better coordination between design and construction, as critical field issues are addressed expeditiously. In addition, the design is custom made and reflects the capabilities and strength of the specific contractor; the Department establishes a single point of contact for communicating its goals and objectives; and overall costs are reduced substantially.

### FDR DRIVE AT HOUSTON STREET OVERPASS (MANHATTAN)

The overpass consists of three bridge structures. The main bridge is a two-span reinforced concrete slab structure spanning over the FDR Drive's northbound and southbound roadways. Two approach ramp structures provide access to and from the FDR Drive northbound roadway and the main bridge. Each of these structures is also a reinforced concrete slab structure supported on longitudinal concrete walls that run adjacent to the FDR Drive's northbound roadway. These bridges were constructed circa 1953, and are thus almost 60 years old. On the main bridge, the superstructure slab is supported on bearing wall abutments continuously founded on piles, and on one pier at the center of the FDR Drive that consists of a steel cap beam supported on multi-steel columns continuously founded on piles. The structural slabs have asphalt overlays, and the main bridge has three sections of concrete sidewalks.

Project work will include the removal and replacement of the existing bridge superstructure, including deck slab, sidewalks, center median island and parapets. The substructure (abutments and pier) will be modified at their top to support the new superstructure. Other rehabilitation work will include the removal of hollow and spalled underdeck concrete, cleaning and repair of corroded rebar, removal of asphalt overlay, installation of waterproofing membrane, installation of new signals and an ADA-compliant pedestrian ramp, and placement of new asphalt overlay over the existing deck slabs. The project is in the final design stage, and construction is expected to begin in summer 2015.



The Three Structures of the FDR Drive at Houston Street Overpass. (Credit: NYSDOT)

## ACCOMPLISHMENTS & PLANNED PROJECTS



2011: Main Bridge – Top of Deck Looking West. South Approach Ramp – Top of Deck Looking South. North Approach Ramp – Top of Deck Looking North.

### HARLEM RIVER DRIVE BRIDGE AT EAST 127<sup>TH</sup> STREET (MANHATTAN)

The Harlem River Drive Bridge over the ramp from East 127<sup>th</sup> Street is an eleven-span structure consisting of seven main spans of multiple steel stringers and concrete deck and four approach spans of reinforced concrete structural slabs supported by reinforced concrete girders and retaining walls. The bridge currently carries three traffic lanes in the southbound direction and two lanes plus a wide striped shoulder in the northbound direction. The parkway is not subject to truck traffic with the exception of emergency vehicles and school buses.

The existing bridge was designed and built by the Department from 1955 to 1958 as part of the Harlem River Drive Improvement Project from East 125<sup>th</sup> Street to East 132<sup>nd</sup> Street. The bridge is an eleven-span structure consisting of seven main spans of multiple steel stringers and concrete deck and four approach spans of reinforced concrete structural slabs supported by reinforced concrete girders and retaining walls. The bridge is owned and maintained by the Department; the rest of the Drive is owned by the New York State Department of Transportation.

This project includes over \$126 million in Federal funds. Construction will follow the on-line bridge replacement with auxiliary exit and entrance lanes and left-lane exit to Second Avenue. It involves the replacement of the existing 11 span bridge and the reconstruction of the Harlem River Drive between the Willis Avenue and Third Avenue Bridges, in addition to various highway improvements. The proposed replacement structure will consist of two adjacent bridges, with the bridge located to the west dedicated to southbound traffic and the bridge located to the east dedicated to northbound traffic. The new structures will be approximately 1027 feet long.

It eliminates a major weaving problem between the southbound Harlem River Drive traffic destined for the Second Avenue exit and the Third Avenue Bridge exit ramp. The project will also allow at-grade access for a future Park/Promenade to be developed by the Department of Parks at 127<sup>th</sup> Street between the Harlem River Drive and the Harlem River. The viaduct currently serves approximately 79,000 vehicles per day. This area currently has 40 times the State average number of accidents. Construction is expected to begin in late summer 2014, and is expected to be complete in spring 2018.



Harlem River Drive Bridge at East 127<sup>th</sup> Street.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Rendering of New Harlem River Drive Bridge.



Looking East at the 127<sup>th</sup> Street Off-Ramp: Current and Proposed View. Looking East at 2<sup>nd</sup> Avenue: Current and Proposed View. Looking South From 3<sup>rd</sup> Avenue Bridge: Current Harlem River Drive and 2<sup>nd</sup> Avenue Exit and Proposed Harlem River Drive With Left Lane Exit to 2<sup>nd</sup> Avenue.

### EIGHT RAMPS AND ONE PEDESTRIAN BRIDGE AT THE ST. GEORGE STATEN ISLAND FERRY TERMINAL (STATEN ISLAND)

Ferry service between Staten Island and Manhattan began in 1898, and its operations were taken over by the City's Department of Docks and Ferries in 1905. Today it is run by NYCDOT's Passenger Transport Division and services more than 19 million passengers each year, according to Captain James C. DeSimone, the ferry's Chief Operations Officer. The St. George Ferry Terminal itself recently underwent a major reconstruction project. The old drab, dingy building was converted into a well-lit, modern multi-modal facility. In addition to ferry service, the terminal also includes a very active MTA bus station and a Staten Island Railway Station. The rehabilitated ramps serve 23 NYC Transit bus routes that contribute significantly to ferry ridership. To complete the make-over of the St. George Terminal, the Division's Design-Build Unit also recently completed a major rehabilitation project to upgrade vehicular access to the site.

Currently a series of eight ramps carry bus and passenger car traffic in and out of the facility. The eight vehicular ramp structures provide access to the Staten Island Ferry Terminal for pedestrians, private vehicles, taxis, and New York City Transit buses. The ramps span over the Staten Island Railway, terminal buildings, and terminal parking. Two of the structures serve as a bus station as well as providing a roof over the rail station below. Limited parking is provided on several of the ramps. The North Ramp provides access to the North Municipal Parking Field and the Richmond County Bank Stadium and stadium parking lot, which provides supplemental parking to the Ferry Terminal. The five span pedestrian bridge provides access between the

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

main Ferry Terminal building and the 69<sup>th</sup> Street Terminal building as well as access to the Bus Entrance Ramp (Ramp B) above and the Commuter Pick-Up and Drop-Off Area below.

Seven of the eight ramps were constructed in 1948, with the eighth dating back to the early part of the 20<sup>th</sup> century. The last major structural work on these bridges was a deck replacement project in 1985 that only addressed three of the eight bridge structures. The design-build project upgraded these eight vehicular structures (and one pedestrian bridge), and will provide a design life of 75 years. For seven of the ramps, the project provided new decks and eliminated joints where feasible, retrofitted poorly detailed steel connections, and rehabilitated/replaced deteriorated steel superstructure and substructure members, as well as installed new paint systems. Lead paint removal and the installation of a new drainage system as well as a pigeon deterrent system were also included. The eighth ramp was the existing load-restricted north ramp adjacent to the Richmond County Bank Stadium. It was demolished and reconstructed on a more efficient alignment in order to alleviate traffic congestion at the intersection of Richmond Terrace and Wall Street. In addition, this project replaced the superstructure of a pedestrian bridge (the 69<sup>th</sup> Street Terminal Building Overpass) connecting the terminal to an office facility, and addressed traffic improvements for the entire stretch of Richmond Terrace outside the terminal.

A Notice to Proceed for the reconstruction of these structures was issued to the contractor with a start date of July 27, 2009. During the demolition of the concrete encasement at the old viaduct, which began in October 2009, lead paint on the underlying structural steel was discovered. Lead paint and underlying rust was removed from all structures and non-lead paint was reapplied. This protective coating is an essential preventive maintenance operation used to protect and extend the life of bridge infrastructure. All lead paint removal work was performed within an entirely sealed Class 1A Containment System which prevented materials from leaving the work zone. Soil and air in the St. George area were monitored and tested in accordance with safety requirements set forth by the United States Environmental Protection Agency and Occupational Safety and Health Administration, New York City Departments of Health and Environmental Protection and the New York State Departments of Health and Environmental Conservation.

Active construction began in early 2010 when modifications were made to the Kiss and Ride area. These modifications allowed the area to accommodate the closure of Ramp D (Kiss and Ride exit ramp) for demolition (on June 21, 2010) and the resulting two-way operation of Ramp C (Kiss and Ride entrance ramp). Ramp A and D demolition was completed in September. Bus gates A and B were relocated as of September 12, and the south half of the old viaduct was closed on September 13. The buses were relocated and pedestrians were routed to the opposite sidewalk. By the end of the year, the reconstruction of Ramp A and rehabilitation of Ramp D were underway. The pedestrian breezeway, located above the Kiss and Ride and linking the ferry terminal with the Ferry Administration building, was also being rehabilitated. Demolition was completed in March of 2011, and rebuilding of the structure began.



January 2011: Panoramic View. March 2011: Ramp D South Side Fascia Repair. Existing North Ramp (Foreground) and New North Ramp (Background).

## ACCOMPLISHMENTS & PLANNED PROJECTS

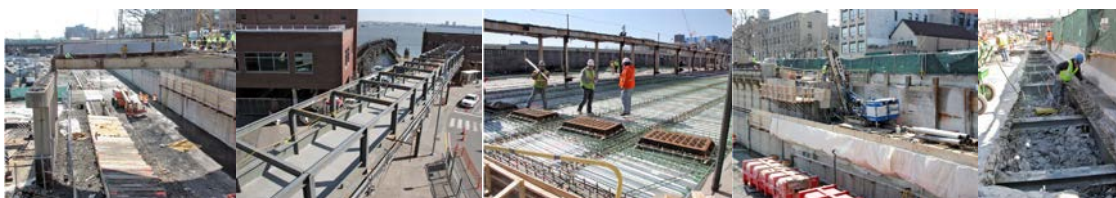


August 2011: Bus Ramp A Canopy. North Ramp Center Pier. December 2011: Bus Ramp D.

Shielding installation and red flag repairs were completed in August 2011. Construction of the new north ramp's T-wall and piers was completed in September. Ramps A and D were completed in November. Ramp D opened on November 17, and Bus Ramps A and B opened on November 18. Stage 1 of the Old Viaduct was opened on November 18, as well. The North Ramp (leading into the North Municipal Parking Lot and NYCEDC Parking facilities), closed for construction on December 1, and demolition began. Construction began on a new ramp on a new alignment, adjacent to the Richmond County Bank Ball Park. By the end of the year, the reconstruction of Bus Gates A and B and the Old Viaduct were underway.

The new North Ramp, located at Richmond Terrace and Wall Street, providing access to the North Municipal Parking Lot and NYCEDC stadium parking lots re-opened during the early morning hours of June 16, 2012. The ramp was constructed on a new alignment and included a full-width pedestrian walkway.

By the end of 2012, chipping of spalls at the retaining wall of Ramp A was moving ahead. At Ramp B, the longitudinal saw cut grooving operation was complete; installation for anchor bolts for precast concrete barriers and reconstruction of west approach sidewalk were in progress; and blast cleaning and painting operations and expansion joint system installation were also in progress. At Stage 2 on the south half of Ramp C, the longitudinal saw cut grooving operation, installation of precast barriers and concrete placement for sidewalk at south side were complete, and the reconstruction of the west approach sidewalk and chipping of spalls on the retaining wall were in progress. At Ramp D, the removal of the platform shielding was in progress, as well as the chipping of spalls on the retaining wall. At the Bus Station North (BSN) and Bus Station South (BSS), the sidewalk concrete placement (BSN) was complete; blast cleaning and painting operations and expansion joint system installation were in progress; and the installation of the new roofing system and installation of bricks for the canopy were in progress. At Stage 3 on the old viaduct, the concrete placement for the approach slab was complete; structural steel repairs were in progress; and the temporary support system installation and blast cleaning and painting operations were in progress. At the pedestrian breezeway, electrical fixtures installation and drainage downspout installation were in progress, as was the installation of a bird deterrent system. At the TWIC area and the north municipal parking lot, the installation of the drainage system and restoration of the roadway were in progress. At the Bay Street Landing connector, sidewalk reconstruction was in progress. The North Municipal parking lot was opened for traffic on December 12, 2012.



January 2012: North Ramp Span 1. February 2012: Breezeway. Taxi Ramp. Mini Pile Installation. Ramp C.

## ACCOMPLISHMENTS & PLANNED PROJECTS



April 2012: BSN Overlay, Towards South. North Ramp, East Approach. September 2012: BSS West. Old Viaduct West. November 2012: Bay Landing Drainage Work.



June 2012: New North Ramp. December 2012: Project Site.

On January 26, 2013, all of the ramps and bus gates, serving both vehicular and bus traffic, were restored to their original configuration. Other work in January and February included under deck shielding platform removal, drainage systems installation, roadway restoration, and structural steel painting operations. The contractor completed the Bay Street Landing Connector in April 2013. In the spring of 2013, work related to installation of aluminum gratings on all four canopies was completed. In addition, spalls were repaired, and fencing and bird deterrents were installed. Work related to the SIRTOA staircase at the North Ramp took place in May 2013. The design-build reconstruction of these bridges was substantially completed on July 15, 2013.



March 2013: Associate Project Managers Reza Lotfi and Patrick Nestor. (Credit: Peter Basich). ARRA Sign. (Credit: Michele N. Vulcan) April 2013: Old Viaduct Shotcrete, South Fascia New Triangle Sidewalk. Bus Station "Lollipop" Signs. April 2013: North Ramp Shotcrete.



April 2013: North Ramp Fence. Shield Removal. May 2013: Ramps A and B.

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May 2013: Ramps C And D. Old Viaduct South Fascia Removal. Installing Bird Netting at Ramp B.



May 2013: Installing Pedestrian Fencing. June 2013: Containment For Steel Painting. Thin Deck Replacement. Ramp B Benches.



June 2013: Site Overview.

### ***Component Rehabilitation***

**CARROLL STREET BRIDGE OVER GOWANUS CANAL (BROOKLYN), 5<sup>TH</sup> AVENUE BRIDGE OVER GREENWOOD CEMETERY (BROOKLYN), BEDFORD AVENUE BRIDGE OVER LIRR BAY RIDGE (BROOKLYN), BROOKLYN-QUEENS EXPRESSWAY BRIDGE OVER ADAMS STREET (NB) (BROOKLYN), BROOKLYN-QUEENS EXPRESSWAY BRIDGE OVER ADAMS STREET (SB) (BROOKLYN), BELT PARKWAY BRIDGE OVER BEDFORD AVENUE (BROOKLYN), 4<sup>TH</sup> AVENUE BRIDGE OVER BELT PARKWAY (BROOKLYN), HILL DRIVE BRIDGE (CLEFT RIDGE SPAN) OVER PEDESTRIAN PATH SOUTH OF BOATHOUSE (BROOKLYN), CROWN STREET BRIDGE OVER FRANKLIN SHUTTLE (BROOKLYN), AND UNION STREET BRIDGE OVER BROOKLYN-QUEENS EXPRESSWAY (BROOKLYN)**

A Notice to Proceed for the component rehabilitation of these bridges was issued to the contractor with a start date of July 23, 2012.

In October 2012, New York was devastated by Superstorm Sandy. During the period immediately following the storm, construction efforts across the city were focused on emergency response and storm clean-up. Work associated with this contract was stopped for an extended period of time. To date, five of the ten bridges in the contract have been substantially completed, two are underway and construction on the remaining three will commence in 2014.

The Carroll Street Bridge is a two span movable-retractile type bridge. The bridge roadway carries a single travel lane in the east direction. There are no parking lanes on the bridge. There is a sidewalk on each side of the bridge. The scope of rehabilitation work included the following:

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

replacing the deteriorated timber deck; restoring the expansion joints; cleaning the masonry walls at the west abutment; replacing impacted stiffeners, angles, and plates; cleaning and painting structural steel; resetting roadway paving units at west abutment and repairing/replacing concrete sidewalks at both approaches; installing new timber curbs on both sides of the roadway; and installing new rubber dock fenders at both abutments. The Carroll Street Bridge was substantially completed on July 9, 2013.

The 5<sup>th</sup> Avenue Bridge is a one span masonry arch structure. The brick arch can be classified as a gothic style arch. The bridge carries one travel lane and one parking lane in each direction. The sidewalk consists of grass and dirt on both side of a 5 feet wide concrete walkway. The scope of rehabilitation work included the following: removing and replacing existing asphalt from the bridge and approach slabs; cleaning and sealing cracks in asphalt at both approach pavements; removing existing 5 foot wide sidewalk on both sides of the bridge and replacing with a 13 foot wide sidewalk; replacing existing stone curb with cast-in-place concrete curb; cleaning, repairing, tuck pointing and restoring the stone masonry; and rehabilitating the brick arch. The 5<sup>th</sup> Avenue Bridge was substantially completed on July 9, 2013.

The Bedford Avenue Bridge is a 6 span structure. The bridge carries one travel lane in each direction. There is a parking lane and a bicycle lane on each side of the bridge. The scope of rehabilitation work included the following: sealing and repairing cracks and spalls at the deck, abutments and piers; replacing compression seals; and cleaning concrete and applying an anti-graffiti protective coating on the abutments and piers. The Bedford Avenue Bridge was substantially completed on November 6, 2013.

The Brooklyn-Queens Expressway Bridge over Adams Street (NB) is a one-span reinforced concrete arch structure. The bridge carries southbound three travel lanes. There is a safety walk on each side of the bridge. The scope of rehabilitation work included the following: Cleaning and sealing cracks in asphalt overlay on top of bridge and approaches; removing unsound concrete and repairing the underdeck concrete deteriorated areas; cleaning and sealing cracks in brick finish at both abutments; cleaning the brick finish at abutments and wingwalls and applying an anti-graffiti protective coating; cleaning the scuppers; and restoring the bridge expansion joint system between NB and SB structures.

The Brooklyn-Queens Expressway Bridge over Adams Street (SB) is a one-span reinforced concrete arch structure. The bridge carries northbound two travel lanes. The third travel lane is closed. There is a safety walk on each side of the bridge. The scope of rehabilitation work included the following: cleaning and sealing cracks in asphalt overlay on top of bridge and approaches; removing unsound concrete and repairing the under deck-concrete deteriorated areas; cleaning and sealing cracks in brick finish at both abutments; cleaning the brick finish at abutments and wingwalls and applying an anti-graffiti protective coating; cleaning the scuppers; and removing the deteriorated lamppost and installing a new one. The Brooklyn-Queens Expressway Bridges were substantially completed on December 3, 2013.

The Belt Parkway Bridge over Bedford Avenue is a three span steel stringer structure. The bridge carries three travel lanes in each direction. There is a shoulder and a safety walk on each side of the bridge. The concrete median that divides the eastbound and westbound traffic has guide railing on both sides. The scope of rehabilitation work shall include the following: replace asphalt concrete over expansion joints and seal cracks in asphalt overlay; clean and paint replaced or rehabilitated steel items; replace seals at abutments; replace deteriorated structural steel; repair concrete deteriorated areas; clean masonry; apply an anti-graffiti protective coating on abutments, wingwalls and piers; and clean scuppers. This project was approximately 20% complete at the end of 2013.

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Belt Parkway Bridge over  
Bedford Avenue.

The 4<sup>th</sup> Avenue Bridge over the Belt Parkway is a two span concrete rigid frame. The bridge carries a travel lane in each direction, divided by a concrete median. There are no parking lanes on the bridge and approaches. The west sidewalk is wide and the east sidewalk is narrow. There is a concrete parapet on each side of the bridge. The scope of rehabilitation work shall include the following: remove and the existing asphalt concrete on bridge and approaches; clean pressure relief joints; repair concrete deteriorated areas at sidewalks and median and apply a sealing protective coating; repair concrete deteriorated areas at abutments, pier, and underdeck; and clean masonry surfaces and apply an anti-graffiti protective coating. This project was approximately 60% complete at the end of 2013.



4th Avenue Bridge.

The Hill Drive Bridge (Cleft Ridge Span) Bridge is a one span semi-circular arch type structure. The bridge carries one travel lane in each direction. There are no parking lanes on the bridge. The scope of rehabilitation work shall include the following: repair the asphalt wearing surface; repair spalled and cracked concrete at the wingwalls; clean the bridge and provide an anti-graffiti protective coating; and restore the under drain system behind the bridge fascias.



Hill Drive Bridge (Cleft Ridge Span) Bridge.

The Crown Street Bridge is a 3 span bridge that carries one travel lane and one parking lane in each direction. The bridge has protective screening and a bridge railing on the south side. There is a building adjacent to the bridge north fascia. The scope of rehabilitation work shall include the following: seal cracks in the concrete overlay; replace seals above abutments; repair, clean, and apply an anti-graffiti protection coating to the abutments, piers, and crashwalls; and clean existing gutters.

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Crown Street Bridge.

The Union Street Bridge is a two span steel continuous stringer structure. The bridge carries eastbound two travel lanes. There is an unmarked parking lane on each side of the bridge. There is a sidewalk, a railing and protective screening on each side of the bridge. The scope of rehabilitation work shall include the following: remove and replace concrete overlay; replace seals at abutments; repair concrete deteriorated areas; replace corroded rivets; paint structural steel; clean abutments and pier walls; and restore bearings.



Union Street Bridge.

## ACCOMPLISHMENTS & PLANNED PROJECTS

### Engineering Review and Support

#### IN-HOUSE DESIGN

In-House Design staff prepare plans and specifications for bridge replacement/rehabilitation projects that enable the Division to restore bridges considered “structurally deficient” to a “very good” condition rating. This unit handles urgent Division projects, as well as special projects under construction by the Bureau of Bridge Maintenance, Inspections and Operations.

The unit continued the design of the Bryant Avenue Bridge over Amtrak and CSXT in the Bronx. This is a one span structure constructed in 1908, with a span length of 90 feet. This project includes replacement of the steel superstructure, bearings, approaches, water mains, and rehabilitation of both abutments. The proposed superstructure will consist of a reinforced concrete deck over prestressed concrete adjacent box beams. The two existing water mains will be removed, and replaced with two new pipes. Both water mains will be installed on top of the north sidewalk in a fenced-off area. Six existing Con Edison electrical conduits will be removed from the bridge. The construction of this bridge is scheduled to commence in summer 2014, and is expected to last eighteen months.

Design also continued of the Henry Hudson Parkway Viaduct from West 72<sup>nd</sup> Street to West 82<sup>nd</sup> Street and the Henry Hudson Parkway Viaduct from West 94<sup>th</sup> Street to West 98<sup>th</sup> Street. The rehabilitation work will include the repair or replacement of various deteriorated structural steel members, concrete deck, abutments, and the retaining walls. Construction work on these viaducts is expected to begin in fiscal years 2016 and 2017.

The unit continued the preliminary design for the replacement of the Union Turnpike Bridge over the Cross Island Parkway in Queens. This is a two span rigid frame structure constructed in 1939. The entire bridge will be removed and replaced at the same location. Several alternatives for the new bridge are currently being investigated. Construction is expected to begin in fiscal year 2021.

As the designer of the recently completed contract to replace the Belt Parkway Bridge over Paerdegat Basin, this unit was involved in the construction support services for the entire duration of construction.

In-House Design staff supervised the reinstallation of joint material across the roadway and at the four corners of the bridge, performed as part of a settlement agreement by the Design-Build contractor at Belt Parkway Bridge over Ocean Parkway.



May 2013: Substantial Completion Inspection of the Shore Road Circle Bridge –Assistant Civil Engineer Evgenia Campbell, Civil Engineer Kirolos Dimian, and Assistant Civil Engineer Yui-Cheong Poon. July 2013: In-House Design Engineers Inspecting the Boston Post Road Bridge over Hutchinson River Parkway – Deputy Director of In-House Design Jagdish Patel, Director of In-House Design Ferdinand John, and Civil Engineers Gregory Novofastovsky, Lev Gold, Kirolos Dimian, and Edvard Jeamgocian.  
(Credit: Leonid Sagalovskiy)

## ACCOMPLISHMENTS & PLANNED PROJECTS



August 2013: Substantial Completion Inspection of the New Paerdegat Basin Bridges – Civil Engineers Edvard Jeamgocian and Gregory Novofastovsky, Assistant Civil Engineer Yiu-Cheong Poon, Director of In-House Design Ferdinand John, Deputy Chief Engineer Anil Vyas, Deputy Director of In-House Design Jagdish Patel, Civil Engineers Svetlana Kaganovskaya and Valentina Krolikova, and Administrative Engineer Sanjeev Patel. (Credit: Daniel Hom) November 2013: Assistant Civil Engineer Radu Georgescu and Director of In-House Design Ferdinand John Inspecting the Remedial Work at the Ocean Parkway Bridge. (Credit: Lev Gold)

This unit also handled the following emergency project that required expeditious response by the Division: the design of a collision protection beam attached to the north fascia of the park and promenade bridge over the FDR Drive southbound roadway to protect the bridge's superstructure from strikes by illegal trucks on the parkway. The unit was also involved in the remedial work required after the August 2013 truck fire on the Ed Koch – Queensboro Bridge, which damaged several steel stringers.

In-House Design's Electrical Group reviews and/or prepares contract documents for all electrical and street lighting work on all projects on the Division's Capital Program. In 2013, the group prepared electrical contract documents for the Bryant Avenue Bridge over Amtrak and CSXT in the Bronx. Some of the contracts reviewed during 2013 included the Broadway Bridge and Wards Island Pedestrian Bridge over the Harlem River; the Belt Parkway Bridge over Paerdegat Basin; the Metropolitan Avenue Bridge over English Kills; Unionport Bridge over Westchester Creek; the Battery Park Underpass; and other agencies' equipment installation on several bridges.

### ENGINEERING SUPPORT

#### BRIDGE PROJECT SPECIFICATIONS

In 2013, the Specifications Unit of the Engineering Support Section prepared and/or reviewed contract proposal books and/or specifications for 18 contracts, including 16 bridge rehabilitation and new construction/reconstruction contracts and 2 component rehabilitation contracts, in addition to replying to specification requests for 5 on-going construction projects. Five of the above contracts totaling approximately \$207 million in construction costs were advertised for bid and two were bid in 2013.

Notable among the construction contracts prepared and /or reviewed, advertised and sent for bid were: the component rehabilitation of ten bridges citywide, the component rehabilitation of another nine bridges citywide, the reconstruction of the Belt Parkway Bridge over Bay Ridge Avenue, Belt Parkway Bridge over Mill Basin, Bryant Avenue Bridge over Amtrak and CSX, Trans-Manhattan Expressway Connector Ramp, Harlem River Drive over Ramp at East 127<sup>th</sup> Street, the replacement of the City Island Bridge over Eastchester Bay, and the preventive maintenance of the four East River Bridges.

The unit also updated the federal boiler plate to reflect 2013 FHWA-1273 and NYSDOT updates, updated the Guidelines for Preparation of Bridge Construction Contract Proposal Book and

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

advised Agency Divisions and consultants on the preparation of contract proposal books and construction contract related issues.

### **CONVERSION OF DIVISION ENGINEERING ARCHIVES**

The Records Management Unit converted 142,414 TIFF (Tag Image File Format) drawings to PDF (Portable Document Format) format and completed the indexing of 115,513 drawings. Some 200,000 TIFF drawings will be converted to PDF format.

The switch to electronic media and server-based archiving will save money on drawing submissions as well, and will lead to the establishment of a unified electronic database for bridge archives. Digitizing documents and storing them online, where they are easy to access and print, will simplify contract submission process and cut project costs in a long run.

The Records Management unit also reviewed and approved as-built drawings and contract drawings for 19 contracts in 2013, including Williamsburg Bridge, Harlem River Drive over Ramp at East 127<sup>th</sup> Street, Belt Parkway Bridge over Bay Ridge Avenue, Bryant Avenue Bridge over Amtrak and CSX, component rehabilitation of ten bridges citywide, St. George Ferry Terminal Ramp Project, component rehabilitation of another nine bridges citywide, Trans-Manhattan Expressway Connector Ramp, the 11<sup>th</sup> Avenue Viaduct, and the Wards Island Pedestrian Bridge.

### **SURVEYING**

Unit staff monitored seven bridges in 2013: Depot Place Bridge over Conrail Yard, Third Street Bridge over Gowanus Canal, Pelham Parkway Bridge, Stone Arch Bridge in Central Park, Ninth Street Bridge over Gowanus Canal, 17<sup>th</sup> Avenue Pedestrian Bridge over Belt Parkway, and the Footbridge over Clove Lake. As an emergency assignment, the unit measured the displacement of the three steel stringers that were damaged by a truck fire on August 16, 2013 at the Ed Koch - Queensboro Bridge.

### **ENGINEERING REVIEW**

#### **MACY'S THANKSGIVING DAY PARADE**

As in past years, the staff of the Engineering Review Section actively participated in the 2013 Macy's Thanksgiving Parade. Months before the parade, the engineers reviewed the balloon specifications and flight analyses. A balloon is classified as large if it is larger than 5,000 cubic feet. However, the balloons in the parade cannot be taller than 70 feet, wider than 40 feet, or longer than 78 feet. This project was coordinated with Macy's and various City agencies such as City Hall, NYPD, DOB, and OEM.

### **CRP/EXTELL PARCEL H PROJECT**

The CRP/Extell Parcel H, LP project (Riverside Drive between 59<sup>th</sup> and 72<sup>nd</sup> Streets) includes the construction of seven new bridges, a ramp, two relieving platforms, and connector roads along Riverside Drive as a part of the residential and commercial development over the former Penn Central Rail Yard. The project also includes a half tunnel section in what was formerly known as the Miller Highway Tunnel. When completed, the infrastructure network will be transferred to

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

DOT for maintenance. The Division is providing engineering review of the design drawings, as well as quality assurance inspections, to ensure the developer's compliance with DOT's construction and design standards. The bridges are substantially completed and open to traffic. The first phase of construction for the half tunnel section is complete and phase two is in progress.

### **RETAINING WALLS**

In May 2005, the Department started a program for the periodic inspection of City-owned retaining walls. The City currently owns 634 retaining walls. Those retaining walls were built during the interstate construction program between the 1940's and 1970's and are an important part of the city's street infrastructure. However, some of them are approaching the end of their service lives and are falling into poor condition due to various factors such as spalling/cracking of concrete, loosened mortar joints, broken stone masonry, falling coping stones, deteriorated joints, leakage through the walls due to improper drainage arrangements (clogged weep holes), bulging of walls due to hydrostatic pressure build-up on the back of the walls, and many other problems. In order to protect the infrastructure they support, the retaining walls require regular inspections and monitoring, and depending upon the condition of the walls, rehabilitation/replacement is required. Since 2005, 17 retaining walls have completed rehabilitation/replacement, and 18 retaining walls are in various stages of design and construction. The retaining walls which are in fair to poor condition will be in a capital program for future rehabilitation.



Retaining Walls: Southeast Corner of West 108<sup>th</sup> Street and Riverside Drive. Left Side of Ramp From Riverside Drive to George Washington Bridge. Irwin Avenue.

### **OVERWEIGHT TRUCK PERMIT REVIEWS**

The Overweight Truck Permit Unit receives an average of 100 permit applications per week for overweight/over-dimensional trucks, self-propelled cranes, and occasional superload moves from utility companies crossing City-owned bridges, including critical bridges such as the Manhattan and Ed Koch Queensboro Bridges. Most of the permit requests must be reviewed and approved on the same day.

### **BRIDGE SEISMIC DESIGN AND RETROFITTING**

The seismic retrofitting of bridges in New York City is part of the inspection and rehabilitation program mandated by Congress and administrated by the FHWA through the local authorities. During the period of 1993 to 1996, four major bridge owners in the New York City area (NYCDOT, NYSDOT, MTA, and the Port Authority of New York and New Jersey) retained seismologists to study hard rock seismic ground motions. The rock motions generated by these studies differed from each other and from the AASHTO spectrum as modified by NYSDOT. The differences were such that the resulting retrofit costs varied widely, depending upon which

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

motions were adopted. To resolve this issue, NYCDOT, in association with NYSDOT and the FHWA, retained a consultant to assemble an expert panel to develop recommendations for rock motions that would be adopted uniformly by the New York City region. The panel consisted of a team of six internationally recognized experts in the fields of seismology, geology, earthquake engineering, ground motion, and geotechnical studies. There were several brainstorming workshops held in New York, where the senior officials from NYCDOT, NYSDOT, and the FHWA provided their input to the panel members.

The expert panel formulated recommendations regarding rock motions and corresponding time histories. Subsequently, the consultant derived soil generic response spectra, based on the hard rock motions and NEHRP amplification factors. The consultant also established bridge performance criteria to be used for critical, essential or other bridges undergoing structural analyses. The recommendations are described in the report entitled "New York City, Seismic Hazard Study and its Applications, Final Report, December 1998." This report is now extensively used by NYCDOT, NYSDOT, the FHWA, their consultants, and other agencies in the New York area for bridge projects. Thus, NYCDOT's leading role and efforts to establish ground motion standards have brought uniformity in seismic design to the New York City area.

In 2002, the consultant convened a second panel of seismologists to update the 1998 Hazard Study and associated rock motions. On June 3, 2004, after the USGS national hazard maps were adopted by NEHRP, in a meeting attended by NYCDOT, NYSDOT and FHWA, it was unanimously agreed to adopt the new hard rock ground motions recommended by the panel of seismologists.

Following the adoption of the very hard rock motions, the consultant started the preparation of a new edition of the NYCDOT Seismic Design Guidelines for Bridges. Data from geotechnical bridge studies performed within the five boroughs of NYC were compiled. A series of generalized subsurface soil and bedrock profiles were developed to be representative of the range of soil profiles, overburden thickness, and rock types found within NYC. A fully probabilistic approach, utilizing Random Vibration Theory (RVT) in conjunction with the new hard rock ground motions, (from the 2002 Hazard Study) and the generalized NYC subsurface profiles, was used to develop vertical and horizontal Uniform Hazard Spectra (UHS), which, in turn, served as the starting point to derive design rock and soil response spectra. The method allowed computation of soil UHS, while preserving the hazard level of the very hard rock UHS. It accounted, in a rigorous probabilistic manner, for variations and uncertainties in soil stiffness, stress-strain nonlinearity, and material damping; depth of soil to rock; and, stiffness of the rock under the soil.

Generic horizontal and vertical design spectra were derived using the calculated UHS as the starting point. Generic design V/H ratios to be used in site-specific studies to generate site specific vertical motions, were also produced. All the generic soil curves are presented as a function of three parameters: soil class; depth to rock; and, rock class under the soil.

The development of these parameters for the NYCDOT Guidelines represent a significant improvement to the previous guidelines and other codes, since it will result in better representation of the ground motions at a bridge site, bringing closer the generic ground motions to those that could be obtained from site-specific studies. The fact that the new guidelines better fit the specific characteristics of the NYC region, will permit the engineers to evaluate the need for retrofitting existing bridges or strengthening new ones at the right places.

Recommendations for liquefaction evaluation are also provided in the guidelines, including recommendations for earthquake magnitude and peak ground surface accelerations, which are critical parameters for evaluating liquefaction potential and which have not been included in previous guidelines. The new document also includes recommendations for site-specific studies, providing guidelines and minimum requirements that must be satisfied. These include: procedures to establish soil horizontal and vertical design motions; recommendations to evaluate the effects of the depth to the rock surface; recommendations to account for uncertainties in the soil properties; minimum requirements to establish lower bound horizontal design motions; recommendations for time history analysis of bridges; recommendations for the incorporation of

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

spatial variation effects in the analysis; and different requirements for critical and non-critical bridges site-specific studies.

The final draft of the new NYCDOT Seismic Design Guidelines for Bridges was submitted to NYSDOT for peer review in September 2008. Upon completion of their review, these guidelines will be adopted for the seismic and retrofit design of bridges in New York State. The review is expected to be complete by the end of April 2014.

### **ENVIRONMENTAL ENGINEERING**

In 2013, the Environmental Engineering staff of the Quality Assurance section continued to provide expertise and oversight of the various environmental issues of the reconstruction of the Paerdegat Basin Bridge, Rockaway Parkway Bridge and Fresh Creek Bridge in the Belt Parkway Project. This includes monitoring and oversight of wetland restorations, management of storm water erosion and run off controls, asbestos and lead paint abatement, hazardous waste management, spill control/management, management of waste water, and groundwater/soil management.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

### ***Bridge Maintenance, Inspections and Operations***

#### **EAST RIVER BRIDGES ANTI-ICING PROGRAM**

Traditional snow and ice control practices rely heavily on the use of salt, a material known to corrode steel and accelerate the deterioration of concrete and asphalt surfaces. A new method of snow and ice control was needed to protect the City's \$2.5 billion investment in the rehabilitated East River Bridges. This method, known as anti-icing, involves the application of a chemical freezing point depressant to the roadway surface to prevent snow and ice from bonding to the roadway. Frequent plowing removes any accumulation of unbonded snow or ice before traffic is affected.

The Division's Anti-Icing Program uses the liquid chemical potassium acetate and aggregate chemical sodium acetate. The anti-icing fleet consists of twenty-two application trucks, five plow trucks and several smaller plows. Ten of the spray trucks are combination spray/plow trucks with a 1,000 gallon tank capacity, and five are spray-spreader/plow trucks with a 360 gallon spray capacity, and a nine cubic yard spreader capacity. There are twenty chemical storage tanks, with a total storage capacity of 114,250 gallons.

New anti-icing yards storing both chemicals have been established under all four East River bridges. Supervisors monitor the bridge decks during storm events by traversing them and using thermal instrumentation installed in their vehicles to make informed decisions as to when to apply chemicals. GPS capabilities have been installed in key vehicles to assist supervisors with the decision making process.

In the winter of 2012-2013, a total of 43,540 gallons of potassium acetate and 107 tons of sodium acetate were applied on the roadways of all four East River Bridges.

#### **INSPECTIONS**

In 2013, Inspections covered 100 bridges and 543 spans. Emphasis was placed on ensuring public safety through the monitoring of potentially hazardous conditions and temporary repairs. The unit performed 430 monitoring inspections, and 76 special winter monitoring inspections of cellular structures, shorings, and potential fire hazards. In addition, 126 emergency inspections were conducted in response to hot line calls, in-house requests, or citizen complaints.



Inspecting 69<sup>th</sup> Street Over the Brooklyn-Queens Expressway and 73<sup>rd</sup> Street Pedestrian Bridge (Bow Bridge) (From a Boat) in April 2013.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Assistant Civil Engineer Prabir Dhar Inspecting East Drive (East Wood Arch) and Mill Basin Bridge (From a Barge) in May 2013.



Winter Monitoring Locations: Manhattan, Williamsburg, and Ed Koch – Queensboro Bridges.

In 2013, as part of the upgrades following Hurricane Sandy, the Bridge Inspection field office was relocated from the low lying area near Newtown Creek in Brooklyn to a new upgraded facility in Long Island City, Queens. In addition, a new high rail bucket truck with capability to ride on rails as well as on road surfaces was obtained for the inspectors.

The Bridge Data System (BDS) allows inspection reports to be generated and transmitted electronically. It provides access to data from the latest inspection reports on all bridges to all Division units. In addition, when an emergency arises, our inspectors are able to send photographs and other information to the main office via a wireless connection to the internet. This feature enables bridge repair engineers to assess the condition and dispatch repair crews with the appropriate equipment in a timely manner. The updated version of the system was field tested by the contractor and the Bridge Management Unit in 2012 and was fully implemented in March 2013.

A future contract is anticipated to expand the BDS capabilities by incorporating data from capital reconstruction projects. Additional features will include in-depth inspection reports by consultants as well as GPS data.

Since 2002, the Division stores all bridge inspection reports in electronic format. Flag reports are now also transmitted electronically. As of September 2003, standard inspection work is funded by a federal grant. Emergency response inspections and administrative support remain city funded.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

The Bridge Management Unit developed a map of truck routes and bridges under capital contracts for the purposes of the Truck Permits Unit. This unit also provided Bridge Maintenance with estimates of the life-cycle benefits of various maintenance tasks, obtained by the software package designed for that purpose.

### **NON-DESTRUCTIVE TESTING**

The Bridge Inspection and Management Units have pioneered the use of various nondestructive tests on City bridges, including X-ray diffraction, fiber optics, strain-gauging, ground penetrating radar, and ultrasonic testing. Future applications of such technologies are under consideration. For demonstration purposes, the Manhattan Bridge was surveyed with a radar scanner. The results indicated that the stiffening of the bridge has reduced its torsional motion under subway traffic very significantly. The results matched independent measurements by Global Positioning Systems (GPS).

In November 2010, the cable research project moved to its final phase as sensors were installed on Cable "D" of the Manhattan Bridge with the help of bridge maintenance personnel. The data collection from the instruments in the cable was concluded in October 2011. The final report will recommend appropriate non-invasive technology for monitoring of suspension cables.

As part of the project, a unique magnetic flux field test was conducted on the cable. The method was developed by Japanese researchers specifically for this test. Its purpose is to estimate the amount of healthy steel in the cable without exposing the wires. The findings were presented at the Agency by the researchers in February 2011. This capability will be considered for future inspections of suspension cables.

A new engineering services contract was registered for monitoring the Manhattan side approaches of the Brooklyn Bridge. Under the contract, selected locations will be instrumented with fiber optic sensors, allowing on-line monitoring until the rehabilitation of the spans. Completion is expected in 2014.

In 2012, the Bridge Management Unit awarded a contract for the design and installation of a real time on-line system monitoring of the abutments of three bridges in the Bronx identified as vulnerable to scour. As a first step, the consultant inspected the sites in-depth, and the findings resulted in emergency repairs conducted by the Where and When Unit. In 2013, the contract proceeded on schedule. Field data acquisition and transmission are being tested.

### **CLEANING**

In 2013, 7,207 cubic yards of debris were removed from bridges and their surrounding areas, and 1,711 drains were cleaned.



Water Spraying the 9<sup>th</sup> Street Bridge over Gowanus Canal in July 2012.

## ACCOMPLISHMENTS & PLANNED PROJECTS

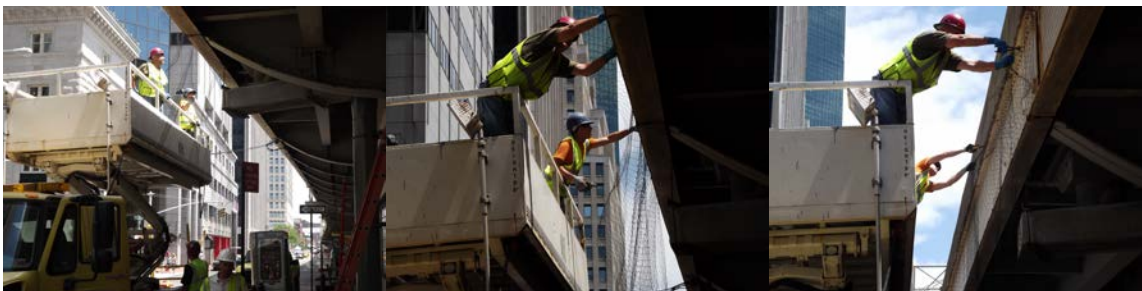
### PIGEON DETERRENCE

Excessive numbers of pigeons cause property deterioration, unsafe working conditions and health hazards. Besides being unsightly, accumulation of pigeon droppings and feathers is corrosive to steel structures and raises concerns about health hazards. Many disease organisms have been associated with pigeons. They harbor ectoparasites which can infest or bite humans. Pigeon droppings also harbor fungi that can trigger serious, even fatal, lung diseases such as Histoplasmosis, Cryptococcosis and Toxoplasmosis, when the spores are transmitted to humans who breathe in the harmful dust.

The Division utilizes a relatively low tech, and passive, approach to deterring pigeons. In 2006, the type of barrier used to cage out pigeons was changed from the drop ceiling method to netting. The netting is supported by steel cables that are clipped to the beams. This method is currently in use under the Brooklyn Queens Expressway (over Prospect Street), at the Pulaski Bridge, under the Brooklyn Bridge at “Ash Alley,” and at the anti-icing tank storage area under the Brooklyn Bridge at Dover Street. In addition, a pigeon deterrent system involving low voltage wires is in place at the Belt Parkway Bridge over Ocean Parkway. The wires are installed along the web of the girders and are hardly visible, yet highly effective. The system has been in operation for over seven years now and no pigeons have been observed under or by the bridge ever since. The community is pleased that we addressed one of their most serious and longstanding complaints. The system requires minimum maintenance and is extremely easy to operate.

In 2013, we continued to experiment with a new method on the flanges over the north sidewalk at the Brooklyn-Queens Expressway over Atlantic Avenue: a gel, whose active ingredient is capsaicin, that is applied to the spots unwanted birds would normally perch. The burning sensation caused by the capsaicin irritates the birds’ feet and results in them roosting elsewhere.

In 2013, pigeon dropping removal and/or pigeon proofing were performed at the Brooklyn-Queens Expressway at Queens Boulevard and at Atlantic Avenue, the Cross Island Parkway at Linden Boulevard, the Long Island Expressway at Junction Boulevard and Woodhaven Boulevard, and Queens Boulevard at Eliot Avenue.



Installing Pigeon Netting at Old Slip (FDR Drive at the South Street Viaduct) in June 2012: Carpenters Stephen Buckley, William Sic, and Joseph Moschella, and Supervisor Carpenter Joseph Vaccaro. (Credit: Thomas Whitehouse)



Nature's Pigeon Deterrent—Falcons on the Brooklyn Bridge South Side Tower, Manhattan Tower Top, and Cables. Falcons Have Lived on the Brooklyn Bridge Since 1995. Falcon Family on the Williamsburg Bridge. According to the New York State Department of Environmental Conservation, New York State now has the largest population of peregrines in the eastern United States. There Were 20 Active Nesting Falcon Pairs in New York City in 2013. (Family Credit: Russell Holcomb)

## ACCOMPLISHMENTS & PLANNED PROJECTS



“Owl” Guarding the Machinery Room of the Broadway Bridge. A Hawk on the Broadway Bridge. (Owl and Hawk Credit: Albert Hong)

### BRIDGE CLASSIFICATION

The Coast Guard regulations, which govern the operation of the City’s movable bridges, define the owner’s responsibility to the mariner by classifying a bridge as “open on demand” or “open on advance notice.” An “on demand” bridge provides an immediate opening to any vessel wishing to pass the bridge. An “advance notice” bridge opens after the mariner requests an opening several hours in advance. “On demand” bridges must be staffed at all times. “Advance notice” bridges are staffed only when necessary. DOT redesigned the work process in order to reduce personnel costs to the City and improve the delivery of services to the maritime community.



Pulaski Bridge Opening in February 2010. (Credit: Bernard Ente) Third Street Bridge Opening in June 2012. (Credit: Nikita Gupta) 145<sup>th</sup> Street Bridge Open in June 2013. (Credit: Ting Yu Huang) Ninth Street Bridge Open in September 2013. (Credit: Vera Ovetskaya)

In October 2000, the Department implemented the United States Coast Guard-approved changes, establishing a four-hour notice for the Harlem River bridges, and a two-hour notice for the remaining “advance notice” bridges. The “on demand” classification remains for three bridges. The revised advance notice requirements allowed the formation of mobile crews with overlapping responsibilities, meeting the mariners’ needs and, in some instances, improving service by providing two mobile crews to expedite a vessel’s travel along a waterway.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

The reduction in planned personnel saves approximately \$1,042,480 annually. In addition, bridge operational capabilities, general maintenance, and debris and snow removal have been enhanced through the more efficient utilization of existing personnel.

Currently in its final design phase, the reconstruction of the Mill Basin Bridge (part of the second Belt Parkway Group) is scheduled to start in winter 2014. The new bridge will be a fixed structure with a 60-foot clearance over Mean High Water, obviating the need for opening and closing the structure to accommodate tall vessels.

The Shore Road Bridge over Hutchinson River will be replaced with a new bridge built with a higher clearance, thereby reducing the number of times the bridge must be opened. At that time, we can determine if advance notice is justified.

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

### **Summary of Vessel Openings 1999 - 2013**

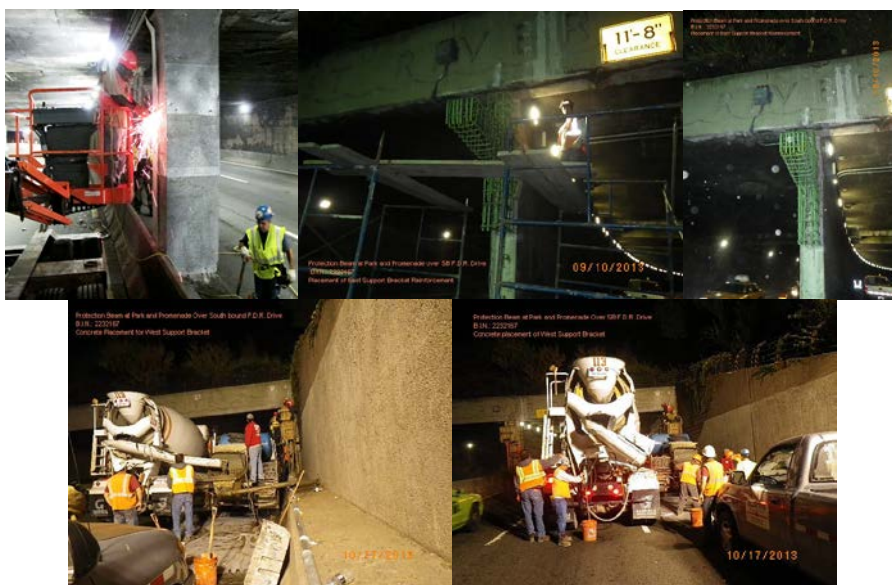
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Brdn Ave. (Q)	3	0	28	0	0	0	1	0	0	0	0	0	0	0	0
Brdwy (B/M)	0	6	27	83	49	16	2	18	42	58	57	15	11	44	0
Brecknr Expwy (Unnpnt Brdg) (B)	345	385	420	332	300	309	253	250	281	323	349	308	198	143	143
Carroll St. (K)	174	102	80	124	186	49	22	28	13	38	91	146	29	95	2
Grand St. (K/Q)	24	17	50	19	10	8	5	2	5	0	0	0	3	3	0
Grnpoint Ave. (K/Q)	787	688	641	659	738	1093	1045	905	641	485	428	388	667	733	609
Hmltn Ave. (K)	982	933	832	946	824	757	677	1077	354	0	150	905	1060	965	651
Hntrs Point Ave. (Q)	1	0	36	0	0	0	0	0	1	0	0	0	0	0	0
Htchnsn River PkwY (B)	46	5	120	30	5	37	10	2	51	61	170	224	169	197	275
Macombs Dam (B/M)	0	0	0	0	0	0	0	0	4	2	0	3	1	22	0
Mdsn Ave. (B/M)	0	0	0	0	0	7	0	9	35	8	0	3	1	6	0
Metrltn Ave. (K)	513	279	366	339	342	153	0	104	329	245	240	254	413	468	378
Mill Bsn (K)	433	336	317	142	173	164	162	174	182	190	183	197	236	277	246
Pulaski (K/Q)	383	276	208	308	599	694	734	433	489	639	611	467	591	476	484
Rsvlt Islnd (M/Q)	0	58	48	125	63	669	150	54	48	0	62	0	0	55	55
Shore Rd (Pelham Pky) (B)	2162	2168	2222	1897	1910	2011	1683	1704	1645	1446	806	1197	811	613	697
Union St. (K)	144	85	101	62	24	21	11	9	5	10	28	32	4	36	0
Ward's Isnd Pdstrn (M)	0	0	279	0	0	7	2	8	4	6	3	5	0	0	0
Willis Ave. (B/M)	4	4	40	0	7	25	2	41	67	17	9	1	1	0	0
3 <sup>rd</sup> Ave. (B/M)	2	1	1	0	0	0	0	6	60	7	0	3	3	4	2
3 <sup>rd</sup> St. (K)	157	178	117	212	152	99	43	31	39	49	89	74	27	68	0
9th St. (K)	192	513	808	733	547	457	360	480	333	287	387	475	670	585	270
145 <sup>th</sup> St. (B/M)	0	1	6	0	0	9	0	0	0	0	0	0	1	6	0
W.207 <sup>th</sup> St. (B/M)	0	6	14	4	6	10	1	12	24	2	3	7	5	23	0
<b>TOTAL</b>	<b>6352</b>	<b>6041</b>	<b>6761</b>	<b>6015</b>	<b>5935</b>	<b>6595</b>	<b>5163</b>	<b>5347</b>	<b>4652</b>	<b>3873</b>	<b>3666</b>	<b>4704</b>	<b>4901</b>	<b>4819</b>	<b>3812</b>

## ACCOMPLISHMENTS & PLANNED PROJECTS

### When and Where Unit

In 2013, the following structures were worked on under the Division's When and Where contracts: Henry Hudson Parkway Viaduct over West 72<sup>nd</sup> to West 79<sup>th</sup> Street, Trans-Manhattan Expressway over Harlem River Drive Northbound Ramp, Riverside Drive Bridge over West 158<sup>th</sup> Street, West 155<sup>th</sup> Street Pedestrian Bridge over Amtrak 30<sup>th</sup> Street Branch, Promenade over FDR over FDR/East 79<sup>th</sup> Street- East 91<sup>st</sup> Street, FDR Drive Overpass at 90<sup>th</sup> Street – Protection Beam, Pedestrian Bridge at 73<sup>rd</sup> Street over Conrail, East 6<sup>th</sup> Street Pedestrian Bridge over FDR Drive, West 181<sup>st</sup> Street Pedestrian Bridge over Henry Hudson Parkway Northbound, East 126<sup>th</sup> Street Pedestrian Bridge over FDR Drive, West 207<sup>th</sup> Street Bridge over Harlem River, Boston Post Road Bridge over Hutchinson River, West 34<sup>th</sup> Street Bridge over Amtrak 30<sup>th</sup> Street Branch, Bruckner Expressway Service Road Bridge over Westchester Creek, East 241<sup>st</sup> Street Bridge over Bronx River Parkway-Metro North, Ramp to Northbound Henry Hudson Parkway over Amtrak, East 233<sup>rd</sup> Street Bridge over Metro North Railroad, Nereid Avenue Bridge (East 240<sup>th</sup> Street) over Bronx River Parkway, Third Avenue Bridge over Harlem River, Madison Avenue Bridge over Harlem River, Northern Boulevard Westbound over Flushing River, Northern Boulevard Eastbound over Flushing River, 44<sup>th</sup> Street Bridge over Grand Central Parkway, Bell Boulevard Bridge over LIRR, and 28<sup>th</sup> Avenue Pedestrian Bridge over Cross Island Parkway.

Currently scheduled projects include the construction of a protection beam for the Park and Promenade over the southbound FDR Drive at 91<sup>st</sup> Street. This protection beam is necessary because on too many occasions, errant trucks have found their way onto the southbound FDR Drive and caused damage to the underside of the overhead structure supporting the park and promenade between East 79<sup>th</sup> Street and East 91<sup>st</sup> Street. The effect of such repetitive hits is cumulative, and increases the threat to the safety of the FDR Drive traffic and the users of the promenade and park above it in this area. The beam will reduce the chances of trucks making contact with the overhead structure and thus provide an additional measure of safety for the public.



Night Work on Safety Flags on the FDR Drive in July 2013. FDR Drive Protection Beam: Placement of East Support Bracket Reinforcement. Concrete Placement for West Support Bracket.

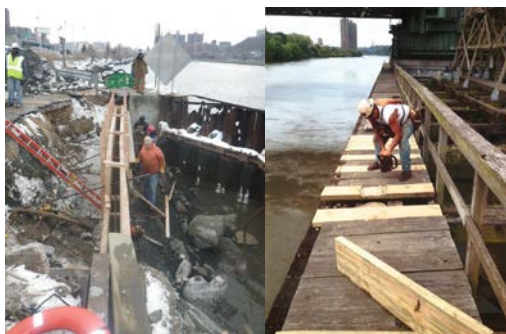
### MARINE WHEN AND WHERE

New York State DOT conducts the underwater inspections of our waterway structures. A contract was needed to facilitate the performance of marine repairs and to maintain structures in need.

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

The objective is to perform marine structural repairs and maintenance together with other appurtenant work, which constitutes repairs of defective and deteriorated parts of bridge structures due to, and in a water environment. The Department has neither the in-house staffing nor the equipment to handle this type of special work. These repairs could not be handled under the usual time and materials When and Where contract, because the work is unique, in that it requires a consultant with licensed underwater capability to supervise and inspect the work for compliance and adequacy. Furthermore, detailed note taking is necessary by the inspectors to check and approve payments for the contractor's work.

Marine bridge repairs addressed in 2013 include 145<sup>th</sup> Street Bridge over Harlem River, Wards Island Pedestrian Bridge over Harlem River, Bruckner Expressway Service Road Bridge over Westchester Creek (Unionport Bridge), Shore Road (Pelham Parkway) Bridge over Hutchinson River, Depot Place Bridge over Conrail Hudson, East 81<sup>st</sup> Street Pedestrian Bridge over FDR Drive, Hutchinson River Parkway Bridge over Hutchinson River, West 207<sup>th</sup> Street Bridge over Harlem River, and Macombs Dam Bridge over Harlem River.



Depot Place Bridge Over Conrail Hudson –  
Rebuilding a Collapsed Bulkhead and Undermined  
Roadway. West 207<sup>th</sup> Street Bridge: Repairing the  
Pier Deck.

Some of these locations experience repeated damage due to heavy marine traffic and/or a narrow channel, such as the Shore Road (Pelham Parkway) Bridge over the Hutchinson River. The issuance of new flags occasionally necessitates new visits to even recently completed projects. Timber fender systems especially susceptible to recurring hits by barge traffic, and consequently require periodic restoration in relatively short time periods. In addition to damage due to impact, timber elements are also replaced because of deterioration and attack by marine borers, whose activity has vastly increased as the water quality in the New York City area has improved.

Numerous barge hits at the Shore Road Bridge occur repeatedly. As a result, a continuation and completion of previously reported work of replacing timber planking and walers took place at this location, as well as installation of a special plastic material called “UltraPoly” at the top portion of the fender planking and at selected dolphin piles. So far, this material has been shown to protect against rubbing damage.

At the Bruckner Expressway Service Road Bridge over Westchester Creek (Unionport Bridge), extremely serious deterioration occurred at critical steel structural elements. A red flag notification was placed on this condition, and major repairs were made. These repairs had to be staged from the waterway below on a work barge, to avoid an unacceptable massive traffic interruption that would be caused at this critical connector to the Bruckner Expressway and Cross-Bronx Expressway by working from the bridge deck surface.

A similar situation presented itself on the heavily traveled Hutchinson River Parkway Bridge over Hutchinson River. Severe deterioration of key structural steel elements supporting the steel grid deck of the southeastern quadrant of the span forced urgent measures to be taken, first, by providing immediate temporary replacements to take over part of the lost support capability, and

## ACCOMPLISHMENTS & PLANNED PROJECTS

subsequently, by installing new steel replacement “sleeper” beams and heavy local support at deteriorated stringer sections.

The southwest fender system of the Wards Island Pedestrian Bridge was severely battered by an impact from a large barge, leaving its timber structure dislocated, damaged and incapable of providing the designed protection from future barge hits. It was immediately necessary to temporarily provide safety measures to warn off mariners from coming too close to the debris field created as a result of that impact. However a complete replacement fender system must be built to ensure the safety of the west tower of the bridge. Preparations for that construction began in December 2013.



Macombs Dam Bridge over Harlem River: Fender System Repair.



Bruckner Expressway Service Road Bridge over Westchester Creek (Unionport Bridge): Steel Repairs. Completed Steel Repair With Primer Paint Coat.



145<sup>th</sup> Street Bridge Over Harlem River: Repairing the Horizontal Fender System. Wards Island Pedestrian Bridge: Collapsed Pier #6 Fender. Installing Protective Fencing.

## PAINTING

In 2013 the following bridges were painted as part of the in-house maintenance program: Flatbush Avenue Bridge over Belt Parkway, Westchester Avenue Bridge over Hutchinson River Parkway, Jamaica Avenue Bridge over Cross Island Parkway, Miller Highway Terrain,

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

Douglaston Parkway Bridge Railings over Cross Island Parkway, Francis Lewis Boulevard Bridges (Westbound and Eastbound) over Laurelton Parkway, Houston Street Bridge over the FDR Drive, East 156<sup>th</sup> Street Access Bridge to Housing, Northern Boulevard Bridge over Cross Island Pkwy, Astoria Boulevard Bridge (Eastbound) over Brooklyn-Queens Expressway West Leg, Eagle Avenue Bridge over East 161<sup>st</sup> Street, Seeley Street Bridge over Prospect Avenue, Highland Boulevard Bridge (Northbound) over Vermont Avenue, Ocean Avenue Pedestrian Bridge over Sheepshead Bay, Grand Concourse over East 175<sup>th</sup> Street, Grand Concourse over East Kingsbridge, Mosholu Parkway Bridge over Webster Avenue, West 176<sup>th</sup> Street Pedestrian Bridge Approach to George Washington Bridge, Atlantic Avenue Service Road (Westbound) over East New York Avenue, and, Jackie Robinson Parkway Bridge over Austin Street.

In 2013 the following bridges were painted as part of the capital program: Huguenot Avenue, Giffords Avenue, Richmond Valley Road, and Seguine Avenue Bridges over Staten Island Rail Road, and the Greenpoint Avenue Bridge over Newtown Creek.

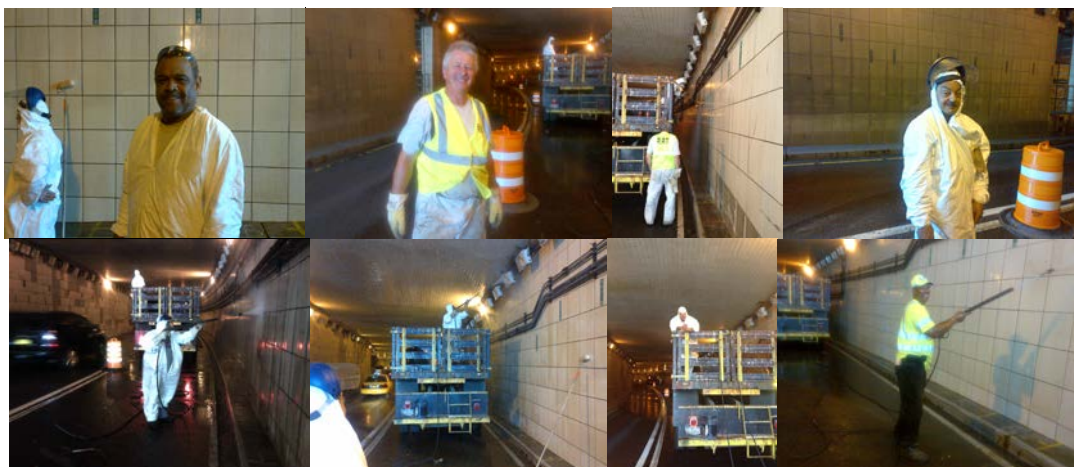


May 2013: Greenpoint Avenue Bridge. (Credit: Vadim Sokolovsky)

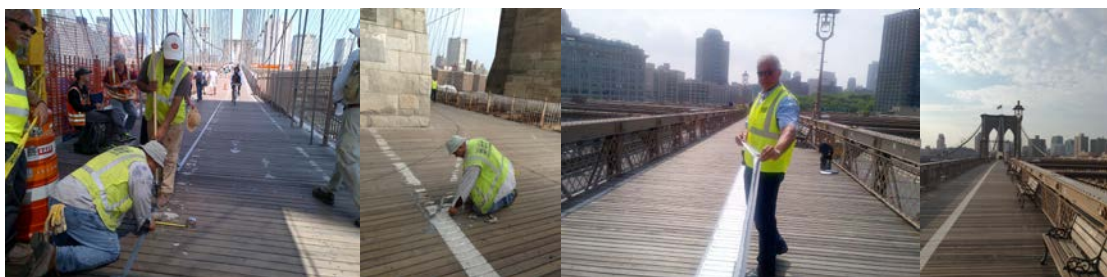


May and August 2013: Painting the Miller Highway Terrain. Bridge Painters Herbert Rodriguez, Richard Mocciano, Arlindo Lima, and Frank Duic, Deputy Director of In-House Painting Earlene Powell, and Bridge Painters Michael Scotti and Willie Tyler. (Credit: Hughie Flood) Checking the Work in October 2013: Bridge Painter Herbert Rodriguez, Supervisor Bridge Painter Hughie Flood, Bridge Painters Richard Mocciano, Willie Tyler, Michael Scotti, Arlindo Lima, and Frank Duic. (Credit: Earlene Powell)

## ACCOMPLISHMENTS & PLANNED PROJECTS



July 2013: Bridge Painters Jaime Andrade, Branko Grzanic, Louis Masucci, Nicholas Krevatas, and Supervisor Bridge Painter Reynaldo Grant Power Washing the Battery Park Underpass. (Credit: Earlene Powell)



June 2013: Bridge Painters Robert Avellino, Goncalo Lima, and Safdar Ali Reapplying the Brooklyn Bridge Line Striping. Bridge Painter Goncalo Lima. Supervisor Bridge Painter Vincent Babajko Checking the Work. Completed Striping. (Credit: Earlene Powell)

During 2013, the following structures were also painted: Battery Park Tunnel areas, Department of Transportation Ironworker Shop and Garage at 59<sup>th</sup> Street, Department of Transportation Facility at Wythe Avenue, Department of Transportation Facilities at the Harper Street Maintenance and Repair Shop, Department of Transportation Ironworker and Carpenter Shops at Kent Avenue, Department of Transportation Facilities at South 6<sup>th</sup> Street, Greenpoint Avenue Bridge House, Department of Transportation Mason Facility in Long Island City, First Avenue Tunnel at 47<sup>th</sup> Street, Park Avenue Underpass control room, Department of Transportation Facility at Metropolitan Avenue, FDR Drive underpass at East 84<sup>th</sup> Street, and 57<sup>th</sup> Street Underpass at Sutton Place.

The following locations were also worked on in support of the DOT Iron Worker Shop: Hamilton Avenue Asphalt Plant, Grand Street Bridge, FDR Drive at Marginal Street, Harlem River Drive Ramp to Harlem River Drive Northbound, Ed Koch - Queensboro Bridge, Westchester Avenue Bridge over Hutchinson River Parkway, Mill Basin Bridge, and Union Street Bridge.

### GRAFFITI REMOVAL

In 2013, 3,541,000 square feet of graffiti were eliminated. This program focuses its primary attention on the four East River bridges, as well as the following 21 arterial highways: Clearview Expressway, Gowanus Expressway/Belt Parkway, Major Deegan Expressway, Harlem River Drive, Van Wyck Expressway/Whitestone Expressway, Brooklyn-Queens Expressway, Jackie Robinson Parkway, Sheridan Expressway, Hutchinson River Parkway, Henry Hudson Parkway, West Shore Expressway, Richmond Parkway, Martin Luther King Jr. Expressway, Staten Island Expressway, Bruckner Expressway, Prospect Expressway, Grand Central Parkway, Long Island Expressway, Cross Bronx Expressway, Nassau Expressway, and Bronx River Parkway.

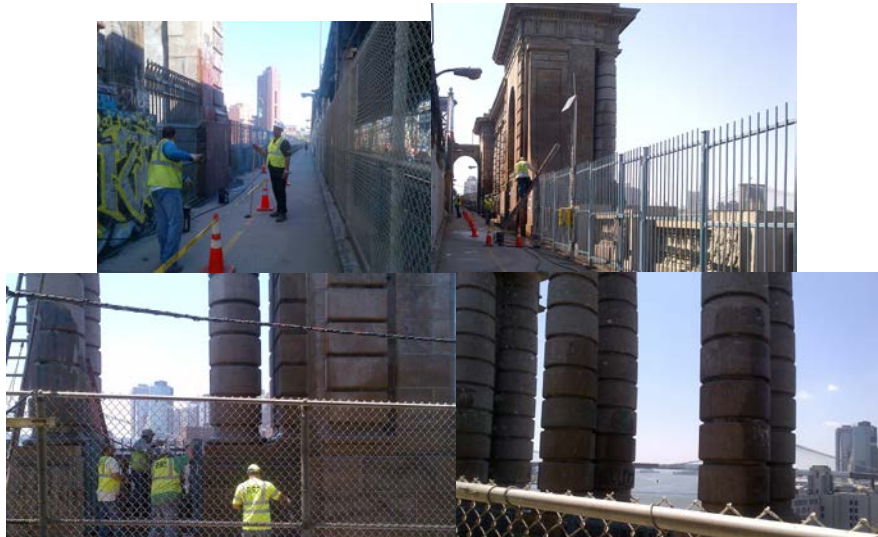
## ACCOMPLISHMENTS & PLANNED PROJECTS



June 2013: Removing Graffiti at Canal and Forsythe Streets. (Credit: Robert Avellino)



June 2013: Bridge Painter Willie Tyler Removing Graffiti From the Brooklyn Bridge. (Credit: Earlene Powell) Bridge Painter William Budge Removing Graffiti From the Manhattan Bridge. October 2013: Bridge Painters Jaime Andrade and Louis Masucci Removing Graffiti From the Long Island Expressway. (Credit: Earlene Powell)



June 2013: Bridge Painter Jaime Andrade and Supervisor Bridge Painter Reynaldo Grant Removing Graffiti on the Manhattan Bridge. (Credit: Earlene Powell)

During 2013, graffiti was also removed from the following structures: Monroe Street under Manhattan Bridge, Richmond Avenue at Richmond Creek, Cross Island Parkway, 78<sup>th</sup> Avenue at Woodhaven Boulevard, Borden Avenue Bridge, Hawtree Basin at 163<sup>rd</sup> Avenue, Jerome Avenue

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

at Parkview Terrace, Laurel Hill Boulevard at Brooklyn-Queens Expressway, Parkview Terrace at East 196<sup>th</sup> Street, 25<sup>th</sup> to 27<sup>th</sup> Street at FDR Drive, 35<sup>th</sup> to 37<sup>th</sup> Street at FDR Drive, 215<sup>th</sup> Street at Broadway, Cherry Street under Manhattan Bridge, Pulaski Bridge, Five Borough Bike Tour Route, Staten Island Ferry Terminal, Mosel Avenue at Staten Island Expressway, Havermayer Avenue at Williamsburg Bridge approach, Columbus Avenue and 90<sup>th</sup> Street, Grand Concourse at 172<sup>nd</sup> Street, Bruckner Boulevard, South 6<sup>th</sup> Street Department of Transportation Garage, Conduit Boulevard, Grand Concourse at East 161<sup>st</sup> Street, FDR Drive and Grand Avenue, Belt Parkway at Bay 14<sup>th</sup> Street and Bay 8<sup>th</sup> Street, 212<sup>th</sup> Street in Queens, Honeywell Street Overpass at 39<sup>th</sup> Street, 31<sup>st</sup> Avenue at 68<sup>th</sup> Street, Astoria Boulevard over Brooklyn-Queens Expressway, Belt Parkway at East 12<sup>th</sup> Street, Grand Concourse at Kingsbridge Road, Jackie Robinson Parkway at Austin Street, 11 Avenue and 33<sup>rd</sup> Street, and the NYC Marathon route.

### **RESEARCH AND PRESENTATIONS**

In 2013 research work and/or case histories of the Division were presented in the following proceedings:

The Society for Protective Coatings, 2013 International Conference and Exhibition, San Antonio, Texas, 14 – 17 January 2013. Vainblat, G. *Brooklyn Bridge - Repainting the Most Iconic Structure in the World.*

Municipal Engineers of the City of New York, New York City, 28 February 2013. Duran, B., Lotfi, R., Desai, M., and Ankrah, H. *Rehabilitation of Ramps at the St. George Ferry Terminal.*

ASCE Metropolitan Section Infrastructure Group Seminar, New York City, 8 - 9 April 2013. Collyer, Robert O. *Storm Surge Impact on NYCDOT Bridges and Tunnels.*

New York State Association of Transportation Engineers Annual Conference, Rochester, New York, 10 May 2013. Collyer, Robert O. *Storm Surge Impact on NYCDOT Bridges and Tunnels.*

Cabinet Talk Show VII, New York City, 30 May 2013. Yanev, B. *NYCDOT Bridge Inspection History and Mission.*

ICOSSAR2013 - 11th International Conference on Structural Safety & Reliability, New York City, 16 – 20 June 2013. Savoia, M., Vincenzi, L., Bassoli, E., Gambarelli, P., Betti, R., and Testa, R. *Identification of the Manhattan Bridge Dynamic Properties for Fatigue Assessment.*

2013 New York City Bridge Conference, New York City, 26 – 27 August 2013. Gandhi, K. *Lindenthal and Manhattan Bridge Eyebars Chain Controversy.*

2013 New York City Bridge Conference, New York City, 26 – 27 August 2013. Leo, R., and Reynolds, P. *Brooklyn Bridge Orthotropic Deck Installation.*

2013 New York City Bridge Conference, New York City, 26 – 27 August 2013. Vainblat, G. *Repainting the Iconic Brooklyn Bridge.*

École des Ponts ParisTech, Paris, 19 September 2013. Dr. Yanev lectured on bridge management.

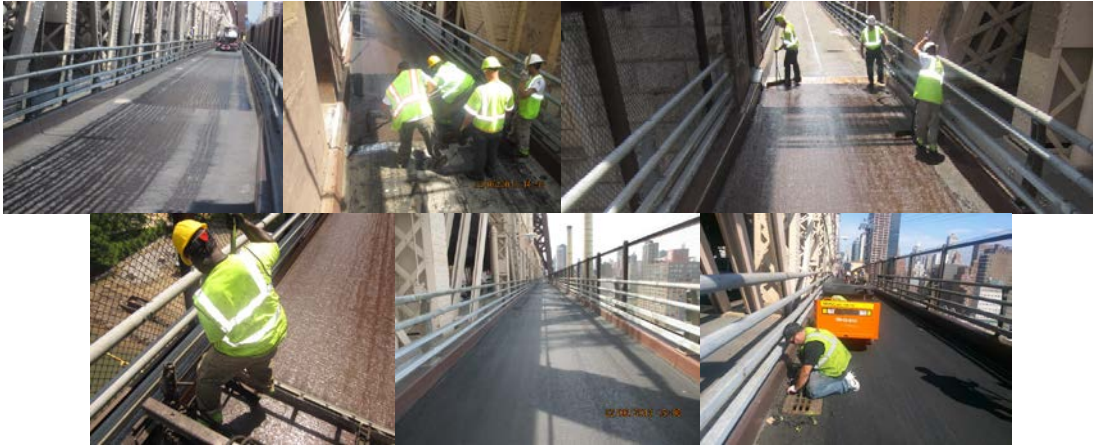
Federal Highway Administration's Exploratory Advanced Research Program and the National Center for Education and Research on Corrosion and Materials Performance - Workshop on Corrosion Management for Sustainable Bridges, Akron, Ohio, 10 – 12 December 2013. Dr. Yanev delivered the opening presentation.

Dr. Yanev chairs the Subcommittee on Bridge Safety and Security, and is a member of the Transportation Research Board Committees on Bridge Maintenance, Management, Seismic Design, and Non-Destructive Testing.

In addition, the Division sponsors an in-house lecture series, inviting speakers from industry and academia several times a month. Highlight topics of the presentations in 2013 included: Liquid

## ***ACCOMPLISHMENTS & PLANNED PROJECTS***

waterproofing system, corrosion technology, elastomeric concrete for bridge deck and joint repairs, bridge deck expansion joints, and design and construction of the Milton Madison Bridge.



Repairing the Concrete Overlay on the South Upper Roadway of the Ed Koch – Queensboro Bridge in June 2013.  
(Credit: Sunil Desai)

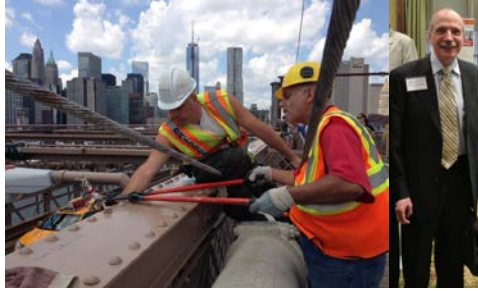


Bridge Repairer and Riveter Kevin Clarkson Installing Anemometers on the Ed Koch-Queensboro Bridge in July 2013.  
(Credit: Paul Schwartz)



June and August 2013 – Ninth Street and 145<sup>th</sup> Street Bridges: Summer Interns Ting Yu Huang and Brandon Bernard Conducting Strain Gauge Testing. (Credit: Vera Ovetskaya). October 2013 - Summer Intern Brandon Bernard and Assistant Mechanical Engineer Vera Ovetskaya on the Greenpoint Avenue Bridge.

## ACCOMPLISHMENTS & PLANNED PROJECTS



August 2013: Supervisor Highway Repairer Salvatore Zito and Assistant City Highway Repairer Luciano Cardona Removing Unauthorized Decorations From the Brooklyn Bridge. (Credit: Michael Cummiskey). Chief Bridge Officer Henry D. Perahia at the 2013 New York City Bridge Conference. (Credit: Jagtar Khinda)



October 2013: Repairing the Ed Koch – Queensboro Bridge Stringers After a Truck Fire. Assistant Civil Engineer Andrew Hoang Inspecting the Measurements. Bridge Repairer and Riveters Charlie Zhao (Green Jacket), Yiu Liu (Yellow Jacket), Randall Palmenta, and Ignazio Trapani. Putting Up the New Beam. (Credit: Hany Soliman)



December 2013 – Repairing Deteriorated and Spalled Concrete (Yellow Flag) at the Top Portions of the Pier Columns on the Astoria Boulevard Bridge over BQE West Leg.

## Appendix A

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### BRIDGE CAPITAL PROGRAM

East River Bridge Rehabilitation Plans	A-1
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Bridges Under Construction	A-2
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Component Rehabilitation	A-3
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Bridges Under Design	A-4
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<b>MANHATTAN BRIDGE</b> REHABILITATION ITEMS TOTAL ESTIMATED COST	
	Est. Cost (\$ in millions)
• Repair floor beams. (1982)	0.70*
• Replace inspection platforms, subway stringers on approach spans. (1985)	6.30*
• Install truss supports on suspended spans. (1985)	0.50*
• Partial rehabilitation of walkway. (1989)	3.00*
• Rehabilitate truss hangers on east side of bridge. (1989)	0.70*
• Install anti-torsional fix (side spans) and rehabilitate upper roadway decks on approach spans on east side; replace drainage system on approach spans, install new lighting on entire upper roadways east side, including purchase of fabricated material for west side of bridge. (1989)	40.30*
• Eyebar rehabilitation - Manhattan anchorage Chamber "C." (1988)	12.20*
• Replacement of maintenance platform in the suspended span. (1982)	4.27*
• Reconstruct maintenance inspection platforms, including new rail and hanger systems and new electrical and mechanical systems; over 2,000 interim repairs to structural steel support system of lower roadway for future functioning of roadway as a detour during later construction contracts. (1992)	23.50*
• Install anti-torsional fix on west side (main and side spans); west upper roadway decks, replace drainage systems on west suspended and approach spans; walkway rehabilitation (install fencing, new lighting on west upper roadways and walkways); rehabilitate cables in both Brooklyn and Manhattan anchorage chambers; dehumidify Brooklyn and Manhattan anchorages. (1997)	141.82*
• Installation of test panels. (1982)	1.55****
• Removal of existing suspender ropes and sockets in the suspended spans; replacement with new suspender ropes and sockets in the suspended spans and re-tensioning of suspender ropes bearing plates; re-tensioning of cable band bolts; removal of existing main cable wrapping; cleaning of main cables; application of new protective paste on main cables; replacement of new main cable wrapping; reinforcement of truss verticals and gusset plates. Replacement of necklace lighting and multirotational bearings at truss "C" and "D," installation of access platforms at towers, rehabilitation of south upper Roadway Lighting. (2010)	147.5*
• Interim Steel Rehabilitation and Painting - cable and saddle repairs lower roadway floorbeams @PP 37/38 on approaches and at anchorages; west side truss rockers and grillages on approaches; cable and suspender repairs. Removal of parking desk. Painting entire west side, all four cables. (2001)	127.98*

**MANHATTAN BRIDGE**  
**REHABILITATION ITEMS**  
**TOTAL ESTIMATED COST**

	Est. Cost (\$ in millions)
<ul style="list-style-type: none"> <li>Stiffening of Main Span; Reconstruction of North Subway framing; reconstruction of North upper roadway deck at suspended spans; rehabilitation of north approach span trusses; replace overlay on north upper roadway approach spans; rehabilitation of north elevated structures and subway tunnels; removal of railing on truss "D" in the north spans; painting of north side of bridge; new inspection platforms and debris protection in approach spans; construction of new north bikeway, replacement of approach span bearings and grillages; installation of Intelligent Vehicle Highway System for North and South Upper Roadways as well as for Lower Roadway. (In Progress)</li> </ul>	184.78*
<ul style="list-style-type: none"> <li>Rehabilitation of Lower Roadway; rehabilitation of anchorage roofs under lower roadway; rehabilitation of substructures and retaining walls in Brooklyn and Manhattan approaches; installation of new signage on bridge and at plaza areas; installation of new lighting on lower roadway and plaza areas; clean and paint lower roadway; installation of grating platform under towers at lower roadway; canopy lighting at towers. (Present)</li> </ul>	143.80*
<ul style="list-style-type: none"> <li>Seismic Retrofit. (2020)</li> </ul>	40.00
	to
	60.00***
<ul style="list-style-type: none"> <li>Structural and Component Rehabilitation (2018)</li> </ul>	85.00***
	<b>TOTAL: \$ 963.9</b> to <b>\$ 983.9</b>

- \* Construction Complete  
\*\* In Construction  
\*\*\* In Design  
\*\*\*\* Research and Development (completed)

Revised 2013

**ED KOCH QUEENSBORO BRIDGE**REHABILITATION ITEMS  
TOTAL ESTIMATED COST

	Est. Cost (\$ in millions)
• Repair lower outer roadways / reconstruct two ramps in lower Queens. (1984)	18.80*
• Reconstruct south upper roadway, replace inspection platforms, lighting. (1986)	31.50*
• Interim rehabilitation, contracts A, B, & C (repairs to lower deck and main bridge approaches). (1985)	2.80*
• Interim rehabilitation, contract D (repairs to lower deck, main bridge, and new median barrier). (1988)	3.00*
• Reconstruct north upper roadway and Queens approaches A & B, rehabilitate bearings at Queens approach. (1989)	50.00*
• Reconstruct ramps C & D (Queensboro only, not Thompson Avenue). (1988)	10.40*
• Rehabilitate bridge bearings, pier tops, and truss lower chords. (1989)	18.00*
• Rehabilitate Queens approach trusses, lower inner roadways on the main span and approaches. (1996)	172.00*
• Rehabilitate lower outer roadways main span and approaches, (bikeway) cleaning and painting. (2001)	227.05*
• Cleaning and painting main bridge upper trusses. (2009)	168.24*
• Miscellaneous Items – Component Rehabilitation. (In Progress)	43.88*
• Eye bar investigation. (In Progress)	0.62****
• Seismic Retrofit. (2020)	40.00 to
• Installation of aviation lighting (2010)	60.00*** 1.76*
• Replacement of Upper Roadways	125.00***
<b>TOTAL: \$</b>	<b>913.05</b> <b>to</b> <b>\$</b> <b>933.05</b>

\* Construction Complete

\*\* In Construction

\*\*\* In Design

\*\*\*\* Research and Development

Revised 2013

**WILLIAMSBURG BRIDGE**  
**REHABILITATION ITEMS**  
**TOTAL ESTIMATED COST**

	Est. Cost (\$ in millions)
• Replace main span outer roadway. (1983)	11.20*
• Replace one third of suspenders. (1984)	3.20*
• Repair pier 20E foundation, and replace bulkhead. (1986)	2.30*
• Paint side spans and towers. (1985)	1.10*
• Paint main and approach spans. (1989)	4.24*
• Emergency interim repairs. (1989)	10.00*
• Install temporary hand-rope system on main cables. (1990)	0.63*
• Main cable preservation (field test - oiling). (1991)	0.44*
• Main cable strand splicing at Manhattan anchorage. (1991)	0.29*
• Interim pedestrian walkway. (1994)	1.05*
• Component repairs of flag conditions on the north outer roadway and north inner roadway. (1994)	4.12*
• Rehabilitate main cables and new redundant suspender system. (1996)	88.30*
• Demolish existing building under approaches. (1993)	1.50*
• Testing Program for bored-in piles. (1993)	0.74*
• Demolish DOS and DOH buildings, replace entire south outer roadway approach structures, rehabilitate south outer roadway deck and south inner roadway deck of the main bridge, and replace south inner roadway substructure of the approaches. (1998)	198.00*

<b>WILLIAMSBURG BRIDGE</b> REHABILITATION ITEMS TOTAL ESTIMATED COST	
	Est. Cost (\$ in millions)
<ul style="list-style-type: none"> <li>Portion of Contract #6 BMT track structure work transferred to Contract #5 south approach roadway reconstruction work. (1998)</li> </ul>	65.00*
<ul style="list-style-type: none"> <li>Paint main and intermediate towers. (2001)</li> </ul>	14.90 *(1)
<ul style="list-style-type: none"> <li>Reconstruct BMT Subway structure; install new signals, tracks and communication system. (2000)</li> </ul>	166.65*
<ul style="list-style-type: none"> <li>Miscellaneous rehabilitation work: rehabilitation of towers, replace bearings, travelers, architectural work, painting of north and south trusses, suspender adjustment, tower jacking, construction of colonnades, purchase of barrier transfer machine (BTM) and contra-flow barriers, lane control signal field system. Seismic retrofit – reinforce concrete with granite cladding, bearing replacement at PP10 &amp; 15, rehabilitation of wind tongue casting assembly at main towers, contra-flow of south inner roadway – installation of contra-flow barriers, lightning protection grounding system. Kent Avenue Yard soil erosion and deck pins at PP29 E/W rehabilitation, modular joint repairs and structural flag repairs. (In Progress)</li> </ul>	280.00*
<ul style="list-style-type: none"> <li>Replace north approach structures (Manhattan / Brooklyn), and rehabilitate north half of bridge. (2002)</li> </ul>	233.00*
<b>TOTAL: \$1,086.66</b>	

\* Construction Complete

\*\* In Construction

\*\*\* In Design

(1) Painting suspended in 1996 pending publication of Environmental Impact Statement (EIS) in 1998. Painting resumed under a new schedule in 1999 and was completed in 2001.

Revised 11/12/10, No change

**BROOKLYN BRIDGE**  
**REHABILITATION ITEMS**  
**TOTAL ESTIMATED COST**

	Est. Cost (\$ in millions)
• Brooklyn Tower protection and new sign gantries. (1981)	2.72*
• Rehabilitate promenade between towers. (1983)	0.94*
• Rehabilitate cables in anchorage and replace short rod suspenders; rehabilitate balance of promenade and construct bikeway and new pedestrian ramp. (1988)	22.68*
• Rehabilitate and paint York, Main, William and Prospect Street structures and main bridge roadway deck overlay. (1988)	6.21*
• Replace suspenders, cable posts, stay cables, hand-rope necklace lights, main cable wrapping; paint suspended spans. (1991)	53.57*
• Rehabilitate ramp E. concrete piers of ramp C and abutment at ramps C & I, and rehabilitate Sands and Washington Street structures in Brooklyn. (1991)	4.73*
• Rehabilitate ramp D and H in Manhattan; permanent improvement of promenade at Manhattan approach. (1993)	17.92*
• Rehabilitate floor systems, stiffening trusses, roadways of suspended spans and Franklin Square trusses. (1994)	66.30*
• Rehabilitate Manhattan traveler (electrical work). (1997)	1.83*
• Rehabilitate ramp D and widening along the FDR Drive. (1996)	11.50*
• Arch supports for Franklin Square truss structure.	9.50*
• Replacement of Suspended Span Deck. (2000)	36.2*
• Resurfacing of the main spans. (1998)	6.67*

**BROOKLYN BRIDGE**  
 REHABILITATION ITEMS  
 TOTAL ESTIMATED COST

	Est. Cost (\$ in millions)
• Improvement of Manhattan end of promenade. (2001)	4.50*
• Rehabilitate Brooklyn approach & ramps (B, S, F), Rehabilitate Manhattan approaches and remaining ramps (A, B, C, F, G, I, J), and Paint entire bridge. (2010)	508.61***
• Seismic Retrofit. (2020)	160.00
	to
	180.00**
• Replacement of Travelers.	22.34*
	<b>TOTAL: \$ 936.22</b>
	to
	<b>\$ 956.22</b>

\* Construction Complete

\*\* In Design

\*\*\* In Construction

Revised 12/26/12, No change

**BRIDGES UNDER CONSTRUCTION***CALENDAR YEAR 2013***CONTRACT # BRIDGE**

HBX1160	Claremont Parkway over Metro North RR
HBX1164	City Island Road Bridge over Eastchester Bay
HBX1195	Shore Road Circle Bridge over Amtrak
HBM1124	Willis Avenue Bridge over Harlem River
HBM1159	Wards Island Pedestrian Bridge over Harlem River
HBK643	Belt Parkway Bridge over Gerritsen Inlet
HBK1024	Belt Parkway Bridge over Paerdegat Basin
HBK1072	Belt Parkway Bridge over Fresh Creek
HBK1089	Belt Parkway Bridge over Bay Ridge Avenue
HBK1091	Belt Parkway Bridge over Rockaway Parkway
HBK1072WM	Tidal Wetland Mitigation (4 Belt Parkway bridges)
HBR1217	Staten Island Ferry Terminal - Parking Exit Ramp over SIRT
HBR1217	Staten Island Ferry Terminal - Bus Station North over SIRT
HBR1217	Staten Island Ferry Terminal - Bus Station South over SIRT
HBR1217	Staten Island Ferry Terminal - North Ramp over SIRT
HBR1217	Staten Island Ferry Terminal - Bus Station Entrance Ramp over SIRT
HBR1217	Staten Island Ferry Terminal - Parking Entrance Ramp over SIRT
HBR1217	Staten Island Ferry Terminal - Bus Station Exit Ramp over SIRT
HBR1217	Staten Island Ferry Terminal - Pedestrian Overpass at Breezeway
HBR1217	Staten Island Ferry Terminal - Ramp A
BRC156R	Manhattan Bridge - Contract #14
BRC270C (#6)	Brooklyn Bridge (Ramps and painting)
HBCBORERS-R	FDR Drive relieving platforms-- downtown, FDR Drive relieving platforms-- midtown, FDR Drive relieving platform uptown + Carroll Street Bridge over Gowanus Canal + Ocean Avenue Pedestrian Bridge over Sheepshead Bay

**BRIDGE CONSTRUCTION***PROJECTS COMPLETED IN CALENDAR YEAR 2013***CONTRACT # BRIDGE**

HBX1160	Claremont Parkway over Metro North RR
HBX1195	Shore Road Circle over Amtrak
HBM1159	Wards Island Pedestrian Bridge over Harlem River
HBK1024	Belt Parkway Bridge over Paerdegat Basin
HBK1072	Belt Parkway Bridge over Fresh Creek
HBK1091	Belt Parkway Bridge over Rockaway Parkway
HBR1217	Staten Island Ferry Terminal - Parking Exit Ramp over SIRT
HBR1217	Staten Island Ferry Terminal - Bus Station North over SIRT
HBR1217	Staten Island Ferry Terminal - Bus Station South over SIRT
HBR1217	Staten Island Ferry Terminal - North Ramp over SIRT
HBR1217	Staten Island Ferry Terminal - Bus Station Entrance Ramp over SIRT
HBR1217	Staten Island Ferry Terminal - Parking Entrance Ramp over SIRT
HBR1217	Staten Island Ferry Terminal - Bus Station Exit Ramp over SIRT
HBR1217	Staten Island Ferry Terminal - Pedestrian Overpass at Breezeway
HBR1217	Staten Island Ferry Terminal - Ramp A
BRC156R (#14)	Manhattan (Cable Rewrapping)

### Component Rehabilitation

The following table illustrates the program's performance over the last eight years:

	*FY 06	#FY 07	FY 08	##FY 09	FY 10	*FY 11	###FY 12	*FY 13
Number of Bridges	0	0	10	0	13	0	10	0
Construction Cost	\$0	\$0	\$14.93	\$0	\$12.74	\$0	\$6.35	0

\*No contracts were bid during the 2006, 2011, and 2013 calendar years.

# One contract was bid during the 2007 calendar year, but was not registered until April 2008.

## Two contracts were bid during the 2009 calendar year, but were not registered until March and May 2010.

### One contract was bid during the 2012 calendar year and was registered in June 2012.

In 2013, work was completed at the following bridges, in the indicated boroughs, at the final cost shown, in millions:

Jackie Robinson Parkway & Union Turnpike over Austin Street (Q)	0.880
13 <sup>th</sup> Avenue over LIRR & Sea Beach (K)	0.790
Albee Avenue over SIRT South Shore (R)	0.520
5th Avenue over Greenwood Cemetery (K)	0.360
Bedford Avenue over LIRR Bay Ridge (K)	0.580
Carroll Street over Gowanus Canal (K)	0.790
Brooklyn-Queens Expressway over Adams St. NB (K)	0.480
Brooklyn-Queens Expressway over Adams St. SB (K)	0.410
<b>TOTAL</b>	<b><u>\$4.810 M</u></b>

During calendar year 2013, work commenced at the following bridges:

Ocean Avenue over LIRR Bay Ridge (K)  
 4<sup>th</sup> Avenue over Belt Parkway (K)  
 Belt Parkway over Bedford Avenue (K)  
 Carroll Street over Gowanus Canal (K)  
 5th Avenue over Greenwood Cemetery (K)  
 Albee Avenue over SIRT South Shore (R)  
 West 148<sup>th</sup> Street Pedestrian Bridge over Amtrak 30<sup>th</sup> Street Branch (M)  
 Inwood Hill Park Footbridge over Amtrak 30<sup>th</sup> Street Branch (M)

### Component Rehabilitation

There are three projects “still under construction” since the 2012 *Annual Report* was issued.

149<sup>th</sup> Street over LIRR (Q)  
 15<sup>th</sup> Avenue over LIRR Bay Ridge (K)  
 East Drive over East Wood Arch (K)

26 component rehabilitation projects are slated to continue, commence or be completed in the 2014 calendar year. They are:

149<sup>th</sup> Street over LIRR (Q)  
 Ocean Avenue over LIRR Bay Ridge (K)

West 148<sup>th</sup> Street Pedestrian Bridge over Amtrak 30<sup>th</sup> Street Branch (M)  
 Inwood Hill Park Footbridge over Amtrak 30<sup>th</sup> Street Branch (M)

Union Street over Brooklyn-Queens Expressway (K)  
 4<sup>th</sup> Avenue over Belt Parkway (K)  
 Belt Parkway over Bedford Avenue (K)  
 Crown Street over Franklin Shuttle (K)  
 (Hill Drive) Cleft Ridge Span over Pedestrian Path South of Boathouse (K)

Moshulu Parkway over Conrail (Abandoned) (B)  
 Leggett Avenue over Amtrak (B)  
 East 162<sup>nd</sup> Street over Metro North RR HAR (B)  
 East 165<sup>th</sup> Street over Metro North RR HAR (B)  
 East 187<sup>th</sup> Street over Metro North RR HAR (B)  
 Southern Boulevard over East Fordham Road (B)  
 Grand Concourse over East 167<sup>th</sup> Street (B)  
 East 180<sup>th</sup> Street over Bronx River (B)  
 Riverside Drive over West 138<sup>th</sup> Street (M)  
 Riverside Drive over West 145<sup>th</sup> Street (M)  
 McGuinness Blvd/Newtown Creek (Pulaski Bridge Bike Path) (KQ)

Ramp To Queensboro Bridge From East 58<sup>th</sup> Street over East 59<sup>th</sup> Street (M)  
 Ramp To 21<sup>st</sup> Street From NY over 22<sup>nd</sup> Street (Q)  
 71<sup>st</sup> Avenue over Cooper Avenue (Q)  
 Douglaston Parkway NB over Cross Island Parkway (Q)  
 Douglaston Parkway SB over Cross Island Parkway (Q)  
 Roosevelt Avenue over Flushing Meadow Park Road (Q)

## BRIDGES UNDER DESIGN BY NEW YORK CITY

BIN NO.	CAPIS NO.	FEATURE CARRIED	FEATURE CROSSED	FY CNST	PHASE	BORO
2230300	HBCR01B	MOSHOLU PARKWAY	CONRAIL (ABANDONED)	2014	FD	B
2241139	HBCR01B	LEGGETT AVENUE	AMTRAK - CSX	2014	FD	B
2241620	HBCR01B	EAST 162 <sup>ND</sup> ST	METRO NORTH RR HAR	2014	FD	B
2241630	HBCR01B	EAST 165 <sup>TH</sup> ST	METRO NORTH RR HAR	2014	FD	B
2241820	HBCR01B	EAST 187 <sup>TH</sup> ST	METRO NORTH RR HAR	2014	FD	B
2242029	HBCR01B	SOUTHERN BOULEVARD	EAST FORDHAM ROAD	2014	FD	B
2242280	HBCR01B	GRAND CONCOURSE	EAST 167 <sup>TH</sup> ST	2014	FD	B
2242400	HBCR01B	EAST 180 <sup>TH</sup> ST	BRONX RIVER	2014	FD	B
2230290	HBCR02A	MOSHOLU PARKWAY	EQUESTRIAN PATH	2015	FD	B
2242350	HBCR02A	EAST FORDHAM ROAD	GRAND CONCOURSE	2015	FD	B
2269030	HBCR02A	MATTHEWSON ROAD	MAC CRACKEN AVENUE	2015	FD	B
2241080	HBCR02B	SOUTHERN BLVD	CSX PORT MORRIS	2015	PD	B
2241129	HBCR02B	EAST 149 <sup>TH</sup> STREET	AMTRAK & CSX	2015	PD	B
2241330	HBCR02B	UNIONPORT ROAD	AMTRAK & CSX	2015	PD	B
2242071	HBCR02B	BRONX BLVD S.B.	BRONX RIVER	2015	PD	B
2242072	HBCR02B	BRONX BLVD N.B.	BRONX RIVER	2015	PD	B
2241790	HBX190	EAST 180 <sup>TH</sup> STREET	METRO NORTH RR	2020	PD	B
2075837	HBX1086	WESTCHESTER AVENUE	HRP	2016	FD	B
2066510	HBX1131	BRUCKNER EXPRESSWAY	WESTCHESTER CREEK	2016	PD	B
2241210	HBX1152	BRYANT AVE	AMTRAK	2014	FD	B
2241409	HBX1190	GRAND CONCOURSE	METRO NORTH RR HUD	2018	FD	B
2242319	HBX1191	GRAND CONCOURSE	EAST 174 <sup>TH</sup> ST	2018	PD	B
2242220	HBX1214	SNUFF MILL ROAD (SOUTHERN BLVD)	BRONX RIVER	2025	PD	B
2241740	HBX1215	EAST 175 <sup>TH</sup> ST	METRO NORTH RR	2019	PD	B
2230250	HBX1216	MOSHOLU PARKWAY	BRONX RIVER	2023	PD	B
2240137	HBM1147	BROADWAY	HARLEM RIVER	2017	FD	BM
2240079	HBX644S	MADISON AVE	HARLEM RIVER	2017	PD	BM
1240090	BRX287S	MACOMBS DAM BRIDGE	HARLEM RIVER	2015	FD	BM
2240027	BRC156F	MANHATTAN BRIDGE (LL)	EAST RIVER	2017	PD	KM
2240028	BRC156F	MANHATTAN BRIDGE (UL)	EAST RIVER	2017	PD	KM
2240027	BRC156S2	MANHATTAN BRIDGE (LL)	EAST RIVER	2020	PD	KM
2240028	BRC156S2	MANHATTAN BRIDGE (UL)	EAST RIVER	2020	PD	KM
2240019	BRC270S	BROOKLYN BRIDGE	2781 (B.Q.E.)	2020	FD	KM
2230420	HBCR02A	B.Q.E. (S.B.)	WASHINGTON STREET	2015	FD	K
2244030	HBCR02A	EAST DRIVE	BRIDLE PATH	2015	FD	K
2230370	HBCR02B	SACKETT STREET	B.Q.E.	2015	PD	K
2231449	HBCR03A	KNAPP STREET	BELT PARKWAY	2015	PD	K
2244440	HBCR03A	SOUTH OF TILLARY STREET	NAVY STREET	2015	PD	K
2230410	HBCR03A	EB BQE	WASHINGTON STREET	2015	PD	K
2243710	HBK062	19TH AVE	BMT SEA BEACH	2023	FD	K
2243820	HBK548	21 <sup>ST</sup> AVE	BMT SEA BEACH	2020	FD	K
2231479	HBK1023	BSHP	MILL BASIN	2015	FD	K
2231439	HBK1090	BSHP	NOSTRAND AVE	2021	FD	K
2243569	HBK1201	ATLANTIC AVE	LIRR ATLANTIC AVE	2016	FD	K
2240270	HBK1213	UNION STREET BRIDGE	GOWANUS CANAL	2019	PD	K
2231319	HBK1202	BELT PARKWAY	BAY PARKWAY	2024	PD	K
2240048	BRC231F	ED KOCH QUEENSBORO	EAST RIVER	2017	PD	MQ

PD=Preliminary Design; FD=Final Design; DB=Design Build

## BRIDGES UNDER DESIGN BY NEW YORK CITY

BIN NO.	CAPIS NO.	FEATURE CARRIED	FEATURE CROSSED	FY CNST	PHASE	BORO
2240047	BRC231S	BRIDGE (UL) ED KOCH QUEENSBORO	EAST RIVER	2020	PD	MQ
2240048	BRC231S	BRIDGE (LL) ED KOCH QUEENSBORO	EAST RIVER	2020	PD	MQ
2246980	HBCR01B	BRIDGE (UL) RIVERSIDE DRIVE	WEST 138 <sup>TH</sup> ST	2014	FD	M
2267130	HBCR01B	RIVERSIDE DRIVE	WEST 145 <sup>TH</sup> ST	2014	FD	M
224004D	HBCR01C	RAMP TO ED KOCH QUEENSBORO BRIDGE	E 59 <sup>TH</sup> ST	2014	FD	M
2245220	HBCR02A	WEST 57 <sup>TH</sup> STREET	AMTRAK 30 <sup>TH</sup> ST BRANCH	2015	FD	M
2245319	HBCR02A	EAST 97 <sup>TH</sup> STREET	METRO NORTH	2015	FD	M
2229312	HBCR03A	HHP NB	RAMP TO 96 <sup>TH</sup> STREET	2015	PD	M
2246540	HBM551	EAST 34 <sup>TH</sup> STREET	PARK AVENUE TUNNEL	2015	FD	M
2233059	HBM1027	HARLEM RIVER DRIVE	RAMP TO HRD N.B.	2015	DB	M
2245010	HBM1120	11 <sup>TH</sup> AVE VIADUCT [NORTH]	LIRR WEST SIDE YARD	2020	FD	M
2232040	HBM1056	HOUSTON STREET	FDR DRIVE	2015	DB	M
223204A	HBM1056	FDR DRIVE NB RAMP TO HOUSTON STREET	RELIEF	2015	DB	M
223204B	HBM1056	HOUSTON STREET RAMP TO FDR DRIVE NB	RELIEF	2015	DB	M
226672A	HBM1171	W 31 <sup>ST</sup> ST	AMTRAK LAYUP TRACKS	2020	FD	M
224501E	HBM1186	W 35 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2023	FD	M
2229290	HBM1189	W 79 <sup>TH</sup> ST	AMTRAK	2017	PD	M
2232070	HBM1221	E 25 <sup>TH</sup> STREET	FDR DRIVE	2022	PD	M
224004H	HBCR01C	PEDESTRIAN BRIDGE RAMP FROM ED KOCH QUEENSBORO BRIDGE	BRIDGE PLAZA SOUTH	2014	FD	Q
2247220	HBCR01C	80 <sup>TH</sup> ROAD	LIRR	2014	FD	Q
2248300	HBCR01C	71 <sup>ST</sup> AVE	COOPER AVENUE	2014	FD	Q
2266129	HBCR01C	DOUGLASTON PARKWAY SB	BCIP	2014	FD	Q
2266139	HBCR01C	DOUGLASTON PARKWAY NB	BCIP	2014	FD	Q
2267160	HBCR01C	ROOSEVELT AVE	PARK ROAD	2014	FD	Q
2231880	HBCR02A	CROCHERON PARK PEDESTRIAN	CROSS ISLAND PARKWAY	2015	FD	Q
2266160	HBCR02A	WHITESTONE EXPRESSWAY S.B. TO CROSS ISLAND PARKWAY	ACCESS ROAD FROM WHITESTONE EXPRESSWAY	2015	FD	Q
2230890	HBCR02B	E.B. 49 <sup>TH</sup> STREET	GRAND CENTRAL PARKWAY	2015	PD	Q
2231950	HBCR03A	150 <sup>TH</sup> STREET	CROSS ISLAND PARKWAY	2015	PD	Q
2231980	HBCR03A	147 <sup>TH</sup> STREET	CROSS ISLAND PARKWAY	2015	PD	Q
2055801	HBCR03A	NORTHERN BOULEVARD WB	FLUSHING RIVER	2015	PD	Q
2055802	HBCR03A	NORTHERN BOULEVARD EB	FLUSHING RIVER	2015	PD	Q
1247560	HBQ1112	METRO AVE (FRESH POND)	LIRR MONTAUK DIV	2015	FD	Q
2231780	HBQ1114	HEMPSTEAD AVE	BCIP	2021	PD	Q
2266149	HBQ1114	HEMPSTEAD AVE	RAMP TO BCIP NB	2021	PD	Q

PD=Preliminary Design; FD=Final Design; DB=Design Build

## BRIDGES UNDER DESIGN BY NEW YORK CITY

BIN NO.	CAPIS NO.	FEATURE CARRIED	FEATURE CROSSED	FY CNST	PHASE	BORO
2231850	HBQ1115	UNION TPKE	BCIP	2021	PD	Q
2248160	HBQ1137	ELIOT AVE	QUEENS BLVD	2022	PD	Q
2240507	HBQ1203	ROOSEVELT AVE	VAN WYCK EXPRY	2014	FD	Q
2248280	HBQ1206	HIGHLAND PK PED BRDG	PEDESTRIAN PATH	2014	FD	Q
2266160	HBQC064	WHITESTONE EXPRY/VAN WYCK EXPRY SB TO BCIP EB	ACCESS ROAD FROM WHITESTONE EXPRY/VAN WYCK EXPRY	2019	PD	Q
2249520	HBCR01C	HANNAH STREET	SIRT SOUTH SHORE	2014	FD	R
2249800	HBCR01C	FOREST AVE	CLOVE LAKES PARK STREAM	2014	FD	R
2249240	HBCR02B	ARTHUR KILL ROAD	SIRT SOUTH SHORE	2015	PD	R
2249450	HBCR03A	FREMONT AVENUE PEDESTRIAN	SIRT SOUTH SHORE	2015	PD	R
R00010	HBRC036	GALLOWAY AVE	MARIANNE ST	2015	FD	R
R00011	HBRC037	FOREST AVE	CRYSTAL AVE	2015	FD	R
R00013	HBRC038	NAUGHTON AVE	PATTERSON AVE	2015	FD	R
R00023	HBRC039	MIDLAND AVE	HYLAN BLVD	2015	FD	R
R00034	HBRC040	ROCKLAND AVE	BRIELLE AVE	2015	FD	R
R00068	HBRC041	FOREST AVE	RANDALL AVE	2015	FD	R
R00069	HBRC042	GREGG PLACE	RANDALL AVE	2015	FD	R
R00084	HBRC043	ARTHUR KILL RD	MULDOON AVE	2015	FD	R
R00097	HBRC044	RICHMOND HILL RD	RICHMOND RD	2015	FD	R
R00122	HBRC045	ARTHUR KILL RD	RIDGEWOOD AVE	2015	FD	R

Revised 3/13/14

PD=Preliminary Design; FD=Final Design; DB=Design Build

## Appendix B

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### FLAG CONDITIONS

Definitions and Procedures	B-1
2009-2013 Red, Yellow and Safety Flags	B-2
Flag Reporting and Tracking Process	B-3

## FLAG DEFINITIONS AND PROCEDURES

(Source: NYSDOT Engineering Instruction 94-002)

New York State Department of Transportation (NYSDOT) bridge inspection procedures require that "Flags" be issued to report the existence of conditions that pose a clear and present danger, or conditions which, if left unattended for an extended period, would likely become a clear and present danger.

A "Flag" is classified as either a Red Flag, Yellow Flag or Safety Flag.

*Red Flag* is used to report the failure or potentially imminent failure of a critical primary structural component. Potentially imminent means that a failure is likely before the next scheduled inspection. The maximum time between bridge inspections is two years. Red Flags must be addressed within six weeks.



February 2011: Red Flag Stringer Repair at Riverside Drive Viaduct over West 158<sup>th</sup> Street.

*Yellow Flag* is used to report a potentially hazardous condition which, if left unattended beyond the next scheduled inspection, would likely become a clear and present danger. A Yellow Flag is also used to report the actual or imminent failure of a non-critical primary structural component, where its failure may diminish the reserve capacity or redundancy of the bridge but would not result in structural collapse or a clear and present danger.



February 2008: Yellow Structural Flag Due to the Deteriorated Cap Beam. October 2008: Corrosion of Steel Secondary Member. November 2008: Crack in Steel Girder.

## FLAG DEFINITIONS AND PROCEDURES

(Source: NYSDOT Engineering Instruction 94-002)

*Safety Flag* is used to report a condition that presents a clear and present vehicular or pedestrian traffic hazard, but there is no danger of structural failure or collapse.



August, October, and November 2008: Examples of Tripping Hazards.



July 2013 Safety Flag: Ironworker and Mason Crews Repairing Missing Joint Seal Materials on the Brooklyn-Bound Williamsburg Bridge. The Joint Sealer Spaces Were Widened on Each Part of the Joint Utilizing the Shop-Made Jack Expansion Blocks, and Then Completely Cleaned With a Needle Gun to Prepare the Surface to be Rough Contacted With Epoxy Glue. After the Glue was Spread on the Sealer Space Surfaces, the Seal Strip was Installed and Tightened. (Credit: Hany Soliman)

Certain Red or Safety Flags may be further classified as Prompt Interim Action (PIA) flags. PIA flags must be addressed within 24 hours of discovery.



Example of PIA Safety Flag: Broken Grating. Executive Director of Bridge Preventive Maintenance and Repair Tom Whitehouse (White Hardhat) Ensuring the Proper Setup of Containment Procedures at the St. George Ferry Terminal Landing Slips Before the Masons Address A PIA Flag (Falling Concrete). Inspecting the Flagged Condition.



PIA Flag (Truck Wedged Under the FDR Drive at Span 41): Removing the Debris. (Credit: Victor Sandoval) PIA Flag Repair (Through Hole) on Harlem River Drive Ramp. (Credit: Bojidar Yanev)

FLAG CONDITIONS BY CALENDAR YEAR						
	2009	2010	2011	2012	2013	% increase (2009 – 2013)
<i>Citywide</i>						
<b>FLAGS ROUTED</b>	1,286	1,591	1,342	1,187	1,117	-13%
<b>RED</b>	72	53	56	34	62	-14%
<b>YELLOW</b>	155	387	252	208	123	-21%
<b>SAFETY</b>	1,059	1,151	1,034	945	932	-12%
 <b>TOTAL FLAGS ELIMINATED</b>	 973	 1,297	 966	 1,164	 1,176	 21%
<b>RED</b>	67	47	53	43	44	-34%
<b>YELLOW</b>	188	214	126	243	212	13%
<b>SAFETY</b>	718	1,036	787	878	920	28%
 <b>TOTAL FLAGS OUTSTANDING</b>	 3,296	 3,612	 3,989	 4,012	 3,953	 20%
<b>RED</b>	44	50	53	44	62	41%
<b>YELLOW</b>	587	760	887	852	763	30%
<b>SAFETY</b>	2,665	2,802	3,049	3,116	3,128	17%
 <i>Division of Bridges Workload</i>						
<b>FLAGS ROUTED*</b>	973	1,390	1,160	1,001	938	-4%
<b>RED</b>	66	52	47	32	61	-8%
<b>YELLOW</b>	147	383	250	204	117	-20%
<b>SAFETY</b>	760	955	863	765	760	0%
 <b>FLAGS ELIMINATED</b>	 897	 1,198	 877	 1,057	 1,091	 22%
<b>RED</b>	67	40	46	41	43	-36%
<b>YELLOW</b>	185	207	126	241	208	12%
<b>SAFETY</b>	645	951	705	775	840	30%
 <b>FLAGS OUTSTANDING**</b>	 1,903	 2,076	 2,355	 2,309	 2,166	 14%
<b>RED</b>	38	50	51	42	60	58%
<b>YELLOW</b>	556	731	845	808	717	29%
<b>SAFETY</b>	1,309	1,295	1,459	1,459	1,389	6%

\*Does not include re-routed flags.

\*\*Includes re-routed flags.

Revised 1/10/14

## FLAG REPORTING AND TRACKING PROCESS

There are three primary sources from which flags originate:

- NYSDOT inspectors
- NYCDOT inspectors
- NYCDOT Communications Center

### State DOT Inspectors

1. State inspectors identify flag conditions.
2. Written notification of flag conditions are sent to the Bridge's Flags unit. (Immediate verbal notification is given for Red Flags and PIA flags.)
3. Flag condition reports are entered into the Division's "City Flag" and "State Flag" database.
4. Flag conditions are reviewed by City engineers who have four routing options:
  - ♦ assign flags to outside agencies for repair, or
  - ♦ have City inspectors monitor flags until further action is desired, or
  - ♦ assign flags to in-house or contractor forces for repair, or
  - ♦ assign flags to the Construction Section for Capital contractor repair.
5. Each flag condition is assigned a City Flag number, and routed to the appropriate group.
6. When flag conditions are eliminated, the respective databases are updated.

### City DOT Division of Bridges Inspectors

1. City inspectors identify flag conditions and prepare a scope of work. (Immediate verbal notification is given for Red Flags and PIA flags.)
2. Flag condition reports are received and reviewed by the Flags unit.
3. Flag condition reports are entered into the "City Flag" database.
4. Flag conditions are reviewed by City engineers who have four routing options:
  - ♦ assign flags to outside agencies for repair, or
  - ♦ have City inspectors monitor flags until further action is desired, or
  - ♦ assign flags to in-house or contractor forces for repair, or
  - ♦ assign flags to the Construction Section for Capital contractor repair.
5. When flag conditions are eliminated, the database is updated.

### City DOT Communications Center

1. Flag condition is phoned in.
2. City inspectors visit the site to review the reported condition.
3. If the deficiency warrants, a flag condition report is filed.
4. Flag condition reports are entered into the "City Flag" database.
5. Flag conditions are reviewed by City engineers who have four routing options:
  - ♦ assign flags to outside agencies for repair, or
  - ♦ have City inspectors monitor flags until further action is desired, or
  - ♦ assign flags to in-house or contractor forces for repair, or
  - ♦ assign flags to the Construction Section for Capital contractor repair.
6. When flag conditions are eliminated, the database is updated.

## Appendix C

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### 2013 INVENTORY

Inventory Summary	C-1
Posted, Partially Closed & Closed Bridges	C-2
Bridge Identification Numbers	C-3
New York State Inspection System	C-4
Standard Abbreviations	C-5
Information on Inventory Lists	C-6
Adjustments to the Inventory	C-7
Listing of Bridge Inventory and Conditions	C-8

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### Inventory Summary

In Calendar Year 2013, the total number of bridge and tunnel structures under the jurisdiction of the New York City Department of Transportation (NYCDOT) increased to 789. NYCDOT owns, operates, and/or maintains 759 non-movable bridges, 24 movable bridges, and five tunnels. In 1999, a Memorandum of Understanding between NYCDOT and the New York City Department of Environmental Protection (NYCDEP) added 67 culverts (since reduced to 53) in Staten Island to the Division's Inventory. While the Division is responsible for the capital rehabilitation of these structures, maintenance and inspection responsibilities remain with NYCDEP.

The condition of New York City's 789 elevated bridge structures (including five tunnels), as measured by the City's general condition rating, are as follows: 1 structure was rated *Poor*, 456 structures were rated *Fair*, 217 structures were rated *Good*, 114 structures were classified *Very Good*, and one structure is not rated (closed).

The bridges in the Division's inventory connect a vast and diverse highway and street network throughout the City. The impressive East River crossings – the Brooklyn, Manhattan, Williamsburg, and Ed Koch Queensboro Bridges – are the most visible and famous structures, but are by no means representative of all the bridges in the City's inventory. Three hundred twenty-three (40.94%) of the Division's structures consist of one span (the portion of a bridge between two supports). One hundred three (13%) bridges carry pedestrian traffic. Of the 789 structures in the City's inventory, 103 (13.05%) cross waterways; of these, 20 connect the boroughs of the Bronx, Brooklyn, Manhattan and Queens. Three hundred twenty-seven (41.4%) structures cross the City's labyrinthine system of railroad and subway tracks. Two hundred fifty (31.69%) structures cross or connect arterial highways, such as the Henry Hudson Parkway, the Brooklyn-Queens Expressway, and the Belt Parkway, which facilitate traffic flow through and around the five boroughs of the City of New York.

### Rating System

The Division of Bridges bases its general condition ratings directly on the numerical ratings assigned during bridge inspections. Federal law mandates that bridge structures be inspected at least once every two years. The New York State Department of Transportation hires engineering consultants to perform biennial inspections for all bridge structures except pedestrian bridge structures, and bridge structures less than 20 feet in length. Bridge structures not inspected by the State are inspected by the NYC Department of Transportation's Division of Bridges, with the exception of the East 64<sup>th</sup> Street Pedestrian Bridge over the FDR Drive, which was inspected by Rockefeller University.

The State inspected 676 (85.68%) bridge structures. The balance of 112 (14.20%) were inspected by the City, with the exception of the High Bridge over the Harlem River, which was inspected in 2002 by the Department of Parks and Recreation. Each structure in a biennial inspection is given an overall numerical condition rating from 1 (structural failure) to 7 (new condition), reflecting a weighting of key features of the structure (see Appendix C-4). In certain cases, where a bridge structure is closed to traffic, only a city condition rating is given.

City condition ratings coincide with the following ranges of State ratings:

<u>State Numerical Rating</u>		<u>City Condition Rating</u>
1.000 – 3.000	=	POOR
3.001 – 4.999	=	FAIR
5.000 – 6.000	=	GOOD
6.001 – 7.000	=	VERY GOOD

This method is used as a guide in assessing what operational action is needed. The overall bridge rating, in and of itself, is not always indicative of whether a bridge needs major rehabilitation. Further inspection and analysis must be done to determine specific rehabilitation or corrective repair needs.

### Summary of 2013 Structure Conditions

Rating	Number of Structures	Percent	Number of Spans	Percent	Deck Area Sq Ft	Percent
Poor	1	0.13%	75	1.72%	503,788	3.47%
Fair	456	57.87%	3,298	75.66%	10,214,063	70.28%
Good	217	27.54%	643	14.75%	2,330,855	16.04%
Very Good	114	14.47%	343	7.87%	1,484,823	10.22%
Not Rated	1	—	—	—	—	—
Total	789	100%	4,359	100%	14,533,529	100.00%

As of December 31, 2013, the condition of the City's bridges and tunnels indicated that 0.13% were rated as *Poor*, 57.87% were classified as *Fair*, 27.54% were awarded ratings of *Good*, and 14.47% as *Very Good*. Those structures given ratings of *Poor* and *Fair* encompassed 77.38% of bridge spans.

Rating	2010		2011		2012		2013	
Poor	4	0.51%	3	0.38%	1	0.13%	1	0.13%
Fair	462	58.78%	459	58.40%	460	58.45%	456	57.87%
Good	207	26.34%	215	27.35%	212	26.94%	217	27.54%
Very Good	113	14.38%	109	13.87%	114	14.49%	114	14.47%
Not Rated	1		1		1		1	
Total	787	100%	787	100%	788	100%	789	100%

During 2013, Manhattan had the highest percentage of bridge structures rated *fair* – 74.43% - as well as the lowest percentage of bridge structures rated *good* – 21.02%. Staten Island had the highest percentage of bridge structures classified as *good* – 38.81%, and the third highest percentage of bridge structures rated *very good* – 17.91%, for a total of 56.72%. In 2013, Brooklyn had the highest percentage of bridge structures rated as *very good* – 23.43%. The Bronx had the second highest percentage of bridge structures classified as *fair* – 62.50%. Queens had the second highest percentage of bridge structures classified as *very good* – 18.18%, and the second highest percentage of bridge structures rated as *good* – 29.29%.

Borough*	Poor	% of Boro	Fair	% of Boro	Good	% of Boro	Very Good	% of Boro	Total
Bronx	0	0.00%	95	62.50%	42	27.63%	15	9.87%	152
Brooklyn	0	0.00%	84	48.00%	50	28.57%	41	23.43%	175
Manhattan	0	0.00%	131	74.43%	37	21.02%	8	4.55%	176
Queens	0	0.00%	104	52.53%	58	29.29%	36	18.18%	198
Staten Island	0	0.00%	29	43.28%	26	38.81%	12	17.91%	67
Total	0	0.00%	443	57.68%	213	27.73%	112	14.58%	768

\* Does not include borough-crossing bridges (see next table).

### Summary of 2013 Structure Conditions

Seventy percent of the 20 bridge structures that service the five boroughs were rated in either *poor* or *fair* condition in 2013, and 30% were rated *good* or *very good*.

Boro-Crossing	Poor	% of Boro Crossing	Fair	% of Boro Crossing	Good	% of Boro Crossing	Very Good	% of Boro Crossing	Total
Bronx-Manhattan	0	0.00%	6	60.00%	2	20.00%	2	20.00%	10
Brooklyn-Manhattan	1	25.00%	3	75.00%	0	0.00%	0	0.00%	4
Queens-Manhattan	0	0.00%	2	66.67%	1	33.33%	0	0.00%	3
Brooklyn-Queens	0	0.00%	2	66.67%	1	33.33%	0	0.00%	3
Total	1	5.00%	13	65.00%	4	20.00%	2	10.00%	20

These figures evidence that the Division is continuing to make progress in improving the conditions of the City's bridges. The number of bridges rated *Poor* and *Fair* has decreased over the past few years while the number of bridges rated *Good* and *Very Good* has increased. However, it continues to remain essential that the overall bridge program include an expansion of the Preventive Maintenance and Corrective Repair programs which have traditionally slowed the deterioration of *good* and *very good* bridges.

During 2013, the total number of closed or partially closed bridge structures was four, with one closed and three partially-closed structures (see Appendix C-2).

## Bridges with Posted Weight Restrictions

### NEW YORK CITY DEPARTMENT OF TRANSPORTATION

BIN	BOROUGH	LOCATION FEATURE-1	LOCATION FEATURE-2	LOCATION FEATURE-3	FISCAL YEAR*	POSTED TONS	REMARKS
2231450	BROOKLYN	BELT SHORE PARKWAY	GERRITSEN INLET		2012	5	CONDITION OF MILL BASIN BRIDGE
2231479	BROOKLYN	BELT SHORE PARKWAY	MILL BASIN CREEK		2014	5	
	MANHATTAN	FDR DRIVE (NB & SB)	23 <sup>RD</sup> TO 63 <sup>RD</sup> STREET			4	PASSENGER CARS ONLY
2240019	BROOKLYN & MANHATTAN	BROOKLYN BRIDGE	EAST RIVER	INCLUDING RAMPS	2009	3	NO COMMERCIAL TRAFFIC NO TRUCKS, NO BUSES; 11'0" CLEARANCE
2240039	BROOKLYN & MANHATTAN	WILLIAMSBURG BRIDGE	EAST RIVER				INNER ROADWAYS, <u>NO TRUCKS</u> ; OUTER ROADWAYS DESIGN FOR HS20 [36 TONS] AND TRUCKS ARE PERMITTED ON OUTER ROADWAY
2240047	MANHATTAN & QUEENS	ED KOCH QUEENSBORO BRIDGE	EAST RIVER			7.5	LOWER OUTER ROADWAYS POSTED AS H-7.5 [7.5 TONS] (PASSENGER CARS ONLY FOR SOUTHBOUND; PEDESTRIANS AND BICYCLES ONLY FOR NORTHBOUND); LOWER INNER ROADWAYS ARE DESIGNED FOR HS20 TRUCK LOAD [36 TONS]; UPPER ROADWAYS DESIGNED FOR H-15 [15 TONS], <u>NO TRUCKS, ONLY BUSES</u>
2240260	BROOKLYN	CARROLL STREET BRIDGE	GOWANUS CANAL	CARROLL STREET		10	
2240640	MANHATTAN & QUEENS	ROOSEVELT ISLAND	EAST CHANNEL OF THE EAST RIVER			36	
2240660	QUEENS	RIKERS ISLAND BRIDGE	RIKERS ISLAND CHANNEL			36	
2246550	MANHATTAN	PARK AVENUE VIADUCT	42 <sup>ND</sup> STREET			15	NO COMMERCIAL TRAFFIC
2247590	QUEENS	FOREST PARK DRIVE	LIRR			8	
2247660	QUEENS	FOREST PARK DRIVE	ABANDONED LIRR			8	
2245460	MANHATTAN	PARK AVENUE SB	EAST 45 <sup>TH</sup> STREET			15	NO COMMERCIAL TRAFFIC
2245470	MANHATTAN	PARK AVENUE NB	EAST 45 <sup>TH</sup> STREET			15	NO COMMERCIAL TRAFFIC
2244120	BROOKLYN	HILL DRIVE	PROSPECT PARK LAKE				NO VEHICLES
226771A**	MANHATTAN	79 <sup>TH</sup> STREET RAMP to HHP	79 <sup>TH</sup> STREET BOAT BASIN GARAGE			15	
226771B**	MANHATTAN	79 <sup>TH</sup> STREET RAMP TO GARAGE	79 <sup>TH</sup> STREET BOAT BASIN GARAGE			15	
226771C**	MANHATTAN	GARAGE RAMP TO 79 <sup>TH</sup> STREET	79 <sup>TH</sup> STREET BOAT BASIN GARAGE			15	
226771D**	MANHATTAN	SB HHP RAMP TO 79 <sup>TH</sup> STREET	79 <sup>TH</sup> STREET BOAT BASIN GARAGE			15	
2240507**	QUEENS	ROOSEVELT AVENUE BRIDGE	VAN WYCK EXPRESSWAY		2014	25	
2247120**	QUEENS	WOODSIDE AVENUE BRIDGE	LIRR MAIN LINE			8	

21 COUNT

\* - CONSTRUCTION CONTRACT LETTING

## Partially Closed Bridges

### NEW YORK CITY DEPARTMENT OF TRANSPORTATION

BIN	BOROUGH	LOCATION FEATURE-1	LOCATION FEATURE-2	LOCATION FEATURE-3	FISCAL YEAR*	REMARKS
2076640	BRONX	DEPOT PLACE	CONRAIL HUDSON DIVISION			ONE LANE CLOSED TO TRAFFIC (BUT OPEN TO PEDESTRIANS AND BICYCLES), AND ONE LANE OPEN
2244120	BROOKLYN	HILL DRIVE	PROSPECT PARK LAKE		CONSTR UCTION MOVED DUE TO LACK OF FUNDING	CLOSED TO VEHICULAR TRAFFIC, OPEN TO PEDESTRIAN TRAFFIC, ALONG THE CENTER OF THE ROADWAY.
2247080	QUEENS	149 <sup>TH</sup> STREET	LIRR			CLOSED TO VEHICULAR TRAFFIC, BUT OPEN TO PEDESTRIANS AND BICYCLES.

3 COUNT

\* - CONSTRUCTION CONTRACT LETTING



Carroll Street, Mill Basin, and Roosevelt Avenue Bridge Posted Weight Restriction Signs. (Carroll Street and Roosevelt Avenue Credit: NYSDOT)

**Closed Bridges****NEW YORK CITY DEPARTMENT OF TRANSPORTATION**

There is one closed bridge.

BIN	BOROUGH	LOCATION FEATURE-1	LOCATION FEATURE-2	LOCATION FEATURE-3	REMARKS
2248130	QUEENS	FLUSHING MEADOW PARK PEDESTRIAN	WILLOW LAKE	76 <sup>th</sup> ROAD	BRIDGE IS IN FLUSHING CORONA PARK, WHICH IS IN A REMOTE LOCATION AND WAS DAMAGED BY FIRE.

10/20/09, no change 2013

### Bridge Identification Numbers

In 1972, the State of New York developed a computerized system to store inventory and inspection data on bridges that are greater than 20 feet in length. In New York City, structures that are 20 feet in length or less, “mini-bridges,” are tracked independently by the City. Each structure is distinguished by a separate Bridge Identification Number (B.I.N.).

A six-digit B.I.N. identifies a single structure or group of connected or associated structures, while the seven-digit B.I.N. identifies each of those connected or associated bridge structures individually. Each level of a bi-level bridge, each separate bridge structure in a parallel configuration, and each ramp attached to a main bridge is considered an individual structure and assigned its own unique B.I.N. for example, the Brooklyn Bridge has one six-digit B.I.N., 2-24002, which incorporates the entire bridge. All ramps and secondary structures, as well as the main structure, are identified by their own seven-digit numbers, such as 2-24001-A, 2-24001-B, etc.

**If the prefix (first number) of the B.I.N. is:**

**1**, the bridge is considered part of the **State** bridge system. This number might include City bridges if maintenance is shared between City and State.

**2**, the bridge is considered part of the **City** bridge system. This number might include State bridges if maintenance is shared between City and State.

**M, Q, or R**, the bridge is a “mini-bridge,” and is considered part of the **City** bridge system. They are located in Manhattan, Queens, or Staten Island, respectively.

**If the suffix (last character) of the B.I.N. is:**

**1 through 6**, the bridge is in parallel configuration. The left-most bridge in the Direction of Orientation has a last character of 1. The next left-most bridge has a last character of 2, and so on.

**7 or 8**, the bridge is in a bi-level configuration. Seven indicates the lower level and eight indicates the upper level.

**0 or 9**, the bridge is not in parallel or bi-level configuration.

**A letter of the alphabet**, the structure is a ramp physically attached to the main bridge. If more than one ramp is attached to the same span of the main bridge, the characters are assigned alphabetically starting with the left-most ramp in the Direction of Orientation. Other ramps attached to the bridge are assigned alphabetical characters in a clockwise direction.

### New York State Biennial Bridge Inspection and Condition Rating System

During the regularly scheduled State biennial bridge inspections, each bridge element is investigated and its structural condition is numerically rated according to the system indicated below:

<u>Numerical Rating</u>	<u>Description</u>
1	Potentially Hazardous
2	Used to shade between a rating of 1 and 3
3	Serious deterioration, or not functioning as originally designed
4	Used to shade between a rating of 3 and 5
5	Minor deterioration, and is functioning as originally designed
6	Used to shade between a rating of 5 and 7
7	New condition
8	Not Applicable
9	Unknown (due to inaccessibility, e.g. footings or piles)

Based on these individual ratings for each element, a weighted average rating is computed for the entire structure.

These ratings (both individual and weighted average) are recorded on New York State Department of Transportation Inspection report Forms. Together with photographs and explanatory descriptions, the ratings provide the Division with information on the existing condition of each bridge.

A description of the condition ratings 1 through 7, with programmed responses to certain critical ratings, demonstrates the importance of these inspections:

A rating of 1 describes an extremely serious condition which is deemed potentially hazardous. This rating, which is phoned in by the inspection leader, necessitates that the Division respond immediately by 1) closing the structure either completely or partially until emergency repairs are made, or 2) limiting the vehicle weight permitted on the structure and then performing repairs on a timely basis.

A rating of 3 describes a bridge element that is not functioning as designed. Although not considered hazardous, such members require extensive rehabilitation. A determination is then made to repair such rated members either by the Division's in-house repair personnel, the critical maintenance contractor (When and Where contracts), or a major capital contract. Until such repairs are made, this condition is periodically monitored.

A rating of 5 indicates the member is functioning as designed but exhibits minor deterioration. These members are prioritized and scheduled for repair by the Bridge Maintenance, Inspection and Operations Bureau.

A rating of 7 indicates a new condition requiring no remediation.

The ratings of 2, 4, and 6 are utilized to shade between each of the above ratings.

## Standard Abbreviations

### General Abbreviations :

APP:	Approach	NB:	Northbound
AVE:	Avenue	PED BR:	Pedestrian Bridge
BLVD:	Boulevard	PKWY:	Parkway
BR:	Bridge	PL:	Place
CPK:	Central Park	RD:	Road
DR:	Drive	SB:	Southbound
EB:	Eastbound	ST:	Street
EXPWY:	Expressway	TPKE:	Turnpike
I:	Interstate	WB:	Westbound
LN:	Lane		
X:	No State accepted mileage markers exist on this route		



Assistant Civil Engineer Andrew Hoang  
Inspecting the Brooklyn Bridge. (Credit:  
Clara Medina)

### Routes :

<u>No.</u>	<u>Borough</u>	<u>Name</u>
25	Queens	Union Turnpike
25A	Queens	Northern Boulevard
27	Brooklyn	Southern Parkway
I-87	Manhattan, Bronx	Major Deegan Expressway
I-95	Manhattan, Bronx	Cross Bronx Expressway
I-278	Brooklyn, Queens	Brooklyn-Queens Expressway
I-278	Bronx	Bruckner Expressway
I-278	Staten Island	Staten Island Expressway
I-295	Queens	Clearview Expressway
I-295	Bronx	Throgs Neck Expressway
I-440	Staten Island	Richmond Parkway
I-478	Brooklyn	Brooklyn Battery Tunnel
I-495	Queens	Long Island Expressway
I-678	Queens	Whitestone Expressway, Van Wyck
I-878	Queens	Nassau Expressway
I-895	Bronx	Sheridan Expressway

### Standard Abbreviations

**Highways :**

BCIP:	Belt System - Cross Island
BE:	Bruckner Expressway
BLP:	Belt System - Laurelton Parkway
BPP:	Bronx Pelham Parkway
BQE:	Brooklyn-Queens Expressway
BRPC:	Bronx River Parkway (in NYC)
BSHP:	Belt System - Shore Parkway
BSOP:	Belt System - Southern Parkway
CBE:	Cross Bronx Expressway
FDRD:	Franklin D. Roosevelt Drive
GCP:	Grand Central Parkway
GW:	George Washington Bridge
HHP:	Henry Hudson Parkway
HRD:	Harlem River Drive
HRPC:	Hutchinson River Parkway (in NYC)
IP:	Jackie Robinson (Interborough) Parkway
LIE:	Long Island Expressway
MAP:	Marine Parkway
MDE:	Major Deegan Expressway
MP:	Mosholu Parkway
OCP:	Ocean Parkway
PR:	Prospect Expressway
RP:	Richmond Parkway
VWE:	Van Wyck Expressway
WLMBRG:	Williamsburg Bridge
WSE:	West Shore Expressway

### Information Available On Division Of Bridges Inventory Of Structures

- **Bridge Identification Number (B.I.N.)**
- **Borough :**

B - The Bronx	Q - Queens	R - Staten Island
K - Brooklyn	M - Manhattan	
- **Feature Carried :** Name of passageway carrying vehicle or pedestrian traffic.
- **Feature Crossed :** Description of area crossed.
  - **Railroad Crossed** (if applicable):
 

A - Amtrak	N - New York & Atlantic
C - CSX	O - B & O Railroad
L - Long Island Railroad	S - Staten Island Rapid Transit Operating Authority
M - Metro-North (MTA)	T - NYC Transit Authority
- **Other Owner :**

ED	Department of Education
F	Ferries (Department of Transportation)
P	Department of Parks and Recreation
- **Bridge Type :**

A     Arterial	PED     Pedestrian
E     East River	R     Ramp
M     Movable	T     Tunnel
O     Off-System	W     Waterway
- **Rating Source:**

(C)     City Inspection	(P)     Parks Inspection
(S)     State Inspection	(U)     Rockefeller University Inspection
- **Rating :** Numerical and/or verbal rating
 

1.000 - 3.000:	(P)	POOR
3.001 - 4.999:	(F)	FAIR
5.000 - 6.000:	(G)	GOOD
6.001 - 7.000:	(V)	VERY GOOD
- **Deck Area:** Square feet
- **CD:**

Community Board District

<b>2013 Bridge Inventory Adjustments</b>
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B.I.N.	BORO	FEATURE CARRIED	FEATURE CROSSED	EXPLANATION
<b>- Bridges deleted from the City's Inventory:</b>				
2231489	K	BELT PARKWAY	PAERDEGAT BASIN	DEMOLISHED AND REPLACED BY TWO NEW BRIDGES
2269260	K	WEST 8 <sup>TH</sup> STREET PEDESTRIAN	SURF AVENUE	DEMOLISHED BY NEW YORK CITY ECONOMIC DEVELOPMENT CORPORATION
<b>- Bridges added to the City's Inventory:</b>				
2231481	K	BELT PARKWAY WESTBOUND	PAERDEGAT BASIN	NEW
2231482	K	BELT PARKWAY EASTBOUND	PAERDEGAT BASIN	NEW
222928D	M	WEST 72 <sup>ND</sup> STREET RAMP TO HENRY HUDSON PARKWAY NORTHBOUND	RELIEF	BUILT BY PRIVATE DEVELOPER

REV. DATE 3/2013

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
1065210	Q	WHITESTONE EXP NB	BCIP		A		1	S	7/24/2012	4.603	F	2,500	\$10,000,000	407		
1066510	B	BRUCKNER EXPWY SVC RD	WESTCHESTER CREEK		WMA		17	S	10/17/2013	3.516	F	39,400	\$157,600,000	209		
1067150	B	NEREID AVE (E. 240TH ST)	BRONX RIVER PKWY	M	O		10	S	10/19/2013	4.632	F	57,750	\$231,000,000	212		
1240090	BM	MACOMBS DAM BRIDGE	HARLEM RIVER	M	WMO		52	S	12/13/2013	3.986	F	220,000	\$880,000,000	110	204	
1247010	Q	91 PLACE (2247010)	LIRR PT WASH BR	L	O		1	S	9/3/2013	6.500	VG	2,760	\$11,040,000	404		
1247200	Q	67 AVE PED BR (2247200)	LIRR MAIN LINE	L	O-PED		3	C	10/22/2013	4.219	F	1,300	\$5,200,000	406		
1247280	Q	51 AVE PED BR (2247280)	LIRR MAIN LINE	L	O-PED		5	C	10/22/2013	3.018	F	700	\$2,800,000	402		
1247560	Q	METROPOLITAN AVE	LIRR - NY&ATL	LN	O		2	S	8/28/2013	3.603	F	20,900	\$83,600,000	405		
2055801	Q	NORTHERN BLVD WB	FLUSHING RIVER		WO		40	S	11/21/2012	4.338	F	71,900	\$287,600,000	407		
2055802	Q	NORTHERN BLVD EB	FLUSHING RIVER		WO		40	S	11/21/2012	4.324	F	78,894	\$315,576,000	407		
205580A	Q	N.BLVD WB TO 6781 SB	VACANT LAND		AR		16	S	6/19/2012	5.619	G	8,600	\$34,400,000	407		
2065629	B	BRONX RIVER PKWY	BOSTON RD - BX ZOO		A		1	S	8/14/2013	5.138	G	6,300	\$25,200,000	227		
2065930	Q	HAMILTON PLACE	495I (L.I.E.)		A		2	S	3/5/2012	5.611	G	11,111	\$44,444,000	405		
2065940	Q	GRAND AVE	495I (L.I.E.)		A		2	S	12/6/2012	4.861	F	12,850	\$51,400,000	405		
2065950	Q	69TH STREET	495I (L.I.E.)		A		2	S	7/8/2013	5.250	G	10,336	\$41,344,000	405		
2066002	Q	495I (2066000)	WOODHAVEN BLVD		A		2	S	5/23/2013	5.620	G	25,200	\$100,800,000	406	404	
2066100	K	5TH AVE	27 X PROSPECT EXPWY		A		1	S	5/18/2012	5.063	G	8,800	\$35,200,000	307		
2066671	B	BRUCKNER EXPWY SB	BRONX RIVER		WA		3	S	10/15/2013	5.222	G	12,400	\$49,600,000	202	209	
2066672	B	BRUCKNER EXPWY NB	BRONX RIVER		WA		8	S	10/15/2013	4.418	F	22,300	\$89,200,000	202	209	
2066720	B	E 174TH ST	SHERIDAN EXPWY/AMTRAK	A	A		13	S	8/20/2012	4.153	F	35,573	\$142,292,000	209	203	
206672A	B	174TH ST-NTH PED BRDG	895I - SHERIDAN EXPWY		A-PED		4	C	4/8/2013	4.667	F	1,800	\$7,200,000	209		
206672B	B	174TH ST-STH PED BRDG	895I - SHERIDAN EXPWY		A-PED		4	C	4/8/2013	4.750	F	1,900	\$7,600,000	209		
2066919	BM	WASHINGTON BRIDGE	HARLEM RIVER	M	WO		9	S	11/29/2012	4.642	F	128,339	\$513,356,000	112	205	204
2075351	B	BRUCKNER EXPWY SB	AMTRAK - CSX	AC	A		1	S	11/19/2012	6.032	VG	11,600	\$46,400,000	202		
2075352	B	BRUCKNER EXPWY NB	AMTRAK - CSX	AC	A		1	S	11/19/2012	6.444	VG	10,900	\$43,600,000	202		
2075820	B	E TREMONT AVE	HUTCHINSON RVR PKWY		A		2	S	11/21/2013	4.444	F	10,200	\$40,800,000	210		
2075837	B	WESTCHESTER AVE	HUTCHINSON RVR PKWY		A		2	S	6/1/2013	4.083	F	15,858	\$63,432,000	210	211	
2075849	B	BRONX PELHAM PKWY	HUTCHINSON RVR PKWY		A		2	S	6/6/2012	3.763	F	17,600	\$70,400,000	210	211	
2075859	B	HUTCHINSON RVR PKWY	HUTCHINSON RIVER		WMA		7	S	10/22/2013	4.703	F	60,500	\$242,000,000	210	228	
2076109	B	BE NB SERVICE RD	HUTCHINSON RVR PKWY		A		2	S	8/15/2013	5.105	G	7,800	\$31,200,000	210		
2076129	B	BE SB SERVICE RD	HUTCHINSON RVR PKWY		A		2	S	1/19/2012	5.079	G	7,100	\$28,400,000	210		
2076640	B	DEPOT PLACE	METRO NORTH RR HUD	CM	O		11	S	9/13/2013	4.653	F	26,566	\$106,264,000	204		
2076929	B	BRUCKNER EXPWY	CSX - HUNTS POINT	C	A		1	S	8/28/2013	4.567	F	3,800	\$15,200,000	202		
2229289	M	HHP VIADUCT	AMTRAK - W72 ST - W79 ST	A	A		145	S	10/22/2012	3.597	F	236,100	\$944,400,000	107		
222928C	M	PED BR AT W 73RD ST	HHP - AMTRAK	A	A-PED	P	5	C	8/12/2013	3.812	F	3,480	\$13,920,000	107		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
222928D	M	W72ND ST RAMP TO HHP NB	RELIEF		AR		1	S	7/10/2012	6.667	VG	1,750	\$7,000,000	107		
2229290	M	W 79 ST	AMTRAK	A	A		1	S	6/7/2012	4.492	F	4,500	\$18,000,000	107		
2229309	M	HHP	RIVERSIDE PARK		A		1	S	1/5/2012	5.133	G	2,172	\$8,688,000	107		
2229311	M	HHP SB	RAMP TO W 96 ST		A		1	S	2/1/2012	4.455	F	2,000	\$8,000,000	107		
2229312	M	HHP NB	RAMP TO W 96 ST		A		1	S	2/1/2012	4.182	F	2,000	\$8,000,000	107		
2229321	M	HHP SB	RAMP FROM W 96 ST		A		1	S	2/6/2012	5.133	G	2,000	\$8,000,000	107		
2229322	M	HHP NB	RAMP FROM W 96 ST		A		1	S	2/6/2012	5.300	G	2,000	\$8,000,000	107		
2229349	M	HHP	W 158 ST	A	A		44	S	12/17/2012	4.155	F	140,000	\$560,000,000	109	112	
222934A	M	RAMP TO N.B. HHP	AMTRAK WEST SIDE	A	AR		26	S	8/13/2012	3.875	F	10,800	\$43,200,000	112		
2229400	M	W 181ST ST PED BRDG	HHP N.B.		A-PED	P	7	C	1/10/2013	4.277	F	1,500	\$6,000,000	112		
2229440	B	HHP	KAPPOCK ST		A		1	S	7/18/2013	4.931	F	3,900	\$15,600,000	208		
2229450	B	W 232ND ST	HHP		A		2	S	7/22/2013	5.026	G	4,900	\$19,600,000	208		
2229460	B	W 236TH ST PED BRDG	HHP		A-PED		3	C	7/8/2013	4.672	F	2,500	\$10,000,000	208		
2229470	B	W 239TH ST	HHP		A		2	S	6/3/2013	5.053	G	6,100	\$24,400,000	208		
2229480	B	MANHATTAN COLL PKWY	HHP		A		3	S	6/3/2013	5.053	G	6,200	\$24,800,000	208		
2229490	B	W 246TH ST	HHP		A		2	S	6/3/2013	4.868	F	5,600	\$22,400,000	208		
2229500	B	W 252ND ST	HHP		A		2	S	1/20/2012	5.372	G	4,500	\$18,000,000	208		
2229510	B	RIVERDALE AVE	HHP		A		2	S	7/22/2013	5.079	G	5,200	\$20,800,000	208		
2229520	B	FIELDSTON ROAD	HHP		A		1	S	7/29/2013	4.900	F	6,600	\$26,400,000	208		
2229530	B	HHP	BROADWAY		A		1	S	7/29/2013	4.574	F	7,500	\$30,000,000	208		
2229540	B	VAN CRTLDT PARK	HHP		A-PED	P	2	C	7/8/2013	4.759	F	3,900	\$15,600,000	226		
2229550	B	VAN CRTLDT EQUES	HHP		A-PED	P	2	C	7/8/2013	4.556	F	2,100	\$8,400,000	226		
2229560	B	BRONX PELHAM PKWY	AMTRAK - CSX	AC	A		3	S	5/25/2012	4.542	F	24,591	\$98,364,000	211		
2229579	B	BOSTON POST ROAD	HUTCHINSON RIVER		WO		14	S	6/21/2013	4.042	F	95,700	\$382,800,000	212		
2230000	K	HIGHLAND BLVD E.B.	JACKIE ROBINSON PKWY		A		1	S	3/14/2012	4.724	F	4,900	\$19,600,000	305		
2230010	K	HIGHLAND BLVD W.B.	JACKIE ROBINSON PKWY		A		1	S	3/14/2012	4.767	F	3,500	\$14,000,000	305		
2230020	K	HIGHLAND BLVD W.B.	JR PKWY E.B. ENTR RAMP		A		2	S	3/14/2012	4.974	F	4,700	\$18,800,000	305		
2230040	Q	CYPRESS HILLS ST	JACKIE ROBINSON PKWY		A		1	S	4/5/2012	4.722	F	5,000	\$20,000,000	405		
2230099	Q	JACKIE ROBINSON PKWY	CYPRESS HILLS CEMETRY		A		1	S	1/5/2012	5.444	G	4,200	\$16,800,000	405		
2230120	Q	MYRTLE AVE	JACKIE ROBINSON PKWY		A		1	S	4/26/2012	5.250	G	6,400	\$25,600,000	405	482	
2230179	Q	JACKIE ROBINSON PKWY	METROPOLITAN AVE		A		2	S	5/4/2012	5.286	G	8,673	\$34,692,000	482		
2230180	Q	UNION TPKE	JACKIE ROBINSON PKWY		A		1	S	2/1/2012	5.672	G	5,359	\$21,436,000	482		
2230190	Q	MARKWOOD ROAD	JACKIE ROBINSON PKWY		A		1	S	2/1/2012	5.167	G	4,400	\$17,600,000	482	406	
2230209	Q	QUEENS BLVD	JACKIE ROBINSON PKWY	T	A		5	S	7/9/2012	4.968	F	37,700	\$150,800,000	409		
2230220	K	HIGHLAND BLVD NB	VERMONT AVE		A		1	S	6/5/2013	5.857	G	3,995	\$15,980,000	305		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230250	B	MOSHOLU PARKWAY	BRONX RIVER		WA		5	S	1/12/2012	4.211	F	16,300	\$65,200,000	227		
2230260	B	MOSHOLU PARKWAY	METRO NORTH	M	A		1	S	4/21/2012	5.516	G	8,880	\$35,520,000	227	207	
2230270	B	MOSHOLU PARKWAY	WEBSTER AVE		A		1	S	5/21/2013	5.203	G	8,480	\$33,920,000	207		
2230287	B	JEROME AVE	MOSHOLU PARKWAY	T	A		3	S	5/22/2013	4.816	F	11,800	\$47,200,000	207		
2230290	B	MOSHOLU PARKWAY	EQUESTRIAN PATH		A		1	S	1/20/2012	4.310	F	4,300	\$17,200,000	226		
2230300	B	MOSHOLU PARKWAY	CONRAIL (ABANDONED)	C	A		1	S	8/31/2012	4.271	F	4,600	\$18,400,000	226		
2230310	B	MOSHOLU PARKWAY	SB RAMP TO HHP		A		2	S	9/16/2013	4.919	F	7,400	\$29,600,000	226		
2230350	K	SUMMIT ST PED BRDG	278I (B.Q.E.)		A-PED		2	S	3/19/2012	4.614	F	1,400	\$5,600,000	306		
2230360	K	UNION ST	278I (B.Q.E.)		A		2	S	3/19/2012	4.375	F	5,000	\$20,000,000	306		
2230370	K	SACKETT ST	278I (B.Q.E.)		A		2	S	3/14/2012	4.500	F	5,000	\$20,000,000	306		
2230380	K	KANE ST	278I (B.Q.E.)		A		2	S	8/5/2013	4.153	F	5,000	\$20,000,000	306		
2230390	K	CONGRESS ST	278I (B.Q.E.)		A		2	S	3/26/2012	6.029	VG	5,000	\$20,000,000	306		
2230410	K	278I EB (B.Q.E.)	WASHINGTON ST		A		1	S	6/25/2012	4.500	F	2,500	\$10,000,000	302		
2230420	K	278I WB (B.Q.E.)	WASHINGTON ST		A		1	S	6/25/2012	5.047	G	2,500	\$10,000,000	302		
2230430	K	278I (B.Q.E.) RAMP TO BKLN BRDG	PROSPECT ST		A		1	S	1/5/2012	5.000	G	1,100	\$4,400,000	302		
2230440	K	278I WB (B.Q.E.)	ADAMS ST		A		1	S	1/10/2012	5.167	G	2,700	\$10,800,000	302		
2230450	K	278I EB (B.Q.E.)	ADAMS ST		A		1	S	1/10/2012	4.933	F	2,500	\$10,000,000	302		
2230460	K	278I (B.Q.E.)	PEARL ST		A		1	S	2/2/2012	5.467	G	4,500	\$18,000,000	302		
2230470	K	278I (B.Q.E.)	JAY ST		A		1	S	2/3/2012	4.833	F	5,100	\$20,400,000	302		
2230480	K	278I (B.Q.E.)	PROSPECT ST		A		1	S	2/13/2012	5.056	G	8,400	\$33,600,000	302		
2230490	K	278I (B.Q.E.)	SANDS ST		A		1	S	2/22/2012	5.093	G	12,600	\$50,400,000	302		
2230500	K	278I (B.Q.E.)	RAMP TO BQE EB		A		1	S	2/21/2012	4.967	F	1,300	\$5,200,000	302		
2230510	K	278I (B.Q.E.)	NASSAU ST		A		6	S	6/11/2012	5.169	G	51,200	\$204,800,000	302		
2230520	Q	65TH PLACE	278I (B.Q.E.)		A		2	S	2/7/2012	5.972	G	11,668	\$46,672,000	402		
2230530	Q	QUEENS BLVD	278I (B.Q.E.)		A		2	S	11/20/2012	6.417	VG	25,543	\$102,172,000	402		
2230540	Q	WOODSIDE AVE	278I (B.Q.E.)		A		1	S	2/3/2012	5.672	G	7,529	\$30,116,000	402		
2230550	Q	69TH ST	278I (B.Q.E.)		A		2	S	1/19/2012	5.263	G	12,600	\$50,400,000	402		
2230560	Q	70TH ST	278I (B.Q.E.)		A		2	S	11/20/2012	6.722	VG	8,580	\$34,320,000	402		
2230570	Q	41ST AVE	278I (B.Q.E.)		A		2	S	11/20/2012	6.735	VG	8,580	\$34,320,000	402		
2230587	Q	ROOSEVELT AVE	278I (B.Q.E.)		A		2	S	9/24/2013	5.889	G	11,022	\$44,088,000	402		
2230590	Q	BROADWAY	278I (B.Q.E.)		O		2	S	12/6/2012	5.789	G	16,000	\$64,000,000	402		
2230600	Q	STEINWAY ST	278I WB (BQE)		A		1	S	9/12/2012	6.349	VG	5,229	\$20,916,000	401		
2230610	Q	STEINWAY ST	278I EB (BQE)		A		1	S	9/13/2012	6.349	VG	5,146	\$20,584,000	401		
2230620	Q	37TH ST	278I (B.Q.E.)		A		2	S	3/22/2012	4.681	F	5,300	\$21,200,000	401		
2230630	Q	35TH ST	278I (B.Q.E.)		A		4	S	3/22/2012	4.667	F	9,000	\$36,000,000	401		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230640	Q	32ND ST	278I (B.Q.E.)		A		2	S	6/6/2013	4.875	F	8,100	\$32,400,000	401		
2230657	Q	31ST ST	278I (B.Q.E.)		A		2	S	12/5/2012	4.569	F	9,500	\$38,000,000	401		
2230669	Q	278I (B.Q.E.)	35TH AVE		A		1	S	8/2/2013	6.390	VG	13,135	\$52,540,000	402		
2230679	Q	278I (B.Q.E.)	34TH AVE		A		1	S	5/17/2013	6.068	VG	7,793	\$31,172,000	402		
2230680	Q	278I (B.Q.E.)	NORTHERN BLVD		A		1	S	12/4/2012	6.016	VG	27,011	\$108,044,000	402	401	
2230690	Q	278I NB (BQE WEST LEG)	32ND AVE		A		1	S	6/22/2012	6.407	VG	4,080	\$16,320,000	401		
2230700	Q	278I NB (BQE EAST LEG)	32ND AVE (TO BQE WEST LEG)		A		8	S	12/4/2012	6.465	VG	31,600	\$126,400,000	401	403	
2230710	Q	278I SB (BQE WEST LEG)	32ND AVE		A		1	S	6/28/2013	6.424	VG	5,240	\$20,960,000	401		
2230720	Q	278I SB (BQE EAST LEG)	278I NB (BQE WEST LEG)		A		3	S	6/25/2013	6.182	VG	20,896	\$83,584,000	401		
2230730	Q	31ST AVE	278I NB (BQE WEST LEG)		A		1	S	6/25/2013	6.217	VG	5,875	\$23,500,000	401		
2230740	Q	278I SB (BQE WEST LEG)	31ST AVE		A		1	S	6/27/2013	6.217	VG	5,246	\$20,984,000	401		
2230750	Q	278I SB (BQE EAST LEG)	31ST AVE		A		1	S	6/27/2013	6.508	VG	4,221	\$16,884,000	401	403	
2230760	Q	278I NB (BQE EAST LEG)	31ST AVE		A		1	S	8/30/2012	6.610	VG	4,161	\$16,644,000	401		
2230770	Q	278I (BQE WEST LEG)	30TH AVE		A		1	S	5/24/2013	6.322	VG	6,199	\$24,796,000	401		
2230780	Q	278I (BQE EAST LEG)	30TH AVE		A		1	S	5/24/2013	6.206	VG	7,071	\$28,284,000	403	401	
2230790	Q	BULOVA AVE	278I (BQE WEST LEG)		A		2	S	4/16/2012	5.278	G	3,300	\$13,200,000	401		
2230800	Q	49TH ST	278I (BQE WEST LEG)		A		2	S	4/16/2012	5.278	G	4,900	\$19,600,000	401		
2230810	Q	ASTORIA BLVD EB	278I (BQE WEST LEG)		A		4	S	5/22/2013	4.044	F	8,200	\$32,800,000	401		
2230820	Q	47TH ST	GCP		A		2	S	5/17/2012	4.889	F	5,700	\$22,800,000	401		
2230830	Q	278I NB (BQE WEST LEG)	GCP		A		2	S	5/17/2012	4.583	F	7,600	\$30,400,000	401		
2230840	Q	44TH ST	GCP		A		2	S	5/17/2012	4.764	F	5,000	\$20,000,000	401		
2230857	K	278I WB (B.Q.E.)	JORALEMON ST		A		1	S	3/5/2012	5.000	G	2,100	\$8,400,000	302		
2230858	K	278I EB (B.Q.E.)	JORALEMON ST / BQE WB		A		1	S	11/5/2013	4.619	F	5,900	\$23,600,000	302		
2230869	Q	QUEENS BLVD	ACCESS RD BQE S.B.		A		1	S	10/17/2012	5.909	G	7,900	\$31,600,000	402		
2230870	K	COLUMBIA HEIGHTS	278I (B.Q.E.)		A		1	S	7/9/2012	4.383	F	16,500	\$66,000,000	302		
2230887	K	278I W.B. (B.Q.E.)	CADMAN PLAZA		A		2	S	6/29/2012	4.569	F	4,500	\$18,000,000	302		
2230888	K	278I E.B. (B.Q.E.)	CADMAN PLAZA / 278I WB		A		2	S	6/29/2012	5.263	G	4,500	\$18,000,000	302		
2230890	Q	49TH ST	GCP		A		2	S	5/17/2012	4.444	F	6,350	\$25,400,000	401		
2231249	K	BSHP	BAY RIDGE AVE		A		1	S	7/31/2013	3.625	F	4,900	\$19,600,000	310		
2231250	K	81ST ST PED BRDG	BSHP		A-PED	P	5	C	2/25/2013	4.761	F	3,100	\$12,400,000	310		
2231260	K	92ND ST PED BRDG	BSHP		A-PED	P	6	C	8/8/2013	3.475	F	3,000	\$12,000,000	310		
2231270	K	4TH AVE	BSHP		A		2	S	3/16/2012	4.579	F	6,100	\$24,400,000	310		
2231290	K	BAY 8TH ST	BSHP		A		1	S	6/11/2013	5.921	G	4,950	\$19,800,000	311		
2231300	K	17TH AVE PED BRDG	BSHP		A-PED	P	1	C	9/24/2013	3.614	F	2,100	\$8,400,000	311		
2231319	K	BSHP	BAY PKWY		A		1	S	8/16/2013	4.267	F	7,200	\$28,800,000	311		

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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2231329	K	BSHP	26TH AVE		A		1	S	4/20/2012	4.600	F	6,700	\$26,800,000	313		
2231330	K	27TH AVE PED BRDG	BSHP		A-PED	P	1	C	3/27/2013	4.106	F	2,100	\$8,400,000	313		
2231340	K	CROPSY AVE	BSHP		A		2	S	6/13/2012	4.722	F	13,100	\$52,400,000	313		
2231360	K	BSHP	OCEAN PKWY		A		3	S	6/25/2012	6.299	VG	29,637	\$118,548,000	313		
2231370	K	GUIDER AV RAMP TO BSHP	BSHP		A		4	S	9/14/2012	6.944	VG	10,548	\$42,192,000	313		
2231380	K	CONEY ISLAND AVE	BSHP		A		4	S	10/15/2013	5.708	G	19,866	\$79,464,000	313		
2231390	K	E 12TH ST	BSHP		A		4	S	6/13/2012	4.542	F	17,200	\$68,800,000	315		
2231409	K	BSHP	SHEEPSHEAD BAY ROAD		A		1	S	4/12/2012	4.672	F	6,500	\$26,000,000	315		
2231419	K	BSHP	OCEAN AVE		A		3	S	4/12/2012	4.500	F	14,000	\$56,000,000	315		
2231429	K	BSHP	BEDFORD AVE		A		3	S	4/20/2012	4.042	F	12,000	\$48,000,000	315		
2231439	K	BSHP	NOSTRAND AVE		A		3	S	4/20/2012	3.986	F	13,000	\$52,000,000	315		
2231449	K	KNAPP ST	BSHP		A		1	S	4/20/2012	4.406	F	9,500	\$38,000,000	315		
2231450	K	BSHP	GERRITSEN INLET		WA		11	S	12/11/2013	3.463	F	52,000	\$208,000,000	356		
2231460	K	FLATBUSH AVE	BSHP		A		2	S	10/18/2013	6.206	VG	14,058	\$56,232,000	356		
2231479	K	BSHP	MILL BASIN		WMA		14	S	12/11/2013	3.284	F	73,500	\$294,000,000	318		
2231481	K	BSHP WB	PAERDEGAT BASIN		WA		3	S	11/5/2013	6.939	VG	47,361	\$189,444,000	318		
2231482	K	BSHP EB	PAERDEGAT BASIN		WA		5	S	11/19/2012	7.000	VG	81,644	\$326,576,000	318		
2231499	K	BSHP	ROCKAWAY PKWY		A		4	S	10/27/2012	6.644	VG	11,500	\$46,000,000	356		
2231509	K	BSHP	FRESH CREEK		WA		5	S	11/25/2013	6.831	VG	23,000	\$92,000,000	356		
2231519	K	PENNSYLVANIA AVE	BSHP		A		2	S	6/18/2013	5.694	G	6,640	\$26,560,000	356		
2231559	Q	CROSS BAY BLVD	BSHP		A		4	S	6/1/2012	5.139	G	23,205	\$92,820,000	410		
2231560	Q	S CONDUIT BLVD	BSOP		A		2	S	7/12/2012	5.296	G	15,776	\$63,104,000	410		
2231570	Q	COHANCY ST	BSOP		A		2	S	4/24/2012	4.395	F	6,400	\$25,600,000	410		
2231590	Q	130TH ST	BSOP		A		2	S	1/30/2012	4.659	F	6,800	\$27,200,000	410		
2231610	Q	GUY R. BREWER BLVD	BSOP		A		4	S	5/20/2013	6.222	VG	12,342	\$49,368,000	413		
2231620	Q	FARMERS BLVD	BSOP		A		2	S	5/10/2012	4.477	F	6,400	\$25,600,000	413		
2231630	Q	SPRINGFIELD BLVD	BSOP		A		2	S	5/10/2012	4.591	F	8,500	\$34,000,000	413		
2231640	Q	225TH ST	BSOP		A		2	S	5/10/2012	4.614	F	7,000	\$28,000,000	413		
2231650	Q	SUNRISE HWY W.B.	BLP E.B.		A		1	S	4/2/2012	4.393	F	4,100	\$16,400,000	413		
2231660	Q	SUNRISE HWY W.B.	BLP W.B.		A		2	S	3/6/2012	4.565	F	5,350	\$21,400,000	413		
2231670	Q	N CONDUIT AVE WB	BLP E.B.		A		1	S	1/25/2012	4.917	F	4,000	\$16,000,000	413		
2231680	Q	N CONDUIT AVE WB	BLP W.B.		A		2	S	1/25/2012	4.932	F	6,500	\$26,000,000	413		
2231690	Q	FRANCIS LEWIS BLVD	BLP E.B.		A		1	S	3/29/2012	5.167	G	6,000	\$24,000,000	413		
2231700	Q	FRANCIS LEWIS BLVD	BLP W.B.		A		1	S	3/29/2012	4.700	F	6,000	\$24,000,000	413		
2231710	Q	MERRICK BLVD	BLP N.B.		A		1	S	2/22/2012	4.467	F	6,000	\$24,000,000	413		

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2231720	Q	MERRICK BLVD	BLP S.B.		A		1	S	2/15/2012	4.200	F	6,000	\$24,000,000	413		
2231730	Q	130TH AVE	BLP N.B.		A		1	S	1/20/2012	5.267	G	4,400	\$17,600,000	413		
2231740	Q	130TH AVE	BLP S.B.		A		1	S	1/20/2012	4.833	F	4,400	\$17,600,000	413		
2231750	Q	LINDEN BLVD	BCIP		A		2	S	3/2/2012	4.250	F	6,700	\$26,800,000	413		
2231760	Q	BCIP	DUTCH BROADWAY-115 AVE		A		1	S	3/6/2012	4.047	F	7,300	\$29,200,000	413		
2231770	Q	BELMONT PARK SO. RAMP	BCIP		A	P	1	S	2/3/2012	4.688	F	3,200	\$12,800,000	413		
2231780	Q	HEMPSTEAD AVE	BCIP		A		2	S	2/3/2012	4.065	F	14,200	\$56,800,000	413		
2231790	Q	BELMONT PARK NO. RAMP	BCIP		A	P	1	S	1/13/2012	4.563	F	3,400	\$13,600,000	413		
2231800	Q	SUPERIOR ROAD	BCIP		A		2	S	4/12/2012	4.659	F	7,000	\$28,000,000	413		
2231819	Q	JAMAICA AVE	BCIP		A		2	S	3/23/2012	4.773	F	11,500	\$46,000,000	413		
2231829	Q	BRADDOCK AVE	BCIP		A		2	S	5/31/2013	4.955	F	10,600	\$42,400,000	413		
2231840	Q	HILLSIDE AVE	BCIP		A		2	S	3/30/2012	4.026	F	9,672	\$38,688,000	413		
2231850	Q	UNION TPKE	BCIP		A		2	S	3/28/2012	4.409	F	13,600	\$54,400,000	413		
2231860	Q	W ALLEY ROAD	BCIP		A		2	S	7/17/2013	5.368	G	7,200	\$28,800,000	411		
2231870	Q	NORTHERN BLVD	BCIP		A		2	S	8/28/2012	5.875	G	9,400	\$37,600,000	411		
2231880	Q	CROCHERON PK PED	BCIP		A-PED	P	9	C	6/4/2013	3.646	F	2,300	\$9,200,000	411		
2231890	Q	28TH AVE PED BRDG	BCIP		A-PED	P	24	C	6/12/2013	4.361	F	7,600	\$30,400,000	411		
2231900	Q	BCIP	TOTTEN AVE		A		1	S	6/1/2012	4.609	F	4,900	\$19,600,000	407		
2231910	Q	UTOPIA PKWY	BCIP		A		2	S	3/15/2012	5.114	G	7,200	\$28,800,000	407		
2231920	Q	160TH ST	BCIP		A		2	S	6/17/2013	5.694	G	5,550	\$22,200,000	407		
2231930	Q	FRANCIS LEWIS BLVD	BCIP		A		3	S	2/3/2012	4.682	F	9,100	\$36,400,000	407		
2231940	Q	CLINTONVILLE ST	BCIP		A		2	S	2/3/2012	4.705	F	7,400	\$29,600,000	407		
2231950	Q	150TH ST	BCIP		A		2	S	2/8/2012	4.682	F	5,900	\$23,600,000	407		
2231960	Q	149TH ST	BCIP		A		2	S	2/8/2012	4.795	F	6,210	\$24,840,000	407		
2231970	Q	14TH AVE	BCIP		A		2	S	2/8/2012	4.614	F	8,100	\$32,400,000	407		
2231980	Q	147TH ST	BCIP		A		2	S	3/8/2012	4.705	F	6,300	\$25,200,000	407		
2232000	M	BATTERY PLACE	FDR DRIVE		AT		2	S	10/16/2013	5.182	G	142,000	\$568,000,000	101		
223201A	M	FDR DR N.B. OFF RMP	FDR DR & SOUTH ST		AR		17	S	4/24/2012	3.925	F	23,373	\$93,492,000	101		
223201B	M	STH ST RMP TO FDR S.B.	SOUTH ST		AR		10	S	2/17/2012	3.791	F	13,388	\$53,552,000	101		
223201C	M	FDR DR S.B. OFF RMP	SOUTH ST		AR		8	S	2/9/2012	4.821	F	36,700	\$146,800,000	103		
223201D	M	RAMP TO N.B. FDR DRIVE	FDR & SOUTH ST.		AR		22	S	2/10/2012	4.967	F	15,825	\$63,300,000	101	103	
2232029	M	CORLEARS PARK ROAD	FDR DRIVE		A	P	4	S	3/28/2012	3.938	F	4,100	\$16,400,000	103		
2232030	M	DELANCEY ST PED BRDG	FDR DRIVE		A-PED	P	12	C	6/26/2013	4.443	F	2,900	\$11,600,000	103		
2232040	M	HOUSTON ST	FDR DRIVE		A		2	S	6/17/2013	3.773	F	11,010	\$44,040,000	103		
223204A	M	FDR NB RAMP TO HOUSTON ST	RELIEF		AR		4	S	1/20/2012	4.706	F	6,150	\$24,600,000	103		

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223204B	M	HOUSTON ST RAMP TO FDR NB	RELIEF		AR		4	S	1/23/2012	4.792	F	7,125	\$28,500,000	103		
2232050	M	E 6TH ST PED BRDG	FDR DRIVE		A-PED	P	19	C	7/5/2013	4.333	F	2,200	\$8,800,000	103		
2232070	M	E 25TH ST PED BRDG	FDR DRIVE		A-PED		3	C	4/7/2013	4.600	F	1,700	\$6,800,000	106		
2232100	M	E 51ST ST PED BRDG	FDR DRIVE		A-PED	P	6	C	4/17/2013	4.417	F	2,800	\$11,200,000	106		
2232110	M	E 64TH ST PED BRDG	FDR DRIVE		A-PED	P	11	U	11/23/2011	4.912	F	2,100	\$8,400,000	108		
2232120	M	E 71ST ST PED BRDG	FDR DRIVE		A-PED	P	19	C	8/11/2013	4.761	F	340	\$1,360,000	108		
2232140	M	E 78TH ST PED BRDG	FDR DRIVE		A-PED	P	13	C	5/11/2013	6.944	VG	5,226	\$20,904,000	108		
2232167	M	PROMENADE OVER FDR	FDR - E81ST ST - E90TH ST		A-PED	P	53	S	7/2/2013	3.143	F	93,000	\$372,000,000	108		
2232180	M	E 103RD ST PED BRDG	FDR DRIVE		A-PED		18	C	8/30/2013	4.395	F	4,800	\$19,200,000	111		
2232190	M	E 111TH ST PED BRDG	FDR DRIVE		A-PED	P	9	C	9/13/2013	4.128	F	4,200	\$16,800,000	111		
2232200	M	E 120TH ST PED BRDG	FDR DRIVE		A-PED	P	18	C	9/6/2013	4.114	F	3,978	\$15,912,000	111		
2233020	M	E 10TH ST PED BRDG	FDR DRIVE		A-PED	P	21	C	4/17/2013	4.596	F	2,754	\$11,016,000	103		
2233038	M	FDR DRIVE SB	FDR NB / E 62ND ST		AT		34	S	12/5/2012	6.563	VG	58,700	\$234,800,000	106	108	
2233040	M	E 60TH ST	FDR DRIVE		A		17	S	7/19/2013	5.000	G	24,480	\$97,920,000	108		
2233059	M	HARLEM RIVER DRIVE	E 127th ST RAMP TO/FROM HRD NB		A		11	S	7/11/2013	3.507	F	51,000	\$204,000,000	111		
2233080	K	E 14 ST PED BRDG	BSHP		A-PED		14	C	7/1/2013	4.262	F	4,700	\$18,800,000	315		
2240019	KM	BROOKLYN BRIDGE	EAST RIVER		WEO		75	S	10/28/2012	2.944	P	503,788	\$2,015,152,000	103	302	101
224001A	M	PARK ROW TO BKLN	WILLIAM ST N.B.		OE		4	S	7/30/2013	4.600	F	10,167	\$40,668,000	101		
224001B	M	TO BKLN FRM FDR	FRANKFORT & PEARL ST		OE		31	S	8/20/2012	4.333	F	51,400	\$205,600,000	101	103	
224001C	M	PEARL ST TO BKLN	LAND ADJ TO BRDG		OE		9	S	5/21/2013	3.678	F	6,365	\$25,460,000	101		
224001D	M	TO FDR DR N.B.	PEARL STREET		OE		30	S	6/14/2013	4.755	F	49,600	\$198,400,000	101	103	
224001E	M	TO PEARL ST	LAND ADJ TO BRDG		OE		3	S	5/29/2013	5.254	G	5,300	\$21,200,000	101		
224001F	M	PEARL ST TO FDR DR	LAND ADJ TO BRDG		OE		3	S	5/30/2013	5.141	G	5,200	\$20,800,000	103		
224001G	M	TO PARK ROW	ROSE ST		OE		11	S	7/1/2013	4.549	F	16,551	\$66,204,000	101		
2240027	KM	MANHATTAN BRIDGE(LL)	EAST RIVER	T	WEO		23	S	11/19/2012	4.653	F	616,390	\$2,465,560,000	103	302	
2240028	KM	MANHATTAN BRIDGE(UL)	NYCTA TRACKS-BMT	T	WEO		43	S	11/29/2012	3.757	F	587,424	\$2,349,696,000	103	302	
2240039	KM	WILLIAMSBURG BRIDGE	EAST RIVER	T	WEO		53	S	10/27/2012	4.250	F	824,000	\$3,296,000,000	103	301	
2240047	MQ	QUEENSBORO BRIDGE (LL)	EAST RIVER	AL	WEO		53	S	12/5/2012	4.403	F	626,900	\$2,507,600,000	108	402	401
2240048	MQ	QUEENSBORO BRIDGE (UL)	EAST RIVER - LL		WEO		37	S	10/26/2012	4.377	F	322,300	\$1,289,200,000	108	402	401
224004A	M	TO E 60TH ST FROM QNS	FIRST AVE		OE		13	S	4/20/2012	5.338	G	14,800	\$59,200,000	108		
224004B	M	TO QNS FRM E 59TH ST	FIRST AVE		OE		13	S	4/20/2012	5.653	G	14,800	\$59,200,000	108		
224004C	M	TO E 62ND ST FROM QNS	E 60TH - E 61ST ST		OE		10	S	8/30/2012	4.985	F	16,720	\$66,880,000	108		
224004D	M	TO QNS FROM E 58TH ST	E 59TH ST		OE		12	S	6/28/2012	4.245	F	10,858	\$43,432,000	106	108	
224004E	Q	TO NY FR THOMSON AVE	JACKSON AVE	L	OE		94	S	12/12/2012	4.604	F	104,600	\$418,400,000	402		
224004F	Q	TO NY FROM 21ST ST	21ST ST		OE		63	S	12/19/2012	4.712	F	63,310	\$253,240,000	402	401	

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
224004G	Q	TO NY FROM 11TH ST	TERRAIN (CHAMBER)		OE		36	S	8/14/2012	5.268	G	8,360	\$33,440,000	401	402	
224004H	Q	TO 21ST ST FROM NY	22ND ST		OE		43	S	12/18/2012	4.437	F	48,100	\$192,400,000	402		
224004I	Q	TO THOMSON AVE FROM NY	JACKSON AVE	L	OE		39	S	12/18/2012	4.951	F	59,100	\$236,400,000	402		
224004J	M	25X	NYC GARAGE		OE		14	S	4/23/2012	4.829	F	22,058	\$88,232,000	108		
2240059	BM	WILLIS AVENUE	HARLEM RIVER		WMO		15	S	12/17/2012	6.833	VG	171,105	\$684,420,000	111	201	
224005A	M	FROM FDR DRIVE	HARLEM RIVER DR		OR		11	S	11/29/2012	7.000	VG	28,233	\$112,932,000	111		
224005B	B	TO BRUCKNER BLVD	RELIEF		OR		5	S	10/3/2013	6.831	VG	12,100	\$48,400,000	201		
2240069	BM	THIRD AVE BRIDGE	HARLEM RIVER		WMO		14	S	9/20/2012	5.845	G	100,232	\$400,928,000	111	201	
224006A	B	FROM BRUCKNER BLVD	RELIEF		OR		5	S	9/14/2013	6.535	VG	14,037	\$56,148,000	201		
2240079	BM	MADISON AVE BRIDGE	HARLEM RIVER		WMO		21	S	9/20/2012	4.944	F	80,000	\$320,000,000	111	201	
224007A	M	TO MADISON AVENUE	E 138TH ST		OR		7	S	2/9/2012	5.028	G	19,880	\$79,520,000	111		
2240089	BM	145TH ST BRIDGE	HARLEM RIVER		WMO		8	S	8/15/2013	6.278	VG	56,700	\$226,800,000	110	204	201
2240120	BM	W 207THW FORDHAM RD	HARLEM RIVER		WMO		5	S	9/5/2012	5.056	G	31,784	\$127,136,000	112	207	
2240137	BM	BROADWAY BRIDGE	HARLEM RIVER	TM	WMO		3	S	12/11/2013	3.806	F	46,848	\$187,392,000	112	207	208
2240138	BM	NYCTA IRT	HARLEM RVR/BROADWAY	TM	WMO		3	S	10/9/2013	4.720	F	19,520	\$78,080,000	112	207	208
2240180	B	WESTCHESTER AVE	BRONX RIVER		WO		1	S	8/22/2013	4.667	F	5,476	\$21,904,000	202	209	
2240200	B	SHORE ROAD	HUTCHINSON RIVER		WMO		7	S	6/25/2013	4.537	F	43,576	\$174,304,000	228		
2240210	B	CITY ISLAND ROAD	EASTCHESTER BAY		WO		7	S	10/24/2013	3.389	F	19,915	\$79,660,000	228		
2240231	K	HAMILTON AVE BRIDGE	GOWANUS CANAL		WMO		3	S	9/13/2012	5.472	G	7,300	\$29,200,000	307	306	
2240232	K	HAMILTON AVE BRIDGE	GOWANUS CANAL		WMO		3	S	8/13/2013	5.361	G	7,300	\$29,200,000	306		
2240240	K	NINTH ST BRIDGE	GOWANUS CANAL		WMO		3	S	6/25/2013	6.065	VG	5,772	\$23,088,000	306		
2240250	K	THIRD ST	GOWANUS CANAL		WMO		5	S	5/31/2013	4.722	F	4,900	\$19,600,000	306		
2240260	K	CARROLL ST	GOWANUS CANAL		WMO		2	S	8/2/2013	5.042	G	3,000	\$12,000,000	306		
2240270	K	UNION ST	GOWANUS CANAL		WMO		5	S	8/10/2012	4.000	F	4,900	\$19,600,000	306		
2240290	K	METROPOLITAN AVE	ENGLISH KILLS		WMO		5	S	7/9/2013	5.444	G	10,550	\$42,200,000	301		
2240301	K	CROPSY AVE	CONEY ISLAND CREEK		WO		3	S	7/2/2013	5.000	G	9,400	\$37,600,000	313		
2240302	K	CROPSY AVE	CONEY ISLAND CREEK		WO		3	S	12/2/2013	4.718	F	9,400	\$37,600,000	313		
2240310	K	THIRD AVE	GOWANUS CANAL		WO		1	S	6/6/2013	6.633	VG	3,200	\$12,800,000	306		
2240320	K	OCEAN AVE PED BRDG	SHEEPSHEAD BAY		WO-PED		30	C	5/9/2013	4.532	F	4,450	\$17,800,000	315		
2240350	R	RICHMOND AVE	RICHMOND CREEK		WO		3	S	7/1/2013	5.472	G	32,589	\$130,356,000	502		
2240370	KQ	GREENPOINT AVE BRIDGE	NEWTOWN CREEK	L	WMO		12	S	8/5/2013	5.083	G	76,106	\$304,424,000	301	402	
2240390	KQ	GRAND ST BRIDGE	NEWTOWN CREEK		WMO		2	S	12/6/2013	4.153	F	5,100	\$20,400,000	301	405	
2240410	Q	BORDEN AVE	DUTCH KILLS		WMO		2	S	7/5/2013	4.792	F	8,400	\$33,600,000	402		
2240440	Q	NORTHERN BLVD	ALLEY CREEK		WO		2	S	8/9/2012	4.681	F	8,300	\$33,200,000	411		
2240450	Q	HUNTERS PT AVE	DUTCH KILLS		WMO		4	S	7/3/2012	5.083	G	12,168	\$48,672,000	402		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2240507	Q	ROOSEVELT AVE	678I - FLUSHING RIVER		WA		27	S	11/1/2013	3.465	F	84,424	\$337,696,000	407	481	
2240540	K	STILLWELL AVE	CONEY ISLAND CRK		WO		2	S	6/12/2013	6.292	VG	17,000	\$68,000,000	313		
2240620	M	WARDS ISLAND PED BRDG	HARLEM RIVER		WMO-PED		10	C	3/29/2013	4.667	F	12,600	\$50,400,000	111		
2240639	KQ	PULASKI BRIDGE	NEWTOWN CREEK		WMO		44	S	5/11/2012	4.662	F	205,770	\$823,080,000	301	402	
2240640	MQ	ROOSEVELT ISLAND BRDG	E. RIVER E. CHANNEL		WMO		8	S	11/13/2013	5.458	G	36,500	\$146,000,000	108	401	
2240650	Q	163RD AVE PED BRDG	HAWTREE BASIN		WO-PED		13	C	3/20/2013	4.037	F	5,000	\$20,000,000	410		
2240660	Q	RIKERS ISLAND BRIDGE	RIKERS ISL CHANNEL		WO		56	S	9/26/2013	4.211	F	183,100	\$732,400,000	401	480	
2241000	B	WESTCHESTER AVE	CSX TRANS - PT MORRIS	C	O		1	S	6/11/2012	4.660	F	1,740	\$6,960,000	201		
2241010	B	E 156TH STREET	CSX TRANS - PT MORRIS	C	O		1	S	6/18/2012	4.612	F	2,400	\$9,600,000	201		
2241020	B	E 161ST STREET	CSX TRANS - PT MORRIS	C	O		1	S	3/21/2012	6.700	VG	12,800	\$51,200,000	203		
2241030	B	E 163RD STREET	CSX TRANS - PT MORRIS	C	O		1	S	3/1/2012	4.611	F	3,200	\$12,800,000	203		
2241040	B	THIRD AVE	CSX TRANS - PT MORRIS	C	O		1	S	7/25/2012	4.563	F	2,700	\$10,800,000	201	203	
2241050	B	E 149TH ST/JACKSON AVE	CSX TRANS - PT MORRIS	C	O		1	S	6/7/2012	4.850	F	65,000	\$260,000,000	201		
2241060	B	ST. MARYS & CONCORD	CSX TRANS - PT MORRIS	C	O		1	S	8/15/2012	5.370	G	4,500	\$18,000,000	201		
2241070	B	WALES AVE	CSX TRANS - PT MORRIS	C	O		1	S	8/8/2012	6.467	VG	2,535	\$10,140,000	201		
2241080	B	SOUTHERN BLVD	CSX TRANS - PT MORRIS	C	O		1	S	8/8/2012	4.093	F	3,900	\$15,600,000	201		
2241099	B	BRUCKNER BLVD	CSX TRANS - PT MORRIS	C	O		1	S	8/7/2012	6.450	VG	6,700	\$26,800,000	201		
2241110	B	MELROSE AVE	CSX TRANS - PT MORRIS	C	O		8	S	8/20/2013	5.667	G	37,854	\$151,416,000	203		
2241129	B	E 149TH ST	AMTRAK - CSX	AC	O		2	S	10/8/2012	4.620	F	18,258	\$73,032,000	201	202	
2241139	B	LEGGETT AVE	AMTRAK - CSX	AC	O		3	S	10/8/2012	4.620	F	41,551	\$166,204,000	202		
2241159	B	LONGWOOD AVE	AMTRAK - CSX	AC	O		2	S	10/10/2012	5.236	G	10,625	\$42,500,000	202		
2241169	B	LAFAYETTE AVE	AMTRAK - CSX	AC	O		1	S	10/5/2012	5.651	G	12,000	\$48,000,000	202		
2241170	B	TIFFANY ST	AMTRAK - CSX	AC	O		1	S	11/18/2013	5.745	G	7,267	\$29,068,000	202		
2241180	B	BARRETTO ST	AMTRAK - CSX	AC	O		1	S	10/8/2012	6.000	G	5,313	\$21,252,000	202		
2241190	B	HUNTS POINT AVE	AMTRAK - CSX	AC	O		1	S	10/12/2012	4.828	F	10,049	\$40,196,000	202		
2241200	B	FAILE ST	AMTRAK - CSX	AC	O		1	S	10/12/2012	5.578	G	6,208	\$24,832,000	202		
2241210	B	BRYANT AVE	AMTRAK - CSX	AC	O		1	S	11/19/2013	3.051	F	5,300	\$21,200,000	202		
2241230	B	WESTCHESTER AVE	AMTRAK - CSX	AC	O		3	S	11/26/2012	5.944	G	15,600	\$62,400,000	202	209	
2241259	B	204TH ST PED BRDG	METRO NORTH RR HAR	M	O-PED	P	1	C	11/23/2013	3.845	F	4,700	\$18,800,000	227	207	
2241269	B	E 177TH ST	AMTRAK - CSX	AC	O		3	S	8/27/2012	5.403	G	16,606	\$66,424,000	206		
2241270	B	E TREMONT AVE	AMTRAK - CSX	AC	O		2	S	8/27/2012	5.153	G	22,300	\$89,200,000	209	211	
2241329	B	WHITE PLAINS ROAD	AMTRAK - CSX	AC	O		1	S	10/9/2012	4.781	F	6,900	\$27,600,000	211		
2241330	B	UNIONPORT ROAD	AMTRAK - CSX	AC	O		1	S	10/9/2012	4.781	F	7,631	\$30,524,000	211		
2241369	B	WILLIAMSBRIDGE RD	AMTRAK - CSX	AC	O		2	S	8/27/2012	4.836	F	6,510	\$26,040,000	211		
2241380	B	PELHAM BAY PK EQUES	AMTRAK - CSX	AC	O-PED	P	1	C	7/30/2013	3.339	F	4,223	\$16,892,000	228		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241390	B	SHORE RD CIRCLE	AMTRAK - CSX	AC	O		1	S	7/3/2012	7.000	VG	8,067	\$32,268,000	228		
2241409	B	GRAND CONCOURSE	METRO NORTH RR HUD	MT	O		1	S	9/9/2013	3.797	F	14,300	\$57,200,000	204		
2241410	B	WALTON AVE	METRO NORTH RR HUD	M	O		1	S	5/16/2012	4.953	F	3,600	\$14,400,000	204		
2241420	B	GERARD AVE	METRO NORTH RR HUD	M	O		1	S	5/16/2012	5.797	G	5,063	\$20,252,000	204		
2241430	B	RIVER AVE	METRO NORTH RR HUD	M	O		1	S	8/30/2013	6.156	VG	5,040	\$20,160,000	204		
2241460	B	W TREMONT AVE	METRO NORTH RR HUD	M	O		8	S	8/7/2013	3.866	F	12,900	\$51,600,000	205		
2241470	B	W FORDHAM RD	METRO NORTH RR HUD	M	O		4	S	9/9/2013	5.694	G	16,052	\$64,208,000	207		
2241489	B	W 225TH ST	CSX TRASP - PUTNAM	C	O		2	S	6/9/2012	5.328	G	10,900	\$43,600,000	207	208	
2241490	B	W 230TH ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	5/8/2013	5.625	G	5,600	\$22,400,000	208		
2241509	B	W 231ST ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	7/26/2012	4.745	F	4,723	\$18,892,000	208		
2241510	B	W 233RD ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	5/8/2013	5.275	G	3,760	\$15,040,000	208		
2241520	B	W 234TH ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	5/8/2013	5.176	G	3,770	\$15,080,000	208		
2241550	B	E 144TH ST	METRO NORTH RR HAR	M	O		2	S	8/30/2013	6.181	VG	8,290	\$33,160,000	201		
2241560	B	E 149TH ST	METRO NORTH RR HAR	M	O		8	S	5/8/2012	4.819	F	27,900	\$111,600,000	201	204	
2241590	B	CONCOURSE VILL AVE	METRO NORTH RR HAR	M	O		1	S	4/20/2012	3.969	F	12,077	\$48,308,000	204		
2241600	B	E 158TH ST	METRO NORTH RR HAR	M	O		1	S	8/31/2013	5.200	G	3,400	\$13,600,000	204		
2241610	B	E 161ST ST	METRO NORTH RR HAR	M	O		1	S	9/24/2013	5.050	G	6,600	\$26,400,000	204	203	
2241620	B	E 162ND ST	METRO NORTH RR HAR	M	O		1	S	4/20/2012	4.859	F	4,700	\$18,800,000	203		
2241630	B	E 165TH ST	METRO NORTH RR HAR	M	O		1	S	4/20/2012	4.300	F	16,400	\$65,600,000	203		
2241650	B	E 167TH ST	METRO NORTH RR HAR	M	O		1	S	4/17/2012	5.510	G	3,363	\$13,452,000	203		
2241660	B	E 168TH ST	METRO NORTH RR HAR	M	O		1	S	4/18/2012	4.641	F	4,800	\$19,200,000	203		
2241670	B	E 169TH ST	METRO NORTH RR HAR	M	O		1	S	4/18/2012	4.250	F	3,300	\$13,200,000	203		
2241680	B	E 170TH ST	METRO NORTH RR HAR	M	O		1	S	4/16/2012	6.333	VG	3,150	\$12,600,000	203		
2241700	B	ST PAULS PL PED BRDG	METRO NORTH RR HAR	M	O-PED		2	C	11/18/2013	4.859	F	600	\$2,400,000	203		
2241710	B	CLAREMONT PKWY	METRO NORTH RR HAR	M	O		1	S	4/16/2012	4.426	F	6,300	\$25,200,000	203		
2241720	B	E 173RD ST	METRO NORTH RR HAR	M	O		1	S	4/16/2012	4.875	F	3,000	\$12,000,000	203		
2241740	B	E 175TH ST	METRO NORTH RR HAR	M	O		1	S	4/16/2012	3.938	F	3,600	\$14,400,000	206		
2241760	B	E TREMONT AVE	METRO NORTH RR HAR	M	O		1	S	8/29/2013	6.450	VG	8,424	\$33,696,000	206		
2241770	B	E 178TH ST PED BRDG	METRO NORTH RR HAR	M	O-PED		1	C	11/20/2013	4.921	F	700	\$2,800,000	206		
2241780	B	E 179TH ST PED BRDG	METRO NORTH RR HAR	M	O-PED		6	C	11/20/2013	5.639	G	700	\$2,800,000	206		
2241790	B	E 180TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	3.906	F	5,000	\$20,000,000	206		
2241800	B	E 183TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	4.109	F	4,080	\$16,320,000	206		
2241810	B	E 188TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	4.063	F	5,300	\$21,200,000	206		
2241820	B	E 187TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	4.344	F	3,800	\$15,200,000	206		
2241839	B	E 189TH ST	METRO NORTH RR HAR	M	O		1	S	8/28/2013	6.133	VG	43,157	\$172,628,000	206	207	

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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241840	B	BEDFORD PARK BLVD	METRO NORTH RR HAR	M	O		1	S	4/20/2012	4.844	F	6,400	\$25,600,000	227	207	
2241860	B	GUN HILL RD	METRO NORTH RR HAR	M	O		1	S	5/1/2012	6.531	VG	9,128	\$36,512,000	212		
2241870	B	E 233RD ST	METRO NORTH RR HAR	M	O		1	S	4/30/2012	4.902	F	7,664	\$30,656,000	212	207	
2241890	B	E 241ST ST	BRP, METRO NORTH HAR	M	WO		28	S	11/30/2013	4.417	F	49,500	\$198,000,000	212		
2241900	B	EASTCHESTER ROAD	NYCTA-DYRE AVE LN	T	O		3	S	11/19/2012	4.486	F	13,500	\$54,000,000	212		
2241910	B	GUN HILL ROAD	NYCTA-DYRE AVE LN	T	O		1	S	11/19/2012	5.750	G	7,500	\$30,000,000	211	212	
2241930	B	BEDFORD PARK BLVD	NYCTA IND YARDS	T	O		4	S	11/20/2012	5.403	G	46,300	\$185,200,000	207		
2241940	B	W 205TH ST	NYCTA IND YARDS	T	O		4	S	11/20/2012	5.514	G	32,508	\$130,032,000	207		
2241959	B	HUTCHINSON RVR PKWY	AMTRAK - CSX	AC	O		1	S	5/25/2012	5.780	G	15,444	\$61,776,000	210	211	
2242010	B	EAST FORDHAM RD	BRONX RIVER		WA		1	S	3/5/2012	5.207	G	9,200	\$36,800,000	227		
2242029	B	SOUTHERN BLVD	EAST FORDHAM ROAD		O		2	S	1/18/2012	4.605	F	12,900	\$51,600,000	227		
2242030	B	CROTONA AVE	BRONX PELHAM PKWY		O		2	S	1/18/2012	5.447	G	7,600	\$30,400,000	206		
2242071	B	BRONX BLVD S.B.	BRONX RIVER		WO		1	S	3/19/2012	4.633	F	1,800	\$7,200,000	212		
2242072	B	BRONX BLVD N.B.	BRONX RIVER		WO		1	S	3/19/2012	4.967	F	1,800	\$7,200,000	212		
2242081	B	BRONX BLVD S.B.	BRONX RIVER		WO		1	S	3/21/2012	4.467	F	2,800	\$11,200,000	212		
2242082	B	BRONX BLVD N.B.	BRONX RIVER		WO		1	S	3/22/2012	4.467	F	2,800	\$11,200,000	212		
2242099	B	PARK ROAD (204TH ST)	BRONX RIVER		WO		1	S	6/4/2012	4.655	F	4,700	\$18,800,000	212		
2242100	B	BOTANICAL GARDEN ROAD	TWIN LAKES		WO	P	1	S	3/1/2012	4.833	F	2,200	\$8,800,000	227		
2242110	B	BOSTON ROAD	BRONX RIVER		WO		1	S	3/2/2012	4.227	F	6,200	\$24,800,000	227		
2242120	B	FTBG N OF RTE 1	BRONX RIVER		WO-PED	P	1	C	8/7/2013	3.583	F	1,900	\$7,600,000	227		
2242149	B	E TREMONT AVE	BRONX RIVER		WO		2	S	5/30/2012	4.500	F	12,900	\$51,600,000	206		
2242210	B	MAGNOLIA WAY	BRONX RIVER		WO		3	S	5/31/2012	4.763	F	6,200	\$24,800,000	227		
2242220	B	SNUFF MILL ROAD	BRONX RIVER		WO		2	S	1/13/2012	4.395	F	4,800	\$19,200,000	227		
2242259	B	GRAND CONCOURSE	E 161ST ST		O		1	S	7/31/2012	6.333	VG	27,017	\$108,068,000	204		
2242260	B	EAGLE AVE	E 161ST ST		O		1	S	2/10/2012	5.017	G	2,800	\$11,200,000	201	203	
2242280	B	GRAND CONCOURSE	E 167TH ST		O		2	S	8/20/2013	4.474	F	42,900	\$171,600,000	204		
2242299	B	GRAND CONCOURSE	E 138TH ST		O		1	S	6/11/2013	4.867	F	9,500	\$38,000,000	201		
2242300	B	GRAND CONCOURSE	E 170TH ST		O		2	S	2/23/2012	4.789	F	39,300	\$157,200,000	204		
2242319	B	GRAND CONCOURSE	E 174TH ST	T	O		1	S	2/24/2012	4.067	F	14,900	\$59,600,000	204		
2242329	B	GRAND CONCOURSE	E 175TH ST	T	O		1	S	7/17/2012	4.833	F	11,900	\$47,600,000	205		
2242330	B	GRAND CONCOURSE	E TREMONT AVE		O		1	S	9/12/2013	5.883	G	11,700	\$46,800,000	205		
2242340	B	GRAND CONCOURSE	EAST KINGSBRIDGE		O		2	S	7/24/2012	4.714	F	18,285	\$73,140,000	207		
2242350	B	EAST FORDHAM RD	GRAND CONCOURSE		O		1	S	2/17/2012	4.567	F	10,300	\$41,200,000	205	207	
2242360	B	GRAND CONCOURSE	BURNSIDE AVE		O		2	S	8/2/2012	4.441	F	8,400	\$33,600,000	205		
2242370	B	GRAND CONCOURSE	BEDFORD PARK BLVD		O		1	S	2/16/2012	4.137	F	8,418	\$33,672,000	207		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2242380	B	GRAND CONCOURSE	E 204TH ST		O		1	S	9/11/2013	5.484	G	9,272	\$37,088,000	207		
2242400	B	E 180TH ST	BRONX RIVER		WO		1	S	8/28/2012	4.810	F	4,500	\$18,000,000	206	227	
2242430	B	GUN HILL ROAD	BRONX BLVD		O		4	S	2/15/2012	5.018	G	9,400	\$37,600,000	212		
2242440	B	GUN HILL ROAD	BRONX RIVER		WO		1	S	2/13/2012	5.300	G	8,700	\$34,800,000	212		
2242459	B	E 233RD ST	BRONX RIVER		WO		1	S	2/22/2012	4.233	F	7,000	\$28,000,000	212		
2242460	B	E 233RD ST	ENTR RD BNX RVR PKWY		O		1	S	1/10/2012	4.867	F	5,300	\$21,200,000	212		
2243010	K	LINCOLN ROAD	BMT SUBWAY, BRIGHTON	T	O		1	S	7/24/2012	6.685	VG	6,016	\$24,064,000	355		
2243020	K	PARKSIDE AVE	BMT SUBWAY, BRIGHTON	T	O		6	S	9/14/2012	3.826	F	48,700	\$194,800,000	314		
2243040	K	CROOKE AVE	BMT SUBWAY, BRIGHTON	T	O		4	S	9/20/2013	4.421	F	6,000	\$24,000,000	314		
2243050	K	CATON AVE	BMT SUBWAY, BRIGHTON	T	O		4	S	8/23/2013	4.842	F	20,800	\$83,200,000	314		
2243080	K	CHURCH AVE	BMT SUBWAY, BRIGHTON	T	O		4	S	8/20/2013	4.545	F	18,200	\$72,800,000	314		
2243100	K	BEVERLY ROAD	BMT SUBWAY, BRIGHTON	T	O		3	S	8/22/2013	4.070	F	4,200	\$16,800,000	314		
2243110	K	CORTEYOU ROAD	BMT SUBWAY, BRIGHTON	T	O		3	S	8/20/2013	6.139	VG	4,810	\$19,240,000	314		
2243120	K	DORCHESTER ROAD	BMT SUBWAY, BRIGHTON	T	O		1	S	12/3/2012	5.863	G	4,825	\$19,300,000	314		
2243130	K	DITMAS AVE	BMT SUBWAY, BRIGHTON	T	O		1	S	8/22/2013	5.723	G	5,150	\$20,600,000	314		
2243140	K	NEWKIRK AVE	BMT SUBWAY, BRIGHTON	T	O		3	S	9/14/2012	4.662	F	4,100	\$16,400,000	314		
2243150	K	FOSTER AVE	BMT SUBWAY, BRIGHTON	T	O		1	S	9/11/2013	4.417	F	3,000	\$12,000,000	314		
2243170	K	STERLING PLACE	FRANKLIN SHUTTLE	T	O		1	S	8/23/2013	6.438	VG	2,300	\$9,200,000	308		
2243180	K	ST JOHNS PLACE	FRANKLIN SHUTTLE	T	O		1	S	8/23/2013	6.656	VG	2,300	\$9,200,000	308		
2243190	K	LINCOLN PLACE	FRANKLIN SHUTTLE	T	O		1	S	9/6/2012	6.797	VG	2,460	\$9,840,000	308		
2243200	K	UNION ST	FRANKLIN SHUTTLE	T	O		2	S	9/5/2012	5.000	G	4,100	\$16,400,000	309		
2243210	K	PRESIDENT ST	FRANKLIN SHUTTLE	T	O		2	S	9/5/2012	5.157	G	2,500	\$10,000,000	309		
2243220	K	CARROLL ST PED BRDG	FRANKLIN SHUTTLE	T	O-PED		3	C	12/17/2012	5.099	G	600	\$2,400,000	309		
2243230	K	CROWN ST	FRANKLIN SHUTTLE	T	O		3	S	8/8/2013	5.014	G	4,060	\$16,240,000	309		
2243240	K	MONTGOMERY ST	FRANKLIN SHUTTLE	T	O		1	S	8/8/2013	5.843	G	2,240	\$8,960,000	309		
2243250	K	WASHINGTON AVE	FRANKLIN SHUTTLE	T	O		1	S	9/4/2012	6.000	G	3,657	\$14,628,000	309	355	
2243260	K	FLATBUSH AVE	FRANKLIN SHUTTLE	T	O		2	S	7/23/2012	4.922	F	11,300	\$45,200,000	309		
2243279	K	EASTERN PKWY	FRANKLIN SHUTTLE	T	O		1	S	9/6/2012	4.861	F	7,700	\$30,800,000	309	308	
2243280	K	6TH AVE	LIRR ATLANTIC AVE	L	O		9	S	9/13/2012	5.431	G	12,276	\$49,104,000	302		
2243290	K	CARLTON AVE	LIRR ATLANTIC AVE	L	O		7	S	7/29/2013	6.806	VG	10,823	\$43,292,000	302		
2243310	K	2ND AVE	LIRR BAY RIDGE	N	O		2	S	10/2/2012	6.236	VG	17,751	\$71,004,000	310		
2243320	K	3RD AVE	LIRR BAY RIDGE	N	O		4	S	9/17/2013	4.917	F	17,230	\$68,920,000	310		
2243330	K	4TH AVE	LIRR BAY RIDGE	NT	O		4	S	8/30/2013	5.597	G	13,668	\$54,672,000	310		
2243340	K	15TH AVE	LIRR BAY RIDGE	N	O		1	S	11/14/2012	4.872	F	3,614	\$14,456,000	311		
2243350	K	60TH ST	LIRR BAY RIDGE	N	O		1	S	9/4/2013	6.133	VG	3,900	\$15,600,000	311		

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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2243360	K	16TH AVE	LIRR BAY RIDGE	N	O		1	S	10/4/2012	5.350	G	4,345	\$17,380,000	311		
2243370	K	17TH AVE	LIRR BAY RIDGE	N	O		1	S	10/5/2012	4.745	F	3,406	\$13,624,000	312		
2243380	K	18TH AVE	LIRR BAY RIDGE	N	O		1	S	9/28/2012	4.688	F	6,006	\$24,024,000	312		
2243390	K	52ND ST	LIRR BAY RIDGE	N	O		1	S	9/28/2012	6.250	VG	3,293	\$13,172,000	312		
2243400	K	50TH ST	LIRR BAY RIDGE	N	O		2	S	9/5/2013	4.731	F	7,100	\$28,400,000	312		
2243410	K	MCDONALD AVE	LIRR BAY RIDGE	N	O		1	S	9/27/2012	5.047	G	2,760	\$11,040,000	312		
2243420	K	E 3RD ST	LIRR BAY RIDGE	N	O		1	S	8/8/2013	6.517	VG	1,840	\$7,360,000	312		
2243439	K	OCEAN PKWY	LIRR BAY RIDGE	N	O		1	S	9/27/2012	4.927	F	7,000	\$28,000,000	312		
2243440	K	CONEY ISLAND AVE	LIRR BAY RIDGE	N	O		1	S	9/26/2012	5.106	G	3,231	\$12,924,000	312		
2243450	K	E 14TH ST	LIRR BAY RIDGE	N	O		1	S	9/26/2012	4.809	F	1,775	\$7,100,000	314		
2243460	K	E 15TH ST PED BRDG	LIRR BAY RIDGE	N	O-PED		3	C	8/21/2013	5.592	G	900	\$3,600,000	314		
2243480	K	OCEAN AVE	LIRR BAY RIDGE	N	O		2	S	9/25/2012	4.825	F	5,000	\$20,000,000	314		
2243490	K	BEDFORD AVE	LIRR BAY RIDGE	N	O		6	S	9/24/2012	4.319	F	12,000	\$48,000,000	314		
2243500	K	NOSTRAND AVE	LIRR BAY RIDGE	N	O		2	S	9/26/2012	4.831	F	4,320	\$17,280,000	314		
2243510	K	FLATBUSH AVE	LIRR BAY RIDGE	N	O		2	S	9/17/2013	4.762	F	5,900	\$23,600,000	318		
2243520	K	BROOKLYN AVE	LIRR BAY RIDGE	N	O		3	S	8/8/2013	5.873	G	4,500	\$18,000,000	318		
2243530	K	AVENUE H	LIRR BAY RIDGE	N	O		2	S	9/9/2013	5.956	G	35,100	\$140,400,000	318		
2243569	K	ATLANTIC AVE	LIRR ATLANTIC AVE	L	O		75	S	5/25/2012	3.676	F	135,100	\$540,400,000	316	305	
2243570	K	86TH ST	BMT SEA BEACH	T	O		1	S	8/27/2012	5.953	G	12,167	\$48,668,000	313		
2243580	K	5TH AVE	LIRR & SEA BEACH	NT	O		4	S	9/23/2013	3.941	F	12,395	\$49,580,000	310		
2243590	K	6TH AVE	LIRR & SEA BEACH	NT	O		2	S	7/16/2013	6.056	VG	14,382	\$57,528,000	310		
2243600	K	7TH AVE	LIRR & SEA BEACH	NT	O		7	S	11/12/2012	4.778	F	18,628	\$74,512,000	310		
2243610	K	8TH AVE	LIRR & SEA BEACH	NT	O		2	S	7/15/2013	6.181	VG	10,834	\$43,336,000	310		
2243620	K	FORT HAMILTON PKWY	LIRR & SEA BEACH	NT	O		3	S	9/19/2012	4.729	F	14,800	\$59,200,000	310		
2243630	K	11TH AVE	LIRR & SEA BEACH	NT	O		5	S	11/13/2012	5.985	G	9,700	\$38,800,000	310		
2243640	K	13TH AVE	LIRR & SEA BEACH	NT	O		5	S	7/15/2013	4.972	F	16,000	\$64,000,000	310		
2243650	K	14TH AVE	LIRR BAY RIDGE	N	O		1	S	11/13/2012	6.333	VG	4,720	\$18,880,000	311		
2243660	K	NEW UTRECHT AVE	LIRR BAY RIDGE	N	O		1	S	11/13/2012	6.083	VG	2,350	\$9,400,000	311		
2243670	K	15TH AVE	BMT SEA BEACH	T	O		4	S	6/24/2013	6.136	VG	16,020	\$64,080,000	311		
2243680	K	16TH AVE	BMT SEA BEACH	T	O		3	S	8/30/2012	5.296	G	6,816	\$27,264,000	311		
2243690	K	17TH AVE	BMT SEA BEACH	T	O		4	S	8/30/2012	6.173	VG	8,946	\$35,784,000	311		
2243700	K	18TH AVE	BMT SEA BEACH	T	O		1	S	7/25/2013	6.632	VG	5,200	\$20,800,000	311		
2243710	K	19TH AVE	BMT SEA BEACH	T	O		4	S	8/29/2012	4.184	F	4,800	\$19,200,000	311		
2243720	K	20TH AVE	BMT SEA BEACH	T	O		1	S	8/31/2012	6.673	VG	7,000	\$28,000,000	311		
2243730	K	65TH ST	BMT SEA BEACH	T	O		4	S	8/28/2012	5.132	G	12,000	\$48,000,000	311		

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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2243740	K	BAY PKWY	BMT SEA BEACH	T	O		4	S	8/28/2012	4.553	F	16,800	\$67,200,000	311		
2243750	K	AVENUE O	BMT SEA BEACH	T	O		1	S	8/12/2013	5.706	G	4,658	\$18,632,000	311		
2243760	K	AVENUE P	BMT SEA BEACH	T	O		1	S	8/13/2013	6.140	VG	5,544	\$22,176,000	311		
2243770	K	KINGS HIGHWAY	BMT SEA BEACH	T	O		1	S	6/28/2013	6.628	VG	5,032	\$20,128,000	311		
2243780	K	HIGHLAWN AVE	BMT SEA BEACH	T	O		1	S	8/16/2013	6.440	VG	6,960	\$27,840,000	311		
2243790	K	AVENUE S	BMT SEA BEACH	T	O		1	S	7/2/2013	5.967	G	5,360	\$21,440,000	315		
2243800	K	AVENUE T	BMT SEA BEACH	T	O		1	S	7/3/2013	6.200	VG	5,360	\$21,440,000	311		
2243810	K	AVENUE U	BMT SEA BEACH	T	O		1	S	9/11/2012	5.294	G	5,880	\$23,520,000	315		
2243820	K	21ST AVE	BMT SEA BEACH	T	O		4	S	8/19/2013	4.289	F	21,400	\$85,600,000	311		
2243839	K	4TH AVE	NYCTA BMT TRACKS	T	O		1	S	8/20/2013	6.250	VG	4,440	\$17,760,000	307		
2243840	K	9TH AVE	NYCTA BMT YARD	T	O		5	S	8/19/2013	5.736	G	12,440	\$49,760,000	312		
2243850	K	LIBERTY AVE	LIRR BAY RIDGE	N	O		3	S	9/25/2012	6.294	VG	6,659	\$26,636,000	316		
2243860	K	GLENMORE AVE	LIRR BAY RIDGE	N	O		2	S	9/25/2012	6.559	VG	5,616	\$22,464,000	316		
2243870	K	PITKIN AVE	LIRR BAY RIDGE	N	O		2	S	9/25/2012	6.515	VG	5,328	\$21,312,000	316		
2243890	K	SUTTER AVE	LIRR BAY RIDGE	N	O		3	S	9/25/2012	6.542	VG	5,497	\$21,988,000	316		
2243900	K	BLAKE AVE	LIRR BAY RIDGE LINE	N	O		3	S	9/25/2012	5.000	G	4,912	\$19,648,000	316		
2243910	K	LIVONIA AVE PED BRDG	LIRR BAY RIDGE LINE	N	O-PED		6	C	4/16/2012	4.833	F	2,500	\$10,000,000	316		
2243920	K	7TH AVE	NYCTA BMT YARD	T	O		2	S	9/10/2012	6.042	VG	4,700	\$18,800,000	307		
2243940	K	9TH AVE	NYCTA IND SBWY	T	O		5	S	8/19/2013	4.737	F	6,300	\$25,200,000	312		
2244010	K	EAST DR (ENDALE ARCH)	PED PATH NR GRND ARMY PLZ		O	P	1	C	5/15/2013	4.367	F	1,533	\$6,132,000	355		
2244020	K	WEST DR (MEADOWPORT ARCH)	PED PATH NR GRND ARMY PLZ		O	P	1	S	5/16/2013	5.321	G	2,500	\$10,000,000	355		
2244030	K	EAST DRIVE	BRIDLE PATH NR ZOO		O	P	1	S	5/17/2013	4.878	F	2,000	\$8,000,000	355		
2244040	K	EAST DR (EAST WOOD ARCH)	PED PATH NR CENTER DR		O	P	1	C	7/3/2013	4.667	F	1,066	\$4,262,400	355		
2244050	K	CENTER DR (NETHERMEAD ARCHES)	PED PATH & STREAM		WO	P	3	S	5/22/2013	5.000	G	7,400	\$29,600,000	355		
2244060	K	HILL DR (LEFT RIDGE SPAN)	PED PATH SO OF BOATHOUSE		O	P	1	C	5/15/2013	4.433	F	750	\$3,000,000	355		
2244100	K	WEST FOOTBRIDGE	PROSPECT PK STREAM		WO-PED	P	1	C	4/19/2013	4.885	F	3,200	\$12,800,000	355		
2244120	K	HILL DR (TERRACE BRDG)	PROSPECT PK LAKE		WO	P	3	S	5/29/2013	3.436	F	7,800	\$31,200,000	355		
2244130	K	PED NR BOATHSE (LULLWATER BRDG)	PROSPECT PK LAKE		WO-PED	P	1	C	4/24/2013	4.898	F	1,000	\$4,000,000	355		
2244150	K	RIDGE BLVD	SHORE RD DRIVE		O		1	S	6/10/2013	6.333	VG	4,350	\$17,400,000	310		
2244160	K	3RD AVE	SHORE RD DRIVE		O		1	S	6/14/2013	6.727	VG	4,360	\$17,440,000	310		
2244170	K	ATLNTC AV SVC RD E.B.	EAST NEW YORK AVE		O		2	S	8/5/2013	5.474	G	3,192	\$12,768,000	305		
2244180	K	ATLNTC AV SVC RD W.B.	EAST NEW YORK AVE		O		2	S	8/5/2013	5.105	G	5,600	\$22,400,000	305		
2244440	K	SOUTH OF TILLARY ST	NAVY ST		O-PED		1	C	8/5/2013	3.958	F	6,200	\$24,800,000	302		
2244460	K	CONDUIT BLVD NB	ATLANTIC AVE EB		O		1	S	10/8/2012	4.833	F	3,800	\$15,200,000	305		
2244470	K	SEELEY ST	PROSPECT AVE		O		1	S	6/11/2013	4.033	F	8,482	\$33,928,000	307		

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2244480	K	5TH AVE	GREENWOOD CEMETERY		O		1	S	9/25/2013	5.333	G	3,600	\$14,400,000	307		
2245010	M	11TH AVE VIADUCT	LIRR WEST SIDE YARD	AL	O		39	S	12/28/2012	4.056	F	157,500	\$630,000,000	104		
224501B	M	W 33RD ST	AMTRAK 30 ST BRANCH	A	OR		8	S	3/13/2012	4.458	F	16,500	\$66,000,000	104		
224501C	M	W 33RD ST	LAND ADJ TO AMTRAK	A	OR		2	S	5/14/2013	4.472	F	2,360	\$9,440,000	104		
224501D	M	W 34TH ST	AMTRAK 30 ST BRANCH	A	OR		4	S	5/13/2013	4.542	F	11,800	\$47,200,000	104		
224501E	M	W 35TH ST	AMTRAK 30 ST BRANCH	A	OR		3	S	11/16/2012	4.181	F	6,500	\$26,000,000	104		
224501F	M	W 36TH ST	AMTRAK 30 ST BRANCH	A	OR		7	S	11/12/2013	4.612	F	16,400	\$65,600,000	104		
2245040	M	MARGARET CORBIN DR	PED PATH NEAR CAFÉ		O	P	1	C	5/24/2013	4.933	F	598	\$2,392,000	112		
2245050	M	MARGARET CORBIN DR	PED PATH NR NO ENTR		O	P	1	C	5/22/2013	4.333	F	889	\$3,556,000	112		
2245060	M	W 37TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	11/12/2013	6.190	VG	7,505	\$30,020,000	104		
2245070	M	W 38TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	6/15/2012	4.135	F	6,200	\$24,800,000	104		
2245080	M	W 39TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	6/15/2012	4.173	F	6,300	\$25,200,000	104		
2245090	M	W 43RD ST	AMTRAK 30 ST BRANCH	A	O		2	S	4/16/2012	4.662	F	4,140	\$16,560,000	104		
2245100	M	W 44TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	4/16/2012	4.662	F	4,300	\$17,200,000	104		
2245110	M	W 45TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	4/16/2012	5.397	G	4,100	\$16,400,000	104		
2245120	M	W 46TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/4/2012	4.500	F	4,100	\$16,400,000	104		
2245130	M	W 47TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/4/2012	4.721	F	4,100	\$16,400,000	104		
2245140	M	W 48TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/7/2012	4.618	F	4,100	\$16,400,000	104		
2245150	M	W 49TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	5/7/2012	4.426	F	4,100	\$16,400,000	104		
2245160	M	W 51ST ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/11/2012	4.912	F	4,300	\$17,200,000	104		
2245170	M	W 52ND ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/29/2012	5.265	G	4,300	\$17,200,000	104		
2245180	M	W 53RD ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/29/2012	5.221	G	5,100	\$20,400,000	104		
2245190	M	W 58TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/25/2012	4.765	F	4,100	\$16,400,000	104		
2245209	M	11TH AVE	AMTRAK 30 ST BRANCH	A	O		2	S	6/4/2012	4.471	F	15,400	\$61,600,000	104		
2245210	M	W 42ND ST	AMTRAK 30 ST BRANCH	A	O		4	S	7/2/2012	4.651	F	10,300	\$41,200,000	104		
2245220	M	W 57TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	5/25/2012	4.853	F	9,100	\$36,400,000	104		
2245230	M	W 148TH ST PED BRDG	AMTRAK 30 ST BRANCH	A	O-PED	P	5	C	8/9/2013	4.200	F	1,100	\$4,400,000	109		
2245250	M	W 158TH ST	AMTRAK 30 ST BRANCH	A	O		7	S	10/18/2013	5.903	G	29,170	\$116,680,000	112		
2245260	M	W 173RD ST PED BRDG	AMTRAK 30 ST BRANCH	A	O-PED	P	2	C	8/6/2013	4.600	F	1,500	\$6,000,000	112		
2245290	M	W 155TH ST PED BRDG	AMTRAK 30 ST BRANCH	A	O-PED		3	C	8/8/2013	3.862	F	800	\$3,200,000	109	112	
2245300	M	INWOOD HILL PK FTBR	AMTRAK 30 ST BRANCH	A	O-PED	P	6	C	8/6/2013	4.100	F	700	\$2,800,000	112		
2245319	M	E 97TH ST	METRO NORTH MAIN LN	M	O		1	S	12/7/2012	4.647	F	3,200	\$12,800,000	111		
2245330	M	W 41ST ST	AMTRAK 30 ST BRANCH	A	O		3	S	6/12/2012	4.508	F	6,200	\$24,800,000	104		
2245340	M	W 50TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/11/2012	4.471	F	4,100	\$16,400,000	104		
2245350	M	W 54TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/22/2012	5.476	G	4,700	\$18,800,000	104		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2245360	M	W 55TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/22/2012	5.529	G	4,300	\$17,200,000	104		
2245370	M	W 56TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	6/4/2012	5.706	G	4,400	\$17,600,000	104		
2245380	M	TRANSVERSE RD #1 WB	PED PATH OPP E 66TH ST		O	P	1	S	1/6/2012	5.000	G	1,500	\$6,000,000	164		
2245420	M	W 65TH ST ENTR EB	BRIDLE PATH W END		O	P	1	S	1/17/2012	5.100	G	1,300	\$5,200,000	164		
2245440	M	W 40TH ST	AMTRAK 30 ST BRANCH	A	O		4	S	6/18/2012	4.162	F	9,400	\$37,600,000	104		
2245460	M	PARK AVE S.B.	E 45TH ST		O		1	S	5/23/2013	4.514	F	2,400	\$9,600,000	105		
2245470	M	PARK AVE N.B	E 45TH ST		O		1	S	5/22/2013	4.865	F	2,400	\$9,600,000	105		
2245480	M	TO GWB OPP W 171ST ST	RIVERSIDE DRIVE		O		1	S	2/8/2012	4.524	F	10,773	\$43,092,000	112		
2246000	M	WEST DR (GREYSHOT ARCH)	PED BET 61ST & 62ST		O	P	1	S	1/10/2012	5.400	G	2,500	\$10,000,000	164		
2246010	M	W 62 ST PED BRDG (PINEBANK ARCH)	BRIDLE PATH		O-PED	P	1	C	7/3/2013	4.808	F	1,000	\$4,000,000	164		
2246030	M	E 62 ST PED BRDG (GAPSTOW BRDG)	THE POND		O-PED	P	1	C	4/16/2013	3.897	F	1,400	\$5,600,000	164		
2246040	M	EAST DR (INSCOPE ARCH)	PED PATH OPP E 62 ST		O	P	1	C	4/16/2013	4.400	F	1,515	\$6,060,000	164		
2246050	M	CENTER DR (DRIPROCK ARCH)	PED OPP 63RD ST		O	P	1	S	1/11/2012	4.867	F	1,725	\$6,900,000	164		
2246069	M	EAST DR (GREEN GAP ARCH)	PED BET E 63ST & E 64ST		O	P	1	S	1/18/2012	4.433	F	2,075	\$8,300,000	164		
2246070	M	CENTER DR (PLAYMATES ARCH)	PED PATH OPP 65TH ST		O	P	1	C	6/20/2013	4.583	F	1,129	\$4,516,000	164		
2246080	M	WEST DR (DALEHEAD ARCH)	BRIDLE OPP W 64TH ST		O	P	1	S	1/5/2012	4.667	F	2,000	\$8,000,000	164		
2246090	M	PED BRDG OPP 65 ST	TRANSVERSE RD #1		O-PED	P	1	C	8/4/2013	4.655	F	2,300	\$9,200,000	164		
2246100	M	CENTER DRIVE	TRANSVERSE RD #1		O	P	1	S	2/3/2012	4.333	F	6,000	\$24,000,000	164		
2246110	M	EAST DRIVE	TRANSVERSE RD #1		O	P	1	S	3/23/2012	4.667	F	6,000	\$24,000,000	164		
2246120	M	WEST DRIVE	TRANSVERSE RD #1		O	P	1	S	3/28/2012	4.967	F	7,900	\$31,600,000	164		
2246130	M	EAST DR (WILLOWDELL ARCH)	PED PATH OPP E 67TH ST		O	P	1	C	4/16/2013	3.395	F	666	\$2,665,600	164		
2246140	M	W 72 ST ENTR (RIFTSTONE ARCH)	BRIDLE PATH		O	P	1	S	1/9/2012	4.600	F	3,600	\$14,400,000	164		
2246150	M	72 ST CROSS DR (TERRACE BRDG)	PED PATH TO FOUNTAIN		O	P	3	S	3/1/2012	5.786	G	7,300	\$29,200,000	164		
2246160	M	73 ST PED BRDG (BOW BRIDGE)	THE LAKE		WO-PED	P	1	C	4/16/2013	3.659	F	1,700	\$6,800,000	164		
2246170	M	EAST DR (TREFOIL ARCH)	PED PATH OPP E 73RD ST		O	P	1	S	1/30/2012	5.130	G	1,900	\$7,600,000	164		
2246230	M	EAST DRIVE	TRANSVERSE RD #2		O	P	1	S	3/21/2012	4.600	F	5,080	\$20,320,000	164		
2246240	M	WEST DRIVE	TRANSVERSE RD #2		O	P	1	S	3/22/2012	4.167	F	7,200	\$28,800,000	164		
2246250	M	EAST DRIVE	TRANSVERSE RD #3		O	P	1	S	1/18/2012	4.433	F	4,500	\$18,000,000	164		
2246260	M	WEST DRIVE	TRANSVERSE RD #3		O	P	1	S	3/22/2012	4.933	F	5,100	\$20,400,000	164		
2246270	M	EAST DRIVE	TRANSVERSE RD #4		O	P	1	S	3/23/2012	4.100	F	7,000	\$28,000,000	164		
2246280	M	WEST DRIVE	TRANSVERSE RD #4		O	P	1	S	3/26/2012	4.300	F	4,700	\$18,800,000	164		
2246320	M	W77 ST PED (OAK BRDG)	THE LAKE		WO-PED	P	3	C	5/22/2013	5.579	G	919	\$3,676,000	164		
2246330	M	WEST DR (BALCONY BRDG)	STREAM TO THE LAKE		WO	P	1	S	1/16/2012	5.000	G	1,817	\$7,268,000	164		
2246340	M	W77 ST PED (LADIES POND BRDG)	STREAM TO THE LAKE		WO-PED	P	3	C	12/3/2013	4.355	F	500	\$2,000,000	164		
2246350	M	EAST DR (GREYWACKE ARCH)	PED PATH OPP E 80TH ST		O	P	1	C	5/24/2013	3.733	F	1,266	\$5,064,000	164		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2246360	M	WEST DR (WINTERDALE ARCH)	PED PATH OPP W 82 ST		O	P	1	S	1/17/2012	5.273	G	2,502	\$10,008,000	164		
2246380	M	W86 ST PED (SW RESERVOIR BRDG)	BRIDLE PATH		O-PED	P	1	C	11/18/2013	4.852	F	700	\$2,800,000	164		
2246390	M	E86 ST PED (SE RESERVOIR BRDG)	BRIDLE PATH		O-PED	P	3	C	11/27/2013	4.509	F	1,100	\$4,400,000	164		
2246400	M	PED PATH OPP E79 ST	TRANSVERSE RD #2		O-PED	P	1	C	7/14/2013	4.233	F	3,700	\$14,800,000	164		
2246410	M	TRNSVRS RD 1 EB (DENESMOUTH ARCH)	PED PATH OPP E 65TH ST		O	P	1	S	1/30/2012	4.636	F	1,739	\$6,956,000	164		
2246430	M	W110 ST ENTR (MOUNTCLIFF ARCH)	PED PATH OPP W109 ST		O	P	1	S	2/13/2012	4.383	F	1,200	\$4,800,000	164		
2246440	M	79 TH ST PED BRDG	TRANSVERSE RD #2		O-PED	P	1	C	7/14/2013	3.926	F	5,900	\$23,600,000	164		
2246450	M	E77 ST PED (GLADE ARCH)	PED PATH OPP E77 ST		O-PED	P	1	C	1/17/2013	4.138	F	5,000	\$20,000,000	164		
2246460	M	W77 ST ENTR (EAGLEVALE ARCH)	PED PATH OPP W77 ST		O	P	2	S	1/10/2012	4.263	F	3,066	\$12,264,000	164		
2246470	M	EAST DR (HUDDLESTONE ARCH)	THE LOCH		WO	P	1	S	1/26/2012	4.500	F	1,100	\$4,400,000	164		
2246489	M	W 181 ST	RAMP TO WASH BR		O		1	S	2/7/2012	5.333	G	8,200	\$32,800,000	112		
2246490	M	A.C. POWELL BLVD N.B.	A.C. POWELL BLVD		O		1	S	2/1/2012	4.367	F	3,000	\$12,000,000	110		
2246500	M	FORT TRYON PLACE	ENTR FROM RIVERSIDE DR		O	P	1	S	2/8/2012	4.200	F	3,280	\$13,120,000	112		
2246510	M	CORBIN PL OVERPASS	CORBIN PLACE		O	P	1	S	1/9/2012	5.000	G	2,223	\$8,892,000	112		
2246540	M	E 34TH ST	PARK AVE TUNNEL		OT		1	S	9/13/2012	4.117	F	36,200	\$144,800,000	105	106	
2246550	M	PARK AVE VIADUCT	E 42ND ST		O		10	S	11/21/2013	4.478	F	22,150	\$88,600,000	105		
2246560	M	TUDOR CITY PLACE	E 42ND ST		O		1	S	1/25/2012	5.133	G	6,600	\$26,400,000	106		
2246570	M	E42ND ST - E47TH ST	FIRST AVE TUNNEL		OT		2	S	5/22/2012	4.882	F	95,000	\$380,000,000	106		
2246580	BM	HIGH BRIDGE PDOVP	I87 - HARLEM RIVER	M	WA-PED	P	11	P	8/12/2002	3.759	F	34,100	\$136,400,000	112	204	
2246600	M	W 176TH ST PED BRDG	APPROACH TO G.W.B.		O-PED		1	C	3/4/2013	4.200	F	1,200	\$4,800,000	112		
2246620	M	W 128TH ST PED BRDG	3RD AVE BRDG APPR		O-PED		18	C	9/12/2013	3.939	F	2,300	\$9,200,000	111		
2246660	M	RIVERSIDE DRIVE	W125TH ST - W134TH ST		O		27	S	7/12/2013	4.472	F	148,300	\$593,200,000	109		
2246670	M	W 134 ST	TERRAIN		O		4	S	6/13/2013	4.870	F	7,500	\$30,000,000	109		
2246690	M	ISHAM PK VEHICULR	HARLEM RIVER INLET		O	P	1	S	5/4/2012	6.261	VG	911	\$3,644,000	112		
2246700	M	ISHAM PK PED BRDG	HARLEM RV INLET		WO-PED	P	1	C	1/3/2013	3.552	F	300	\$1,200,000	112		
2246710	M	W 153 ST	A.C. POWELL BLVD		O		1	S	2/1/2012	4.611	F	3,082	\$12,328,000	110		
2246720	M	RIVERSIDE DRIVE	W 158TH ST - AMTRAK	A	O		77	S	10/17/2013	3.528	F	185,658	\$742,632,000	109	112	
2246970	M	RIVERSIDE DRIVE	W 96TH ST		O		3	S	5/6/2013	5.471	G	10,600	\$42,400,000	107		
2246980	M	RIVERSIDE DRIVE	W 138TH ST		O		1	S	1/19/2012	4.900	F	6,700	\$26,800,000	109		
2246990	M	E 129TH ST PED BRDG	3RD AVE BRDG RAMP		O-PED		5	C	10/5/2012	4.095	F	1,046	\$4,184,000	111		
2247020	Q	94TH ST PED BRDG	LIRR PORT WASH BR	L	O-PED		5	C	4/9/2012	4.091	F	500	\$2,000,000	404		
2247040	Q	UNION ST	LIRR PORT WASH BR	L	O		1	S	8/22/2013	6.172	VG	3,313	\$13,252,000	407		
2247050	Q	BOWNE AVE	LIRR PORT WASH BR	L	O		1	S	10/4/2012	5.333	G	4,974	\$19,896,000	407		
2247060	Q	PARSONS BLVD	LIRR PORT WASH BR	L	O		1	S	10/5/2012	4.824	F	4,200	\$16,800,000	407		
2247070	Q	147TH ST	LIRR PORT WASH BR	L	O		1	S	8/22/2013	5.392	G	2,800	\$11,200,000	407		

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2247080	Q	149TH ST	LIRR PORT WASH BR	L	O		1	S	8/20/2013	4.776	F	4,100	\$16,400,000	407		
2247090	Q	149TH PLACE	LIRR PORT WASH BR	L	O		2	S	8/21/2013	5.000	G	4,300	\$17,200,000	407		
2247100	Q	150TH ST	LIRR PORT WASH BR	L	O		2	S	8/21/2013	6.029	VG	7,830	\$31,320,000	407		
2247110	Q	MURRAY ST	LIRR PORT WASH BR	L	O		1	S	8/21/2013	5.222	G	4,000	\$16,000,000	407		
2247120	Q	WOODSIDE AVE	LIRR MAIN LINE	L	O		3	S	9/5/2013	4.444	F	14,900	\$59,600,000	402		
2247130	Q	CORPORAL KENNEDY ST	LIRR PORT WASH BR	L	O		1	S	9/5/2013	6.157	VG	3,379	\$13,516,000	411		
2247140	Q	BELL BLVD	LIRR PORT WASH BR	L	O		1	S	9/5/2013	5.780	G	4,320	\$17,280,000	411		
2247150	Q	65TH ST	LIRR MAIN LINE	L	O		3	S	9/5/2013	6.375	VG	6,344	\$25,376,000	402		
2247160	Q	65TH PLACE	LIRR MAIN LINE	L	O		3	S	9/5/2013	6.441	VG	8,381	\$33,524,000	402		
2247170	Q	DOUGLSTON PKWY	LIRR PORT WASH BR	L	O		3	S	10/19/2012	4.746	F	6,300	\$25,200,000	411		
2247180	Q	GRAND AVE	LIRR MAIN LINE	L	O		3	S	10/24/2012	4.396	F	7,415	\$29,660,000	404		
2247190	Q	55TH AVE PED BRDG	LIRR MAIN LINE	L	O-PED		3	C	10/8/2013	4.120	F	13,000	\$52,000,000	404		
2247220	Q	80TH ROAD	LIRR MAIN LINE	L	O		3	S	8/30/2013	4.794	F	4,100	\$16,400,000	409		
2247230	Q	82ND AVE	LIRR MAIN LINE	L	O		3	S	8/30/2013	5.311	G	4,100	\$16,400,000	409		
2247240	Q	LEFFERTS BLVD	LIRR MAIN LINE	L	O		3	S	8/30/2013	5.806	G	5,460	\$21,840,000	409		
2247260	Q	JACKSON AVE	LIRR MONTAUK DIV	L	O		1	S	10/22/2012	6.117	VG	4,517	\$18,068,000	402		
2247270	Q	21ST ST	LIRR N SIDE DIV	L	O		6	S	9/11/2013	5.153	G	17,590	\$70,360,000	402		
2247290	Q	49TH AVE	LIRR,AMTRAK	L	O		5	S	9/6/2013	4.014	F	20,400	\$81,600,000	402		
2247300	Q	THOMPSON AVE	AMTRAK & LIRR YARD	AL	O		14	S	12/6/2012	5.042	G	61,280	\$245,120,000	402		
2247310	Q	QUEENS BLVD	AMTRAK & LIRR YARD	AL	O		19	S	12/6/2012	6.268	VG	92,400	\$369,600,000	402	401	
2247320	Q	HONEYWELL ST	AMTRAK & LIRR YARD	AL	O		22	S	9/26/2013	5.903	G	99,036	\$396,144,000	402	401	
2247330	Q	39TH ST (NORTH)	SUNNYSIDE YARD	A	O		14	S	9/30/2013	6.556	VG	48,200	\$192,800,000	402	401	
2247370	Q	37TH AVE	CSX - HELLGATE	C	O		1	S	8/1/2013	6.234	VG	6,868	\$27,472,000	402		
2247380	Q	ROOSEVELT AVE	CSX - HELLGATE	C	O		2	S	8/1/2013	6.333	VG	7,380	\$29,520,000	402	403	404
2247390	Q	41ST AVE	CSX - HELLGATE	C	O		2	S	8/1/2013	4.942	F	4,400	\$17,600,000	402	404	
2247400	Q	WOODSIDE AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.033	G	8,200	\$32,800,000	402	404	
2247410	Q	43RD AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.000	G	4,800	\$19,200,000	402	404	
2247420	Q	44TH AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.000	G	5,100	\$20,400,000	402	404	
2247430	Q	45TH AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.306	G	2,400	\$9,600,000	402	404	
2247440	Q	GRAND AVE	CSX TRANSPORT	C	O		1	S	8/13/2013	6.183	VG	3,280	\$13,120,000	405		
2247450	Q	57TH AVE	CSX TRANSPORT	C	O		1	S	8/13/2013	5.976	G	2,248	\$8,992,000	405		
2247460	Q	CALDWELL AVE	CSX TRANSPORT	C	O		1	S	12/17/2012	5.889	G	2,243	\$8,972,000	405		
2247470	Q	ELIOT AVE	CSX TRANSPORT	C	O		1	S	8/15/2013	4.972	F	2,960	\$11,840,000	405		
2247480	Q	JUNIPER BLVD SO	CSX TRANSPORT	C	O		1	S	8/16/2013	5.000	G	9,000	\$36,000,000	405		
2247490	Q	69TH STREET	CSX TRANSPORT	C	O		1	S	12/17/2012	4.979	F	6,175	\$24,700,000	405		

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2247500	Q	METROPOLITAN AVE	CSX TRANSPORT	C	O		1	S	8/16/2013	4.233	F	18,650	\$74,600,000	405		
2247530	Q	ANDREWS AVE	LIRR MONTAUK DIV	L	O		1	S	9/3/2013	7.000	VG	1,765	\$7,060,000	405		
2247540	Q	60TH ST	LIRR MONTAUK DIV	L	O		2	S	9/3/2013	5.208	G	5,340	\$21,360,000	405		
2247550	Q	ELIOT AVE	LIRR MONTAUK DIV	L	O		2	S	8/27/2013	5.712	G	9,550	\$38,200,000	405		
2247570	Q	80TH ST	77TH AVE - LIRR MT	L	O		5	S	11/27/2012	5.102	G	11,725	\$46,900,000	405		
2247590	Q	FOREST PARK DRIVE	LIRR MONTAUK DIV	L	O	P	5	S	9/9/2013	5.158	G	6,000	\$24,000,000	409		
2247600	Q	PARK LANE SOUTH	LIRR MONTAUK DIV	L	O		1	S	10/18/2012	6.983	VG	3,024	\$12,096,000	409	482	
2247620	Q	MYRTLE AVE	ABANDONED LIRR		O		3	S	1/6/2012	5.028	G	6,725	\$26,900,000	482	406	
2247630	Q	PED BRG NEAR UNION TPK	ABANDONED LIRR		O-PED		8	C	6/19/2013	5.077	G	1,449	\$5,796,000	406		
2247640	Q	39TH ST (SOUTH)	AMTRAK & LIRR YARD	AL	O		9	S	10/7/2013	5.903	G	34,100	\$136,400,000	402		
2247650	Q	60TH RD PED BRDG	LIRR MAIN LINE	L	O-PED		3	C	10/8/2013	4.786	F	2,293	\$9,172,000	405	406	
2247660	Q	FOREST PARK DRIVE	ABANDONED LIRR		O	P	6	S	7/9/2013	4.524	F	10,000	\$40,000,000	409		
2247680	Q	221ST ST	LIRR PORT WASH BR	L	O		3	S	8/22/2013	5.926	G	6,050	\$24,200,000	411		
2248019	Q	WOODHAVEN BLVD	ATLANTIC AVE		O		3	S	4/5/2012	4.236	F	19,400	\$77,600,000	409		
2248020	Q	WHITELAW PED BRDG	CONDUIT AVE		O-PED		7	C	9/10/2013	4.775	F	5,500	\$22,000,000	410		
2248039	Q	CROSS BAY BLVD	NASSAU EXPWY - RTE 27		O		2	S	5/31/2013	6.208	VG	16,544	\$66,176,000	410		
2248040	Q	RAMP TO LINDEN BLVD	SO. CONDUIT AVE		O		1	S	5/30/2012	5.200	G	3,352	\$13,408,000	410		
2248059	Q	MOTOR PKWY (PED)	FRANCIS LEWIS BLVD		O-PED	P	2	C	6/4/2013	4.444	F	2,800	\$11,200,000	408		
2248060	Q	MOTOR PKWY (PED)	BELL BLVD		O-PED	P	2	C	6/21/2013	4.292	F	2,650	\$10,600,000	411		
2248070	Q	MOTOR PKWY (PED)	SPRINGFIELD BLVD		O-PED	P	3	C	6/10/2013	3.836	F	2,900	\$11,600,000	411		
2248080	Q	MOTOR PKWY (PED)	HOLLIS COURT BLVD		O-PED	P	3	C	12/5/2013	4.791	F	2,700	\$10,800,000	408		
2248090	Q	FLSHG MDW PK PED	COLLEGE POINT BLVD		O-PED	P	3	C	1/22/2013	4.694	F	8,400	\$33,600,000	407		
2248100	Q	MOTOR PKWY (PED)	73RD AVE		O-PED	P	3	C	2/25/2013	4.541	F	2,600	\$10,400,000	408		
2248110	Q	MOTOR PKWY (PED)	ALLEY PK PED WALK		O-PED	P	1	C	6/5/2013	4.104	F	1,000	\$4,000,000	413		
2248129	Q	UNION TPKE	CREEDMOORE HOSP RD		O		1	S	6/7/2013	4.867	F	3,500	\$14,000,000	413		
2248130	Q	FLUSHING MEADOW PK PED	WILLOW LK&76TH RD		WO-PED	P	4	C	4/20/2002	1.000	C	1,891	\$7,564,000	481		
2248140	Q	FLUSHING MEADW PK RD	STREAM N OF LIE		WO	P	5	S	7/31/2013	4.481	F	4,100	\$16,400,000	481		
2248159	Q	WOODHAVEN BLVD	QUEENS BLVD		O		2	S	8/7/2012	4.275	F	11,500	\$46,000,000	404		
2248160	Q	ELIOT AVE	QUEENS BLVD		O		2	S	8/7/2012	4.804	F	13,785	\$55,140,000	406		
2248200	Q	RUST ST	FLUSHING AVE		O		1	S	6/21/2013	4.922	F	2,940	\$11,760,000	405		
2248220	Q	SERVICE RD TURNAROUND	FLUSHING AVE		O		1	S	6/21/2013	5.078	G	2,940	\$11,760,000	405		
2248230	Q	BEACH CHANNEL DR WB	BEACH CHANNEL DR EB		O		1	S	6/18/2013	4.400	F	3,600	\$14,400,000	484		
2248240	Q	FLUSHING AV SERVICE RD	FLUSHING AVE		O		1	S	6/21/2013	5.250	G	2,940	\$11,760,000	405		
2248250	Q	102ND ST	HAWTREE BASIN		WO		3	S	7/18/2013	6.015	VG	4,900	\$19,600,000	410		
2248260	Q	MEADOW LAKE BRIDGE	MEADOW LAKE		WO	P	5	S	7/17/2013	4.458	F	4,200	\$16,800,000	481		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2248280	Q	HIGHLAND PK PED.	PEDESTRIAN PATH		O-PED	P	1	C	11/20/2013	3.667	F	1,900	\$7,600,000	405		
2248299	Q	J.R. PKWY-UNION TPKE	AUSTIN ST		O		1	S	5/30/2012	4.806	F	5,900	\$23,600,000	409	406	
2248300	Q	71ST AVE	COOPER AVE		O		1	S	7/1/2013	4.373	F	2,800	\$11,200,000	405		
2248340	Q	FOREST PARK DR	MYRTLE AVE		O	P	3	S	5/24/2013	4.984	F	5,100	\$20,400,000	409		
2248369	Q	ROCKAWAY BLVD	THURSTON BASIN		WO		2	S	7/16/2013	5.474	G	6,000	\$24,000,000	483	413	
2248379	Q	BOATHOUSE BRIDGE	AQUACADE LAKE		WO	P	5	S	8/1/2013	4.296	F	6,300	\$25,200,000	481		
2249040	R	TOMPKINS AVE	B&O RR (ABANDONED)		O		1	S	5/9/2012	5.953	G	5,096	\$20,384,000	501		
2249070	R	JOHN ST	B&O RR (ABANDONED)	O	O-PED		2	C	10/9/2013	5.620	G	1,050	\$4,200,000	501		
2249090	R	MORNINGSTAR ROAD	B&O RR (ABANDONED)	O	O		4	S	5/21/2013	4.898	F	7,900	\$31,600,000	501		
2249100	R	GRANITE AVE	B&O RR (ABANDONED)	O	O		4	S	3/13/2012	6.034	VG	7,300	\$29,200,000	501		
2249110	R	LAKE AVE	B&O RR (ABANDONED)	O	O		3	S	5/16/2013	5.148	G	5,900	\$23,600,000	501		
2249120	R	SIMONSON AVE	B&O RR (ABANDONED)	O	O		3	S	5/15/2013	5.852	G	5,819	\$23,276,000	501		
2249130	R	VAN NAME AVE	B&O RR (ABANDONED)	O	O		3	S	5/15/2013	5.186	G	5,474	\$21,896,000	501		
2249140	R	VAN PELT AVE	B&O RR (ABANDONED)	O	O		3	S	5/16/2013	5.576	G	5,000	\$20,000,000	501		
2249160	R	DE HART AVE	B&O RR (ABANDONED)	O	O		4	S	5/15/2013	6.389	VG	6,700	\$26,800,000	501		
2249170	R	UNION AVE	B&O RR (ABANDONED)	O	O		4	S	5/14/2013	5.315	G	6,500	\$26,000,000	501		
2249180	R	HARBOR ROAD	B&O RR (ABANDONED)	O	O		4	S	9/16/2013	6.000	G	5,778	\$23,112,000	501		
2249200	R	SOUTH AVE	B&O RR (ABANDONED)	O	O		3	S	9/17/2013	6.527	VG	8,322	\$33,288,000	501		
2249210	R	MAIN ST PED BRDG	SIRT SOUTH SHORE	S	O-PED		9	C	7/24/2012	4.123	F	400	\$1,600,000	503		
2249230	R	TRACY AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		9	C	7/19/2012	3.553	F	635	\$2,540,000	503		
2249240	R	ARTHUR KILL ROAD	SIRT SOUTH SHORE	S	O		1	S	10/22/2012	4.648	F	3,650	\$14,600,000	503		
2249250	R	BETHEL AV PED BRDG	SIRT SOUTH SHORE	S	O-PED		12	C	7/20/2012	3.525	F	111	\$444,000	503		
2249269	R	PAGE AVE	SIRT SOUTH SHORE	S	O		4	S	9/23/2013	5.806	G	30,710	\$122,840,000	503		
2249270	R	RICHMOND VALLY ROAD	SIRT SOUTH SHORE	S	O		4	S	9/13/2013	5.164	G	9,440	\$37,760,000	503		
2249280	R	CHAMP COURT PED BRDG	SIRT SOUTH SHORE	S	O-PED		7	C	7/20/2012	4.036	F	595	\$2,380,000	503		
2249290	R	SEGUINE AVE	SIRT SOUTH SHORE	S	O		1	S	8/30/2013	6.016	VG	3,250	\$13,000,000	503		
2249300	R	HUGUENOT AVE	SIRT SOUTH SHORE	S	O		2	S	9/24/2013	4.788	F	4,900	\$19,600,000	503		
2249320	R	ALBEE AVE	SIRT SOUTH SHORE	S	O		3	S	9/25/2013	4.689	F	6,500	\$26,000,000	503		
2249330	R	ANNADALE ROAD	SIRT SOUTH SHORE	S	O		1	S	8/23/2013	6.233	VG	3,540	\$14,160,000	503		
2249350	R	NELSON AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		3	C	7/25/2012	4.115	F	300	\$1,200,000	503		
2249360	R	GIFFORDS LANE	SIRT SOUTH SHORE	S	O		1	S	10/23/2012	5.531	G	3,042	\$12,168,000	503		
2249370	R	GREAVES AVE	SIRT SOUTH SHORE	S	O		1	S	8/22/2013	6.533	VG	2,650	\$10,600,000	503		
2249380	R	GUYON AVE	SIRT SOUTH SHORE	S	O		3	S	10/7/2013	4.770	F	6,900	\$27,600,000	503		
2249390	R	CEDARVIEW AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		5	C	7/26/2012	3.615	F	625	\$2,500,000	503		
2249400	R	BEACH AVE	SIRT SOUTH SHORE	S	O		2	S	8/19/2013	5.364	G	3,700	\$14,800,000	502		

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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249410	R	ROSS AVE	SIRT SOUTH SHORE	S	O		2	S	8/20/2013	5.379	G	3,800	\$15,200,000	502		
2249420	R	ROSE AVE	SIRT SOUTH SHORE	S	O		2	S	8/21/2013	5.258	G	3,800	\$15,200,000	502		
2249430	R	NEW DORP LANE	SIRT SOUTH SHORE	S	O		2	S	9/9/2013	4.958	F	7,600	\$30,400,000	502		
2249440	R	BANCROFT AVE	SIRT SOUTH SHORE	S	O		3	S	10/9/2013	5.393	G	5,900	\$23,600,000	502		
2249450	R	FREMONT AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		3	C	7/27/2012	3.618	F	800	\$3,200,000	502		
2249460	R	LINCOLN AVE	SIRT SOUTH SHORE	S	O		1	S	9/10/2013	5.190	G	4,500	\$18,000,000	502		
2249470	R	MIDLAND AVE	SIRT SOUTH SHORE	S	O		1	S	10/29/2013	5.466	G	3,000	\$12,000,000	502		
2249480	R	FINGERBOARD ROAD	SIRT SOUTH SHORE	S	O		2	S	9/26/2013	6.431	VG	5,100	\$20,400,000	502		
2249490	R	CLOVE ROAD	SIRT SOUTH SHORE	S	O		3	S	10/25/2012	5.917	G	5,104	\$20,416,000	502		
2249510	R	TOMPKINS AVE	WILLOW AVE, SIRT	S	O		2	S	10/24/2012	5.358	G	5,378	\$21,512,000	501		
2249520	R	HANNAH ST	SIRT SOUTH SHORE	S	O		10	S	10/18/2013	4.966	F	10,020	\$40,080,000	501		
2249530	R	MINTHORNE ST PED BRDG	SIRT SOUTH SHORE	S	O-PED		26	C	10/4/2012	4.453	F	6,000	\$24,000,000	501		
2249580	R	BELFIELD AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		5	C	10/5/2012	3.902	F	400	\$1,600,000	503		
2249710	R	WEST FOOTBRIDGE	CLOVE LAKE		WO-PED	P	2	C	3/13/2013	4.317	F	900	\$3,600,000	501		
2249720	R	EAST FOOTBRIDGE	CLOVE LAKE		WO-PED	P	2	C	3/15/2013	4.371	F	900	\$3,600,000	501		
2249730	R	BRIDGE OVER DAM	N.END CLOVE LAKE		WO-PED	P	1	C	3/15/2013	3.351	F	1,000	\$4,000,000	501		
2249760	R	MARTLINGS AVE	RICHMOND LAKE DAM		WO		2	S	6/24/2013	4.467	F	7,000	\$28,000,000	501		
2249770	R	S OF BROOKS LAKE	STREAM IN PARK		WO-PED	P	3	C	11/26/2013	4.946	F	700	\$2,800,000	501		
2249780	R	FOOTBRIDGE	BROOKS LAKE DAM		WO-PED	P	1	C	4/17/2013	3.433	F	800	\$3,200,000	501		
2249790	R	FB S OF FOREST AV	STREAM IN PARK		WO-PED	P	3	C	11/26/2013	4.595	F	700	\$2,800,000	501		
2249800	R	FOREST AVE	CLOVE LAKES PK STREAM		WO	P	1	S	11/6/2013	4.567	F	1,600	\$6,400,000	501		
2249810	R	HYLAN BLVD	LEMON CREEK		WO		1	S	2/15/2012	6.313	VG	11,400	\$45,600,000	503		
2249820	R	ARTHUR KILL ROAD	ARTHUR KILL STREAM		WO		1	S	5/20/2013	4.184	F	1,300	\$5,200,000	503		
2249840	R	TOMPKINS AVE	GREENFIELD AVE		O		1	S	3/2/2012	5.021	G	2,690	\$10,760,000	501		
2249860	R	SLATER BLVD	NEW CREEK		WO		1	S	5/17/2013	5.510	G	2,037	\$8,148,000	502		
2249870	R	TRAVIS AVE	MAIN CREEK		WO		1	S	10/16/2013	5.483	G	1,700	\$6,800,000	502		
2249880	R	CHELSEA ROAD	SAWMILL CREEK		WO		1	S	5/21/2013	6.633	VG	2,205	\$8,820,000	502		
2257569	M	MILLER HIGHWAY	TERRAIN		A		64	S	8/30/2013	4.352	F	272,475	\$1,089,900,000	104	107	
2266129	Q	DOUGLASTON PKWY	BCIP SB		A		1	S	3/19/2012	4.592	F	4,400	\$17,600,000	411		
2266139	Q	DOUGLASTON PKWY	BCIP NB		A		1	S	3/20/2012	4.673	F	6,400	\$25,600,000	411		
2266149	Q	HEMPSTEAD AVE	BCIP RAMP NB		A		2	S	3/15/2012	3.937	F	9,500	\$38,000,000	413		
2266160	Q	678I SB TO BCIP EB	ACCESS RD FROM 678I - BCIP		A		1	S	6/28/2013	3.734	F	2,300	\$9,200,000	407		
2266229	M	HHP	PED UNDERPASS @ 148 ST		A		1	S	2/2/2012	5.000	G	1,840	\$7,360,000	109		
2266230	M	HHP NB	PED UNDERPASS INWD PK		A		1	S	1/6/2012	5.000	G	800	\$3,200,000	112		
2266240	M	HHP SB	PED UNDERPASS INWD PK		A		1	S	1/6/2012	5.526	G	1,100	\$4,400,000	112		

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2266540	B	278I	BRUCKNER BLVD		A		2	S	7/10/2013	4.435	F	32,900	\$131,600,000	201		
226672A	M	W 31ST ST	AMTRAK LAYUP TRACKS	A	O		9	S	12/28/2012	3.619	F	8,800	\$35,200,000	104		
2266770	Q	BCIP	LAURELTON PKWY		A		1	S	3/8/2012	4.972	F	9,508	\$38,032,000	413		
2267130	M	RIVERSIDE DRIVE	W 145TH ST		O		1	S	4/29/2013	5.133	G	5,800	\$23,200,000	109		
2267160	Q	ROOSEVELT AVE	SHEA ROAD		O		4	S	7/29/2013	4.873	F	7,280	\$29,120,000	408		
2267199	Q	FRANCIS LEWIS BLVD	CUNNINGHAM PK RD		O		1	S	5/13/2013	5.033	G	7,085	\$28,340,000	408		
2267240	M	HRD RAMP TO GWB	HARLEM RIVER DR SB		A		55	S	9/20/2013	3.014	F	122,900	\$491,600,000	112		
2267250	M	HHP	AMTRAK - W96TH ST	A	A		55	S	12/5/2012	3.548	F	40,000	\$160,000,000	107		
2267380	M	WEST STREET	RECTOR ST		AT		1	S	11/19/2013	5.033	G	25,760	\$103,040,000	101		
2267717	M	79 ST PED PLAZA	79 ST BT BASIN GAR		A	P	10	S	5/10/2013	4.444	F	27,400	\$109,600,000	107		
2267718	M	79 ST TRAFFIC CIRC	79 ST PED PLAZA		A	P	34	S	5/15/2013	3.738	F	24,130	\$96,520,000	107		
226771A	M	79 ST RAMP TO HHP	79 ST BT BASIN GAR		AR	P	4	S	5/9/2013	4.221	F	3,131	\$12,524,000	107		
226771B	M	79 ST RAMP TO GAR	79 ST BT BASIN GAR		AR	P	21	S	5/10/2013	4.452	F	8,989	\$35,956,000	107		
226771C	M	GAR RAMP TO 79 ST	79 ST BT BASIN GAR		AR	P	21	S	5/10/2013	4.435	F	9,095	\$36,380,000	107		
226771D	M	SB HHP RAMP TO 79 ST	79 ST BT BASIN GAR		AR	P	4	S	5/10/2013	4.419	F	2,601	\$10,404,000	107		
2267860	K	BROOKLYN BR APPROACH	STORAGE (SANDS ST)		O		1	S	7/19/2012	4.411	F	6,490	\$25,960,000	302		
2268350	K	BROOKLYN PROMENADE	278I EB (BQE)		A-PED	P	35	C	6/30/2013	3.690	F	46,184	\$184,736,000	302		
2268480	M	CHAMBERS ST PED BRDG	RTE 9A - WEST ST		O-PED		10	C	7/10/2013	5.391	G	7,481	\$29,924,000	101		
2268497	K	278I W.B. (B.Q.E.)	FURMAN ST		A		45	S	8/30/2013	4.357	F	86,406	\$345,624,000	302		
2268498	K	278I E.B. (B.Q.E.)	278I WB (BQE)		A		69	S	12/9/2013	3.719	F	133,708	\$534,832,000	302		
2268507	K	278I W.B. (B.Q.E.)	YORK ST		A		6	S	7/2/2013	4.071	F	10,388	\$41,552,000	302		
2268508	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)		A		11	S	7/5/2013	4.103	F	20,529	\$82,116,000	302		
2268517	K	278I W.B. (B.Q.E.)	FURMAN ST		A		7	S	7/1/2013	4.000	F	10,988	\$43,952,000	302		
2268518	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)		A		5	S	7/5/2013	4.310	F	9,275	\$37,100,000	302		
2268650	M	FDR NB E42ND TO E49TH ST	EAST RIVER		A		119	S	10/17/2013	3.660	F	30,767	\$123,068,000	106		
2268760	M	PS-5 PED BRDG	TENTH AVE		O-PED		5	C	12/9/2013	4.184	F	1,285	\$5,140,000	112		
2268770	Q	SPRINGFIELD BLVD	EQUES. PATH (ABAND.)		O		1	S	5/9/2013	5.000	G	1,470	\$5,880,000	413		
2268920	R	AMBOY ROAD	LEMON CREEK		WO		1	S	2/15/2012	6.333	VG	1,310	\$5,240,000	503		
2268930	M	MORRIS ST PED BRDG	BKLN-BATTERY TUNN PLZ		A-PED		3	C	7/16/2013	3.875	F	1,200	\$4,800,000	101		
2269030	B	MATTHEWSON ROAD	MAC CRACKEN AVE		O		15	S	12/7/2012	4.316	F	14,880	\$59,520,000	205		
2269190	M	W 70TH ST	AMTRAK	A	O		3	S	11/19/2013	5.542	G	17,258	\$69,032,000	107		
2269200	M	RIVERSIDE DRIVE SOUTH	AMTRAK	A	O		11	S	11/4/2013	6.069	VG	69,040	276,160,000.00	107		
2269210	M	W 68TH ST	AMTRAK	A	O		3	S	11/5/2013	6.593	VG	5,382	\$21,528,000	107		
2269240	M	RIVERSIDE DRIVE	W. 155TH ST		O		1	S	4/25/2013	4.640	F	2,780	\$11,120,000	109	112	
2269600	K	ERSKINE ST	BSHP		A		1	S	8/20/2012	5.938	G	8,258	\$33,032,000	305		
2269730	R	PARKING EXIT RAMP	SIRT	S	O	F	10	S	11/30/2012	6.097	VG	20,727	\$82,908,000	501		

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2269740	R	BUS STATION NORTH	SIRT	S	O	F	12	S	10/26/2012	4.660	F	64,605	\$258,420,000	501		
2269750	R	BUS STATION SOUTH	SIRT	S	O	F	12	S	11/14/2012	5.360	G	154,688	\$618,752,000	501		
2269760	R	NORTH RAMP	SIRT	S	O	F	9	S	11/30/2012	6.278	VG	17,589	\$70,356,000	501		
2269770	R	BUS STA ENTR RAMP	SIRT	S	O	F	19	S	10/11/2013	5.611	G	39,333	\$157,332,000	501		
2269780	R	PARKING ENTR RAMP	SIRT	S	O	F	3	S	11/12/2012	5.944	G	8,589	\$34,356,000	501		
2269790	R	BUS STATION EXIT RAMP	SIRT	S	O	F	7	S	10/22/2012	4.778	F	28,721	\$114,884,000	501		
2269820	M	E 81 ST PED BRDG	FDR DRIVE N.B.		A-PED	P	3	C	5/12/2013	3.341	F	900	\$3,600,000	108		
2270030	B	E 156TH ST	ACCESS TO HOUSING		O	ED	16	S	12/14/2012	3.493	F	49,696	\$198,784,000	204		
2270170	R	SI FERRY PED BRDG	PARKING LOT EXIT RDWY		O-PED	F	5	C	6/17/2010	3.163	F	2,917	\$11,668,000	501		
2270180	R	BOROUGH PLACE - RAMP A	STATEN ISLAND RAILWAY	S	O	F	1	S	12/29/2005	4.938	F	1,250	\$5,000,000	501		
2270250	B	BROOKE AVE	CSX TRANS - PT MORRIS		O		1	S	8/9/2013	3.727	F	21,035	\$84,140,000	201		
2300130	Q	ROCKAWAY BLVD	HOOK CREEK		WO		3	S	7/15/2013	6.271	VG	18,302	\$73,208,000	413		
7703720	Q	216TH ST PED BRDG	LIRR PORT WASH BR	L	O-PED		6	C	9/30/2013	3.889	F	400	\$1,600,000	411		
7705510	Q	167TH ST PED BRDG	LIRR PORT WASH BR	L	O-PED		3	C	10/1/2013	4.000	F	600	\$2,400,000	407		
M00001	M	W191ST ST PED TNL	BROADWAY - IRT #1 SUBWAY		O-PED		1	C	12/18/2013	4.545	F	2,000	\$8,000,000	112		
M00003	M	HHP ON/OFF RMP-79TH ST SO. SIDE	PED PATH SO. OF 79TH ST		A		1	C	6/11/2013	4.167	F	900	\$3,600,000	107		
M00004	M	HHP ON/OFF RMP-79TH ST NO. SIDE	PED PATH NO. OF 79TH ST		A		1	C	6/24/2013	5.000	G	900	\$3,600,000	107		
Q00002	Q	BCIP	PATH OPP. 88TH RD		A		1	C	5/17/2013	4.667	F	1,272	\$5,088,000	413		
788 OPEN BRIDGES				OPEN SPANS 4,359				OPEN SF				15,533,529	58,380,956,000	ALL		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241129	B	E 149TH ST	AMTRAK - CSX	AC	O		2	S	10/8/2012	4.620	F	18,258	\$73,032,000	201	202	
2241040	B	THIRD AVE	CSX TRANS - PT MORRIS	C	O		1	S	7/25/2012	4.563	F	2,700	\$10,800,000	201	203	
2242260	B	EAGLE AVE	E 161ST ST		O		1	S	2/10/2012	5.017	G	2,800	\$11,200,000	201	203	
2241560	B	E 149TH ST	METRO NORTH RR HAR	M	O		8	S	5/8/2012	4.819	F	27,900	\$111,600,000	201	204	
224005B	B	TO BRUCKNER BLVD	RELIEF		OR		5	S	10/3/2013	6.831	VG	12,100	\$48,400,000	201		
224006A	B	FROM BRUCKNER BLVD	RELIEF		OR		5	S	9/14/2013	6.535	VG	14,037	\$56,148,000	201		
2241000	B	WESTCHESTER AVE	CSX TRANS - PT MORRIS	C	O		1	S	6/11/2012	4.660	F	1,740	\$6,960,000	201		
2241010	B	E 156TH STREET	CSX TRANS - PT MORRIS	C	O		1	S	6/18/2012	4.612	F	2,400	\$9,600,000	201		
2241050	B	E 149TH ST/JACKSON AVE	CSX TRANS - PT MORRIS	C	O		1	S	6/7/2012	4.850	F	65,000	\$260,000,000	201		
2241060	B	ST. MARYS & CONCORD	CSX TRANS - PT MORRIS	C	O		1	S	8/15/2012	5.370	G	4,500	\$18,000,000	201		
2241070	B	WALES AVE	CSX TRANS - PT MORRIS	C	O		1	S	8/8/2012	6.467	VG	2,535	\$10,140,000	201		
2241080	B	SOUTHERN BLVD	CSX TRANS - PT MORRIS	C	O		1	S	8/8/2012	4.093	F	3,900	\$15,600,000	201		
2241099	B	BRUCKNER BLVD	CSX TRANS - PT MORRIS	C	O		1	S	8/7/2012	6.450	VG	6,700	\$26,800,000	201		
2241550	B	E 144TH ST	METRO NORTH RR HAR	M	O		2	S	8/30/2013	6.181	VG	8,290	\$33,160,000	201		
2242299	B	GRAND CONCOURSE	E 138TH ST		O		1	S	6/11/2013	4.867	F	9,500	\$38,000,000	201		
2266540	B	278I	BRUCKNER BLVD		A		2	S	7/10/2013	4.435	F	32,900	\$131,600,000	201		
2270250	B	BROOKE AVE	CSX TRANS - PT MORRIS		O		1	S	8/9/2013	3.727	F	21,035	\$84,140,000	201		
2066671	B	BRUCKNER EXPWY SB	BRONX RIVER		WA		3	S	10/15/2013	5.222	G	12,400	\$49,600,000	202	209	
2066672	B	BRUCKNER EXPWY NB	BRONX RIVER		WA		8	S	10/15/2013	4.418	F	22,300	\$89,200,000	202	209	
2240180	B	WESTCHESTER AVE	BRONX RIVER		WO		1	S	8/22/2013	4.667	F	5,476	\$21,904,000	202	209	
2241230	B	WESTCHESTER AVE	AMTRAK - CSX	AC	O		3	S	11/26/2012	5.944	G	15,600	\$62,400,000	202	209	
2075351	B	BRUCKNER EXPWY SB	AMTRAK - CSX	AC	A		1	S	11/19/2012	6.032	VG	11,600	\$46,400,000	202		
2075352	B	BRUCKNER EXPWY NB	AMTRAK - CSX	AC	A		1	S	11/19/2012	6.444	VG	10,900	\$43,600,000	202		
2076929	B	BRUCKNER EXPWY	CSX - HUNTS POINT	C	A		1	S	8/28/2013	4.567	F	3,800	\$15,200,000	202		
2241139	B	LEGGETT AVE	AMTRAK - CSX	AC	O		3	S	10/8/2012	4.620	F	41,551	\$166,204,000	202		
2241159	B	LONGWOOD AVE	AMTRAK - CSX	AC	O		2	S	10/10/2012	5.236	G	10,625	\$42,500,000	202		
2241169	B	LAFAYETTE AVE	AMTRAK - CSX	AC	O		1	S	10/5/2012	5.651	G	12,000	\$48,000,000	202		
2241170	B	TIFFANY ST	AMTRAK - CSX	AC	O		1	S	11/18/2013	5.745	G	7,267	\$29,068,000	202		
2241180	B	BARRETTO ST	AMTRAK - CSX	AC	O		1	S	10/8/2012	6.000	G	5,313	\$21,252,000	202		
2241190	B	HUNTS POINT AVE	AMTRAK - CSX	AC	O		1	S	10/12/2012	4.828	F	10,049	\$40,196,000	202		
2241200	B	FAILE ST	AMTRAK - CSX	AC	O		1	S	10/12/2012	5.578	G	6,208	\$24,832,000	202		
2241210	B	BRYANT AVE	AMTRAK - CSX	AC	O		1	S	11/19/2013	3.051	F	5,300	\$21,200,000	202		
2241020	B	E 161ST STREET	CSX TRANS - PT MORRIS	C	O		1	S	3/21/2012	6.700	VG	12,800	\$51,200,000	203		
2241030	B	E 163RD STREET	CSX TRANS - PT MORRIS	C	O		1	S	3/1/2012	4.611	F	3,200	\$12,800,000	203		
2241110	B	MELROSE AVE	CSX TRANS - PT MORRIS	C	O		8	S	8/20/2013	5.667	G	37,854	\$151,416,000	203		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241620	B	E 162ND ST	METRO NORTH RR HAR	M	O		1	S	4/20/2012	4.859	F	4,700	\$18,800,000	203		
2241630	B	E 165TH ST	METRO NORTH RR HAR	M	O		1	S	4/20/2012	4.300	F	16,400	\$65,600,000	203		
2241650	B	E 167TH ST	METRO NORTH RR HAR	M	O		1	S	4/17/2012	5.510	G	3,363	\$13,452,000	203		
2241660	B	E 168TH ST	METRO NORTH RR HAR	M	O		1	S	4/18/2012	4.641	F	4,800	\$19,200,000	203		
2241670	B	E 169TH ST	METRO NORTH RR HAR	M	O		1	S	4/18/2012	4.250	F	3,300	\$13,200,000	203		
2241680	B	E 170TH ST	METRO NORTH RR HAR	M	O		1	S	4/16/2012	6.333	VG	3,150	\$12,600,000	203		
2241700	B	ST PAULS PL PED BRDG	METRO NORTH RR HAR	M	O-PED		2	C	11/18/2013	4.859	F	600	\$2,400,000	203		
2241710	B	CLAREMONT PKWY	METRO NORTH RR HAR	M	O		1	S	4/16/2012	4.426	F	6,300	\$25,200,000	203		
2241720	B	E 173RD ST	METRO NORTH RR HAR	M	O		1	S	4/16/2012	4.875	F	3,000	\$12,000,000	203		
2241610	B	E 161ST ST	METRO NORTH RR HAR	M	O		1	S	9/24/2013	5.050	G	6,600	\$26,400,000	204	203	
2076640	B	DEPOT PLACE	METRO NORTH RR HUD	CM	O		11	S	9/13/2013	4.653	F	26,566	\$106,264,000	204		
2241409	B	GRAND CONCOURSE	METRO NORTH RR HUD	MT	O		1	S	9/9/2013	3.797	F	14,300	\$57,200,000	204		
2241410	B	WALTON AVE	METRO NORTH RR HUD	M	O		1	S	5/16/2012	4.953	F	3,600	\$14,400,000	204		
2241420	B	GERARD AVE	METRO NORTH RR HUD	M	O		1	S	5/16/2012	5.797	G	5,063	\$20,252,000	204		
2241430	B	RIVER AVE	METRO NORTH RR HUD	M	O		1	S	8/30/2013	6.156	VG	5,040	\$20,160,000	204		
2241590	B	CONCOURSE VILL AVE	METRO NORTH RR HAR	M	O		1	S	4/20/2012	3.969	F	12,077	\$48,308,000	204		
2241600	B	E 158TH ST	METRO NORTH RR HAR	M	O		1	S	8/31/2013	5.200	G	3,400	\$13,600,000	204		
2242259	B	GRAND CONCOURSE	E 161ST ST		O		1	S	7/31/2012	6.333	VG	27,017	\$108,068,000	204		
2242280	B	GRAND CONCOURSE	E 167TH ST		O		2	S	8/20/2013	4.474	F	42,900	\$171,600,000	204		
2242300	B	GRAND CONCOURSE	E 170TH ST		O		2	S	2/23/2012	4.789	F	39,300	\$157,200,000	204		
2242319	B	GRAND CONCOURSE	E 174TH ST	T	O		1	S	2/24/2012	4.067	F	14,900	\$59,600,000	204		
2270030	B	E 156TH ST	ACCESS TO HOUSING		O	ED	16	S	12/14/2012	3.493	F	49,696	\$198,784,000	204		
2242350	B	EAST FORDHAM RD	GRAND CONCOURSE		O		1	S	2/17/2012	4.567	F	10,300	\$41,200,000	205	207	
2241460	B	W TREMONT AVE	METRO NORTH RR HUD	M	O		8	S	8/7/2013	3.866	F	12,900	\$51,600,000	205		
2242329	B	GRAND CONCOURSE	E 175TH ST	T	O		1	S	7/17/2012	4.833	F	11,900	\$47,600,000	205		
2242330	B	GRAND CONCOURSE	E TREMONT AVE		O		1	S	9/12/2013	5.883	G	11,700	\$46,800,000	205		
2242360	B	GRAND CONCOURSE	BURNSIDE AVE		O		2	S	8/2/2012	4.441	F	8,400	\$33,600,000	205		
2269030	B	MATTHEWSON ROAD	MAC CRACKEN AVE		O		15	S	12/7/2012	4.316	F	14,880	\$59,520,000	205		
2241839	B	E 189TH ST	METRO NORTH RR HAR	M	O		1	S	8/28/2013	6.133	VG	43,157	\$172,628,000	206	207	
2242400	B	E 180TH ST	BRONX RIVER		WO		1	S	8/28/2012	4.810	F	4,500	\$18,000,000	206	227	
2241269	B	E 177TH ST	AMTRAK - CSX	AC	O		3	S	8/27/2012	5.403	G	16,606	\$66,424,000	206		
2241740	B	E 175TH ST	METRO NORTH RR HAR	M	O		1	S	4/16/2012	3.938	F	3,600	\$14,400,000	206		
2241760	B	E TREMONT AVE	METRO NORTH RR HAR	M	O		1	S	8/29/2013	6.450	VG	8,424	\$33,696,000	206		
2241770	B	E 178TH ST PED BRDG	METRO NORTH RR HAR	M	O-PED		1	C	11/20/2013	4.921	F	700	\$2,800,000	206		
2241780	B	E 179TH ST PED BRDG	METRO NORTH RR HAR	M	O-PED		6	C	11/20/2013	5.639	G	700	\$2,800,000	206		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPANS	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241790	B	E 180TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	3.906	F	5,000	\$20,000,000	206		
2241800	B	E 183TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	4.109	F	4,080	\$16,320,000	206		
2241810	B	E 188TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	4.063	F	5,300	\$21,200,000	206		
2241820	B	E 187TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	4.344	F	3,800	\$15,200,000	206		
2242030	B	CROTONA AVE	BRONX PELHAM PKWY		O		2	S	1/18/2012	5.447	G	7,600	\$30,400,000	206		
2242149	B	E TREMONT AVE	BRONX RIVER		WO		2	S	5/30/2012	4.500	F	12,900	\$51,600,000	206		
2241489	B	W 225TH ST	CSX TRASP - PUTNAM	C	O		2	S	6/9/2012	5.328	G	10,900	\$43,600,000	207	208	
2230270	B	MOSHOLU PARKWAY	WEBSTER AVE		A		1	S	5/21/2013	5.203	G	8,480	\$33,920,000	207		
2230287	B	JEROME AVE	MOSHOLU PARKWAY	T	A		3	S	5/22/2013	4.816	F	11,800	\$47,200,000	207		
2241470	B	W FORDHAM RD	METRO NORTH RR HUD	M	O		4	S	9/9/2013	5.694	G	16,052	\$64,208,000	207		
2241930	B	BEDFORD PARK BLVD	NYCTA IND YARDS	T	O		4	S	11/20/2012	5.403	G	46,300	\$185,200,000	207		
2241940	B	W 205TH ST	NYCTA IND YARDS	T	O		4	S	11/20/2012	5.514	G	32,508	\$130,032,000	207		
2242340	B	GRAND CONCOURSE	EAST KINGSBRIDGE		O		2	S	7/24/2012	4.714	F	18,285	\$73,140,000	207		
2242370	B	GRAND CONCOURSE	BEDFORD PARK BLVD		O		1	S	2/16/2012	4.137	F	8,418	\$33,672,000	207		
2242380	B	GRAND CONCOURSE	E 204TH ST		O		1	S	9/11/2013	5.484	G	9,272	\$37,088,000	207		
2229440	B	HHP	KAPPOCK ST		A		1	S	7/18/2013	4.931	F	3,900	\$15,600,000	208		
2229450	B	W 232ND ST	HHP		A		2	S	7/22/2013	5.026	G	4,900	\$19,600,000	208		
2229460	B	W 236TH ST PED BRDG	HHP		A-PED		3	C	7/8/2013	4.672	F	2,500	\$10,000,000	208		
2229470	B	W 239TH ST	HHP		A		2	S	6/3/2013	5.053	G	6,100	\$24,400,000	208		
2229480	B	MANHATTAN COLL PKWY	HHP		A		3	S	6/3/2013	5.053	G	6,200	\$24,800,000	208		
2229490	B	W 246TH ST	HHP		A		2	S	6/3/2013	4.868	F	5,600	\$22,400,000	208		
2229500	B	W 252ND ST	HHP		A		2	S	1/20/2012	5.372	G	4,500	\$18,000,000	208		
2229510	B	RIVERDALE AVE	HHP		A		2	S	7/22/2013	5.079	G	5,200	\$20,800,000	208		
2229520	B	FIELDSTON ROAD	HHP		A		1	S	7/29/2013	4.900	F	6,600	\$26,400,000	208		
2229530	B	HHP	BROADWAY		A		1	S	7/29/2013	4.574	F	7,500	\$30,000,000	208		
2241490	B	W 230TH ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	5/8/2013	5.625	G	5,600	\$22,400,000	208		
2241509	B	W 231ST ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	7/26/2012	4.745	F	4,723	\$18,892,000	208		
2241510	B	W 233RD ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	5/8/2013	5.275	G	3,760	\$15,040,000	208		
2241520	B	W 234TH ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	5/8/2013	5.176	G	3,770	\$15,080,000	208		
2066720	B	E 174TH ST	SHERIDAN EXPWY/AMTRAK	A	A		13	S	8/20/2012	4.153	F	35,573	\$142,292,000	209	203	
2241270	B	E TREMONT AVE	AMTRAK - CSX	AC	O		2	S	8/27/2012	5.153	G	22,300	\$89,200,000	209	211	
1066510	B	BRUCKNER EXPWY SVC RD	WESTCHESTER CREEK		WMA		17	S	10/17/2013	3.516	F	39,400	\$157,600,000	209		
206672A	B	174TH ST-NTH PED BRDG	8951 - SHERIDAN EXPWY		A-PED		4	C	4/8/2013	4.667	F	1,800	\$7,200,000	209		
206672B	B	174TH ST-STH PED BRDG	8951 - SHERIDAN EXPWY		A-PED		4	C	4/8/2013	4.750	F	1,900	\$7,600,000	209		
2075837	B	WESTCHESTER AVE	HUTCHINSON RVR PKWY		A		2	S	6/1/2013	4.083	F	15,858	\$63,432,000	210	211	

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2075849	B	BRONX PELHAM PKWY	HUTCHINSON RVR PKWY		A		2	S	6/6/2012	3.763	F	17,600	\$70,400,000	210	211	
2241959	B	HUTCHINSON RVR PKWY	AMTRAK - CSX	AC	O		1	S	5/25/2012	5.780	G	15,444	\$61,776,000	210	211	
2075859	B	HUTCHINSON RVR PKWY	HUTCHINSON RIVER		WMA		7	S	10/22/2013	4.703	F	60,500	\$242,000,000	210	228	
2075820	B	E TREMONT AVE	HUTCHINSON RVR PKWY		A		2	S	11/21/2013	4.444	F	10,200	\$40,800,000	210		
2076109	B	BE NB SERVICE RD	HUTCHINSON RVR PKWY		A		2	S	8/15/2013	5.105	G	7,800	\$31,200,000	210		
2076129	B	BE SB SERVICE RD	HUTCHINSON RVR PKWY		A		2	S	1/19/2012	5.079	G	7,100	\$28,400,000	210		
2241910	B	GUN HILL ROAD	NYCTA-DYRE AVE LN	T	O		1	S	11/19/2012	5.750	G	7,500	\$30,000,000	211	212	
2229560	B	BRONX PELHAM PKWY	AMTRAK - CSX	AC	A		3	S	5/25/2012	4.542	F	24,591	\$98,364,000	211		
2241329	B	WHITE PLAINS ROAD	AMTRAK - CSX	AC	O		1	S	10/9/2012	4.781	F	6,900	\$27,600,000	211		
2241330	B	UNIONPORT ROAD	AMTRAK - CSX	AC	O		1	S	10/9/2012	4.781	F	7,631	\$30,524,000	211		
2241369	B	WILLIAMSBRIDGE RD	AMTRAK - CSX	AC	O		2	S	8/27/2012	4.836	F	6,510	\$26,040,000	211		
2241870	B	E 233RD ST	METRO NORTH RR HAR	M	O		1	S	4/30/2012	4.902	F	7,664	\$30,656,000	212	207	
1067150	B	NEREID AVE (E. 240TH ST)	BRONX RIVER PKWY	M	O		10	S	10/19/2013	4.632	F	57,750	\$231,000,000	212		
2229579	B	BOSTON POST ROAD	HUTCHINSON RIVER		WO		14	S	6/21/2013	4.042	F	95,700	\$382,800,000	212		
2241860	B	GUN HILL RD	METRO NORTH RR HAR	M	O		1	S	5/1/2012	6.531	VG	9,128	\$36,512,000	212		
2241890	B	E 241ST ST	BRP, METRO NORTH HAR	M	WO		28	S	11/30/2013	4.417	F	49,500	\$198,000,000	212		
2241900	B	EASTCHESTER ROAD	NYCTA-DYRE AVE LN	T	O		3	S	11/19/2012	4.486	F	13,500	\$54,000,000	212		
2242071	B	BRONX BLVD S.B.	BRONX RIVER		WO		1	S	3/19/2012	4.633	F	1,800	\$7,200,000	212		
2242072	B	BRONX BLVD N.B.	BRONX RIVER		WO		1	S	3/19/2012	4.967	F	1,800	\$7,200,000	212		
2242081	B	BRONX BLVD S.B.	BRONX RIVER		WO		1	S	3/21/2012	4.467	F	2,800	\$11,200,000	212		
2242082	B	BRONX BLVD N.B.	BRONX RIVER		WO		1	S	3/22/2012	4.467	F	2,800	\$11,200,000	212		
2242099	B	PARK ROAD (204TH ST)	BRONX RIVER		WO		1	S	6/4/2012	4.655	F	4,700	\$18,800,000	212		
2242430	B	GUN HILL ROAD	BRONX BLVD		O		4	S	2/15/2012	5.018	G	9,400	\$37,600,000	212		
2242440	B	GUN HILL ROAD	BRONX RIVER		WO		1	S	2/13/2012	5.300	G	8,700	\$34,800,000	212		
2242459	B	E 233RD ST	BRONX RIVER		WO		1	S	2/22/2012	4.233	F	7,000	\$28,000,000	212		
2242460	B	E 233RD ST	ENTR RD BNX RVR PKWY		O		1	S	1/10/2012	4.867	F	5,300	\$21,200,000	212		
2229540	B	VAN CRTLDT PARK	HHP		A-PED	P	2	C	7/8/2013	4.759	F	3,900	\$15,600,000	226		
2229550	B	VAN CRTLDT EQUES	HHP		A-PED	P	2	C	7/8/2013	4.556	F	2,100	\$8,400,000	226		
2230290	B	MOSHOLU PARKWAY	EQUESTRIAN PATH		A		1	S	1/20/2012	4.310	F	4,300	\$17,200,000	226		
2230300	B	MOSHOLU PARKWAY	CONRAIL (ABANDONED)	C	A		1	S	8/31/2012	4.271	F	4,600	\$18,400,000	226		
2230310	B	MOSHOLU PARKWAY	SB RAMP TO HHP		A		2	S	9/16/2013	4.919	F	7,400	\$29,600,000	226		
2230260	B	MOSHOLU PARKWAY	METRO NORTH	M	A		1	S	4/21/2012	5.516	G	8,880	\$35,520,000	227	207	
2241259	B	204TH ST PED BRDG	METRO NORTH RR HAR	M	O-PED	P	1	C	11/23/2013	3.845	F	4,700	\$18,800,000	227	207	
2241840	B	BEDFORD PARK BLVD	METRO NORTH RR HAR	M	O		1	S	4/20/2012	4.844	F	6,400	\$25,600,000	227	207	
2065629	B	BRONX RIVER PKWY	BOSTON RD - BX ZOO		A		1	S	8/14/2013	5.138	G	6,300	\$25,200,000	227		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230250	B	MOSHOLU PARKWAY	BRONX RIVER		WA		5	S	1/12/2012	4.211	F	16,300	\$65,200,000	227		
2242010	B	EAST FORDHAM RD	BRONX RIVER		WA		1	S	3/5/2012	5.207	G	9,200	\$36,800,000	227		
2242029	B	SOUTHERN BLVD	EAST FORDHAM ROAD		O		2	S	1/18/2012	4.605	F	12,900	\$51,600,000	227		
2242100	B	BOTANICAL GARDEN ROAD	TWIN LAKES		WO	P	1	S	3/1/2012	4.833	F	2,200	\$8,800,000	227		
2242110	B	BOSTON ROAD	BRONX RIVER		WO		1	S	3/2/2012	4.227	F	6,200	\$24,800,000	227		
2242120	B	FTBG N OF RTE 1	BRONX RIVER		WO-PED	P	1	C	8/7/2013	3.583	F	1,900	\$7,600,000	227		
2242210	B	MAGNOLIA WAY	BRONX RIVER		WO		3	S	5/31/2012	4.763	F	6,200	\$24,800,000	227		
2242220	B	SNUFF MILL ROAD	BRONX RIVER		WO		2	S	1/13/2012	4.395	F	4,800	\$19,200,000	227		
2240200	B	SHORE ROAD	HUTCHINSON RIVER		WMO		7	S	6/25/2013	4.537	F	43,576	\$174,304,000	228		
2240210	B	CITY ISLAND ROAD	EASTCHESTER BAY		WO		7	S	10/24/2013	3.389	F	19,915	\$79,660,000	228		
2241380	B	PELHAM BAY PK EQUES	AMTRAK - CSX	AC	O-PED	P	1	C	7/30/2013	3.339	F	4,223	\$16,892,000	228		
2241390	B	SHORE RD CIRCLE	AMTRAK - CSX	AC	O		1	S	7/3/2012	7.000	VG	8,067	\$32,268,000	228		
2240089	BM	145TH ST BRIDGE	HARLEM RIVER		WMO		8	S	8/15/2013	6.278	VG	56,700	\$226,800,000	110	204	201
1240090	BM	MACOMBS DAM BRIDGE	HARLEM RIVER	M	WMO		52	S	12/13/2013	3.986	F	220,000	\$880,000,000	110	204	
2240059	BM	WILLIS AVENUE	HARLEM RIVER		WMO		15	S	12/17/2012	6.833	VG	171,105	\$684,420,000	111	201	
2240069	BM	THIRD AVE BRIDGE	HARLEM RIVER		WMO		14	S	9/20/2012	5.845	G	100,232	\$400,928,000	111	201	
2240079	BM	MADISON AVE BRIDGE	HARLEM RIVER		WMO		21	S	9/20/2012	4.944	F	80,000	\$320,000,000	111	201	
2246580	BM	HIGH BRIDGE PDOVP	I87 - HARLEM RIVER	M	WA-PED	P	11	P	8/12/2002	3.759	F	34,100	\$136,400,000	112	204	
2066919	BM	WASHINGTON BRIDGE	HARLEM RIVER	M	WO		9	S	11/29/2012	4.642	F	128,339	\$513,356,000	112	205	204
2240137	BM	BROADWAY BRIDGE	HARLEM RIVER	TM	WMO		3	S	12/11/2013	3.806	F	46,848	\$187,392,000	112	207	208
2240138	BM	NYCTA IRT	HARLEM RVR/BROADWAY	TM	WMO		3	S	10/9/2013	4.720	F	19,520	\$78,080,000	112	207	208
2240120	BM	W 207TH/W FORDHAM RD	HARLEM RIVER		WMO		5	S	9/5/2012	5.056	G	31,784	\$127,136,000	112	207	
2240290	K	METROPOLITAN AVE	ENGLISH KILLS		WMO		5	S	7/9/2013	5.444	G	10,550	\$42,200,000	301		
2230410	K	278I EB (B.Q.E.)	WASHINGTON ST		A		1	S	6/25/2012	4.500	F	2,500	\$10,000,000	302		
2230420	K	278I WB (B.Q.E.)	WASHINGTON ST		A		1	S	6/25/2012	5.047	G	2,500	\$10,000,000	302		
2230430	K	278I (B.Q.E.) RAMP TO BKLN BRDG	PROSPECT ST		A		1	S	1/5/2012	5.000	G	1,100	\$4,400,000	302		
2230440	K	278I WB (B.Q.E.)	ADAMS ST		A		1	S	1/10/2012	5.167	G	2,700	\$10,800,000	302		
2230450	K	278I EB (B.Q.E.)	ADAMS ST		A		1	S	1/10/2012	4.933	F	2,500	\$10,000,000	302		
2230460	K	278I (B.Q.E.)	PEARL ST		A		1	S	2/2/2012	5.467	G	4,500	\$18,000,000	302		
2230470	K	278I (B.Q.E.)	JAY ST		A		1	S	2/3/2012	4.833	F	5,100	\$20,400,000	302		
2230480	K	278I (B.Q.E.)	PROSPECT ST		A		1	S	2/13/2012	5.056	G	8,400	\$33,600,000	302		
2230490	K	278I (B.Q.E.)	SANDS ST		A		1	S	2/22/2012	5.093	G	12,600	\$50,400,000	302		
2230500	K	278I (B.Q.E.)	RAMP TO BQE EB		A		1	S	2/21/2012	4.967	F	1,300	\$5,200,000	302		
2230510	K	278I (B.Q.E.)	NASSAU ST		A		6	S	6/11/2012	5.169	G	51,200	\$204,800,000	302		
2230857	K	278I WB (B.Q.E.)	JORALEMON ST		A		1	S	3/5/2012	5.000	G	2,100	\$8,400,000	302		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230858	K	278I EB (B.Q.E.)	JORALEMON ST / BQE WB		A		1	S	11/5/2013	4.619	F	5,900	\$23,600,000	302		
2230870	K	COLUMBIA HEIGHTS	278I (B.Q.E.)		A		1	S	7/9/2012	4.383	F	16,500	\$66,000,000	302		
2230887	K	278I W.B. (B.Q.E.)	CADMAN PLAZA		A		2	S	6/29/2012	4.569	F	4,500	\$18,000,000	302		
2230888	K	278I E.B. (B.Q.E.)	CADMAN PLAZA / 278I WB		A		2	S	6/29/2012	5.263	G	4,500	\$18,000,000	302		
2243280	K	6TH AVE	LIRR ATLANTIC AVE	L	O		9	S	9/13/2012	5.431	G	12,276	\$49,104,000	302		
2243290	K	CARLTON AVE	LIRR ATLANTIC AVE	L	O		7	S	7/29/2013	6.806	VG	10,823	\$43,292,000	302		
2244440	K	SOUTH OF TILLARY ST	NAVY ST		O-PED		1	C	8/5/2013	3.958	F	6,200	\$24,800,000	302		
2267860	K	BROOKLYN BR APPROACH	STORAGE (SANDS ST)		O		1	S	7/19/2012	4.411	F	6,490	\$25,960,000	302		
2268350	K	BROOKLYN PROMENADE	278I EB (BQE)		A-PED	P	35	C	6/30/2013	3.690	F	46,184	\$184,736,000	302		
2268497	K	278I W.B. (B.Q.E.)	FURMAN ST		A		45	S	8/30/2013	4.357	F	86,406	\$345,624,000	302		
2268498	K	278I E.B. (B.Q.E.)	278I WB (BQE)		A		69	S	12/9/2013	3.719	F	133,708	\$534,832,000	302		
2268507	K	278I W.B. (B.Q.E.)	YORK ST		A		6	S	7/2/2013	4.071	F	10,388	\$41,552,000	302		
2268508	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)		A		11	S	7/5/2013	4.103	F	20,529	\$82,116,000	302		
2268517	K	278I W.B. (B.Q.E.)	FURMAN ST		A		7	S	7/1/2013	4.000	F	10,988	\$43,952,000	302		
2268518	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)		A		5	S	7/5/2013	4.310	F	9,275	\$37,100,000	302		
2230000	K	HIGHLAND BLVD E.B.	JACKIE ROBINSON PKWY		A		1	S	3/14/2012	4.724	F	4,900	\$19,600,000	305		
2230010	K	HIGHLAND BLVD W.B.	JACKIE ROBINSON PKWY		A		1	S	3/14/2012	4.767	F	3,500	\$14,000,000	305		
2230020	K	HIGHLAND BLVD W.B.	JR PKWY E.B. ENTR RAMP		A		2	S	3/14/2012	4.974	F	4,700	\$18,800,000	305		
2230220	K	HIGHLAND BLVD NB	VERMONT AVE		A		1	S	6/5/2013	5.857	G	3,995	\$15,980,000	305		
2244170	K	ATLNTC AV SVC RD E.B.	EAST NEW YORK AVE		O		2	S	8/5/2013	5.474	G	3,192	\$12,768,000	305		
2244180	K	ATLNTC AV SVC RD W.B.	EAST NEW YORK AVE		O		2	S	8/5/2013	5.105	G	5,600	\$22,400,000	305		
2244460	K	CONDUIT BLVD NB	ATLANTIC AVE EB		O		1	S	10/8/2012	4.833	F	3,800	\$15,200,000	305		
2269600	K	ERSKINE ST	BSHP		A		1	S	8/20/2012	5.938	G	8,258	\$33,032,000	305		
2230350	K	SUMMIT ST PED BRDG	278I (B.Q.E.)		A-PED		2	S	3/19/2012	4.614	F	1,400	\$5,600,000	306		
2230360	K	UNION ST	278I (B.Q.E.)		A		2	S	3/19/2012	4.375	F	5,000	\$20,000,000	306		
2230370	K	SACKETT ST	278I (B.Q.E.)		A		2	S	3/14/2012	4.500	F	5,000	\$20,000,000	306		
2230380	K	KANE ST	278I (B.Q.E.)		A		2	S	8/5/2013	4.153	F	5,000	\$20,000,000	306		
2230390	K	CONGRESS ST	278I (B.Q.E.)		A		2	S	3/26/2012	6.029	VG	5,000	\$20,000,000	306		
2240232	K	HAMILTON AVE BRIDGE	GOWANUS CANAL		WMO		3	S	8/13/2013	5.361	G	7,300	\$29,200,000	306		
2240240	K	NINTH ST BRIDGE	GOWANUS CANAL		WMO		3	S	6/25/2013	6.065	VG	5,772	\$23,088,000	306		
2240250	K	THIRD ST	GOWANUS CANAL		WMO		5	S	5/31/2013	4.722	F	4,900	\$19,600,000	306		
2240260	K	CARROLL ST	GOWANUS CANAL		WMO		2	S	8/2/2013	5.042	G	3,000	\$12,000,000	306		
2240270	K	UNION ST	GOWANUS CANAL		WMO		5	S	8/10/2012	4.000	F	4,900	\$19,600,000	306		
2240310	K	THIRD AVE	GOWANUS CANAL		WO		1	S	6/6/2013	6.633	VG	3,200	\$12,800,000	306		
2240231	K	HAMILTON AVE BRIDGE	GOWANUS CANAL		WMO		3	S	9/13/2012	5.472	G	7,300	\$29,200,000	307	306	

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2066100	K	5TH AVE	27 X PROSPECT EXPWY		A		1	S	5/18/2012	5.063	G	8,800	\$35,200,000	307		
2243839	K	4TH AVE	NYCTA BMT TRACKS	T	O		1	S	8/20/2013	6.250	VG	4,440	\$17,760,000	307		
2243920	K	7TH AVE	NYCTA BMT YARD	T	O		2	S	9/10/2012	6.042	VG	4,700	\$18,800,000	307		
2244470	K	SEELEY ST	PROSPECT AVE		O		1	S	6/11/2013	4.033	F	8,482	\$33,928,000	307		
2244480	K	5TH AVE	GREENWOOD CEMETERY		O		1	S	9/25/2013	5.333	G	3,600	\$14,400,000	307		
2243170	K	STERLING PLACE	FRANKLIN SHUTTLE	T	O		1	S	8/23/2013	6.438	VG	2,300	\$9,200,000	308		
2243180	K	ST JOHNS PLACE	FRANKLIN SHUTTLE	T	O		1	S	8/23/2013	6.656	VG	2,300	\$9,200,000	308		
2243190	K	LINCOLN PLACE	FRANKLIN SHUTTLE	T	O		1	S	9/6/2012	6.797	VG	2,460	\$9,840,000	308		
2243279	K	EASTERN PKWY	FRANKLIN SHUTTLE	T	O		1	S	9/6/2012	4.861	F	7,700	\$30,800,000	309	308	
2243250	K	WASHINGTON AVE	FRANKLIN SHUTTLE	T	O		1	S	9/4/2012	6.000	G	3,657	\$14,628,000	309	355	
2243200	K	UNION ST	FRANKLIN SHUTTLE	T	O		2	S	9/5/2012	5.000	G	4,100	\$16,400,000	309		
2243210	K	PRESIDENT ST	FRANKLIN SHUTTLE	T	O		2	S	9/5/2012	5.157	G	2,500	\$10,000,000	309		
2243220	K	CARROLL ST PED BRDG	FRANKLIN SHUTTLE	T	O-PED		3	C	12/17/2012	5.099	G	600	\$2,400,000	309		
2243230	K	CROWN ST	FRANKLIN SHUTTLE	T	O		3	S	8/8/2013	5.014	G	4,060	\$16,240,000	309		
2243240	K	MONTGOMERY ST	FRANKLIN SHUTTLE	T	O		1	S	8/8/2013	5.843	G	2,240	\$8,960,000	309		
2243260	K	FLATBUSH AVE	FRANKLIN SHUTTLE	T	O		2	S	7/23/2012	4.922	F	11,300	\$45,200,000	309		
2231249	K	BSHP	BAY RIDGE AVE		A		1	S	7/31/2013	3.625	F	4,900	\$19,600,000	310		
2231250	K	81ST ST PED BRDG	BSHP		A-PED	P	5	C	2/25/2013	4.761	F	3,100	\$12,400,000	310		
2231260	K	92ND ST PED BRDG	BSHP		A-PED	P	6	C	8/8/2013	3.475	F	3,000	\$12,000,000	310		
2231270	K	4TH AVE	BSHP		A		2	S	3/16/2012	4.579	F	6,100	\$24,400,000	310		
2243310	K	2ND AVE	LIRR BAY RIDGE	N	O		2	S	10/2/2012	6.236	VG	17,751	\$71,004,000	310		
2243320	K	3RD AVE	LIRR BAY RIDGE	N	O		4	S	9/17/2013	4.917	F	17,230	\$68,920,000	310		
2243330	K	4TH AVE	LIRR BAY RIDGE	NT	O		4	S	8/30/2013	5.597	G	13,668	\$54,672,000	310		
2243580	K	5TH AVE	LIRR & SEA BEACH	NT	O		4	S	9/23/2013	3.941	F	12,395	\$49,580,000	310		
2243590	K	6TH AVE	LIRR & SEA BEACH	NT	O		2	S	7/16/2013	6.056	VG	14,382	\$57,528,000	310		
2243600	K	7TH AVE	LIRR & SEA BEACH	NT	O		7	S	11/12/2012	4.778	F	18,628	\$74,512,000	310		
2243610	K	8TH AVE	LIRR & SEA BEACH	NT	O		2	S	7/15/2013	6.181	VG	10,834	\$43,336,000	310		
2243620	K	FORT HAMILTON PKWY	LIRR & SEA BEACH	NT	O		3	S	9/19/2012	4.729	F	14,800	\$59,200,000	310		
2243630	K	11TH AVE	LIRR & SEA BEACH	NT	O		5	S	11/13/2012	5.985	G	9,700	\$38,800,000	310		
2243640	K	13TH AVE	LIRR & SEA BEACH	NT	O		5	S	7/15/2013	4.972	F	16,000	\$64,000,000	310		
2244150	K	RIDGE BLVD	SHORE RD DRIVE		O		1	S	6/10/2013	6.333	VG	4,350	\$17,400,000	310		
2244160	K	3RD AVE	SHORE RD DRIVE		O		1	S	6/14/2013	6.727	VG	4,360	\$17,440,000	310		
2231290	K	BAY 8TH ST	BSHP		A		1	S	6/11/2013	5.921	G	4,950	\$19,800,000	311		
2231300	K	17TH AVE PED BRDG	BSHP		A-PED	P	1	C	9/24/2013	3.614	F	2,100	\$8,400,000	311		
2231319	K	BSHP	BAY PKWY		A		1	S	8/16/2013	4.267	F	7,200	\$28,800,000	311		

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2243340	K	15TH AVE	LIRR BAY RIDGE	N	O		1	S	11/14/2012	4.872	F	3,614	\$14,456,000	311		
2243350	K	60TH ST	LIRR BAY RIDGE	N	O		1	S	9/4/2013	6.133	VG	3,900	\$15,600,000	311		
2243360	K	16TH AVE	LIRR BAY RIDGE	N	O		1	S	10/4/2012	5.350	G	4,345	\$17,380,000	311		
2243650	K	14TH AVE	LIRR BAY RIDGE	N	O		1	S	11/13/2012	6.333	VG	4,720	\$18,880,000	311		
2243660	K	NEW UTRECHT AVE	LIRR BAY RIDGE	N	O		1	S	11/13/2012	6.083	VG	2,350	\$9,400,000	311		
2243670	K	15TH AVE	BMT SEA BEACH	T	O		4	S	6/24/2013	6.136	VG	16,020	\$64,080,000	311		
2243680	K	16TH AVE	BMT SEA BEACH	T	O		3	S	8/30/2012	5.296	G	6,816	\$27,264,000	311		
2243690	K	17TH AVE	BMT SEA BEACH	T	O		4	S	8/30/2012	6.173	VG	8,946	\$35,784,000	311		
2243700	K	18TH AVE	BMT SEA BEACH	T	O		1	S	7/25/2013	6.632	VG	5,200	\$20,800,000	311		
2243710	K	19TH AVE	BMT SEA BEACH	T	O		4	S	8/29/2012	4.184	F	4,800	\$19,200,000	311		
2243720	K	20TH AVE	BMT SEA BEACH	T	O		1	S	8/31/2012	6.673	VG	7,000	\$28,000,000	311		
2243730	K	65TH ST	BMT SEA BEACH	T	O		4	S	8/28/2012	5.132	G	12,000	\$48,000,000	311		
2243740	K	BAY PKWY	BMT SEA BEACH	T	O		4	S	8/28/2012	4.553	F	16,800	\$67,200,000	311		
2243750	K	AVENUE O	BMT SEA BEACH	T	O		1	S	8/12/2013	5.706	G	4,658	\$18,632,000	311		
2243760	K	AVENUE P	BMT SEA BEACH	T	O		1	S	8/13/2013	6.140	VG	5,544	\$22,176,000	311		
2243770	K	KINGS HIGHWAY	BMT SEA BEACH	T	O		1	S	6/28/2013	6.628	VG	5,032	\$20,128,000	311		
2243780	K	HIGHLAWN AVE	BMT SEA BEACH	T	O		1	S	8/16/2013	6.440	VG	6,960	\$27,840,000	311		
2243800	K	AVENUE T	BMT SEA BEACH	T	O		1	S	7/3/2013	6.200	VG	5,360	\$21,440,000	311		
2243820	K	21ST AVE	BMT SEA BEACH	T	O		4	S	8/19/2013	4.289	F	21,400	\$85,600,000	311		
2243370	K	17TH AVE	LIRR BAY RIDGE	N	O		1	S	10/5/2012	4.745	F	3,406	\$13,624,000	312		
2243380	K	18TH AVE	LIRR BAY RIDGE	N	O		1	S	9/28/2012	4.688	F	6,006	\$24,024,000	312		
2243390	K	52ND ST	LIRR BAY RIDGE	N	O		1	S	9/28/2012	6.250	VG	3,293	\$13,172,000	312		
2243400	K	50TH ST	LIRR BAY RIDGE	N	O		2	S	9/5/2013	4.731	F	7,100	\$28,400,000	312		
2243410	K	MCDONALD AVE	LIRR BAY RIDGE	N	O		1	S	9/27/2012	5.047	G	2,760	\$11,040,000	312		
2243420	K	E 3RD ST	LIRR BAY RIDGE	N	O		1	S	8/8/2013	6.517	VG	1,840	\$7,360,000	312		
2243439	K	OCEAN PKWY	LIRR BAY RIDGE	N	O		1	S	9/27/2012	4.927	F	7,000	\$28,000,000	312		
2243440	K	CONY ISLAND AVE	LIRR BAY RIDGE	N	O		1	S	9/26/2012	5.106	G	3,231	\$12,924,000	312		
2243840	K	9TH AVE	NYCTA BMT YARD	T	O		5	S	8/19/2013	5.736	G	12,440	\$49,760,000	312		
2243940	K	9TH AVE	NYCTA IND SBWY	T	O		5	S	8/19/2013	4.737	F	6,300	\$25,200,000	312		
2231329	K	BSHP	26TH AVE		A		1	S	4/20/2012	4.600	F	6,700	\$26,800,000	313		
2231330	K	27TH AVE PED BRDG	BSHP		A-PED	P	1	C	3/27/2013	4.106	F	2,100	\$8,400,000	313		
2231340	K	CROPSEY AVE	BSHP		A		2	S	6/13/2012	4.722	F	13,100	\$52,400,000	313		
2231360	K	BSHP	OCEAN PKWY		A		3	S	6/25/2012	6.299	VG	29,637	\$118,548,000	313		
2231370	K	GUIDER AV RAMP TO BSHP	BSHP		A		4	S	9/14/2012	6.944	VG	10,548	\$42,192,000	313		
2231380	K	CONY ISLAND AVE	BSHP		A		4	S	10/15/2013	5.708	G	19,866	\$79,464,000	313		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2240301	K	CROPSEY AVE	CONEY ISLAND CREEK		WO		3	S	7/2/2013	5.000	G	9,400	\$37,600,000	313		
2240302	K	CROPSEY AVE	CONEY ISLAND CREEK		WO		3	S	12/2/2013	4.718	F	9,400	\$37,600,000	313		
2240540	K	STILLWELL AVE	CONEY ISLAND CRK		WO		2	S	6/12/2013	6.292	VG	17,000	\$68,000,000	313		
2243570	K	86TH ST	BMT SEA BEACH	T	O		1	S	8/27/2012	5.953	G	12,167	\$48,668,000	313		
2243020	K	PARKSIDE AVE	BMT SUBWAY, BRIGHTON	T	O		6	S	9/14/2012	3.826	F	48,700	\$194,800,000	314		
2243040	K	CROOKE AVE	BMT SUBWAY, BRIGHTON	T	O		4	S	9/20/2013	4.421	F	6,000	\$24,000,000	314		
2243050	K	CATON AVE	BMT SUBWAY, BRIGHTON	T	O		4	S	8/23/2013	4.842	F	20,800	\$83,200,000	314		
2243080	K	CHURCH AVE	BMT SUBWAY, BRIGHTON	T	O		4	S	8/20/2013	4.545	F	18,200	\$72,800,000	314		
2243100	K	BEVERLY ROAD	BMT SUBWAY, BRIGHTON	T	O		3	S	8/22/2013	4.070	F	4,200	\$16,800,000	314		
2243110	K	CORTEYOU ROAD	BMT SUBWAY, BRIGHTON	T	O		3	S	8/20/2013	6.139	VG	4,810	\$19,240,000	314		
2243120	K	DORCHESTER ROAD	BMT SUBWAY, BRIGHTON	T	O		1	S	12/3/2012	5.863	G	4,825	\$19,300,000	314		
2243130	K	DITMAS AVE	BMT SUBWAY, BRIGHTON	T	O		1	S	8/22/2013	5.723	G	5,150	\$20,600,000	314		
2243140	K	NEWKIRK AVE	BMT SUBWAY, BRIGHTON	T	O		3	S	9/14/2012	4.662	F	4,100	\$16,400,000	314		
2243150	K	FOSTER AVE	BMT SUBWAY, BRIGHTON	T	O		1	S	9/11/2013	4.417	F	3,000	\$12,000,000	314		
2243450	K	E 14TH ST	LIRR BAY RIDGE	N	O		1	S	9/26/2012	4.809	F	1,775	\$7,100,000	314		
2243460	K	E 15TH ST PED BRDG	LIRR BAY RIDGE	N	O-PED		3	C	8/21/2013	5.592	G	900	\$3,600,000	314		
2243480	K	OCEAN AVE	LIRR BAY RIDGE	N	O		2	S	9/25/2012	4.825	F	5,000	\$20,000,000	314		
2243490	K	BEDFORD AVE	LIRR BAY RIDGE	N	O		6	S	9/24/2012	4.319	F	12,000	\$48,000,000	314		
2243500	K	NOSTRAND AVE	LIRR BAY RIDGE	N	O		2	S	9/26/2012	4.831	F	4,320	\$17,280,000	314		
2231390	K	E 12TH ST	BSHP		A		4	S	6/13/2012	4.542	F	17,200	\$68,800,000	315		
2231409	K	BSHP	SHEEPSHEAD BAY ROAD		A		1	S	4/12/2012	4.672	F	6,500	\$26,000,000	315		
2231419	K	BSHP	OCEAN AVE		A		3	S	4/12/2012	4.500	F	14,000	\$56,000,000	315		
2231429	K	BSHP	BEDFORD AVE		A		3	S	4/20/2012	4.042	F	12,000	\$48,000,000	315		
2231439	K	BSHP	NOSTRAND AVE		A		3	S	4/20/2012	3.986	F	13,000	\$52,000,000	315		
2231449	K	KNAPP ST	BSHP		A		1	S	4/20/2012	4.406	F	9,500	\$38,000,000	315		
2233080	K	E 14 ST PED BRDG	BSHP		A-PED		14	C	7/1/2013	4.262	F	4,700	\$18,800,000	315		
2240320	K	OCEAN AVE PED BRDG	SHEEPSHEAD BAY		WO-PED		30	C	5/9/2013	4.532	F	4,450	\$17,800,000	315		
2243790	K	AVENUE S	BMT SEA BEACH	T	O		1	S	7/2/2013	5.967	G	5,360	\$21,440,000	315		
2243810	K	AVENUE U	BMT SEA BEACH	T	O		1	S	9/11/2012	5.294	G	5,880	\$23,520,000	315		
2243569	K	ATLANTIC AVE	LIRR ATLANTIC AVE	L	O		75	S	5/25/2012	3.676	F	135,100	\$540,400,000	316	305	
2243850	K	LIBERTY AVE	LIRR BAY RIDGE	N	O		3	S	9/25/2012	6.294	VG	6,659	\$26,636,000	316		
2243860	K	GLENMORE AVE	LIRR BAY RIDGE	N	O		2	S	9/25/2012	6.559	VG	5,616	\$22,464,000	316		
2243870	K	PITKIN AVE	LIRR BAY RIDGE	N	O		2	S	9/25/2012	6.515	VG	5,328	\$21,312,000	316		
2243890	K	SUTTER AVE	LIRR BAY RIDGE	N	O		3	S	9/25/2012	6.542	VG	5,497	\$21,988,000	316		
2243900	K	BLAKE AVE	LIRR BAY RIDGE LINE	N	O		3	S	9/25/2012	5.000	G	4,912	\$19,648,000	316		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2243910	K	LIVONIA AVE PED BRDG	LIRR BAY RIDGE LINE	N	O-PED		6	C	4/16/2012	4.833	F	2,500	\$10,000,000	316		
2231479	K	BSHP	MILL BASIN		WMA		14	S	12/11/2013	3.284	F	73,500	\$294,000,000	318		
2231481	K	BSHP WB	PAERDEGAT BASIN		WA		3	S	11/5/2013	6.939	VG	47,361	\$189,444,000	318		
2231482	K	BSHP EB	PAERDEGAT BASIN		WA		5	S	11/19/2012	7.000	VG	81,644	\$326,576,000	318		
2243510	K	FLATBUSH AVE	LIRR BAY RIDGE	N	O		2	S	9/17/2013	4.762	F	5,900	\$23,600,000	318		
2243520	K	BROOKLYN AVE	LIRR BAY RIDGE	N	O		3	S	8/8/2013	5.873	G	4,500	\$18,000,000	318		
2243530	K	AVENUE H	LIRR BAY RIDGE	N	O		2	S	9/9/2013	5.956	G	35,100	\$140,400,000	318		
2243010	K	LINCOLN ROAD	BMT SUBWAY, BRIGHTON	T	O		1	S	7/24/2012	6.685	VG	6,016	\$24,064,000	355		
2244010	K	EAST DR (ENDALE ARCH)	PED PATH NR GRND ARMY PLZ		O	P	1	C	5/15/2013	4.367	F	1,533	\$6,132,000	355		
2244020	K	WEST DR (MEADOWPORT ARCH)	PED PATH NR GRND ARMY PLZ		O	P	1	S	5/16/2013	5.321	G	2,500	\$10,000,000	355		
2244030	K	EAST DRIVE	BRIDLE PATH NR ZOO		O	P	1	S	5/17/2013	4.878	F	2,000	\$8,000,000	355		
2244040	K	EAST DR (EAST WOOD ARCH)	PED PATH NR CENTER DR		O	P	1	C	7/3/2013	4.667	F	1,066	\$4,262,400	355		
2244050	K	CENTER DR (NETHERMEAD ARCHES)	PED PATH & STREAM		WO	P	3	S	5/22/2013	5.000	G	7,400	\$29,600,000	355		
2244060	K	HILL DR (CLEFT RIDGE SPAN)	PED PATH SO OF BOATHOUSE		O	P	1	C	5/15/2013	4.433	F	750	\$3,000,000	355		
2244100	K	WEST FOOTBRIDGE	PROSPECT PK STREAM		WO-PED	P	1	C	4/19/2013	4.885	F	3,200	\$12,800,000	355		
2244120	K	HILL DR (TERRACE BRDG)	PROSPECT PK LAKE		WO	P	3	S	5/29/2013	3.436	F	7,800	\$31,200,000	355		
2244130	K	PED NR BOATHSE (LULLWATER BRDG)	PROSPECT PK LAKE		WO-PED	P	1	C	4/24/2013	4.898	F	1,000	\$4,000,000	355		
2231450	K	BSHP	GERRITSEN INLET		WA		11	S	12/11/2013	3.463	F	52,000	\$208,000,000	356		
2231460	K	FLATBUSH AVE	BSHP		A		2	S	10/18/2013	6.206	VG	14,058	\$56,232,000	356		
2231499	K	BSHP	ROCKAWAY PKWY		A		4	S	10/27/2012	6.644	VG	11,500	\$46,000,000	356		
2231509	K	BSHP	FRESH CREEK		WA		5	S	11/25/2013	6.831	VG	23,000	\$92,000,000	356		
2231519	K	PENNSYLVANIA AVE	BSHP		A		2	S	6/18/2013	5.694	G	6,640	\$26,560,000	356		
2240039	KM	WILLIAMSBURG BRIDGE	EAST RIVER	T	WEO		53	S	10/27/2012	4.250	F	824,000	\$3,296,000,000	103	301	
2240019	KM	BROOKLYN BRIDGE	EAST RIVER		WEO		75	S	10/28/2012	2.944	P	503,788	\$2,015,152,000	103	302	101
2240027	KM	MANHATTAN BRIDGE(LL)	EAST RIVER	T	WEO		23	S	11/19/2012	4.653	F	616,390	\$2,465,560,000	103	302	
2240028	KM	MANHATTAN BRIDGE(UL)	NYCTA TRACKS-BMT	T	WEO		43	S	11/29/2012	3.757	F	587,424	\$2,349,696,000	103	302	
2240370	KQ	GREENPOINT AVE BRIDGE	NEWTOWN CREEK	L	WMO		12	S	8/5/2013	5.083	G	76,106	\$304,424,000	301	402	
2240639	KQ	PULASKI BRIDGE	NEWTOWN CREEK		WMO		44	S	5/11/2012	4.662	F	205,770	\$823,080,000	301	402	
2240390	KQ	GRAND ST BRIDGE	NEWTOWN CREEK		WMO		2	S	12/6/2013	4.153	F	5,100	\$20,400,000	301	405	
223201D	M	RAMP TO N.B. FDR DRIVE	FDR & SOUTH ST.		AR		22	S	2/10/2012	4.967	F	15,825	\$63,300,000	101	103	
224001B	M	TO BKLN FRM FDR	FRANKFORT & PEARL ST		OE		31	S	8/20/2012	4.333	F	51,400	\$205,600,000	101	103	
224001D	M	TO FDR DR N.B.	PEARL STREET		OE		30	S	6/14/2013	4.755	F	49,600	\$198,400,000	101	103	
2232000	M	BATTERY PLACE	FDR DRIVE		AT		2	S	10/16/2013	5.182	G	142,000	\$568,000,000	101		
223201A	M	FDR DR N.B. OFF RMP	FDR DR & SOUTH ST		AR		17	S	4/24/2012	3.925	F	23,373	\$93,492,000	101		
223201B	M	STH ST RMP TO FDR S.B.	SOUTH ST		AR		10	S	2/17/2012	3.791	F	13,388	\$53,552,000	101		

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224001A	M	PARK ROW TO BKLN	WILLIAM ST N.B.		OE		4	S	7/30/2013	4.600	F	10,167	\$40,668,000	101		
224001C	M	PEARL ST TO BKLN	LAND ADJ TO BRDG		OE		9	S	5/21/2013	3.678	F	6,365	\$25,460,000	101		
224001E	M	TO PEARL ST	LAND ADJ TO BRDG		OE		3	S	5/29/2013	5.254	G	5,300	\$21,200,000	101		
224001G	M	TO PARK ROW	ROSE ST		OE		11	S	7/1/2013	4.549	F	16,551	\$66,204,000	101		
2267380	M	WEST STREET	RECTOR ST		AT		1	S	11/19/2013	5.033	G	25,760	\$103,040,000	101		
2268480	M	CHAMBERS ST PED BRDG	RTE 9A - WEST ST		O-PED		10	C	7/10/2013	5.391	G	7,481	\$29,924,000	101		
2268930	M	MORRIS ST PED BRDG	BKLN-BATTERY TUNN PLZ		A-PED		3	C	7/16/2013	3.875	F	1,200	\$4,800,000	101		
223201C	M	FDR DR S.B. OFF RMP	SOUTH ST		AR		8	S	2/9/2012	4.821	F	36,700	\$146,800,000	103		
2232029	M	CORLEARS PARK ROAD	FDR DRIVE		A	P	4	S	3/28/2012	3.938	F	4,100	\$16,400,000	103		
2232030	M	DELANCEY ST PED BRDG	FDR DRIVE		A-PED	P	12	C	6/26/2013	4.443	F	2,900	\$11,600,000	103		
2232040	M	HOUSTON ST	FDR DRIVE		A		2	S	6/17/2013	3.773	F	11,010	\$44,040,000	103		
223204A	M	FDR NB RAMP TO HOUSTON ST	RELIEF		AR		4	S	1/20/2012	4.706	F	6,150	\$24,600,000	103		
223204B	M	HOUSTON ST RAMP TO FDR NB	RELIEF		AR		4	S	1/23/2012	4.792	F	7,125	\$28,500,000	103		
2232050	M	E 6TH ST PED BRDG	FDR DRIVE		A-PED	P	19	C	7/5/2013	4.333	F	2,200	\$8,800,000	103		
2233020	M	E 10TH ST PED BRDG	FDR DRIVE		A-PED	P	21	C	4/17/2013	4.596	F	2,754	\$11,016,000	103		
224001F	M	PEARL ST TO FDR DR	LAND ADJ TO BRDG		OE		3	S	5/30/2013	5.141	G	5,200	\$20,800,000	103		
2257569	M	MILLER HIGHWAY	TERRAIN		A		64	S	8/30/2013	4.352	F	272,475	\$1,089,900,000	104	107	
2245010	M	11TH AVE VIADUCT	LIRR WEST SIDE YARD	AL	O		39	S	12/28/2012	4.056	F	157,500	\$630,000,000	104		
224501B	M	W 33RD ST	AMTRAK 30 ST BRANCH	A	OR		8	S	3/13/2012	4.458	F	16,500	\$66,000,000	104		
224501C	M	W 33RD ST	LAND ADJ TO AMTRAK	A	OR		2	S	5/14/2013	4.472	F	2,360	\$9,440,000	104		
224501D	M	W 34TH ST	AMTRAK 30 ST BRANCH	A	OR		4	S	5/13/2013	4.542	F	11,800	\$47,200,000	104		
224501E	M	W 35TH ST	AMTRAK 30 ST BRANCH	A	OR		3	S	11/16/2012	4.181	F	6,500	\$26,000,000	104		
224501F	M	W 36TH ST	AMTRAK 30 ST BRANCH	A	OR		7	S	11/12/2013	4.612	F	16,400	\$65,600,000	104		
2245060	M	W 37TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	11/12/2013	6.190	VG	7,505	\$30,020,000	104		
2245070	M	W 38TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	6/15/2012	4.135	F	6,200	\$24,800,000	104		
2245080	M	W 39TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	6/15/2012	4.173	F	6,300	\$25,200,000	104		
2245090	M	W 43RD ST	AMTRAK 30 ST BRANCH	A	O		2	S	4/16/2012	4.662	F	4,140	\$16,560,000	104		
2245100	M	W 44TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	4/16/2012	4.662	F	4,300	\$17,200,000	104		
2245110	M	W 45TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	4/16/2012	5.397	G	4,100	\$16,400,000	104		
2245120	M	W 46TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/4/2012	4.500	F	4,100	\$16,400,000	104		
2245130	M	W 47TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/4/2012	4.721	F	4,100	\$16,400,000	104		
2245140	M	W 48TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/7/2012	4.618	F	4,100	\$16,400,000	104		
2245150	M	W 49TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	5/7/2012	4.426	F	4,100	\$16,400,000	104		
2245160	M	W 51ST ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/11/2012	4.912	F	4,300	\$17,200,000	104		
2245170	M	W 52ND ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/29/2012	5.265	G	4,300	\$17,200,000	104		

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2245180	M	W 53RD ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/29/2012	5.221	G	5,100	\$20,400,000	104		
2245190	M	W 58TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/25/2012	4.765	F	4,100	\$16,400,000	104		
2245209	M	11TH AVE	AMTRAK 30 ST BRANCH	A	O		2	S	6/4/2012	4.471	F	15,400	\$61,600,000	104		
2245210	M	W 42ND ST	AMTRAK 30 ST BRANCH	A	O		4	S	7/2/2012	4.651	F	10,300	\$41,200,000	104		
2245220	M	W 57TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	5/25/2012	4.853	F	9,100	\$36,400,000	104		
2245330	M	W 41ST ST	AMTRAK 30 ST BRANCH	A	O		3	S	6/12/2012	4.508	F	6,200	\$24,800,000	104		
2245340	M	W 50TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/11/2012	4.471	F	4,100	\$16,400,000	104		
2245350	M	W 54TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/22/2012	5.476	G	4,700	\$18,800,000	104		
2245360	M	W 55TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/22/2012	5.529	G	4,300	\$17,200,000	104		
2245370	M	W 56TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	6/4/2012	5.706	G	4,400	\$17,600,000	104		
2245440	M	W 40TH ST	AMTRAK 30 ST BRANCH	A	O		4	S	6/18/2012	4.162	F	9,400	\$37,600,000	104		
226672A	M	W 31ST ST	AMTRAK LAYUP TRACKS	A	O		9	S	12/28/2012	3.619	F	8,800	\$35,200,000	104		
2246540	M	E 34TH ST	PARK AVE TUNNEL		OT		1	S	9/13/2012	4.117	F	36,200	\$144,800,000	105	106	
2245460	M	PARK AVE S.B.	E 45TH ST		O		1	S	5/23/2013	4.514	F	2,400	\$9,600,000	105		
2245470	M	PARK AVE N.B	E 45TH ST		O		1	S	5/22/2013	4.865	F	2,400	\$9,600,000	105		
2246550	M	PARK AVE VIADUCT	E 42ND ST		O		10	S	11/21/2013	4.478	F	22,150	\$88,600,000	105		
2233038	M	FDR DRIVE SB	FDR NB / E 62ND ST		AT		34	S	12/5/2012	6.563	VG	58,700	\$234,800,000	106	108	
224004D	M	TO QNS FROM E 58TH ST	E 59TH ST		OE		12	S	6/28/2012	4.245	F	10,858	\$43,432,000	106	108	
2232070	M	E 25TH ST PED BRDG	FDR DRIVE		A-PED		3	C	4/7/2013	4.600	F	1,700	\$6,800,000	106		
2232100	M	E 51ST ST PED BRDG	FDR DRIVE		A-PED	P	6	C	4/17/2013	4.417	F	2,800	\$11,200,000	106		
2246560	M	TUDOR CITY PLACE	E 42ND ST		O		1	S	1/25/2012	5.133	G	6,600	\$26,400,000	106		
2246570	M	E42ND ST - E47TH ST	FIRST AVE TUNNEL		OT		2	S	5/22/2012	4.882	F	95,000	\$380,000,000	106		
2268650	M	FDR NB E42ND TO E49TH ST	EAST RIVER		A		119	S	10/17/2013	3.660	F	30,767	\$123,068,000	106		
2229289	M	HHP VIADUCT	AMTRAK - W72 ST - W79 ST	A	A		145	S	10/22/2012	3.597	F	236,100	\$944,400,000	107		
222928C	M	PED BR AT W 73RD ST	HHP - AMTRAK	A	A-PED	P	5	C	8/12/2013	3.812	F	3,480	\$13,920,000	107		
222928D	M	W72ND ST RAMP TO HHP NB	RELIEF		AR		1	S	7/10/2012	6.667	VG	1,750	\$7,000,000	107		
2229290	M	W 79 ST	AMTRAK	A	A		1	S	6/7/2012	4.492	F	4,500	\$18,000,000	107		
2229309	M	HHP	RIVERSIDE PARK		A		1	S	1/5/2012	5.133	G	2,172	\$8,688,000	107		
2229311	M	HHP SB	RAMP TO W 96 ST		A		1	S	2/1/2012	4.455	F	2,000	\$8,000,000	107		
2229312	M	HHP NB	RAMP TO W 96 ST		A		1	S	2/1/2012	4.182	F	2,000	\$8,000,000	107		
2229321	M	HHP SB	RAMP FROM W 96 ST		A		1	S	2/6/2012	5.133	G	2,000	\$8,000,000	107		
2229322	M	HHP NB	RAMP FROM W 96 ST		A		1	S	2/6/2012	5.300	G	2,000	\$8,000,000	107		
2246970	M	RIVERSIDE DRIVE	W 96TH ST		O		3	S	5/6/2013	5.471	G	10,600	\$42,400,000	107		
2267250	M	HHP	AMTRAK - W96TH ST	A	A		55	S	12/5/2012	3.548	F	40,000	\$160,000,000	107		
2267717	M	79 ST PED PLAZA	79 ST BT BASIN GAR		A	P	10	S	5/10/2013	4.444	F	27,400	\$109,600,000	107		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2267718	M	79 ST TRAFFIC CIRC	79 ST PED PLAZA		A	P	34	S	5/15/2013	3.738	F	24,130	\$96,520,000	107		
226771A	M	79 ST RAMP TO HHP	79 ST BT BASIN GAR		AR	P	4	S	5/9/2013	4.221	F	3,131	\$12,524,000	107		
226771B	M	79 ST RAMP TO GAR	79 ST BT BASIN GAR		AR	P	21	S	5/10/2013	4.452	F	8,989	\$35,956,000	107		
226771C	M	GAR RAMP TO 79 ST	79 ST BT BASIN GAR		AR	P	21	S	5/10/2013	4.435	F	9,095	\$36,380,000	107		
226771D	M	SB HHP RAMP TO 79 ST	79 ST BT BASIN GAR		AR	P	4	S	5/10/2013	4.419	F	2,601	\$10,404,000	107		
2269190	M	W 70TH ST	AMTRAK	A	O		3	S	11/19/2013	5.542	G	17,258	\$69,032,000	107		
2269200	M	RIVERSIDE DRIVE SOUTH	AMTRAK	A	O		11	S	11/4/2013	6.069	VG	69,040	276,160,000.00	107		
2269210	M	W 68TH ST	AMTRAK	A	O		3	S	11/5/2013	6.593	VG	5,382	\$21,528,000	107		
M00003	M	HHP ON/OFF RMP-79TH ST SO. SIDE	PED PATH SO. OF 79TH ST		A		1	C	6/11/2013	4.167	F	900	\$3,600,000	107		
M00004	M	HHP ON/OFF RMP-79TH ST NO. SIDE	PED PATH NO. OF 79TH ST		A		1	C	6/24/2013	5.000	G	900	\$3,600,000	107		
2232110	M	E 64TH ST PED BRDG	FDR DRIVE		A-PED	P	11	U	11/23/2011	4.912	F	2,100	\$8,400,000	108		
2232120	M	E 71ST ST PED BRDG	FDR DRIVE		A-PED	P	19	C	8/11/2013	4.761	F	340	\$1,360,000	108		
2232140	M	E 78TH ST PED BRDG	FDR DRIVE		A-PED	P	13	C	5/11/2013	6.944	VG	5,226	\$20,904,000	108		
2232167	M	PROMENADE OVER FDR	FDR - E81ST ST - E90TH ST		A-PED	P	53	S	7/2/2013	3.143	F	93,000	\$372,000,000	108		
2233040	M	E 60TH ST	FDR DRIVE		A		17	S	7/19/2013	5.000	G	24,480	\$97,920,000	108		
224004A	M	TO E 60TH ST FROM QNS	FIRST AVE		OE		13	S	4/20/2012	5.338	G	14,800	\$59,200,000	108		
224004B	M	TO QNS FRM E 59TH ST	FIRST AVE		OE		13	S	4/20/2012	5.653	G	14,800	\$59,200,000	108		
224004C	M	TO E 62ND ST FROM QNS	E 60TH - E 61ST ST		OE		10	S	8/30/2012	4.985	F	16,720	\$66,880,000	108		
224004J	M	25X	NYC GARAGE		OE		14	S	4/23/2012	4.829	F	22,058	\$88,232,000	108		
2269820	M	E 81 ST PED BRDG	FDR DRIVE N.B.		A-PED	P	3	C	5/12/2013	3.341	F	900	\$3,600,000	108		
2229349	M	HHP	W 158 ST	A	A		44	S	12/17/2012	4.155	F	140,000	\$560,000,000	109	112	
2245290	M	W 155TH ST PED BRDG	AMTRAK 30 ST BRANCH	A	O-PED		3	C	8/8/2013	3.862	F	800	\$3,200,000	109	112	
2246720	M	RIVERSIDE DRIVE	W 158TH ST - AMTRAK	A	O		77	S	10/17/2013	3.528	F	185,658	\$742,632,000	109	112	
2269240	M	RIVERSIDE DRIVE	W. 155TH ST		O		1	S	4/25/2013	4.640	F	2,780	\$11,120,000	109	112	
2245230	M	W 148TH ST PED BRDG	AMTRAK 30 ST BRANCH	A	O-PED	P	5	C	8/9/2013	4.200	F	1,100	\$4,400,000	109		
2246660	M	RIVERSIDE DRIVE	W125TH ST - W134TH ST		O		27	S	7/12/2013	4.472	F	148,300	\$593,200,000	109		
2246670	M	W 134 ST	TERRAIN		O		4	S	6/13/2013	4.870	F	7,500	\$30,000,000	109		
2246980	M	RIVERSIDE DRIVE	W 138TH ST		O		1	S	1/19/2012	4.900	F	6,700	\$26,800,000	109		
2266229	M	HHP	PED UNDERPASS @ 148 ST		A		1	S	2/2/2012	5.000	G	1,840	\$7,360,000	109		
2267130	M	RIVERSIDE DRIVE	W 145TH ST		O		1	S	4/29/2013	5.133	G	5,800	\$23,200,000	109		
2246490	M	A.C. POWELL BLVD N.B.	A.C. POWELL BLVD		O		1	S	2/1/2012	4.367	F	3,000	\$12,000,000	110		
2246710	M	W 153 ST	A.C. POWELL BLVD		O		1	S	2/1/2012	4.611	F	3,082	\$12,328,000	110		
2232180	M	E 103RD ST PED BRDG	FDR DRIVE		A-PED		18	C	8/30/2013	4.395	F	4,800	\$19,200,000	111		
2232190	M	E 111TH ST PED BRDG	FDR DRIVE		A-PED	P	9	C	9/13/2013	4.128	F	4,200	\$16,800,000	111		
2232200	M	E 120TH ST PED BRDG	FDR DRIVE		A-PED	P	18	C	9/6/2013	4.114	F	3,978	\$15,912,000	111		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2233059	M	HARLEM RIVER DRIVE	E 127th ST RAMP TO/FROM HRD NB		A		11	S	7/11/2013	3.507	F	51,000	\$204,000,000	111		
224005A	M	FROM FDR DRIVE	HARLEM RIVER DR		OR		11	S	11/29/2012	7.000	VG	28,233	\$112,932,000	111		
224007A	M	TO MADISON AVENUE	E 138TH ST		OR		7	S	2/9/2012	5.028	G	19,880	\$79,520,000	111		
2240620	M	WARDS ISLAND PED BRDG	HARLEM RIVER		WMO-PED		10	C	3/29/2013	4.667	F	12,600	\$50,400,000	111		
2245319	M	E 97TH ST	METRO NORTH MAIN LN	M	O		1	S	12/7/2012	4.647	F	3,200	\$12,800,000	111		
2246620	M	W 128TH ST PED BRDG	3RD AVE BRDG APPR		O-PED		18	C	9/12/2013	3.939	F	2,300	\$9,200,000	111		
2246990	M	E 129TH ST PED BRDG	3RD AVE BRDG RAMP		O-PED		5	C	10/5/2012	4.095	F	1,046	\$4,184,000	111		
222934A	M	RAMP TO N.B. HHP	AMTRAK WEST SIDE	A	AR		26	S	8/13/2012	3.875	F	10,800	\$43,200,000	112		
2229400	M	W 181ST ST PED BRDG	HHP N.B.		A-PED	P	7	C	1/10/2013	4.277	F	1,500	\$6,000,000	112		
2245040	M	MARGARET CORBIN DR	PED PATH NEAR CAFÉ		O	P	1	C	5/24/2013	4.933	F	598	\$2,392,000	112		
2245050	M	MARGARET CORBIN DR	PED PATH NR NO ENTR		O	P	1	C	5/22/2013	4.333	F	889	\$3,556,000	112		
2245250	M	W 158TH ST	AMTRAK 30 ST BRANCH	A	O		7	S	10/18/2013	5.903	G	29,170	\$116,680,000	112		
2245260	M	W 173RD ST PED BRDG	AMTRAK 30 ST BRANCH	A	O-PED	P	2	C	8/6/2013	4.600	F	1,500	\$6,000,000	112		
2245300	M	INWOOD HILL PK FTBR	AMTRAK 30 ST BRANCH	A	O-PED	P	6	C	8/6/2013	4.100	F	700	\$2,800,000	112		
2245480	M	TO GWB OPP W 171ST ST	RIVERSIDE DRIVE		O		1	S	2/8/2012	4.524	F	10,773	\$43,092,000	112		
2246489	M	W 181 ST	RAMP TO WASH BR		O		1	S	2/7/2012	5.333	G	8,200	\$32,800,000	112		
2246500	M	FORT TRYON PLACE	ENTR FROM RIVERSIDE DR		O	P	1	S	2/8/2012	4.200	F	3,280	\$13,120,000	112		
2246510	M	CORBIN PL OVERPASS	CORBIN PLACE		O	P	1	S	1/9/2012	5.000	G	2,223	\$8,892,000	112		
2246600	M	W 176TH ST PED BRDG	APPROACH TO G.W.B.		O-PED		1	C	3/4/2013	4.200	F	1,200	\$4,800,000	112		
2246690	M	ISHAM PK VEHICULR	HARLEM RIVER INLET		O	P	1	S	5/4/2012	6.261	VG	911	\$3,644,000	112		
2246700	M	ISHAM PK PED BRDG	HARLEM RV INLET		WO-PED	P	1	C	1/3/2013	3.552	F	300	\$1,200,000	112		
2266230	M	HHP NB	PED UNDERPASS INWD PK		A		1	S	1/6/2012	5.000	G	800	\$3,200,000	112		
2266240	M	HHP SB	PED UNDERPASS INWD PK		A		1	S	1/6/2012	5.526	G	1,100	\$4,400,000	112		
2267240	M	HRD RAMP TO GWB	HARLEM RIVER DR SB		A		55	S	9/20/2013	3.014	F	122,900	\$491,600,000	112		
2268760	M	PS-5 PED BRDG	TENTH AVE		O-PED		5	C	12/9/2013	4.184	F	1,285	\$5,140,000	112		
M00001	M	W191ST ST PED TNL	BROADWAY - IRT #1 SUBWAY		O-PED		1	C	12/18/2013	4.545	F	2,000	\$8,000,000	112		
2245380	M	TRANSVERSE RD #1 WB	PED PATH OPP E 66TH ST		O	P	1	S	1/6/2012	5.000	G	1,500	\$6,000,000	164		
2245420	M	W 65TH ST ENTR EB	BRIDLE PATH W END		O	P	1	S	1/17/2012	5.100	G	1,300	\$5,200,000	164		
2246000	M	WEST DR (GREYSHOT ARCH)	PED BET 61ST & 62ST		O	P	1	S	1/10/2012	5.400	G	2,500	\$10,000,000	164		
2246010	M	W 62 ST PED BRDG (PINEBANK ARCH)	BRIDLE PATH		O-PED	P	1	C	7/3/2013	4.808	F	1,000	\$4,000,000	164		
2246030	M	E 62 ST PED BRDG (GAPSTOW BRDG)	THE POND		O-PED	P	1	C	4/16/2013	3.897	F	1,400	\$5,600,000	164		
2246040	M	EAST DR (INSOPE ARCH)	PED PATH OPP E 62 ST		O	P	1	C	4/16/2013	4.400	F	1,515	\$6,060,000	164		
2246050	M	CENTER DR (DRIPROCK ARCH)	PED OPP 63RD ST		O	P	1	S	1/11/2012	4.867	F	1,725	\$6,900,000	164		
2246069	M	EAST DR (GREEN GAP ARCH)	PED BET E 63ST & E 64ST		O	P	1	S	1/18/2012	4.433	F	2,075	\$8,300,000	164		
2246070	M	CENTER DR (PLAYMATES ARCH)	PED PATH OPP 65TH ST		O	P	1	C	6/20/2013	4.583	F	1,129	\$4,516,000	164		

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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2246080	M	WEST DR (DALEHEAD ARCH)	BRIDLE OPP W 64TH ST		O	P	1	S	1/5/2012	4.667	F	2,000	\$8,000,000	164		
2246090	M	PED BRDG OPP 65 ST	TRANSVERSE RD #1		O-PED	P	1	C	8/4/2013	4.655	F	2,300	\$9,200,000	164		
2246100	M	CENTER DRIVE	TRANSVERSE RD #1		O	P	1	S	2/3/2012	4.333	F	6,000	\$24,000,000	164		
2246110	M	EAST DRIVE	TRANSVERSE RD #1		O	P	1	S	3/23/2012	4.667	F	6,000	\$24,000,000	164		
2246120	M	WEST DRIVE	TRANSVERSE RD #1		O	P	1	S	3/28/2012	4.967	F	7,900	\$31,600,000	164		
2246130	M	EAST DR (WILLOWDELL ARCH)	PED PATH OPP E 67TH ST		O	P	1	C	4/16/2013	3.395	F	666	\$2,665,600	164		
2246140	M	W 72 ST ENTR (RIFTSTONE ARCH)	BRIDLE PATH		O	P	1	S	1/9/2012	4.600	F	3,600	\$14,400,000	164		
2246150	M	72 ST CROSS DR (TERRACE BRDG)	PED PATH TO FOUNTAIN		O	P	3	S	3/1/2012	5.786	G	7,300	\$29,200,000	164		
2246160	M	73 ST PED BRDG (BOW BRIDGE)	THE LAKE		WO-PED	P	1	C	4/16/2013	3.659	F	1,700	\$6,800,000	164		
2246170	M	EAST DR (TREFOIL ARCH)	PED PATH OPP E 73RD ST		O	P	1	S	1/30/2012	5.130	G	1,900	\$7,600,000	164		
2246230	M	EAST DRIVE	TRANSVERSE RD #2		O	P	1	S	3/21/2012	4.600	F	5,080	\$20,320,000	164		
2246240	M	WEST DRIVE	TRANSVERSE RD #2		O	P	1	S	3/22/2012	4.167	F	7,200	\$28,800,000	164		
2246250	M	EAST DRIVE	TRANSVERSE RD #3		O	P	1	S	1/18/2012	4.433	F	4,500	\$18,000,000	164		
2246260	M	WEST DRIVE	TRANSVERSE RD #3		O	P	1	S	3/22/2012	4.933	F	5,100	\$20,400,000	164		
2246270	M	EAST DRIVE	TRANSVERSE RD #4		O	P	1	S	3/23/2012	4.100	F	7,000	\$28,000,000	164		
2246280	M	WEST DRIVE	TRANSVERSE RD #4		O	P	1	S	3/26/2012	4.300	F	4,700	\$18,800,000	164		
2246320	M	W77 ST PED (OAK BRDG)	THE LAKE		WO-PED	P	3	C	5/22/2013	5.579	G	919	\$3,676,000	164		
2246330	M	WEST DR (BALCONY BRDG)	STREAM TO THE LAKE		WO	P	1	S	1/16/2012	5.000	G	1,817	\$7,268,000	164		
2246340	M	W77 ST PED (LADIES POND BRDG)	STREAM TO THE LAKE		WO-PED	P	3	C	12/3/2013	4.355	F	500	\$2,000,000	164		
2246350	M	EAST DR (GREYWACKE ARCH)	PED PATH OPP E 80TH ST		O	P	1	C	5/24/2013	3.733	F	1,266	\$5,064,000	164		
2246360	M	WEST DR (WINTERDALE ARCH)	PED PATH OPP W 82 ST		O	P	1	S	1/17/2012	5.273	G	2,502	\$10,008,000	164		
2246380	M	W86 ST PED (SW RESERVOIR BRDG)	BRIDLE PATH		O-PED	P	1	C	11/18/2013	4.852	F	700	\$2,800,000	164		
2246390	M	E86 ST PED (SE RESERVOIR BRDG)	BRIDLE PATH		O-PED	P	3	C	11/27/2013	4.509	F	1,100	\$4,400,000	164		
2246400	M	PED PATH OPP E79 ST	TRANSVERSE RD #2		O-PED	P	1	C	7/14/2013	4.233	F	3,700	\$14,800,000	164		
2246410	M	TRNSVRS RD 1 EB (DENESMOUTH ARCH)	PED PATH OPP E 65TH ST		O	P	1	S	1/30/2012	4.636	F	1,739	\$6,956,000	164		
2246430	M	W110 ST ENTR (MOUNTCLIFF ARCH)	PED PATH OPP W109 ST		O	P	1	S	2/13/2012	4.383	F	1,200	\$4,800,000	164		
2246440	M	79 TH ST PED BRDG	TRANSVERSE RD #2		O-PED	P	1	C	7/14/2013	3.926	F	5,900	\$23,600,000	164		
2246450	M	E77 ST PED (GLADE ARCH)	PED PATH OPP E77 ST		O-PED	P	1	C	1/17/2013	4.138	F	5,000	\$20,000,000	164		
2246460	M	W77 ST ENTR (EAGLEVALE ARCH)	PED PATH OPP W77 ST		O	P	2	S	1/10/2012	4.263	F	3,066	\$12,264,000	164		
2246470	M	EAST DR (HUDDLESTONE ARCH)	THE LOCH		WO	P	1	S	1/26/2012	4.500	F	1,100	\$4,400,000	164		
2240640	MQ	ROOSEVELT ISLAND BRDG	E. RIVER E. CHANNEL		WMO		8	S	11/13/2013	5.458	G	36,500	\$146,000,000	108	401	
2240047	MQ	QUEENSBORO BRIDGE (LL)	EAST RIVER	AL	WEO		53	S	12/5/2012	4.403	F	626,900	\$2,507,600,000	108	402	401
2240048	MQ	QUEENSBORO BRIDGE (UL)	EAST RIVER - LL		WEO		37	S	10/26/2012	4.377	F	322,300	\$1,289,200,000	108	402	401
224004G	Q	TO NY FROM 11TH ST	TERRAIN (CHAMBER)		OE		36	S	8/14/2012	5.268	G	8,360	\$33,440,000	401	402	
2230700	Q	2781 NB (BQE EAST LEG)	32ND AVE (TO BQE WEST LEG)		A		8	S	12/4/2012	6.465	VG	31,600	\$126,400,000	401	403	

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230750	Q	278I SB (BQE EAST LEG)	31ST AVE		A		1	S	6/27/2013	6.508	VG	4,221	\$16,884,000	401	403	
2240660	Q	RIKERS ISLAND BRIDGE	RIKERS ISL CHANNEL		WO		56	S	9/26/2013	4.211	F	183,100	\$732,400,000	401	480	
2230600	Q	STEINWAY ST	278I WB (BQE)		A		1	S	9/12/2012	6.349	VG	5,229	\$20,916,000	401		
2230610	Q	STEINWAY ST	278I EB (BQE)		A		1	S	9/13/2012	6.349	VG	5,146	\$20,584,000	401		
2230620	Q	37TH ST	278I (B.Q.E.)		A		2	S	3/22/2012	4.681	F	5,300	\$21,200,000	401		
2230630	Q	35TH ST	278I (B.Q.E.)		A		4	S	3/22/2012	4.667	F	9,000	\$36,000,000	401		
2230640	Q	32ND ST	278I (B.Q.E.)		A		2	S	6/6/2013	4.875	F	8,100	\$32,400,000	401		
2230657	Q	31ST ST	278I (B.Q.E.)		A		2	S	12/5/2012	4.569	F	9,500	\$38,000,000	401		
2230690	Q	278I NB (BQE WEST LEG)	32ND AVE		A		1	S	6/22/2012	6.407	VG	4,080	\$16,320,000	401		
2230710	Q	278I SB (BQE WEST LEG)	32ND AVE		A		1	S	6/28/2013	6.424	VG	5,240	\$20,960,000	401		
2230720	Q	278I SB (BQE EAST LEG)	278I NB (BQE WEST LEG)		A		3	S	6/25/2013	6.182	VG	20,896	\$83,584,000	401		
2230730	Q	31ST AVE	278I NB (BQE WEST LEG)		A		1	S	6/25/2013	6.217	VG	5,875	\$23,500,000	401		
2230740	Q	278I SB (BQE WEST LEG)	31ST AVE		A		1	S	6/27/2013	6.217	VG	5,246	\$20,984,000	401		
2230760	Q	278I NB (BQE EAST LEG)	31ST AVE		A		1	S	8/30/2012	6.610	VG	4,161	\$16,644,000	401		
2230770	Q	278I (BQE WEST LEG)	30TH AVE		A		1	S	5/24/2013	6.322	VG	6,199	\$24,796,000	401		
2230790	Q	BULOVA AVE	278I (BQE WEST LEG)		A		2	S	4/16/2012	5.278	G	3,300	\$13,200,000	401		
2230800	Q	49TH ST	278I (BQE WEST LEG)		A		2	S	4/16/2012	5.278	G	4,900	\$19,600,000	401		
2230810	Q	ASTORIA BLVD EB	278I (BQE WEST LEG)		A		4	S	5/22/2013	4.044	F	8,200	\$32,800,000	401		
2230820	Q	47TH ST	GCP		A		2	S	5/17/2012	4.889	F	5,700	\$22,800,000	401		
2230830	Q	278I NB (BQE WEST LEG)	GCP		A		2	S	5/17/2012	4.583	F	7,600	\$30,400,000	401		
2230840	Q	44TH ST	GCP		A		2	S	5/17/2012	4.764	F	5,000	\$20,000,000	401		
2230890	Q	49TH ST	GCP		A		2	S	5/17/2012	4.444	F	6,350	\$25,400,000	401		
2230680	Q	278I (B.Q.E.)	NORTHERN BLVD		A		1	S	12/4/2012	6.016	VG	27,011	\$108,044,000	402	401	
224004F	Q	TO NY FROM 21ST ST	21ST ST		OE		63	S	12/19/2012	4.712	F	63,310	\$253,240,000	402	401	
2247310	Q	QUEENS BLVD	AMTRAK & LIRR YARD	AL	O		19	S	12/6/2012	6.268	VG	92,400	\$369,600,000	402	401	
2247320	Q	HONEYWELL ST	AMTRAK & LIRR YARD	AL	O		22	S	9/26/2013	5.903	G	99,036	\$396,144,000	402	401	
2247330	Q	39TH ST (NORTH)	SUNNYSIDE YARD	A	O		14	S	9/30/2013	6.556	VG	48,200	\$192,800,000	402	401	
2247380	Q	ROOSEVELT AVE	CSX - HELLGATE	C	O		2	S	8/1/2013	6.333	VG	7,380	\$29,520,000	402	403	404
2247390	Q	41ST AVE	CSX - HELLGATE	C	O		2	S	8/1/2013	4.942	F	4,400	\$17,600,000	402	404	
2247400	Q	WOODSIDE AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.033	G	8,200	\$32,800,000	402	404	
2247410	Q	43RD AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.000	G	4,800	\$19,200,000	402	404	
2247420	Q	44TH AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.000	G	5,100	\$20,400,000	402	404	
2247430	Q	45TH AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.306	G	2,400	\$9,600,000	402	404	
1247280	Q	51 AVE PED BR (2247280)	LIRR MAIN LINE	L	O-PED		5	C	10/22/2013	3.018	F	700	\$2,800,000	402		
2230520	Q	65TH PLACE	278I (B.Q.E.)		A		2	S	2/7/2012	5.972	G	11,668	\$46,672,000	402		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230530	Q	QUEENS BLVD	278I (B.Q.E.)		A		2	S	11/20/2012	6.417	VG	25,543	\$102,172,000	402		
2230540	Q	WOODSIDE AVE	278I (B.Q.E.)		A		1	S	2/3/2012	5.672	G	7,529	\$30,116,000	402		
2230550	Q	69TH ST	278I (B.Q.E.)		A		2	S	1/19/2012	5.263	G	12,600	\$50,400,000	402		
2230560	Q	70TH ST	278I (B.Q.E.)		A		2	S	11/20/2012	6.722	VG	8,580	\$34,320,000	402		
2230570	Q	41ST AVE	278I (B.Q.E.)		A		2	S	11/20/2012	6.735	VG	8,580	\$34,320,000	402		
2230587	Q	ROOSEVELT AVE	278I (B.Q.E.)		A		2	S	9/24/2013	5.889	G	11,022	\$44,088,000	402		
2230590	Q	BROADWAY	278I (B.Q.E.)		O		2	S	12/6/2012	5.789	G	16,000	\$64,000,000	402		
2230669	Q	278I (B.Q.E.)	35TH AVE		A		1	S	8/2/2013	6.390	VG	13,135	\$52,540,000	402		
2230679	Q	278I (B.Q.E.)	34TH AVE		A		1	S	5/17/2013	6.068	VG	7,793	\$31,172,000	402		
2230869	Q	QUEENS BLVD	ACCESS RD BQE S.B.		A		1	S	10/17/2012	5.909	G	7,900	\$31,600,000	402		
224004E	Q	TO NY FR THOMSON AVE	JACKSON AVE	L	OE		94	S	12/12/2012	4.604	F	104,600	\$418,400,000	402		
224004H	Q	TO 21ST ST FROM NY	22ND ST		OE		43	S	12/18/2012	4.437	F	48,100	\$192,400,000	402		
224004I	Q	TO THOMSON AVE FROM NY	JACKSON AVE	L	OE		39	S	12/18/2012	4.951	F	59,100	\$236,400,000	402		
2240410	Q	BORDEN AVE	DUTCH KILLS		WMO		2	S	7/5/2013	4.792	F	8,400	\$33,600,000	402		
2240450	Q	HUNTERS PT AVE	DUTCH KILLS		WMO		4	S	7/3/2012	5.083	G	12,168	\$48,672,000	402		
2247120	Q	WOODSIDE AVE	LIRR MAIN LINE	L	O		3	S	9/5/2013	4.444	F	14,900	\$59,600,000	402		
2247150	Q	65TH ST	LIRR MAIN LINE	L	O		3	S	9/5/2013	6.375	VG	6,344	\$25,376,000	402		
2247160	Q	65TH PLACE	LIRR MAIN LINE	L	O		3	S	9/5/2013	6.441	VG	8,381	\$33,524,000	402		
2247260	Q	JACKSON AVE	LIRR MONTAUK DIV	L	O		1	S	10/22/2012	6.117	VG	4,517	\$18,068,000	402		
2247270	Q	21ST ST	LIRR N SIDE DIV	L	O		6	S	9/11/2013	5.153	G	17,590	\$70,360,000	402		
2247290	Q	49TH AVE	LIRR,AMTRAK	L	O		5	S	9/6/2013	4.014	F	20,400	\$81,600,000	402		
2247300	Q	THOMPSON AVE	AMTRAK & LIRR YARD	AL	O		14	S	12/6/2012	5.042	G	61,280	\$245,120,000	402		
2247370	Q	37TH AVE	CSX - HELLGATE	C	O		1	S	8/1/2013	6.234	VG	6,868	\$27,472,000	402		
2247640	Q	39TH ST (SOUTH)	AMTRAK & LIRR YARD	AL	O		9	S	10/7/2013	5.903	G	34,100	\$136,400,000	402		
2230780	Q	278I (BQE EAST LEG)	30TH AVE		A		1	S	5/24/2013	6.206	VG	7,071	\$28,284,000	403	401	
1247010	Q	91 PLACE (2247010)	LIRR PT WASH BR	L	O		1	S	9/3/2013	6.500	VG	2,760	\$11,040,000	404		
2247020	Q	94TH ST PED BRDG	LIRR PORT WASH BR	L	O-PED		5	C	4/9/2012	4.091	F	500	\$2,000,000	404		
2247180	Q	GRAND AVE	LIRR MAIN LINE	L	O		3	S	10/24/2012	4.396	F	7,415	\$29,660,000	404		
2247190	Q	55TH AVE PED BRDG	LIRR MAIN LINE	L	O-PED		3	C	10/8/2013	4.120	F	13,000	\$52,000,000	404		
2248159	Q	WOODHAVEN BLVD	QUEENS BLVD		O		2	S	8/7/2012	4.275	F	11,500	\$46,000,000	404		
2247650	Q	60TH RD PED BRDG	LIRR MAIN LINE	L	O-PED		3	C	10/8/2013	4.786	F	2,293	\$9,172,000	405	406	
2230120	Q	MYRTLE AVE	JACKIE ROBINSON PKWY		A		1	S	4/26/2012	5.250	G	6,400	\$25,600,000	405	482	
1247560	Q	METROPOLITAN AVE	LIRR - NY&ATL	LN	O		2	S	8/28/2013	3.603	F	20,900	\$83,600,000	405		
2065930	Q	HAMILTON PLACE	495I (L.I.E.)		A		2	S	3/5/2012	5.611	G	11,111	\$44,444,000	405		
2065940	Q	GRAND AVE	495I (L.I.E.)		A		2	S	12/6/2012	4.861	F	12,850	\$51,400,000	405		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2065950	Q	69TH STREET	495I (L.I.E.)		A		2	S	7/8/2013	5.250	G	10,336	\$41,344,000	405		
2230040	Q	CYPRESS HILLS ST	JACKIE ROBINSON PKWY		A		1	S	4/5/2012	4.722	F	5,000	\$20,000,000	405		
2230099	Q	JACKIE ROBINSON PKWY	CYPRESS HILLS CEMETRY		A		1	S	1/5/2012	5.444	G	4,200	\$16,800,000	405		
2247440	Q	GRAND AVE	CSX TRANSPORT	C	O		1	S	8/13/2013	6.183	VG	3,280	\$13,120,000	405		
2247450	Q	57TH AVE	CSX TRANSPORT	C	O		1	S	8/13/2013	5.976	G	2,248	\$8,992,000	405		
2247460	Q	CALDWELL AVE	CSX TRANSPORT	C	O		1	S	12/17/2012	5.889	G	2,243	\$8,972,000	405		
2247470	Q	ELIOT AVE	CSX TRANSPORT	C	O		1	S	8/15/2013	4.972	F	2,960	\$11,840,000	405		
2247480	Q	JUNIPER BLVD SO	CSX TRANSPORT	C	O		1	S	8/16/2013	5.000	G	9,000	\$36,000,000	405		
2247490	Q	69TH STREET	CSX TRANSPORT	C	O		1	S	12/17/2012	4.979	F	6,175	\$24,700,000	405		
2247500	Q	METROPOLITAN AVE	CSX TRANSPORT	C	O		1	S	8/16/2013	4.233	F	18,650	\$74,600,000	405		
2247530	Q	ANDREWS AVE	LIRR MONTAUK DIV	L	O		1	S	9/3/2013	7.000	VG	1,765	\$7,060,000	405		
2247540	Q	60TH ST	LIRR MONTAUK DIV	L	O		2	S	9/3/2013	5.208	G	5,340	\$21,360,000	405		
2247550	Q	ELIOT AVE	LIRR MONTAUK DIV	L	O		2	S	8/27/2013	5.712	G	9,550	\$38,200,000	405		
2247570	Q	80TH ST	77TH AVE - LIRR MT	L	O		5	S	11/27/2012	5.102	G	11,725	\$46,900,000	405		
2248200	Q	RUST ST	FLUSHING AVE		O		1	S	6/21/2013	4.922	F	2,940	\$11,760,000	405		
2248220	Q	SERVICE RD TURNAROUND	FLUSHING AVE		O		1	S	6/21/2013	5.078	G	2,940	\$11,760,000	405		
2248240	Q	FLUSHING AV SERVICE RD	FLUSHING AVE		O		1	S	6/21/2013	5.250	G	2,940	\$11,760,000	405		
2248280	Q	HIGHLAND PK PED.	PEDESTRIAN PATH		O-PED	P	1	C	11/20/2013	3.667	F	1,900	\$7,600,000	405		
2248300	Q	71ST AVE	COOPER AVE		O		1	S	7/1/2013	4.373	F	2,800	\$11,200,000	405		
2066002	Q	495I (2066000)	WOODHAVEN BLVD		A		2	S	5/23/2013	5.620	G	25,200	\$100,800,000	406	404	
1247200	Q	67 AVE PED BR (2247200)	LIRR MAIN LINE	L	O-PED		3	C	10/22/2013	4.219	F	1,300	\$5,200,000	406		
2247630	Q	PED BRG NEAR UNION TPK	ABANDONED LIRR		O-PED		8	C	6/19/2013	5.077	G	1,449	\$5,796,000	406		
2248160	Q	ELIOT AVE	QUEENS BLVD		O		2	S	8/7/2012	4.804	F	13,785	\$55,140,000	406		
2240507	Q	ROOSEVELT AVE	678I - FLUSHING RIVER		WA		27	S	11/1/2013	3.465	F	84,424	\$337,696,000	407	481	
1065210	Q	WHITESTONE EXP NB	BCIP		A		1	S	7/24/2012	4.603	F	2,500	\$10,000,000	407		
2055801	Q	NORTHERN BLVD WB	FLUSHING RIVER		WO		40	S	11/21/2012	4.338	F	71,900	\$287,600,000	407		
2055802	Q	NORTHERN BLVD EB	FLUSHING RIVER		WO		40	S	11/21/2012	4.324	F	78,894	\$315,576,000	407		
205580A	Q	N.BLVD WB TO 678I SB	VACANT LAND		AR		16	S	6/19/2012	5.619	G	8,600	\$34,400,000	407		
2231900	Q	BCIP	TOTTEN AVE		A		1	S	6/1/2012	4.609	F	4,900	\$19,600,000	407		
2231910	Q	UTOPIA PKWY	BCIP		A		2	S	3/15/2012	5.114	G	7,200	\$28,800,000	407		
2231920	Q	160TH ST	BCIP		A		2	S	6/17/2013	5.694	G	5,550	\$22,200,000	407		
2231930	Q	FRANCIS LEWIS BLVD	BCIP		A		3	S	2/3/2012	4.682	F	9,100	\$36,400,000	407		
2231940	Q	CLINTONVILLE ST	BCIP		A		2	S	2/3/2012	4.705	F	7,400	\$29,600,000	407		
2231950	Q	150TH ST	BCIP		A		2	S	2/8/2012	4.682	F	5,900	\$23,600,000	407		
2231960	Q	149TH ST	BCIP		A		2	S	2/8/2012	4.795	F	6,210	\$24,840,000	407		

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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2231970	Q	14TH AVE	BCIP		A		2	S	2/8/2012	4.614	F	8,100	\$32,400,000	407		
2231980	Q	147TH ST	BCIP		A		2	S	3/8/2012	4.705	F	6,300	\$25,200,000	407		
2247040	Q	UNION ST	LIRR PORT WASH BR	L	O		1	S	8/22/2013	6.172	VG	3,313	\$13,252,000	407		
2247050	Q	BOWNE AVE	LIRR PORT WASH BR	L	O		1	S	10/4/2012	5.333	G	4,974	\$19,896,000	407		
2247060	Q	PARSONS BLVD	LIRR PORT WASH BR	L	O		1	S	10/5/2012	4.824	F	4,200	\$16,800,000	407		
2247070	Q	147TH ST	LIRR PORT WASH BR	L	O		1	S	8/22/2013	5.392	G	2,800	\$11,200,000	407		
2247080	Q	149TH ST	LIRR PORT WASH BR	L	O		1	S	8/20/2013	4.776	F	4,100	\$16,400,000	407		
2247090	Q	149TH PLACE	LIRR PORT WASH BR	L	O		2	S	8/21/2013	5.000	G	4,300	\$17,200,000	407		
2247100	Q	150TH ST	LIRR PORT WASH BR	L	O		2	S	8/21/2013	6.029	VG	7,830	\$31,320,000	407		
2247110	Q	MURRAY ST	LIRR PORT WASH BR	L	O		1	S	8/21/2013	5.222	G	4,000	\$16,000,000	407		
2248090	Q	FLSHG MDW PK PED	COLLEGE POINT BLVD		O-PED	P	3	C	1/22/2013	4.694	F	8,400	\$33,600,000	407		
2266160	Q	678I SB TO BCIP EB	ACCESS RD FROM 678I - BCIP		A		1	S	6/28/2013	3.734	F	2,300	\$9,200,000	407		
7705510	Q	167TH ST PED BRDG	LIRR PORT WASH BR	L	O-PED		3	C	10/1/2013	4.000	F	600	\$2,400,000	407		
2248059	Q	MOTOR PKWY (PED)	FRANCIS LEWIS BLVD		O-PED	P	2	C	6/4/2013	4.444	F	2,800	\$11,200,000	408		
2248080	Q	MOTOR PKWY (PED)	HOLLIS COURT BLVD		O-PED	P	3	C	12/5/2013	4.791	F	2,700	\$10,800,000	408		
2248100	Q	MOTOR PKWY (PED)	73RD AVE		O-PED	P	3	C	2/25/2013	4.541	F	2,600	\$10,400,000	408		
2267160	Q	ROOSEVELT AVE	SHEA ROAD		O		4	S	7/29/2013	4.873	F	7,280	\$29,120,000	408		
2267199	Q	FRANCIS LEWIS BLVD	CUNNINGHAM PK RD		O		1	S	5/13/2013	5.033	G	7,085	\$28,340,000	408		
2248299	Q	J.R. PKWY-UNION TPKE	AUSTIN ST		O		1	S	5/30/2012	4.806	F	5,900	\$23,600,000	409	406	
2247600	Q	PARK LANE SOUTH	LIRR MONTAUK DIV	L	O		1	S	10/18/2012	6.983	VG	3,024	\$12,096,000	409	482	
2230209	Q	QUEENS BLVD	JACKIE ROBINSON PKWY	T	A		5	S	7/9/2012	4.968	F	37,700	\$150,800,000	409		
2247220	Q	80TH ROAD	LIRR MAIN LINE	L	O		3	S	8/30/2013	4.794	F	4,100	\$16,400,000	409		
2247230	Q	82ND AVE	LIRR MAIN LINE	L	O		3	S	8/30/2013	5.311	G	4,100	\$16,400,000	409		
2247240	Q	LEFFERTS BLVD	LIRR MAIN LINE	L	O		3	S	8/30/2013	5.806	G	5,460	\$21,840,000	409		
2247590	Q	FOREST PARK DRIVE	LIRR MONTAUK DIV	L	O	P	5	S	9/9/2013	5.158	G	6,000	\$24,000,000	409		
2247660	Q	FOREST PARK DRIVE	ABANDONED LIRR		O	P	6	S	7/9/2013	4.524	F	10,000	\$40,000,000	409		
2248019	Q	WOODHAVEN BLVD	ATLANTIC AVE		O		3	S	4/5/2012	4.236	F	19,400	\$77,600,000	409		
2248340	Q	FOREST PARK DR	MYRTLE AVE		O	P	3	S	5/24/2013	4.984	F	5,100	\$20,400,000	409		
2231559	Q	CROSS BAY BLVD	BSHP		A		4	S	6/1/2012	5.139	G	23,205	\$92,820,000	410		
2231560	Q	S CONDUIT BLVD	BSOP		A		2	S	7/12/2012	5.296	G	15,776	\$63,104,000	410		
2231570	Q	COHANCY ST	BSOP		A		2	S	4/24/2012	4.395	F	6,400	\$25,600,000	410		
2231590	Q	130TH ST	BSOP		A		2	S	1/30/2012	4.659	F	6,800	\$27,200,000	410		
2240650	Q	163RD AVE PED BRDG	HAWTREE BASIN		WO-PED		13	C	3/20/2013	4.037	F	5,000	\$20,000,000	410		
2248020	Q	WHITELAW PED BRDG	CONDUIT AVE		O-PED		7	C	9/10/2013	4.775	F	5,500	\$22,000,000	410		
2248039	Q	CROSS BAY BLVD	NASSAU EXPWY - RTE 27		O		2	S	5/31/2013	6.208	VG	16,544	\$66,176,000	410		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2248040	Q	RAMP TO LINDEN BLVD	SO. CONDUIT AVE		O		1	S	5/30/2012	5.200	G	3,352	\$13,408,000	410		
2248250	Q	102ND ST	HAWTREE BASIN		WO		3	S	7/18/2013	6.015	VG	4,900	\$19,600,000	410		
2231860	Q	W ALLEY ROAD	BCIP		A		2	S	7/17/2013	5.368	G	7,200	\$28,800,000	411		
2231870	Q	NORTHERN BLVD	BCIP		A		2	S	8/28/2012	5.875	G	9,400	\$37,600,000	411		
2231880	Q	CROCHERON PK PED	BCIP		A-PED	P	9	C	6/4/2013	3.646	F	2,300	\$9,200,000	411		
2231890	Q	28TH AVE PED BRDG	BCIP		A-PED	P	24	C	6/12/2013	4.361	F	7,600	\$30,400,000	411		
2240440	Q	NORTHERN BLVD	ALLEY CREEK		WO		2	S	8/9/2012	4.681	F	8,300	\$33,200,000	411		
2247130	Q	CORPORAL KENNEDY ST	LIRR PORT WASH BR	L	O		1	S	9/5/2013	6.157	VG	3,379	\$13,516,000	411		
2247140	Q	BELL BLVD	LIRR PORT WASH BR	L	O		1	S	9/5/2013	5.780	G	4,320	\$17,280,000	411		
2247170	Q	DOUGLSTON PKWY	LIRR PORT WASH BR	L	O		3	S	10/19/2012	4.746	F	6,300	\$25,200,000	411		
2247680	Q	221ST ST	LIRR PORT WASH BR	L	O		3	S	8/22/2013	5.926	G	6,050	\$24,200,000	411		
2248060	Q	MOTOR PKWY (PED)	BELL BLVD		O-PED	P	2	C	6/21/2013	4.292	F	2,650	\$10,600,000	411		
2248070	Q	MOTOR PKWY (PED)	SPRINGFIELD BLVD		O-PED	P	3	C	6/10/2013	3.836	F	2,900	\$11,600,000	411		
2266129	Q	DOUGLSTON PKWY	BCIP SB		A		1	S	3/19/2012	4.592	F	4,400	\$17,600,000	411		
2266139	Q	DOUGLSTON PKWY	BCIP NB		A		1	S	3/20/2012	4.673	F	6,400	\$25,600,000	411		
7703720	Q	216TH ST PED BRDG	LIRR PORT WASH BR	L	O-PED		6	C	9/30/2013	3.889	F	400	\$1,600,000	411		
2231610	Q	GUY R. BREWER BLVD	BSOP		A		4	S	5/20/2013	6.222	VG	12,342	\$49,368,000	413		
2231620	Q	FARMERS BLVD	BSOP		A		2	S	5/10/2012	4.477	F	6,400	\$25,600,000	413		
2231630	Q	SPRINGFIELD BLVD	BSOP		A		2	S	5/10/2012	4.591	F	8,500	\$34,000,000	413		
2231640	Q	225TH ST	BSOP		A		2	S	5/10/2012	4.614	F	7,000	\$28,000,000	413		
2231650	Q	SUNRISE HWY W.B.	BLP E.B.		A		1	S	4/2/2012	4.393	F	4,100	\$16,400,000	413		
2231660	Q	SUNRISE HWY W.B.	BLP W.B.		A		2	S	3/6/2012	4.565	F	5,350	\$21,400,000	413		
2231670	Q	N CONDUIT AVE WB	BLP E.B.		A		1	S	1/25/2012	4.917	F	4,000	\$16,000,000	413		
2231680	Q	N CONDUIT AVE WB	BLP W.B.		A		2	S	1/25/2012	4.932	F	6,500	\$26,000,000	413		
2231690	Q	FRANCIS LEWIS BLVD	BLP E.B.		A		1	S	3/29/2012	5.167	G	6,000	\$24,000,000	413		
2231700	Q	FRANCIS LEWIS BLVD	BLP W.B.		A		1	S	3/29/2012	4.700	F	6,000	\$24,000,000	413		
2231710	Q	MERRICK BLVD	BLP N.B.		A		1	S	2/22/2012	4.467	F	6,000	\$24,000,000	413		
2231720	Q	MERRICK BLVD	BLP S.B.		A		1	S	2/15/2012	4.200	F	6,000	\$24,000,000	413		
2231730	Q	130TH AVE	BLP N.B.		A		1	S	1/20/2012	5.267	G	4,400	\$17,600,000	413		
2231740	Q	130TH AVE	BLP S.B.		A		1	S	1/20/2012	4.833	F	4,400	\$17,600,000	413		
2231750	Q	LINDEN BLVD	BCIP		A		2	S	3/2/2012	4.250	F	6,700	\$26,800,000	413		
2231760	Q	BCIP	DUTCH BROADWAY-115 AVE		A		1	S	3/6/2012	4.047	F	7,300	\$29,200,000	413		
2231770	Q	BELMONT PARK SO. RAMP	BCIP		A	P	1	S	2/3/2012	4.688	F	3,200	\$12,800,000	413		
2231780	Q	HEMPSTEAD AVE	BCIP		A		2	S	2/3/2012	4.065	F	14,200	\$56,800,000	413		
2231790	Q	BELMONT PARK NO. RAMP	BCIP		A	P	1	S	1/13/2012	4.563	F	3,400	\$13,600,000	413		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2231800	Q	SUPERIOR ROAD	BCIP		A		2	S	4/12/2012	4.659	F	7,000	\$28,000,000	413		
2231819	Q	JAMAICA AVE	BCIP		A		2	S	3/23/2012	4.773	F	11,500	\$46,000,000	413		
2231829	Q	BRADDOCK AVE	BCIP		A		2	S	5/31/2013	4.955	F	10,600	\$42,400,000	413		
2231840	Q	HILLSIDE AVE	BCIP		A		2	S	3/30/2012	4.026	F	9,672	\$38,688,000	413		
2231850	Q	UNION TPKE	BCIP		A		2	S	3/28/2012	4.409	F	13,600	\$54,400,000	413		
2248110	Q	MOTOR PKWY (PED)	ALLEY PK PED WALK		O-PED	P	1	C	6/5/2013	4.104	F	1,000	\$4,000,000	413		
2248129	Q	UNION TPKE	CREEDMOORE HOSP RD		O		1	S	6/7/2013	4.867	F	3,500	\$14,000,000	413		
2266149	Q	HEMPSTEAD AVE	BCIP RAMP NB		A		2	S	3/15/2012	3.937	F	9,500	\$38,000,000	413		
2266770	Q	BCIP	LAURELTON PKWY		A		1	S	3/8/2012	4.972	F	9,508	\$38,032,000	413		
2268770	Q	SPRINGFIELD BLVD	EQUES. PATH (ABAND.)		O		1	S	5/9/2013	5.000	G	1,470	\$5,880,000	413		
2300130	Q	ROCKAWAY BLVD	HOOK CREEK		WO		3	S	7/15/2013	6.271	VG	18,302	\$73,208,000	413		
Q00002	Q	BCIP	PATH OPP. 88TH RD		A		1	C	5/17/2013	4.667	F	1,272	\$5,088,000	413		
2248130	Q	FLUSHING MEADOW PK PED	WILLOW LK&76TH RD		WO-PED	P	4	C	4/20/2002	1.000	C	1,891	\$7,564,000	481		
2248140	Q	FLUSHING MEADW PK RD	STREAM N OF LIE		WO	P	5	S	7/31/2013	4.481	F	4,100	\$16,400,000	481		
2248260	Q	MEADOW LAKE BRIDGE	MEADOW LAKE		WO	P	5	S	7/17/2013	4.458	F	4,200	\$16,800,000	481		
2248379	Q	BOATHOUSE BRIDGE	AQUACADE LAKE		WO	P	5	S	8/1/2013	4.296	F	6,300	\$25,200,000	481		
2230190	Q	MARKWOOD ROAD	JACKIE ROBINSON PKWY		A		1	S	2/1/2012	5.167	G	4,400	\$17,600,000	482	406	
2247620	Q	MYRTLE AVE	ABANDONED LIRR		O		3	S	1/6/2012	5.028	G	6,725	\$26,900,000	482	406	
2230179	Q	JACKIE ROBINSON PKWY	METROPOLITAN AVE		A		2	S	5/4/2012	5.286	G	8,673	\$34,692,000	482		
2230180	Q	UNION TPKE	JACKIE ROBINSON PKWY		A		1	S	2/1/2012	5.672	G	5,359	\$21,436,000	482		
2248369	Q	ROCKAWAY BLVD	THURSTON BASIN		WO		2	S	7/16/2013	5.474	G	6,000	\$24,000,000	483	413	
2248230	Q	BEACH CHANNEL DR WB	BEACH CHANNEL DR EB		O		1	S	6/18/2013	4.400	F	3,600	\$14,400,000	484		
2249040	R	TOMPKINS AVE	B&O RR (ABANDONED)		O		1	S	5/9/2012	5.953	G	5,096	\$20,384,000	501		
2249070	R	JOHN ST	B&O RR (ABANDONED)	O	O-PED		2	C	10/9/2013	5.620	G	1,050	\$4,200,000	501		
2249090	R	MORNINGSTAR ROAD	B&O RR (ABANDONED)	O	O		4	S	5/21/2013	4.898	F	7,900	\$31,600,000	501		
2249100	R	GRANITE AVE	B&O RR (ABANDONED)	O	O		4	S	3/13/2012	6.034	VG	7,300	\$29,200,000	501		
2249110	R	LAKE AVE	B&O RR (ABANDONED)	O	O		3	S	5/16/2013	5.148	G	5,900	\$23,600,000	501		
2249120	R	SIMONSON AVE	B&O RR (ABANDONED)	O	O		3	S	5/15/2013	5.852	G	5,819	\$23,276,000	501		
2249130	R	VAN NAME AVE	B&O RR (ABANDONED)	O	O		3	S	5/15/2013	5.186	G	5,474	\$21,896,000	501		
2249140	R	VAN PELT AVE	B&O RR (ABANDONED)	O	O		3	S	5/16/2013	5.576	G	5,000	\$20,000,000	501		
2249160	R	DE HART AVE	B&O RR (ABANDONED)	O	O		4	S	5/15/2013	6.389	VG	6,700	\$26,800,000	501		
2249170	R	UNION AVE	B&O RR (ABANDONED)	O	O		4	S	5/14/2013	5.315	G	6,500	\$26,000,000	501		
2249180	R	HARBOR ROAD	B&O RR (ABANDONED)	O	O		4	S	9/16/2013	6.000	G	5,778	\$23,112,000	501		
2249200	R	SOUTH AVE	B&O RR (ABANDONED)	O	O		3	S	9/17/2013	6.527	VG	8,322	\$33,288,000	501		
2249510	R	TOMPKINS AVE	WILLOW AVE, SIRT	S	O		2	S	10/24/2012	5.358	G	5,378	\$21,512,000	501		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249520	R	HANNAH ST	SIRT SOUTH SHORE	S	O		10	S	10/18/2013	4.966	F	10,020	\$40,080,000	501		
2249530	R	MINTHORNE ST PED BRDG	SIRT SOUTH SHORE	S	O-PED		26	C	10/4/2012	4.453	F	6,000	\$24,000,000	501		
2249710	R	WEST FOOTBRIDGE	CLOVE LAKE		WO-PED	P	2	C	3/13/2013	4.317	F	900	\$3,600,000	501		
2249720	R	EAST FOOTBRIDGE	CLOVE LAKE		WO-PED	P	2	C	3/15/2013	4.371	F	900	\$3,600,000	501		
2249730	R	BRIDGE OVER DAM	N.END CLOVE LAKE		WO-PED	P	1	C	3/15/2013	3.351	F	1,000	\$4,000,000	501		
2249760	R	MARTLINGS AVE	RICHMOND LAKE DAM		WO		2	S	6/24/2013	4.467	F	7,000	\$28,000,000	501		
2249770	R	S OF BROOKS LAKE	STREAM IN PARK		WO-PED	P	3	C	11/26/2013	4.946	F	700	\$2,800,000	501		
2249780	R	FOOTBRIDGE	BROOKS LAKE DAM		WO-PED	P	1	C	4/17/2013	3.433	F	800	\$3,200,000	501		
2249790	R	FB S OF FOREST AV	STREAM IN PARK		WO-PED	P	3	C	11/26/2013	4.595	F	700	\$2,800,000	501		
2249800	R	FOREST AVE	CLOVE LAKES PK STREAM		WO	P	1	S	11/6/2013	4.567	F	1,600	\$6,400,000	501		
2249840	R	TOMPKINS AVE	GREENFIELD AVE		O		1	S	3/2/2012	5.021	G	2,690	\$10,760,000	501		
2269730	R	PARKING EXIT RAMP	SIRT	S	O	F	10	S	11/30/2012	6.097	VG	20,727	\$82,908,000	501		
2269740	R	BUS STATION NORTH	SIRT	S	O	F	12	S	10/26/2012	4.660	F	64,605	\$258,420,000	501		
2269750	R	BUS STATION SOUTH	SIRT	S	O	F	12	S	11/14/2012	5.360	G	154,688	\$618,752,000	501		
2269760	R	NORTH RAMP	SIRT	S	O	F	9	S	11/30/2012	6.278	VG	17,589	\$70,356,000	501		
2269770	R	BUS STA ENTR RAMP	SIRT	S	O	F	19	S	10/11/2013	5.611	G	39,333	\$157,332,000	501		
2269780	R	PARKING ENTR RAMP	SIRT	S	O	F	3	S	11/12/2012	5.944	G	8,589	\$34,356,000	501		
2269790	R	BUS STATION EXIT RAMP	SIRT	S	O	F	7	S	10/22/2012	4.778	F	28,721	\$114,884,000	501		
2270170	R	SI FERRY PED BRDG	PARKING LOT EXIT RDWY		O-PED	F	5	C	6/17/2010	3.163	F	2,917	\$11,668,000	501		
2270180	R	BOROUGH PLACE - RAMP A	STATEN ISLAND RAILWAY	S	O	F	1	S	12/29/2005	4.938	F	1,250	\$5,000,000	501		
2240350	R	RICHMOND AVE	RICHMOND CREEK		WO		3	S	7/1/2013	5.472	G	32,589	\$130,356,000	502		
2249400	R	BEACH AVE	SIRT SOUTH SHORE	S	O		2	S	8/19/2013	5.364	G	3,700	\$14,800,000	502		
2249410	R	ROSS AVE	SIRT SOUTH SHORE	S	O		2	S	8/20/2013	5.379	G	3,800	\$15,200,000	502		
2249420	R	ROSE AVE	SIRT SOUTH SHORE	S	O		2	S	8/21/2013	5.258	G	3,800	\$15,200,000	502		
2249430	R	NEW DORP LANE	SIRT SOUTH SHORE	S	O		2	S	9/9/2013	4.958	F	7,600	\$30,400,000	502		
2249440	R	BANCROFT AVE	SIRT SOUTH SHORE	S	O		3	S	10/9/2013	5.393	G	5,900	\$23,600,000	502		
2249450	R	FREMONT AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		3	C	7/27/2012	3.618	F	800	\$3,200,000	502		
2249460	R	LINCOLN AVE	SIRT SOUTH SHORE	S	O		1	S	9/10/2013	5.190	G	4,500	\$18,000,000	502		
2249470	R	MIDLAND AVE	SIRT SOUTH SHORE	S	O		1	S	10/29/2013	5.466	G	3,000	\$12,000,000	502		
2249480	R	FINGERBOARD ROAD	SIRT SOUTH SHORE	S	O		2	S	9/26/2013	6.431	VG	5,100	\$20,400,000	502		
2249490	R	CLOVE ROAD	SIRT SOUTH SHORE	S	O		3	S	10/25/2012	5.917	G	5,104	\$20,416,000	502		
2249860	R	SLATER BLVD	NEW CREEK		WO		1	S	5/17/2013	5.510	G	2,037	\$8,148,000	502		
2249870	R	TRAVIS AVE	MAIN CREEK		WO		1	S	10/16/2013	5.483	G	1,700	\$6,800,000	502		
2249880	R	CHELSEA ROAD	SAWMILL CREEK		WO		1	S	5/21/2013	6.633	VG	2,205	\$8,820,000	502		
2249210	R	MAIN ST PED BRDG	SIRT SOUTH SHORE	S	O-PED		9	C	7/24/2012	4.123	F	400	\$1,600,000	503		
2249230	R	TRACY AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		9	C	7/19/2012	3.553	F	635	\$2,540,000	503		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249240	R	ARTHUR KILL ROAD	SIRT SOUTH SHORE	S	O		1	S	10/22/2012	4.648	F	3,650	\$14,600,000	503		
2249250	R	BETHEL AV PED BRDG	SIRT SOUTH SHORE	S	O-PED		12	C	7/20/2012	3.525	F	111	\$444,000	503		
2249269	R	PAGE AVE	SIRT SOUTH SHORE	S	O		4	S	9/23/2013	5.806	G	30,710	\$122,840,000	503		
2249270	R	RICHMOND VALLY ROAD	SIRT SOUTH SHORE	S	O		4	S	9/13/2013	5.164	G	9,440	\$37,760,000	503		
2249280	R	CHAMP COURT PED BRDG	SIRT SOUTH SHORE	S	O-PED		7	C	7/20/2012	4.036	F	595	\$2,380,000	503		
2249290	R	SEGUINE AVE	SIRT SOUTH SHORE	S	O		1	S	8/30/2013	6.016	VG	3,250	\$13,000,000	503		
2249300	R	HUGUENOT AVE	SIRT SOUTH SHORE	S	O		2	S	9/24/2013	4.788	F	4,900	\$19,600,000	503		
2249320	R	ALBEE AVE	SIRT SOUTH SHORE	S	O		3	S	9/25/2013	4.689	F	6,500	\$26,000,000	503		
2249330	R	ANNADALE ROAD	SIRT SOUTH SHORE	S	O		1	S	8/23/2013	6.233	VG	3,540	\$14,160,000	503		
2249350	R	NELSON AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		3	C	7/25/2012	4.115	F	300	\$1,200,000	503		
2249360	R	GIFFORDS LANE	SIRT SOUTH SHORE	S	O		1	S	10/23/2012	5.531	G	3,042	\$12,168,000	503		
2249370	R	GREAVES AVE	SIRT SOUTH SHORE	S	O		1	S	8/22/2013	6.533	VG	2,650	\$10,600,000	503		
2249380	R	GUYON AVE	SIRT SOUTH SHORE	S	O		3	S	10/7/2013	4.770	F	6,900	\$27,600,000	503		
2249390	R	CEDARVIEW AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		5	C	7/26/2012	3.615	F	625	\$2,500,000	503		
2249580	R	BELFIELD AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		5	C	10/5/2012	3.902	F	400	\$1,600,000	503		
2249810	R	HYLAN BLVD	LEMON CREEK		WO		1	S	2/15/2012	6.313	VG	11,400	\$45,600,000	503		
2249820	R	ARTHUR KILL ROAD	ARTHUR KILL STREAM		WO		1	S	5/20/2013	4.184	F	1,300	\$5,200,000	503		
2268920	R	AMBOY ROAD	LEMON CREEK		WO		1	S	2/15/2012	6.333	VG	1,310	\$5,240,000	503		
788 OPEN BRIDGES				OPEN SPANS 4,359				OPEN SF				15,533,529	58,380,956,000	ALL		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2243310	K	2ND AVE	LIRR BAY RIDGE	N	O		2	S	10/2/2012	6.236	VG	17,751	\$71,004,000	310		
2243320	K	3RD AVE	LIRR BAY RIDGE	N	O		4	S	9/17/2013	4.917	F	17,230	\$68,920,000	310		
2244160	K	3RD AVE	SHORE RD DRIVE		O		1	S	6/14/2013	6.727	VG	4,360	\$17,440,000	310		
2231270	K	4TH AVE	BSHP		A		2	S	3/16/2012	4.579	F	6,100	\$24,400,000	310		
2243330	K	4TH AVE	LIRR BAY RIDGE	NT	O		4	S	8/30/2013	5.597	G	13,668	\$54,672,000	310		
2243839	K	4TH AVE	NYCTA BMT TRACKS	T	O		1	S	8/20/2013	6.250	VG	4,440	\$17,760,000	307		
2066100	K	5TH AVE	27 X PROSPECT EXPWY		A		1	S	5/18/2012	5.063	G	8,800	\$35,200,000	307		
2244480	K	5TH AVE	GREENWOOD CEMETERY		O		1	S	9/25/2013	5.333	G	3,600	\$14,400,000	307		
2243580	K	5TH AVE	LIRR & SEA BEACH	NT	O		4	S	9/23/2013	3.941	F	12,395	\$49,580,000	310		
2243590	K	6TH AVE	LIRR & SEA BEACH	NT	O		2	S	7/16/2013	6.056	VG	14,382	\$57,528,000	310		
2243280	K	6TH AVE	LIRR ATLANTIC AVE	L	O		9	S	9/13/2012	5.431	G	12,276	\$49,104,000	302		
2243600	K	7TH AVE	LIRR & SEA BEACH	NT	O		7	S	11/12/2012	4.778	F	18,628	\$74,512,000	310		
2243920	K	7TH AVE	NYCTA BMT YARD	T	O		2	S	9/10/2012	6.042	VG	4,700	\$18,800,000	307		
2243610	K	8TH AVE	LIRR & SEA BEACH	NT	O		2	S	7/15/2013	6.181	VG	10,834	\$43,336,000	310		
2243840	K	9TH AVE	NYCTA BMT YARD	T	O		5	S	8/19/2013	5.736	G	12,440	\$49,760,000	312		
2243940	K	9TH AVE	NYCTA IND SBWY	T	O		5	S	8/19/2013	4.737	F	6,300	\$25,200,000	312		
2245209	M	11TH AVE	AMTRAK 30 ST BRANCH	A	O		2	S	6/4/2012	4.471	F	15,400	\$61,600,000	104		
2243630	K	11TH AVE	LIRR & SEA BEACH	NT	O		5	S	11/13/2012	5.985	G	9,700	\$38,800,000	310		
2245010	M	11TH AVE VIADUCT	LIRR WEST SIDE YARD	AL	O		39	S	12/28/2012	4.056	F	157,500	\$630,000,000	104		
2243640	K	13TH AVE	LIRR & SEA BEACH	NT	O		5	S	7/15/2013	4.972	F	16,000	\$64,000,000	310		
2231970	Q	14TH AVE	BCIP		A		2	S	2/8/2012	4.614	F	8,100	\$32,400,000	407		
2243650	K	14TH AVE	LIRR BAY RIDGE	N	O		1	S	11/13/2012	6.333	VG	4,720	\$18,880,000	311		
2243670	K	15TH AVE	BMT SEA BEACH	T	O		4	S	6/24/2013	6.136	VG	16,020	\$64,080,000	311		
2243340	K	15TH AVE	LIRR BAY RIDGE	N	O		1	S	11/14/2012	4.872	F	3,614	\$14,456,000	311		
2243680	K	16TH AVE	BMT SEA BEACH	T	O		3	S	8/30/2012	5.296	G	6,816	\$27,264,000	311		
2243360	K	16TH AVE	LIRR BAY RIDGE	N	O		1	S	10/4/2012	5.350	G	4,345	\$17,380,000	311		
2243690	K	17TH AVE	BMT SEA BEACH	T	O		4	S	8/30/2012	6.173	VG	8,946	\$35,784,000	311		
2243370	K	17TH AVE	LIRR BAY RIDGE	N	O		1	S	10/5/2012	4.745	F	3,406	\$13,624,000	312		
2231300	K	17TH AVE PED BRDG	BSHP		A-PED	P	1	C	9/24/2013	3.614	F	2,100	\$8,400,000	311		
2243700	K	18TH AVE	BMT SEA BEACH	T	O		1	S	7/25/2013	6.632	VG	5,200	\$20,800,000	311		
2243380	K	18TH AVE	LIRR BAY RIDGE	N	O		1	S	9/28/2012	4.688	F	6,006	\$24,024,000	312		
2243710	K	19TH AVE	BMT SEA BEACH	T	O		4	S	8/29/2012	4.184	F	4,800	\$19,200,000	311		
2243720	K	20TH AVE	BMT SEA BEACH	T	O		1	S	8/31/2012	6.673	VG	7,000	\$28,000,000	311		
2243820	K	21ST AVE	BMT SEA BEACH	T	O		4	S	8/19/2013	4.289	F	21,400	\$85,600,000	311		
2247270	Q	21ST ST	LIRR N SIDE DIV	L	O		6	S	9/11/2013	5.153	G	17,590	\$70,360,000	402		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2231330	K	27TH AVE PED BRDG	BSHP		A-PED	P	1	C	3/27/2013	4.106	F	2,100	\$8,400,000	313		
2231890	Q	28TH AVE PED BRDG	BCIP		A-PED	P	24	C	6/12/2013	4.361	F	7,600	\$30,400,000	411		
2230730	Q	31ST AVE	278I NB (BQE WEST LEG)		A		1	S	6/25/2013	6.217	VG	5,875	\$23,500,000	401		
2230657	Q	31ST ST	278I (B.Q.E.)		A		2	S	12/5/2012	4.569	F	9,500	\$38,000,000	401		
2230640	Q	32ND ST	278I (B.Q.E.)		A		2	S	6/6/2013	4.875	F	8,100	\$32,400,000	401		
2230630	Q	35TH ST	278I (B.Q.E.)		A		4	S	3/22/2012	4.667	F	9,000	\$36,000,000	401		
2247370	Q	37TH AVE	CSX - HELLGATE	C	O		1	S	8/1/2013	6.234	VG	6,868	\$27,472,000	402		
2230620	Q	37TH ST	278I (B.Q.E.)		A		2	S	3/22/2012	4.681	F	5,300	\$21,200,000	401		
2247330	Q	39TH ST (NORTH)	SUNNYSIDE YARD	A	O		14	S	9/30/2013	6.556	VG	48,200	\$192,800,000	402	401	
2247640	Q	39TH ST (SOUTH)	AMTRAK & LIRR YARD	AL	O		9	S	10/7/2013	5.903	G	34,100	\$136,400,000	402		
2230570	Q	41ST AVE	278I (B.Q.E.)		A		2	S	11/20/2012	6.735	VG	8,580	\$34,320,000	402		
2247390	Q	41ST AVE	CSX - HELLGATE	C	O		2	S	8/1/2013	4.942	F	4,400	\$17,600,000	402	404	
2247410	Q	43RD AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.000	G	4,800	\$19,200,000	402	404	
2247420	Q	44TH AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.000	G	5,100	\$20,400,000	402	404	
2230840	Q	44TH ST	GCP		A		2	S	5/17/2012	4.764	F	5,000	\$20,000,000	401		
2247430	Q	45TH AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.306	G	2,400	\$9,600,000	402	404	
2230820	Q	47TH ST	GCP		A		2	S	5/17/2012	4.889	F	5,700	\$22,800,000	401		
2247290	Q	49TH AVE	LIRR,AMTRAK	L	O		5	S	9/6/2013	4.014	F	20,400	\$81,600,000	402		
2230800	Q	49TH ST	278I (BQE WEST LEG)		A		2	S	4/16/2012	5.278	G	4,900	\$19,600,000	401		
2230890	Q	49TH ST	GCP		A		2	S	5/17/2012	4.444	F	6,350	\$25,400,000	401		
2243400	K	50TH ST	LIRR BAY RIDGE	N	O		2	S	9/5/2013	4.731	F	7,100	\$28,400,000	312		
1247280	Q	51 AVE PED BR (2247280)	LIRR MAIN LINE	L	O-PED		5	C	10/22/2013	3.018	F	700	\$2,800,000	402		
2243390	K	52ND ST	LIRR BAY RIDGE	N	O		1	S	9/28/2012	6.250	VG	3,293	\$13,172,000	312		
2247190	Q	55TH AVE PED BRDG	LIRR MAIN LINE	L	O-PED		3	C	10/8/2013	4.120	F	13,000	\$52,000,000	404		
2247450	Q	57TH AVE	CSX TRANSPORT	C	O		1	S	8/13/2013	5.976	G	2,248	\$8,992,000	405		
2247650	Q	60TH RD PED BRDG	LIRR MAIN LINE	L	O-PED		3	C	10/8/2013	4.786	F	2,293	\$9,172,000	405	406	
2243350	K	60TH ST	LIRR BAY RIDGE	N	O		1	S	9/4/2013	6.133	VG	3,900	\$15,600,000	311		
2247540	Q	60TH ST	LIRR MONTAUK DIV	L	O		2	S	9/3/2013	5.208	G	5,340	\$21,360,000	405		
2230520	Q	65TH PLACE	278I (B.Q.E.)		A		2	S	2/7/2012	5.972	G	11,668	\$46,672,000	402		
2247160	Q	65TH PLACE	LIRR MAIN LINE	L	O		3	S	9/5/2013	6.441	VG	8,381	\$33,524,000	402		
2243730	K	65TH ST	BMT SEA BEACH	T	O		4	S	8/28/2012	5.132	G	12,000	\$48,000,000	311		
2247150	Q	65TH ST	LIRR MAIN LINE	L	O		3	S	9/5/2013	6.375	VG	6,344	\$25,376,000	402		
1247200	Q	67 AVE PED BR (2247200)	LIRR MAIN LINE	L	O-PED		3	C	10/22/2013	4.219	F	1,300	\$5,200,000	406		
2230550	Q	69TH ST	278I (B.Q.E.)		A		2	S	1/19/2012	5.263	G	12,600	\$50,400,000	402		
2065950	Q	69TH STREET	495I (L.I.E.)		A		2	S	7/8/2013	5.250	G	10,336	\$41,344,000	405		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2247490	Q	69TH STREET	CSX TRANSPORT	C	O		1	S	12/17/2012	4.979	F	6,175	\$24,700,000	405		
2230560	Q	70TH ST	278I (B.Q.E.)		A		2	S	11/20/2012	6.722	VG	8,580	\$34,320,000	402		
2248300	Q	71ST AVE	COOPER AVE		O		1	S	7/1/2013	4.373	F	2,800	\$11,200,000	405		
2246150	M	72 ST CROSS DR (TERRACE BRDG)	PED PATH TO FOUNTAIN		O	P	3	S	3/1/2012	5.786	G	7,300	\$29,200,000	164		
2246160	M	73 ST PED BRDG (BOW BRIDGE)	THE LAKE		WO-PED	P	1	C	4/16/2013	3.659	F	1,700	\$6,800,000	164		
2267717	M	79 ST PED PLAZA	79 ST BT BASIN GAR		A	P	10	S	5/10/2013	4.444	F	27,400	\$109,600,000	107		
226771B	M	79 ST RAMP TO GAR	79 ST BT BASIN GAR		AR	P	21	S	5/10/2013	4.452	F	8,989	\$35,956,000	107		
226771A	M	79 ST RAMP TO HHP	79 ST BT BASIN GAR		AR	P	4	S	5/9/2013	4.221	F	3,131	\$12,524,000	107		
2267718	M	79 ST TRAFFIC CIRC	79 ST PED PLAZA		A	P	34	S	5/15/2013	3.738	F	24,130	\$96,520,000	107		
2246440	M	79 TH ST PED BRDG	TRANSVERSE RD #2		O-PED	P	1	C	7/14/2013	3.926	F	5,900	\$23,600,000	164		
2247220	Q	80TH ROAD	LIRR MAIN LINE	L	O		3	S	8/30/2013	4.794	F	4,100	\$16,400,000	409		
2247570	Q	80TH ST	77TH AVE - LIRR MT	L	O		5	S	11/27/2012	5.102	G	11,725	\$46,900,000	405		
2231250	K	81ST ST PED BRDG	BSHP		A-PED	P	5	C	2/25/2013	4.761	F	3,100	\$12,400,000	310		
2247230	Q	82ND AVE	LIRR MAIN LINE	L	O		3	S	8/30/2013	5.311	G	4,100	\$16,400,000	409		
2243570	K	86TH ST	BMT SEA BEACH	T	O		1	S	8/27/2012	5.953	G	12,167	\$48,668,000	313		
1247010	Q	91 PLACE (2247010)	LIRR PT WASH BR	L	O		1	S	9/3/2013	6.500	VG	2,760	\$11,040,000	404		
2231260	K	92ND ST PED BRDG	BSHP		A-PED	P	6	C	8/8/2013	3.475	F	3,000	\$12,000,000	310		
2247020	Q	94TH ST PED BRDG	LIRR PORT WASH BR	L	O-PED		5	C	4/9/2012	4.091	F	500	\$2,000,000	404		
2248250	Q	102ND ST	HAWTREE BASIN		WO		3	S	7/18/2013	6.015	VG	4,900	\$19,600,000	410		
2231730	Q	130TH AVE	BLP N.B.		A		1	S	1/20/2012	5.267	G	4,400	\$17,600,000	413		
2231740	Q	130TH AVE	BLP S.B.		A		1	S	1/20/2012	4.833	F	4,400	\$17,600,000	413		
2231590	Q	130TH ST	BSOP		A		2	S	1/30/2012	4.659	F	6,800	\$27,200,000	410		
2240089	BM	145TH ST BRIDGE	HARLEM RIVER		WMO		8	S	8/15/2013	6.278	VG	56,700	\$226,800,000	110	204	201
2231980	Q	147TH ST	BCIP		A		2	S	3/8/2012	4.705	F	6,300	\$25,200,000	407		
2247070	Q	147TH ST	LIRR PORT WASH BR	L	O		1	S	8/22/2013	5.392	G	2,800	\$11,200,000	407		
2247090	Q	149TH PLACE	LIRR PORT WASH BR	L	O		2	S	8/21/2013	5.000	G	4,300	\$17,200,000	407		
2231960	Q	149TH ST	BCIP		A		2	S	2/8/2012	4.795	F	6,210	\$24,840,000	407		
2247080	Q	149TH ST	LIRR PORT WASH BR	L	O		1	S	8/20/2013	4.776	F	4,100	\$16,400,000	407		
2231950	Q	150TH ST	BCIP		A		2	S	2/8/2012	4.682	F	5,900	\$23,600,000	407		
2247100	Q	150TH ST	LIRR PORT WASH BR	L	O		2	S	8/21/2013	6.029	VG	7,830	\$31,320,000	407		
2231920	Q	160TH ST	BCIP		A		2	S	6/17/2013	5.694	G	5,550	\$22,200,000	407		
2240650	Q	163RD AVE PED BRDG	HAWTREE BASIN		WO-PED		13	C	3/20/2013	4.037	F	5,000	\$20,000,000	410		
7705510	Q	167TH ST PED BRDG	LIRR PORT WASH BR	L	O-PED		3	C	10/1/2013	4.000	F	600	\$2,400,000	407		
206672A	B	174TH ST-NTH PED BRDG	895I - SHERIDAN EXPWY		A-PED		4	C	4/8/2013	4.667	F	1,800	\$7,200,000	209		
206672B	B	174TH ST-STH PED BRDG	895I - SHERIDAN EXPWY		A-PED		4	C	4/8/2013	4.750	F	1,900	\$7,600,000	209		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241259	B	204TH ST PED BRDG	METRO NORTH RR HAR	M	O-PED	P	1	C	11/23/2013	3.845	F	4,700	\$18,800,000	227	207	
7703720	Q	216TH ST PED BRDG	LIRR PORT WASH BR	L	O-PED		6	C	9/30/2013	3.889	F	400	\$1,600,000	411		
2247680	Q	221ST ST	LIRR PORT WASH BR	L	O		3	S	8/22/2013	5.926	G	6,050	\$24,200,000	411		
2231640	Q	225TH ST	BSOP		A		2	S	5/10/2012	4.614	F	7,000	\$28,000,000	413		
224004J	M	25X	NYC GARAGE		OE		14	S	4/23/2012	4.829	F	22,058	\$88,232,000	108		
2266540	B	278I	BRUCKNER BLVD		A		2	S	7/10/2013	4.435	F	32,900	\$131,600,000	201		
2230679	Q	278I (B.Q.E.)	34TH AVE		A		1	S	5/17/2013	6.068	VG	7,793	\$31,172,000	402		
2230669	Q	278I (B.Q.E.)	35TH AVE		A		1	S	8/2/2013	6.390	VG	13,135	\$52,540,000	402		
2230470	K	278I (B.Q.E.)	JAY ST		A		1	S	2/3/2012	4.833	F	5,100	\$20,400,000	302		
2230510	K	278I (B.Q.E.)	NASSAU ST		A		6	S	6/11/2012	5.169	G	51,200	\$204,800,000	302		
2230680	Q	278I (B.Q.E.)	NORTHERN BLVD		A		1	S	12/4/2012	6.016	VG	27,011	\$108,044,000	402	401	
2230460	K	278I (B.Q.E.)	PEARL ST		A		1	S	2/2/2012	5.467	G	4,500	\$18,000,000	302		
2230480	K	278I (B.Q.E.)	PROSPECT ST		A		1	S	2/13/2012	5.056	G	8,400	\$33,600,000	302		
2230500	K	278I (B.Q.E.)	RAMP TO BQE EB		A		1	S	2/21/2012	4.967	F	1,300	\$5,200,000	302		
2230490	K	278I (B.Q.E.)	SANDS ST		A		1	S	2/22/2012	5.093	G	12,600	\$50,400,000	302		
2230430	K	278I (B.Q.E.) RAMP TO BKLN BRDG	PROSPECT ST		A		1	S	1/5/2012	5.000	G	1,100	\$4,400,000	302		
2230780	Q	278I (BQE EAST LEG)	30TH AVE		A		1	S	5/24/2013	6.206	VG	7,071	\$28,284,000	403	401	
2230770	Q	278I (BQE WEST LEG)	30TH AVE		A		1	S	5/24/2013	6.322	VG	6,199	\$24,796,000	401		
2268508	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)		A		11	S	7/5/2013	4.103	F	20,529	\$82,116,000	302		
2268518	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)		A		5	S	7/5/2013	4.310	F	9,275	\$37,100,000	302		
2268498	K	278I E.B. (B.Q.E.)	278I WB (BQE)		A		69	S	12/9/2013	3.719	F	133,708	\$534,832,000	302		
2230888	K	278I E.B. (B.Q.E.)	CADMAN PLAZA / 278I WB		A		2	S	6/29/2012	5.263	G	4,500	\$18,000,000	302		
2230450	K	278I EB (B.Q.E.)	ADAMS ST		A		1	S	1/10/2012	4.933	F	2,500	\$10,000,000	302		
2230858	K	278I EB (B.Q.E.)	JORALEMON ST / BQE WB		A		1	S	11/5/2013	4.619	F	5,900	\$23,600,000	302		
2230410	K	278I EB (B.Q.E.)	WASHINGTON ST		A		1	S	6/25/2012	4.500	F	2,500	\$10,000,000	302		
2230760	Q	278I NB (BQE EAST LEG)	31ST AVE		A		1	S	8/30/2012	6.610	VG	4,161	\$16,644,000	401		
2230700	Q	278I NB (BQE EAST LEG)	32ND AVE (TO BQE WEST LEG)		A		8	S	12/4/2012	6.465	VG	31,600	\$126,400,000	401	403	
2230690	Q	278I NB (BQE WEST LEG)	32ND AVE		A		1	S	6/22/2012	6.407	VG	4,080	\$16,320,000	401		
2230830	Q	278I NB (BQE WEST LEG)	GCP		A		2	S	5/17/2012	4.583	F	7,600	\$30,400,000	401		
2230720	Q	278I SB (BQE EAST LEG)	278I NB (BQE WEST LEG)		A		3	S	6/25/2013	6.182	VG	20,896	\$83,584,000	401		
2230710	Q	278I SB (BQE WEST LEG)	32ND AVE		A		1	S	6/28/2013	6.424	VG	5,240	\$20,960,000	401		
2230750	Q	278I SB (BQE EAST LEG)	31ST AVE		A		1	S	6/27/2013	6.508	VG	4,221	\$16,884,000	401	403	
2230740	Q	278I SB (BQE WEST LEG)	31ST AVE		A		1	S	6/27/2013	6.217	VG	5,246	\$20,984,000	401		
2230887	K	278I W.B. (B.Q.E.)	CADMAN PLAZA		A		2	S	6/29/2012	4.569	F	4,500	\$18,000,000	302		
2268497	K	278I W.B. (B.Q.E.)	FURMAN ST		A		45	S	8/30/2013	4.357	F	86,406	\$345,624,000	302		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2268517	K	278I W.B. (B.Q.E.)	FURMAN ST		A		7	S	7/1/2013	4.000	F	10,988	\$43,952,000	302		
2268507	K	278I W.B. (B.Q.E.)	YORK ST		A		6	S	7/2/2013	4.071	F	10,388	\$41,552,000	302		
2230440	K	278I WB (B.Q.E.)	ADAMS ST		A		1	S	1/10/2012	5.167	G	2,700	\$10,800,000	302		
2230857	K	278I WB (B.Q.E.)	JORALEMON ST		A		1	S	3/5/2012	5.000	G	2,100	\$8,400,000	302		
2230420	K	278I WB (B.Q.E.)	WASHINGTON ST		A		1	S	6/25/2012	5.047	G	2,500	\$10,000,000	302		
2066002	Q	495I (2066000)	WOODHAVEN BLVD		A		2	S	5/23/2013	5.620	G	25,200	\$100,800,000	406	404	
2266160	Q	678I SB TO BCIP EB	ACCESS RD FROM 678I - BCIP		A		1	S	6/28/2013	3.734	F	2,300	\$9,200,000	407		
2246490	M	A.C. POWELL BLVD N.B.	A.C. POWELL BLVD		O		1	S	2/1/2012	4.367	F	3,000	\$12,000,000	110		
2249320	R	ALBEE AVE	SIRT SOUTH SHORE	S	O		3	S	9/25/2013	4.689	F	6,500	\$26,000,000	503		
2268920	R	AMBOY ROAD	LEMON CREEK		WO		1	S	2/15/2012	6.333	VG	1,310	\$5,240,000	503		
2247530	Q	ANDREWS AVE	LIRR MONTAUK DIV	L	O		1	S	9/3/2013	7.000	VG	1,765	\$7,060,000	405		
2249330	R	ANNADALE ROAD	SIRT SOUTH SHORE	S	O		1	S	8/23/2013	6.233	VG	3,540	\$14,160,000	503		
2249820	R	ARTHUR KILL ROAD	ARTHUR KILL STREAM		WO		1	S	5/20/2013	4.184	F	1,300	\$5,200,000	503		
2249240	R	ARTHUR KILL ROAD	SIRT SOUTH SHORE	S	O		1	S	10/22/2012	4.648	F	3,650	\$14,600,000	503		
2230810	Q	ASTORIA BLVD EB	278I (BQE WEST LEG)		A		4	S	5/22/2013	4.044	F	8,200	\$32,800,000	401		
2243569	K	ATLANTIC AVE	LIRR ATLANTIC AVE	L	O		75	S	5/25/2012	3.676	F	135,100	\$540,400,000	316	305	
2244170	K	ATLNTC AV SVC RD E.B.	EAST NEW YORK AVE		O		2	S	8/5/2013	5.474	G	3,192	\$12,768,000	305		
2244180	K	ATLNTC AV SVC RD W.B.	EAST NEW YORK AVE		O		2	S	8/5/2013	5.105	G	5,600	\$22,400,000	305		
2243530	K	AVENUE H	LIRR BAY RIDGE	N	O		2	S	9/9/2013	5.956	G	35,100	\$140,400,000	318		
2243750	K	AVENUE O	BMT SEA BEACH	T	O		1	S	8/12/2013	5.706	G	4,658	\$18,632,000	311		
2243760	K	AVENUE P	BMT SEA BEACH	T	O		1	S	8/13/2013	6.140	VG	5,544	\$22,176,000	311		
2243790	K	AVENUE S	BMT SEA BEACH	T	O		1	S	7/2/2013	5.967	G	5,360	\$21,440,000	315		
2243800	K	AVENUE T	BMT SEA BEACH	T	O		1	S	7/3/2013	6.200	VG	5,360	\$21,440,000	311		
2243810	K	AVENUE U	BMT SEA BEACH	T	O		1	S	9/11/2012	5.294	G	5,880	\$23,520,000	315		
2249440	R	BANCROFT AVE	SIRT SOUTH SHORE	S	O		3	S	10/9/2013	5.393	G	5,900	\$23,600,000	502		
2241180	B	BARRETTO ST	AMTRAK - CSX	AC	O		1	S	10/8/2012	6.000	G	5,313	\$21,252,000	202		
2232000	M	BATTERY PLACE	FDR DRIVE		AT		2	S	10/16/2013	5.182	G	142,000	\$568,000,000	101		
2231290	K	BAY 8TH ST	BSHP		A		1	S	6/11/2013	5.921	G	4,950	\$19,800,000	311		
2243740	K	BAY PKWY	BMT SEA BEACH	T	O		4	S	8/28/2012	4.553	F	16,800	\$67,200,000	311		
2231760	Q	BCIP	DUTCH BROADWAY-115 AVE		A		1	S	3/6/2012	4.047	F	7,300	\$29,200,000	413		
2266770	Q	BCIP	LAURELTON PKWY		A		1	S	3/8/2012	4.972	F	9,508	\$38,032,000	413		
Q00002	Q	BCIP	PATH OPP. 88TH RD		A		1	C	5/17/2013	4.667	F	1,272	\$5,088,000	413		
2231900	Q	BCIP	TOTTEN AVE		A		1	S	6/1/2012	4.609	F	4,900	\$19,600,000	407		
2076109	B	BE NB SERVICE RD	HUTCHINSON RVR PKWY		A		2	S	8/15/2013	5.105	G	7,800	\$31,200,000	210		
2076129	B	BE SB SERVICE RD	HUTCHINSON RVR PKWY		A		2	S	1/19/2012	5.079	G	7,100	\$28,400,000	210		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249400	R	BEACH AVE	SIRT SOUTH SHORE	S	O		2	S	8/19/2013	5.364	G	3,700	\$14,800,000	502		
2248230	Q	BEACH CHANNEL DR WB	BEACH CHANNEL DR EB		O		1	S	6/18/2013	4.400	F	3,600	\$14,400,000	484		
2243490	K	BEDFORD AVE	LIRR BAY RIDGE	N	O		6	S	9/24/2012	4.319	F	12,000	\$48,000,000	314		
2241840	B	BEDFORD PARK BLVD	METRO NORTH RR HAR	M	O		1	S	4/20/2012	4.844	F	6,400	\$25,600,000	227	207	
2241930	B	BEDFORD PARK BLVD	NYCTA IND YARDS	T	O		4	S	11/20/2012	5.403	G	46,300	\$185,200,000	207		
2249580	R	BELFIELD AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		5	C	10/5/2012	3.902	F	400	\$1,600,000	503		
2247140	Q	BELL BLVD	LIRR PORT WASH BR	L	O		1	S	9/5/2013	5.780	G	4,320	\$17,280,000	411		
2231790	Q	BELMONT PARK NO. RAMP	BCIP		A	P	1	S	1/13/2012	4.563	F	3,400	\$13,600,000	413		
2231770	Q	BELMONT PARK SO. RAMP	BCIP		A	P	1	S	2/3/2012	4.688	F	3,200	\$12,800,000	413		
2249250	R	BETHEL AV PED BRDG	SIRT SOUTH SHORE	S	O-PED		12	C	7/20/2012	3.525	F	111	\$444,000	503		
2243100	K	BEVERLY ROAD	BMT SUBWAY, BRIGHTON	T	O		3	S	8/22/2013	4.070	F	4,200	\$16,800,000	314		
2243900	K	BLAKE AVE	LIRR BAY RIDGE LINE	N	O		3	S	9/25/2012	5.000	G	4,912	\$19,648,000	316		
2248379	Q	BOATHOUSE BRIDGE	AQUACADE LAKE		WO	P	5	S	8/1/2013	4.296	F	6,300	\$25,200,000	481		
2240410	Q	BORDEN AVE	DUTCH KILLS		WMO		2	S	7/5/2013	4.792	F	8,400	\$33,600,000	402		
2270180	R	BOROUGH PLACE - RAMP A	STATEN ISLAND RAILWAY	S	O	F	1	S	12/29/2005	4.938	F	1,250	\$5,000,000	501		
2229579	B	BOSTON POST ROAD	HUTCHINSON RIVER		WO		14	S	6/21/2013	4.042	F	95,700	\$382,800,000	212		
2242110	B	BOSTON ROAD	BRONX RIVER		WO		1	S	3/2/2012	4.227	F	6,200	\$24,800,000	227		
2242100	B	BOTANICAL GARDEN ROAD	TWIN LAKES		WO	P	1	S	3/1/2012	4.833	F	2,200	\$8,800,000	227		
2247050	Q	BOWNE AVE	LIRR PORT WASH BR	L	O		1	S	10/4/2012	5.333	G	4,974	\$19,896,000	407		
2231829	Q	BRADDOCK AVE	BCIP		A		2	S	5/31/2013	4.955	F	10,600	\$42,400,000	413		
2249730	R	BRIDGE OVER DAM	N.END CLOVE LAKE		WO-PED	P	1	C	3/15/2013	3.351	F	1,000	\$4,000,000	501		
2230590	Q	BROADWAY	2781 (B.Q.E.)		O		2	S	12/6/2012	5.789	G	16,000	\$64,000,000	402		
2240137	BM	BROADWAY BRIDGE	HARLEM RIVER	TM	WMO		3	S	12/11/2013	3.806	F	46,848	\$187,392,000	112	207	208
2242072	B	BRONX BLVD N.B.	BRONX RIVER		WO		1	S	3/19/2012	4.967	F	1,800	\$7,200,000	212		
2242082	B	BRONX BLVD N.B.	BRONX RIVER		WO		1	S	3/22/2012	4.467	F	2,800	\$11,200,000	212		
2242071	B	BRONX BLVD S.B.	BRONX RIVER		WO		1	S	3/19/2012	4.633	F	1,800	\$7,200,000	212		
2242081	B	BRONX BLVD S.B.	BRONX RIVER		WO		1	S	3/21/2012	4.467	F	2,800	\$11,200,000	212		
2229560	B	BRONX PELHAM PKWY	AMTRAK - CSX	AC	A		3	S	5/25/2012	4.542	F	24,591	\$98,364,000	211		
2075849	B	BRONX PELHAM PKWY	HUTCHINSON RVR PKWY		A		2	S	6/6/2012	3.763	F	17,600	\$70,400,000	210	211	
2065629	B	BRONX RIVER PKWY	BOSTON RD - BX ZOO		A		1	S	8/14/2013	5.138	G	6,300	\$25,200,000	227		
2270250	B	BROOKE AVE	CSX TRANS - PT MORRIS		O		1	S	8/9/2013	3.727	F	21,035	\$84,140,000	201		
2243520	K	BROOKLYN AVE	LIRR BAY RIDGE	N	O		3	S	8/8/2013	5.873	G	4,500	\$18,000,000	318		
2267860	K	BROOKLYN BR APPROACH	STORAGE (SANDS ST)		O		1	S	7/19/2012	4.411	F	6,490	\$25,960,000	302		
2240019	KM	BROOKLYN BRIDGE	EAST RIVER		WEO		75	S	10/28/2012	2.944	P	503,788	\$2,015,152,000	103	302	101
2268350	K	BROOKLYN PROMENADE	2781 EB (BQE)		A-PED	P	35	C	6/30/2013	3.690	F	46,184	\$184,736,000	302		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241099	B	BRUCKNER BLVD	CSX TRANS - PT MORRIS	C	O		1	S	8/7/2012	6.450	VG	6,700	\$26,800,000	201		
2076929	B	BRUCKNER EXPWY	CSX - HUNTS POINT	C	A		1	S	8/28/2013	4.567	F	3,800	\$15,200,000	202		
2075352	B	BRUCKNER EXPWY NB	AMTRAK - CSX	AC	A		1	S	11/19/2012	6.444	VG	10,900	\$43,600,000	202		
2066672	B	BRUCKNER EXPWY NB	BRONX RIVER		WA		8	S	10/15/2013	4.418	F	22,300	\$89,200,000	202	209	
2075351	B	BRUCKNER EXPWY SB	AMTRAK - CSX	AC	A		1	S	11/19/2012	6.032	VG	11,600	\$46,400,000	202		
2066671	B	BRUCKNER EXPWY SB	BRONX RIVER		WA		3	S	10/15/2013	5.222	G	12,400	\$49,600,000	202	209	
1066510	B	BRUCKNER EXPWY SVC RD	WESTCHESTER CREEK		WMA		17	S	10/17/2013	3.516	F	39,400	\$157,600,000	209		
2241210	B	BRYANT AVE	AMTRAK - CSX	AC	O		1	S	11/19/2013	3.051	F	5,300	\$21,200,000	202		
2231329	K	BSHP	26TH AVE		A		1	S	4/20/2012	4.600	F	6,700	\$26,800,000	313		
2231319	K	BSHP	BAY PKWY		A		1	S	8/16/2013	4.267	F	7,200	\$28,800,000	311		
2231249	K	BSHP	BAY RIDGE AVE		A		1	S	7/31/2013	3.625	F	4,900	\$19,600,000	310		
2231429	K	BSHP	BEDFORD AVE		A		3	S	4/20/2012	4.042	F	12,000	\$48,000,000	315		
2231509	K	BSHP	FRESH CREEK		WA		5	S	11/25/2013	6.831	VG	23,000	\$92,000,000	356		
2231450	K	BSHP	GERRITSEN INLET		WA		11	S	12/11/2013	3.463	F	52,000	\$208,000,000	356		
2231479	K	BSHP	MILL BASIN		WMA		14	S	12/11/2013	3.284	F	73,500	\$294,000,000	318		
2231439	K	BSHP	NOSTRAND AVE		A		3	S	4/20/2012	3.986	F	13,000	\$52,000,000	315		
2231419	K	BSHP	OCEAN AVE		A		3	S	4/12/2012	4.500	F	14,000	\$56,000,000	315		
2231360	K	BSHP	OCEAN PKWY		A		3	S	6/25/2012	6.299	VG	29,637	\$118,548,000	313		
2231499	K	BSHP	ROCKAWAY PKWY		A		4	S	10/27/2012	6.644	VG	11,500	\$46,000,000	356		
2231409	K	BSHP	SHEEPSHEAD BAY ROAD		A		1	S	4/12/2012	4.672	F	6,500	\$26,000,000	315		
2231482	K	BSHP EB	PAERDEGAT BASIN		WA		5	S	11/19/2012	7.000	VG	81,644	\$326,576,000	318		
2231481	K	BSHP WB	PAERDEGAT BASIN		WA		3	S	11/5/2013	6.939	VG	47,361	\$189,444,000	318		
2230790	Q	BULOVA AVE	278I (BQE WEST LEG)		A		2	S	4/16/2012	5.278	G	3,300	\$13,200,000	401		
2269770	R	BUS STA ENTR RAMP	SIRT	S	O	F	19	S	10/11/2013	5.611	G	39,333	\$157,332,000	501		
2269790	R	BUS STATION EXIT RAMP	SIRT	S	O	F	7	S	10/22/2012	4.778	F	28,721	\$114,884,000	501		
2269740	R	BUS STATION NORTH	SIRT	S	O	F	12	S	10/26/2012	4.660	F	64,605	\$258,420,000	501		
2269750	R	BUS STATION SOUTH	SIRT	S	O	F	12	S	11/14/2012	5.360	G	154,688	\$618,752,000	501		
2247460	Q	CALDWELL AVE	CSX TRANSPORT	C	O		1	S	12/17/2012	5.889	G	2,243	\$8,972,000	405		
2243290	K	CARLTON AVE	LIRR ATLANTIC AVE	L	O		7	S	7/29/2013	6.806	VG	10,823	\$43,292,000	302		
2240260	K	CARROLL ST	GOWANUS CANAL		WMO		2	S	8/2/2013	5.042	G	3,000	\$12,000,000	306		
2243220	K	CARROLL ST PED BRDG	FRANKLIN SHUTTLE	T	O-PED		3	C	12/17/2012	5.099	G	600	\$2,400,000	309		
2243050	K	CATON AVE	BMT SUBWAY, BRIGHTON	T	O		4	S	8/23/2013	4.842	F	20,800	\$83,200,000	314		
2249390	R	CEDARVIEW AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		5	C	7/26/2012	3.615	F	625	\$2,500,000	503		
2246050	M	CENTER DR (DRIPROCK ARCH)	PED OPP 63RD ST		O	P	1	S	1/11/2012	4.867	F	1,725	\$6,900,000	164		
2244050	K	CENTER DR (NETHERMEAD ARCHES)	PED PATH & STREAM		WO	P	3	S	5/22/2013	5.000	G	7,400	\$29,600,000	355		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2246070	M	CENTER DR (PLAYMATES ARCH)	PED PATH OPP 65TH ST		O	P	1	C	6/20/2013	4.583	F	1,129	\$4,516,000	164		
2246100	M	CENTER DRIVE	TRANSVERSE RD #1		O	P	1	S	2/3/2012	4.333	F	6,000	\$24,000,000	164		
2268480	M	CHAMBERS ST PED BRDG	RTE 9A - WEST ST		O-PED		10	C	7/10/2013	5.391	G	7,481	\$29,924,000	101		
2249280	R	CHAMP COURT PED BRDG	SIRT SOUTH SHORE	S	O-PED		7	C	7/20/2012	4.036	F	595	\$2,380,000	503		
2249880	R	CHELSEA ROAD	SAWMILL CREEK		WO		1	S	5/21/2013	6.633	VG	2,205	\$8,820,000	502		
2243080	K	CHURCH AVE	BMT SUBWAY, BRIGHTON	T	O		4	S	8/20/2013	4.545	F	18,200	\$72,800,000	314		
2240210	B	CITY ISLAND ROAD	EASTCHESTER BAY		WO		7	S	10/24/2013	3.389	F	19,915	\$79,660,000	228		
2241710	B	CLAREMONT PKWY	METRO NORTH RR HAR	M	O		1	S	4/16/2012	4.426	F	6,300	\$25,200,000	203		
2231940	Q	CLINTONVILLE ST	BCIP		A		2	S	2/3/2012	4.705	F	7,400	\$29,600,000	407		
2249490	R	CLOVE ROAD	SIRT SOUTH SHORE	S	O		3	S	10/25/2012	5.917	G	5,104	\$20,416,000	502		
2231570	Q	COHANCY ST	BSOP		A		2	S	4/24/2012	4.395	F	6,400	\$25,600,000	410		
2230870	K	COLUMBIA HEIGHTS	278I (B.Q.E.)		A		1	S	7/9/2012	4.383	F	16,500	\$66,000,000	302		
2241590	B	CONCOURSE VILL AVE	METRO NORTH RR HAR	M	O		1	S	4/20/2012	3.969	F	12,077	\$48,308,000	204		
2244460	K	CONDUIT BLVD NB	ATLANTIC AVE EB		O		1	S	10/8/2012	4.833	F	3,800	\$15,200,000	305		
2231380	K	CONEY ISLAND AVE	BSHP		A		4	S	10/15/2013	5.708	G	19,866	\$79,464,000	313		
2243440	K	CONEY ISLAND AVE	LIRR BAY RIDGE	N	O		1	S	9/26/2012	5.106	G	3,231	\$12,924,000	312		
2230390	K	CONGRESS ST	278I (B.Q.E.)		A		2	S	3/26/2012	6.029	VG	5,000	\$20,000,000	306		
2246510	M	CORBIN PL OVERPASS	CORBIN PLACE		O	P	1	S	1/9/2012	5.000	G	2,223	\$8,892,000	112		
2232029	M	CORLEARS PARK ROAD	FDR DRIVE		A	P	4	S	3/28/2012	3.938	F	4,100	\$16,400,000	103		
2247130	Q	CORPORAL KENNEDY ST	LIRR PORT WASH BR	L	O		1	S	9/5/2013	6.157	VG	3,379	\$13,516,000	411		
2243110	K	CORTEYOU ROAD	BMT SUBWAY, BRIGHTON	T	O		3	S	8/20/2013	6.139	VG	4,810	\$19,240,000	314		
2231880	Q	CROCHERON PK PED	BCIP		A-PED	P	9	C	6/4/2013	3.646	F	2,300	\$9,200,000	411		
2243040	K	CROOKE AVE	BMT SUBWAY, BRIGHTON	T	O		4	S	9/20/2013	4.421	F	6,000	\$24,000,000	314		
2231340	K	CROPEY AVE	BSHP		A		2	S	6/13/2012	4.722	F	13,100	\$52,400,000	313		
2240301	K	CROPEY AVE	CONEY ISLAND CREEK		WO		3	S	7/2/2013	5.000	G	9,400	\$37,600,000	313		
2240302	K	CROPEY AVE	CONEY ISLAND CREEK		WO		3	S	12/2/2013	4.718	F	9,400	\$37,600,000	313		
2231559	Q	CROSS BAY BLVD	BSHP		A		4	S	6/1/2012	5.139	G	23,205	\$92,820,000	410		
2248039	Q	CROSS BAY BLVD	NASSAU EXPWY - RTE 27		O		2	S	5/31/2013	6.208	VG	16,544	\$66,176,000	410		
2242030	B	CROTONA AVE	BRONX PELHAM PKWY		O		2	S	1/18/2012	5.447	G	7,600	\$30,400,000	206		
2243230	K	CROWN ST	FRANKLIN SHUTTLE	T	O		3	S	8/8/2013	5.014	G	4,060	\$16,240,000	309		
2230040	Q	CYPRESS HILLS ST	JACKIE ROBINSON PKWY		A		1	S	4/5/2012	4.722	F	5,000	\$20,000,000	405		
2249160	R	DE HART AVE	B&O RR (ABANDONED)	O	O		4	S	5/15/2013	6.389	VG	6,700	\$26,800,000	501		
2232030	M	DELANCEY ST PED BRDG	FDR DRIVE		A-PED	P	12	C	6/26/2013	4.443	F	2,900	\$11,600,000	103		
2076640	B	DEPOT PLACE	METRO NORTH RR HUD	CM	O		11	S	9/13/2013	4.653	F	26,566	\$106,264,000	204		
2243130	K	DITMAS AVE	BMT SUBWAY, BRIGHTON	T	O		1	S	8/22/2013	5.723	G	5,150	\$20,600,000	314		

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2243120	K	DORCHESTER ROAD	BMT SUBWAY, BRIGHTON	T	O		1	S	12/3/2012	5.863	G	4,825	\$19,300,000	314		
2266139	Q	DOUGLASTON PKWY	BCIP NB		A		1	S	3/20/2012	4.673	F	6,400	\$25,600,000	411		
2266129	Q	DOUGLASTON PKWY	BCIP SB		A		1	S	3/19/2012	4.592	F	4,400	\$17,600,000	411		
2247170	Q	DOUGLASTON PKWY	LIRR PORT WASH BR	L	O		3	S	10/19/2012	4.746	F	6,300	\$25,200,000	411		
2243420	K	E 3RD ST	LIRR BAY RIDGE	N	O		1	S	8/8/2013	6.517	VG	1,840	\$7,360,000	312		
2232050	M	E 6TH ST PED BRDG	FDR DRIVE		A-PED	P	19	C	7/5/2013	4.333	F	2,200	\$8,800,000	103		
2233020	M	E 10TH ST PED BRDG	FDR DRIVE		A-PED	P	21	C	4/17/2013	4.596	F	2,754	\$11,016,000	103		
2231390	K	E 12TH ST	BSHP		A		4	S	6/13/2012	4.542	F	17,200	\$68,800,000	315		
2233080	K	E 14 ST PED BRDG	BSHP		A-PED		14	C	7/1/2013	4.262	F	4,700	\$18,800,000	315		
2243450	K	E 14TH ST	LIRR BAY RIDGE	N	O		1	S	9/26/2012	4.809	F	1,775	\$7,100,000	314		
2243460	K	E 15TH ST PED BRDG	LIRR BAY RIDGE	N	O-PED		3	C	8/21/2013	5.592	G	900	\$3,600,000	314		
2232070	M	E 25TH ST PED BRDG	FDR DRIVE		A-PED		3	C	4/7/2013	4.600	F	1,700	\$6,800,000	106		
2246540	M	E 34TH ST	PARK AVE TUNNEL		OT		1	S	9/13/2012	4.117	F	36,200	\$144,800,000	105	106	
2232100	M	E 51ST ST PED BRDG	FDR DRIVE		A-PED	P	6	C	4/17/2013	4.417	F	2,800	\$11,200,000	106		
2233040	M	E 60TH ST	FDR DRIVE		A		17	S	7/19/2013	5.000	G	24,480	\$97,920,000	108		
2246030	M	E 62 ST PED BRDG (GAPSTOW BRDG)	THE POND		O-PED	P	1	C	4/16/2013	3.897	F	1,400	\$5,600,000	164		
2232110	M	E 64TH ST PED BRDG	FDR DRIVE		A-PED	P	11	U	11/23/2011	4.912	F	2,100	\$8,400,000	108		
2232120	M	E 71ST ST PED BRDG	FDR DRIVE		A-PED	P	19	C	8/11/2013	4.761	F	340	\$1,360,000	108		
2232140	M	E 78TH ST PED BRDG	FDR DRIVE		A-PED	P	13	C	5/11/2013	6.944	VG	5,226	\$20,904,000	108		
2269820	M	E 81 ST PED BRDG	FDR DRIVE N.B.		A-PED	P	3	C	5/12/2013	3.341	F	900	\$3,600,000	108		
2245319	M	E 97TH ST	METRO NORTH MAIN LN	M	O		1	S	12/7/2012	4.647	F	3,200	\$12,800,000	111		
2246570	M	E42ND ST - E47TH ST	FIRST AVE TUNNEL		OT		2	S	5/22/2012	4.882	F	95,000	\$380,000,000	106		
2246450	M	E77 ST PED (GLADE ARCH)	PED PATH OPP E77 ST		O-PED	P	1	C	1/17/2013	4.138	F	5,000	\$20,000,000	164		
2246390	M	E86 ST PED (SE RESERVOIR BRDG)	BRIDLE PATH		O-PED	P	3	C	11/27/2013	4.509	F	1,100	\$4,400,000	164		
2232180	M	E 103RD ST PED BRDG	FDR DRIVE		A-PED		18	C	8/30/2013	4.395	F	4,800	\$19,200,000	111		
2232190	M	E 111TH ST PED BRDG	FDR DRIVE		A-PED	P	9	C	9/13/2013	4.128	F	4,200	\$16,800,000	111		
2232200	M	E 120TH ST PED BRDG	FDR DRIVE		A-PED	P	18	C	9/6/2013	4.114	F	3,978	\$15,912,000	111		
2246990	M	E 129TH ST PED BRDG	3RD AVE BRDG RAMP		O-PED		5	C	10/5/2012	4.095	F	1,046	\$4,184,000	111		
2241550	B	E 144TH ST	METRO NORTH RR HAR	M	O		2	S	8/30/2013	6.181	VG	8,290	\$33,160,000	201		
2241129	B	E 149TH ST	AMTRAK - CSX	AC	O		2	S	10/8/2012	4.620	F	18,258	\$73,032,000	201	202	
2241560	B	E 149TH ST	METRO NORTH RR HAR	M	O		8	S	5/8/2012	4.819	F	27,900	\$111,600,000	201	204	
2241050	B	E 149TH ST/JACKSON AVE	CSX TRANS - PT MORRIS	C	O		1	S	6/7/2012	4.850	F	65,000	\$260,000,000	201		
2270030	B	E 156TH ST	ACCESS TO HOUSING		O	ED	16	S	12/14/2012	3.493	F	49,696	\$198,784,000	204		
2241010	B	E 156TH STREET	CSX TRANS - PT MORRIS	C	O		1	S	6/18/2012	4.612	F	2,400	\$9,600,000	201		
2241600	B	E 158TH ST	METRO NORTH RR HAR	M	O		1	S	8/31/2013	5.200	G	3,400	\$13,600,000	204		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPANS	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241610	B	E 161ST ST	METRO NORTH RR HAR	M	O		1	S	9/24/2013	5.050	G	6,600	\$26,400,000	204	203	
2241020	B	E 161ST STREET	CSX TRANS - PT MORRIS	C	O		1	S	3/21/2012	6.700	VG	12,800	\$51,200,000	203		
2241620	B	E 162ND ST	METRO NORTH RR HAR	M	O		1	S	4/20/2012	4.859	F	4,700	\$18,800,000	203		
2241030	B	E 163RD STREET	CSX TRANS - PT MORRIS	C	O		1	S	3/1/2012	4.611	F	3,200	\$12,800,000	203		
2241630	B	E 165TH ST	METRO NORTH RR HAR	M	O		1	S	4/20/2012	4.300	F	16,400	\$65,600,000	203		
2241650	B	E 167TH ST	METRO NORTH RR HAR	M	O		1	S	4/17/2012	5.510	G	3,363	\$13,452,000	203		
2241660	B	E 168TH ST	METRO NORTH RR HAR	M	O		1	S	4/18/2012	4.641	F	4,800	\$19,200,000	203		
2241670	B	E 169TH ST	METRO NORTH RR HAR	M	O		1	S	4/18/2012	4.250	F	3,300	\$13,200,000	203		
2241680	B	E 170TH ST	METRO NORTH RR HAR	M	O		1	S	4/16/2012	6.333	VG	3,150	\$12,600,000	203		
2241720	B	E 173RD ST	METRO NORTH RR HAR	M	O		1	S	4/16/2012	4.875	F	3,000	\$12,000,000	203		
2066720	B	E 174TH ST	SHERIDAN EXPWY/AMTRAK	A	A		13	S	8/20/2012	4.153	F	35,573	\$142,292,000	209	203	
2241740	B	E 175TH ST	METRO NORTH RR HAR	M	O		1	S	4/16/2012	3.938	F	3,600	\$14,400,000	206		
2241269	B	E 177TH ST	AMTRAK - CSX	AC	O		3	S	8/27/2012	5.403	G	16,606	\$66,424,000	206		
2241770	B	E 178TH ST PED BRDG	METRO NORTH RR HAR	M	O-PED		1	C	11/20/2013	4.921	F	700	\$2,800,000	206		
2241780	B	E 179TH ST PED BRDG	METRO NORTH RR HAR	M	O-PED		6	C	11/20/2013	5.639	G	700	\$2,800,000	206		
2242400	B	E 180TH ST	BRONX RIVER		WO		1	S	8/28/2012	4.810	F	4,500	\$18,000,000	206	227	
2241790	B	E 180TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	3.906	F	5,000	\$20,000,000	206		
2241800	B	E 183TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	4.109	F	4,080	\$16,320,000	206		
2241820	B	E 187TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	4.344	F	3,800	\$15,200,000	206		
2241810	B	E 188TH ST	METRO NORTH RR HAR	M	O		1	S	4/11/2012	4.063	F	5,300	\$21,200,000	206		
2241839	B	E 189TH ST	METRO NORTH RR HAR	M	O		1	S	8/28/2013	6.133	VG	43,157	\$172,628,000	206	207	
2242459	B	E 233RD ST	BRONX RIVER		WO		1	S	2/22/2012	4.233	F	7,000	\$28,000,000	212		
2242460	B	E 233RD ST	ENTR RD BNX RVR PKWY		O		1	S	1/10/2012	4.867	F	5,300	\$21,200,000	212		
2241870	B	E 233RD ST	METRO NORTH RR HAR	M	O		1	S	4/30/2012	4.902	F	7,664	\$30,656,000	212	207	
2241890	B	E 241ST ST	BRP, METRO NORTH HAR	M	WO		28	S	11/30/2013	4.417	F	49,500	\$198,000,000	212		
2241270	B	E TREMONT AVE	AMTRAK - CSX	AC	O		2	S	8/27/2012	5.153	G	22,300	\$89,200,000	209	211	
2242149	B	E TREMONT AVE	BRONX RIVER		WO		2	S	5/30/2012	4.500	F	12,900	\$51,600,000	206		
2075820	B	E TREMONT AVE	HUTCHINSON RVR PKWY		A		2	S	11/21/2013	4.444	F	10,200	\$40,800,000	210		
2241760	B	E TREMONT AVE	METRO NORTH RR HAR	M	O		1	S	8/29/2013	6.450	VG	8,424	\$33,696,000	206		
2242260	B	EAGLE AVE	E 161ST ST		O		1	S	2/10/2012	5.017	G	2,800	\$11,200,000	201	203	
2244040	K	EAST DR (EAST WOOD ARCH)	PED PATH NR CENTER DR		O	P	1	C	7/3/2013	4.667	F	1,066	\$4,262,400	355		
2244010	K	EAST DR (ENDALE ARCH)	PED PATH NR GRND ARMY PLZ		O	P	1	C	5/15/2013	4.367	F	1,533	\$6,132,000	355		
2246069	M	EAST DR (GREEN GAP ARCH)	PED BET E 63ST & E 64ST		O	P	1	S	1/18/2012	4.433	F	2,075	\$8,300,000	164		
2246350	M	EAST DR (GREYWACKE ARCH)	PED PATH OPP E 80TH ST		O	P	1	C	5/24/2013	3.733	F	1,266	\$5,064,000	164		
2246470	M	EAST DR (HUDDLESTONE ARCH)	THE LOCH		WO	P	1	S	1/26/2012	4.500	F	1,100	\$4,400,000	164		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2246040	M	EAST DR (INSCOPE ARCH)	PED PATH OPP E 62 ST		O	P	1	C	4/16/2013	4.400	F	1,515	\$6,060,000	164		
2246170	M	EAST DR (TREFOIL ARCH)	PED PATH OPP E 73RD ST		O	P	1	S	1/30/2012	5.130	G	1,900	\$7,600,000	164		
2246130	M	EAST DR (WILLOWDELL ARCH)	PED PATH OPP E 67TH ST		O	P	1	C	4/16/2013	3.395	F	666	\$2,665,600	164		
2244030	K	EAST DRIVE	BRIDLE PATH NR ZOO		O	P	1	S	5/17/2013	4.878	F	2,000	\$8,000,000	355		
2246110	M	EAST DRIVE	TRANSVERSE RD #1		O	P	1	S	3/23/2012	4.667	F	6,000	\$24,000,000	164		
2246230	M	EAST DRIVE	TRANSVERSE RD #2		O	P	1	S	3/21/2012	4.600	F	5,080	\$20,320,000	164		
2246250	M	EAST DRIVE	TRANSVERSE RD #3		O	P	1	S	1/18/2012	4.433	F	4,500	\$18,000,000	164		
2246270	M	EAST DRIVE	TRANSVERSE RD #4		O	P	1	S	3/23/2012	4.100	F	7,000	\$28,000,000	164		
2249720	R	EAST FOOTBRIDGE	CLOVE LAKE		WO-PED	P	2	C	3/15/2013	4.371	F	900	\$3,600,000	501		
2242010	B	EAST FORDHAM RD	BRONX RIVER		WA		1	S	3/5/2012	5.207	G	9,200	\$36,800,000	227		
2242350	B	EAST FORDHAM RD	GRAND CONCOURSE		O		1	S	2/17/2012	4.567	F	10,300	\$41,200,000	205	207	
2241900	B	EASTCHESTER ROAD	NYCTA-DYRE AVE LN	T	O		3	S	11/19/2012	4.486	F	13,500	\$54,000,000	212		
2243279	K	EASTERN PKWY	FRANKLIN SHUTTLE	T	O		1	S	9/6/2012	4.861	F	7,700	\$30,800,000	309	308	
2247470	Q	ELIOT AVE	CSX TRANSPORT	C	O		1	S	8/15/2013	4.972	F	2,960	\$11,840,000	405		
2247550	Q	ELIOT AVE	LIRR MONTAUK DIV	L	O		2	S	8/27/2013	5.712	G	9,550	\$38,200,000	405		
2248160	Q	ELIOT AVE	QUEENS BLVD		O		2	S	8/7/2012	4.804	F	13,785	\$55,140,000	406		
2269600	K	ERSKINE ST	BSHP		A		1	S	8/20/2012	5.938	G	8,258	\$33,032,000	305		
2241200	B	FAILE ST	AMTRAK - CSX	AC	O		1	S	10/12/2012	5.578	G	6,208	\$24,832,000	202		
2231620	Q	FARMERS BLVD	BSOP		A		2	S	5/10/2012	4.477	F	6,400	\$25,600,000	413		
2249790	R	FB S OF FOREST AV	STREAM IN PARK		WO-PED	P	3	C	11/26/2013	4.595	F	700	\$2,800,000	501		
223201A	M	FDR DR N.B. OFF RMP	FDR DR & SOUTH ST		AR		17	S	4/24/2012	3.925	F	23,373	\$93,492,000	101		
223201C	M	FDR DR S.B. OFF RMP	SOUTH ST		AR		8	S	2/9/2012	4.821	F	36,700	\$146,800,000	103		
2233038	M	FDR DRIVE SB	FDR NB / E 62ND ST		AT		34	S	12/5/2012	6.563	VG	58,700	\$234,800,000	106	108	
2268650	M	FDR NB E42ND TO E49TH ST	EAST RIVER		A		119	S	10/17/2013	3.660	F	30,767	\$123,068,000	106		
223204A	M	FDR NB RAMP TO HOUSTON ST	RELIEF		AR		4	S	1/20/2012	4.706	F	6,150	\$24,600,000	103		
2229520	B	FIELDSTON ROAD	HHP		A		1	S	7/29/2013	4.900	F	6,600	\$26,400,000	208		
2249480	R	FINGERBOARD ROAD	SIRT SOUTH SHORE	S	O		2	S	9/26/2013	6.431	VG	5,100	\$20,400,000	502		
2231460	K	FLATBUSH AVE	BSHP		A		2	S	10/18/2013	6.206	VG	14,058	\$56,232,000	356		
2243260	K	FLATBUSH AVE	FRANKLIN SHUTTLE	T	O		2	S	7/23/2012	4.922	F	11,300	\$45,200,000	309		
2243510	K	FLATBUSH AVE	LIRR BAY RIDGE	N	O		2	S	9/17/2013	4.762	F	5,900	\$23,600,000	318		
2248090	Q	FLSHG MDW PK PED	COLLEGE POINT BLVD		O-PED	P	3	C	1/22/2013	4.694	F	8,400	\$33,600,000	407		
2248240	Q	FLUSHING AV SERVICE RD	FLUSHING AVE		O		1	S	6/21/2013	5.250	G	2,940	\$11,760,000	405		
2248130	Q	FLUSHING MEADOW PK PED	WILLOW LK&76TH RD		WO-PED	P	4	C	4/20/2002	1.000	C	1,891	\$7,564,000	481		
2248140	Q	FLUSHING MEADW PK RD	STREAM N OF LIE		WO	P	5	S	7/31/2013	4.481	F	4,100	\$16,400,000	481		
2249780	R	FOOTBRIDGE	BROOKS LAKE DAM		WO-PED	P	1	C	4/17/2013	3.433	F	800	\$3,200,000	501		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249800	R	FOREST AVE	CLOVE LAKES PK STREAM		WO	P	1	S	11/6/2013	4.567	F	1,600	\$6,400,000	501		
2248340	Q	FOREST PARK DR	MYRTLE AVE		O	P	3	S	5/24/2013	4.984	F	5,100	\$20,400,000	409		
2247660	Q	FOREST PARK DRIVE	ABANDONED LIRR		O	P	6	S	7/9/2013	4.524	F	10,000	\$40,000,000	409		
2247590	Q	FOREST PARK DRIVE	LIRR MONTAUK DIV	L	O	P	5	S	9/9/2013	5.158	G	6,000	\$24,000,000	409		
2243620	K	FORT HAMILTON PKWY	LIRR & SEA BEACH	NT	O		3	S	9/19/2012	4.729	F	14,800	\$59,200,000	310		
2246500	M	FORT TRYON PLACE	ENTR FROM RIVERSIDE DR		O	P	1	S	2/8/2012	4.200	F	3,280	\$13,120,000	112		
2243150	K	FOSTER AVE	BMT SUBWAY, BRIGHTON	T	O		1	S	9/11/2013	4.417	F	3,000	\$12,000,000	314		
2231930	Q	FRANCIS LEWIS BLVD	BCIP		A		3	S	2/3/2012	4.682	F	9,100	\$36,400,000	407		
2231690	Q	FRANCIS LEWIS BLVD	BLP E.B.		A		1	S	3/29/2012	5.167	G	6,000	\$24,000,000	413		
2231700	Q	FRANCIS LEWIS BLVD	BLP W.B.		A		1	S	3/29/2012	4.700	F	6,000	\$24,000,000	413		
2267199	Q	FRANCIS LEWIS BLVD	CUNNINGHAM PK RD		O		1	S	5/13/2013	5.033	G	7,085	\$28,340,000	408		
2249450	R	FREMONT AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		3	C	7/27/2012	3.618	F	800	\$3,200,000	502		
224006A	B	FROM BRUCKNER BLVD	RELIEF		OR		5	S	9/14/2013	6.535	VG	14,037	\$56,148,000	201		
224005A	M	FROM FDR DRIVE	HARLEM RIVER DR		OR		11	S	11/29/2012	7.000	VG	28,233	\$112,932,000	111		
2242120	B	FTBG N OF RTE 1	BRONX RIVER		WO-PED	P	1	C	8/7/2013	3.583	F	1,900	\$7,600,000	227		
226771C	M	GAR RAMP TO 79 ST	79 ST BT BASIN GAR		AR	P	21	S	5/10/2013	4.435	F	9,095	\$36,380,000	107		
2241420	B	GERARD AVE	METRO NORTH RR HUD	M	O		1	S	5/16/2012	5.797	G	5,063	\$20,252,000	204		
2249360	R	GIFFORDS LANE	SIRT SOUTH SHORE	S	O		1	S	10/23/2012	5.531	G	3,042	\$12,168,000	503		
2243860	K	GLENMORE AVE	LIRR BAY RIDGE	N	O		2	S	9/25/2012	6.559	VG	5,616	\$22,464,000	316		
2065940	Q	GRAND AVE	495I (L.I.E.)		A		2	S	12/6/2012	4.861	F	12,850	\$51,400,000	405		
2247440	Q	GRAND AVE	CSX TRANSPORT	C	O		1	S	8/13/2013	6.183	VG	3,280	\$13,120,000	405		
2247180	Q	GRAND AVE	LIRR MAIN LINE	L	O		3	S	10/24/2012	4.396	F	7,415	\$29,660,000	404		
2242370	B	GRAND CONCOURSE	BEDFORD PARK BLVD		O		1	S	2/16/2012	4.137	F	8,418	\$33,672,000	207		
2242360	B	GRAND CONCOURSE	BURNSIDE AVE		O		2	S	8/2/2012	4.441	F	8,400	\$33,600,000	205		
2242299	B	GRAND CONCOURSE	E 138TH ST		O		1	S	6/11/2013	4.867	F	9,500	\$38,000,000	201		
2242259	B	GRAND CONCOURSE	E 161ST ST		O		1	S	7/31/2012	6.333	VG	27,017	\$108,068,000	204		
2242280	B	GRAND CONCOURSE	E 167TH ST		O		2	S	8/20/2013	4.474	F	42,900	\$171,600,000	204		
2242300	B	GRAND CONCOURSE	E 170TH ST		O		2	S	2/23/2012	4.789	F	39,300	\$157,200,000	204		
2242319	B	GRAND CONCOURSE	E 174TH ST	T	O		1	S	2/24/2012	4.067	F	14,900	\$59,600,000	204		
2242329	B	GRAND CONCOURSE	E 175TH ST	T	O		1	S	7/17/2012	4.833	F	11,900	\$47,600,000	205		
2242380	B	GRAND CONCOURSE	E 204TH ST		O		1	S	9/11/2013	5.484	G	9,272	\$37,088,000	207		
2242330	B	GRAND CONCOURSE	E TREMONT AVE		O		1	S	9/12/2013	5.883	G	11,700	\$46,800,000	205		
2242340	B	GRAND CONCOURSE	EAST KINGSBRIDGE		O		2	S	7/24/2012	4.714	F	18,285	\$73,140,000	207		
2241409	B	GRAND CONCOURSE	METRO NORTH RR HUD	MT	O		1	S	9/9/2013	3.797	F	14,300	\$57,200,000	204		
2240390	KQ	GRAND ST BRIDGE	NEWTOWN CREEK		WMO		2	S	12/6/2013	4.153	F	5,100	\$20,400,000	301	405	

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249100	R	GRANITE AVE	B&O RR (ABANDONED)	O	O		4	S	3/13/2012	6.034	VG	7,300	\$29,200,000	501		
2249370	R	GREAVES AVE	SIRT SOUTH SHORE	S	O		1	S	8/22/2013	6.533	VG	2,650	\$10,600,000	503		
2240370	KQ	GREENPOINT AVE BRIDGE	NEWTOWN CREEK	L	WMO		12	S	8/5/2013	5.083	G	76,106	\$304,424,000	301	402	
2231370	K	GUIDER AV RAMP TO BSHP	BSHP		A		4	S	9/14/2012	6.944	VG	10,548	\$42,192,000	313		
2241860	B	GUN HILL RD	METRO NORTH RR HAR	M	O		1	S	5/1/2012	6.531	VG	9,128	\$36,512,000	212		
2242430	B	GUN HILL ROAD	BRONX BLVD		O		4	S	2/15/2012	5.018	G	9,400	\$37,600,000	212		
2242440	B	GUN HILL ROAD	BRONX RIVER		WO		1	S	2/13/2012	5.300	G	8,700	\$34,800,000	212		
2241910	B	GUN HILL ROAD	NYCTA-DYRE AVE LN	T	O		1	S	11/19/2012	5.750	G	7,500	\$30,000,000	211	212	
2231610	Q	GUY R. BREWER BLVD	BSOP		A		4	S	5/20/2013	6.222	VG	12,342	\$49,368,000	413		
2249380	R	GUYON AVE	SIRT SOUTH SHORE	S	O		3	S	10/7/2013	4.770	F	6,900	\$27,600,000	503		
2240232	K	HAMILTON AVE BRIDGE	GOWANUS CANAL		WMO		3	S	8/13/2013	5.361	G	7,300	\$29,200,000	306		
2240231	K	HAMILTON AVE BRIDGE	GOWANUS CANAL		WMO		3	S	9/13/2012	5.472	G	7,300	\$29,200,000	307	306	
2065930	Q	HAMILTON PLACE	495I (L.I.E.)		A		2	S	3/5/2012	5.611	G	11,111	\$44,444,000	405		
2249520	R	HANNAH ST	SIRT SOUTH SHORE	S	O		10	S	10/18/2013	4.966	F	10,020	\$40,080,000	501		
2249180	R	HARBOR ROAD	B&O RR (ABANDONED)	O	O		4	S	9/16/2013	6.000	G	5,778	\$23,112,000	501		
2233059	M	HARLEM RIVER DRIVE	E 127th ST RAMP TO/FROM HRD NB		A		11	S	7/11/2013	3.507	F	51,000	\$204,000,000	111		
2231780	Q	HEMPSTEAD AVE	BCIP		A		2	S	2/3/2012	4.065	F	14,200	\$56,800,000	413		
2266149	Q	HEMPSTEAD AVE	BCIP RAMP NB		A		2	S	3/15/2012	3.937	F	9,500	\$38,000,000	413		
2267250	M	HHP	AMTRAK - W96TH ST	A	A		55	S	12/5/2012	3.548	F	40,000	\$160,000,000	107		
2229530	B	HHP	BROADWAY		A		1	S	7/29/2013	4.574	F	7,500	\$30,000,000	208		
2229440	B	HHP	KAPPOCK ST		A		1	S	7/18/2013	4.931	F	3,900	\$15,600,000	208		
2266229	M	HHP	PED UNDERPASS @ 148 ST		A		1	S	2/2/2012	5.000	G	1,840	\$7,360,000	109		
2229309	M	HHP	RIVERSIDE PARK		A		1	S	1/5/2012	5.133	G	2,172	\$8,688,000	107		
2229349	M	HHP	W 158 ST	A	A		44	S	12/17/2012	4.155	F	140,000	\$560,000,000	109	112	
2266230	M	HHP NB	PED UNDERPASS INWD PK		A		1	S	1/6/2012	5.000	G	800	\$3,200,000	112		
2229322	M	HHP NB	RAMP FROM W 96 ST		A		1	S	2/6/2012	5.300	G	2,000	\$8,000,000	107		
2229312	M	HHP NB	RAMP TO W 96 ST		A		1	S	2/1/2012	4.182	F	2,000	\$8,000,000	107		
M00004	M	HHP ON/OFF RMP-79TH ST NO. SIDE	PED PATH NO. OF 79TH ST		A		1	C	6/24/2013	5.000	G	900	\$3,600,000	107		
M00003	M	HHP ON/OFF RMP-79TH ST SO. SIDE	PED PATH SO. OF 79TH ST		A		1	C	6/11/2013	4.167	F	900	\$3,600,000	107		
2266240	M	HHP SB	PED UNDERPASS INWD PK		A		1	S	1/6/2012	5.526	G	1,100	\$4,400,000	112		
2229321	M	HHP SB	RAMP FROM W 96 ST		A		1	S	2/6/2012	5.133	G	2,000	\$8,000,000	107		
2229311	M	HHP SB	RAMP TO W 96 ST		A		1	S	2/1/2012	4.455	F	2,000	\$8,000,000	107		
2229289	M	HHP VIADUCT	AMTRAK - W72 ST - W79 ST	A	A		145	S	10/22/2012	3.597	F	236,100	\$944,400,000	107		
2246580	BM	HIGH BRIDGE PDOVP	I87 - HARLEM RIVER	M	WA-PED	P	11	P	8/12/2002	3.759	F	34,100	\$136,400,000	112	204	
2230000	K	HIGHLAND BLVD E.B.	JACKIE ROBINSON PKWY		A		1	S	3/14/2012	4.724	F	4,900	\$19,600,000	305		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230220	K	HIGHLAND BLVD NB	VERMONT AVE		A		1	S	6/5/2013	5.857	G	3,995	\$15,980,000	305		
2230010	K	HIGHLAND BLVD W.B.	JACKIE ROBINSON PKWY		A		1	S	3/14/2012	4.767	F	3,500	\$14,000,000	305		
2230020	K	HIGHLAND BLVD W.B.	JR PKWY E.B. ENTR RAMP		A		2	S	3/14/2012	4.974	F	4,700	\$18,800,000	305		
2248280	Q	HIGHLAND PK PED.	PEDESTRIAN PATH		O-PED	P	1	C	11/20/2013	3.667	F	1,900	\$7,600,000	405		
2243780	K	HIGHLAWN AVE	BMT SEA BEACH	T	O		1	S	8/16/2013	6.440	VG	6,960	\$27,840,000	311		
2244060	K	HILL DR (CLEFT RIDGE SPAN)	PED PATH SO OF BOATHOUSE		O	P	1	C	5/15/2013	4.433	F	750	\$3,000,000	355		
2244120	K	HILL DR (TERRACE BRDG)	PROSPECT PK LAKE		WO	P	3	S	5/29/2013	3.436	F	7,800	\$31,200,000	355		
2231840	Q	HILLSIDE AVE	BCIP		A		2	S	3/30/2012	4.026	F	9,672	\$38,688,000	413		
2247320	Q	HONEYWELL ST	AMTRAK & LIRR YARD	AL	O		22	S	9/26/2013	5.903	G	99,036	\$396,144,000	402	401	
2232040	M	HOUSTON ST	FDR DRIVE		A		2	S	6/17/2013	3.773	F	11,010	\$44,040,000	103		
223204B	M	HOUSTON ST RAMP TO FDR NB	RELIEF		AR		4	S	1/23/2012	4.792	F	7,125	\$28,500,000	103		
2267240	M	HRD RAMP TO GWB	HARLEM RIVER DR SB		A		55	S	9/20/2013	3.014	F	122,900	\$491,600,000	112		
2249300	R	HUGUENOT AVE	SIRT SOUTH SHORE	S	O		2	S	9/24/2013	4.788	F	4,900	\$19,600,000	503		
2240450	Q	HUNTERS PT AVE	DUTCH KILLS		WMO		4	S	7/3/2012	5.083	G	12,168	\$48,672,000	402		
2241190	B	HUNTS POINT AVE	AMTRAK - CSX	AC	O		1	S	10/12/2012	4.828	F	10,049	\$40,196,000	202		
2241959	B	HUTCHINSON RVR PKWY	AMTRAK - CSX	AC	O		1	S	5/25/2012	5.780	G	15,444	\$61,776,000	210	211	
2075859	B	HUTCHINSON RVR PKWY	HUTCHINSON RIVER		WMA		7	S	10/22/2013	4.703	F	60,500	\$242,000,000	210	228	
2249810	R	HYLAN BLVD	LEMON CREEK		WO		1	S	2/15/2012	6.313	VG	11,400	\$45,600,000	503		
2245300	M	INWOOD HILL PK FTBR	AMTRAK 30 ST BRANCH	A	O-PED	P	6	C	8/6/2013	4.100	F	700	\$2,800,000	112		
2246700	M	ISHAM PK PED BRDG	HARLEM RV INLET		WO-PED	P	1	C	1/3/2013	3.552	F	300	\$1,200,000	112		
2246690	M	ISHAM PK VEHICULR	HARLEM RIVER INLET		O	P	1	S	5/4/2012	6.261	VG	911	\$3,644,000	112		
2248299	Q	J.R. PKWY-UNION TPKE	AUSTIN ST		O		1	S	5/30/2012	4.806	F	5,900	\$23,600,000	409	406	
2230099	Q	JACKIE ROBINSON PKWY	CYPRESS HILLS CEMETRY		A		1	S	1/5/2012	5.444	G	4,200	\$16,800,000	405		
2230179	Q	JACKIE ROBINSON PKWY	METROPOLITAN AVE		A		2	S	5/4/2012	5.286	G	8,673	\$34,692,000	482		
2247260	Q	JACKSON AVE	LIRR MONTAUK DIV	L	O		1	S	10/22/2012	6.117	VG	4,517	\$18,068,000	402		
2231819	Q	JAMAICA AVE	BCIP		A		2	S	3/23/2012	4.773	F	11,500	\$46,000,000	413		
2230287	B	JEROME AVE	MOSHOLU PARKWAY	T	A		3	S	5/22/2013	4.816	F	11,800	\$47,200,000	207		
2249070	R	JOHN ST	B&O RR (ABANDONED)	O	O-PED		2	C	10/9/2013	5.620	G	1,050	\$4,200,000	501		
2247480	Q	JUNIPER BLVD SO	CSX TRANSPORT	C	O		1	S	8/16/2013	5.000	G	9,000	\$36,000,000	405		
2230380	K	KANE ST	278I (B.Q.E.)		A		2	S	8/5/2013	4.153	F	5,000	\$20,000,000	306		
2243770	K	KINGS HIGHWAY	BMT SEA BEACH	T	O		1	S	6/28/2013	6.628	VG	5,032	\$20,128,000	311		
2231449	K	KNAPP ST	BSHP		A		1	S	4/20/2012	4.406	F	9,500	\$38,000,000	315		
2241169	B	LAFAYETTE AVE	AMTRAK - CSX	AC	O		1	S	10/5/2012	5.651	G	12,000	\$48,000,000	202		
2249110	R	LAKE AVE	B&O RR (ABANDONED)	O	O		3	S	5/16/2013	5.148	G	5,900	\$23,600,000	501		
2247240	Q	LEFFERTS BLVD	LIRR MAIN LINE	L	O		3	S	8/30/2013	5.806	G	5,460	\$21,840,000	409		

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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241139	B	LEGGETT AVE	AMTRAK - CSX	AC	O		3	S	10/8/2012	4.620	F	41,551	\$166,204,000	202		
2243850	K	LIBERTY AVE	LIRR BAY RIDGE	N	O		3	S	9/25/2012	6.294	VG	6,659	\$26,636,000	316		
2249460	R	LINCOLN AVE	SIRT SOUTH SHORE	S	O		1	S	9/10/2013	5.190	G	4,500	\$18,000,000	502		
2243190	K	LINCOLN PLACE	FRANKLIN SHUTTLE	T	O		1	S	9/6/2012	6.797	VG	2,460	\$9,840,000	308		
2243010	K	LINCOLN ROAD	BMT SUBWAY, BRIGHTON	T	O		1	S	7/24/2012	6.685	VG	6,016	\$24,064,000	355		
2231750	Q	LINDEN BLVD	BCIP		A		2	S	3/2/2012	4.250	F	6,700	\$26,800,000	413		
2243910	K	LIVONIA AVE PED BRDG	LIRR BAY RIDGE LINE	N	O-PED		6	C	4/16/2012	4.833	F	2,500	\$10,000,000	316		
2241159	B	LONGWOOD AVE	AMTRAK - CSX	AC	O		2	S	10/10/2012	5.236	G	10,625	\$42,500,000	202		
1240090	BM	MACOMBS DAM BRIDGE	HARLEM RIVER	M	WMO		52	S	12/13/2013	3.986	F	220,000	\$880,000,000	110	204	
2240079	BM	MADISON AVE BRIDGE	HARLEM RIVER		WMO		21	S	9/20/2012	4.944	F	80,000	\$320,000,000	111	201	
2242210	B	MAGNOLIA WAY	BRONX RIVER		WO		3	S	5/31/2012	4.763	F	6,200	\$24,800,000	227		
2249210	R	MAIN ST PED BRDG	SIRT SOUTH SHORE	S	O-PED		9	C	7/24/2012	4.123	F	400	\$1,600,000	503		
2240027	KM	MANHATTAN BRIDGE(LL)	EAST RIVER	T	WEO		23	S	11/19/2012	4.653	F	616,390	\$2,465,560,000	103	302	
2240028	KM	MANHATTAN BRIDGE(UL)	NYCTA TRACKS-BMT	T	WEO		43	S	11/29/2012	3.757	F	587,424	\$2,349,696,000	103	302	
2229480	B	MANHATTAN COLL PKWY	HHP		A		3	S	6/3/2013	5.053	G	6,200	\$24,800,000	208		
2245040	M	MARGARET CORBIN DR	PED PATH NEAR CAFÉ		O	P	1	C	5/24/2013	4.933	F	598	\$2,392,000	112		
2245050	M	MARGARET CORBIN DR	PED PATH NR NO ENTR		O	P	1	C	5/22/2013	4.333	F	889	\$3,556,000	112		
2230190	Q	MARKWOOD ROAD	JACKIE ROBINSON PKWY		A		1	S	2/1/2012	5.167	G	4,400	\$17,600,000	482	406	
2249760	R	MARTLINGS AVE	RICHMOND LAKE DAM		WO		2	S	6/24/2013	4.467	F	7,000	\$28,000,000	501		
2269030	B	MATTHEWSON ROAD	MAC CRACKEN AVE		O		15	S	12/7/2012	4.316	F	14,880	\$59,520,000	205		
2243410	K	MCDONALD AVE	LIRR BAY RIDGE	N	O		1	S	9/27/2012	5.047	G	2,760	\$11,040,000	312		
2248260	Q	MEADOW LAKE BRIDGE	MEADOW LAKE		WO	P	5	S	7/17/2013	4.458	F	4,200	\$16,800,000	481		
2241110	B	MELROSE AVE	CSX TRANS - PT MORRIS	C	O		8	S	8/20/2013	5.667	G	37,854	\$151,416,000	203		
2231710	Q	MERRICK BLVD	BLP N.B.		A		1	S	2/22/2012	4.467	F	6,000	\$24,000,000	413		
2231720	Q	MERRICK BLVD	BLP S.B.		A		1	S	2/15/2012	4.200	F	6,000	\$24,000,000	413		
2247500	Q	METROPOLITAN AVE	CSX TRANSPORT	C	O		1	S	8/16/2013	4.233	F	18,650	\$74,600,000	405		
2240290	K	METROPOLITAN AVE	ENGLISH KILLS		WMO		5	S	7/9/2013	5.444	G	10,550	\$42,200,000	301		
1247560	Q	METROPOLITAN AVE	LIRR - NY&ATL	LN	O		2	S	8/28/2013	3.603	F	20,900	\$83,600,000	405		
2249470	R	MIDLAND AVE	SIRT SOUTH SHORE	S	O		1	S	10/29/2013	5.466	G	3,000	\$12,000,000	502		
2257569	M	MILLER HIGHWAY	TERRAIN		A		64	S	8/30/2013	4.352	F	272,475	\$1,089,900,000	104	107	
2249530	R	MINTHORNE ST PED BRDG	SIRT SOUTH SHORE	S	O-PED		26	C	10/4/2012	4.453	F	6,000	\$24,000,000	501		
2243240	K	MONTGOMERY ST	FRANKLIN SHUTTLE	T	O		1	S	8/8/2013	5.843	G	2,240	\$8,960,000	309		
2249090	R	MORNINGSTAR ROAD	B&O RR (ABANDONED)	O	O		4	S	5/21/2013	4.898	F	7,900	\$31,600,000	501		
2268930	M	MORRIS ST PED BRDG	BKLN-BATTERY TUNN PLZ		A-PED		3	C	7/16/2013	3.875	F	1,200	\$4,800,000	101		
2230250	B	MOSHOLU PARKWAY	BRONX RIVER		WA		5	S	1/12/2012	4.211	F	16,300	\$65,200,000	227		

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2230300	B	MOSHOLU PARKWAY	CONRAIL (ABANDONED)	C	A		1	S	8/31/2012	4.271	F	4,600	\$18,400,000	226		
2230290	B	MOSHOLU PARKWAY	EQUESTRIAN PATH		A		1	S	1/20/2012	4.310	F	4,300	\$17,200,000	226		
2230260	B	MOSHOLU PARKWAY	METRO NORTH	M	A		1	S	4/21/2012	5.516	G	8,880	\$35,520,000	227	207	
2230310	B	MOSHOLU PARKWAY	SB RAMP TO HHP		A		2	S	9/16/2013	4.919	F	7,400	\$29,600,000	226		
2230270	B	MOSHOLU PARKWAY	WEBSTER AVE		A		1	S	5/21/2013	5.203	G	8,480	\$33,920,000	207		
2248100	Q	MOTOR PKWY (PED)	73RD AVE		O-PED	P	3	C	2/25/2013	4.541	F	2,600	\$10,400,000	408		
2248110	Q	MOTOR PKWY (PED)	ALLEY PK PED WALK		O-PED	P	1	C	6/5/2013	4.104	F	1,000	\$4,000,000	413		
2248060	Q	MOTOR PKWY (PED)	BELL BLVD		O-PED	P	2	C	6/21/2013	4.292	F	2,650	\$10,600,000	411		
2248059	Q	MOTOR PKWY (PED)	FRANCIS LEWIS BLVD		O-PED	P	2	C	6/4/2013	4.444	F	2,800	\$11,200,000	408		
2248080	Q	MOTOR PKWY (PED)	HOLLIS COURT BLVD		O-PED	P	3	C	12/5/2013	4.791	F	2,700	\$10,800,000	408		
2248070	Q	MOTOR PKWY (PED)	SPRINGFIELD BLVD		O-PED	P	3	C	6/10/2013	3.836	F	2,900	\$11,600,000	411		
2247110	Q	MURRAY ST	LIRR PORT WASH BR	L	O		1	S	8/21/2013	5.222	G	4,000	\$16,000,000	407		
2247620	Q	MYRTLE AVE	ABANDONED LIRR		O		3	S	1/6/2012	5.028	G	6,725	\$26,900,000	482	406	
2230120	Q	MYRTLE AVE	JACKIE ROBINSON PKWY		A		1	S	4/26/2012	5.250	G	6,400	\$25,600,000	405	482	
2231670	Q	N CONDUIT AVE WB	BLP E.B.		A		1	S	1/25/2012	4.917	F	4,000	\$16,000,000	413		
2231680	Q	N CONDUIT AVE WB	BLP W.B.		A		2	S	1/25/2012	4.932	F	6,500	\$26,000,000	413		
205580A	Q	N.BLVD WB TO 678I SB	VACANT LAND		AR		16	S	6/19/2012	5.619	G	8,600	\$34,400,000	407		
2249350	R	NELSON AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		3	C	7/25/2012	4.115	F	300	\$1,200,000	503		
1067150	B	NEREID AVE (E. 240TH ST)	BRONX RIVER PKWY	M	O		10	S	10/19/2013	4.632	F	57,750	\$231,000,000	212		
2249430	R	NEW DORP LANE	SIRT SOUTH SHORE	S	O		2	S	9/9/2013	4.958	F	7,600	\$30,400,000	502		
2243660	K	NEW UTRECHT AVE	LIRR BAY RIDGE	N	O		1	S	11/13/2012	6.083	VG	2,350	\$9,400,000	311		
2243140	K	NEWKIRK AVE	BMT SUBWAY, BRIGHTON	T	O		3	S	9/14/2012	4.662	F	4,100	\$16,400,000	314		
2240240	K	NINTH ST BRIDGE	GOWANUS CANAL		WMO		3	S	6/25/2013	6.065	VG	5,772	\$23,088,000	306		
2269760	R	NORTH RAMP	SIRT	S	O	F	9	S	11/30/2012	6.278	VG	17,589	\$70,356,000	501		
2240440	Q	NORTHERN BLVD	ALLEY CREEK		WO		2	S	8/9/2012	4.681	F	8,300	\$33,200,000	411		
2231870	Q	NORTHERN BLVD	BCIP		A		2	S	8/28/2012	5.875	G	9,400	\$37,600,000	411		
2055802	Q	NORTHERN BLVD EB	FLUSHING RIVER		WO		40	S	11/21/2012	4.324	F	78,894	\$315,576,000	407		
2055801	Q	NORTHERN BLVD WB	FLUSHING RIVER		WO		40	S	11/21/2012	4.338	F	71,900	\$287,600,000	407		
2243500	K	NOSTRAND AVE	LIRR BAY RIDGE	N	O		2	S	9/26/2012	4.831	F	4,320	\$17,280,000	314		
2240138	BM	NYCTA IRT	HARLEM RVR/BROADWAY	TM	WMO		3	S	10/9/2013	4.720	F	19,520	\$78,080,000	112	207	208
2243480	K	OCEAN AVE	LIRR BAY RIDGE	N	O		2	S	9/25/2012	4.825	F	5,000	\$20,000,000	314		
2240320	K	OCEAN AVE PED BRDG	SHEEPSHEAD BAY		WO-PED		30	C	5/9/2013	4.532	F	4,450	\$17,800,000	315		
2243439	K	OCEAN PKWY	LIRR BAY RIDGE	N	O		1	S	9/27/2012	4.927	F	7,000	\$28,000,000	312		
2249269	R	PAGE AVE	SIRT SOUTH SHORE	S	O		4	S	9/23/2013	5.806	G	30,710	\$122,840,000	503		
2245470	M	PARK AVE N.B	E 45TH ST		O		1	S	5/22/2013	4.865	F	2,400	\$9,600,000	105		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2245460	M	PARK AVE S.B.	E 45TH ST		O		1	S	5/23/2013	4.514	F	2,400	\$9,600,000	105		
2246550	M	PARK AVE VIADUCT	E 42ND ST		O		10	S	11/21/2013	4.478	F	22,150	\$88,600,000	105		
2247600	Q	PARK LANE SOUTH	LIRR MONTAUK DIV	L	O		1	S	10/18/2012	6.983	VG	3,024	\$12,096,000	409	482	
2242099	B	PARK ROAD (204TH ST)	BRONX RIVER		WO		1	S	6/4/2012	4.655	F	4,700	\$18,800,000	212		
224001A	M	PARK ROW TO BKLN	WILLIAM ST N.B.		OE		4	S	7/30/2013	4.600	F	10,167	\$40,668,000	101		
2269780	R	PARKING ENTR RAMP	SIRT	S	O	F	3	S	11/12/2012	5.944	G	8,589	\$34,356,000	501		
2269730	R	PARKING EXIT RAMP	SIRT	S	O	F	10	S	11/30/2012	6.097	VG	20,727	\$82,908,000	501		
2243020	K	PARKSIDE AVE	BMT SUBWAY, BRIGHTON	T	O		6	S	9/14/2012	3.826	F	48,700	\$194,800,000	314		
2247060	Q	PARSONS BLVD	LIRR PORT WASH BR	L	O		1	S	10/5/2012	4.824	F	4,200	\$16,800,000	407		
224001C	M	PEARL ST TO BKLN	LAND ADJ TO BRDG		OE		9	S	5/21/2013	3.678	F	6,365	\$25,460,000	101		
224001F	M	PEARL ST TO FDR DR	LAND ADJ TO BRDG		OE		3	S	5/30/2013	5.141	G	5,200	\$20,800,000	103		
222928C	M	PED BR AT W 73RD ST	HHP - AMTRAK	A	A-PED	P	5	C	8/12/2013	3.812	F	3,480	\$13,920,000	107		
2246090	M	PED BRDG OPP 65 ST	TRANSVERSE RD #1		O-PED	P	1	C	8/4/2013	4.655	F	2,300	\$9,200,000	164		
2247630	Q	PED BRG NEAR UNION TPK	ABANDONED LIRR		O-PED		8	C	6/19/2013	5.077	G	1,449	\$5,796,000	406		
2244130	K	PED NR BOATHSE (LULLWATER BRDG)	PROSPECT PK LAKE		WO-PED	P	1	C	4/24/2013	4.898	F	1,000	\$4,000,000	355		
2246400	M	PED PATH OPP E79 ST	TRANSVERSE RD #2		O-PED	P	1	C	7/14/2013	4.233	F	3,700	\$14,800,000	164		
2241380	B	PELHAM BAY PK EQUES	AMTRAK - CSX	AC	O-PED	P	1	C	7/30/2013	3.339	F	4,223	\$16,892,000	228		
2231519	K	PENNSYLVANIA AVE	BSHP		A		2	S	6/18/2013	5.694	G	6,640	\$26,560,000	356		
2243870	K	PITKIN AVE	LIRR BAY RIDGE	N	O		2	S	9/25/2012	6.515	VG	5,328	\$21,312,000	316		
2243210	K	PRESIDENT ST	FRANKLIN SHUTTLE	T	O		2	S	9/5/2012	5.157	G	2,500	\$10,000,000	309		
2232167	M	PROMENADE OVER FDR	FDR - E81ST ST - E90TH ST		A-PED	P	53	S	7/2/2013	3.143	F	93,000	\$372,000,000	108		
2268760	M	PS-5 PED BRDG	TENTH AVE		O-PED		5	C	12/9/2013	4.184	F	1,285	\$5,140,000	112		
2240639	KQ	PULASKI BRIDGE	NEWTOWN CREEK		WMO		44	S	5/11/2012	4.662	F	205,770	\$823,080,000	301	402	
2230530	Q	QUEENS BLVD	278I (B.Q.E.)		A		2	S	11/20/2012	6.417	VG	25,543	\$102,172,000	402		
2230869	Q	QUEENS BLVD	ACCESS RD BQE S.B.		A		1	S	10/17/2012	5.909	G	7,900	\$31,600,000	402		
2247310	Q	QUEENS BLVD	AMTRAK & LIRR YARD	AL	O		19	S	12/6/2012	6.268	VG	92,400	\$369,600,000	402	401	
2230209	Q	QUEENS BLVD	JACKIE ROBINSON PKWY	T	A		5	S	7/9/2012	4.968	F	37,700	\$150,800,000	409		
2240047	MQ	QUEENSBORO BRIDGE (LL)	EAST RIVER	AL	WEO		53	S	12/5/2012	4.403	F	626,900	\$2,507,600,000	108	402	401
2240048	MQ	QUEENSBORO BRIDGE (UL)	EAST RIVER - LL		WEO		37	S	10/26/2012	4.377	F	322,300	\$1,289,200,000	108	402	401
2248040	Q	RAMP TO LINDEN BLVD	SO. CONDUIT AVE		O		1	S	5/30/2012	5.200	G	3,352	\$13,408,000	410		
223201D	M	RAMP TO N.B. FDR DRIVE	FDR & SOUTH ST.		AR		22	S	2/10/2012	4.967	F	15,825	\$63,300,000	101	103	
222934A	M	RAMP TO N.B. HHP	AMTRAK WEST SIDE	A	AR		26	S	8/13/2012	3.875	F	10,800	\$43,200,000	112		
2240350	R	RICHMOND AVE	RICHMOND CREEK		WO		3	S	7/1/2013	5.472	G	32,589	\$130,356,000	502		
2249270	R	RICHMOND VALLY ROAD	SIRT SOUTH SHORE	S	O		4	S	9/13/2013	5.164	G	9,440	\$37,760,000	503		
2244150	K	RIDGE BLVD	SHORE RD DRIVE		O		1	S	6/10/2013	6.333	VG	4,350	\$17,400,000	310		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2240660	Q	RIKERS ISLAND BRIDGE	RIKERS ISL CHANNEL		WO		56	S	9/26/2013	4.211	F	183,100	\$732,400,000	401	480	
2241430	B	RIVER AVE	METRO NORTH RR HUD	M	O		1	S	8/30/2013	6.156	VG	5,040	\$20,160,000	204		
2229510	B	RIVERDALE AVE	HHP		A		2	S	7/22/2013	5.079	G	5,200	\$20,800,000	208		
2246980	M	RIVERSIDE DRIVE	W 138TH ST		O		1	S	1/19/2012	4.900	F	6,700	\$26,800,000	109		
2267130	M	RIVERSIDE DRIVE	W 145TH ST		O		1	S	4/29/2013	5.133	G	5,800	\$23,200,000	109		
2246720	M	RIVERSIDE DRIVE	W 158TH ST - AMTRAK	A	O		77	S	10/17/2013	3.528	F	185,658	\$742,632,000	109	112	
2246970	M	RIVERSIDE DRIVE	W 96TH ST		O		3	S	5/6/2013	5.471	G	10,600	\$42,400,000	107		
2269240	M	RIVERSIDE DRIVE	W. 155TH ST		O		1	S	4/25/2013	4.640	F	2,780	\$11,120,000	109	112	
2246660	M	RIVERSIDE DRIVE	W125TH ST - W134TH ST		O		27	S	7/12/2013	4.472	F	148,300	\$593,200,000	109		
2269200	M	RIVERSIDE DRIVE SOUTH	AMTRAK	A	O		11	S	11/4/2013	6.069	VG	69,040	276,160,000.00	107		
2300130	Q	ROCKAWAY BLVD	HOOK CREEK		WO		3	S	7/15/2013	6.271	VG	18,302	\$73,208,000	413		
2248369	Q	ROCKAWAY BLVD	THURSTON BASIN		WO		2	S	7/16/2013	5.474	G	6,000	\$24,000,000	483	413	
2230587	Q	ROOSEVELT AVE	278I (B.Q.E.)		A		2	S	9/24/2013	5.889	G	11,022	\$44,088,000	402		
2240507	Q	ROOSEVELT AVE	678I - FLUSHING RIVER		WA		27	S	11/1/2013	3.465	F	84,424	\$337,696,000	407	481	
2247380	Q	ROOSEVELT AVE	CSX - HELLGATE	C	O		2	S	8/1/2013	6.333	VG	7,380	\$29,520,000	402	403	404
2267160	Q	ROOSEVELT AVE	SHEA ROAD		O		4	S	7/29/2013	4.873	F	7,280	\$29,120,000	408		
2240640	MQ	ROOSEVELT ISLAND BRDG	E. RIVER E. CHANNEL		WMO		8	S	11/13/2013	5.458	G	36,500	\$146,000,000	108	401	
2249420	R	ROSE AVE	SIRT SOUTH SHORE	S	O		2	S	8/21/2013	5.258	G	3,800	\$15,200,000	502		
2249410	R	ROSS AVE	SIRT SOUTH SHORE	S	O		2	S	8/20/2013	5.379	G	3,800	\$15,200,000	502		
2248200	Q	RUST ST	FLUSHING AVE		O		1	S	6/21/2013	4.922	F	2,940	\$11,760,000	405		
2231560	Q	S CONDUIT BLVD	BSOP		A		2	S	7/12/2012	5.296	G	15,776	\$63,104,000	410		
2249770	R	S OF BROOKS LAKE	STREAM IN PARK		WO-PED	P	3	C	11/26/2013	4.946	F	700	\$2,800,000	501		
2230370	K	SACKETT ST	278I (B.Q.E.)		A		2	S	3/14/2012	4.500	F	5,000	\$20,000,000	306		
226771D	M	SB HHP RAMP TO 79 ST	79 ST BT BASIN GAR		AR	P	4	S	5/10/2013	4.419	F	2,601	\$10,404,000	107		
2244470	K	SEELEY ST	PROSPECT AVE		O		1	S	6/11/2013	4.033	F	8,482	\$33,928,000	307		
2249290	R	SEGUINE AVE	SIRT SOUTH SHORE	S	O		1	S	8/30/2013	6.016	VG	3,250	\$13,000,000	503		
2248220	Q	SERVICE RD TURNAROUND	FLUSHING AVE		O		1	S	6/21/2013	5.078	G	2,940	\$11,760,000	405		
2241390	B	SHORE RD CIRCLE	AMTRAK - CSX	AC	O		1	S	7/3/2012	7.000	VG	8,067	\$32,268,000	228		
2240200	B	SHORE ROAD	HUTCHINSON RIVER		WMO		7	S	6/25/2013	4.537	F	43,576	\$174,304,000	228		
2270170	R	SI FERRY PED BRDG	PARKING LOT EXIT RDWY		O-PED	F	5	C	6/17/2010	3.163	F	2,917	\$11,668,000	501		
2249120	R	SIMONSON AVE	B&O RR (ABANDONED)	O	O		3	S	5/15/2013	5.852	G	5,819	\$23,276,000	501		
2249860	R	SLATER BLVD	NEW CREEK		WO		1	S	5/17/2013	5.510	G	2,037	\$8,148,000	502		
2242220	B	SNUFF MILL ROAD	BRONX RIVER		WO		2	S	1/13/2012	4.395	F	4,800	\$19,200,000	227		
2249200	R	SOUTH AVE	B&O RR (ABANDONED)	O	O		3	S	9/17/2013	6.527	VG	8,322	\$33,288,000	501		
2244440	K	SOUTH OF TILLARY ST	NAVY ST		O-PED		1	C	8/5/2013	3.958	F	6,200	\$24,800,000	302		

# INVENTORY SORTED BY FEATURE CARRIED

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2241080	B	SOUTHERN BLVD	CSX TRANS - PT MORRIS	C	O		1	S	8/8/2012	4.093	F	3,900	\$15,600,000	201		
2242029	B	SOUTHERN BLVD	EAST FORDHAM ROAD		O		2	S	1/18/2012	4.605	F	12,900	\$51,600,000	227		
2231630	Q	SPRINGFIELD BLVD	BSOP		A		2	S	5/10/2012	4.591	F	8,500	\$34,000,000	413		
2268770	Q	SPRINGFIELD BLVD	EQUES. PATH (ABAND.)		O		1	S	5/9/2013	5.000	G	1,470	\$5,880,000	413		
2243180	K	ST JOHNS PLACE	FRANKLIN SHUTTLE	T	O		1	S	8/23/2013	6.656	VG	2,300	\$9,200,000	308		
2241700	B	ST PAULS PL PED BRDG	METRO NORTH RR HAR	M	O-PED		2	C	11/18/2013	4.859	F	600	\$2,400,000	203		
2241060	B	ST. MARYS & CONCORD	CSX TRANS - PT MORRIS	C	O		1	S	8/15/2012	5.370	G	4,500	\$18,000,000	201		
2230610	Q	STEINWAY ST	278I EB (BQE)		A		1	S	9/13/2012	6.349	VG	5,146	\$20,584,000	401		
2230600	Q	STEINWAY ST	278I WB (BQE)		A		1	S	9/12/2012	6.349	VG	5,229	\$20,916,000	401		
2243170	K	STERLING PLACE	FRANKLIN SHUTTLE	T	O		1	S	8/23/2013	6.438	VG	2,300	\$9,200,000	308		
223201B	M	STH ST RMP TO FDR S.B.	SOUTH ST		AR		10	S	2/17/2012	3.791	F	13,388	\$53,552,000	101		
2240540	K	STILLWELL AVE	CONEY ISLAND CRK		WO		2	S	6/12/2013	6.292	VG	17,000	\$68,000,000	313		
2230350	K	SUMMIT ST PED BRDG	278I (B.Q.E.)		A-PED		2	S	3/19/2012	4.614	F	1,400	\$5,600,000	306		
2231650	Q	SUNRISE HWY W.B.	BLP E.B.		A		1	S	4/2/2012	4.393	F	4,100	\$16,400,000	413		
2231660	Q	SUNRISE HWY W.B.	BLP W.B.		A		2	S	3/6/2012	4.565	F	5,350	\$21,400,000	413		
2231800	Q	SUPERIOR ROAD	BCIP		A		2	S	4/12/2012	4.659	F	7,000	\$28,000,000	413		
2243890	K	SUTTER AVE	LIRR BAY RIDGE	N	O		3	S	9/25/2012	6.542	VG	5,497	\$21,988,000	316		
2241040	B	THIRD AVE	CSX TRANS - PT MORRIS	C	O		1	S	7/25/2012	4.563	F	2,700	\$10,800,000	201	203	
2240310	K	THIRD AVE	GOWANUS CANAL		WO		1	S	6/6/2013	6.633	VG	3,200	\$12,800,000	306		
2240069	BM	THIRD AVE BRIDGE	HARLEM RIVER		WMO		14	S	9/20/2012	5.845	G	100,232	\$400,928,000	111	201	
2240250	K	THIRD ST	GOWANUS CANAL		WMO		5	S	5/31/2013	4.722	F	4,900	\$19,600,000	306		
2247300	Q	THOMPSON AVE	AMTRAK & LIRR YARD	AL	O		14	S	12/6/2012	5.042	G	61,280	\$245,120,000	402		
2241170	B	TIFFANY ST	AMTRAK - CSX	AC	O		1	S	11/18/2013	5.745	G	7,267	\$29,068,000	202		
224004H	Q	TO 21ST ST FROM NY	22ND ST		OE		43	S	12/18/2012	4.437	F	48,100	\$192,400,000	402		
224001B	M	TO BKLN FRM FDR	FRANKFORT & PEARL ST		OE		31	S	8/20/2012	4.333	F	51,400	\$205,600,000	101	103	
224005B	B	TO BRUCKNER BLVD	RELIEF		OR		5	S	10/3/2013	6.831	VG	12,100	\$48,400,000	201		
224004A	M	TO E 60TH ST FROM QNS	FIRST AVE		OE		13	S	4/20/2012	5.338	G	14,800	\$59,200,000	108		
224004C	M	TO E 62ND ST FROM QNS	E 60TH - E 61ST ST		OE		10	S	8/30/2012	4.985	F	16,720	\$66,880,000	108		
224001D	M	TO FDR DR N.B.	PEARL STREET		OE		30	S	6/14/2013	4.755	F	49,600	\$198,400,000	101	103	
2245480	M	TO GWB OPP W 171ST ST	RIVERSIDE DRIVE		O		1	S	2/8/2012	4.524	F	10,773	\$43,092,000	112		
224007A	M	TO MADISON AVENUE	E 138TH ST		OR		7	S	2/9/2012	5.028	G	19,880	\$79,520,000	111		
224004E	Q	TO NY FR THOMSON AVE	JACKSON AVE	L	OE		94	S	12/12/2012	4.604	F	104,600	\$418,400,000	402		
224004G	Q	TO NY FROM 11TH ST	TERRAIN (CHAMBER)		OE		36	S	8/14/2012	5.268	G	8,360	\$33,440,000	401	402	
224004F	Q	TO NY FROM 21ST ST	21ST ST		OE		63	S	12/19/2012	4.712	F	63,310	\$253,240,000	402	401	
224001G	M	TO PARK ROW	ROSE ST		OE		11	S	7/1/2013	4.549	F	16,551	\$66,204,000	101		

# INVENTORY SORTED BY FEATURE CARRIED

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224001E	M	TO PEARL ST	LAND ADJ TO BRDG		OE		3	S	5/29/2013	5.254	G	5,300	\$21,200,000	101		
224004B	M	TO QNS FRM E 59TH ST	FIRST AVE		OE		13	S	4/20/2012	5.653	G	14,800	\$59,200,000	108		
224004D	M	TO QNS FROM E 58TH ST	E 59TH ST		OE		12	S	6/28/2012	4.245	F	10,858	\$43,432,000	106	108	
224004I	Q	TO THOMSON AVE FROM NY	JACKSON AVE	L	OE		39	S	12/18/2012	4.951	F	59,100	\$236,400,000	402		
2249040	R	TOMPKINS AVE	B&O RR (ABANDONED)		O		1	S	5/9/2012	5.953	G	5,096	\$20,384,000	501		
2249840	R	TOMPKINS AVE	GREENFIELD AVE		O		1	S	3/2/2012	5.021	G	2,690	\$10,760,000	501		
2249510	R	TOMPKINS AVE	WILLOW AVE, SIRT	S	O		2	S	10/24/2012	5.358	G	5,378	\$21,512,000	501		
2249230	R	TRACY AVE PED BRDG	SIRT SOUTH SHORE	S	O-PED		9	C	7/19/2012	3.553	F	635	\$2,540,000	503		
2245380	M	TRANSVERSE RD #1 WB	PED PATH OPP E 66TH ST		O	P	1	S	1/6/2012	5.000	G	1,500	\$6,000,000	164		
2249870	R	TRAVIS AVE	MAIN CREEK		WO		1	S	10/16/2013	5.483	G	1,700	\$6,800,000	502		
2246410	M	TRNSVRS RD 1 EB (DENESMOUTH ARCH)	PED PATH OPP E 65TH ST		O	P	1	S	1/30/2012	4.636	F	1,739	\$6,956,000	164		
2246560	M	TUDOR CITY PLACE	E 42ND ST		O		1	S	1/25/2012	5.133	G	6,600	\$26,400,000	106		
2249170	R	UNION AVE	B&O RR (ABANDONED)	O	O		4	S	5/14/2013	5.315	G	6,500	\$26,000,000	501		
2230360	K	UNION ST	278I (B.Q.E.)		A		2	S	3/19/2012	4.375	F	5,000	\$20,000,000	306		
2243200	K	UNION ST	FRANKLIN SHUTTLE	T	O		2	S	9/5/2012	5.000	G	4,100	\$16,400,000	309		
2240270	K	UNION ST	GOWANUS CANAL		WMO		5	S	8/10/2012	4.000	F	4,900	\$19,600,000	306		
2247040	Q	UNION ST	LIRR PORT WASH BR	L	O		1	S	8/22/2013	6.172	VG	3,313	\$13,252,000	407		
2231850	Q	UNION TPKE	BCIP		A		2	S	3/28/2012	4.409	F	13,600	\$54,400,000	413		
2248129	Q	UNION TPKE	CREEDMOORE HOSP RD		O		1	S	6/7/2013	4.867	F	3,500	\$14,000,000	413		
2230180	Q	UNION TPKE	JACKIE ROBINSON PKWY		A		1	S	2/1/2012	5.672	G	5,359	\$21,436,000	482		
2241330	B	UNIONPORT ROAD	AMTRAK - CSX	AC	O		1	S	10/9/2012	4.781	F	7,631	\$30,524,000	211		
2231910	Q	UTOPIA PKWY	BCIP		A		2	S	3/15/2012	5.114	G	7,200	\$28,800,000	407		
2229550	B	VAN CRTLDT EQUES	HHP		A-PED	P	2	C	7/8/2013	4.556	F	2,100	\$8,400,000	226		
2229540	B	VAN CRTLDT PARK	HHP		A-PED	P	2	C	7/8/2013	4.759	F	3,900	\$15,600,000	226		
2249130	R	VAN NAME AVE	B&O RR (ABANDONED)	O	O		3	S	5/15/2013	5.186	G	5,474	\$21,896,000	501		
2249140	R	VAN PELT AVE	B&O RR (ABANDONED)	O	O		3	S	5/16/2013	5.576	G	5,000	\$20,000,000	501		
226672A	M	W 31ST ST	AMTRAK LAYUP TRACKS	A	O		9	S	12/28/2012	3.619	F	8,800	\$35,200,000	104		
224501B	M	W 33RD ST	AMTRAK 30 ST BRANCH	A	OR		8	S	3/13/2012	4.458	F	16,500	\$66,000,000	104		
224501C	M	W 33RD ST	LAND ADJ TO AMTRAK	A	OR		2	S	5/14/2013	4.472	F	2,360	\$9,440,000	104		
224501D	M	W 34TH ST	AMTRAK 30 ST BRANCH	A	OR		4	S	5/13/2013	4.542	F	11,800	\$47,200,000	104		
224501E	M	W 35TH ST	AMTRAK 30 ST BRANCH	A	OR		3	S	11/16/2012	4.181	F	6,500	\$26,000,000	104		
224501F	M	W 36TH ST	AMTRAK 30 ST BRANCH	A	OR		7	S	11/12/2013	4.612	F	16,400	\$65,600,000	104		
2245060	M	W 37TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	11/12/2013	6.190	VG	7,505	\$30,020,000	104		
2245070	M	W 38TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	6/15/2012	4.135	F	6,200	\$24,800,000	104		
2245080	M	W 39TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	6/15/2012	4.173	F	6,300	\$25,200,000	104		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2245440	M	W 40TH ST	AMTRAK 30 ST BRANCH	A	O		4	S	6/18/2012	4.162	F	9,400	\$37,600,000	104		
2245330	M	W 41ST ST	AMTRAK 30 ST BRANCH	A	O		3	S	6/12/2012	4.508	F	6,200	\$24,800,000	104		
2245210	M	W 42ND ST	AMTRAK 30 ST BRANCH	A	O		4	S	7/2/2012	4.651	F	10,300	\$41,200,000	104		
2245090	M	W 43RD ST	AMTRAK 30 ST BRANCH	A	O		2	S	4/16/2012	4.662	F	4,140	\$16,560,000	104		
2245100	M	W 44TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	4/16/2012	4.662	F	4,300	\$17,200,000	104		
2245110	M	W 45TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	4/16/2012	5.397	G	4,100	\$16,400,000	104		
2245120	M	W 46TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/4/2012	4.500	F	4,100	\$16,400,000	104		
2245130	M	W 47TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/4/2012	4.721	F	4,100	\$16,400,000	104		
2245140	M	W 48TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/7/2012	4.618	F	4,100	\$16,400,000	104		
2245150	M	W 49TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	5/7/2012	4.426	F	4,100	\$16,400,000	104		
2245340	M	W 50TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/11/2012	4.471	F	4,100	\$16,400,000	104		
2245160	M	W 51ST ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/11/2012	4.912	F	4,300	\$17,200,000	104		
2245170	M	W 52ND ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/29/2012	5.265	G	4,300	\$17,200,000	104		
2245180	M	W 53RD ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/29/2012	5.221	G	5,100	\$20,400,000	104		
2245350	M	W 54TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/22/2012	5.476	G	4,700	\$18,800,000	104		
2245360	M	W 55TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/22/2012	5.529	G	4,300	\$17,200,000	104		
2245370	M	W 56TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	6/4/2012	5.706	G	4,400	\$17,600,000	104		
2245220	M	W 57TH ST	AMTRAK 30 ST BRANCH	A	O		3	S	5/25/2012	4.853	F	9,100	\$36,400,000	104		
2245190	M	W 58TH ST	AMTRAK 30 ST BRANCH	A	O		2	S	5/25/2012	4.765	F	4,100	\$16,400,000	104		
2246010	M	W 62 ST PED BRDG (PINEBANK ARCH)	BRIDLE PATH		O-PED	P	1	C	7/3/2013	4.808	F	1,000	\$4,000,000	164		
2245420	M	W 65TH ST ENTR EB	BRIDLE PATH W END		O	P	1	S	1/17/2012	5.100	G	1,300	\$5,200,000	164		
2269210	M	W 68TH ST	AMTRAK	A	O		3	S	11/5/2013	6.593	VG	5,382	\$21,528,000	107		
2269190	M	W 70TH ST	AMTRAK	A	O		3	S	11/19/2013	5.542	G	17,258	\$69,032,000	107		
2246140	M	W 72 ST ENTR (RIFTSTONE ARCH)	BRIDLE PATH		O	P	1	S	1/9/2012	4.600	F	3,600	\$14,400,000	164		
222928D	M	W72ND ST RAMP TO HHP NB	RELIEF		AR		1	S	7/10/2012	6.667	VG	1,750	\$7,000,000	107		
2246460	M	W77 ST ENTR (EAGLEVALE ARCH)	PED PATH OPP W77 ST		O	P	2	S	1/10/2012	4.263	F	3,066	\$12,264,000	164		
2246340	M	W77 ST PED (LADIES POND BRDG)	STREAM TO THE LAKE		WO-PED	P	3	C	12/3/2013	4.355	F	500	\$2,000,000	164		
2246320	M	W77 ST PED (OAK BRDG)	THE LAKE		WO-PED	P	3	C	5/22/2013	5.579	G	919	\$3,676,000	164		
2229290	M	W 79 ST	AMTRAK	A	A		1	S	6/7/2012	4.492	F	4,500	\$18,000,000	107		
2246380	M	W86 ST PED (SW RESERVOIR BRDG)	BRIDLE PATH		O-PED	P	1	C	11/18/2013	4.852	F	700	\$2,800,000	164		
2246430	M	W110 ST ENTR (MOUNTCLIFF ARCH)	PED PATH OPP W109 ST		O	P	1	S	2/13/2012	4.383	F	1,200	\$4,800,000	164		
2246620	M	W 128TH ST PED BRDG	3RD AVE BRDG APPR		O-PED		18	C	9/12/2013	3.939	F	2,300	\$9,200,000	111		
2246670	M	W 134 ST	TERRAIN		O		4	S	6/13/2013	4.870	F	7,500	\$30,000,000	109		
2245230	M	W 148TH ST PED BRDG	AMTRAK 30 ST BRANCH	A	O-PED	P	5	C	8/9/2013	4.200	F	1,100	\$4,400,000	109		
2246710	M	W 153 ST	A.C. POWELL BLVD		O		1	S	2/1/2012	4.611	F	3,082	\$12,328,000	110		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2245290	M	W 155TH ST PED BRDG	AMTRAK 30 ST BRANCH	A	O-PED		3	C	8/8/2013	3.862	F	800	\$3,200,000	109	112	
2245250	M	W 158TH ST	AMTRAK 30 ST BRANCH	A	O		7	S	10/18/2013	5.903	G	29,170	\$116,680,000	112		
2245260	M	W 173RD ST PED BRDG	AMTRAK 30 ST BRANCH	A	O-PED	P	2	C	8/6/2013	4.600	F	1,500	\$6,000,000	112		
2246600	M	W 176TH ST PED BRDG	APPROACH TO G.W.B.		O-PED		1	C	3/4/2013	4.200	F	1,200	\$4,800,000	112		
2246489	M	W 181 ST	RAMP TO WASH BR		O		1	S	2/7/2012	5.333	G	8,200	\$32,800,000	112		
2229400	M	W 181ST ST PED BRDG	HHP N.B.		A-PED	P	7	C	1/10/2013	4.277	F	1,500	\$6,000,000	112		
M00001	M	W191ST ST PED TNL	BROADWAY - IRT #1 SUBWAY		O-PED		1	C	12/18/2013	4.545	F	2,000	\$8,000,000	112		
2241940	B	W 205TH ST	NYCTA IND YARDS	T	O		4	S	11/20/2012	5.514	G	32,508	\$130,032,000	207		
2240120	BM	W 207TH/W FORDHAM RD	HARLEM RIVER		WMO		5	S	9/5/2012	5.056	G	31,784	\$127,136,000	112	207	
2241489	B	W 225TH ST	CSX TRASP - PUTNAM	C	O		2	S	6/9/2012	5.328	G	10,900	\$43,600,000	207	208	
2241490	B	W 230TH ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	5/8/2013	5.625	G	5,600	\$22,400,000	208		
2241509	B	W 231ST ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	7/26/2012	4.745	F	4,723	\$18,892,000	208		
2229450	B	W 232ND ST	HHP		A		2	S	7/22/2013	5.026	G	4,900	\$19,600,000	208		
2241510	B	W 233RD ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	5/8/2013	5.275	G	3,760	\$15,040,000	208		
2241520	B	W 234TH ST	CONRAIL (ABANDONED) PUTNAM		O		1	S	5/8/2013	5.176	G	3,770	\$15,080,000	208		
2229460	B	W 236TH ST PED BRDG	HHP		A-PED		3	C	7/8/2013	4.672	F	2,500	\$10,000,000	208		
2229470	B	W 239TH ST	HHP		A		2	S	6/3/2013	5.053	G	6,100	\$24,400,000	208		
2229490	B	W 246TH ST	HHP		A		2	S	6/3/2013	4.868	F	5,600	\$22,400,000	208		
2229500	B	W 252ND ST	HHP		A		2	S	1/20/2012	5.372	G	4,500	\$18,000,000	208		
2231860	Q	W ALLEY ROAD	BCIP		A		2	S	7/17/2013	5.368	G	7,200	\$28,800,000	411		
2241470	B	W FORDHAM RD	METRO NORTH RR HUD	M	O		4	S	9/9/2013	5.694	G	16,052	\$64,208,000	207		
2241460	B	W TREMONT AVE	METRO NORTH RR HUD	M	O		8	S	8/7/2013	3.866	F	12,900	\$51,600,000	205		
2241070	B	WALES AVE	CSX TRANS - PT MORRIS	C	O		1	S	8/8/2012	6.467	VG	2,535	\$10,140,000	201		
2241410	B	WALTON AVE	METRO NORTH RR HUD	M	O		1	S	5/16/2012	4.953	F	3,600	\$14,400,000	204		
2240620	M	WARDS ISLAND PED BRDG	HARLEM RIVER		WMO-PED		10	C	3/29/2013	4.667	F	12,600	\$50,400,000	111		
2243250	K	WASHINGTON AVE	FRANKLIN SHUTTLE	T	O		1	S	9/4/2012	6.000	G	3,657	\$14,628,000	309	355	
2066919	BM	WASHINGTON BRIDGE	HARLEM RIVER	M	WO		9	S	11/29/2012	4.642	F	128,339	\$513,356,000	112	205	204
2246330	M	WEST DR (BALCONY BRDG)	STREAM TO THE LAKE		WO	P	1	S	1/16/2012	5.000	G	1,817	\$7,268,000	164		
2246080	M	WEST DR (DALEHEAD ARCH)	BRIDLE OPP W 64TH ST		O	P	1	S	1/5/2012	4.667	F	2,000	\$8,000,000	164		
2246000	M	WEST DR (GREYSHOT ARCH)	PED BET 61ST & 62ST		O	P	1	S	1/10/2012	5.400	G	2,500	\$10,000,000	164		
2244020	K	WEST DR (MEADOWPORT ARCH)	PED PATH NR GRND ARMY PLZ		O	P	1	S	5/16/2013	5.321	G	2,500	\$10,000,000	355		
2246360	M	WEST DR (WINTERDALE ARCH)	PED PATH OPP W 82 ST		O	P	1	S	1/17/2012	5.273	G	2,502	\$10,008,000	164		
2246120	M	WEST DRIVE	TRANSVERSE RD #1		O	P	1	S	3/28/2012	4.967	F	7,900	\$31,600,000	164		
2246240	M	WEST DRIVE	TRANSVERSE RD #2		O	P	1	S	3/22/2012	4.167	F	7,200	\$28,800,000	164		
2246260	M	WEST DRIVE	TRANSVERSE RD #3		O	P	1	S	3/22/2012	4.933	F	5,100	\$20,400,000	164		
2246280	M	WEST DRIVE	TRANSVERSE RD #4		O	P	1	S	3/26/2012	4.300	F	4,700	\$18,800,000	164		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	BRIDGE TYPE	OTHER OWNER	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249710	R	WEST FOOTBRIDGE	CLOVE LAKE		WO-PED	P	2	C	3/13/2013	4.317	F	900	\$3,600,000	501		
2244100	K	WEST FOOTBRIDGE	PROSPECT PK STREAM		WO-PED	P	1	C	4/19/2013	4.885	F	3,200	\$12,800,000	355		
2267380	M	WEST STREET	RECTOR ST		AT		1	S	11/19/2013	5.033	G	25,760	\$103,040,000	101		
2241230	B	WESTCHESTER AVE	AMTRAK - CSX	AC	O		3	S	11/26/2012	5.944	G	15,600	\$62,400,000	202	209	
2240180	B	WESTCHESTER AVE	BRONX RIVER		WO		1	S	8/22/2013	4.667	F	5,476	\$21,904,000	202	209	
2241000	B	WESTCHESTER AVE	CSX TRANS - PT MORRIS	C	O		1	S	6/11/2012	4.660	F	1,740	\$6,960,000	201		
2075837	B	WESTCHESTER AVE	HUTCHINSON RVR PKWY		A		2	S	6/1/2013	4.083	F	15,858	\$63,432,000	210	211	
2241329	B	WHITE PLAINS ROAD	AMTRAK - CSX	AC	O		1	S	10/9/2012	4.781	F	6,900	\$27,600,000	211		
2248020	Q	WHITELAW PED BRDG	CONDUIT AVE		O-PED		7	C	9/10/2013	4.775	F	5,500	\$22,000,000	410		
1065210	Q	WHITESTONE EXP NB	BCIP		A		1	S	7/24/2012	4.603	F	2,500	\$10,000,000	407		
2241369	B	WILLIAMSBRIDGE RD	AMTRAK - CSX	AC	O		2	S	8/27/2012	4.836	F	6,510	\$26,040,000	211		
2240039	KM	WILLIAMSBURG BRIDGE	EAST RIVER	T	WEO		53	S	10/27/2012	4.250	F	824,000	\$3,296,000,000	103	301	
2240059	BM	WILLIS AVENUE	HARLEM RIVER		WMO		15	S	12/17/2012	6.833	VG	171,105	\$684,420,000	111	201	
2248019	Q	WOODHAVEN BLVD	ATLANTIC AVE		O		3	S	4/5/2012	4.236	F	19,400	\$77,600,000	409		
2248159	Q	WOODHAVEN BLVD	QUEENS BLVD		O		2	S	8/7/2012	4.275	F	11,500	\$46,000,000	404		
2230540	Q	WOODSIDE AVE	278I (B.Q.E.)		A		1	S	2/3/2012	5.672	G	7,529	\$30,116,000	402		
2247400	Q	WOODSIDE AVE	CSX TRANSPORT	C	O		1	S	8/9/2013	5.033	G	8,200	\$32,800,000	402	404	
2247120	Q	WOODSIDE AVE	LIRR MAIN LINE	L	O		3	S	9/5/2013	4.444	F	14,900	\$59,600,000	402		
788 OPEN BRIDGES				OPEN SPANS 4,359				OPEN SF				15,533,529	58,380,956,000	ALL		

STATEN ISLAND CULVERTS							
BIN	BORO	FEATURE CARRIED	FEATURE CROSSED		BRIDGE TYPE	SPANS	SOURCE
R00004	R	DICKIE AVE	NEAR COLUMBUS PLACE		O	1	CITY
R00005	R	BIDWELL AVE	COLUMBUS PLACE		O	1	CITY
R00010	R	GALLOWAY AVE	MARIANNE ST		O	1	CITY
R00011	R	FOREST AVE	CRYSTAL AVE		O	1	CITY
R00013	R	NAUGHTON AVE	PATTERSON AVE		O	3	CITY
R00015	R	OLYMPIA BLVD	SLATER AVE		O	1	CITY
R00016	R	GRAHAM BLVD	JAY ST		O	2	CITY
R00021	R	HUNTER AVE	IDLESE PLACE		O	1	CITY
R00022	R	IDLESE PLACE	HUNTER AVE		O	1	CITY
R00023	R	MIDLAND AVE	HYLAN BLVD		O	1	CITY
R00024	R	LINCOLN AVE	SANILAC ST		O	1	CITY
R00025	R	GREELEY AVE	SANILAC ST		O	1	CITY
R00027	R	ELEANOR ST	ROCKLAND AVE		O	1	CITY
R00031	R	TARLTON ST	GREAT KILLS LANE		O	1	CITY
R00032	R	SEGUINE AVE	PURDY PLACE		O	1	CITY
R00034	R	ROCKLAND AVE	BRIELLE AVE		O	1	CITY
R00035	R	BRADLEY AVE	WILLOWBROOK ROAD		O	1	CITY
R00036	R	AMBOY ROAD	ARBUTUS AVE		O	1	CITY
R00038	R	MAGUIRE AVE	DEPEW PLACE		O	1	CITY
R00040	R	113 MAGUIRE AVE	DEPEW PLACE		O	1	CITY
R00041	R	93 FOSTER ROAD	AMBOY ROAD		O	1	CITY
R00042	R	LEDYARD PLACE	LACONIA AVE		O	1	CITY
R00046	R	RICHMOND TERRACE	SNUG HARBOUR		O	2	CITY
R00051	R	HARBOR ROAD	DUBLIN PLACE		O	1	CITY
R00055	R	TRAVIS AVE	VICTORY BLVD		O	1	CITY
R00059	R	WESTERN AVE	RR BRIDGE		WO	1	CITY
R00060	R	SIGNS ROAD	VICTORY BLVD		O	1	CITY
R00062	R	KISSEL AVE	SNUG HARBOR ROAD		O	1	CITY
R00065	R	HENDERSON AVE	WESTBURY AVE		O	1	CITY
R00068	R	FOREST AVE	RANDALL AVE		O	1	CITY
R00069	R	GREGG PLACE	RANDALL AVE		O	1	CITY
R00076	R	ROOSEVELT AVE	HAROLD ST		O	1	CITY
R00077	R	BUCHANAN AVE	HAROLD ST		O	1	CITY
R00084	R	ARTHUR KILL ROAD	MULDOON AVE		O	1	CITY
R00085	R	ARTHUR KILL ROAD	150' N.W. ELLIS ROAD		O	1	CITY
R00086	R	ARTHUR KILL ROAD	ENGLEWOOD ST		O	1	CITY
R00095	R	MEISNER AVE	ROCKLAND AVE		O	1	CITY
R00096	R	ROCKLAND AVE	MANOR ROAD		O	1	CITY
R00097	R	RICHMOND HILL ROAD	RICHMOND ROAD		O	1	CITY
R00101	R	ST ANDREWS ROAD	LIGHTHOUSE AVE		O	1	CITY
R00103	R	AULTMAN AVE	ST GEORGE ROAD		O	2	CITY
R00105	R	ARTHUR KILL ROAD	CLARKE AVENUE		O	1	CITY
R00106	R	ARTHUR KILL ROAD	RICHMONDTOWN ROAD		O	1	CITY
R00114	R	SWEET BROOK ROAD	RIDGEWOOD ROAD		O	1	CITY
R00115	R	VICTORY BLVD	CLOVES LAKE PARK		O	3	CITY
R00122	R	ARTHUR KILL ROAD	RIDGEWOOD AVE		O	1	CITY
R00133	R	ARDEN AVE	HALPIN AVE		O	1	CITY
R00135	R	HYLAN BLVD	CORNELIA AVE		O	1	CITY
R00136	R	SNUG HARBOR ROAD	KISSEL AVE		O	1	CITY
R00137	R	RICHMOND TERRACE	WESTERN AVE		O	2	CITY
R00138	R	HOLLAND AVE	BENJAMIN PLACE		O	1	CITY
R00139	R	DE PEW PL	MAGUIRE AVE		O	1	CITY
R00141	R	ALTER AVE	STORM&GRND FED STREAM		O	1	CITY



R00013 Naughton Avenue over Patterson Avenue. R00032 Seguire Avenue over Purdy Place. R00115 Victory Boulevard over Cloves Lake Park.

Revised 2/26/13

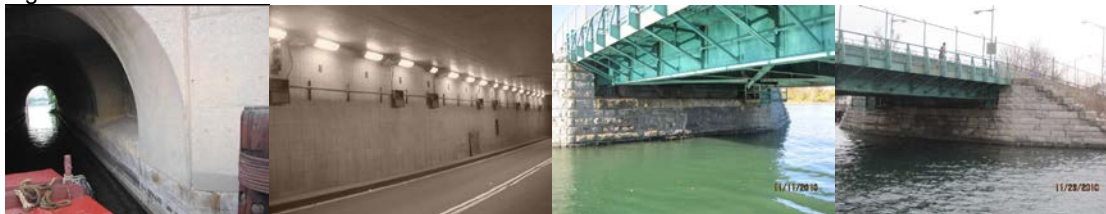
A glossary of the terms most commonly used in bridge design, construction and maintenance is presented below. Cross-references are indicated through the use of BLOCK LETTERING.

### **AASHTO (AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS)**

A nonprofit, nonpartisan association representing highway and transportation departments in the fifty states, the District of Columbia, and Puerto Rico, representing all five transportation modes air — highways, public transportation, rail, and water.

### **ABUTMENT**

Walls of reinforced concrete or masonry. Abutments support a bridge's SUPERSTRUCTURE and APPROACHES, as well as retain the embankments that are positioned at the extreme ends of a multi-span bridge.



Hamilton Avenue Bridge and Battery Place Underpass Abutments. City Island Bridge Beginning and Ending Abutment. (Credit: NYSDOT)

### **ADA (AMERICANS WITH DISABILITIES ACT)**

The Americans with Disabilities Act gives civil rights protections to individuals with disabilities, similar to those rights provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, state and local government services, and telecommunications.

### **ADMIXTURE**

Material, other than water, AGGREGATE, and hydraulic cement, used as an ingredient of concrete, mortar, grout, or plaster and added to the batch immediately before or during mixing.

### **AGGREGATE**

Inert material such as sand or stone that is mixed with cement, lime and water to produce grout or mortar.

### **ALIGNMENT**

The relative horizontal and vertical positioning between the bridge and APPROACHES.

### **ANCHORAGE**

A solid mass, usually comprised of concrete, that encases a grillage of heavy steel bars into which the ends of a SUSPENSION BRIDGE'S main CABLES are anchored. Anchorages are designed to resist the pull of the cables.



Inspecting the Exterior of the Manhattan Bridge Anchorage. (Credit: NYSDOT)

### **APPROACH**

Roadway at each end of a bridge, beyond the ABUTMENT, providing access to the bridge.



Carroll Street Bridge Approach. (Credit: NYSDOT) Belt Parkway Bridge over 26<sup>th</sup> Avenue Approach. (Credit: Artemio Angeles)

### **AERIAL LIFT**

Any vehicle-mounted device used to elevate personnel, including: extendable boom platforms, aerial ladders, articulating (jointed) boom platforms, vertical towers, or any combination of these. Aerial lifts have replaced ladders and scaffolding on many job sites due to their mobility and flexibility. They may be made of metal, fiberglass-reinforced plastic, or other materials. They may be powered or manually operated, and are considered to be aerial lifts whether or not they can rotate around a primarily vertical axis.



Inspecting the Belt Parkway Bridge over 26<sup>th</sup> Avenue in December 2012. (Credit: Artemio Angeles) Inspecting the Nereid Avenue Bridge over Bronx River Parkway in June 2012, Using a 60 Foot Boom With Outriggers. (Credit: Bojidar Yanev) Inspecting the Brooklyn-Queens Expressway (Eastbound) over Cadman Plaza/Brooklyn-Queens Expressway (Westbound).

### **ARTERIAL BRIDGE**

Any bridge upon which an arterial highway runs as it crosses streets, water, railroads, etc.

### **AS-BUILT DRAWINGS**

Drawings that are prepared from measurements taken on-site to accurately depict the actual sizes and location of elements of the construction project. The as-built drawings indicate variations from the construction documents that occurred during construction.

### **ASPHALT**

Black bituminous surface material made from AGGREGATE and processed petroleum.



Hamilton Avenue Asphalt Plant Silo. (Credit: Sheena Diaz)

### **BACKFILL**

Material used to refill an excavated area.

### **BASCULE BRIDGES**

Bascule bridges are movable bridges, typically referred to as "draw bridges" which rotate the superstructure vertically. The movable leaf of the structure - known as a *bascule* - is counterbalanced by weights of such size that minimal power is required for operation - just enough to overcome inertia, frictional resistance, wind and snow loads. Such bridges are relatively speedy to operate and provide unlimited vertical clearance. Examples of bascule bridges currently under the jurisdiction of the New York City Department of Transportation include the **Unionport**, **Shore Road (Pelham)**, **Hamilton Avenue**, Third Street, **Union Street**, Metropolitan Avenue, Hunters Point Avenue, and **Greenpoint Avenue** Bridges.



Unionport Bridge. (Credit: NYSDOT) Hamilton Avenue Bridge. (Credit: NYSDOT) Union Street Bridge. Greenpoint Avenue Bridge. (Greenpoint Credit: Michele N. Vulcan) Shore Road Bridge in July 2011. (Credit: Sergey Parayev)

### **BASE COURSE**

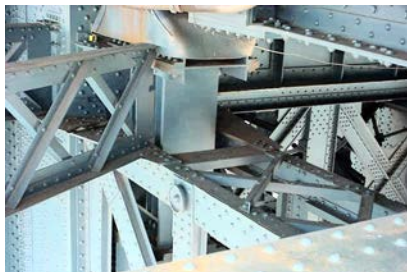
The layer of compacted ASPHALT directly under the WEARING SURFACE.

### **BEAM**

A linear structural member designed to span from one support to another.

### **BEARINGS**

Designed to transmit the load from the SUPERSTRUCTURE to the SUBSTRUCTURE. Divided into two types, expansion and fixed, bearings are needed to ensure that certain elements are not forced to take more load than that for which they were designed and that the bridge can move slightly under load and temperature changes as needed.



Truss Bearing on Manhattan Bridge. (Credit: NYSDOT)

### **BICYCLE LANE**

A portion of the roadway that has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicycles. (New York State Vehicle and Traffic Law, Title 1, Article 1, §102-a)

### **BICYCLE PATH**

A path physically separated from motorized vehicle traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way and which is intended for the use of bicycles. (New York State Vehicle and Traffic Law, Title 1, Article 1, § 102-b)



Brooklyn Bridge and Williamsburg Bridge Bicycle/Pedestrian Paths in 2010. (Williamsburg Credit: Russell Holcomb)

### **BID**

A contractor's formal proposal, including prices, to perform the work set out in the project SPECIFICATIONS.

### **BMP (BEST MANAGEMENT PRACTICES)**

Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage, or leaks, sludge or waste disposal, or drainage from raw material storage.

### **BORING**

A soil exploration technique of drilling into the ground at various locations in an attempt to construct an accurate subsurface profile.



Conducting Soil Borings in 2008 as Part of the Seismic Retrofit Design of the Manhattan Bridge. Drilling to a Depth of Approximately 210 Feet to Obtain an 8-foot Long Hard Rock Sample. A 2 1/2 -Foot Long Hard Rock Sample Taken From a Depth of Between 202 and 204 1/2 Feet.

### **BOX BEAM**

A hollow structural beam with a square, rectangular, or trapezoidal cross-section.

### **BRIDGE**

A structure connecting two points, greater than 20 feet in distance, which carries vehicular and/or pedestrian traffic over water, a descending slope, or another road.

### **BULKHEAD**

A RETAINING WALL-like structure commonly composed of driven piles supporting a wall or a barrier of wooden timbers or reinforced concrete members.

### **CABLE**

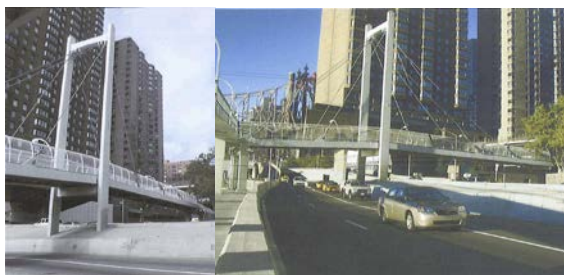
A steel rope, composed of parallel or twisted wires, used to support the road deck of SUSPENSION BRIDGES or CABLE STAYED BRIDGES.



Inspector on Manhattan Bridge Cable.  
(Credit: NYSDOT)

### **CABLE STAYED BRIDGES**

Bridges in which the superstructure is directly supported by cables, or stays, passing over or attached to towers located at the main piers.



East 64<sup>th</sup> Street Pedestrian Bridge over FDR Drive.

**CAISSON**

A rectangular or cylindrical chamber for keeping water or soft ground from flowing into an excavation.

**CAMELBACK TRUSS**

A TRUSS having a curved top chord and straight bottom chord meeting at each end. There is a camelback truss on the Macombs Dam Bridge.



Macombs Dam Camelback Truss.

**CANTILEVER BRIDGES**

A cantilever is a BEAM that is supported only on one end. In a cantilever bridge, the tree branch-like beams project toward each other, forming a span of the bridge when connected in the center. Bridges of this type are economical to build because they require less material in construction and less condemnation of property is necessary for the narrow piers which are sufficient for support. Typically, no falsework is required during construction and the bridge does not exceed 1,800 feet in length. NYCDOT's **Ed Koch Queensboro Bridge** is a notable example of this type of structure.



Ed Koch Queensboro Bridge.  
(Credit: Russell Holcomb)

**CAST-IN-PLACE**

Concrete that is poured and cured in its final position at the project site.

**CATCH BASIN**

A receptacle, commonly box shaped and fitted with a grilled inlet and a pipe outlet drain, designed to collect the rain water and floating debris from the roadway surface and retain the solid material so that it may be periodically removed.

**CATWALK**

A narrow walkway for access to some part of a structure.



Ed Koch Queensboro Bridge Lower Level Flooring System Catwalk under Lower Level Queens Approach. Manhattan Bridge Brooklyn Tower Catwalk. (Credit: NYSDOT) Fresh Creek Catwalk Under Deck.

### **CHANGE ORDER**

An approved modification of the SPECIFICATIONS or the costs in a construction contract.

### **CHIPPING HAMMER**

A welder's compressed-air tool for cleaning steel after welding. It is also used by bridge inspectors.

### **CLADDING**

Non-load-bearing stone or brick veneer used as the facing material in exterior bridge wall construction.



East Approach Cladding on the East 174<sup>th</sup> Street Bridge. Abutment Wingwall Cladding on the West 173<sup>rd</sup> Street Bridge. Hutchinson River Parkway Bridge. Brooklyn-Queens Expressway Over Ramp to Brooklyn-Queens Expressway (Eastbound).

### **CLEARANCE**

The unobstructed vertical and horizontal space provided between two objects.



United Nations – 1<sup>st</sup> Avenue Tunnel Vertical Clearance Posting. (Credit: NYSDOT) Measuring Vertical Clearance at the 129<sup>th</sup> Street Pedestrian Bridge in April 2012. (Credit: Artemio Angeles) Retro-reflective Material Improves Visibility of These Low Vertical Clearance Bridges: East 60<sup>th</sup> Street Bridge Over FDR Drive and Westchester Avenue Bridge over Hutchinson River Parkway.

### **COFFERDAM**

A temporary dam-like structure constructed around an excavation to exclude water.



April 2010: Cofferdam With Filter Fabric and Gravel Placed Prior to Pile Driving During the Emergency Repair Project on the Borden Avenue Bridge over Dutch Kills.

### **COLONNADE**

A series of regularly spaced columns.



Manhattan Bridge Colonnade.  
(Credit: Peter Basich)

### **COMPRESSION**

The stress resulting from a pushing force on a structure.

### **CONDITION RATING**

A judgment of a structure's condition in comparison to its original as-built condition.

### **COPING**

The material forming the top layer of a masonry unit which protects the MASONRY below from penetrating water.

### **CORE**

A cylindrical sample of concrete removed from a bridge component for the purpose of destructive testing.



Removing a Core From 252<sup>nd</sup> Street Bridge over Henry Hudson Parkway in January 2009.  
(Credit: Masroor Mahmood)

### **CORROSION**

The general disintegration of surface metal through oxidation.

### **COUPON**

A sample of steel taken from an element in order to test material properties.

### **COUNTERWEIGHT**

A weight which is used to balance the weight of a movable member; in bridge applications counterweights are used to balance a movable span so that it rotates or lifts with minimum resistance.

### **CRITICAL PATH**

The set of activities that must be completed on time for the contract completion date to be met. Activities on the critical path have no slack time.

### **CULVERT**

Any structure under the roadway with a clear opening of twenty feet or less, measured along the center of the roadway.



Idlease Place Culvert. Sweet Brook Road Culvert.

**CURING**

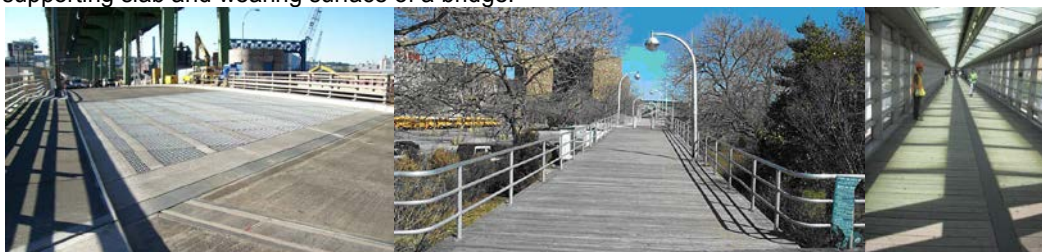
Process of maintaining freshly placed concrete mortar, grout, or plaster moist and at a favorable temperature for a suitable period of time during its early stages so that the desired properties of the material can develop. Curing assures satisfactory hydration and hardening of the cementitious materials.

**DEAD LOAD**

The weight of the bridge itself without any traffic or external loads.

**DECK**

The supporting slab and wearing surface of a bridge.



Hamilton Avenue Bridge, and West 8<sup>th</sup> Street and Chambers Street Pedestrian Bridge Decks.  
(Hamilton Credit: NYSDOT)

**DELAMINATION**

The subsurface separation of concrete into layers.

**DESIGN-BUILD CONTRACTS**

A delivery procedure where one company is retained to perform both design and construction, thus expediting the capital bridge rehabilitation program.

**DOLPHIN**

A group of PILES driven close together and placed to protect portions of a bridge or other structure exposed to possible damage by collision with marine traffic.



Greenpoint Avenue Dolphin & Fender System.  
(Credit: Peter Basich) Hunters Point Avenue Dolphins.  
(Credit: Michele N. Vulcan)

**DRAINAGE SYSTEM**

A collection of surface and/or subsurface drains and pumps that are used to remove surface or ground water.

### ***EFFLORESCENCE***

White salts that water movement brings to the surface of porous construction materials.



Moderate Efflorescence on the Brooklyn Bridge Brooklyn Tower North Gothic Arch in 2004. (Credit: NYSDOT)  
Efflorescence on the Underside of the Masonry Stones on the End Abutment of the Margaret Corbin Drive Bridge over Pedestrian Path Near Café.

### ***ELECTRICAL MAINTENANCE***

Preventive maintenance to electrical systems on the East River bridges (e.g., travelers, lighting systems) and the movable bridges (e.g., contacts, relays, switches, controls, limit switches, and lighting systems).

### ***EXPANSION JOINTS***

Located throughout a bridge, expansion joints are located in the deck, directly above the BEARINGS. Expansion joints allow parts of the structure to expand independently and therefore relieve stresses that may otherwise cause damage.

### ***EYEBARS***

Steel bars with each end shaped like the eyes of giant needles. They provide total anchorage of the suspension cable and are buried deep within the ANCHORAGE structure.

### ***FACE***

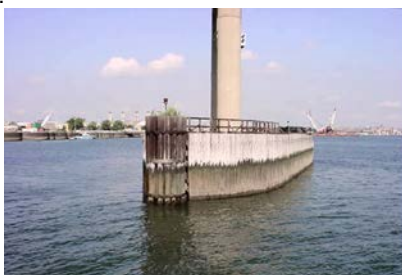
The outer, exposed surface of a MASONRY unit.

### ***FATIGUE***

Cause of structural deficiencies (such as metal fracture) due to repetitive (or cyclic) loading over time.

### ***FENDER***

A structure that acts as a buffer to protect the portions of a bridge exposed to floating debris and water-borne traffic from collision damage.



Rikers Island Dolphin & Fender System. (Credit: NYSDOT)

### ***FINGER DAM***

EXPANSION JOINT in which the opening is spanned by meshing steel fingers or teeth.



Manhattan Bridge Finger Dam.  
(Credit: Jagtar Khinda)

***FIRE HAZARD***

Accumulation of debris, where the debris is of sufficient quantity, in a location where, if it caught fire, it would compromise the structural integrity of the bridge.

***FIXED PRICE CONTRACT***

A contract with an overall predetermined price for the project work.

***FLAG CONDITIONS***

A “Flag” is a hazardous or potentially hazardous condition on a bridge. A “Flag” is classified as either Red, Yellow, or Safety. A “Red Flag” requires prompt evaluation and, possibly, corrective action. A “Yellow Flag” is used to report a potentially hazardous structural condition, which if left unresolved will most likely become a danger to the soundness of the bridge and a hazard to the public. In the case of a “Safety Flag,” there is no danger of partial or complete structural failure of the bridge; however, if left unattended, those conditions can present a vehicular or pedestrian hazard.

***FLOORBEAMS***

Horizontal members placed crosswise to the bridge’s major BEAMS, girders, or TRUSSES to support the deck.



South Transit Floorbeams, Stringers, and Bracing Members on the  
Manhattan Bridge. Ed Koch Queensboro Bridge North Outer Roadway  
Floorbeam. (Credit: NYSDOT)

***FOOTINGS***

Part of the substructure known as the bridge foundation, they are masses of reinforced concrete which can be found beneath the ABUTMENTS and PIER and which spread the load to allow the soil to support the structure above.

***FORMS***

The temporary molds that hold concrete in place while it is hardening; also known as form work.

***FULL STEEL PAINTING***

A bridge painting technique that involves cleaning of steel surfaces using approved environmentally safe paint removal techniques (blasting, power tools, or hand tools). A full primer, intermediate and finish coat are applied using combinations of brush, roller, or (if necessary) spray painting.

***FUNCTIONALLY OBSOLETE***

A status used to describe a bridge that, because of its geometry, is no longer functionally adequate for its task. Reasons for this status include that the bridge doesn’t have enough lanes to accommodate the traffic flow, it may be a drawbridge on a congested highway, or it may not have space for emergency shoulders. “Functionally Obsolete” does not communicate anything of a structural nature. A functionally obsolete

bridge may be perfectly safe and structurally sound, but may be the source of traffic jams or may not have a high enough CLEARANCE to allow an oversized vehicle.

### **GENERAL CONTRACTOR**

has overall responsibility for a construction project. The general contractor may break down the project into smaller pieces to be handled by subcontractors.

### **GEOMETRIC IMPROVEMENT**

Roadway improvements other than a surface treatment, such as shoulder and lane widening, curb and gutter, or roadway alignment.

### **GIRDER SPAN BRIDGES**

are primarily employed in bridging short distances, and may be classified as either simple or continuous. The steel girders carry the roadway and roadway load to end supports. The Midtown Highway, **Hook Creek**, Little Neck and **Brooklyn Third Avenue Bridges** are of this type.



Hook Creek Bridge and Brooklyn's Third Avenue Bridge. (Credit: NYSDOT)

### **GRADE**

The degree of inclination of the ground surface.

### **GRID FLOORING**

A steel floor system comprising a lattice pattern which may or may not be filled with concrete.



Installation of Full Width Grid Deck Panels on the Manhattan Bridge Lower Roadway in 2006. Pouring the Concrete.

### **GRIZZLY**

A coarse screen used to remove oversize pieces from ASPHALT or earth.



New Grizzly Under Fabrication for the Agency Hamilton Asphalt Plant. (Credit: Russell Holcomb)

### **GUTTER**

A paved drain commonly constructed in conjunction with the curbs of the roadway.

### **JACKING**

The mechanical lifting or sliding of an element.



Ed Koch Queensboro Bridge Bent  
Column Ready for Jacking in 2005.

***JERSEY BARRIER***

A low, gradually narrowing, reinforced concrete wall used as a highway divider and as a means of preventing a vehicle from crossing a median or leaving the roadway. These barriers were first used on the New Jersey Turnpike.

***LEAF***

The movable portion of a BASCULE bridge that forms the SPAN of the structure.



Leaves of the Hamilton Avenue Bridge.

***LIVE LOAD***

The weight of the traffic crossing a bridge and of other external loads applied to the structure (excluding the weight of the bridge itself.)

***LOAD RATING***

A value that indicates the LIVE LOAD capacity of a bridge.

***LUBRICATION MAINTENANCE***

Lubrication of mechanical parts of the East River bridges (e.g., travelers, cables, solid rod suspenders, and EYEBARS), and the movable bridges (e.g., bearings, brakes, limit switches, and gates).

***MAINTENANCE AND PROTECTION OF TRAFFIC***

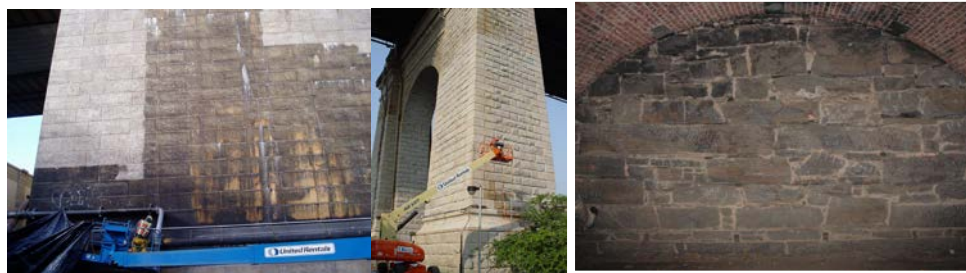
The control plan for traffic around and through a construction site.

***MARINE BORERS***

Mollusks and crustaceans which live in water and destroy wood by digesting it.

***MASONRY***

Construction materials made of concrete, brick, tile, or stone.



Cleaning the Masonry of the North Face of the Manhattan Bridge's Brooklyn Anchorage and of the North and East Faces of the Roosevelt Island Pier of the Ed Koch Queensboro Bridge. Masonry of the East Drive Bridge Over Eastwood Arch.

### **MORTAR**

Mixture of cementitious materials, fine AGGREGATE, and water, which may contain ADMIXTURES, and is usually used to bond MASONRY units.

### **MOVABLE BRIDGE**

A type of bridge which carries vehicular or pedestrian traffic over a navigable waterway, and which opens to permit the passage of a ship, barge or boat. The 25 movable bridges currently under the jurisdiction of the New York City Department of Transportation include the Harlem River group (Broadway, West 207<sup>th</sup>/West Fordham Road, Macombs Dam, 145<sup>th</sup> Street, Madison Avenue, Third Avenue, Willis Avenue, and **Wards Island**); the Bronx group (Bruckner Expressway/Bronx River, Hutchinson River Parkway, **Shore Road**, and Bruckner Expressway/Westchester Creek); the Queens group (Borden Avenue, Grand Street, Greenpoint Avenue, Hunterspoint Avenue, **Pulaski Avenue**, and **Roosevelt Island**); and the Brooklyn group (Hamilton Avenue, Ninth Street, Third Street, Carroll Street, Union Street, Metropolitan Avenue, and Mill Basin.)



Roosevelt Island Bridge in 2013. (Credit: Stephen Mallon). Shore Road Bridge in 2009. (Shore Road Credit: George Kern) Wards Island Pedestrian Bridge in 2009. (Credit: Duane Bailey-Castro) Pulaski Bridge in 2010. (Credit: Sergey Parayev)

### **MOVING LOAD**

A LIVE LOAD that is moving, for example, vehicular traffic.

### **NECKLACE LIGHTS**

The necklace lights are those lights on the main cables of suspension bridges which, when illuminated at night, resemble a necklace.



Repairing a Manhattan Bridge Necklace Light. Bridge Repairer and Riveter Neil Dalton Installing a New Light on the Williamsburg Bridge in 2012. (Credit: Hany Soliman)

### **NONDESTRUCTIVE TESTING**

A method of checking the structural quality of materials that does not damage them.

### **NOTICE TO PROCEED**

The formal document authorizing the contractor to commence work under its contract.

**OPERATOR'S HOUSE**

The building containing the power plant and operating machinery and devices required for the operator's (bridge tender's) work in executing the complete cycle of opening and closing a MOVABLE BRIDGE span.



Metropolitan Avenue Bridge over English Kills Operator House.

**PANEL POINT**

The point at which two members of a TRUSS cross.

**PARAPET**

A low wall along the outmost edge of the roadway of a bridge to protect vehicles and pedestrians.

**PEDESTRIAN BRIDGES**

Bridges designed and constructed to provide means of crossing for pedestrian traffic only.



Morris Street, West 181<sup>st</sup> Street, PS-5, Carroll Street over Franklin Shuttle, and Chambers Street Pedestrian Bridges.

**PIER**

Part of a bridge's substructure, piers are the intermediate supports or columns which support a multi-span bridge. Piers may be composed of steel or reinforced concrete, and can appear as columns or solid walls.



Pier 1 (Looking Southeast) of Minthorne Street Pedestrian Bridge. Pier 17 of Rikers Island Bridge. Pier 1 of Hunters Point Avenue Bridge. Ed Koch Queensboro Bridge Pier. Pier 35 of Macombs Dam Bridge. (Credit: NYSDOT)

**PILES**

A concrete, steel or timber column located beneath the FOOTINGS of a bridge and embedded in the soil. Piles are employed in bridges only if the soil directly below the footing is not firm enough to support the bridge loads.

**PLAZA**

An area designated for use by pedestrians, which may vary in size and shape; which may abut a sidewalk and is located fully within the bed of a roadway; may be at the same level as the roadway or raised above the level of the roadway; may be physically separated from the roadway by curbing, bollards, or other separators; may be treated with special markings and materials; and may contain benches, tables, or other facilities for pedestrian use.



Manhattan Bridge Brooklyn Plaza. Evening View of the Plaza Looking Southeast With Benches, Lights, and Granite Pavers in Foreground. Aerial View of the Plaza. Looking South From the Pedestrian Entrance. Delancey Street Plaza Near the Williamsburg Bridge.

**PLUMB BOB**

A weight hanging on a string (plumb line), used by bridge inspectors to show the direction of the vertical distance.

**POINTING**

The compacting of the mortar in the outermost portion of a joint and the troweling of its exposed surface to secure water tightness or desired architectural effect.



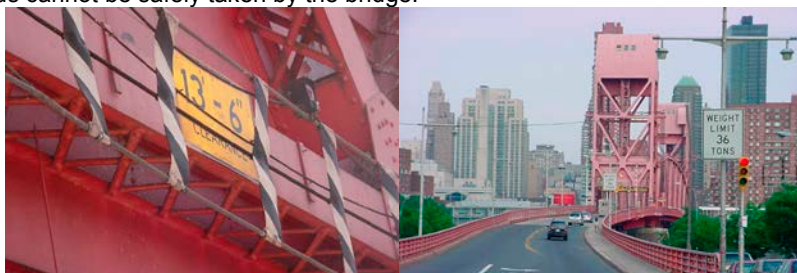
Pointing Joints on the East Face of the Brooklyn Anchorage of the Manhattan Bridge. Pointing the Masonry on the East Drive Bridge (East Wood Arch).

**PORTLAND CEMENT CONCRETE**

The most common concrete used in construction. It was patented in England in 1820, and is so named because when hard, it resembles Portland stones from Dorset.

**POSTED**

An announcement or sign limiting dimension, speed, or loading, indicating that larger dimensions and higher speeds and loads cannot be safely taken by the bridge.



Roosevelt Island Bridge Vertical Clearance Restriction and Posted Weight Signs.  
(Credit: NYSDOT)

**POTHOLE**

A hole in a roadway or pavement, usually caused by heavy vehicular traffic or weathering.

**PRECAST CONCRETE**

Concrete members that are cast and cured before being placed into their final positions on the construction site.

**PREVENTIVE MAINTENANCE**

Preventive maintenance involves cleaning, protecting, and performing minor repairs of bridge components to prevent deterioration from becoming so extensive that major REHABILITATION or RECONSTRUCTION is needed. Specified interval maintenance, such as cleaning DRAINAGE SYSTEMS and lubrication, are done

on a scheduled basis. Other maintenance is carried out when inspectors point out the need for it, such as resealing an EXPANSION JOINT or replacing the wearing surface. Preventive maintenance tasks on the bridges include: the cleaning of drainage systems, gratings, and expansion joints; the washing of the deck area and salt splash zones; full-steel, salt splash, and spot painting; the patching of sidewalks; the maintenance of electrical devices; and the oiling of mechanical components.



Power Washing the Corrosive Deicing Solvents Within the Range of the Roadway Splash Zone on The Manhattan Bridge in October 2007. Particular Attention is Directed to Cleaning the Gusset Plate. (Credit: Albert Hong)

Performing Wear and Tear Resurfacing Work on the Roosevelt Avenue Bridges in April 2010: Assistant City Highway Repairer Victor Magagna, Supervisor Highway Repairer Joseph Palemine, Assistant City Highway Repairer Jonathan Adorno (Obscured), Assistant City Highway Repairer Anthony Montalbano, and Area Supervisor Highway Maintenance Edward Pedersen. Assistant City Highway Repairers Jonathan Adorno and Victor Magagna. (Credit: Joseph Flood)

## PRIMER

The first layer of paint used to cover the unsealed surface. This is followed by at least one more coat of paint.

## PUNCH LIST

A catalogue of minor items still outstanding at the end of a construction project.

## QUALITY ASSURANCE

An independent evaluation of a service (i.e., an inspection) to establish that a pre-described level of quality has been met.

## RAILING

A fence-like construction built at the outermost edge of the roadway or the sidewalk portion of a bridge to protect pedestrians and vehicles.



Manhattan Bridge Railing. (Credit: Russell Holcomb) Greywacke Arch Railing.  
37<sup>th</sup> Street Bridge over Brooklyn-Queens Expressway Railing.

## RAILROAD FORCE ACCOUNTS

Railroad force accounts are contracts between the Agency and railroads by which the railroads supply flag personnel so the Division can perform repair work on bridges that cross over railroad tracks.

## REHABILITATION

Extending the useful life of a bridge by painting, repairing or replacing the DECK or selected elements of the SUBSTRUCTURE or SUPERSTRUCTURE. This type of work is performed primarily on those structures not classified as deficient, but which contain specific components that have low condition ratings.

## RETAINING WALL

A structure designed to restrain and hold back a mass of earth.



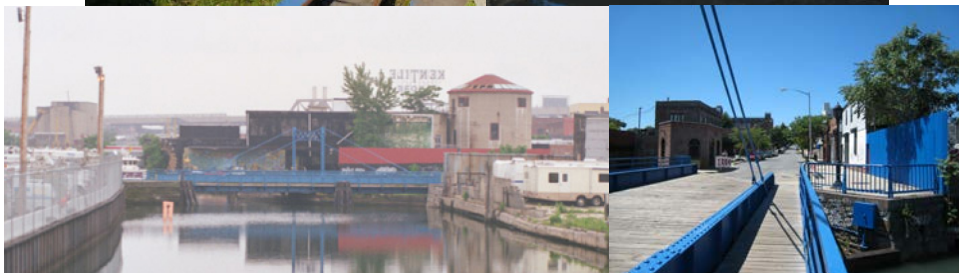
Kappock Street Retaining Wall in Riverdale, Before and After Repairs. The Existing 300-Foot Long Parallel Concrete Roadway Retaining Walls on Both Sides of Kappock Street Were Deteriorated and Leaning, and Were Replaced with New Modular Retaining Walls in the Summer of 2009.

### **RETARDING AGENT**

A chemical added to mortar to slow down the set.

### **RETRACTILE BRIDGES**

Retractable bridges are movable bridges that are mounted on tracks that are positioned to one side of a navigational channel. To open, the bridge is withdrawn or "retracted" to shore. Although fascinating to observe and efficient to operate, retractile bridges are considered obsolete because of the expansive land areas that must be condemned in order to accommodate their tracks. The New York City Department of Transportation currently possesses two retractile bridges - the **Borden Avenue** and **Carroll Street** bridges, rare examples of the bridge builders' art.



Borden Avenue Bridge. (Credit: Peter Basich) Carroll Street Bridge. (1<sup>st</sup> Credit: NYSDOT, 2<sup>nd</sup>: Russell Holcomb)

### **RETROFIT**

Upgrading parts of an existing structure to meet current standards.

### **RIGHT-OF-WAY**

A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

### **RIPRAP**

Irregularly broken, random-sized pieces of rock used for a foundation or to prevent soil erosion.



Eroded Riprap Pier Protection at Pier 11 of Old Willis Avenue Bridge in 2008. (Credit: NYSDOT) Riprap Installed in 2013 on South Side of Belt Parkway Bridge over Fresh Creek, Facing East.

**ROADWAY**

The portion of the road intended for the use of vehicular traffic.

**ROCKER BEARING**

A bridge support that accommodates expansion and contraction of the superstructure through a rocking action.

**SADDLE**

A special curved casting atop a SUSPENSION BRIDGE tower into which the cables are placed to avoid sharp bends in directional changes of the cable.



Manhattan Bridge Saddle.  
(Credit: Jagtar Khinda)

**SALT SPLASH ZONE PAINTING**

A bridge painting process that involves preparation of the area to be painted by power wash, using clean water or steam. After power washing, hand and power tools are used in areas which have started to show deterioration from accumulated de-icing agents. Solvent cleaning is done in locations where oil and grease need to be removed from the steel surface. A spot PRIMER coat and finish coat are then applied by brush or roller. Occasionally, when there is no danger of overspray, spray painting may be performed.

**SCOUR**

The washing away of stream bed material around or underneath the bridge abutments or piers that is caused by water channel flow.



Scour on Pier 2 End Face of Moshulu Parkway Bridge Over Bronx River in 2008. (Credit: NYSDOT)

**SCREED**

A long section of metal or wood which is dragged across freshly placed concrete to both smooth the surface and consolidate the concrete.



Screed at East 8<sup>th</sup> Street Ramp in 2011.

**SCUPPER**

An opening in the floor portion of a bridge to provide means for rain or other water accumulated upon the roadway surface to drain through it into the space beneath the structure.



Scuppers on the Pulaski, Madison Avenue, and Brooklyn Bridges. (Credit: NYSDOT)

**SET**

When the consistency of mortar changes from plastic to hard.

**SHORING**

Temporary bracing to support a structure.



2010: Shoring of Stringers at Ramp D East Abutment (Staten Island Ferry Ramps) for Steel Repair Work. Installation of Shoring Towers at the Shore Road Circle Bridge.

**SHOTCRETE**

MORTAR or small-AGGREGATE concrete that is conveyed by compressed air through a hose and applied at high velocity to a surface. Also known as gunite and sprayed concrete.

**SOFFIT**

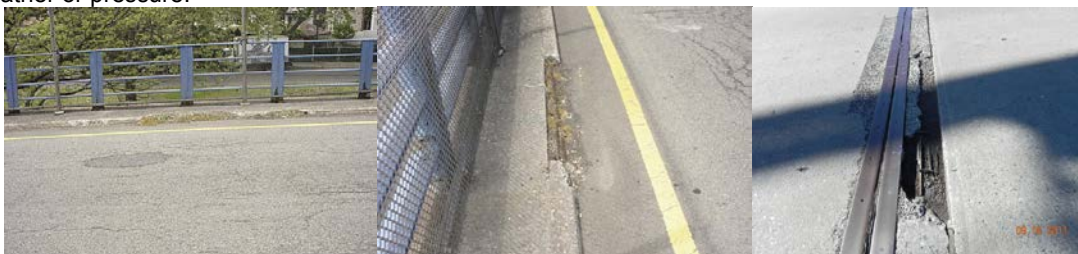
The underside of a structural component, such as a beam or arch.

**SOUNDING**

A method of checking for voids or DELAMINATIONS in concrete by striking a hammer against the structure and listening for a hollow sound.

## SPALLING

The flaking or breaking out of concrete parallel to the main surface, caused by a blow, or by the action of weather or pressure.



Spalled Section of Curb on the East 8<sup>th</sup> Street Bridge in 2006. (Credit: NYSDOT) Spalling With Exposed Rebar on the Beginning Abutment Joint Header of the Westchester Avenue Bridge over the Bronx River in 2011.

## SPAN

The distance between consecutive supports of a bridge.

## SPECIFICATIONS OR SPECS

A detailed listing of required construction materials and methods to be used in the project. This information is a supplement to the blue prints and working drawings.

## SPLAY CASTING

A steel or cast-iron collar fitted around a bridge suspension CABLE at the location where it spreads out (splays) into separate bundles of wires which are then attached to the ANCHORAGE EYEBARS. It is used to control the degree and location of the splay. These castings are usually located at the entry point of the cable into the anchorage chamber.

## SPOT PAINTING

When the surface to be painted is contaminated with de-icing salts, sea salt, bird excrement, or other corrosive agents, the area is prepared by power washing, using clean water or steam. When grease or oil is present, it is removed by solvents. Mechanical cleaning with hand and/or power tools is performed in the areas containing deteriorated paint. A spot PRIMER coat and a single finish coat are applied by brush or roller. Occasionally, when there is no danger of overspray, spray painting may be performed.

## STAGED CONSTRUCTION

Construction done so that traffic may be maintained on a portion of an existing bridge structure while a longitudinal section of a new structure is constructed. Traffic is then shifted over to that portion of the new structure while the existing structure is removed and the new structure is completed.

## STEEL ARCH BRIDGES

Steel arch bridges consist of either a single arch or a series of arches fashioned from steel or concrete. Aesthetically one of the more attractive bridge types. Arch structures can prove economical to construct if the bridge spans between high ABUTMENTS. At present, there is only one bridge of this kind in steel under the guardianship of the NYCDOT; the twin-arched **Washington Bridge**, positioned over the Harlem River at 181<sup>st</sup> Street. This bridge opened to traffic in December 1888 and, with its approaches, is 2,375 feet long.



Washington Bridge. (Credit: NYSDOT) Washington Bridge in 2008. (Credit: Duane Bailey-Castro)

## STEM

The vertical part of a retaining wall, usually made of concrete or masonry.



East Face of Brooklyn Bridge North Stem Wall.  
(Credit: NYSDOT) West 176<sup>th</sup> Street Pedestrian  
Bridge Beginning Abutment Stem Wall.

### **STOPPING SIGHT DISTANCE**

The distance required for a vehicle to stop before hitting a stationary object in its path. It is equal to the distance required for the driver to react and apply the brakes plus the distance required for the vehicle to stop once the brakes are applied.

### **STRAIN GAUGE TESTING**

Small strips of material (imagine a small band-aid) are glued onto part of a structure to measure the stress in the material under load. Inside the small "band-aid" are tiny electrical wires. When a structure is under load it stretches (tension) or contracts (compression). When this happens, the resistance in the tiny wires in the strain gauge changes, resulting in a change in the wire's current. What is actually being measured are changes in the electrical current in the tiny wires. Knowing the physical properties of the structural member that the gauge is attached to, (such as steel), a calculation can then be made to convert these changes in current to changes in stress. The readings are taken with special instruments that record the information over the desired period of time or loading sequences.



June 2012 - Metropolitan Avenue Bridge. Summer College Intern Nikita Gupta Unsealing the Wire for Strain Gauge Testing. July 2012 - Unionport Bridge. Summer College Intern Kevin Hillery Setting up Inclinator Calibration. August 2012 - Hunters Point Avenue Bridge. Kevin Hillery Checking Strain Gauge Connections With a Millimeter. (Credit: Vera Ovetskaya)

### **STRAND**

Comprised of hundreds of thin wires laid parallel to form a bundle, strands comprise the base element in the CABLES, or main cables, on a SUSPENSION BRIDGE or cable stayed bridge.

### **STRINGER**

A part of a bridge's SUPERSTRUCTURE, a stringer is essentially a BEAM parallel to the span used to support the road DECK.



Stringers on the Manhattan Bridge. (Credit: NYSDOT) Bridge Repairer and Riveter Joseph Antony Repairing a Red-Flagged Stringer on the Bridge.  
(Credit: Hany Soliman)

### **STRUCTURAL DEFICIENCY**

An engineering term-of-art used by the Federal government to indicate that there are elements of the bridge that need to be monitored and/or repaired. It covers a wide range of conditions and does not reflect the fundamental integrity of a structure. Any city bridge deemed unsafe would be shut to the public.

### **STRUCTURAL HEALTH MONITORING**

The continuous or regular monitoring of the condition of a structure or system using built-in or autonomous sensory systems, and any resultant intervention to preserve structural integrity.

**Borescope Investigations:** The borescope is a high-tech device combining fiber-optic technology with digitized computer memory. It allows scanning and photographing of otherwise inaccessible locations.

**Corrosion Sensors:** Corrosion sensors were developed for the first time under a FHWA contract specifically for New York City's suspension bridges.

**Fiber Optic Sensors:** Fiber optic sensors can measure very small displacements as well as strain gauges, but are more resilient and insensitive to temperature changes. The information is readily transmitted online and lends itself to real-time monitoring.

**Ground Penetrating Radar:** Ground penetrating radar uses the propagation and retraction of high frequency waves through materials such as concrete to detect the presence of voids.



Director of Bridge Management Kevin McNulty Inspecting the Bridge Carrying the Belt Parkway over Ocean Parkway, Utilizing the Unit's Borescope. Experimental Corrosion Sensors Installed for a Test on Cable D of the Manhattan Bridge in 2011 (Left Corner). A Fiber Optic Sensor Monitoring a Crack in the Masonry of the Brooklyn Bridge's Manhattan Approach. A Ground Penetrating Radar Inspection of the Belt Parkway Bridge over Ocean Parkway. (Credit: Bojidar Yanev)

### **SUBSTRUCTURE**

The name given to those elements below a bridge's road deck system, namely the ABUTMENTS, ANCHORAGES, BEARINGS, and PIERS.

### **SUPERSTRUCTURE**

The superstructure is all that part of a structure above the bearings of simple and continuous spans, skewbacks of arches and top of footings of rigid frames; excluding backwalls, WINGWALLS and wing protection railings.

### **SUSPENDER**

A wire rope or a short vertical rod that enables the forces of the roadway of a SUSPENSION BRIDGE to be translated into an axial force in the supporting CABLES.



Manhattan Bridge Suspenders. (Credit: NYSDOT and Jagtar Khinda)

### **SUSPENSION BRIDGES**

Suspension bridges are high level bridges with spans that usually exceed 1,500 feet in length. Supported by large wire CABLES that are anchored to masses of concrete and which pass over the tops of towers, the road DECK is suspended at regular intervals by smaller cables called suspenders. While the main cables carry the entire live and dead load, stiffening TRUSSES are required to distribute the LIVE LOAD and

prevent excessive deflection at any point. The Brooklyn, **Manhattan** and **Williamsburg** Bridges are noted New York City examples of this type.



Manhattan Bridge. (Credit: Bernard Ente) Williamsburg Bridge.  
(Credit: Peter Basich)

## SWING BRIDGES

Swing bridges are movable bridges that are supported on a center PIER in the center of a waterway, and are opened by rotating the SUPERSTRUCTURE horizontally on wheels riding on a circular track. Two channels are provided on either side of the bridge for navigational ease when the bridge is in the open position. Because swing bridges are slow to operate and restrict channel width, they are rarely constructed today. Examples of swing bridges in New York City include the **Third Avenue**, **Madison Avenue**, **145<sup>th</sup> Street**, **University Heights**, **Grand Street** and **Macombs Dam** Bridges.



Third Avenue University Heights Bridge. (Credit: Michele N. Vulcan) Grand Street Bridge.  
(Credit: NYSDOT) Macombs Dam Bridge. (Credit: Michele N. Vulcan)

## TEMPORARY BRIDGE

A pedestrian and/or vehicular bridge built to carry traffic around an active construction site in lieu of STAGE CONSTRUCTION. The structure is removed after the new bridge is open to traffic.



2004: Almost Completed New Third Avenue Span and Temporary Bridge. (Credit: Daniel Hom)  
2005: Pontoon Bridge Used During the Emergency Reconstruction of the Ocean Avenue Pedestrian Bridge over Sheepshead Bay. (Credit: Russell Holcomb)

## THERMAL EXPANSION

Temperature-induced changes in the lengths of steel and other materials used to construct bridges. Thermal expansion governs the design of joints and can, in extreme cases, impact the operation of movable bridges.

## TORSION

Twisting force usually caused by unbalanced or asymmetrical loading.

## **TOWER**

Often the most majestic element in a SUSPENSION or cable stayed bridge, the **tower** serves as a support for the structure's main CABLES.



Inspectors on Manhattan Bridge Tower. (Inspector Credit: NYSDOT) Manhattan Bridge Tower. (Credit: Michele N. Vulcan) Manhattan Bridge Tower Detail. (Credit: Russell Holcomb) Brooklyn Bridge Tower. (Credit: Earlene Powell) Brooklyn Bridge Brooklyn Side Tower Detail. (Credit: Jagtar Khinda)

## **TRAVELER MAINTENANCE**

The maintenance of a traveler (movable underdeck platform) that runs under the East River Bridges so maintenance, inspections and repairs can be performed to the underside of the bridge.



Manhattan Bridge Traveler.  
(Credit: NYSDOT)

## **TRUSS**

A rigid framework built of interconnecting steel beams, creating a large "girder" to support the floor system and transfer loads to the substructure over a longer span.



Brooklyn Bridge Franklin Square Truss. (Credit: Andy Hoang). General view of Manhattan Bridge Trusses B and C From the Lower Roadway on the Main Span. (Credit: NYSDOT) Chambers Street Pedestrian Bridge Truss. Madison Avenue Bridge Truss Swinging. (Credit: NYSDOT)

## **TRUSS BRIDGES**

Truss bridges possess road decks that are supported by Steel TRUSSES that rest on PIERS and ABUTMENTS, and which span short distances. The 174th Street Bridge in the Bronx is an example of a truss bridge.



East 174<sup>th</sup> Street Truss Bridge over  
Sheridan Expressway. (Credit: NYSDOT)

### **VERTICAL LIFT BRIDGES**

Vertical lift bridges are movable bridges which have road DECKS that operate in much the same fashion as an elevator. Comprised of supporting end CABLES that are attached at one end to the road DECK and at the other to rotating drums, these bridges are raised and lowered to allow for the safe passage of marine traffic. The **103rd Street - Wards Island Pedestrian Bridge**, **Ninth Street Bridge**, and **Broadway Bridge** are examples of this type of bridge.



Wards Island Pedestrian Bridge. Ninth Street Bridge. (Credit: Bojidar Yanev) Broadway Bridge. (Credit: Bernard Ente)

### **VIADUCT BRIDGES**

Viaduct bridges are multi-span bridges containing two end spans and any number of intermediate SPANS. The end spans are supported by an ABUTMENT on one end and a PIER on the other. The intermediate spans held aloft by piers.



Park Avenue Viaduct Bridge. Experiencing the Viaduct in a Whole New Way During Summer Streets 2012.

### **WATERPROOFING MEMBRANE**

A protective sheet placed between a WEARING SURFACE and concrete DECK to shield the concrete deck from water and corrosive chemicals which could cause DELAMINATION and SPALLING.

### **WEARING SURFACE**

The topmost layer of material applied on the DECK or roadway that receives the traffic loads; also known as wearing course.



Brooklyn Bridge Wearing Surface. Manhattan Bridge Wearing Surface and Safety-Shaped Barriers. (Credit: NYSDOT)

### **WELD**

To fasten together metals by bonding with molten metal.



Welding Steel Packs for the Southbound Bruckner Expressway Bridge.

***WINGWALL***

Walls of reinforced concrete or stone that prevent the soil behind the ABUTMENT from eroding away and leaving a void beneath the APPROACHES of the bridge. Also known as a retaining wall.



Broadway Bridge, Bay Ridge Avenue Bridge, Ed Koch Queensboro Bridge, and Center Drive (Playmates Arch) Wingwalls. (First Three Credit: NYSDOT)

***WINTER INSPECTION***

Inspection of a site known to have a greater hazard potential during winter. This may be due to low ambient temperatures, accidental or deliberately set fires.



Timber Shoring Supporting a Failing Steel Beam – a Potential Winter Hazard.

(Credit: Bojidar Yanev)

## ***COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM***

### **Bridge Protection through Dirt and Water Control**

**Cleaning of Abutment and Pier Tops** Removal of debris, dirt and vegetation from abutment and pier tops; cleaning and lubrication of bridge bearings.

#### **Pier Top Cleaning of Bridges Over Water (including Pigeon Waste Removal)**

This work consists of removing all debris, including pigeon waste, from bridge abutments and pier tops. Workers pull the material from the edges into the center of the pier with a broom or shovel while supervisors monitor the work to ensure that, to the maximum extent practicable, material is not pushed from the pier during the cleaning process. Using hand tools, debris is collected and removed for disposal. When removing pigeon waste, a 3.5 gallon manual spray canister is used to apply a bleach/water solution to the waste and to the area to be cleaned. The solution is sprayed at a low height to limit aeration and prevent material from falling into the waterway. Once the waste has been sufficiently treated, it is removed for proper disposal.

#### **Cleaning and Lubrication of Bearings of Bridges Over Water**

This work consists of cleaning bearings, as well as removing old and applying new lubricant where required. For bearings on flat, solid surfaces, located 12 inches or more from the edge of the structure, no containment/bulkhead will be used. A containment/bulkhead will be used when cleaning or lubrication bearings located less than 12 inches from the edge of the structure. Dirt and old lubricant are collected and disposed of properly.

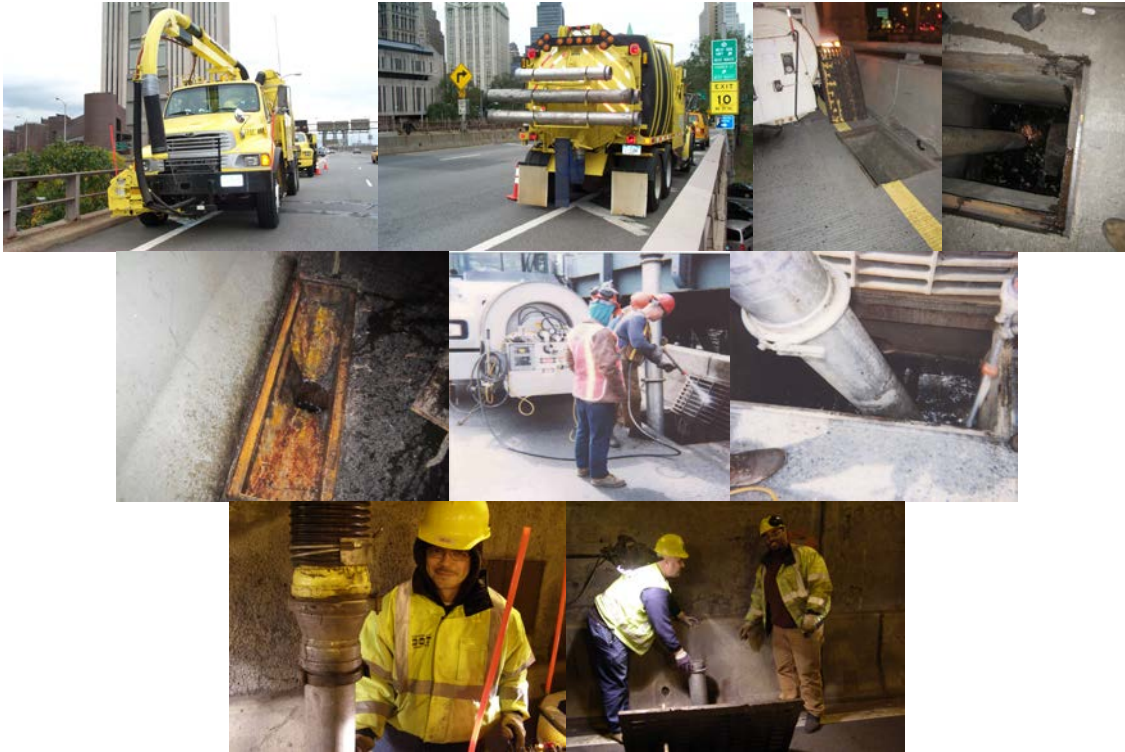
**Debris Removal** Removal of spilled trash; removal of rocks, wood, plastic or metal objects, tires, mufflers, wheel covers, and other traffic droppings; removal of paper products, bottles, cans, accumulated dirt and other trash. Debris removal is also required for walkways and plazas. For movable bridges and bridges over water, the protective fender systems need to be cleared of debris. The removal of debris from bridges is an important and critical component of maintenance. Debris can cause safety and hazard conditions. In addition, debris traps moisture and salts on the structure and prevents proper drainage.



Manhattan Bridge Tower After Debris Removal. (Credit: Peter Basich) 161<sup>st</sup> Street Pedestrian Bridge Over Major Deegan Expressway. Assistant City Highway Repairer Lashawn Elam and Highway Repairer Anita Ramos Removing Vegetation and Other Debris.

**Cleaning of Drainage System** Removal of debris, dirt and vegetation from drainage systems, including gutter gratings, gutters and leaders, scuppers, down spouts and scupper piping systems. The cleaning of surface gratings and gutters requires hand tools, brooms and brushes. In some cases, an air compressor might be needed to blow out some gutters. Cleaning the scuppers and scupper piping systems requires specialized equipment.

## ***COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM***



Drain Truck on Brooklyn Bridge Ramp. (Credit: Peter Basich) Drain Cleaning on the Williamsburg Bridge in September 2011. (Credit: Shaikh Islam) Cleaning Catch Basins on the Manhattan Bridge. Drain Crew: Highway Repairer Anthony Irizarry, Supervisor Highway repairer Michael Parise, and Assistant City Highway Repairer Giavonni Caballero. (Crew Credit: James Campbell)

### **Cleaning of Expansion Joints**

Removal of debris and dirt from the troughs using compressed air or water; and cleaning and resealing of the joints. Performed on all bridges. Expansion joints are located at the surface level where they are subjected to impact and vibration and are exposed not only to the elements such as water, dust, grit, ultra-violet rays and ozone, but also to the effect of chemicals such as salt solutions, cement alkalis and petroleum derivatives. In addition to regular lubrication of moving parts, penetration of water, silt and grit must be effectively prevented or provision made for their removal.



Manhattan Bridge Expansion Joint Cleaning in 2008: Supervisor Highway Repairer Thomas Cruz, Assistant City Highway Repairer Antonio Asaro, Highway Repairer Louie Dumeng, and Oiler Stanley Karolewicz. Assistant City Highway Repairers Jonathan Adorno and Antonio Asaro, Oilers Stanley Karolewicz and Ronald Grady. (Credit: Thomas Whitehouse)



Expansion Joint Cleaning on the Williamsburg Bridge in September 2011. (Credit: Shaikh Islam)

## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM

### Cleaning of Open Grating Decks

Removal of debris and dirt from open-grating decks and washing with high-pressure water jets.

Removal of debris and dirt from open-grating decks and washing with high-pressure water jets.

### Sweeping

Sweeping each bridge with a mechanical sweeper along each curb.

Sweeping each bridge with a mechanical sweeper along each curb.



Mechanical Sweeper – Side and Rear Views. (Credit: Peter Basich)

### Washing of Decks and Salt Splash Zones

Washing of decks and salt splash zones to remove remnants of de-icing salts; use of compressed air and water jets to clean tight corners.

Washing of decks and salt splash zones to remove remnants of de-icing salts; use of compressed air and water jets to clean tight corners.



Washing the Williamsburg Bridge in July 2011 and the Ed Koch Queensboro Bridge in August 2011.

## Roadway Surface Maintenance

### Crack Sealing in Pavement and Curbline Sealing

Cleaning of cracks and filling them with sealant; sealing with mastic material along the curb line to prevent water leakage onto bridge components. This maintenance function is sensitive to weather conditions.

Cleaning of cracks and filling them with sealant; sealing with mastic material along the curb line to prevent water leakage onto bridge components. This maintenance function is sensitive to weather conditions.

### Repair of Sidewalks and Curbs

Sidewalk repair to restore sidewalk to original condition. Curb repair to be undertaken along with this task.

Sidewalk repair to restore sidewalk to original condition. Curb repair to be undertaken along with this task.



Sidewalk Repairs in August 2010 at Houston Street Bridge over the FDR Drive: Tractor Operator Robert Noordzy (in Tractor), Bricklayer Vincent Sciulla, Cement Masons Frank Finizio and Victor Porowski, and Bricklayer Luigi Cuffari. Bridge Repairer and Riveter Brook Budd and Bricklayer Luigi Cuffari. Tractor Operator Noordzy (in Tractor), Cement Masons Frank Finizio (Foreground) and Victor Porowski (Background), and Bricklayer Vincent Sciulla. Bricklayer Vincent Sciulla, Bridge Repairer and Riveters James Philip and Brook Budd, Bricklayer Luigi Cuffari, Tractor Operator Robert Noordzy, Supervisor Bricklayer Edward Alfano, and Cement Masons Frank Finizio and Victor Porowski. (Credit: Russell Holcomb)

## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM

### Replacement of Wearing Surfaces

Removal of old wearing surface; preparation of exposed concrete slab or steel plate; installation of new wearing surface. The wearing surface is a two-inch course of bituminous concrete. Also includes minor deck repair, cleaning and waterproofing of deck.



Removing the Old Micro-Surfacing on the In-Bound Brooklyn Bridge. Shot Blasting for Surface Preparation. Cleaning the Roadway Surface. (Credit: Fouad Althaibani, Emad Shaker, and Sunil Desai) 2008: Covering all the Drainage Systems Before Applying the Micro-Surfacing on the In-Bound Brooklyn Bridge. Applying the Tack Coat for the Micro-Surfacing. Applying the New Micro-Surfacing Materials. (Credit: Fouad Althaibani, Emad Shaker, and Sunil Desai)



Resurfacing the Belt Parkway Bridge over Mill Basin on August 3, 2009. The Crew Completed a 13'x29' Cut in the Eastbound Center Lane, West Approach Spans. The Area Exhibited Rutting, Cracking and Excessive Patching. Breakout and Removal of Deteriorated Wearing Surface. Ironworker Assisting the Crew. Installation of New Asphalt. (Credit: Yousef Demis) Compacting the Asphalt With the Assistance of a Gasoline Roller Engineer From the Roadway Repair and Maintenance Division. (Credit: Ali Mozaffari)



Repaving the Williamsburg Bridge in 2011.

### Electrical and Mechanical Component Maintenance of the 4 East River Bridges and 25 Movable Bridges

#### Maintenance of Electrical Devices

Checking and servicing electrical systems such as travelers, relays, auxiliary contacts, meters, overload relays, time delay relays, span and tail locks, brake systems, transmitters, transformers, fuses, wiring, resistors, etc. Also includes checking interior anchorage lighting, caution lighting, navigation lighting, and necklace lighting. During inspection, the travelers of the East River Bridges are operated to ensure proper calibration of electric motors. If motors are not calibrated properly, the travelers may rotate and jam along their guides. Many of the movable bridges are very old and replacement parts are difficult to find or may not be available any longer. When necessary, Division personnel fabricate machine parts such as shafts, and brake and warning gate components. In addition to inspection of systems, the electrical technicians replace poor condition components with electric systems before corrective maintenance is required. This preventive maintenance strategy avoids disruption of bridge service to motorists. This is important, because once corrective maintenance is necessary, it may require the bridge to be out of service for lengthy periods.

## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM



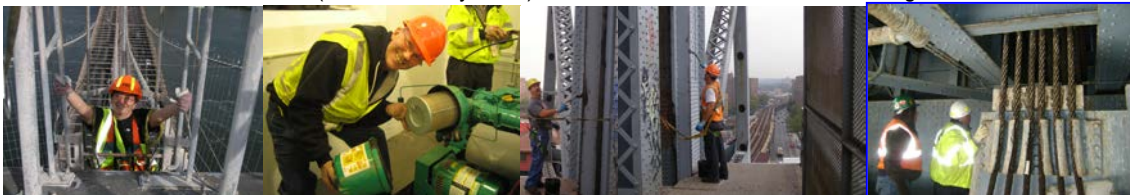
Construction Project Manager Gholamali Mozaffari, and Electricians Nelson Crooks and Gary Emmanuel Fixing Machinery in the Ninth Street Bridge Operator House in April 2008. (Credit: Vera Ovetskaya) Repairing the Navigation Lighting on the Hunterspoint Bridge. On the Bridge: Oilers Carl Wharton, Richard Morreale, and Paul Califano, Mozaffari Ali, Electrician Naum Golburt, and Highway Repairers Manny Nardiello and Kevin Donahue. In the Snooper Bucket: Harry Parmaman and Supervisor Electrician Jose Done. (Credit: Samuel Teaw)

**Maintenance of Mechanical Components** Cleaning and lubrication of all movable parts and bridge cables for the four East River Bridges and the twenty-five movable bridges. Cleaning and lubrication of travelers; cleaning, wedging and oiling of the main cable strands and eyebars; cleaning of truss bearings; cleaning and lubricating air and fire line valves. Cleaning and lubrication is required to keep components from corroding and becoming immobile. Allowing components to seize could cause operating failure and introduce unsafe structural stresses.



Repairing the Brooklyn Bridge Standpipe System, 130 Feet Below the Roadway. Maintenance Crew Conducting the Annual Cleaning and Lubrication of the Solid Rod Suspenders Spherical Bearings on the Brooklyn Bridge.

2<sup>nd</sup> Photo - Oilers Steven Marxhausen, Rene Francis, Richard Morreale, Thomas McAuliffe, and Andrew Sorrentino. (Credit: Anatoly Orlov) Oiler T. McAuliffe at the 9<sup>th</sup> Street Bridge



Oiler Tom Strommen Maintaining the Hydraulic Power Unit at the Hamilton Avenue Bridge in February 2010. (Credit: Vera Ovetskaya) Cleaning and Lubricating the Broadway Bridge. (Credit: Reza Taheri) Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse (Wearing Yellow Jacket) Inspecting the Broadway Bridge Machinery Room and Instructing the Contractor. (Credit: Albert Hong) Assistant Mechanical Engineer Vera Ovetskaya Climbing to the Brooklyn Bridge Tower in 2008. (Credit: Gennadiy Kaplun)

### Steel Protection – Painting\*\*

**Total Paint Removal and Repainting** Constructing negative pressure containment (Class 1A); washing and surface blasting to commercial-blast or near-white metal condition (Society for Protective Coating SP-6 or SP-10); constructing Class 3P containment; power tool cleaning to bare metal condition (Society for Protective Coating SP-11 or SP-15); lead monitoring and disposal; applying lead-free paint; primer, intermediate coat and top coat. Surface preparation is accomplished by abrasive blasting. The containment materials include tarps, plywood, scaffolding, and cables. Equipment includes blasting machines, needle guns, spray pumps, compressors, dust collectors, filters, and ductwork.

## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM

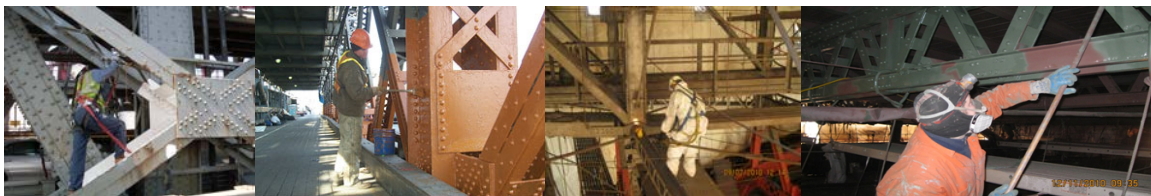


Assembly of Containment System at Franklin Square – in July and September 2010. Brooklyn Bridge Side Span Containment System – in November 2010.

The Division treats all lead paint waste as hazardous waste, and stores and disposes of it according to the Resource Conservation and Recovery Act (RCRA). Waste is stored in approved leak-proof drums and containers which are, in turn stored temporarily in a fenced, secured area on-site until they are transferred to a disposal/recycling facility.

**Full-Steel (Overcoating)** Overcoating of the entire bridge. Solvent cleaning and cleaning of steel surfaces in areas with deteriorated paint is conducted using approved environmentally safe paint removal techniques, and either power tools, hand tools or combination hand/power tools. Power tool cleaning is performed in a Class 3P containment, and hand tool cleaning in a Class 4 containment. Combination hand/power tool cleaning is performed in a Class 3P containment. A localized primer coat and a single finish coat are then applied by brush, roller, or spray over the entire bridge.

**Salt Splash/Spot Painting** This is a new process that combines salt splash with spot painting. It involves preparation of the area to be painted by power wash, using clean water or steam. Solvent cleaning is done in locations where oil and grease need to be removed from the steel surface. Areas to be power washed and painted are: the superstructure (up to six feet upwards from the deck), the underdeck steel (up to three feet from each side of the center line of the expansion joints), and the outside of the bridge's steel faces. In addition to these painted areas, we now perform localized surface preparation and painting of any deteriorated locations as mentioned in our spot painting definition above. After power washing, hand and power tools are used in areas that have started to show deterioration from accumulated de-icing agents. Power tool cleaning is performed in a Class 3P containment, and hand tool cleaning in a Class 4 containment. Combination hand/power tool cleaning is performed in a Class 3P containment. A spot primer coat and finish coat are then applied by brush or roller. Occasionally, when there is no danger of overspray, spray painting may be performed.



Williamsburg Bridge in June 2010: Application of Finish Coat at North Truss Diagonal. Salt Splash Painting on the Williamsburg Bridge. (Salt Splash Credit: Fouad Althaibani). Inspection of Blasting Surfaces Inside the Franklin Square Arch Containment in September 2010. Brooklyn Bridge Main Span Painting in December 2010.

## ***COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM***

<b>TASK</b>	<b>IMPACT*</b>
Debris Removal	6.1%
Sweeping	5.3%
Clean Abutments & Piers	8.1%
Clean Open Grating	7.0%
Clean Expansion Joints	9.1%
Wash Deck & Splash Zones	5.1%
Paint	4.2%

<b>TASK</b>	<b>IMPACT*</b>
Spot Paint	3.7%
Drain Cleaning	10.6%
Sidewalk & Curb Repair	2.5%
Pavement & Crack Sealing	12.2%
Wash Underside	15.9%
Mechanical Device Maintenance	6.7%
Replace Wearing Surface	3.5%

\*IMPACT ON BRIDGE RATING



Cleaning the Brooklyn Bridge Brooklyn Anchorage in July 2007. (Credit: Serag Saad) During Fall Protection Training in August 2010, Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse Was Hoisted in the Air While Wearing a Full Body Harness - Demonstrating How to Deploy and Use the Foot Stand to Prevent Orthostatic Intolerance (Commonly Referred to as Suspension Trauma), Which Can be Fatal if Not Prevented. (Credit: Gean Pilipiak) Bridge Repairer and Riveter James Philip Using a Track-Mounted Torch to Bevel the Edge of a Steel Plate in September 2012. (Credit: Thomas Whitehouse)

\*Consortium of Civil Engineering Departments of New York City Colleges and Universities. *Preventive Maintenance Management System For New York City Bridges: Update 1998. Technical Report No. 98-1. 1999.* \*\*Descriptions modified in November 2003.

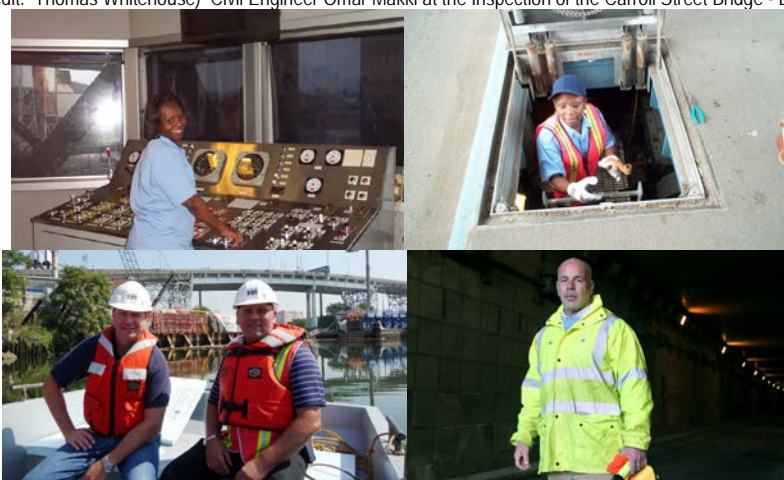
## ***MAINTENANCE PERSONNEL RESOURCES IN 2013***

Preventive maintenance, corrective repair, flag repair, and painting work on the bridges and other structures within the City is performed by mechanics and supervisors in a variety of trades. The bridge operators provide safe and expedient passage to all marine and vehicular traffic under and on movable bridges. A breakdown of this work force by trade is:

	SUPERVISORS	MECHANICS
BRICKLAYERS	1	3
BRIDGE OPERATORS	20	63
BRIDGE PAINTERS	7	22
BRIDGE REPAIRERS/RIVETERS	4	41
CARPENTERS	3	14
CEMENT MASONS	-	8
ELECTRICIANS (INCLUDES HELPERS)	5	21
HIGHWAY REPAIRERS (INCLUDES ASSISTANTS & SEASONAL WORKERS)	23	66
MACHINISTS	-	1
MOTOR GRADER OPERATORS	-	1
OILERS	-	17
TRACTOR OPERATORS	-	1
<b>TOTALS</b>	<b>63 SUPERVISORS</b>	<b>258 MECHANICS</b>



Bridge Operator Mary Harrigan at the Union Street Bridge. (Credit: Adal Maldonado) Bridge Repairer Riveter Damian Venezia Squeezing Between the Girders to Access a Floor Beam That Needed to be Reinforced on the Ed Koch Queensboro Bridge – August 2010. (Credit: Hany Soliman) Carpenters John Horgan and Ruben Urena, and Assistant Civil Engineer Fouad Althaibani Repairing the PS-5 Bridge in November 2011. (Credit: Thomas Whitehouse) Civil Engineer Omar Makki at the Inspection of the Carroll Street Bridge - December 2010.



Bridge Operator-in-Charge Delonda Bates-Pinkney at the Controls of the 9th Street Bridge. She has worked for the Department since 1989. (Credit: Keith Burrowes) BOIC Bates-Pinkney Preparing to Check the Bridge's Mechanisms. (Credit: Vera Ovetskaya) Administrative Engineer John Kurre and Assistant Civil Engineer Sergey Parayev Preparing to Inspect the Borden Avenue Bridge Project Site in September 2010. Administrative Superintendent of Bridge Operations George Kern inspecting the Battery Park Underpass after Hurricane Sandy. (Credit: Alexander Engel)

Revised 8/26/13

## ***MAINTENANCE PERSONNEL RESOURCES IN 1900***


A breakdown of the Department of Bridges work force by trade in 1900:

	SUPERVISORS	MECHANICS
AXEMAN		8
BLACKSMITH	1	2
BOILERMAKER		1
BRICK MASON	1	4
BRIDGE TENDER	15	137
CARPENTER	1	23
DOCKBUILDER		1
DRIVER		11
FIREMAN		18
FITTER		3
GATEMAN		7
INSPECTOR (INCLUDING STEEL)		10
LABORER (INCLUDES HELPERS)	7	111
LEVELER		4
LINEMAN		3
MACHINIST (INCLUDING HELPERS)		13
MASONRY INSPECTOR		7
MECHANIC	1	2
PAINTER	1	16
RIGGER		11
RIVETER	1	6
RODMAN		4
SHIP CARPENTER		4
SOUNDER		4
STABLEHAND		3
STEAM ENGINEER (INCLUDES DYNAMO)		15
STONE CUTTER/STONE MASON	1	2
SUPERINTENDENT ELECTRIC LIGHT	1	
SUPERVISOR (INCLUDES ASSTS)	12	
TOOLMAN		2
TRANSITMAN		7
TRIMMER		2
<b>TOTALS</b>	<b>42 SUPERVISORS</b>	<b>441 MECHANICS</b>



Willis Avenue Bridge Curbing and Road Repair in the Early 1920's. Gateman J. J. McDonough (on left), Great-Grandfather of Retired Deputy Chief Engineer Russell Holcomb

## BRIDGE INSPECTION EQUIPMENT LIST

Inspector Equipment	Inspection Team Equipment	Inspection Van Equipment
Boots-Knee High Dust Masks (Disposable) Safety Goggles Hard Hat With Liner Rain Hat & Jacket Work Gloves Long Cuff Work Gloves Unlined & Unlined Spring/Winter Jackets Work Boots & Overalls  Chipping Hammer Clip Boards Deceleration Lanyards Flashlight (2 "D" Cell)  Safety Vest Level 9" (Magnetic) Tool Bags (24") Class III Body Harness Lanyards Bridge Inspection Manual (New York State) Technical Advisories For Inspection Manual  Emergency Procedure Instructions  OSHA Approved Respirator & Filters Belt With Two Drop Forged D-Rings Hard Hat Flashlight	5 Boro Map Binoculars Broom Digital Camera Camera Card Reader Hand Compass Screwdriver Set (Regular & Phillips) Dye Penetrant Kit Rotational Distance Meter  Lantern D-Meter With Test Block Marking Paint Spray Retract Survey Rod 25' Portable Laser Distance Meter Handheld Computer Thermometer Spray Penetrating Oil Cell Phone/Radio Vernier Calipers Wrenches 12" Tool Pouch  Lumber Crayons  Spray Paint Awl Calipers Hacksaw Hacksaw Blades (Extra) Paint Scraper Inspection Mirror Level 24" Pliers 8", Vinyl Coated Plumb Bob Pocket Knife Ruler 25' or 30' (Metal) Ruler 100' (Fiberglass) Scraper Blades (Extra) Wire Brush Folding Ruler 8'  Rope 5/8" With 100' Coil Digital Angle Gauge	Tool Chest Clip Boards Flashlight (3 "D" Cell) Fire Extinguisher & First Aid Kit 3 Safety Flags Step Ladder 6' or 8' Traffic Regulation Barrels 10 Traffic Cones  <b>Special Equipment for Inspection of Bridges Over Railroads</b>  Third Rail Insulating Mat  <b>Put In Trucks By Highway Repairers When Needed</b>  Generator  Oil For Generator Extension Ladder 32' Extension Ladder 24' Extension Ladder 16' Shovel Push Broom Dust Pan & Sweep Broom  Bottled Water  Bolt Cutter Flood Lights Approved Safety Gasoline Can Sledge Hammer (8 lbs.) Extension Cord Winder
 <p>Team Leader Thirugnanam Mohan Inspecting City Island Bridge. (Credit: Bojidar Yanev). Diver Checking Steel Sheet piling at the Fresh Creek Cofferdam Pier 2 in June 2012.</p>		 <p>Ed Koch - Queensboro Bridge Biennial Inspection in October 2012 - Tower 1, Looking West.</p>

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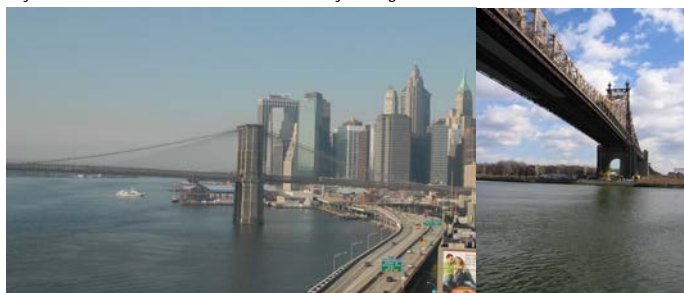
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Brooklyn Bridge in 2009. (Credit: Jagtar Khinda)

Ed Koch Queensboro Bridge in 2006. (Credit: Russell Holcomb)

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Ed Koch Queensboro Bridge in 2009. (Credit: Bernard Ente) The Manhattan Bridge Brooklyn Plaza in 1916: The Statues Represent Manhattan and Brooklyn. Manhattan Bridge in 2009. (Credit: Bernard Ente) Brooklyn Bridge Flag in June 2011.

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Assistant Mechanical Engineer Vera Ovetskaya. Harlem River Bridges Engineer Reza Taheri. (Credit: Peter Basich) Brooklyn Bridge Engineer-in-Charge Ohene Duodu. Mechanical Engineering Intern Christopher Brathwaite Assisting in Strain Gauge Balance Testing on Unionport Bridge in October 2010.



Associate Project Manager Richard Solomon. Component Rehabilitation Engineer Malgorzata Banka. Assistant Civil Engineer Andrew Hoang. (Credit: Peter Basich) Civil Engineer Tiffany Wong on the Brooklyn Bridge Traveler. (Credit: Andrew Hoang)

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## SUGGESTED READING



Assistant Civil Engineer Elena Maressova, Associate Project Manager Mariya Zhurakhinskaya, Assistant Civil Engineer Ajda Ozyurt, Project Manager Tamara Berlyavsky, Construction Project Manager Beatriz Duran, Assistant Mechanical Engineer Nancy Guernsey, . (Credit: Kamran Sikandar), Computer Associate (Software) Laurie Oberson. (Credit: Michele N. Vulcan) Associate Staff Analyst Barbara Pedersen.

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Manhattan Bridge Plaque Detail. (Credit: Peter Basich)

Revised 1/16/14

## In Memoriam

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The 2013 edition of the New York City Bridges And Tunnels Annual Condition Report is dedicated to the memory of the following employee, whose wisdom and dedication to his work will be sorely missed. His passing reminds us that the people of the Division of Bridges are the strength of the Agency, providing a tradition of quality service to the public.

### **Francis C. Cataldi, Cement Mason**

December 3, 1964 - April 3, 2013

6 years, 2 months City service

Mr. Cataldi worked as a cement mason for the East River Bridge Repair Unit. He was an accomplished mason who demonstrated great leadership qualities. In his short time in the Division, Mr. Cataldi made a major impact on his co-workers and his supervisor. He had a unique ability to fit into the crew. He came to work with a great attitude and he loved to work on the bridges of New York City, especially the Brooklyn Bridge. His smile and friendly greeting will remain fixed in our hearts and minds forever.



Francis C. Cataldi



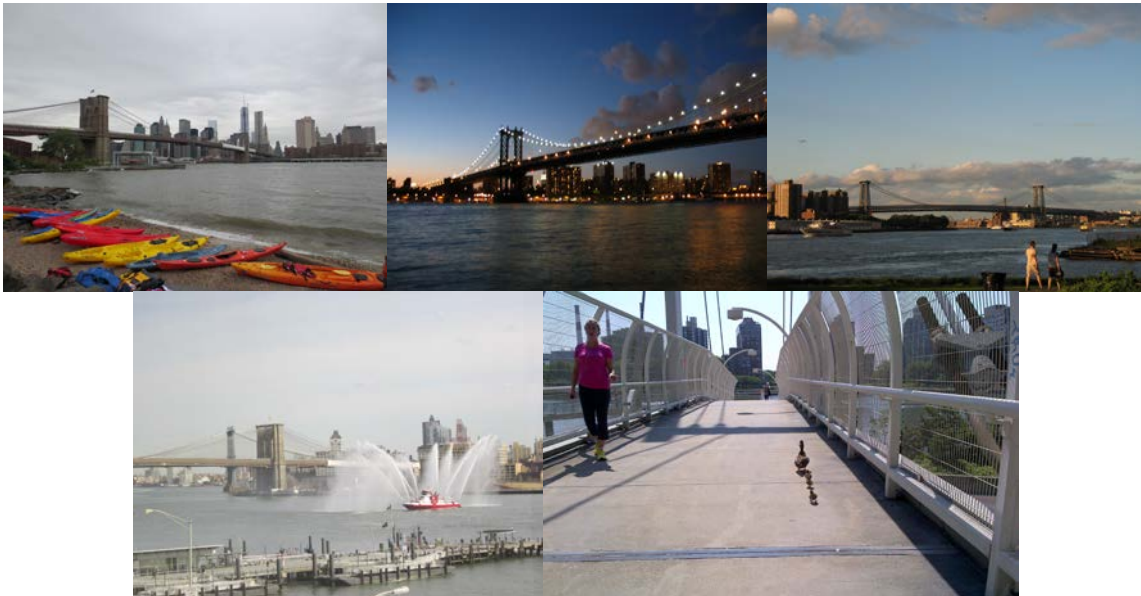
## 2013 INVENTORY LOCATION MAPS

On these maps, all Community Boards consist of three (3) digits. The first digit is for map plotting purposes. The next two digits identify the Community Board. In cases of certain parks and airports, the Community Board number does not correspond with any Community Board. These exceptions are:

<b>Bronx</b>	26=Van Cortlandt Park	<b>Brooklyn</b>	55=Prospect Park
	27=Bronx Park		56=Gateway Nat'l Rec. Area/Floyd Bennett Field
	28=Pelham Bay Park	<b>Queens</b>	80=La Guardia Airport
<b>Manhattan</b>	64= Central Park		81=Alley Pond Park
			82=Cunningham Park
			83=JFK Airport
			84= Gateway Nat'l Rec. Area/Fort Tilden-Jacob Riis Park

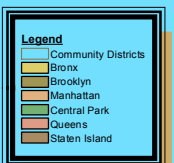
The Community Board listings correspond to those listed in the inventory, which begins on page 179.

Some structures fall on Community Board dividing lines: their additional Community Boards are identified in the inventory in columns CD2 and CD3.

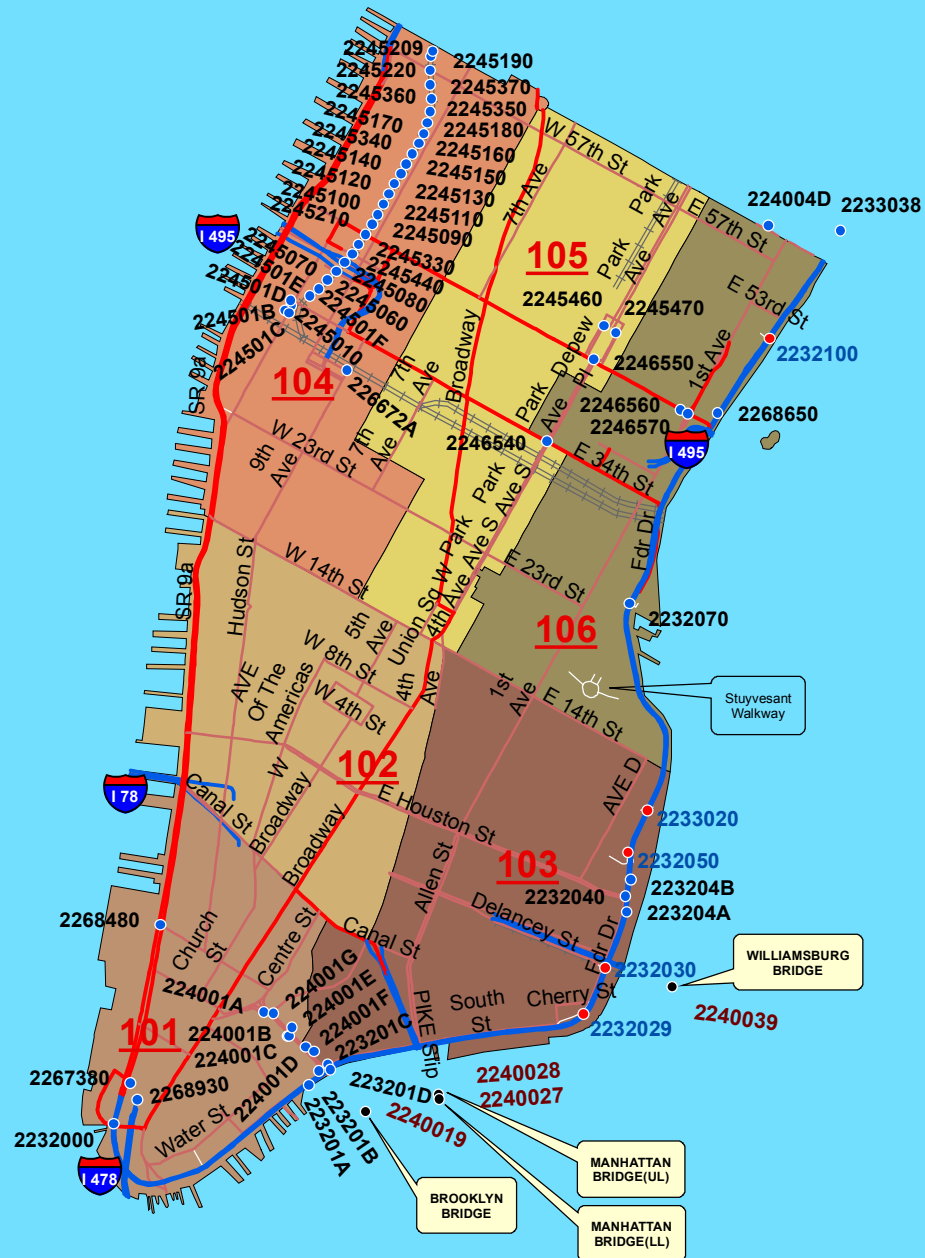


DUMBO Cove and Brooklyn Bridge in July 2013. (Credit: Russell Holcomb) Manhattan and Williamsburg Bridges. FDNY Boat Test Near the Brooklyn Bridge in March 2012. (Credit: Michele N. Vulcan) Duck Family Crossing the East 64<sup>th</sup> Street Pedestrian Bridge over the FDR Drive in June 2013. (Credit: Paul Schwartz)

# ALL BOROUGHES



# DOWNTOWN MANHATTAN



# MIDTOWN MANHATTAN



0 0.125 0.25 0.5 0.75 1  
Miles

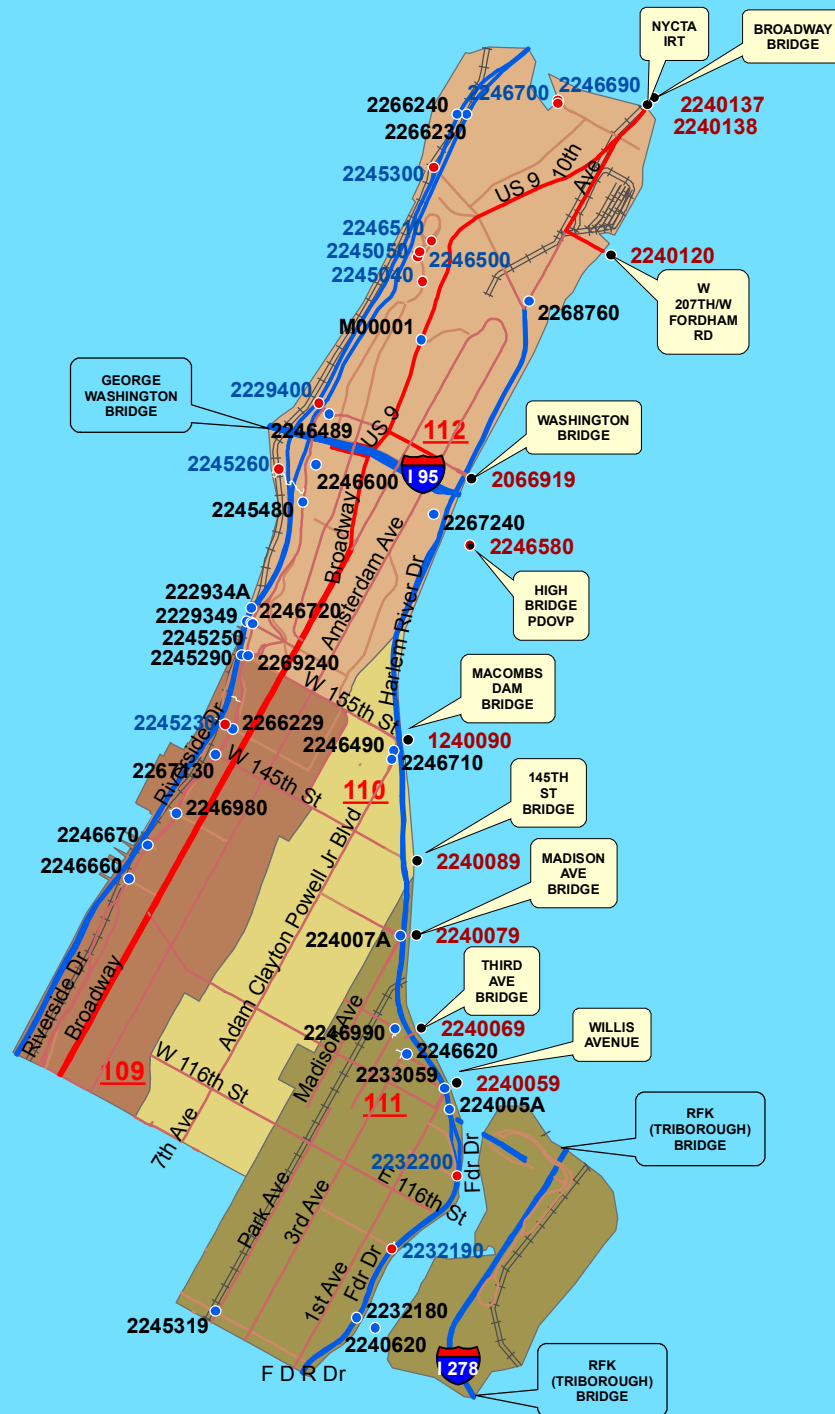
**Legend**

- Bridges in Parks
- Manhattan/Queens Bridges
- DOT Bridges
- Primary Limited Access
- Primary US & State Highways
- Secondary State & County
- Freeway Ramp
- Other Ramp
- Local, Neighborhood, Rural
- Cul-de-sac, Traffic Circle
- Pedestrian Way
- Midtown Manhattan Railway Lines

**Community Districts**

107 108 164

# UPTOWN MANHATTAN



**Legend**

- Bridges in Parks
- Bronx/Manhattan Bridges
- DOT Bridges
- Primary Limited Access
- Primary US & State Highways
- Secondary State & County
- Local, Neighborhood, Rural
- Pedestrian Way
- Uptown Manhattan Railway Lines

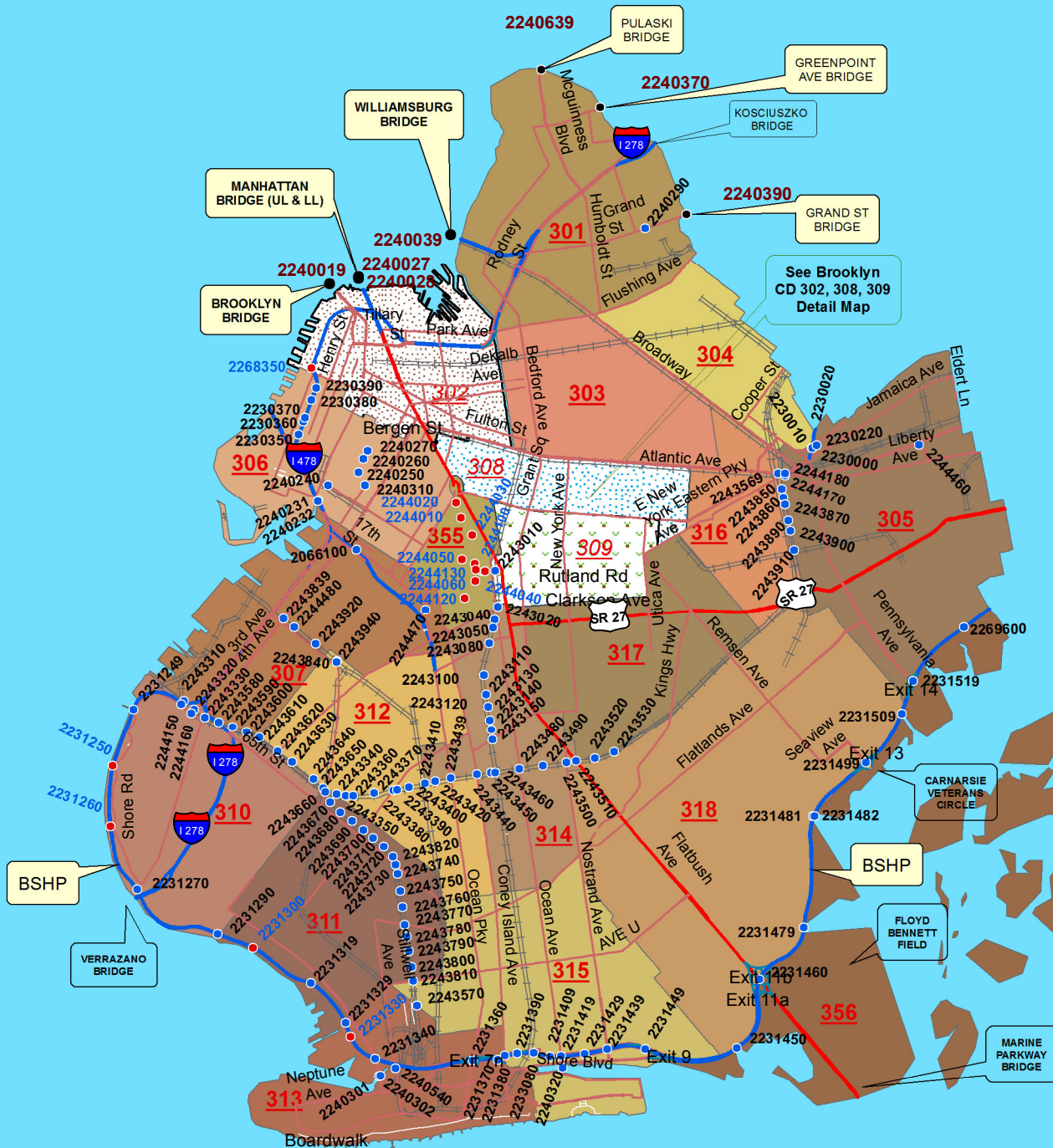
**Community Districts**

- 109
- 110
- 111
- 112

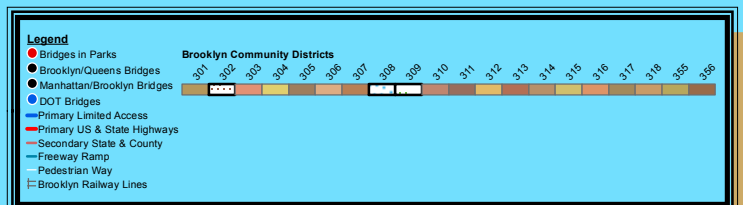
# BRONX



# BROOKLYN



0 0.42 0.85 1.7 2.55 3.4 Miles

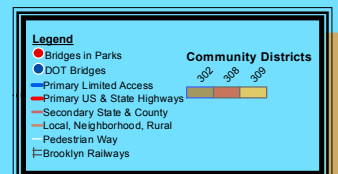


# BROOKLYN

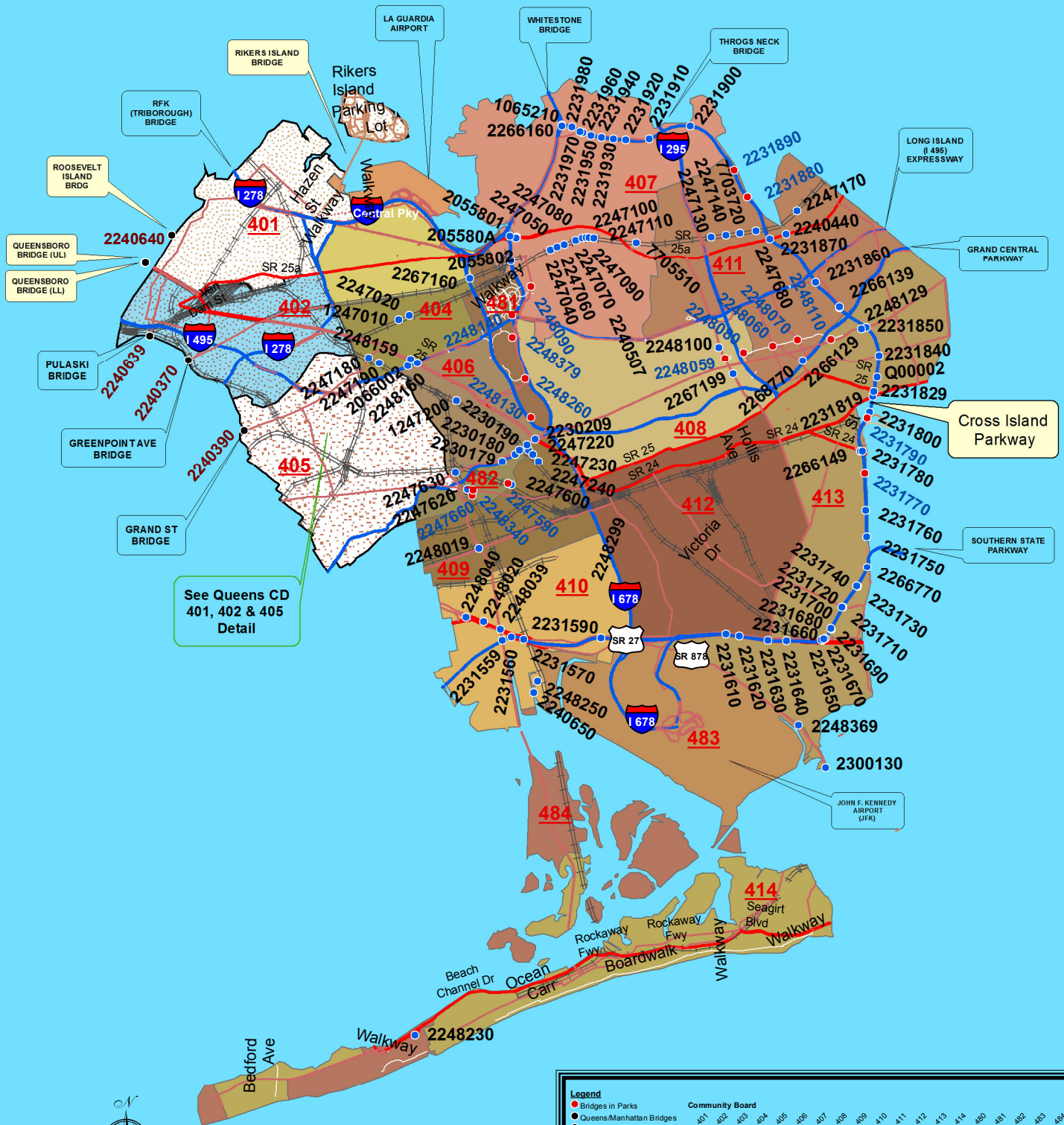
## CD 302, 308, 309 DETAIL



0 0.15 0.3 0.6 0.9 1.2  
Miles



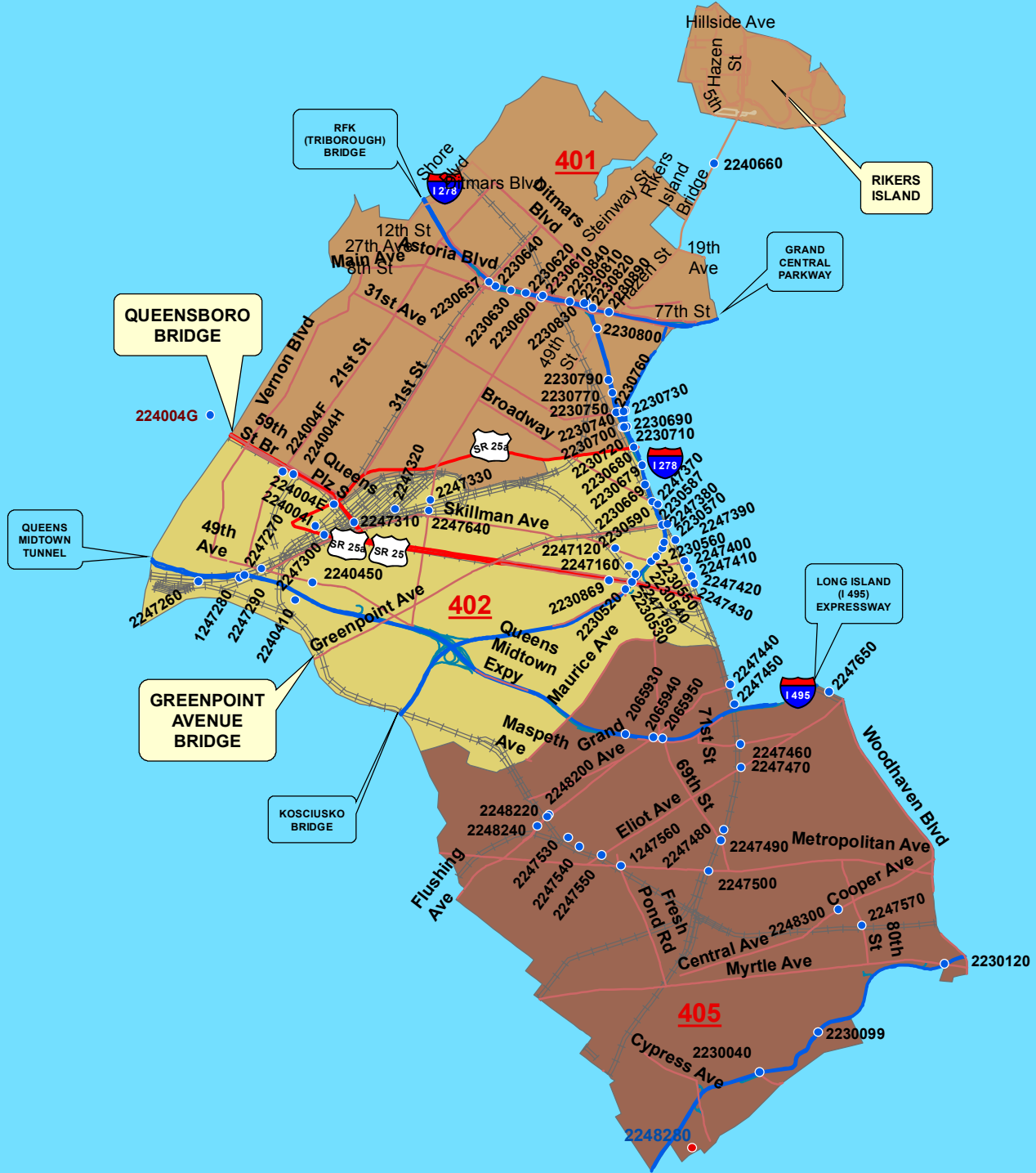
# QUEENS



0 0.5 1 2 3 4  
Miles

# QUEENS

## CD 401, 402, 405 DETAIL



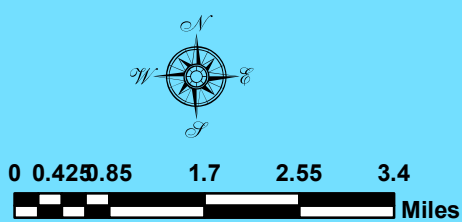
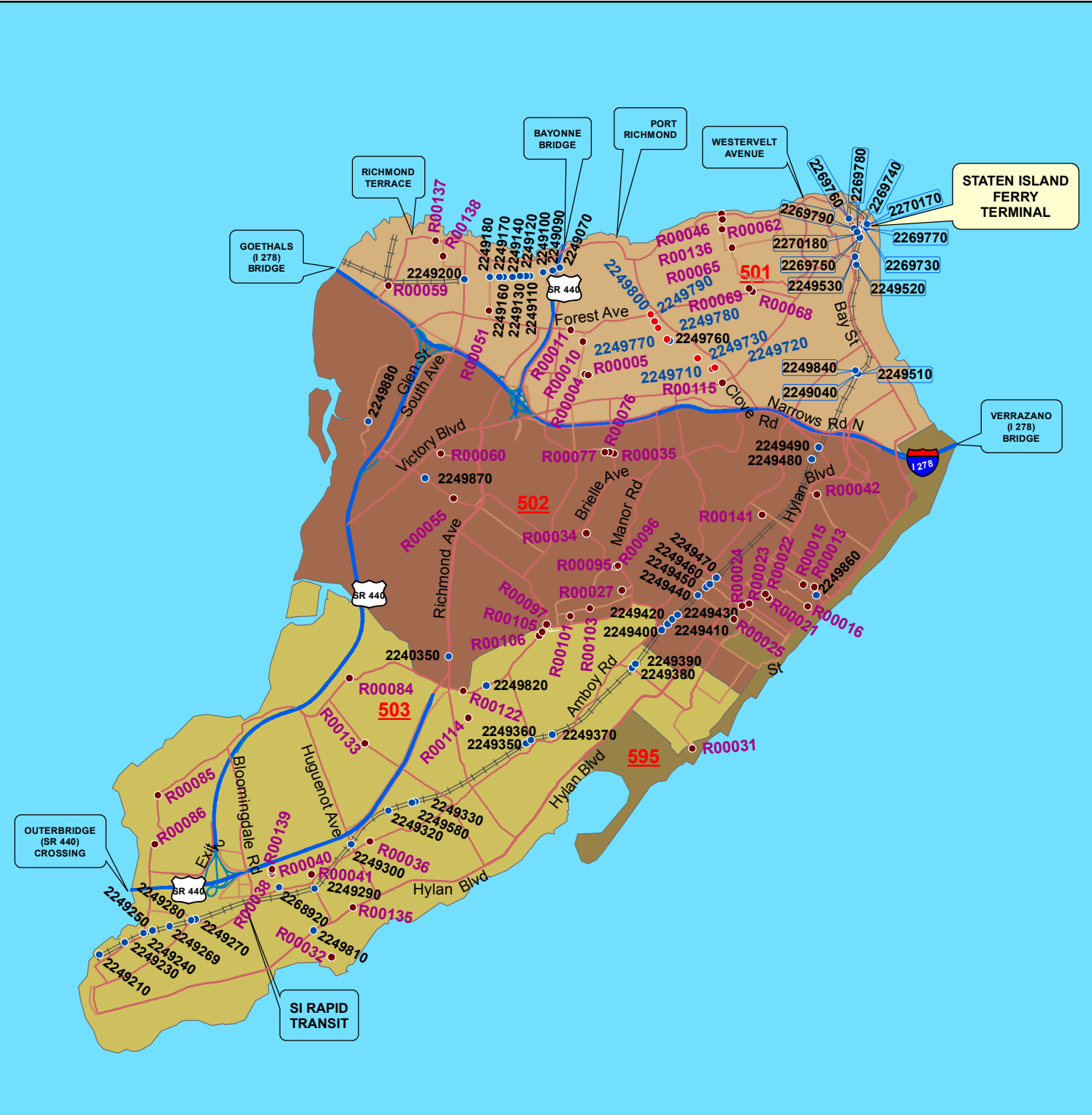
**Legend**

- Bridges in Parks
- DOT Bridges
- Primary Limited Access
- Primary US & State Highways
- Secondary State & County
- Freeway Ramp
- Local, Neighborhood, Rural
- Other minor access roads
- Pedestrian Way
- Queens Railway Lines

**Community Boards**

401 402 405

## STATEN ISLAND



- 
- Legend**
- Bridges in Parks
  - Culverts
  - DOT Bridges
  - Primary Limited Access
  - Primary US & State Highways
  - Secondary State & County
  - Freeway Ramp
  - Other Ramp
  - Local, Neighborhood, Rural
  - Pedestrian Way
  - Staten Island Railway Line
- Community Districts**
- 501 502 503 505

