

# NYCDOT Bridges & Tunnels Annual Condition Report 2010



**NEW YORK CITY DEPARTMENT OF TRANSPORTATION  
DIVISION OF BRIDGES  
2010 BRIDGES AND TUNNELS ANNUAL CONDITION REPORT**



Work Platforms for Cable Rewrapping on Cable C of the Manhattan Bridge and Painting Containment and Shielding on the Brooklyn Bridge in August 2010.  
(Credit: Bojidar Yanev)

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### Cover Photograph

New Willis Avenue Bridge Swing Span Passing Under the Queensboro Bridge on July 26, 2010.  
(Credit: Judith Berdy - Roosevelt Island Historical Society)

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## A Message from the Commissioner

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Dear Friends,

On behalf of the many dedicated professionals who staff the Division of Bridges, it is my pleasure to present the 2010 Edition of the New York City Department of Transportation's Annual Bridges and Tunnels Condition Report, as mandated under New York City's Charter. This report provides DOT with an opportunity to display the many achievements, innovations and improvements that were realized by the Division of Bridges during the 2010 calendar year.

The City's bridges are safe and in their best condition in generations. Our bridges are extremely well managed, they are being rebuilt and upgraded by experts and are subject to one of the strongest inspection systems in the United States. We have a very strong bridge capital investment program, which has turned overall City bridge conditions around and will continue to bring more bridges into good repair. DOT has been an early adopter of high-tech bridge monitoring equipment and techniques, and DOT's Division of Bridges is now further enhancing its inspection capabilities with additional technology and expertise.

The Division of Bridges includes 741 DOT employees who manage the City's capital bridge program and conduct bridge inspections, monitoring and maintenance. Our bridges include, among many others, the notable East River and Harlem River Bridges, the Belt Parkway Bridges, and pedestrian bridges and elevated roadways located City-wide.

In the summer of 2010, the Division replaced the 109-year-old Willis Avenue Bridge. Replacing the bridge meant more than just the replacement of the bridge span itself. DOT took the opportunity to fix alignment problems on the Manhattan side of the bridge, eliminate the open grating deck, and create a direct connection to the northbound Major Deegan Expressway in the Bronx. The new bridge features wider travel lanes with shoulders and a broader, combined pedestrian and bicycle path on the north side. The bridge was also built to withstand earthquakes and is expected to have a lifespan of over 100 years. Traffic began flowing across it on October 2. Work will continue on the remaining parts of the new bridge for the next two years, during which time the removal of the existing bridge will be completed, the adjoining roadways will be restored, and the remaining parts of the existing bridge will be removed.

The \$175 million rehabilitation of the Staten Island Ferry Ramps is the largest project in New York City that is fully funded by the American Recovery and Reinvestment Act (ARRA), the stimulus package created by the federal government in 2009. While visible work on the ramps only began in 2010, this is a Design Build project started in the summer of 2009.

Over the next three years, the Division will completely rehabilitate seven access ramps at the St. George Ferry Terminal and demolish and replace the North Ramp, which provides access to parking lots and Richmond County Bank Ballpark. The project includes repairing structural steel and removing ramp decks and repainting steel structures to bring the ageing ramps into a state of good repair. The existing bus gates and canopies will be rehabilitated, brightening the platforms where commuters wait for buses and improving safety and circulation with new walkways separating pedestrians from vehicle traffic. A protected bikeway and bicycle parking facility will improve access for those arriving on two wheels.

The City has been at the forefront of utilizing new technology to assist us in the monitoring of our bridges. In November 2010, a cable research project moved to its final phase as sensors were installed

on Cable D of the Manhattan Bridge. 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 data collection from the instruments in the cable is expected to continue through 2011 and to provide conclusive information about non-invasive technology suitable for monitoring of suspension cables.


Preventive maintenance is essential to preserve the City's multi-billion dollar investment in its bridges. These steel and concrete structures must be protected from the stresses of weather, traffic, deterioration and neglect. In the last year alone, 15,457 square feet of concrete were used to renew sidewalks, curbs, and road decks; some 8,802 cubic yards of debris were removed; 1,853 bridge drains were cleaned; and crews eliminated 4,115,377 square feet of graffiti. DOT crews also eliminated 683 safety flag conditions that presented clear vehicle or pedestrian traffic hazards. Also, in the Department's ongoing attempts to minimize construction disruptions, we consistently used incentive and disincentive clauses in contracts to reward contractors who finish work early and penalize contractors who finish work late.

The Division's proud tradition of design and engineering excellence was recognized with awards from various entities:

- The American Council of Engineering Companies of New York's Gold Award for the reconstruction of the Hamilton Avenue Bridge over the Gowanus Canal.
- *New York Construction Magazine* selected the Brooklyn Bridge renovation project (Contract #6) and the Staten Island Ferry ramp project as two of the top 25 project starts in the Tri-State Region in 2009.
- The Public Design Commission's Design Award for the construction of the East 111<sup>th</sup> Street and West 181<sup>st</sup> Street Pedestrian Bridges.

New York City has a rich tradition of bridge design, construction, maintenance and administration. The Department of Transportation appreciates the importance of its duties and responsibilities, and the Division of Bridges is proud to shoulder the task of maintaining and rehabilitating our city's vital bridge infrastructure.

Sincerely,



Janette Sadik-Khan  
Commissioner

## EXECUTIVE SUMMARY

### Inventory

In calendar year 2010, the inventory of bridges under the jurisdiction of the Division increased to 787. NYCDOT owns, operates, and/or maintains 757 non-movable bridges, 25 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.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Poor</b>	<b>9</b>	<b>8</b>	<b>4</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>4</b>
<b>Fair</b>	459	451	429	456	458	456	459	455	456	462
<b>Good</b>	196	202	209	212	210	210	215	213	209	207
<b>Vgood</b>	<b>88</b>	<b>94</b>	<b>111</b>	<b>116</b>	<b>118</b>	<b>118</b>	<b>111</b>	<b>116</b>	<b>116</b>	<b>113</b>
<b>Closed</b>							1	1	1	1
	<b>752</b>	<b>755</b>	<b>753</b>	<b>*790</b>	<b>790</b>	<b>787</b>	<b>789</b>	<b>788</b>	<b>786</b>	<b>787</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 was rated "Poor." It has since been closed.

<sup>1</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 2010, 96 of the Parks bridges accounted for 20.8% of the "Fair" rated structures.

The City has four bridges that were rated "poor" after their last inspections. 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 they 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. As this document goes to press, three "poor" rated bridges are in construction and the final design phase of the fourth has been suspended until such time as funding is available.

The four City bridges that are rated "poor" include the Bruckner Expressway Bridge Northbound over Amtrak and CSX in the Bronx. The October 4, 2005 fire on the bridge weakened its members. The immediate results of the fire were addressed by in-house forces, and repairs requiring immediate attention were handled by the When and Where contractor. The replacement of the bridge's northbound superstructure and the southbound deck, are being performed under a Design-Build contract. A Notice to Proceed was issued to the contractor with a start date of October 27, 2008. Construction is expected to be complete in September 2011.

The second is a pedestrian bridge at 78<sup>th</sup> Street over the FDR Drive. The columns on this bridge have been shored and there is shielding under the concrete to protect against spalling. A Notice to Proceed for the project was issued to the contractor with a start date of July 12, 2010. The bridge was closed to pedestrians on October 19, 2010. Construction is expected to be complete in August 2011.

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The third bridge is the Hill Drive Bridge (Terrace Bridge) over Prospect Park Lake. Repairs requiring immediate attention are performed by the When and Where contractor. This bridge is closed to vehicular traffic.

The fourth bridge 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 to the bridge are aging and will be 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 clauses are another contract provision used in some reconstruction projects that is 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 spray trucks, six 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 2009-2010, a total of 45,740 gallons of potassium acetate and 133 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



## EXECUTIVE SUMMARY

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 final design is now complete. The construction work is expected to commence in June 2011, and to be complete in March 2015.

### 2010 Awards

In 2010, the outstanding work of the Division was recognized by the receipt of several awards.

In March 2010, the American Council of Engineering Companies of New York selected the reconstruction of the Hamilton Avenue Bridge over the Gowanus Canal for a Gold Award in the structural systems category in its 2010 Engineering Excellence Awards. This project was substantially completed in April 2009.

In June 2010, *New York Construction Magazine* selected the Brooklyn Bridge renovation project (Contract #6) and the Staten Island Ferry ramp project as two of the top 25 project starts in the Tri-State Region in 2009.

In July 2010, the Public Design Commission presented the Department of Design and Construction, the Department of Transportation and the Department of Parks & Recreation with a Design Award for the construction of the East 111<sup>th</sup> Street and West 181<sup>st</sup> Street Pedestrian Bridges – (East 111<sup>th</sup> Street over the FDR Drive and West 181<sup>st</sup> Street over the northbound lanes of Henry Hudson Parkway), in its 28<sup>th</sup> annual Excellence in Design Awards.

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.

## DIVISION OVERVIEW

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 six 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 787 bridges (including 5 tunnels), and 61 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 and 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; it is composed of five 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 787 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, photographs of 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. Flags engineers supervise repair work performed by contractors. The section monitors the status of each flag, and reports on all activities on a monthly basis.

The in-house engineers and skilled trades personnel of the **Bridge Repair Section** perform repairs to address 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-five 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. In addition, this section administers federally funded contracts for the preventive maintenance of the four East River Bridges.

## DIVISION OVERVIEW

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, 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.

**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.

**Bridge and Tunnel Operations** is responsible for operating the 25 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 2010 Bridge Operations effected a total of 5,583 openings, 4,704 of which allowed 8,041 vessels to pass beneath the bridges. The remaining 879 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 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.

## *DIVISION OVERVIEW*

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 **East River and Movable Bridges Bureau** 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 Bureau 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 (E.I.C.'s) 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 **Bureau of Roadway Bridges** 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.

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, and the Yankee Stadium Ferry Access. The unit also reviewed plans for the railing repair at the Van Name Bridge.



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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, Surveying and Load Rating, Records Management, and Special Projects.*

The *Specifications Unit* prepares and reviews 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, prepares and transmits addenda, maintains and updates City bridge construction boiler plates in compliance with federal and NYS engineering bulletins and instructions, and maintains an inventory of all NYC and NYS special specifications used in bridge construction projects. This Unit 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.

The *Surveying and Load Rating Unit* performs the survey, inspection and load rating of bridges, monitoring of cracks and movements in bridge structures and settlement of foundations. This unit also performs corrosion potential testing in all bridge resurfacing projects.

The *Records Management Unit* establishes drafting, microfilming, 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. This unit maintains original plan files, upgrades the records database and converts original drawings into electronic media formats. It also answers requests 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 nine units: *Structural Review, Retaining Wall, 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 (DDC) 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 *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 other, 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

## DIVISION OVERVIEW

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 truck permit applications, performs load rating analyses if required, and reviews load postings for City owned bridges.

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 (ULURP). This unit also reviews Design reports and Environmental Impact Statement (EIS) 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, Roosevelt Island, Belt Parkway Bridge over Paerdegat Basin, Belt Parkway Bridge over Rockaway Parkway, Belt Parkway Bridge over Fresh Creek Basin, 11<sup>th</sup> Avenue Viaduct over LIRR Westside Yard, East 8<sup>th</sup> Street Access Ramp over Belt Parkway, St. George Staten Island Ferry Terminal Ramps, Northbound and Southbound Bruckner Expressway Bridges, emergency reconstruction of the west abutment and wing walls of the Borden Avenue Bridge over Dutch Kills, Annadale Road Bridge, Wards Island Pedestrian Bridge over Harlem River, Greenpoint Avenue Bridge Greenpoint Avenue Bridge over Newton Creek, 149<sup>th</sup> Street Bridge over LIRR, East 78<sup>th</sup> Street Pedestrian Bridge over FDR, and the Shore Road Circle Bridge. In addition, the Section provided services to the Component Rehabilitation Section on an as-needed basis and was actively involved in the approving materials required for the emergency repairs to the FDR Drive.

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.

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

## DIVISION OVERVIEW

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, 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 the generation and disposal of waste water, such as the Willis Avenue and Roosevelt Island bridges. 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 the Willis Avenue Bridge, Roosevelt Island Bridge, Manhattan Bridge, Williamsburg Bridge, Brooklyn Bridge, Wards Island Pedestrian Bridge over Harlem River, Belt Parkway Bridges, and the Borden Avenue Bridge, 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 provided expertise and oversight for the cleanup of the previous significant oil spill discovered during the emergency repair of the Borden Avenue Bridge. Corrective action plans and soil remediation designs were developed and coordinated with NYSDEC to remediate the site and enable the continuation of the bridge repair operations. The site was successfully remediated in accordance with the corrective action plan developed with the NYSDEC. Currently, DOT is coordinating mitigation tasks in Newtown Creek with the NYSDEC to satisfy the permit mitigation requirements.

The **Specialty Engineering and Construction Bureau** is responsible for all **Component Rehabilitation** activities, **Emergency Declarations/Specialty Engineering Services**, **Bridge Painting**, and the **When and Where Unit**.

**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 (E.I.C.'s) 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. In addition, the Component Rehabilitation Unit will be administering a new capital When and Where contract. The When and Where Unit will be responsible for the active construction and daily monitoring and supervision of the contract.

The **Emergency Declarations/Specialty Engineering 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 **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

## DIVISION OVERVIEW

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 **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**.



## DIVISION OVERVIEW

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. The duties of this unit include: overseeing the Division's capital consultant contract procurement from scope to registration; acting as liaison between engineers and the consultant programs unit, handling all engineering questions and answers; preparing status reports; and coordinating Railroad Force Account Agreements for Division construction projects.

*Railroad Force Account Agreements* are a vital component in the rehabilitation/reconstruction program since train traffic affects 326 (41%) 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 OVERVIEW

Division's Ten Year Capital Plan is worth approximately \$3.4 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.

The **Truck Permit Section** issues approximately 1,200 Annual Overweight Load Permits (renewals only), 200 Annual Self-Propelled Crane Permits, approximately 28,000 Daily Oversize/Overdimensional/Supersize Truck Permits annually; and 200 Quarterly 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 January 2010, a Permit Was Issued for The Move of the Virginia Tech Lumenhaus, an Innovative, 800 Square Foot Solar-Powered House Designed, Constructed, and Operated by Students and Faculty for the U.S. Department of Energy Solar Decathlon. It was Exhibited in Times Square from January 27 to January 31, and was Featured on January 28 on the TV Show "Good Morning America".



In Early June 2010, We Coordinated a Super-Sized Move for Con Edison, in Conjunction with Bay Crane Service, to Transport a 228,500 Pound Transformer, at a Gross Vehicle Weight of 428,280. In Early November 2010, a Permit Was Issued for the Double-Headed Crane That Lifted the Rockefeller Center Christmas Tree and the Trailer That Brought the Crane. (Tree Photo Credit: Bay Crane Service)

## JANUARY

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

Anti-icing crews were deployed on the East River bridges from 6:00 AM on January 4, 2010 until 5:00 AM on January 4; three applications of chemicals were made. Icicle patrols monitored the FDR Drive, the Brooklyn-Queens and Cross-Bronx Expressways, and the Battery Park Underpass.

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

On January 8, 2010, .6 inches of snow fell in Central Park, and .4 inches at La Guardia and JFK Airports. Anti-icing crews were deployed on the East River bridges from 10:00 PM on January 7 until 8:00 PM on January 8; 6 applications of chemicals were made. Priority overpasses were cleared, and icicle patrols monitored the FDR Drive, Battery Park Underpass, and the Cross Bronx and Brooklyn-Queens Expressways.

### ***Hamilton Avenue Asphalt Plant (Brooklyn)***

On January 16, 2010, Division ironworkers repaired the plant's grizzly screen and drum.

### ***Brooklyn Bridge***

A Notice to Proceed for Contract #6 was issued to the contractor with a start date of January 19, 2010.

### ***Department of Transportation Bridge Inspection Facilities at Kingsland Avenue (Brooklyn)***

Cleaning and painting of this structure, which began on December 30, 2009, was completed on January 19, 2010.

### ***Department of Transportation Ironworker Shop at 372 Kent Avenue (Brooklyn)***

Cleaning and painting of this structure, which began on January 13, 2010, was completed on January 22, 2010.

### ***Hamilton Avenue Asphalt Plant (Brooklyn)***

On January 23, 2010, Division ironworkers installed a new grizzly screen.

### ***Sanitation Worker Frank Justich Tribute***

The American flags on the Brooklyn Bridge were lowered to half-mast by Division painters on January 27, 2010, in tribute to Sanitation Worker Frank Justich of Queens West 1 Garage, who died in the line of duty on January 26. Mr. Justich, 41, an 11 year veteran of the Department, was fatally struck by a tractor trailer truck while on duty in Astoria. Mr. Justich was the tenth sanitation worker to have fallen in the line of duty since 2002. Seven of those ten workers were struck by vehicles. The flags remained at half-mast through Monday, February 1, 2010.



Sanitation Worker Frank Justich.

### **Anti-Icing**

On January 28, 2010, 1.3 inches of snow fell in Central Park, 1.1 inches at La Guardia Airport, and .9 inches at JFK Airport. Anti-icing crews were deployed on the East River bridges from 8:00 AM until 8:00 PM on January 28; 2 applications of chemicals were made. Icicle patrols monitored the FDR Drive, Battery Park Underpass, and the Cross Bronx and Brooklyn-Queens Expressways.

### **Department of Transportation Bridge Repair Facilities at 390 Kent Avenue (Brooklyn)**

Cleaning and painting of the boiler room, which began on January 13, 2010, was completed on January 28, 2010.

### **Hamilton Avenue Asphalt Plant (Brooklyn)**

On January 30, 2010, Division ironworkers repaired the plant's rap bin, ladders, and scale.

### **Madison Avenue Bridge over Harlem River (Bronx/Manhattan)**

Cleaning and painting of the bridge operator's house began and was completed in January 2010.

### **Third Avenue Bridge over Harlem River (Bronx/Manhattan)**

Cleaning and painting of the bridge operator's house began and was completed in January 2010.

## **FEBRUARY**

### **Anti-Icing**

On February 6, 2010, 1.6 inches of snow fell at JFK Airport. On February 9, .2 inches of snow fell at JFK Airport. Anti-icing crews were deployed on the East River bridges from 5:30 PM on February 5 until 5:00 PM the following day; 4 applications of chemicals were made. Priority overpasses were cleared, and icicle patrols monitored the FDR Drive, the Brooklyn-Queens and Cross-Bronx Expressways, and the Battery Park Underpass.

On February 10, 2010, 10 inches of snow fell in Central Park, a record 10.4 inches at La Guardia Airport, and a record 11.1 inches at JFK Airport. Anti-icing crews were deployed as of 6:00 PM on February 9. On February 9, 10, and 11, Division personnel removed ice and snow from the East River Bridges and began clearing snow from priority locations. The clearing of priority locations continued over that weekend.



Williamsburg Bridge After the Storm. (Credit: Samuel Teaw) Plowing the Brooklyn Bridge Roadway. Cleared Brooklyn Bridge Bicycle/Pedestrian Path. (Credit: Russell Holcomb)

On February 15, 2010, 0.1 inches of snow fell at La Guardia Airport, and 0.5 inches at JFK Airport. On February 16, 5 inches of snow fell in Central Park, 5.2 inches at La Guardia Airport, and 4.4 inches at JFK Airport. On February 15, Division personnel again removed ice and snow from the East River Bridges and priority locations. All priority locations were cleaned by February



17. In the first storm, 7,950 gallons and 33 tons of chemicals were used on the East River Bridges. In the second storm, 3,600 gallons and 13 tons of chemicals were used.

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

On February 25, 2010, a record 9.4 inches of snow fell in Central Park, a record 3.7 inches at La Guardia Airport, and a record 2.9 [record] inches at JFK. Airport. On February 26, a record 11.5 inches of snow fell in Central Park, a record 9.6 inches at La Guardia Airport, and a record 8.5 inches at JFK Airport. On February 27, 0.1 inches fell at JFK Airport.

In anticipation of the storm predicted to start at midnight on February 25, the night shift placed an anti-icing truck on each of the East River Bridges before 4:00 AM. The day shift began at 4:00 AM and was fully deployed before the morning rush hour. Anti-icing crews were deployed on the East River Bridges from 1:00 AM on February 25 until 5:00 AM on February 27; 10 applications of chemicals were made. Snow was removed from the priority overpasses.

### ***Joannene Kidder***

Chief Staff Manager/Executive Director of Community Affairs Joannene Kidder was the subject of the "Staff Spotlight" feature in the February 2010 edition of "Byways," the official Agency newsletter.



Chief Staff Manager/Executive  
Director of Community Affairs  
Joannene Kidder Holding a  
Brooklyn Bridge Project Brochure.

## ***MARCH***

### ***Award***

In March 2010, the American Council of Engineering Companies of New York selected the reconstruction of the Hamilton Avenue Bridge over the Gowanus Canal for a Gold Award in the structural systems category in its 2010 Engineering Excellence Awards. Founded in 1921, ACEC New York is the oldest continuing organization of professional consulting engineering firms in the United States. The Engineering Excellence Awards Program recognizes engineering achievements that demonstrate the highest degree of skill and ingenuity. This project was substantially completed in April 2009.



Hamilton Avenue Bridge (#2240231 and 2240232).  
(Credit: NYSDOT)

## ***Department of Transportation Coin Collection Facilities at 66-26 Metropolitan Avenue (Queens)***

Cleaning and painting of this structure, which began on January 19, 2010, was completed on March 5, 2010.

## ***Manhattan Bridge***

On March 5, 2010, NYC Bridge Centennial Commission President Sam Schwartz joined Commissioner Janette Sadik-Khan and Chief Bridge Officer Henry Perahia, along with ironworkers, engineers, painters, electricians, and other bridge workers and aficionados at the bridge's Manhattan Colonnade to bury a time capsule — to be opened on the 200<sup>th</sup> anniversary of the bridge - inside a small nook in the grand archway that crowns the entrance.

The time capsule includes: NYC Bridge Centennial Commission medallions, a Time Out NY guide, a list of the commission member, newspapers from December 31, 2009 (the 100<sup>th</sup> anniversary of the opening of the bridge), a program from the October 4, 2009 Manhattan Bridge Centennial celebration, a program for the week long events, a 2008 Bridges and Tunnels Annual Condition Report, a DOT Bridge safety vest, hard hat and ironworker gloves, a DOT 2009 Safety Calendar, a current list of Division employees, brochures from previous Manhattan Bridge capital projects, a New York City flag, a NYC MTA subway map, a flash drive and CD (to represent current electronic data saving methods), a 2009 almanac, and a 2009 NYC Green Book.



Time Capsule Contents. (Credit: Bernard Ente) Bridge Toll Rates. (Credit: Brian Gill)



Commissioner Janette Sadik-Khan. Chief Bridge Officer Henry Perahia Explaining the Ironworker Torch Compass (Invented by Joseph Antony). (Credit: Bernard Ente) Deputy Chief Engineer Russell Holcomb, Chief Bridge Officer Henry Perahia, Bridge Repairer and Riveter Joseph Antony, and NYC Bridge Centennial Commission President Sam Schwartz. (Credit: Brian Gill)



Chief Bridge Officer Henry Perahia and Commissioner Janette Sadik-Khan in Front of the Arch. Bridge Repairer and Riveter Helmet and Burning Goggles. Deputy Chief Engineer Russell Holcomb and Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse. (Credit: Mitch Waxman)



NYC Bridge Centennial Commission President Sam Schwartz, Commissioner Janette Sadik-Khan, Chief Bridge Officer Henry Perahia, Manhattan Bridge Engineer-In-Charge Brian Gill, Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse, NYC Bridge Centennial Commission Recording Secretary Judy Schneider and Secretary/Treasurer Barry Schneider, Manhattan Borough Commissioner Margaret Forgione, and NYC Bridge Centennial Commission Director of Community Affairs Joshua A. Knoller. (Credit: Bernard Ente) Chief Staff Manager Joannene Kidder and Community Liaison Teresa Toro. (Credit: Brian Gill)



Capsule in its Resting Place. Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse, Bricklayer Vincent Sciulla (Holding Time Capsule), Deputy Chief Engineer Russell Holcomb, Supervisor Highway Repairer Joseph Flood, Bricklayer Luigi Cuffari, and Interim Director of Bridge Preventive Maintenance Paul Schwartz.

### ***Brooklyn Bridge***

On March 8, 2010, International Women's Day, Mayor Bloomberg greeted the participants of the Women for Women International "Join Me on the Bridge" event. Hundreds of women and men walked across the Brooklyn Bridge asking for peace and change for women worldwide. The walk ended in City Hall Park in a celebration featuring Women for Women International Founder and CEO Zainab Salbi, Former President of Ireland Mary Robinson, Model Naomi Campbell, and Tim Gunn from Project Runaway. A similar event was held at the Millennium Bridge in the United Kingdom.



International Women's Day on the Brooklyn Bridge: Model Naomi Campbell, Tim Gunn from Project Runaway, Mayor Michael R. Bloomberg, Women for Women International Founder and CEO Zainab Salbi, and Former President of the Republic of Ireland Mary Robinson.  
(Credit: Spencer Tucker, Office of the Mayor)

### ***163<sup>rd</sup> Street Pedestrian Bridge over Hawtree Basin (Queens)***

Cleaning and painting of this bridge, which began on December 7, 2009, was completed on March 8, 2010.

### ***Department of Transportation Traffic Operation Facilities at 28-11 Queens Plaza (Queens)***

Cleaning and painting of these structures, which began on February 1, 2010, was completed on March 10, 2010.

### ***Brooklyn Bridge Park***

On March 22, 2010, Mayor Michael R. Bloomberg, Governor David A. Paterson and local officials opened the first portion (six acres) of Pier 1 at Brooklyn Bridge Park. Pier 1 includes the first of the park's waterfront promenades, lawns, a playground and the "Granite Prospect," a set of steps built from granite stones where park goers will be able to sit and enjoy the scenery. The "Granite



## CHRONOLOGY

Prospect" is built from over 300 pieces of granite (over 1,900 linear feet) salvaged from the Roosevelt Island Bridge reconstruction along the western edge of the pier.



Removing the Roosevelt Island Bridge Panels. Piled Panels Awaiting Transfer to the Park.



The Granite Prospect.

### ***Brooklyn Bridge***

The necklace lights on the Brooklyn Bridge were turned off at 8:30 PM on March 27, 2010 as part of the worldwide observance of the 4<sup>th</sup> annual Earth Hour. This event, organized by the World Wildlife Fund, took place from 8:30 PM to 9:30 PM, and participating venues included the Empire State Building, the Chrysler Building, the United Nations headquarters building, and 39 Broadway theaters. Over 4,000 cities across 126 countries and territories around the world committed to participate this year. Earth Hour raises awareness about climate change and the threat from rising greenhouse gas emissions.

### ***Department of Transportation Facilities at the Hamilton Avenue Asphalt Plant (Brooklyn)***

Cleaning and painting of this structure, which began on December 22, 2009, was completed on March 29, 2010.

### ***Department of Transportation Sign Shop at 34 Wave Street (Staten Island)***

Cleaning and painting of this structure, which began on December 28, 2009, was completed on March 29, 2010.

### ***Queensboro Bridge***

March 30, 2010 marked the 101<sup>st</sup> anniversary of the opening of the bridge.

## ***APRIL***

### ***Hamilton Avenue Asphalt Plant (Brooklyn)***

On April 3, 2010, Division ironworkers repaired the plant's main drum and silo.



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

A Notice to Proceed for the component rehabilitation of this bridge was issued to the contractor with a start date of April 5, 2010.

### **Carroll Street and Hamilton Avenue Bridges over the Gowanus Canal (Brooklyn)**

On April 7, 2010, Administrative Superintendent of Bridge Operations George Kern, Supervisor Bridge Operator Mohamed Adel Tork, and Administrative Engineer Frank Kodah escorted a contingent of officials from Copenhagen, Denmark on a tour of several movable bridges. The group learned about NYCDOT's maintenance methods and operational safety precautions.



Administrative Superintendent of Bridge Operations George Kern, Supervisor Bridge Operator Mohamed Adel Tork, and Administrative Engineer Frank Kodah With the Copenhagen Officials.

### **Hamilton Avenue Asphalt Plant (Brooklyn)**

On April 17, 2010, Division ironworkers repaired the plant's chutes and scales.

### **Ninth Annual "Take Our Children to Work Day"**

On April 22, 2010, as part of the Agency's ninth annual "Take Our Children to Work Day," Division personnel explained and illustrated the activities necessary to maintain bridges. This year's theme was "1 Youth, 1 Dream, 2Morrow's Leader" in order to shape the future for a new generation at work.



Supervisor Carpenter Joseph Vaccaro, and Carpenter Michael Short III. (Credit: Ghanshyam Patel). Bridge Repairer and Riveters Peter Sciandra and Gonzalo Montano Demonstrating Welding. (Credit: Earlene Powell)



Personnel With The Children at the Shops: Bridge Repairer and Riveters Peter Sciandra, James Manning, William Dolan, Gonzalo Montano, Supervising Bridge Repairer and Riveter Steve Havemann, Electricians Thomas Cipriano and Robert Stackpole, and Supervisor Electrician Ben Cipriano. (Credit: Ghanshyam Patel) Engineer-in-Charge of East River Bridges Bridge Repair Bala Nair. Electrician Thomas Cipriano Modeling Safety Gear. (Credit: Earlene Powell)



Future Electrician. Machinist Ivan Yelusich Demonstrating Equipment. (Credit: Earlene Powell)  
Machinists Mark Blokh and Ivan Yelusich With the Children. (Credit: Ghanshyam Patel)



Deputy Director of In-House Painting Earlene Powell With the Children on the Williamsburg Bridge. (Credit: Ghanshyam Patel) Cadets From the United States Military Academy at West Point on the Brooklyn Bridge With Assistant Civil Engineer Clara Medina, Chief Staff Manager Joannene Kidder, Supervisor Highway Repairer Joseph Flood and his Daughter, and Deputy Chief Engineer Russell Holcomb. Director of East River Bridges Hasan Ahmed With College Students at the Manhattan Tower of the Brooklyn Bridge.

## ***Hamilton Avenue Asphalt Plant (Brooklyn)***

On April 24, 2010, Division ironworkers repaired the flights inside the drum.

## ***Queens Boulevard Bridge over Amtrak and LIRR Yard***

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.

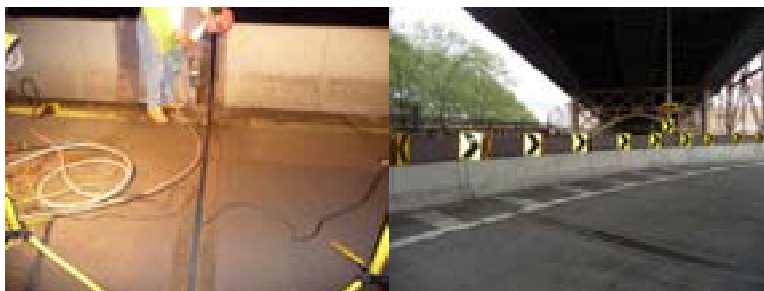
The final installation of "NYCamo," a stenciled and painted brightly colored camouflage pattern by Niko Courtelis, based on the shapes of the five boroughs of New York City, was completed on April 24, 2010. The artwork, installed with the assistance the High School for Arts and Business, Corona, and 150 NY Cares volunteers, is located on the Jersey barriers along the walkway and bicycle path on Queens Boulevard between Jackson and Skillman Avenues.



Queens Boulevard Bridge Stencils. (Credit: Emily Colasacco)

## **Queensboro Bridge Ramps F and G (Queens)**

The component rehabilitation of these bridge ramps was substantially completed on April 27, 2010.



Working on Ramp F in August 2009. Completed Ramp in April 2010.



Ramp G: Performing Component Rehabilitation of Ramp G of the Queensboro Bridge in June 2009 and January 2010.

## **Promenade over FDR Drive from East 79<sup>th</sup> to East 91<sup>st</sup> Streets (Manhattan)**

At about 5:00 AM on April 29, 2010, the Communications Center reported that a car carrier traveling south had become wedged underneath the park and promenade. The responding engineer found loose wire mesh and metal strip retainer. Division repair crews removed the loose material, and traffic was restored about 8:30 AM.



Division Ironworkers Removing Loose Metal Strips Under the Promenade.



## MAY

### ***Macombs Dam Bridge over the Harlem River (Bronx/Manhattan)***

May 1, 2010 marked the 115<sup>th</sup> anniversary of the opening of the bridge.



Macombs Dam Bridge (Elevation Credit: NYSDOT).

### ***33<sup>rd</sup> Annual Five Borough Bike Tour***

In preparation for the 42-mile Five Borough Bike Tour on May 2, 2010, Division personnel swept the Queensboro, Pulaski, Third Avenue, and Madison Avenue Bridges. Carpenters installed temporary plywood covers over the finger joints of the Pulaski Bridge, which were removed after the tour concluded that day.

The Five Borough Bike Tour is produced by Bike New York and the New York City Department of Transportation. Bike New York is a non-profit organization that promotes and encourages bicycling and bicycle safety through education, public events, and collaboration with community and government organizations. Best known for the Five Borough Bike Tour, Bike New York also organizes smaller rides and runs a Bicycle Education Program offering free classes and workshops for adults and children.

### ***Kane Street Bridge over Brooklyn – Queens Expressway (Brooklyn)***

Contractor cleaning and painting of the bridge, which began on September 24, 2009, was completed on May 4, 2010.

### ***Union Street and Sackett Street Bridges over Brooklyn – Queens Expressway (Brooklyn)***

Contractor cleaning and painting of these bridges, which began on September 29, 2009, was completed on May 4, 2010.

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

Cleaning and painting of this bridge, which began on April 5, 2010, was completed on May 5, 2010.

### ***Queensboro Bridge***

On May 5 through 8, 2010, Division electricians assisted a film crew from the upcoming movie “The Son of No One” at the Queensboro Bridge.

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

On May 6, 2010, Bridge Operations personnel hosted first grade children on a class trip to the bridge. Students, teachers, and parents enjoyed their visit.



Supervisor Bridge Operator Mohamed Adel Tork Explaining the Machinery at the Carroll Street Bridge. Children Drawing the Bridge. (Credit: Samuel Teaw)

***East 174<sup>th</sup> Street Pedestrian Bridges over Sheridan Expressway (NB & SB) (Bronx), 37<sup>th</sup> Street Bridge over Brooklyn-Queens Expressway (Queens), Superior Road Bridge over Cross Island Parkway (Queens), 15<sup>th</sup> Avenue Bridge over LIRR Bay Ridge (Brooklyn), 13<sup>th</sup> Avenue Bridge over LIRR & Sea Beach (Brooklyn), East Drive Bridge over East Wood Arch (Brooklyn), West 148<sup>th</sup> Street Pedestrian Bridge over Amtrak 30<sup>th</sup> Street Branch (Manhattan), Inwood Hill Park Footbridge over Amtrak 30<sup>th</sup> Street Branch (Manhattan), West 181<sup>st</sup> Street over ramp to Washington Bridge (Manhattan), Jackie Robinson Parkway & Union Turnpike over Austin Street (Queens), and Albee Avenue Bridge over SIRT South Shore (Staten Island).***

A Notice to Proceed for the component rehabilitation of these bridges was issued to the contractor with a start date of May 10, 2010.



East 174<sup>th</sup> Street Pedestrian Bridges over Sheridan Expressway (NB & SB), 37<sup>th</sup> Street Bridge over Brooklyn-Queens Expressway.



Superior Road Bridge over Cross Island Parkway, 15<sup>th</sup> Avenue Bridge over LIRR Bay Ridge, 13<sup>th</sup> Avenue Bridge over LIRR & Sea Beach.



East Drive Bridge over East Wood Arch, West 148<sup>th</sup> Street Pedestrian Bridge over Amtrak 30<sup>th</sup> Street Branch, Inwood Hill Park Footbridge over Amtrak 30<sup>th</sup> Street Branch.





West 181<sup>st</sup> Street over Ramp to Washington Bridge, Jackie Robinson Parkway & Union Turnpike over Austin Street, Albee Avenue Bridge over SIRT South Shore.

## ***Madison Avenue Bridge over Harlem River (Bronx/Manhattan)***

The 100<sup>th</sup> anniversary of the bridge was commemorated by the New York City Bridge Centennial Commission on May 12, 2010. Bronx Borough President Ruben Diaz Jr. was joined by Manhattan Borough President Scott M. Stringer and New York City Bridge Centennial Commission Sam Schwartz. Division personnel provided electricity and ensured that tents were in place to shield the dignitaries and speakers from the inclement weather.



Highway Repairer Steven Borowik, Electrician Kevin Costello, Bridge Operator Jose Rincon, Supervisor Bridge Operator Mohamed Adel Tork, Bridge Operator, and Interim Director of Bridge Preventive Maintenance Paul Schwartz. The Anniversary Cake. Manhattan Borough President Scott M. Stringer, Bronx Borough President Ruben Diaz Jr., and New York City Bridge Centennial Commission Sam Schwartz. Harry S. Truman High School Marching Band at the Parade. (Credit: Mitch Waxman)

## ***Summit Street Pedestrian Bridge over Brooklyn – Queens Expressway (Brooklyn)***

Contractor cleaning and painting of the bridge, which began on April 7, 2010, was completed on May 22, 2010.

## ***Brooklyn Bridge***

May 24, 2010 marked the 217<sup>th</sup> birthday of the bridge.



Brooklyn Bridge Flag.  
(Credit: Peter Basich)

### ***Brooklyn-Queens Expressway Bridge over 34<sup>th</sup> Avenue (Queens)***

Cleaning and painting of this bridge, which began on May 3, 2010, was completed on May 25, 2010.

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

The Brooklyn Bridge American flags flew at half-mast until noon on May 31, 2010, to commemorate those who died serving the nation during war.

## ***JUNE***

### ***Brooklyn Bridge***

On June 2, 2010, Vice President Joseph Biden visited a worksite adjacent to the Brooklyn Bridge to discuss how Recovery Act investments are creating jobs and improving infrastructure in New York and across the country. New York City has received funding to repair and upgrade key components of the Brooklyn Bridge to improve its efficiency and extend its useful life. Part of the funding for this \$508 million project was awarded through a \$30 million American Recovery and Reinvestment Act grant from the U.S. Department of Transportation. The project starts the four-year process to replace bridge decks on the ramp and approach structures, expand the numbers of lanes on ramps and repaint of all the bridge's steel components. This investment is creating jobs, generating local economic activity, and allowing New York City to address other critical infrastructure needs. The Vice President was joined by Deputy Secretary of Transportation John Porcari, Representative Jerrold Nadler, Mayor Michael R. Bloomberg, Commissioner Janette Sadik-Khan, and Managing Director of the General Contractors Association of New York Denise Richardson.

The project will reconstruct the roadway surface over the bridge's masonry arch blocks, install a waterproofing seal and a new drainage system on the bridge, and rehabilitate and seismically retrofit steel support structures, including the Franklin Square Arch. The vehicle entrance ramp from the southbound FDR Drive and the Brooklyn-side exit ramp to Cadman Plaza will both be expanded from one to two lanes to improve traffic flow and reduce backups and illegal lane-changing. Repainting the bridge's steel will prevent corrosion of bridge components and will keep components from prematurely aging, avoiding more maintenance work in the future that could result in more frequent lane closures. In addition to the ARRA funding, the project is being paid for using \$286 million in City capital funds and \$192 million in other federal funding.

## CHRONOLOGY



Chief Bridge Officer Henry Perahia, Commissioner Janette Sadik-Khan, Vice President Joseph Biden, Brooklyn Borough President Marty Markowitz, Mayor Michael R. Bloomberg, and Deputy Secretary of Transportation John Porcari. Chief Bridge Officer Henry Perahia and Mayor Michael R. Bloomberg. (Credit: Spencer Tucker, Office of the Mayor) Vice President Joseph Biden and Commissioner Janette Sadik-Khan.



Representative Jerrold Nadler, Mayor Michael R. Bloomberg, Deputy Secretary of Transportation John Porcari, and Vice President Joseph Biden. (Credit: Spencer Tucker, Office of the Mayor) Vice President Joseph Biden Accepting a Model of the Brooklyn Bridge From Brooklyn Borough President Marty Markowitz.



Vice President Joseph Biden, Brooklyn Bridge Engineer-in-Charge Ohene Duodu, and Chief Bridge Officer Henry Perahia. (Credit: Douglas Reese) Brooklyn Bridge Engineer-in-Charge Ohene Duodu and Mayor Michael R. Bloomberg. Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse and Vice President Joseph Biden. (Whitehouse Credit: Christopher Sabbagh)





Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse, Interim Director of Bridge Preventive Maintenance Paul Schwartz, Bridge Repairer and Riveter Ignazio Trapani, and Vice President Joseph Biden. (Credit: Douglas Reese)



Deputy Chief Engineer Russell Holcomb and Vice President Joseph Biden. (Credit: Douglas Reese) Interim Director of Bridge Preventive Maintenance Paul Schwartz, Deputy Chief Engineer Russell Holcomb, Bridge Repairer and Riveter Ignazio Trapani, and Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse.

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

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of June 14, 2010.

### ***125<sup>th</sup> Street at Park Avenue (Manhattan)***

On June 16, 2010, at the request of the Roadway Repair and Maintenance Division, Bridge Division crews responded to a through-hole in the sidewalk behind a bus shelter and installed six steel plates. This sidewalk collapse over a vaulted area occurred in front of the landmark Corn Exchange Bank. No one was injured.



Bridge Repairer and Riveter Joseph Hickey Operating a Boom Truck Hoisting a Plate, While Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse (in the Background) Dumps Bags of Cold Patch. The Exposed Vault. Bridge Repairer and Riveter Chris Mauldin Atop the Bus Shelter Guiding the Placement of the Steel Plate; Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse and Bridge Repairer and Riveter Scott Mahaffey (Behind the Shelter); Bridge Repairer and Riveter James Wright III and Supervisor Bridge Repairer and Riveter Gean Pilipiak; and Bridge Repairer and Riveter Joseph Hickey (Obscured). EDC Representatives (Back Row); EDC's Emergency When and Where Contractor Laborer and Supervisor (Front Left); Supervisor Bridge Repairer and Riveter Gean Pilipiak (Middle); and Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse Leveling the Cold Patch to Set the Steel Plate. (Credit: Reza Taheri)

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

Due to heat expansion, the bridge was closed to marine traffic beginning at 3:26 PM on June 18, 2010. It was returned to service at 9:15 PM.

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

On June 19, 2010, Division ironworkers installed catwalks, handrails, and chute plates, and reinforced the stairway.

## ***Hunters Point Avenue Bridge over Dutch Kills (Queens)***

Cleaning and painting of the bridge, which began on May 26, 2010, was completed on June 24, 2010.

## ***Award***

In June 2010, *New York Construction Magazine* selected the Brooklyn Bridge renovation project (Contract #6) and the Staten Island Ferry ramp project as two of the top 25 project starts in the Tri-State Region in 2009.



### JULY

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

Due to heat expansion, the bridge was closed to marine traffic beginning at 5:02 PM on July 5, 2010. It was returned to service at 8:00 AM the next day.

#### **East 78<sup>th</sup> Street Pedestrian Bridge over FDR Drive (Manhattan)**

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of July 12, 2010.

#### **Queensboro Bridge**

A Notice to Proceed for the replacement of the aviation lights of this bridge was issued to the contractor with a start date of July 12, 2010.

#### **Manhattan Bridge**

On July 13, 2010, Mayor Michael R. Bloomberg and Small Business Services Commissioner Robert W. Walsh presented the 2010 New York City Neighborhood Achievement Awards to 17 recipients from all five boroughs. Established in 2002, the awards honor organizations, businesses and individuals that have demonstrated excellence in enhancing New York City neighborhoods by fostering economic opportunity.

The Development Award was presented to the DUMBO Improvement District for The Archway. The Water Street Archway is a 7,000 square foot tunnel under the Manhattan Bridge, paved with historic Belgian block. The Archway, which was closed for 17 years and used as a Division bridge metal storage space, was recently reclaimed by the DUMBO Improvement District in an effort to better serve the local community. With Rogers Marvel Architects, PLLC and the approval of the Landmarks Preservation Commission, the space was repurposed for more sustainable uses revolving around public art and cultural programming. Since the construction was completed in April 2009, the DUMBO Improvement District has brought an eclectic mix of cultural and artistic events to the Archway, including the Brooklyn Flea, DUMBO Fight Night, and live viewings of the 2010 FIFA World Cup South Africa. This new public space has brought a wealth of social and cultural benefits to the neighborhood.



Completely Repaired Water Street Arch in April 2009.  
(Credit: DUMBO NYC)

#### **Queensboro Bridge Facilities (Manhattan)**

On July 13, 2010, the Agency's summer interns visited the bridge operations, bridge painting, ironworker shop, and Agency traffic sign shop facilities at the Queensboro Bridge plant.



Agency Summer Interns Learning From Bridge Painters Frank Duic (on Chair) and Frank Hollen (in Green Shirt) About the Use of a Boatswain Chair and Other Equipment in Painting Operations. (Credit: George Kern)



Administrative Superintendent of Bridge Operations George Kern, and Director of Bridge Repair Pinakin Patel, with the Agency Summer Interns at the Queensboro Bridge on July 13 (in alphabetical order): Lana Alkhatib (OCMC), Angela Betancur (Traffic Planning), Matthew Brill (Planning & Sustainability), Sheena Diaz (Special Events), Kyle Gebhart (Planning & Sustainability), Hector Gonzalez, Jennifer Harris-Hernandez (Bridges), Sujana Khan (FCPM), Ali Khan, Michael Lenore (Policy Office), Kathy Li (HR/Facilities Management), Shuzuan Li (Traffic Planning), Jane Lin (Lower Manhattan Borough Commissioner's Office), Christina Milone (HR/Facilities Management), Kristen Morith (Traffic Planning), Digna Restrepo (Traffic Planning), Daniel Scorse ((Planning & Sustainability), Ho Chul Shin (Facilities Management), Kavita Singh (FCPM), Johanna Urena (SIM).

### ***Willis Avenue Bridge over Harlem River (Bronx/Manhattan)***

The new swing span was moved from the assembly area at Coeymans in upstate New York to the twin barges on July 11 and 12, 2010. It was then delivered by barge to the contractor facility in Jersey City, New Jersey on July 14.



Preparing to Move the New Willis Avenue Span. Passing Under the Poughkeepsie Railroad Bridge, now a Pedestrian Bridge and State Park.

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

On July 20 and 24, 2010, Division ironworkers repaired the silo and staircase.

### **Award**

On July 21, 2010, the Public Design Commission presented the Department of Design and Construction, the Department of Transportation and the Department of Parks & Recreation with a Design Award for the construction of the East 111<sup>th</sup> Street Pedestrian Bridge over the FDR Drive and the West 181<sup>st</sup> Street Pedestrian Bridge over the northbound lanes of the Henry Hudson Parkway, in its 28<sup>th</sup> annual Excellence in Design Awards.



East 111<sup>th</sup> Street and West 181<sup>st</sup> Street Bridges in 2008.



East 111<sup>th</sup> Street and West 181<sup>st</sup> Street Bridge Design Renderings.

### **Willis Avenue Bridge over Harlem River (Bronx/Manhattan)**

The new swing span was moved from the contractor's facility in Jersey City, New Jersey up the East River and moored at the work site on July 26, 2010.



Voyage up the East River on July 26, 2010. New Willis Avenue Bridge Span Between the Manhattan and Brooklyn Bridges. (Credit: Bojidar Yanev)



New Willis Avenue Span Passing Under the Brooklyn Bridge. Passing Under the Williamsburg Bridge. (Williamsburg Credit: Ronald Rauch)



After Passing Under the Wards Island Bridge. (Credit: Nicholas Whitaker)

### ***Belt Parkway over Bedford Avenue (Brooklyn)***

Contractor cleaning and painting of the bridge, which began on June 3, 2010, was completed on July 30, 2010.

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

On July 31 2010, Division ironworkers repaired the silo and shaker.

### ***Third Street Bridge over Gowanus Canal (Brooklyn)***

In July 2010, the Mayor's Office of Film, Theatre, and Broadcasting named this bridge as a "Location of the Month."





3<sup>rd</sup> Street Bridge in 2009. (Credit: NYSDOT)

### ***Riverside Drive Viaduct at West 158<sup>th</sup> Street (Manhattan)***

Cleaning and painting of the bridge, which began on December 1, 2009, was completed in July 2010.

## ***AUGUST***

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

On July 13, 2009, the Division began a significant resurfacing project on the Belt Parkway's approaches to the Mill Basin Bridge. The work included subsurface repairs and installation of new asphalt and pavement markings. The pedestrian/bike path remained open at all times. Work on the eastbound roadway was completed on October 25, 2009. Division crews repaired in excess of 14,000 square feet of roadway pavement, using 345 tons of asphalt. Work on the westbound lanes began the night of October 26, 2009 and was suspended for the winter season in December. Resurfacing of the westbound lanes resumed the night of April 5, 2010, and the project was completed on August 4, 2010. A grand total of 36,019 square feet of roadway were repaired, using 947 tons of asphalt.

### ***Brooklyn and Manhattan Bridges***

On August 6 and 7, 2010, Division electricians assisted a film crew from the upcoming movie "Friends with Benefits" at the Brooklyn and Manhattan Bridges.

### ***Hamilton Avenue Asphalt Plant (Brooklyn)***

On August 8, 2010, Division ironworkers repaired the drum ring.

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

On August 8, 2010, Division ironworkers installed a diverter plate for the overflow chutes and began installation of a platform on the plant's silo.

### ***Willis Avenue Bridge over Harlem River (Bronx/Manhattan)***

On August 9, 2010, the new 2,400 ton swing span was floated into place onto the new center pier. Mayor Michael R. Bloomberg blew the air horn to initiate the float-in process.





The New and Old Spans. (Credit: Russell Holcomb) Deputy Chief Engineer Russell Holcomb and Resident Engineer Abdi Hedayati.



August 9 Float-In. (Credit: Javier Beteta) Robin Lester Kenton, Chief Staff Manager/Executive Director of Community Affairs Joannene Kidder, and Deputy Chief Engineer Jay Patel.



Bronx Deputy Borough President Aurelia Greene, Representative José Serrano, Commissioner Janette Sadik-Khan, Representative Charles Rangel, and Mayor Michael R. Bloomberg. Assistant Civil Engineer Reza Taheri, Construction Project Manager Vasily Avadiev, Assistant Civil Engineers Syed Naqvi and Salomon Gulamov, Administrative Engineer Muhammad Afzal, Assistant Civil Engineer Khalid Mohammed, Mechanical Engineer Nazmul Ahsan, Administrative Engineer Viswanath Ravindra, Commissioner Janette Sadik-Khan, Mayor Michael R. Bloomberg, and Representative José Serrano. (Credit: Robin Lester Kenton)



Engineer-In-Charge James Cusack, Deputy Chief Engineer Jay Patel and Mayor Michael R. Bloomberg. Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse, Mayor Michael R. Bloomberg, Deputy Chief Engineer Jay Patel, and Deputy Chief Engineer Russell Holcomb. Mayor Michael R. Bloomberg Blowing the Air Horn. Mayor Michael R. Bloomberg and Assistant Civil Engineer Syed Naqvi. (Credit: Robin Lester Kenton)

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

On August 21, 2010, Division ironworkers repaired the silo and conveyor belt.

### ***Brooklyn Bridge Park***

On August 24, 2010, five additional acres of Brooklyn Bridge Park were opened to the public, including a recently established tidal salt marsh with riprap composed of granite blocks (3,200 cubic yards) salvaged from the old Willis Avenue Bridge. Planted with smooth cord grass, the tidal marsh will be a home to marine and aquatic bird life and allow park visitors to witness up close the tidal movements of the East River.

### ***City Council Member Thomas White Jr. Tribute***

The American flags on the Brooklyn Bridge were lowered to half-mast by Division painters on August 27, 2010, in tribute to City Council Member Thomas White Jr., who died that day. Mr. White, 71, represented the 28th District in southeast Queens, which includes Jamaica, South Jamaica and Richmond Hill. Beginning in 1991, he spent 15 years in office under three different mayors. Mr. White was just one of two Council members elected a second time to the job after the City's since-repealed term limits law forced them out in 2001. He was the chair of the council's economic development committee, and the executive director of J-CAP, one of the largest substance abuse centers in the State. The flags returned to full-staff on Friday, September 3, 2010.



City Council Member Thomas White Jr.

### ***Bay 8<sup>th</sup> Street over Belt Parkway (Brooklyn)***

Contractor cleaning and painting of the bridge, which began on July 22, 2010, was completed on August 31, 2010.

## SEPTEMBER

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

Due to heat expansion, the bridge was closed to marine traffic beginning at 3:03 PM on September 2, 2010. It was returned to service at 8:50 PM.

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

On September 4, 2010, Division ironworkers installed handrails and three platforms with ladders, and made repairs to the hopper.

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

On September 11, 2010, Division ironworkers installed handrails and installed plates on the shaker and drum.

### ***Patriot Day Tribute***

The Brooklyn Bridge flags flew at half-mast on September 11, 2010 to commemorate National Day of Service and Remembrance.



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

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

On September 18, 2010, Division ironworkers repaired the staircases and main drum.

### ***Jamaica Bay***

A NYPD helicopter made an emergency landing in the water off Floyd Bennett Field in Brooklyn on the afternoon of September 22, 2010. The pilot, Detective Erin Nolan and her five-officer crew, were providing security for President Barack Obama's arrival at the United Nations. With only seconds to spare, the veteran pilot deployed flotation devices, enabling the crippled craft to land upright 30 yards from shore. That evening, Division ironworkers retrieved the damaged helicopter from the bay.



Division Crane and Damaged Helicopter. (Credit: Yiu Liu)

### ***Prospect Yard (Brooklyn)***

"Plastic Flowers Don't Die," an art installation by Simone Couto-Kaplan in partnership with the DUMBO Arts Festival, was officially opened during the 2010 festival, held from September 24 through 26, 2010. Plastic flowers were woven into wires of the industrial synthetic green fence located on Jay Street between York and Prospect Streets, transforming it into a vertical garden with passersby participating by adding flowers. The artwork is part of the Agency's Arterventions program and remained on view until mid-December 2010.



(Credit: Simone Couto-Kaplan)

### ***Manhattan Bridge***

"The Vibration of Things," a piece of interactive video art by Ed Purver, was projected onto the roof of the Water Street Arch, as part of the Dumbo Arts Festival 2010. The projections responded to the sound of the subway trains rolling by overhead and the voices of those inside the archway.

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

On September 25 and October 2, 2010, Division ironworkers installed stairs and platforms.

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

The reconstruction of the bridge was substantially completed on September 27, 2010.

### ***Brooklyn Queens Expressway East Leg North Bound over 32<sup>nd</sup> Avenue (to Brooklyn Queens Expressway West Leg) (Queens)***

Cleaning and painting of the bridge, which began in April 2010, was completed in September 2010.

### ***Brooklyn Queens Expressway East Leg South Bound over 31<sup>st</sup> Avenue (Queens)***

Cleaning and painting of the bridge began and was completed in September 2010.

### ***Grand Concourse Bridge over East Tremont Avenue (Bronx)***

Cleaning and painting of the bridge, which began in August 2010, was completed in September 2010.

### ***Hunters Point Avenue Bridge over Dutch Kills (Queens)***

In September 2010, the Mayor's Office of Film, Theatre, and Broadcasting named this bridge as a "Location of the Month."





Hunters Point Bridge in 2002. (Credit: NYSDOT) Side View in 2008. (Credit: Vera Ovetskaya)

### OCTOBER

#### ***Willis Avenue Bridge over Harlem River (Bronx/Manhattan)***

Traffic was switched over to the new bridge at 7:05 AM on October 2, 2010.



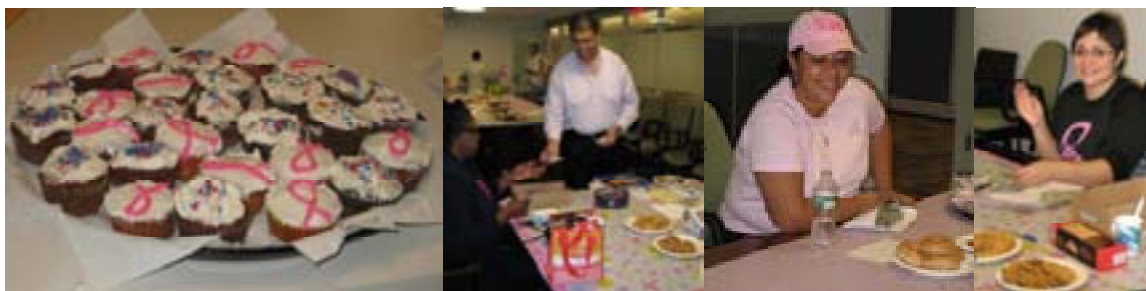
New and Old Willis Avenue Bridges on October 2, 2010. Cutting the Ribbon: Resident Engineer Abdi Hedayati, Interim Director of Movable Bridges Hani Faouri, Chief Bridge Officer Henry Perahia, and Engineer-In-Charge James Cusack.

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

On October 9, 2010, Division ironworkers completed the installation of the bottom landing area for the new stairs.

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

During October 2010, Division personnel and their friends and families participated in bake and book sales and other fundraisers, [and sponsored Lourdes Acevedo and the DOT Staten Island Team for the American Cancer Society's annual "Making Strides Against Breast Cancer" walk.



Cupcake Display. Alice Todd, Farid Tadros, Lourdes Acevedo, and Jacqueline Rosa at the Sale. (Credit: Michele N. Vulcan)

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

On October 16, 2010, Division ironworkers installed the top landing for the new stairs.

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

On October 23, 2010, Division ironworkers installed grizzly bins and handrail, and made repairs to the silo.

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

On October 30, 2010, Division ironworkers installed stair rails and bin plates.

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

In October 2010, the Village Voice newspaper named this bridge as the “Best Small Bridge” in its 2010 Best of NYC Awards.

### **Williamsburg Bridge**

In October 2010, the Village Voice newspaper named this bridge as the “Best Bridge to Run” in its 2010 Best of NYC Awards.

### **71<sup>st</sup> Avenue Bridge over Cooper Avenue Queens)**

Cleaning and painting of the bridge, which began in September 2010, was completed in October 2010.

## NOVEMBER

### **Lincoln Road Bridge over BMT Subway (Brooklyn)**

“Foot Traffic,” an art installation by Crystal Gregory in partnership with LinRoFORMA (the Lincoln Road between Flatbush & Ocean Residents & Merchants Association), was officially unveiled on the chain link fencing of the Lincoln Road Bridge on November 4, 2010. The art is composed of dozens of crocheted hexagons stitched directly onto the fence. Ms. Gregory states that the piece “represents a colorful, playful and energetic geometric pattern that is inspired by the familiarity and warmth of a grandmother's quilt.” The 11 month installation is part of the Agency's Urban Art Program.



Lincoln Road Bridge Crocheted Artwork. (Credit: LinRoFORMA)

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

On November 6, 2010, Division ironworkers continued the installation of catwalk and rails, and replaced broken plates on the bin.

### **New York City Marathon**

In preparation for the Marathon on November 7, 2010, Division personnel inspected and cleaned the Queensboro, Pulaski, and Madison Avenue Bridges, and re-configured the Jersey barriers and placed hay bales at the ramps to the lower level of the Queensboro Bridge. This year's starting line was moved 12 feet to the east, to make up for a difference in the dimensions of the new Willis Avenue Bridge.

## CHRONOLOGY



New Willis Avenue Bridge Ready for Runners. Supervising Bridge Operator Mohamed Adel Tork. United States' Dan Chossen (#427) of the Achilles Track Club. (Credit: Edgardo Montanez)



Runners on Willis Avenue Bridge. Members of the New York Scottish Pipes and Drums. (Credit: Edgardo Montanez)



Madison Avenue Approach and Bridge: Australia's Kurt Fearnley (#300 – 3<sup>rd</sup> Place Pushrim Wheelchair). Japan's Kota Hokinoue (#312 – 6<sup>th</sup> Place Pushrim Wheelchair). Female Racers: Russia's Ludmila Petrova (#102 – 7<sup>th</sup> Place), United States' Buzunesh Deba – United States (#118 – 10<sup>th</sup> Place), United States' Shalane Flanagan (#108 – 2<sup>nd</sup> Place), Mexico's Madai Perez (#114 – 9<sup>th</sup> Place), Kenya's Mary Keitany (#104 – 3<sup>rd</sup> Place), and Kenya's Edna Kiplagat (#117 – Winner). (Credit: Anthony Small)



Madison Avenue Approach and Bridge: Spain's Jorge Perez-De-Leza (#456 – 49<sup>th</sup> Place Hand Cycle). Kenya's Emmanuel Mutai (#6 – 2<sup>nd</sup> Place), and Ethiopia's Gebre Gebrmariam (#14 – Winner). Runners on the Bridge. (Credit: Anthony Small)





Madison Avenue Approach and Bridge: Kenya's Peter Kamais (#16 – 12<sup>th</sup> Place), Morocco's Abderrahim Goumri (#8 – 4<sup>th</sup> Place), and Brazil's Marilson Gomes Dos Santos (#10 – 7<sup>th</sup> Place). United States' Meb Keflezighi (#1 – 6<sup>th</sup> Place). United States' Tim Nelson (#18 – 13<sup>th</sup> Place). (Credit: Anthony Small)

The beginning and end of the Willis Avenue Bridge approach and ramps were closed by the NYPD Highway Patrol around 8:30 AM. The contractor installed orange safety drums at the First Avenue ramp, the B ramp split, and at 135<sup>th</sup> Street. Police officers kept the bridge closed until 7:00 PM.



Pushrim Wheelchair Racers. Deck Closeup.



Runners on New Bridge. View of Old Willis Avenue Bridge Spans.

## ***Northbound FDR Drive at East 53<sup>rd</sup> Street (Manhattan)***

The emergency repair of this section of the Drive was substantially completed on November 12, 2010.

## ***Hamilton Avenue Asphalt Plant (Brooklyn)***

On November 13, 2010, Division ironworkers repaired the plant's bin and main drum.

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

On November 13, 2010, Division ironworkers repaired the lug chain and continued the installation of catwalk and rail.

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

The bridge was fully re-opened to vehicular traffic on November 23, 2010.



**West 207<sup>th</sup> Street/West Fordham Road over Harlem River (Bronx/Manhattan) (a.k.a. University Heights Bridge)**

There are over 2,000 bridges in the five boroughs of New York City. Since October 14, 2009, Keith Nelson (Bindlestiff Family Cirkus co-founder), Rob Hickman, and a growing group of riders have been making weekly treks around the city to cross every one of them on unicycles. On November 24, 2010, the group crossed over the University Heights Bridge, the 170<sup>th</sup> bridge on their list.



Keith Nelson, Rob Hickman, and Dave Cox  
Crossing the University Heights Bridge.  
(Credit: NYC Uni Bridge Tour Archive)

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

Division engineers assisted the NYPD and Macy's representatives in walkthroughs of the parade route along 7<sup>th</sup> and 6<sup>th</sup> Avenues. They also reviewed and approved the design specifications of Kung Fu Panda and Wimpy Kid, two new 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 Meadowlands Racetrack in New Jersey on November 6, 2010, with NYPD and other agencies.

On November 25, 2010, wind speeds were relatively low and all 15 large balloons flew in the parade without incident. The maximum wind speed was approximately 11.8 miles per hour. Chief Bridge Officer Henry Perahia, Director of Engineering Review Abul Hossain, and George Jarvis were positioned at various locations along the parade route to observe compliance with the approved procedures. Eight 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 in New Jersey on November 6. New Wimpy Kid Balloon and 123 Sesame Street Float. New Kung Fu Panda Balloon. (Parade Credit: Hu Zhudong)



Snoopy Balloon, Tom Turkey Float, Kermit Balloon. (Credit: Hu Zhudong)



Civil Engineer Hu Zhudong, Administrative Engineer Udaya Dommaraju, Director of Engineering Review Abul Hossain, Commissioner Janette Sadik-Khan, Chief Bridge Officer Henry Perahia, Project Engineer George Jarvis, and Civil Engineering Intern Jana Krettova.

### ***Udaya Dommaraju, Abul Hossain, and George Jarvis***

Administrative Engineer Udaya Dommaraju, Director of Engineering Review Abul Hossain, and Project Engineer George Jarvis were the subjects of the “Staff Spotlight” feature in the November 2010 edition of “Byways,” the official Agency newsletter.



Administrative Engineer Udaya Dommaraju, Director of Engineering Review Abul Hossain, and Checking the Condition of a Portable Anemometer Used to Gauge Wind Strength at the Macy's Thanksgiving Parade.

## DECEMBER

### ***World AIDS Day***

At the request of the United Nations, the necklace lights on the Brooklyn Bridge were turned off at 6:15 PM on December 1, 2010, the 23<sup>rd</sup> Annual World AIDS Day. Other participating venues turning off their lights in New York City included 40 Broadway theaters, Madison Square Garden, Carnegie Hall, the Apollo Theater, Radio City Music Hall, the Museum of Modern Art, the Plaza Hotel, the Beacon Theatre, the New York Stock Exchange, and the Washington Square Park Memorial Arch. The New York City event was part of the global “Light for Rights: Keep the Light on HIV and Human Rights Campaign” organized by amfAR, the Foundation for AIDS Research; UNAIDS - the Joint United Nations Programme on HIV/AIDS; Broadway Cares/Equity Fights AIDS; and World AIDS Campaign. In addition, the Empire State Building was lit red that night along with the Intrepid Sea Air Space Museum, the JFK Airport Control Tower, the NASDAQ Marketsite Tower in Times Square, and Brooklyn Borough Hall, as a homage to the red ribbon of HIV/AIDS awareness.

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

The Brooklyn Bridge flags flew at half-mast on December 7, 2010 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.

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

The project to replace the wooden deck planks, which began in mid-October 2010, was completed on December 10, 2010.



Replacing Planks on the Ocean Avenue Bridge: Carpenters John Green, Mark Pavia, Michael Short, and Andrew Myjer. (Credit: Pinakin Patel)

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

On December 11, 2010, Division ironworkers repaired the hoppers and batch mixer.

### ***Hunters Point Avenue Bridge over Dutch Kills (Queens)***

On December 11, 2010, the New York City Bridge Centennial Commission and the Newtown Creek Alliance conducted a walking tour of the bridge in Long Island City to celebrate its 100<sup>th</sup> anniversary. The original wooden bridge was built in 1874. From 1874 to 1907 an iron bridge was in place before being replaced in 1910 by a double-leaf bascule bridge. The current version of the structure was built in the early 1980's as a single-leaf bascule bridge.

The bridge is located between 27<sup>th</sup> and 30<sup>th</sup> streets in Long Island City and is situated four blocks east of the Borden Avenue Bridge. The span is 71.52 feet long and has two lanes, one in each direction. It has experienced higher traffic volumes over the last year and a half while the Borden Avenue Bridge has been closed for construction in this heavily industrialized area.



Hunters Point Avenue Bridge Marker and Operator House. (Credit: Michele N. Vulcan)  
Bridge Closed to Traffic Prior to Opening. (Credit: Bernard Ente)



Open Hunters Point Avenue Bridge. Supervisor Bridge Operators Brian Corry, Nestor Ortiz, and Mohamed Adel Tork, Bridge Operator Patrick Williams, Supervisor Electrician Jose Done, and Electrician Parmanan Harripersaud. (Credit: Bernard Ente)

### **Brooklyn Bridge**

New York City's bridges are for all seasons. On December 11, 2010, thousands of Santa Clauses, elves and reindeer took to New York City's streets for Santacon 2010, the annual gathering of Santas and other holiday-themed characters held in cities around the country. The tradition began in San Francisco in 1994, and is now a worldwide phenomenon that includes 178 locations in 24 countries. The New York revels included a canned food drive for charity.



Santa Clauses Crossing the Brooklyn Bridge. (Credit: Erik Jaeger)

### **Anti-Icing**

On December 13, 2010, 0.3 inches of snow fell at La Guardia Airport, and 0.2 inches at JFK Airport. On December 14, another 0.3 inches fell at La Guardia Airport. Anti-icing crews were deployed on the East River bridges from 11:00 PM on December 13 until 6:30 AM the following day; 8 applications of chemicals were made. Priority overpasses were cleared of snow.



### ***East 163<sup>rd</sup> Street over CSX Trans – Port Morris (Bronx)***

Cleaning and painting of this bridge, which began on December 1, 2010, was completed on December 16, 2010.

### ***Williamsburg Bridge***

December 19, 2010 marked the 107<sup>th</sup> anniversary of the opening of the bridge.



Williamsburg Bridge in 2003. (Credit: Peter Basich) Tower  
Detail in 2009. (Credit: Bernard Ente)

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

The bridge reopened to vehicular traffic on December 24, 2010.



Late December 2010: Bridge Open to Vehicular  
Traffic. (Credit: Mitch Waxman)

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

On December 26, 2010, 12 inches of snow fell in Central Park, a record 10.2 inches at La Guardia Airport, and a record 10.4 inches at JFK Airport. On December 27, 2010, a record 7.8 inches of snow fell in Central Park, 3.8 inches at La Guardia Airport, and a record 5.1 inches at JFK Airport. Anti-icing crews were deployed on the East River bridges from 7:30 AM on December 26, 2010 until 7:30 PM on December 28, 2010. Thirty applications of chemicals were made: 6,650 gallons of potassium acetate and 57 tons of sodium acetate. The East River bridge walkways were also cleared, as were priority overpasses in all five boroughs.



Brooklyn Bridge Cleared After the Blizzard. Manhattan Bridge Walkway. (Credit: Russell Holcomb) Manhattan Bridge and Queensboro Bridge Roadways. (Credit: Bojidar Yanev)

## ***Manhattan Bridge***

December 31, 2010 marked the 101<sup>st</sup> anniversary of the opening of the bridge.



At the Brooklyn Bridge Manhattan Tower in November 2010: Bridge Repairer and Riveter Frederick Doyle, Chief Bridge Officer Henry Perahia, Commissioner Janette Sadik-Khan, Executive Director of Bridge Inspections and Bridge Management Dr. Bojidar Yanev, and Bridge Repairer and Riveters James Philip and Fabian Del-Tongier. (Credit: Patrick Clowe)

## *CHRONOLOGY*

### ***Harlem River Drive northbound ramp to the George Washington Bridge(Manhattan)***

Cleaning and painting of the bridge, which began in September 2010, was completed in December 2010.

## ACCOMPLISHMENTS & PLANNED PROJECTS

### East River Bridges

A \$3.6 billion reconstruction program is underway to rehabilitate all four East River crossings. In 2009, these bridges carried some 485,313 vehicles per day. In 2002, working in coordination with the NYPD and other law enforcement agencies, the Division implemented enhanced security measures on these bridges. This work is ongoing.



Brooklyn Bridge Biennial Inspection in October 2010.

In 2009, the Manhattan, Queensboro, and Williamsburg Bridges were designated National Historic Civil Engineering Landmarks by the American Society of Civil Engineers, which had previously landmarked the Brooklyn Bridge in 1972.

On April 9, 2010, the American Society of Civil Engineers (ASCE) dedicated the National Historic Civil Engineering Landmark plaques on the Queensboro, Williamsburg, and Manhattan Bridges. ASCE National President Blaine D. Leonard, ASCE Met Section officers, and DOT officials unveiled the bronze plaques marking the designation at each of the bridges and then formally presented them to DOT in a ceremony held at the New York City College of Technology in Brooklyn.

The plaque at the Queensboro Bridge is on the Manhattan side, along East 60<sup>th</sup> Street, just west of its intersection with First Avenue. The inscription on the plaque reads as follows: "The Queensboro Bridge was the longest cantilever span in North America (1,182 feet) from 1909 until the Quebec Bridge opened in 1917 and the longest in the United States until 1930. Many engineers, including R. S. Buck and Gustav Lindenthal, along with architect Henry Hornbostel, were involved with the design and construction of the Queensboro Bridge, which spurred the development of the Borough of Queens."



The Queensboro Bridge Plaque. The Late Robert A. Olmsted, Past ASCE Met Section President Craig Ruyle, NYC Bridge Centennial Commission President Sam Schwartz, ASCE National President Blaine D. Leonard, Chief Bridge Officer Henry Perahia, and ASCE President-Elect Andrew W. Herrmann. The Guastavino Tile Vaults in the Ceiling of the Bridgemarket are one of the Queensboro Bridge's Noted Architectural Elements. (Credit: Jagtar Khinda)

The Williamsburg Bridge plaque was unveiled at the Manhattan approach, near the intersection of Delancey Street and Clinton Street, at the entrance to the pedestrian and bicycle path. The inscription on the plaque reads as follows: "Designed by Leffert Lefferts Buck, a prolific bridge



## ACCOMPLISHMENTS & PLANNED PROJECTS

engineer of the post-Civil War period, the Williamsburg Bridge's 1,600-foot main span was the longest in the world from 1903 until 1924. With 40-foot deep stiffening trusses, it was the first major suspension bridge to have steel towers. It is also an important link in New York's rail transit system."



The Williamsburg Bridge Plaque. Manhattan Bridge Engineer-In-Charge Brian Gill, Robert A. Olmsted, Past ASCE Met Section President Craig Ruyle, ASCE National President Blaine D. Leonard. Deputy Chief Engineer Russell Holcomb.  
(Credit: Jagtar Khinda)

The Manhattan Bridge plaque was unveiled on the plaza near the entrance to the pedestrian path, which is located on the east side of Jay Street between High and Sands Street, where ASCE President Leonard was joined by Commissioner Janette Sadik-Khan and Chief Bridge Officer Henry D. Perahia. The inscription on the plaque reads as follows: "A wire cable suspension bridge with a main span of 1,470 feet, the Manhattan Bridge was the world's third longest from 1909 to 1924. Working under Chief Engineer Othniel Foster Nichols, Leon Moisseiff designed the bridge, employing the first use of deflection theory on a suspension bridge, considered to be the first modern suspension bridge. It was also the earliest to use slender "two dimensional" steel towers with shallow stiffening trusses. It is an important link in New York's rail transit system."



The Manhattan Bridge Plaque. Robert A. Olmsted and Manhattan Bridge Engineer-In-Charge Brian Gill. NYC Bridge Centennial Commission Secretary Barry Schneider. Deputy Chief Engineer Jay Patel.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Civil Engineer Salvatore Galletta, Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse, Manhattan Bridge Engineer-In-Charge Brian Gill, Commissioner Janette Sadik-Khan, ASCE Met Section President Anthony Cioffi, Past ASCE Met Section President Craig Ruyle, ASCE National President Blaine Leonard, Chief Bridge Officer Henry Perahia, Deputy Chief Engineer Jay Patel, Deputy Chief Engineer Russell Holcomb, and U.S. Army Corps of Engineers Lt. Col. Michael Clancy – Deputy Commander New York District.  
(Credit: Jagtar Khinda)



Manhattan Bridge Engineer-In-Charge Brian Gill, Deputy Chief Engineer Jay Patel, Commissioner Janette Sadik-Khan, and Chief Bridge Officer Henry Perahia. (Credit: Jagtar Khinda) Division Maintenance Crew Prepared the Area Prior to the Ceremony: Highway Repairer Louie Dumeng, Assistant City Highway Repairer Victor Magagna, Supervisor Highway Repairer Thomas Cruz, Area Supervisor Highway Maintenance Michael Cumiskey, and Assistant City Highway Repairers Luciano Cardona and Jonathan Adorno.



The Dedication Ceremony. Dr. Bonne August, Provost and Vice President for Academic Affairs at New York City College of Technology (City Tech) of The City University of New York (CUNY). Robert A. Olmsted, Chair of the ASCE Met Section's History and Heritage Committee and a Transportation Engineer, Builder, Historian and Industry Mentor for More Than 60 Years. In 2006, He was the Recipient of its National Civil Engineering History and Heritage Award. Mr. Olmsted was Instrumental in Securing ASCE Historic Landmark Status in 2009 for the Manhattan, Queensboro and Williamsburg Bridges. Chief Bridge Officer Henry Perahia. ASCE National President Blaine D. Leonard, ASCE Met Section President Anthony Cioffi, and Past ASCE Met Section President Craig Ruyle. (Credit: Jagtar Khinda)

## ACCOMPLISHMENTS & PLANNED PROJECTS

### 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.



Biennial Inspection in October 2010 – Masonry and Cables.



Brooklyn Bridge Plaques: Engineering Landmark. (Credit: Michele N. Vulcan) 1899 - Near the Franklin Truss of the Bridge, Marking the Site of George Washington's First Presidential Mansion, Franklin House. (Credit: Hany Soliman) 1991 New York City Landmark. Historic Landmark. 1954 Reconstruction, Two Cities, and Roebling Memorial Plaques. (Credit: Michele N. Vulcan)

The Brooklyn Bridge carried some 125,021 vehicles per day in 2009. The \$832 million reconstruction commenced in 1980 with Contract #1, and continues with Contract #6, scheduled for completion in 2014. 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.



Brooklyn Bridge Ramps and Arches in November 2008. (Credit: Maria Mikolajczyk)

## ACCOMPLISHMENTS & PLANNED PROJECTS

Seismic retrofitting of the remaining bridge elements requiring strengthening will be carried out under a separate contract. 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.



Ramps A , C, and F Will be Widened.

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.

Painting work, to prevent steel corrosion and improve aesthetics, will likely be the first phase of this project, and 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 on barges anchored to the Manhattan tower, 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



## ACCOMPLISHMENTS & PLANNED PROJECTS

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.



Red Brick Park – Brooklyn Banks.



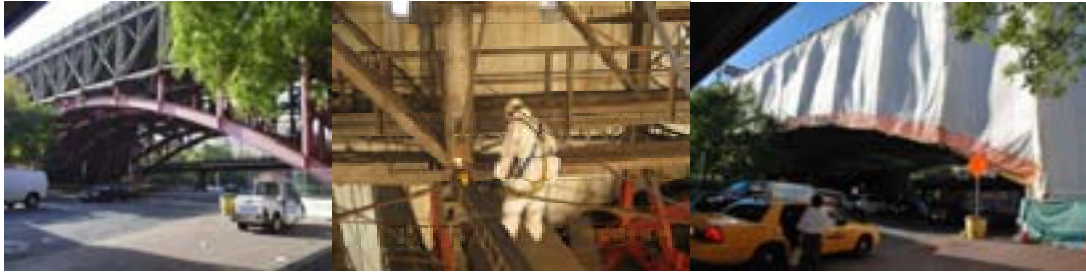
July 2010: Installation of the Platform for the Abrasive Blasting Operation at Franklin Square and the Containment Rigging at Pearl Street.



The Abrasive Blasting Operation at Franklin Square Began on August 26, 2010. Pearl Street Abrasive Blasting. Installing the Platform Under the Main Span.

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, the Franklin Square Arch will undergo seismic retrofitting, 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.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Franklin Square Arch. Inspection of Blasting Surfaces Inside the Containment in September 2010. Containment Installed at Arch in October 2010.

The contract allows for 24 weekend closures over the four year period; 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.

In 2010, after mobilization, the contractor started work on the ramp foundation and set up the containment for the lead paint removal. Other activities included detailed surveying, installation of super slabs and the fabrication of precast members.

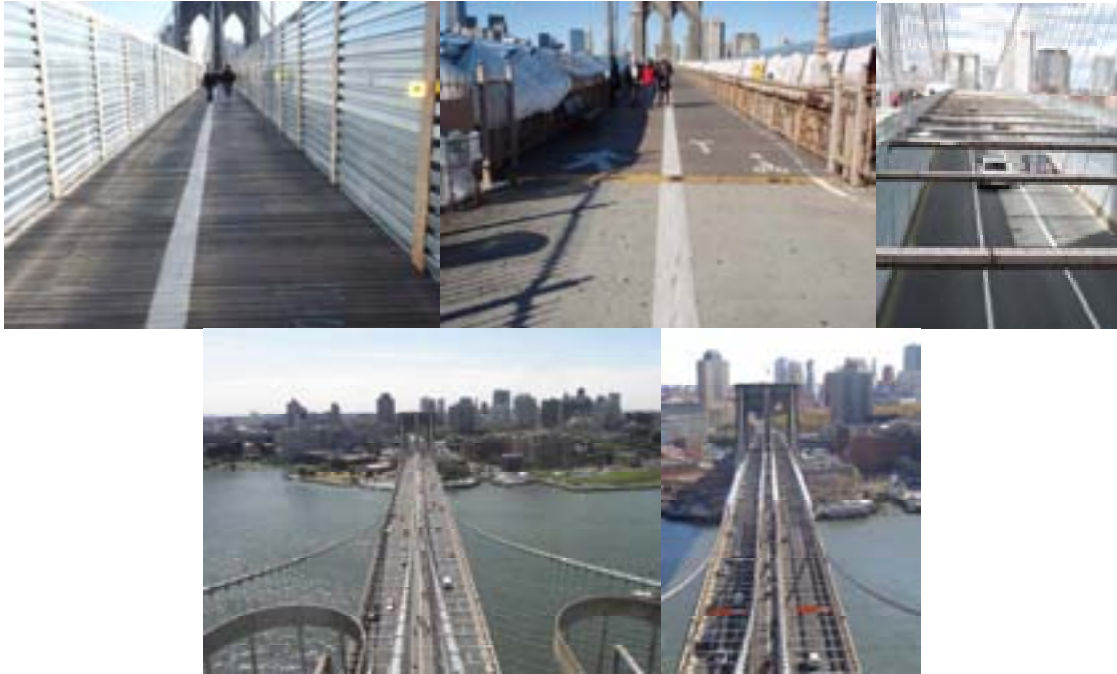


May 2010: Test Pit on Brooklyn-Bound Manhattan Approach. June and July 2010: Excavation and Concrete Placement for Pile Cap at Ramp A Bent 7A.



June 2010: Brooklyn Tower – Facing Manhattan. July 2010: Preconstruction Lightning Protection Inspection on the Manhattan Main Tower Top Looking South - Jeff Hu, Doug Reese, and Civil Engineer Sudhakar Pallaki. Vertical Containment Installed at Main Bridge Span – Facing South – in October 2010. Close-up of Containment System in November 2010 – Looking North From Brooklyn Bridge Park.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Bicycle/Pedestrian Path with Protective Shielding and Containment in November 2010. Roadway Shielding in October 2010. Main Span View in June and November 2010. (June Span Credit: Thomas Whitehouse. November Span Credit: Bojidar Yanev)

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 Queensborough, Williamsburg and Brooklyn Bridges. The test fixtures were removed on April 24, 2009. The replacement of the existing mercury vapor lights on the Queensboro and Williamsburg bridges will take place in 2011. The replacement of the Brooklyn Bridge necklace lights will not be scheduled until the completion of Contract #6.

In October 2010, the contractor for the Manhattan Bridge installed the new LED prototype with opal glass globe at PP 50 on the Brooklyn Main Span, Cable D (North cable) of the Manhattan Bridge. The adjacent necklace light at PP 52 is an existing mercury vapor and the adjacent light at PP 48 is induction with frosted globe. The replacement of the existing lights with the new LED' will begin in the spring of 2011 and be completed in the spring of 2013.



Supervisor Electrician Ben Cipriano in October 2008 With Both Mild and Bright Induction Light Fixtures for Testing. For Comparison Purposes, There is a Mix of Clear and Frosted Globes. (Credit: Russell Holcomb)



## ACCOMPLISHMENTS & PLANNED PROJECTS

### MANHATTAN BRIDGE

The youngest of the three NYCDOT suspension bridges that traverse the East River, the Manhattan Bridge carries some 397,436 commuters – 71,936 vehicles and 325,500 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 completed 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.



Bridge Detail and Coleman Playground at Monroe Street Under the Bridge. (Credit: Bernard Ente)  
Construction Plaque. (Credit: Jagtar Khinda) Bridge in July 2009. (Credit: Bernard Ente)

The \$901 million reconstruction commenced in 1982 with Contract #1, and continues with Contract #14 to rewrap the cables and replace the suspenders and 166 necklace lights. Completion is expected in summer 2013. The reconstruction will end with a future seismic retrofit contract. Work completed on the bridge to date includes reconstruction of the south and north upper roadways, 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.



"The Spirit of Commerce" Sculpture and the Underside of the Arch. Part of the Colonnades. (Credit: Peter Basich)  
The Historic Arch. (Credit: Earlene Powell)



## ACCOMPLISHMENTS & PLANNED PROJECTS

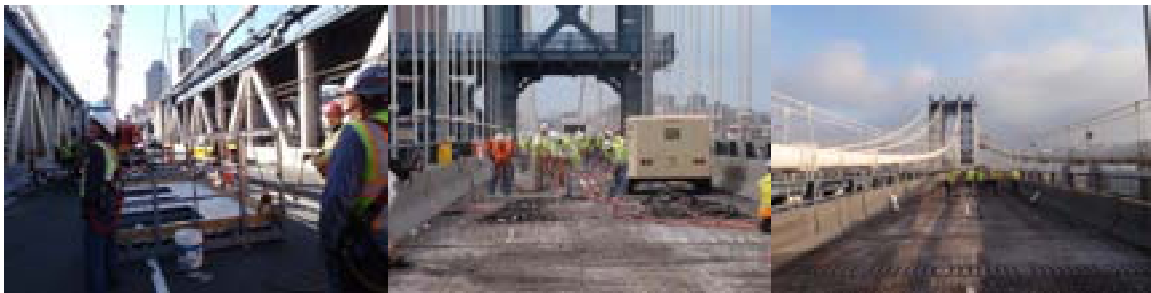


"The Spirit of Commerce" Sculpture and the Underside of the Arch. Part of the Colonnades. (Credit: Peter Basich) The Historic Arch. (Credit: Earlene Powell) The "Native American Buffalo Hunt" Sculpture Panel. (Credit: Peter Basich) Bridge Detail. (Credit: Jagtar Khinda)

### 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 will be rehabilitated with new wire wrapping and a neoprene barrier to insulate from weather. In addition, all vertical suspenders will be replaced. A Notice to Proceed for this \$149 million 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 rewinding, suspender replacement, and continuity plate replacement.



April 2010: Erection of Upper Chord Platform for Cable C Truss. June 2010: Demolition of North Upper Roadway Micro-Surfacing Layer.



June 2010: Placement of Micro-Surfacing Layer on North Upper Roadway. July 2010: Main Cable Work Platform for Cable C.

## ACCOMPLISHMENTS & PLANNED PROJECTS



August 2010: Main Cable Work Platform With Containment Tarps. September 2010: View of Cable C With Wrapping Machine. October and November 2010: New Cable Guard Installed on Cable C.



October and November 2010: New Cable Guard Installed on Cable C. November 2010: New Suspender Installed on Main Cable C.

### QUEENSBORO BRIDGE

At the time of its completion in March 1909, the Queensboro Bridge (popularly referred to as the 59<sup>th</sup> Street Bridge), was the longest continuous cantilever-truss bridge in the world. While its starring role in the hierarchy of bridges has since been eclipsed by longer and larger structures, the Queensboro Bridge's importance to the mobility and unity of New York City remains undimmed. The bridge was designated as a national landmark on November 23, 1973. The \$807 million reconstruction commenced in April 1981 with Contract #1, continues with a contract for the installation of aviation lights, and will end with a future seismic retrofit contract. Work completed on the bridge to date includes the rehabilitation of the lower inner roadways, the lower outer roadways, the restoration of the Guastavino arches and the Bridgemarket area, rehabilitation of the overhead sign structures in Manhattan, the upgrading of roadway lighting (by replacing all low-pressure sodium lights on the bridge and ramps with high-pressure sodium lights), the geometric improvement of Crescent Street, bikeway and walkway improvement, repair of the south upper roadway concrete overfill and overlay, the promenade platform, the traveler platform, the sidewalk between 61<sup>st</sup> and 62<sup>nd</sup> Streets, and the underside of the 59<sup>th</sup> Street overpass, as well as the rehabilitation of the Sanitation Department area's arch infill, modifications to the maintenance facility beneath the Manhattan approach plaza, and the restoration of the kiosk in the plaza on the Manhattan side of the bridge. This small historical structure was in an advanced state of disrepair and had been damaged by repeated vehicular impacts. The south outer roadway is open to automobile vehicular traffic, and the north outer roadway is open to pedestrians and bicyclists. The work on this vital link between Manhattan and the outer boroughs will enable this 75,000-ton workhorse to better provide the citizens and commerce of New York City with a second century of reliable, prosperous transport. The Queensboro Bridge carried 180,162 vehicles per day in 2009.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Queensboro Bridge in 2009. (Credit: Bernard Ente) Close-up of the 1909 Dedication Plaque. (Credit: Peter Basich) The Granite Fountain, Built in 1918 for a Farmers' Market Beneath the Bridge, was Rededicated in June 2003 After Restoration. Evangeline Blashfield was the Model for the Fountain's Glass Mosaic of a Woman With a Cornucopia. Her Husband, Artist Edwin Blashfield, Designed the Work. (Description: Greater Astoria Historical Society, Roosevelt Island Historical Society. Credit: Bernard Ente)

A Notice to Proceed for the replacement of the bridge aviation lights was issued to the contractor with a start date of July 12, 2010. It is scheduled for completion by spring 2011.



September 2008: Looking West From Tower 1. (Credit: Russell Holcomb) Bridge Details in 2008 and 2009. (Credit: Bernard Ente) DEP Sludge Boat "Red Hook" Passing Under the Queensboro Bridge in June 2009. (Credit: Bernard Ente)

### WILLIAMSBURG BRIDGE

The largest of the three suspension bridges that traverse the East River, the Williamsburg Bridge carries some 208,194 daily commuters –108,194 in vehicles and 100,000 via mass transit - on eight traffic lanes, two heavy rail transit tracks, and a pedestrian footwalk, between Manhattan and Brooklyn. The bridge supports a subway transit line upon which three different train lines operate (J, M, and Z). The \$1.2 billion reconstruction commenced in 1983 with Contract #1, and continues with Contract #8, which began in March 2003 and is scheduled for completion by summer 2011.



## ACCOMPLISHMENTS & PLANNED PROJECTS



Williamsburg Bridge in February 2010. (Credit: Samuel Teaw). October 2010: FDNY Boats at Bridge Tower Bases During Testing.

In order to minimize disruption to the riding public and ensure that traffic is maintained across the bridge, the rehabilitation of the Williamsburg Bridge was divided into several contracts. In the contracts completed to date, all four main cables have been completely rehabilitated, the south and north roadways of the bridge have been replaced and the BMT subway structure across the bridge was completely reconstructed.

### Contract #8

**Contract #8** began on March 3, 2003, and is scheduled to finish by summer 2011. This \$280 million project will see the rehabilitation of the tower bearings, the truss system, the steel structure of the two main towers and six intermediate towers, the north comfort stations, the replacement and/or adjustment of the main cable suspenders, the installation of two maintenance travelers (inspection platforms) under the main span, as well as painting of the north and south main bridge stiffening trusses. Architectural work will include the restoration of decorative lights on the main towers and in the Manhattan Plaza. Work inside the anchorage houses on both the Manhattan and Brooklyn sides will include the construction of new stairs, two hoisting systems, a ventilation system, additional lighting, and maintenance/oiling platforms. The project will also include the installation of several Intelligent Transportation System components, including variable message signs and closed circuit television cameras.

The seismic retrofitting of the steel portions of the intermediate towers was completed on July 20, 2007. The Brooklyn and Manhattan maintenance travelers were delivered on barges and raised into position in August and October 2007. The Manhattan anchorage hoist and new staircases for both anchorages were also completed in 2007. The maintenance travelers are currently undergoing pre-operational testing and final inspection and are expected to be completed in 2011. Installation of the top chord roller bearings at the main towers was completed in October 2007. Installation of the Brooklyn and Manhattan anchorage maintenance platforms will be completed in 2011.

As Contract #8 concludes the reconstruction of the bridge, extra items deemed necessary were added later, extending the length of the contract. These items included: modification of the footwalk joints, replacement of the south outer roadway overlay system, the seismic retrofit of the steel and concrete portions of the intermediate towers, traffic signal and sign modifications of Delancey Street for the contraflow operation, additional steel flag repairs after the biennial inspection, replacement of eight intermediate tower truss bearings, and the rehabilitation of the wind tongue casting assembly at the main towers.

Work completed in 2008 included the installation of the Brooklyn anchorage hoist, the bridge identification system, the removal of the main bridge flexible shield system, the top chord transverse truss bearings, the erection of the new Manhattan entry electroliers and the rehabilitation of the main tower electroliers, and the seismic retrofit of the intermediate tower bases.



## ACCOMPLISHMENTS & PLANNED PROJECTS



2009: Testing the Intermediate Tower Bearings at Lehigh University in January 2009. March 2009: Looking East at the Bolting up of the Truss Reinforcement at PP10W in Preparation for Bearing Replacement.



May 2009: Looking West at the Repair of the North Footwalk Overlay between PP10W and PP11W. August 2009: Looking North at Installation of the Fender System at the Manhattan Main Tower.



2009: Looking Southeast at the Installation of the Triangular Jacking Frame for the Intermediate Tower Bearing Replacement in January 2009. Main Tower Pier Fender System Installation in July 2009.

Work completed in 2010 included the installation of the eight intermediate tower truss bearings, the maintenance travelers, the main tower pier fender system, the aviation light lightning protection system, and FDNY dry standpipe testing.



January 2010: Looking West at the Modular Joint Try-Out on the Manhattan Approach. March 2010: Looking West at the Replacement of Damaged Sand Drums at the Brooklyn Plaza. May 2010: Looking North at the Concrete Placement at the Manhattan North Comfort Station for the Wall Enclosure. March 2010: Looking East - Repairing Damaged Impact Attenuator at the Manhattan Anchorage.

## ACCOMPLISHMENTS & PLANNED PROJECTS



May 2010: Looking East at the Application of the Intermediate Coat on the South Outer Roadway Downspout Between PP50W and PP51W. June 2010: Looking East at the Replacement of the One Rail Bridge Rail at the Manhattan End Span. June 2010: Looking West at the Touch-Up Painting of North Truss at Brooklyn End Span.



July 2010: Looking West From the North Outer Roadway at Painting on Cable A. Looking East From the North Outer Roadway at the Painting of Cable D. Looking West at the Concrete Placement at the Brooklyn North Comfort Station for the Wall Enclosure.



July 2010: Looking East at Damaged Brooklyn Tower (South Outer Roadway) Strut Replacement. October 2010: Looking East at the Lane 8 Precast Barrier Concrete Foundation Placement at Manhattan Plaza.

Work anticipated to be completed in 2011 includes the rehabilitation of the Kent Avenue yard voids, wind tongue pin rehabilitation, the rehabilitation of PP29 North and South outer roadway orthotropic deck hinged pressure relief joints, the rehabilitation of the south roadway and anchorage modular joints, flag repairs from 2010 Biennial inspection, precast barrier installation at the north Manhattan and south Brooklyn anchorages, installation of precast barriers in lane 8 at the Manhattan Plaza, removal of all temporary barriers, installation of a safeguard gate at the Brooklyn Plaza, installation of the lane control panel awning at the Manhattan plaza, and striping at the Brooklyn and Manhattan anchorages and approaches.

## 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.

#### **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 2010, the number of openings declined further to a total of only 197 openings.

In addition, significant and costly traffic congestion results from the operation of this outmoded drawbridge. In 2009, the Mill Basin Bridge carried 144,536 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 2010, on a New York State-mandated scale from 1 to 7, this bridge had a condition rating of 3.463, 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.



Belt Parkway Bridge Over Mill Basin. Aerial View.

The replacement will be a 1,757-foot, 11 span fixed bridge, north of the existing structure. 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. 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



## ACCOMPLISHMENTS & PLANNED PROJECTS

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. 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 May 2012, and to last approximately 4 years.

### BORDEN AVENUE BRIDGE OVER DUTCH KILLS (QUEENS)

The Borden Avenue Bridge over Dutch Kills is located just south of the Long Island Expressway between 27<sup>th</sup> Street and Review Avenue in the Sunnyside section of Queens. It is a retractile-type movable bridge. The original bridge construction was completed in 1908 and was opened to traffic on May 25, 1908.



1908 Borden Avenue Bridge Plaque. Waterside View in 2008. (Credit: Bernard Ente)

The bridge structure carries two lanes of vehicular traffic with sidewalks on either side. The roadway is 34 feet wide and the sidewalks are 8 feet wide.

In the spring of 2008, the Department observed that an existing crack in the west abutment's wingwall had opened up further. Following a series of subsequent inspections, it was determined that there is continuing movement of the west abutment wall. In an effort to mitigate this condition, two pressure relief joints were installed in the roadway, and the speed limit for eastbound traffic was posted at 15 miles per hour. Unfortunately, these measures did not stop or slow the abutment wall's movement.

The movement of the wall was undermining the stability of the bridge. Due to the potentially serious danger to life, public safety and property posed by the current condition, it was critical that the repair work be performed as expeditiously as possible.

On October 16, 2008, 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 movable bridge carrying the Borden Ave. over the Dutch Kills in Queens.

The repairs included the following: removal of the fill material under the roadway and sidewalks from behind the west abutment and between the wingwalls; relocation of the existing utilities; digging of a test pit to inspect the supporting piles; inspection of the condition and the taking of measurements; and the implementation of the appropriate repair solution based on the inspection findings.

The bridge was closed at noon on December 31, 2008. A Letter of Intent for the emergency repair of this bridge was issued to the contractor with a start date of January 6, 2009. The bridge



## ACCOMPLISHMENTS & PLANNED PROJECTS

was reopened to vehicular traffic on December 24, 2010. Construction is expected be complete by May 2011.



Diver Preparing to Inspect the Borden Avenue Bridge in April 2009. (Credit: Bernard Ente) Late December 2010: Bridge Open to Vehicular Traffic. (Credit: Mitch Waxman)

A project to replace the existing steel bridge and repair the west abutment is scheduled to begin in May 2017. The work will also include upgrades to the mechanical and electrical components of the bridge. Construction is expected to be completed in December 2018.

### **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 2009, the bridge carried 35,566 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 in December 2008.  
(Credit: Sergey Parayev)

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

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

approximately \$8.7 million.

The bridge also underwent 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 2013. 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 strengthening of the fender system with concrete cribbing. Construction is expected to be complete in July 2016.

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

This double leaf bascule bridge opened in 1953. In 2009, the bridge carried 61,700 vehicles per day. The 17 span structure (three waterway and fourteen concrete approach) carries five lanes of the Bruckner Boulevard Expressway service road traffic over Westchester Creek. 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 10-foot shoulders on both sides of the bridge; a new 15-foot bicycle/pedestrian path on the south, 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. The design is in the preliminary stage, however, reconstruction is scheduled to start in July 2014. The estimated construction duration will be a total of 60 months.

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Unionport Bridge in 1953 and 2009.



Unionport Bridge in 2002. (Credit: NYSDOT) Eastbound View.

### 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 design life. Moreover, the bridge does not have any back-up operating system which will make the bridge inoperable in case of failure of any component of the Interim Drive System. The preliminary design phase of this project is expected to begin in early 2011. In 2009, the bridge carried 43,480 vehicles per day.



Madison Avenue Bridge Sign in 2007. (Credit: Duane Bailey-Castro) Bridge in 2009. (Credit: Bernard Ente)

## ACCOMPLISHMENTS & PLANNED PROJECTS

### 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 carries single lane of traffic in each direction. On August 3, 2008, the tunnel was converted to single lane one-way (northbound).

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 July 2016 and be complete in January 2019.



Park Avenue Tunnel in 2003. (Credit: NYSDOT)

### ROOSEVELT ISLAND BRIDGE OVER EAST RIVER/EAST CHANNEL (MANHATTAN/QUEENS)

This lift bridge opened in 1955, when it was known as the Welfare Island Bridge. In 2009, the bridge carried 9,454 vehicles per day. The 8 span structure carries two lanes of traffic over the East Channel of the East River. It is the only vehicular access to Roosevelt Island from the Borough of Queens.



American Institute of Steel Construction 1955 Award Plaque. Original Control Desk. Welfare Island Plaque.

A Notice to Proceed for the \$86.5 million reconstruction of this bridge was issued to the contractor with a start date of March 12, 2007. The project's scope of work includes rehabilitation of the existing bridge superstructure, substructure and approaches, replacement of some of the existing



## ACCOMPLISHMENTS & PLANNED PROJECTS

mechanical and all of the electrical systems for the lift span, rehabilitation of the bridge operator house, installation of safety fences on the sidewalk, replacement of the street lighting, resurfacing of the approach roadways, installation of pigeon proofing systems and re-painting the entire structure. The project will also include the installation of a dedicated right-hand turn lane onto the southbound Vernon Boulevard in Queens, and the construction of a new back-up generator building under the Queens approach to provide power to allow operation of the bridge in an emergency. Fabrication and testing of mechanical and structural components was in progress by the end of 2007.

By the end of 2008, the rehabilitation of the existing bridge superstructure, substructure and approaches was nearly complete. The roadway was returned to full service on December 2, 2008 after the complete re-decking of the main bridge and approaches. The sidewalks were returned to service in 2009. Due to a design change, the replacement of some of the existing mechanical and all of the electrical systems for the lift span, and the rehabilitation of the bridge operator house was performed during a Navigation Channel closure between October 2009 and August 2010. The installation of safety fences on the sidewalk, replacement of the street lighting, resurfacing of the approach roadways, and installation of pigeon proofing systems was completed in 2009.



Open Queens Approach Roadway of the Roosevelt Island Bridge in December 2008. September 2009: Preparation for Tower Roof Dismantling. Nets, Tarps and Fences were Installed to Catch any Debris.

The cleaning and repainting of the bridge began in January 2008, and the structure painting was complete by the end of 2009. Local touch up painting followed the installation of the new lift machinery. The Department and its contractor strictly adhered to the safety requirements regarding lead paint removal as approved by the United States Environmental Protection Agency and the 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.

The work was performed within an entirely sealed Class 1A containment system (under negative pressure) which acted as an added safety measure to prevent any materials from escaping into the air. Filtration of the enclosed air prevented paint waste dust from being released. The Department placed several air monitoring stations in the area around the bridge. The Department performed continuous monitoring and testing of the soil and air quality as well as noise levels in the area surrounding the containment enclosure to minimize impacts and ensure the safety and quality of life for workers and residents nearby.



December 2008: East Approach Sidewalk. : Lift Span Open Grid Deck. Lift Span South Elevation

## ACCOMPLISHMENTS & PLANNED PROJECTS



January 2010: Delivering Machinery Components to the East and West Machinery Rooms. February 2010: Removing Railing From the Roosevelt Island Side of the Bridge. July 2010: Cleaning and Dismantling of the Platform Under the Main Span.

In 2010, the contractor completed the rehabilitation of the machinery, replacement of the bridge's power systems, installation of the bridge control systems, installation of new barrier gates, bridge railings, warning lights, new protective bollards, replacement of the sewer lines with new curbing, and the replacement of pavement. Under-deck temporary work platforms were removed and the bridge is now operational for the passage of marine traffic. Construction is expected to be completed in March 2011.



Roosevelt Island: North Sidewalk With New Pedestrian Fence. Vernon Boulevard and 36<sup>th</sup> Avenue Intersection With New Turn Lane. Recently Painted Bridge With New Traffic Control Equipment.

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

This bridge, built in 1908, was originally called the Pelham Parkway Bridge over Eastchester Bay. In 2009, the bridge carried 17,521 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

## ACCOMPLISHMENTS & PLANNED PROJECTS

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)

As of the end of 2009, a mid-level, single leaf bascule movable bridge was in design. It will be constructed to the south of and parallel to the existing bridge, with a wider navigation channel. An environmental impact study, co-sponsored by the Federal Highway Administration, is underway. The project to construct a new Shore Road Bridge is scheduled for construction between October 2019 and January 2024.



Shore Road Bridge in 1909. Open Bridge in 2007. (Credit: Peter Basich)

### 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 along the East River, the bridge is located between exits 14 and 15 of the FDR Drive. This vertical-lift bridge has a total of twelve spans. Spans one through four are located on the Manhattan side of the bridge and are oriented from south to north. At span five the bridge turns from west to east. 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.



## ACCOMPLISHMENTS & PLANNED PROJECTS



Aerial View. Tower Detail in 2009. (2009 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. Construction is expected to be completed in August 2012.



Wards Island Pedestrian Bridge After Completion of Painting in 2003.  
FDNY Rescue Boat Near the Bridge in 2008. (2008 Credit: Bernard Ente)



Existing Concrete Deck.



## ACCOMPLISHMENTS & PLANNED PROJECTS



Proposed Fencing, Lighting, Access Platform and Handrail Along the Wards Island Bridge.

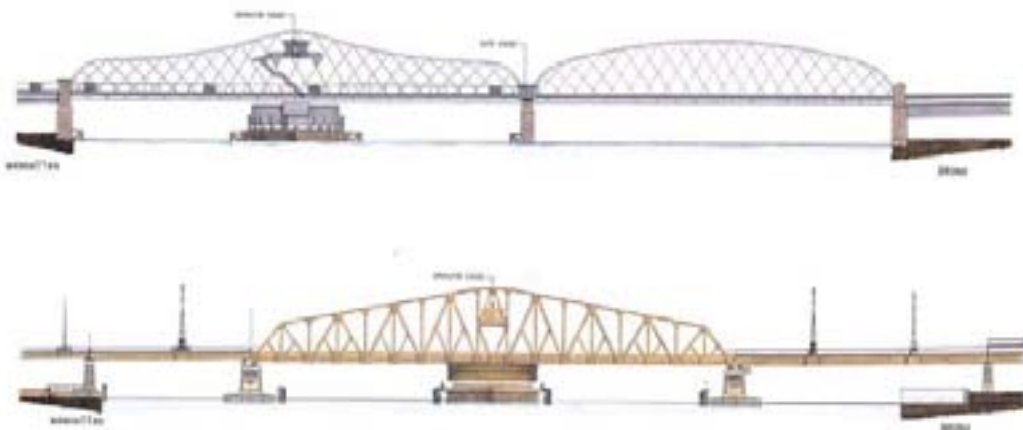
### **WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER (BRONX/MANHATTAN)**

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 132nd Street 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 Expressway in the Bronx, the Willis Avenue Bridge carried approximately 58,548 vehicles per day in 2009. 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. The ramp from the FDR Drive was put out of service with traffic entering the bridge from a temporary loop ramp installed as part of the project. Under the Department's reconstruction program, these substandard curves were eliminated.

Because of the advanced age and condition of the Willis Avenue Bridge, the City of New York is replacing the existing bowstring truss swing bridge with a new swing span bridge constructed just to the south of the existing bridge. Elimination of the center median on the main span will greatly improve the traffic flow on the bridge.



Old and New Willis Avenue Bridge Span.

## ACCOMPLISHMENTS & PLANNED PROJECTS

A direct connection to the northbound Major Deegan Expressway in the Bronx is under construction. There will be wider travel lanes with shoulders, and a broader, combined pedestrian/bicycle pathway along the north side of the bridge.

New, tested and inspected materials are being used, including 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.

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 will be 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. A symbolic portion of the historic original Willis Avenue Bridge will be retained in place as a monument to the bridge in Harlem River Park.



Willis Avenue Bridge Project Map.

The project will also replace the FDR Drive approach ramp and the ramp onto Bruckner Boulevard. NYCDOT will also reconstruct Willis Avenue over the Major Deegan Expressway for the New York State Department of Transportation.

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.

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, will not reopen until the temporary ramp is removed in June 2011.



Pier 9 Drilled Shaft Footing in November 2008. The First River Pier in November 2008.

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 will allow 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

## ACCOMPLISHMENTS & PLANNED PROJECTS

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 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, and was completed in May 2010. The span was floated down the Hudson River on July 14, 2010. 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 is complete. 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.



2009: The Primary Equipment Utilized During Caisson Installation was an Augering System Driven Into the River Bottom. Water From the Harlem River was Pumped Into the Augering System. All Augered Waste was Pumped out of the Caisson Into a Weir Barge. All of the Water Within the Weir Barge was Filtered Through a Fabric Medium and Pumped Back into the Harlem River. This System Effectively Removed all of the Solids From the Wastewater. April 2009: Willis Avenue Bridge Pier 9 Rebar Columns.



October 2009: Assembling the Willis Avenue Bridge Swing Span near Albany, New York. Willis Avenue Bridge  
August 2009: Installation of Tub Girders on Temporary Supports. September 2009: Existing and New Ramps to Bruckner Boulevard.

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 opened to traffic on February 12, 2010. The work then proceeded with the demolition of the existing ramp. In the river, work was initiated on placement of the submarine power cables. All during the winter, swing span truss erection continued at Coeymans in upstate New York. This work also included installation of the bridge machinery components.



## ACCOMPLISHMENTS & PLANNED PROJECTS



January 2010: Installing Caissons at the First Avenue On-Ramp. April 2010: Roadway and Steel Structure Demolition. Removal of Lead Based Paint From Structural Steel Cutline Locations Within a Class 3P Containment.



Late March 2010: Assembling the Willis Avenue Bridge Swing Span near Albany, New York. (Credit: Bernard Ente)



April 2010: Pier 7 Construction. At Pier 4: FHWA Area Engineer David Hart, Engineer-in-Charge James Cusack, FHWA Structural Engineer Earl Dubin, Resident Engineer Abdi Hedayati, and Interim Director of Movable Bridges Hani Faouri.

In July 2010, the swing span was towed to New York City without incident. After staying for two weeks at a contractor yard in Jersey City, on July 26, it was towed to the bridge site and on August 9, was floated into place on the new center pier. Mayor Michael R. Bloomberg blew the air horn to initiate the float-in process and later in the day held a press conference on the newly poured adjoining span deck surface.



## ACCOMPLISHMENTS & PLANNED PROJECTS



The New Swing Span was Moved From the Assembly Area at Coeymans in Upstate New York to the Twin Barges on July 11 and 12, 2010. It was Then Delivered by Barge to the Contractor Facility in Jersey City, New Jersey on July 14.



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



New Willis Avenue Bridge Span Passing Under the Manhattan Bridge. (Credit: Bojidar Yanev) Passing Under the Williamsburg Bridge. (Credit: Ronald Rauch) Passing Under the Queensboro Bridge. Passing Under the Wards Island Bridge. (Wards Island Credit: Nicholas Whitaker) New Span at the Work Site. (Credit: Bernard Ente)

## ACCOMPLISHMENTS & PLANNED PROJECTS



At the August 9 Float-in. Front Row: Commissioner Janette Sadik-Khan, Deputy Chief Engineer Russell Holcomb; Chief Staff Manager/Executive Director of Community Affairs Joannene Kidder, Mayor Michael R. Bloomberg, Section Chief Inspector Gregg Stark, MPT Inspector Margaret Cwikla, Rebar Owner Patricia Burney, Deputy Chief Engineer Jay Patel, and Assistant Civil Engineer Syed Naqvi. Back Row: Resident Engineer Abdi Hedayati, Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse, Project Manager Kevin Hughes, and Engineer-In-Charge James Cusack.



Representative José Serrano and Commissioner Janette Sadik-Khan. Mayor Michael R. Bloomberg and Commissioner Janette Sadik-Khan. Representative Charles Rangel and Commissioner Janette Sadik-Khan. (Credit: Robin Lester Kenton)



Administrative Engineer Samuel Teaw, Civil Engineering Intern Yi Li, Mechanical Engineering Intern Daniel MacCollum, Assistant Civil Engineer Hany Soliman, Deputy Chief Engineer Russell Holcomb, Assistant Electrical Engineer Saeb Aldogom, and Administrative Engineer Pinakin Patel. (Credit: Thomas Whitehouse) Assistant Civil Engineers Javier Beteta and Sarah-Ann Klein, Administrative Engineer Muhammad Afzal, Civil Engineer Thomas Deluca, Resident Engineer Abdi Hedayati, Civil Engineer Li Ping Chao, Civil Engineering Intern Giuseppe Sanfilippo, and Administrative Engineer Mohammad Arain.

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Setting up the Jacking System to Temporarily Support the Bridge at the Rest Pier.  
(Credit: Thomas Whitehouse)

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.



August 2010: Removal of Lead Based Paint From Structural Steel Cutline Locations Within a Class 3P Containment at the Manhattan End Span. Concrete Placement for Decks at Spans A10, A11, and 3.



August 2010: Ballasting of Barges and Transferring the Swing Span From Twin Barge to Two Single Barges.



## ACCOMPLISHMENTS & PLANNED PROJECTS



August 2010: Finished Placement of High Friction Concrete for Overhead Sign Structure at Span 9. Setting and Grouting Granite Stone Facing at Pier 8. Finished Placement of Caisson Concrete to New Higher Elevation at Bronx Relieving Platform "B".



August 2010: Placing Concrete on the Northbound Left Lane. Cleaning the Drainage Structures in the Northbound and Southbound Approaches. Removed the Temporary Pedestrian Bridge, Allowing Pedestrians to Access the South Sidewalk of the New Bridge.



Personnel From the Office of Management and Budget Visited the Site on September 23, 2010. With Interim Director of Movable Bridges Hani Faouri In Alphabetical Order: Rachel Berksons, Donna Brathwaite, Illiam Carrillo, Travis Godsoe, Community Liaison Martha Holstein, Terry M., Craig O'Connor, Diane Smith, Lee Solomon, Jill Woller, and Lyna Yip.

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. Traffic on Bridge. Chief Bridge Officer Henry Perahia and Engineer-In-Charge James Cusack.



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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. The project is slated for completion in December 2012.



October 2010: Contractor Completed the Removal of the Concrete Deck of the Bridge over the Major Deegan Expressway. October and November 2010: Floating Out the Bridge Spans. At the Float-Out: Assistant Civil Engineer Syed Naqvi, Project Manager Ghanshyam Patel, Interim Director of Movable Bridges Hani Faouri, and Civil Engineer Simona Finkelstein. The Old Arch Span.



NYC Marathon Runners on the New Bridge in November 2010. First Test Operation of the New Span in December.

## ACCOMPLISHMENTS & PLANNED PROJECTS



New Span in November 2010. (Credit: Bernard Ente) Old Willis Avenue Spans in December 2010. (Credit: Duane Bailey-Castro)

### 145<sup>TH</sup> STREET BRIDGE OVER THE HARLEM RIVER (BRONX/MANHATTAN)

The existing 145<sup>th</sup> Street Bridge is a swing type bridge with two throughtrusses. An eight-span structure, it carries four lanes of vehicular traffic over the Harlem River Drive, the Harlem River and Oak Point Link Railroad. Spans one and two were constructed in 1957 when the bridge was extended to span the Harlem River Drive. Spans six, seven and eight were reconstructed in 1990 in place of the original Bronx flanking span to provide a right-of-way for the Oak Point Link. In 2009, the 145<sup>th</sup> Street Bridge carried approximately 24,364 vehicles per day. This makes it one of the most essential routes for vehicles and pedestrians traveling between Manhattan and the Bronx. Vehicles, which cross this rim bearing swing bridge each day between the two boroughs, include buses, trucks and cars.

A Notice to Proceed for the \$69.4 million reconstruction of this bridge was issued to the contractor with a start date of July 15, 2004. The new swing span was assembled in Albany, New York in late 2005, and was floated-in on February 9, 2007.

The project included the complete replacement of the swing span and six approach spans, seismic retrofitting, partial reconstruction of substructures and the reconstruction of the approach roadways, sidewalks, and bridge railing. The design for the bridge utilized elements pre-fabricated off-site so as to allow a very quick replacement of the existing bridge in 3 stages totaling 18 months. Traffic was only impacted for the 15-month period of March 16, 2006 to June 18, 2007. All four lanes of the bridge were opened to vehicular traffic at 7:00 AM on June 16, 2007.



Bridge Sign. June 2007: New 145<sup>th</sup> Bridge at Night.

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

Work performed in 2008 included installation of mechanical equipment, connection of the gate house plumbing to the city system, centering device alignment checks, pointing of the stone walls, and switching the bridge systems on to the permanent electrical feeders.

Work performed in 2009 included touch-up painting, installation of several access platforms, new navigation lighting, installation of new electrical wire tracks in the swing span and the start of the final testing phase.

In 2010, significant progress was made in the electrical and mechanical bridge machinery construction tasks. Work performed included: removal of the concrete floor panel covers and installation of new lightweight concrete grating, replacement of the galvanized cover plates, permanent drilling, bolting and torquing of the bolts of the pinions, bearing, and secondary reducer brakes. Work was also completed on machinery room coupling alignments and gap measurement verification.

The contractor also completed the pulling of electrical cables, which required the removal of grout from the conduits near the southwest warning gate. In 2010, vehicle impacts damaged the southwest warning gate and the northeast barrier gate; the southwest gate was replaced and the northeast gate was repaired. The contractor continued to perform the required monthly bridge lubrication and equipment maintenance.

These upgrades have restored the structural integrity and extend the useful life of the 145<sup>th</sup> Street Bridge. The project is slated for completion in June 2011.

### **FLOAT OUT/FLOAT IN**

A technique referred to as “float out the old/float in the new” is being incorporated into replacement schemes for many movable bridges. Under this scheme, the old spans are floated out in their entirety and the new spans are floated in. Replacing the spans avoids the need to make cumbersome repairs to the existing trusses, costly removal of lead base paint from the steel, and painting of the entire structure at the site. Having the new spans constructed off-site and barged to the project allows for quick and efficient replacement of the removed span. Current projects that will incorporate this technique are: Borden Avenue Bridge, and Grand Street Bridge. The float-in of the new swing span of the Third Avenue Bridge was successfully performed in October 2004, as was the float-in of the 145<sup>th</sup> Street Bridge in February 2007, and the float-in of the new swing span of the Willis Avenue Bridge in August 2010.

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

### **Roadway Bridges**

#### **INNOVATIONS**

Innovations in the design and construction of Roadway Bridges continued in 2010. Where feasible, the continued use of precast elements in bridge reconstruction reduces construction duration and the resulting negative impacts on the traveling public. In addition, the implementation of applicable Environmentally Preferable Purchasing (EPP) standards on bridge projects will ease the impact of the increased demands on resources and surrounding environment, and Best Management Practices (BMP) in all applicable projects will mitigate the impact of the project on the surrounding environment.

**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)**

The Galloway Avenue culvert is a single span timber pedestrian bridge supported on a concrete abutment. The reconstruction project is still in the design stage.

The Forest Avenue culvert over Crystal Avenue is a single span reinforced concrete box culvert. 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 work will be performed in two stages with two traffic lanes maintained in each direction during construction.



Galloway Avenue over Marianne Street, Forest Avenue over Crystal Avenue.

The Naughton Avenue culvert consists of three parallel reinforced concrete pipes at the north and south ends separated by a twin barrel box culvert. 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 Midland Avenue culvert consists of a single span reinforced concrete box, which will be replaced with a new pre-cast box culvert. The work will be performed in two stages, with one lane of traffic maintained in each direction.



## ACCOMPLISHMENTS & PLANNED PROJECTS



Naughton Avenue over Patterson Avenue, Midland Avenue over Hylan Boulevard.

The Rockland Avenue reinforced concrete culvert project will include concrete repair and a lined and stabilized north embankment.

The Forest Avenue culvert over Randall Avenue is a single span concrete box culvert. 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.



Rockland Avenue over Brielle Avenue, Forest Avenue over Randall Avenue.

The Gregg Place culvert is a single span reinforced concrete box culvert. It will be replaced at the southern portion with a new precast box culvert with new pavement. 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 and a reinforced box culvert at south. 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.



Gregg Place over Randall Avenue, Arthur Kill Road over Muldoon Avenue.

## ACCOMPLISHMENTS & PLANNED PROJECTS

The Richmond Hill Road culvert consists of a single span stone masonry arch. 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. A temporary access bridge will be built over one lane so that one lane will remain open to traffic at all times.

The Arthur Kill Road culvert over Ridgewood Avenue consists of a non-reinforced concrete pipe at south and a corrugated metal pipe at north. 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 two stages of construction and one lane of traffic will be maintained in each direction.



Richmond Hill Road over Richmond Road, Arthur Kill Road over Ridgewood Avenue.

This project to rehabilitate and/or replace the ten culverts is currently in the final design stage, and is expected to begin in July 2014 and to be complete in 2015.

### ANNADALE ROAD BRIDGE OVER SIRT SOUTH SHORE (STATEN ISLAND)

This project replaced the existing two span bridge with a single span bridge, including the removal of the existing pier, the replacement of the existing north abutment and the rehabilitation of the existing south abutment. In addition, the work included removal and replacement of the existing concrete deck, sidewalks and curbs, and the replacement of the existing bridge railing system. The bridge was replaced in two stages. One lane in each direction was open to traffic at all times during construction. Pedestrian access was provided at all times. A Notice To Proceed was issued with a deferred date of May 27, 2008, the date when the portion of an ongoing DDC area-wide sewer and water main installation project within the bridge limits was completed.



Annadale Road Bridge in 2001. (Credit: NYSDOT)

In May 2008 the contractor mobilized and commenced Stage-1 construction activities. Stage I construction included the demolition and reconstruction of the eastern half of the bridge. The contractor completed Stage I deck removal on November 26, 2008. In 2009, the contractor

## ACCOMPLISHMENTS & PLANNED PROJECTS

completed the demolition of the super- and sub-structures of the existing eastern portion of the bridge, constructed the new east half of the north abutment, modified the top ten feet of the south abutment, erected the structural steel, placed the new concrete deck slab, installed telephone conduits, placed approach slabs, installed new bridge railings and protective fencing, completed roadway restoration work at the intersections of Annadale Road with Sneden Avenue on the south side and Posen Avenue on the north side, installed a temporary pedestrian walkway along the east fascia, and realigned the traffic configuration. The temporary pedestrian walkway was the result of a value engineering solution to address Stage II pedestrian access by eliminating a stand-alone pedestrian bridge crossing.

Stringer removal for Stage 1 was completed on February 20, 2009. Placement of concrete for the south abutment modification was completed on March 27, 2009. The joint was sealed between the new and existing concrete for the south abutment on May 6, 2009, and the area behind the south abutment was backfilled on May 7. The contractor removed and replaced the water main along Sneden Avenue on the night of June 12, 2009. Installation of the formwork and re-bars for the reconstruction of the north abutment stem wall and a portion of the wing wall was completed on July 8, 2009. From August 31, 2009 to September 4, the contractor performed the gas main work on the south side of the bridge at the intersection of Sneden Avenue and Annadale Road. Stage II construction began on December 7, 2009. The completed eastern half of the new bridge was opened to traffic in December 2009.



Annadale Road Bridge: Stage I Construction in February 2009. Saw Cutting the Diaphragms, Removing the Stringers, And Placing a Temporary Truss to Support Utility Conduits.



Annadale Road Bridge: Stage I Construction in February 2009. Placing a Temporary Truss to Support Utility Conduits. Removing the Eastern Bridge Railing Fence and the Stringer.



Annadale Road Bridge: Removing the South Abutment and Center Pier in March 2009. : Removing the North Abutment Footing and the Partly Embedded Abandoned Sewer Pipe Containing Asbestos in May 2009.



## ACCOMPLISHMENTS & PLANNED PROJECTS



Annadale Road Bridge: Placing the Concrete Deck in October 2009.

In 2010, the contractor demolished and reconstructed the western half of the bridge. Demolition of the substructure was completed on March 3, 2010. The placement of high performance concrete for the north abutment and wing wall footing was completed on March 24, 2010. Formwork installation for the north and south abutment backwalls began on April 29 and May 5, 2010. The installation of formwork and epoxy coated steel reinforcement for bearing pedestals along the North and South Abutments was completed this task on May 11, 2010. The replacement of the Annadale Bridge was substantially completed on September 27, 2010. Access to the SIRT station house was restored in October 2010.



Annadale Road Bridge: Substructure Removal of Pier in Stage II in February 2010. Structural Steel Removal of Stringer in May 2010. Finishing Machine Used in Dry Run in June 2010.



Annadale Road Bridge Stage II: Concrete Placement of the Deck Slab in June 2010 and of the Approach Slabs in July 2010.



## ACCOMPLISHMENTS & PLANNED PROJECTS

Corrosion of reinforcing steel bars in concrete leads to the premature failure of many structures exposed to harsh environments. Rust products form on the bars, expanding their volume and creating stresses in the surrounding concrete. This leads to cracking and spalling, both of which can severely reduce the service life and strength of structural concrete components.

A unique feature of Stage I construction was the installation of special sensor devices to monitor the corrosion of the epoxy coated steel reinforcing bars in the bridge deck slab; this was Phase I of a pilot study that is being conducted by City University to study the corrosion of reinforcing steel bars in bridge deck slabs.



Three Types of Sensors Installed During Phase I: Vetek, CPMP, and EC11 (Embedded Corrosion Instrument).

In Stage II construction, sensors similar to those used in Phase I were installed to monitor the corrosion of the stainless clad steel reinforcing bars substituted for epoxy coated steel reinforcing bars. The main goals of using and monitoring the corrosion of stainless steel clad reinforcing bars are to verify the accuracy and reliability of several advanced corrosion monitoring sensors in a field environment, and to develop an understanding of the life cycle of stainless steel clad reinforcing bars in bridge decks. This project on corrosion monitoring of the bridge deck was supported through a grant from the FHWA under the Innovative Bridge Research and Construction program.



CPMP (Corrosion Penetration Monitoring Probe) Unit Installed on Clad Reinforcing Bars. Data Box and the Solar Panel.

On October 6 and 7, 2009, the contractor installed, activated, and tested the sensors for the corrosion monitoring system. A representative from City University was present during deck slab placement to ensure the safety of their newly installed sensors. On June 30, 2010, the installation of the stainless steel clad reinforcing bars and corrosion monitoring sensors was completed. The closure pour work was completed on July 28, 2010. On November 17, 2010, City University installed latches on the data box and relocated the solar panel to improve its safety from vandalism.

Following the installation of sensors during all three phases of the project, City University tested all of the sensors. Except for six thermocouple sensors installed to monitor temperature, all of the other sensors are functioning. The data logger collects data at continuous intervals. Currently, City University is developing a computer program that will automatically analyze the collected sensor data. The monitoring and data analysis work is expected to continue until June 2014.

## ACCOMPLISHMENTS & PLANNED PROJECTS

### ARTHUR KILL ROAD BRIDGE OVER ARTHUR KILL STREAM (STATEN ISLAND)

The existing bridge is a one span steel-multi-stringer structure built in 1945. The project will involve the removal of the existing deck, steel superstructure and abutments, and the construction of new abutments on the pile foundation, a new superstructure with hot dipped galvanized steel stringers, and a pre-cast reinforced concrete deck. The construction will require the full closure of the bridge.

The Department of Design and Construction (DDC) is planning the widening of Arthur Kill Road. The bridge is within the envelope of the street project and will be included with it in Phase IV, currently scheduled for Fiscal Year 2016.



Arthur Kill Road Bridge in 2009. (Credit: NYSDOT)

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

On a New York State-mandated scale from 1 to 7, these seven bridges possess a condition rating of “fair” (3.001 – 4.999). In 2010, the Paerdegat Basin Bridge was 3.222; the Fresh Creek Bridge was 3.083; the Rockaway Parkway Bridge was 3.778; the Gerritsen Inlet Bridge was 3.463; the Mill Basin Bridge was 3.463; the Bay Ridge Avenue Bridge was 3.313; 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.



The Seven Belt Parkway Bridges.

## ACCOMPLISHMENTS & PLANNED PROJECTS

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) is expected to be complete in fall 2014. Group 2 (Gerritsen Inlet and Mill Basin Bridges) is expected to start in May 2012, and to be complete in May 2016. Group 3 (Bay Ridge Avenue and Nostrand Avenue) is expected to start in September 2012, and to be complete in May 2015.

During the past 60 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.



Belt Parkway Bridge Design Renderings.

All of the bridges, except for the Bay Ridge Avenue and Nostrand Avenue Bridges, are located

## ACCOMPLISHMENTS & PLANNED PROJECTS

adjacent to the Gateway National Recreation Area, (GNRA) a division of the National Park Service. This bridge and highway program will be 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 Recreation Area, the US Coast Guard, and the US Army Corps of Engineers to ensure compliance with all environmental protocols. In addition to mitigating environmental impacts along the Belt Parkway corridor, an off-site Tidal Wetland Mitigation Plan has been approved. This plan focuses 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 will be cleaned of rubbish and debris and converted to tidal wetland area.

The existing Paerdegat Basin Bridge is 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 has 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 will be demolished and replaced by two new bridges and new approach roadways on split alignments.

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

The replacement bridges will consist of two angled 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 will have a 36-foot wide roadway with a 12-foot wide right shoulder. The eastbound bridge will have a 4-foot wide left shoulder, while the westbound bridge will have a 10-foot wide left shoulder. The southern structure will carry eastbound traffic while the northern structure will accommodate westbound traffic. Both the horizontal and vertical alignments will change resulting in improved sight distances on the bridge and its approach roadways. The bridge carrying eastbound traffic will also have a dedicated pedestrian/ bicycle path along the south side. The pedestrian/bicycle path will be separated from traffic lanes by a concrete barrier on the bridge, and by a 15-foot wide grass mall on the approach roadways.



Paerdegat Basin Bridge.



## ACCOMPLISHMENTS & PLANNED PROJECTS



Paerdegat Basin Bridge. Proposed Paerdegat Basin Bridge.

The existing Fresh Creek Bridge is 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 crosses under the bridge. The bridge has 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 will be demolished and replaced.

The replacement bridge will be a 316-foot, 3 span structure; the new structure will have only two support piers, resulting in a wider channel. The bridge deck and approaches will be widened to 126 feet from the existing 86 feet to accommodate three 12-foot lanes in each direction, 12-foot wide 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 proposed construction will result in improved landscaping on the bridge approaches. The existing pedestrian and bicycle pathway will be maintained and open at all times during construction.



Fresh Creek Bridge Aerial View and in 2002. (2002 Credit: NYSDOT) Proposed Fresh Creek Bridge.

## ACCOMPLISHMENTS & PLANNED PROJECTS

The existing Rockaway Parkway Bridge is 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 has 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 will be demolished and replaced.

The replacement bridge will be a single span structure to improve visibility along Rockaway Parkway. The new structure will be built in the same alignment as the existing bridge. The bridge deck will be widened to 109 ½ feet from the existing 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 lane on each approach will be 10 feet (while the width of the right shoulders on the bridge structure will be 12 feet), with the other dimensions the same width as those on the bridge. In addition to reconstruction of the bridge, four access ramps will also be reconstructed as will Rockaway Parkway in the vicinity of the Belt Parkway.



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

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, work on the Paerdegat Basin bridges progressed on the construction of the new eastbound bridge, and the project is currently in Stage IIA of the proposed construction sequence. 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 approach roadways; and the installation of new drainage structures and pipe. Cofferdams have been constructed, pile installation is in progress for the construction of the new eastbound bridge piers and abutment substructures, and the erection of the superstructure is projected to commence during the winter of 2011.



Paerdegat Basin Bridge in April 2010: The New Ductile Iron Sludge Force Main Being Installed in a Trench. The Placement and Rolling of Temporary Asphalt for the Temporary Pedestrian/Bicycle Path. June 2010: The Grading in Advance of the Placement of Embankment Material on the Eastern Approach to the New Bridge.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Paerdegat Basin Bridge in August 2010: The Installation of the New East Embankment for the Approach Roadway to the New Eastbound Bridge. November 2010: The Installation of New Piles at the New Waterway Pier Location. The New Eastbound Bridge Under Construction. The Photograph was Taken From the Future West Abutment and Shows the Pile Driving Equipment Mobilizing for the Installation of the Abutment Piles, the Placement of Concrete in the Piles at a New Pier Location, the Installation of New Piles at the New Waterway Pier Location, and the Temporary Work Trestle.



Paerdegat Basin Bridge in November 2010: The Installation of Steel Reinforcement for the New Pier Piles and Footing. The Installation of Steel Sheet and Piles at the New Bridge Abutment. The New West Embankment for the Approach Roadway to the New Eastbound Bridge. (Credit: Eric Callender)

In 2010, various construction milestones were completed on the Fresh Creek Bridge, including the removal of the existing median, the placement of temporary median asphalt pavement, and the installation of temporary roadway lighting. Since the conceptual approval of the contractor's Value Engineering proposal to utilize a temporary bridge to facilitate the reconstruction of the existing bridge, work has progressed on the installation of earth embankments for the temporary roadway and the widening of the permanent roadway. Concrete abutments were constructed and work is currently in progress on the assembly of the temporary bridge steel superstructure and the installation of piles for the temporary bridge. Relocation of the existing sludge force main within the project area, using open cut and jacking methods, is also in progress. The contractor began installation of new permanent lighting, as well as new drainage structures and pipe. Lead abatement of the existing superstructure steel is also underway, in preparation for superstructure demolition, which is projected to commence in the early months of 2011.



Fresh Creek Bridge in March 2010: The Temporary Lighting System Installed on the Temporary Median Barrier Leading up the Eastern Approach to the Bridge. May 2010: Turbidity Curtain Along the Shoreline. June 2010: Equipment for Driving in Sheet Metal Piling.



## ACCOMPLISHMENTS & PLANNED PROJECTS



Fresh Creek Bridge in July 2010: Installing Sheathing Along the Southwest Area of the Shoreline. The Nighttime Installation of Temporary Asphalt Pavement in the Median of the Belt Parkway. November 2010: The Installation of the New Ductile Iron Sludge Force Main Being Installed Through a Jacking Sleeve that Crosses Under the Existing Roadway. (Sludge Force Main Credit: Eric Callender)



Fresh Creek Bridge in November 2010: The Temporary Bridge Superstructure Extending From the Temporary Bridge Abutment, the Temporary Steel Sheeting in the Foreground and in Front of the Abutment, and the Erosion and Sedimentation Controls Located Along the Perimeter of the Site and Water Body. Close up of the Installation of the Temporary Taper Tube Steel Piles via Barge-Mounted Crane. The Temporary Bridge can be Seen in the Background.



Fresh Creek Bridge in November 2010: The Installation of the Temporary Taper Tube Steel Piles via a Barge-Mounted Crane. The Piles are Designed and Installed to Support the Temporary Bridge. The Temporary Approach Roadway to the Temporary Bridge. (Credit: Eric Callender)



Fresh Creek Bridge in November: Overview of the Existing Bridge and the Installation of the Temporary Bridge and Approaches North of the Existing Roadway. (Credit: Eric Callender)



## ACCOMPLISHMENTS & PLANNED PROJECTS

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.

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 underdeck timber shielding; the removal of lead paint from existing steel for cut lines; 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. Activities during this stage included the excavation, placement of fill, grading and placement of the new pavement along the westbound shoulder from the Fresh Creek Basin project limit to the Rockaway Parkway westbound exit ramp, and from the westbound entrance ramp to the Paerdegat Basin project limit. 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 also completed. The contractor began the excavation and removal of the existing substructure and the preparation for the installation of piles and new abutments. Work also began on the installation of new street lighting around Canarsie Circle to the south of the bridge.



Rockaway Parkway Bridge in July 2010: The Nighttime Installation of Temporary Asphalt Pavement in the Median of the Belt Parkway. September 2010: Installing Planks Along the Lower Flanges of the Stringers. November 2010: Stage II Demolition of the Existing Bridge Superstructure.



Rockaway Parkway Bridge in November 2010: Stage II Demolition of the Existing Bridge Concrete Deck. Overview of the Stage II Demolition. The Asbestos Abatement Operation is in the Foreground. The Installation of New PCC Roadway for the Westbound Off Ramp.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Rockaway Parkway Bridge in November 2010: The Consolidation Operation for the New PCC Roadway for the Westbound Off Ramp. The Installation of New Concrete Curbing, Catch Basin and Electrical Facilities for the New Westbound Roadway. The Installation of Formwork in Advance of the Installation of the New Westbound Roadway. (Westbound Roadway Credit: Eric Callender)

Milestone A consists 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 provides for an incentive of \$35,000 per day for each day that milestone A is finished early, with a maximum incentive of \$14.98 million. There is a similar disincentive if the milestone date is exceeded, with no maximum.

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.



Gerritsen Inlet Bridge Aerial View and in 2002. (2002 Credit: NYSDOT) Proposed Gerritsen Inlet Bridge.

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.

## ACCOMPLISHMENTS & PLANNED PROJECTS

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 2010, the number of openings declined further to a total of only 197 openings.

In addition, significant and costly traffic congestion results from the operation of this outmoded drawbridge. In 2009, the Mill Basin Bridge carried 144,536 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.



Pier 3 Column Repair in December 2008. (Credit: NYSDOT)

The replacement will be a 1,757-foot, 11 span fixed bridge, north of the existing structure. 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. 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 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.



Mill Basin Bridge Aerial View.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Mill Basin Bridge. Proposed Mill Basin Bridge.

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. The underpass is access to the NYCDEP Owl's Head Waste Treatment Plant. The existing superstructure will be demolished and replaced.

The replacement bridge superstructure will consist of 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 existing bridge will be reconstructed using pre-cast deck sections. 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.



2009 Inspection: The Entire Underside of the Bay Ridge Avenue Bridge Deck is Shielded With Timber Planking and Steel Wire Mesh Netting. The Shielding was Temporary Removed to Perform the Inspection of the Deck. Shielding was Replaced After the Inspection. (Credit: NYSDOT)



Bay Ridge Avenue Bridge in 2002. (Credit: NYSDOT) Proposed Bay Ridge Avenue Bridge.



## ACCOMPLISHMENTS & PLANNED PROJECTS

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 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.

The replacement will be a single span bridge consisting of standard steel girders with a cast-in-place deck superstructure and reinforced concrete abutments on pile footings, thus eliminating the need for intermediate support piers and resulting in improved sight lines on Nostrand Avenue. The bridge will have three 12-foot wide lanes with a 12-foot wide right shoulder. The approaches will have a 10-foot wide right shoulder and a 4-foot wide left shoulder in each direction. Nostrand Avenue will be widened to 81 feet and realigned with the existing approaches. On the Belt Parkway, the bridge will be widened in order to provide new safety shoulders in both directions. New safety-shape parapets will be installed and the existing corrugated metal center guide-rails will be replaced with a reinforced concrete center median, which will result in a safer condition.



Nostrand Avenue Bridge. Proposed Nostrand Avenue Bridge.

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.

### BEVERLY ROAD BRIDGE OVER BMT SUBWAY (BROOKLYN)

This bridge is a three span structure and was built in 1907. The superstructure consists of two built-up through girders, floor beams and stringers. The stringers are encased in a concrete jack arch deck. The superstructure is supported by concrete gravity wall abutments and piers. The project will involve the replacement of the existing deck with a new floor system using a concrete exodermic deck, and the repair of the existing primary members. The work will also include cleaning and painting the steel, and repairing the bridge seat and deteriorated concrete abutments. The bridge will be constructed in three stages and will remain open to traffic and pedestrians at all times. This project, currently in the final design stage, is expected to begin in March 2016, and is expected to be completed in March 2018.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Beverly Road Bridge in 2009. (Credit: NYSDOT)

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

This project will include replacing the existing superstructure with a conventional concrete reinforced deck, new multi plate girder stringers, and new elastomeric bearings. The existing substructure will be rehabilitated by replacing the top portion of the concrete abutment, and installing new bearings, and the abutments will be retrofitted to meet seismic criteria. The bridge will be closed during construction, but a temporary pedestrian bridge will be constructed and maintained. The Division's in-house design staff will now complete the design for this project. Construction is expected to begin in July 2012, and is expected to be complete in January 2014.



Bryant Avenue Bridge in 2002. (Credit: NYSDOT)

### **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 2009, the bridge carried 14,313 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.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Original City Island Bridge in 1873. Bridge in 1928. Aerial View of Current Bridge.

The existing bridge will be replaced along the same alignment with a new single span, single tower cable-stayed bridge which will be a unique structure type in the NYC area. 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 tower and concrete counterweight for backstay anchorage of the new bridge will be located in Pelham Bay Park. 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. 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.



City Island Road Bridge in 2010. (Credit: Bojidar Yanev) Vertical Clearance Posting. (Credit: NYSDOT)

The project is currently in its final design phase. The construction phase for this Federally-funded project is scheduled to begin in June 2012 with an approximate duration of 3 years.

## ACCOMPLISHMENTS & PLANNED PROJECTS



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 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.



## ACCOMPLISHMENTS & PLANNED PROJECTS

The reconstruction of the bridge will include removal of the entire superstructure and approaches. The new bridge will consist 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 will be removed to accommodate the new bridge profile. The utility work will include the installation of two new water mains, a gas main, and electrical conduits. The bridge will be constructed in four stages, with one traffic lane and one sidewalk open in each direction at all times during construction. Construction is expected to begin in April 2011, and is expected to be complete by July 2013.



Existing North Side Guardrail and Fence. Proposed Guardrail and Fence.

### CONCOURSE VILLAGE AVENUE BRIDGE OVER METRO NORTH (BRONX)

This project will include demolishing the existing bridge deck, removing loose encasement on the structural members, localized steel repairs, and restoring the encasement. A new concrete deck will be installed, and new approach slabs, an east parapet, steel faced curbs, and concrete sidewalks will be built. The existing granite blocks will be repointed as necessary. The bridge will be reconstructed in four stages, with one 14.11 foot wide southbound lane maintained during construction. Construction is expected to begin in November 2019, and is expected to be complete in May 2021.



Concourse Village Avenue Bridge. (Credit: NYSDOT)

### 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

## ACCOMPLISHMENTS & PLANNED PROJECTS

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.

Red flag repairs were made in the first half of 2006.



Red Flag Repairs in February 2006: Ironworkers Removed the Plates From the Holes and Replaced Them at the End of Each Day. They Also Placed Reinforcing Bars for the New Concrete Slab. Supervisor Bridge Repairer and Riveter Gean Pilipiak Monitoring Red Flag Repairs in 2006. (Credit: Peter Basich)

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. 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.

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Grand Concourse Bridge over Metro North in 2002.  
(Credit: NYSDOT)

### 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 four to five 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 preliminary 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 July 2016.



Highland Park Bridge. (Credit: NYSDOT)

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

The landmark Hill Drive Bridge was built in 1890, and was previously known as the Breeze Hill Bridge. The existing 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;

## ACCOMPLISHMENTS & PLANNED PROJECTS

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's final design phase has been suspended until such time as 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 2001. Near End Approach in May 2009: Concrete Flower Pots Close the Roadway. (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.

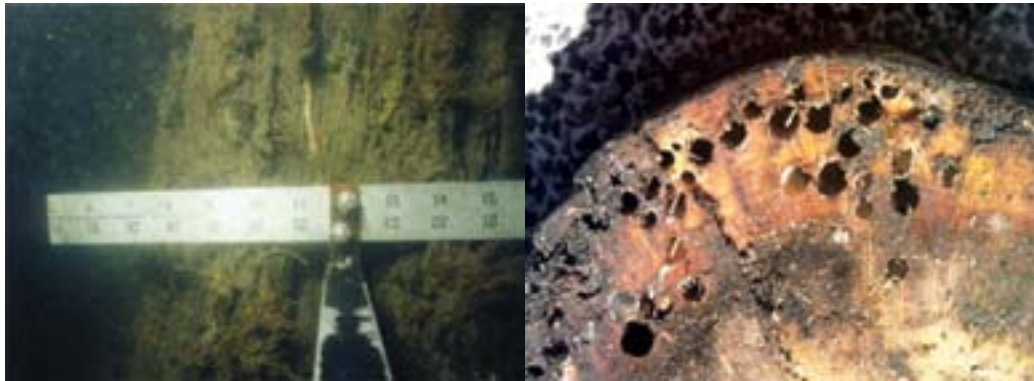


Marine Borer – Limnoria Species

Marine Borer – Teredo Species



## ACCOMPLISHMENTS & PLANNED PROJECTS



Medium Limnoria Infestation

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 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 final design is now complete.

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). The construction work is expected to commence in June 2011, and to be complete in March 2015.

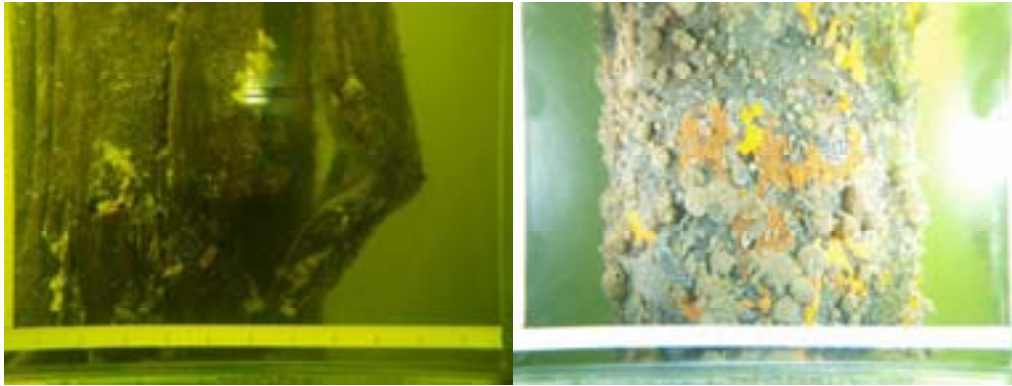
### **NORTHBOUND FDR DRIVE AT EAST 53<sup>RD</sup> STREET (MANHATTAN) – EMERGENCY CONTRACT**

The Department's marine borer remediation construction contract is for the rehabilitation of the timber substructures at selected locations along the FDR Drive and other locations noted above. The rehabilitation project is intended to address the structural damage and infestation of marine borer organisms in the timber substructures.

On September 18, 2009, a Notice to Proceed was issued to the consultant to perform a diving inspection and determine the current condition of the timber piles, which were last inspected in 2005. The re-inspection began on October 5, 2009.

## ACCOMPLISHMENTS & PLANNED PROJECTS

On October 29, 2009, the divers discovered a line of piles that were broken and severely deteriorated by marine borer infestation and are no longer able to function as designed. These timber piles support the bulkhead and relieving platform which in turn support the East River Esplanade and northbound FDR Drive in the vicinity of East 53<sup>rd</sup> Street. The consultant analyzed the diver's report and determined that the structural integrity of the relieving platform was significantly impacted by the advanced deterioration of the pilings. The consultant further recommended that the Department take immediate and appropriate action to constantly monitor the structure until the remedial work was completed. Failure of these timber piles could lead to the sudden collapse of the East River Esplanade and northbound FDR Drive at that location.



FDR Drive Original Pile Condition. Bored-In Pile Underwater.

Based on these red structural flag conditions, the Department closed the adjacent East River Esplanade at East 53<sup>rd</sup> Street to visually monitor the structure for any movement and as a precaution for public safety. Due to the potentially serious danger to life and public safety posed by the current condition, it was critical that the repair work be performed as expeditiously as possible.

On December 2, 2009, 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 existed relative to the northbound section of the FDR Drive at East 53<sup>rd</sup> Street in Manhattan.

A Letter of Intent for the emergency repair of this bridge was issued to the contractor with a start date of December 17, 2009. The repairs included the following: the installation of epoxy jacketing on 167 timber piles; structural concrete encasements of 10 timber piles; concrete encasements of 6 pairs of plumb and batter piles; installation of 24 new steel cased bored-in piles to support the relieving platforms and esplanade along the concrete sea wall; and the placement of lightweight concrete fill in areas adjacent to the existing steel sheet pile bulkhead.

The repair for the emergency re-stabilization was designed as a two stage simultaneous repair. The first stage was to re-establish structural load bearing by installing 24 rock-socket mini-piles. The second stage of repair was to protect the remaining intact timber piles with a combination of structural concrete encasements, epoxy jacket encapsulations, and lightweight concrete fill. The challenges that the construction team faced consisted of water depths in excess of 40 feet, poor visibility, strong currents, vessel traffic and lane closure restrictions.

The emergency repair of this section of the Drive was substantially completed on November 12, 2010, and all work was completed as of November 18.

## ACCOMPLISHMENTS & PLANNED PROJECTS



FDR Drive Emergency Contract in April, May, and August 2010. Aerial View.

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

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

This project, currently in its final design phase, will rehabilitate the bridge. The concrete substructure and steel girder superstructure will be retained and repaired. All of the surface elements, such as the concrete deck, approach slabs, sidewalks, parapet, fencing and lighting will be completely replaced. The construction will be staged to maintain traffic flow in both directions at all times. Construction is expected to begin in September 2013, and is expected to be complete by the end of 2016.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Metropolitan Avenue Bridge in 2009. (Credit: NYSDOT)

### 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. The second level of the viaduct supports and carries the overhead NYC Transit Authority's #7 – Flushing line subway structure.

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.

In April 2009, the reconstruction plans 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.

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 May 2014 and to be complete in May 2017.



Roosevelt Avenue Bridge (#2240507) in 2002 and 2004. (Credit: NYSDOT)



## ACCOMPLISHMENTS & PLANNED PROJECTS

### 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.



Shore Road Circle Bridge in 2003 and June 2009. (2003 Credit: NYSDOT)

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.



Shore Road Circle Bridge: Installing a Reinforcing Timber Beam Underneath the Existing Floor-Beam in Preparation for Stage 1A Construction in June 2009. Installing the Demolition Shielding Over Track #1 for Stage 1A in November 2009. Left Roadway in December 2009. (December Credit: NYSDOT)

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 is expected to be complete in spring 2013.

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Shore Road Circle Bridge: Preparation of MPT and Work Zone, Installation of Temporary Shoring Towers, and Partial Steel Removal in June 2010.



Shore Road Circle Bridge: Clearing Structural Steel for Demolition and Disassembling Steel Members in July 2010.



Shore Road Circle Bridge: Steel Demolition and Structural Steel After Paint Removal in July 2010.

### 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.

## ACCOMPLISHMENTS & PLANNED PROJECTS

The consultant completed the field survey and in-depth inspection of the bridge in 2009. Construction is expected to begin in 2019.



East 175<sup>th</sup> Street Bridge in 2002. (Credit: NYSDOT)

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

This two span bridge supports a transit structure overhead and has substandard clearance over the highway below. 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 planking. In addition, the underdeck at span 1 is covered with approximately 18 square feet of steel wire mesh netting. A separate project is underway to reconstruct the bridge and lower the Parkway.



Westchester Avenue Bridge in 2001 and 2006. (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 substandard. 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. The planned lowering of the



## ACCOMPLISHMENTS & PLANNED PROJECTS

parkway will make it possible to increase the vertical clearance of the bridge over the parkway without adversely impacting the NYCT elevated structure and its transit train operations. The total length for the lowering of the parkway will be 1000 feet (north and south), with a maximum lowering of the parkway of 2.5 feet under the Westchester Avenue Bridge.

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.

This rehabilitation project is currently in final design. Construction is expected to begin in February 2016, and is expected to be complete in October 2018.

### 5<sup>TH</sup> AVENUE BRIDGE OVER LIRR & SEA BEACH NYCT (BROOKLYN)

The bridge is a four span concrete-encased steel girder and floor beam structure, built in 1914. The reconstruction project will include replacement of the superstructure, rehabilitation of the abutments and wingwalls, reinforcement of existing piers, construction of new reinforced concrete sidewalks, approach slabs, new concrete parapet, and bridge fence. Construction is expected to begin in May 2020, and is expected to be complete in June 2022.



5<sup>th</sup> Avenue Bridge in 2006. (Credit: NYSDOT) Aerial View in 2009.

### EAST 8<sup>TH</sup> STREET ACCESS RAMP (GUIDER AVENUE RAMP TO BELT PARKWAY) OVER BELT PARKWAY (BROOKLYN)

The East 8<sup>th</sup> Street access ramp (Guider Avenue ramp), built in 1942, provides vehicular access to the westbound Belt Parkway from Coney Island Avenue and the surrounding area, south of the Belt Parkway. The bridge also serves pedestrian traffic crossing the Belt Parkway. The bridge is a four span, simply supported, multi-girder steel superstructure with a reinforced concrete deck. The abutments and wingwalls are also reinforced concrete, as are the three piers. The entire substructure is supported on reinforced concrete pile caps and steel piles. The project will include the replacement of the superstructure with new steel stringers, a cast-in-place deck including a new sidewalk, a new steel bridge railing with protective screen fencing, and the replacement of the tops of the existing pier columns and abutments. In addition, the piers will be modified by adding two columns on new steel pile foundation, and underdeck and ramp lighting will be installed, as well as new catch basin frames. The ramp will be closed to both vehicular and pedestrian traffic for the duration of the reconstruction. Traffic will be diverted to local streets.



## ACCOMPLISHMENTS & PLANNED PROJECTS

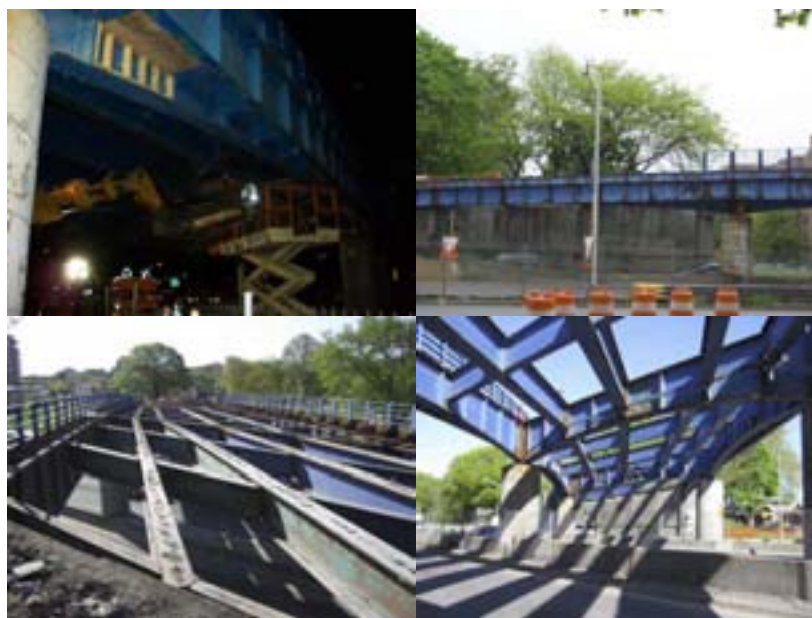


East 8<sup>th</sup> Street Bridge in 2002. (Credit: NYSDOT) Rendering of New Bridge.



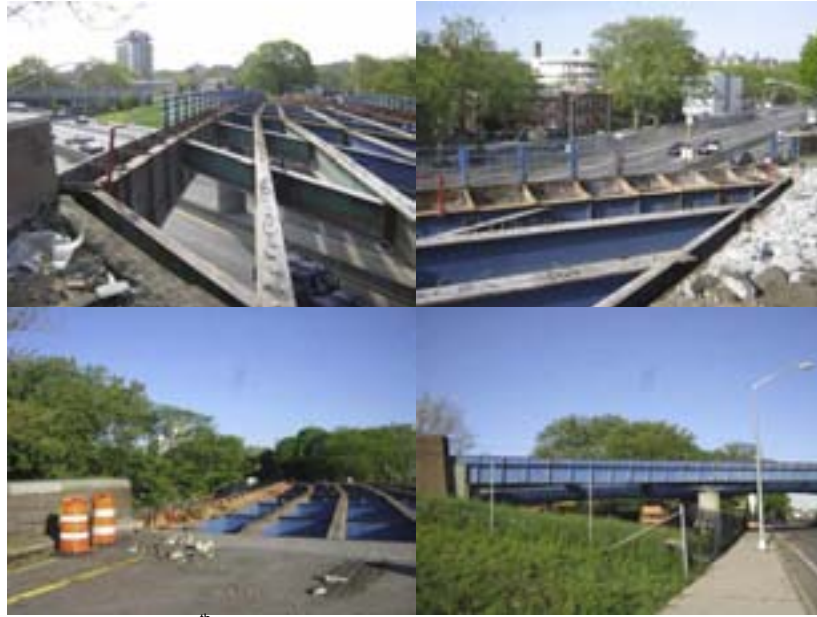
September 2009: Top of Deck Along Left Shoulder. (Credit: NYSDOT) Aerial View in 2009.

A Notice to Proceed for the project was issued to the contractor with a start date of August 10, 2009. The bridge was closed to vehicular and pedestrian traffic on February 16, 2010. A temporary detour route was implemented, routing traffic via local streets to access the westbound Belt Parkway. The bridge deck demolition work began in March 2010 and was completed in April 2010. The north and south abutments were partially removed and are being reconstructed. New pile foundations were installed at piers 1, 2, and 3. The new reinforced concrete bridge columns were completed at the end of December 2010.



East 8<sup>th</sup> Street Bridge Deck Demolition in April 2010.

## ACCOMPLISHMENTS & PLANNED PROJECTS



East 8<sup>th</sup> Street Bridge Rail Removal in April and May 2010.



East 8<sup>th</sup> Street Bridge Superstructure Steel Removal in June 2010. Loading a Fascia Girder on a Trailer. North View  
After Completion of Steel Removal.

The structural steel for the new bridge superstructure is being fabricated off site, along with new bridge bearings. These are scheduled to be delivered to the site in March of 2011. The installation of the steel girders will then commence, to be followed by construction of the new bridge deck.

Completion of the north and south approach roadways is anticipated in the summer of 2011. The bridge is anticipated to open to vehicular and pedestrian traffic in September 2011.

## ACCOMPLISHMENTS & PLANNED PROJECTS

### 11<sup>TH</sup> AVENUE VIADUCT (WEST 30<sup>TH</sup> STREET TO WEST 33<sup>RD</sup> STREET) OVER LIRR WEST SIDE YARD (MANHATTAN)

This project will consist of the re-decking of the viaduct, the replacement of the sidewalks, the upgrading of the existing bearings to seismic isolation bearings, and the replacement of the street lighting. The work will also include performing repairs of the existing pier and abutment walls. The viaduct will be constructed in two stages, one half of the viaduct at a time. Three south bound travel lanes will be maintained at all times. A Notice to Proceed for the project was issued to the contractor with a start date of June 1, 2009.



11<sup>th</sup> Avenue Viaduct Site Overview.



11<sup>th</sup> Avenue Viaduct (West 30<sup>th</sup> Street to West 33<sup>rd</sup> Street) in 2006. (Credit: NYSDOT)

The installation of the LIRR horizontal and vertical protective shield was completed under Stage 1A. The west side sidewalk was modified for the traffic shift at Stage 1B. Demolition and reconstruction of the east half of the viaduct parapet and deck slab began under Stage 1B in December 2009.



11<sup>th</sup> Avenue Viaduct Stage 1A Construction in 2009. Installed Railroad Protective Shields. Traffic Enforcement Agent on Duty During Stage 1B Construction.

The contractor completed Stage 1B deck and parapet removal in March 2010. In 2010, the contractor completed lifting structural steel in order to demolish the existing bearing and pedestals; constructed the new pedestals; installed seismic isolation bearings; modified and painted structural steel in select areas at pier locations in order to install seismic isolation bearing; placed the new bridge deck slab and sidewalk/safety walk; placed the approach slab; and installed the new expansion joint, bridge railings, and street lighting. The pedestrian fence will be completed by December 2010 prior to shifting to Stage 2.



## ACCOMPLISHMENTS & PLANNED PROJECTS



11<sup>th</sup> Avenue Viaduct: Demolition of the Old Deck in February 2010. Inspecting Machine Setup Prior to Placing the New Deck Slab Concrete in October 2010. First Concrete Pour in August 2010. (Credit: Hui Yang) Working on Bridge Rail and Pedestrian Fencing in November 2010. (2<sup>nd</sup> Rail Credit: Hui Yang)

In 2011, the contractor will demolish and reconstruct the western half of the viaduct under Stage 2. Construction is expected to be completed in September 2011.

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

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.

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. Construction is anticipated to begin in July 2014.



## ACCOMPLISHMENTS & PLANNED PROJECTS



92<sup>nd</sup> Street Bridge in December 2006.

### **WEST 31<sup>ST</sup> STREET BRIDGE OVER AMTRAK (MANHATTAN)**

This bridge between Ninth Avenue and Dyer Street, is a nine simple span multi-girder jack arch encased in concrete, and was built in 1909. The superstructure is supported by the west abutment, the south retaining wall, and steel columns resting on spread footings. The project will involve installation of new floorbeams and steel stringers with a reinforced concrete deck slab, as well as the bridge seats and steel pier columns. Traffic will be maintained during the relocation of the utilities, but the bridge will be closed during the bridge replacement. This project, currently in the final design stage, is expected to begin in December 2019, and is expected to be complete in March 2023.



West 31<sup>st</sup> Street Bridge in 2004. (Credit: NYSDOT)

### **EAST 78<sup>TH</sup> STREET PEDESTRIAN BRIDGE OVER FDR DRIVE (MANHATTAN)**

The current bridge is a nine span reinforced concrete structure over the FDR Drive. There is a ferry house on the East River Esplanade which was used for storage for the old ferry when the bridge was built in 1940. The bridge is supported on the ferry house structure on the Esplanade side. This project will include the removal of the entire superstructure; concrete deck, floor beams, parapet, girders, railing, protective screening, encased steel beams in the ferry house, existing concrete stair case on the esplanade side, existing substructure of piers, and ramp walls and wall of the ferry house, as well as a portion of the pier foundations below grade. The new fourteen span bridge will include steel piers with caisson foundations, a ramp retaining wall, and new superstructure using welded structural tubing, vertical steel railing, and horizontal hand rails, as well as protective fencing. A new cast-in-place reinforced concrete deck will be installed. The proposed west ramp will be enclosed with a stone masonry wall to match the existing park wall.

## ACCOMPLISHMENTS & PLANNED PROJECTS

The new bridge will comply with ADA regulations.



East 78<sup>th</sup> Street Bridge. Aerial View.



Concrete Placement in Late 2010.

During construction, pedestrian traffic will be detoured to the 71<sup>st</sup> and 81<sup>st</sup> Street pedestrian bridges. A Notice to Proceed for the project was issued to the contractor with a start date of July 12, 2010. The bridge was closed to pedestrians on October 19, 2010. Construction is expected to be complete in August 2011.



Proposed Bridge and Fencing – Looking West. Rendering of the Approach to the New Bridge.



View of the Approach to the New Pedestrian Bridge  
as seen from the north west corner of East 78<sup>th</sup> and the FDR Drive, looking south.

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

### ***Specialty Engineering and Construction***

#### ***Design-Build***

In 2010 the Department continued to use the Design-Build process to expedite capital bridge rehabilitation. These 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.

#### **BRUCKNER EXPRESSWAY BRIDGES (NB AND SB) OVER AMTRAK & CSX (BRONX)**

The Bruckner Expressway, named in honor of former Bronx Borough President and Congressman, Henry Bruckner (1871-1942), opened in 1973 and was one of the last roads on the New York City Expressway system to be built. The Bruckner Expressway Bridges are single span bridges on the Bruckner Expressway which run over the Amtrak/CSX railroads. Built over 60 years ago, the Bruckner Expressway Bridges carry over 140,000 motorists and cyclists daily. The existing northbound bridge is a 124-foot single-span multi-girder steel superstructure with a cast-in-place concrete deck. The new bridge will consist of precast concrete deck panels supported by new steel girders. The existing southbound bridge is a 115-foot single-span steel superstructure consisting of three thru-type trusses. The floor beams hang from the truss bottom chords and steel stringers span between floor beams. The existing cast-in-place concrete deck is supported by the steel stringers. The new deck will be a precast concrete deck which spans the floor beams.

A tanker truck carrying home heating fuel overturned and caught fire on the northbound bridge on the evening of October 4, 2005. The traffic on the bridge, and on the Amtrak and CSX railroad lines below, was adversely affected. The bridge was inspected and core samples of the concrete from the fire-affected deck were tested. Division crews assisted in emergency repairs and clean-up, re-setting all expansion plates on the abutment, and performing deck repair. The crews worked continuously, and the roadway was reopened in time for the morning rush hour on October 6, 2005.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Bruckner Expressway Bridge NB in 2002. Bruckner Expressway Bridge SB in 2008. (Credit: NYSDOT)



2005: The Tanker Truck. Repairs and Cleanup. (Credit: Bojidar Yanev)

To protect the trains and railroad facilities below the bridge after the October 4, 2005 tanker truck fire, contractor crews began the nighttime installation of protective timber shielding under the bridge on October 5, 2005. The project was completed on November 8, 2005. The Division's Surveying Unit assisted the Inspections Unit in monitoring the deflection of the bridge.



Deteriorated Bridge Deck With Exposed Rebar and Warped Steel Bracing Due to the Heat From the Fire. Timber Shielding on the Underside of the Bridge.



## ACCOMPLISHMENTS & PLANNED PROJECTS



Arial View of the Bridges in August 2008. View of the Bridge in December 2009. (2009 Credit: Lacy Shelby)



May 2010: Removing Hollow Concrete Along the Abutment Wall. (Credit: Richard Solomon) Associate Project Manager Richard Solomon at the Bridge in October 2010.

The fire on the bridge weakened its members. While the immediate results of the fire were addressed by in-house forces, the aftereffects remain unresolved. The most recent inspection conducted on September 14, 2006 revealed that at least four girders have sagged and they are hit by CSX railroad cars below. The concrete deck has separated from the steel girder and there is a one to two inch gap between the top of the flange and the bottom of the haunches. In addition, the diaphragms between the girders have been burned and their capacity has been weakened. Repairs requiring immediate attention were handled by the When and Where contractor. The contractor installed additional timber bracing of the bridge's timber shielding in January and February 2007, performed emergency removal of loose underdeck concrete in July and August 2007, and repaired a red flag condition at the bridge stringers in September 2007. The replacement of the bridge's northbound superstructure and the southbound deck is being done under a Design-Build contract. The scope of work for the northbound bridge includes superstructure replacement, reconstruction of abutment back walls and bridge seats, bearing replacement, highway reconstruction 200 feet from the beginning and end abutments, and the installation of a new 20-inch diameter water main and new electrical ducts. The scope of work for the southbound bridge includes deck replacement, bearing replacement, back wall reconstruction, rehabilitation and painting of the existing steel truss superstructure, highway reconstruction 200 feet from the beginning and end abutments, and the installation of a new 12-inch diameter water main and electrical ducts.

A Notice to Proceed was issued to the contractor with a start date of October 27, 2008. Due to delays in obtaining the railroad force account agreements, the contractor focused on work off-structure, such as the water main and the installation of complex maintenance and protection of traffic. Demolition of the northbound structure commenced in November 2009.

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

Girder removal for Stage 1 and the lead paint removal were completed in February 2010. Demolition of the northbound back wall at both the beginning and end abutments was completed in March. The precast back wall and bridge seats were installed, and bearing placement on the northbound bridge was completed in April. The southbound bridge floor beam encasement removal was completed in June, as was installation of northbound deck panels.

Stage II on the northbound bridge began in August 2010. Painting of the southbound bridge floor beams and counter weight work was completed in September. South bound bridge shielding was completed and the removal of deck panels began in October. Installation of the precast back wall of the northbound bridge was completed and northbound girders were installed in November. Stage II deck panels were placed in December.

### **HARLEM RIVER DRIVE AT EAST 127<sup>TH</sup> STREET (MANHATTAN)**

This project 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. 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, and allows 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 carries two northbound and three southbound traffic lanes and 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 spring 2014, and is expected to be complete in spring 2016.



Harlem River Drive at East 127<sup>th</sup> Street.



Left and Right Views of the Bridge in 2003.

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

### **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 ramps that will be rehabilitated 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 is undertaking a major rehabilitation project to upgrade vehicular access to the site.



Arial Views of the Staten Island Ferry Terminal Ramps.

Currently a series of eight ramps carry bus and passenger car traffic in and out of the facility. The eight vehicular ramp structures consist of 73 spans that 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 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.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Ramp A - Borough Place over SIRT Tracks. Ramp B - Bus Entrance Ramp over SIRT Tracks & South Municipal Parking Field.



Ramp C - Commuter Entrance over SIRT Tracks. Ramp D - Commuter Exit over SIRT Tracks & Employee Parking Lot.



## ACCOMPLISHMENTS & PLANNED PROJECTS



Bus Station North - over Terminal Building, SIRT Station and Employee Parking Lot.  
Station South - over SIRT Station and Employee Parking Lot.



Old Viaduct - Bus Exit over SIRT Tracks. North Ramp - over SIRT Tracks and North Municipal Parking Field.



Pedestrian Breezeway - Over Commuter Drop-Off / Pick-Up Area.

## ACCOMPLISHMENTS & PLANNED PROJECTS



North Municipal Parking Field.

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 planned design-build project will upgrade these eight vehicular structures (and one pedestrian bridge), and provide a design life of 75 years. For seven of the ramps, the project will provide new decks and eliminate joints where feasible, retrofit poorly detailed steel connections, and rehabilitate/replace deteriorated steel superstructure and substructure members, as well as install new paint systems. Lead paint removal and the installation of a new drainage system as well as a pigeon deterrent system will also be included. The eighth ramp is the existing load-restricted north ramp adjacent to the Richmond County Bank Stadium. It will be 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 will replace the superstructure of a pedestrian bridge (the 69<sup>th</sup> Street Terminal Building Overpass) connecting the terminal to an office facility, and will address 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.



April 2010: Removal of Concrete Encasement Packets at the Old Viaduct.



June 2010: Ramp A and D Demolition.

## ACCOMPLISHMENTS & PLANNED PROJECTS



July 2010: Removing Concrete Support Beams From Ramp A. Preparing for Power Hand-Tool Operation at Ramp D. Class 3P Containment at Ramp D.



September 2010: Ramp D Demolition and Pre-Stage Work.

Shielding installation and red flag repairs continued in 2010. Closures of Ramp D began on June 21. 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, Bus Gates A and B and the Old Viaduct were underway. Construction is expected to be complete by spring 2013.

### ***Emergency Contracts***

#### **BORDEN AVENUE BRIDGE OVER DUTCH KILLS (QUEENS)**

The Borden Avenue Bridge over Dutch Kills is located just south of the Long Island Expressway between 27<sup>th</sup> Street and Review Avenue in the Sunnyside section of Queens. It is a retractile-type movable bridge. The original bridge construction was completed in 1908 and was opened to traffic on May 25, 1908.

The bridge structure carries two lanes of vehicular traffic with sidewalks on either side. The roadway is 34 feet wide and the sidewalks are 8 feet wide.



Borden Avenue Bridge. (Credit: Peter Basich) General and Close Up View of the Crack in the Wingwall. (2<sup>nd</sup> View Credit: NYSDOT)



## ACCOMPLISHMENTS & PLANNED PROJECTS

In the spring of 2008, the Department observed that an existing crack in the west abutment's wingwall had opened up further. Following a series of subsequent inspections, it was determined that there is continuous movement of the west abutment wall. In an effort to mitigate this condition, two pressure relief joints were installed in the roadway, and the speed limit for eastbound traffic was posted at 15 miles per hour. Unfortunately, these measures did not stop or slow the abutment wall's movement.

On September 11, 2008, the Department and its consultant met to discuss the problem, and it was determined that there were two possible solutions: either to install a tieback-supported anchoring system, which would restrain the west abutment wall's movement, or, to fully replace the bridge's west abutment wall and its wingwalls. The Department would not be able to determine which solution would be the best long-term solution until further detailed inspections of the abutment wall and wingwalls were performed.

In early 2009, based on the findings of the underwater inspection, the consultant provided its recommendation to the Department to proceed with the second option, and the Department concurred.

The movement of the wall was undermining the stability of the bridge. Due to the potentially serious danger to life, public safety and property posed by the current condition, it is critical that the repair work be performed as expeditiously as possible.

On October 16, 2008, 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 existed relative to the movable bridge carrying the Borden Ave. over the Dutch Kills in Queens.

The repairs included the following: removal of the fill material under the roadway and sidewalks from behind the west abutment and between the wingwalls; relocation of the existing utilities; digging of a test pit to inspect the supporting piles; inspection of the condition and the taking of measurements; and the implementation of the appropriate repair solution based on the inspection findings.

The bridge was closed at noon on December 31, 2008. A Letter of Intent for the emergency repair of this bridge was issued to the contractor with a start date of January 6, 2009.



Borden Avenue Bridge Closed for Emergency Repairs in January 2009. (Credit: Bernard Ente) Roadway Excavation in January 2009.

The contractor began the excavation work behind the west abutment in February 2009. Installation of the cofferdam sheeting began in March 2009.



Demolition of the West Abutment and Wingwall in February 2009. (Third View Credit: Reza Lotfi) February 2009. (Credit: Tamara Berlyavsky)



## ACCOMPLISHMENTS & PLANNED PROJECTS



Borden Avenue Bridge in March 2009. (Credit: Tamara Berlyavsky) Demolition and Disposal of West Abutment Wall. (Credit: Reza Lotfi)



Sheet Piling of Cofferdam. Closeup of Sheet Pile Driving Operation for the West Abutment. (West Abutment Credit: Reza Lotfi) Reconstruction of West Abutment of the Borden Avenue Bridge in April 2009. (Credit: Bernard Ente)



Removal of Obstructions for the Sheeting Operation in May 2009. Deep Well Installation Southwest of the Bridge in June 2009.

A supplement to the Declaration of Emergency was added on August 3, 2009. During the excavation portion of the abutment wall repair work, the contractor encountered oil contaminated sediments in the Dutch Kills requiring the Department to notify the relevant federal and state regulatory agencies. The New York State Department of Environmental Conservation subsequently mandated that the Department prepare a Corrective Action Plan to address the contaminated sediments and dewatering fluids generated by the work. Since the environmental remediation work is incidental to the abutment wall repair work, the remediation work was added to the current emergency contract.

In addition, during the course of the abutment wall repair work, it was discovered that many areas of the superstructure of the moveable span exhibit deterioration. The additional repairs will include steel repairs on the stringers, floor beams and brackets; the installation of a new 5.5 inch concrete slab, and localized cleaning and painting.

The contractor began the demolition of the concrete deck in September 2009 and the repair of the structural steel in October 2009.

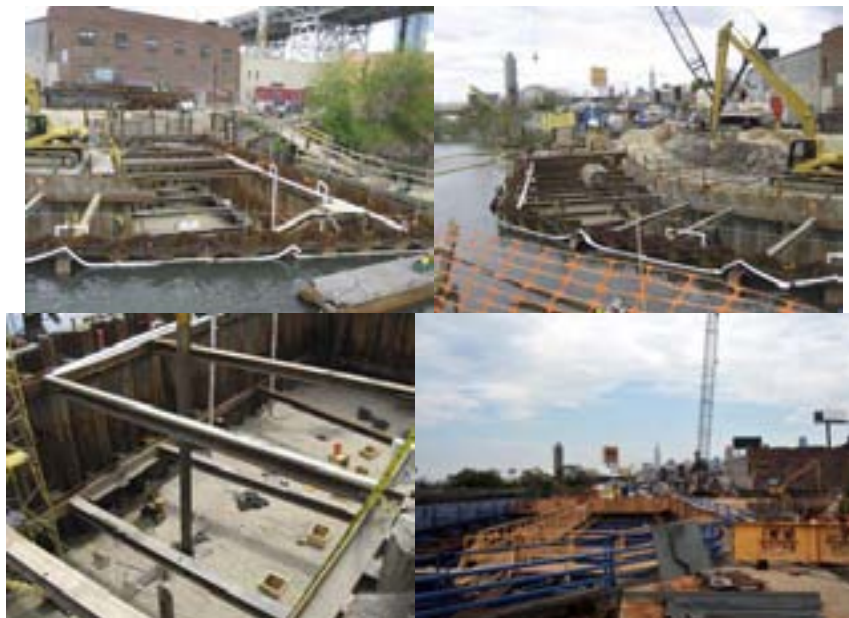
## ACCOMPLISHMENTS & PLANNED PROJECTS



October and November 2009: Paint Removal with Vacuum Shrouded Power Hand Tool Under a Class 3P Containment. Ironworkers Removing Rivets and Dismantling Steel. December 2009. (Credit: NYSDOT)

The Division identified a pocket of contaminated soil which was classified as “contaminated non-hazardous”. As such, it poses no significant health risk to workers or the surrounding community. However, precautionary measures were taken and every effort is being made to remove and dispose of the contamination quickly, yet safely, within all New York City and State guidelines. A Corrective Action Plan (CAP) for the removal and disposal of the contamination was submitted to the NYS Department of Environmental Conservation (NYSDEC) for review and approval. Upon receipt of the NYSDEC approval in November 2009, the contractor proceeded with the environmental work.

Cofferdam reinforcement was completed in March 2010. The driving of piles started in May and was completed in June. Steel repairs were completed in September. The grid deck concrete placement was completed in October. The bridge was reopened to vehicular traffic on December 24, 2010. Construction is expected be complete by July 2011.



April 2010: Cofferdam With Filter Fabric and Gravel Placed Prior to Pile Driving. May 2010: Pile Driving. Steel Deck Removed. (Deck View Credit: Bernard Ente)

## ACCOMPLISHMENTS & PLANNED PROJECTS



June 2010: Removing the Motor for Replacement and the Main Machinery Shaft for Rehabilitation. Oiler Carl Wharton, Mechanical Engineer Ibrahim Ibrahim, Oilers Tom Strommen and Richard Morreale, and Construction Project Manager Ali Mozaffari. (Credit: Vera Ovetskaya) September 2010: Steel repairs and concrete placement for the west abutment wall.



December 2010: Concrete Work. Associate Project Manager Reza Lotfi. (Credit: Leonid Gitis)



December 2010: Concrete Work. (Credit: Leonid Gitis) Late December 2010: Bridge Open to Vehicular Traffic. (Credit: Mitch Waxman)

### ***Component Rehabilitation***

#### **GREENPOINT AVENUE BRIDGE OVER NEWTOWN CREEK (BROOKLYN/QUEENS) (a.k.a J.J. BYRNE MEMORIAL BRIDGE)**

The Greenpoint Avenue Bridge over Newtown Creek connects the boroughs of Brooklyn and Queens. It is situated between Kingsland Avenue in Greenpoint and Review Avenue in Blissville. Greenpoint Avenue is a key corridor that links light industry in northern Brooklyn with freight distribution hubs and Interstate highway routes in western Queens. The existing bascule span bridge was built in 1990 and carries two lanes of traffic in each direction, with a sidewalk on either side. The roadway is 56 feet wide and sidewalks are 7 feet wide. The bridge consists of eleven fixed spans and a bascule span. In 2009, the bridge carried approximately 22,746 vehicles per day.

The roadway surface of the movable span is a concrete-filled steel grid deck. The grid deck was severely deteriorated and required frequent maintenance. Forty-two safety flags related to this



## ACCOMPLISHMENTS & PLANNED PROJECTS

condition were closed between 2007 and the first quarter of 2009. Due to the large number of repeated safety flags, and the expected continued deterioration of the deck, an urgent and permanent solution was deemed necessary. The Department decided to replace the deck. In addition, the scope of work included replacement of all the compression seals, the roadway joints, the cracked stringers, and the resurfacing of the intersection at the Queens end. A Notice to Proceed for the American Recovery and Reinvestment Act-funded component rehabilitation of this bridge was issued to the contractor with a start date of March 26, 2010.



March 30, 2009 at the Greenpoint Avenue Bridge: Commissioner Janette Sadik-Khan, Deputy Mayor Edward Skyler, Mayor Michael R. Bloomberg, and State Assembly Member David Weprin at the announcement of the City's selections for infrastructure projects that will benefit from federal transportation funding from the American Recovery and Reinvestment Act. (Credit: Edward Reed)

Construction began on April 5, 2010. Installation of temporary shielding under the movable span and deck joint repair work was completed in July 2010. The contractor began Phase I construction work on August 29, 2010. The replacement of the roadway grating continued for the next six weeks. The Queens-bound half of the bridge was closed, and the Brooklyn-bound lanes were converted to one lane in each direction.



Installing Temporary Shielding Under the Main Span and Deck Joint Repair Work in June 2010. Before Construction. Stage I Complete in October 2010.

Stage 1 work (Queens-bound) was completed on October 8, 2010, and Stage 2 work (Brooklyn-bound) began on October 9. The Queens-bound travel lanes were converted to one lane in each direction. The bridge was closed to marine traffic from October 25 to November 1, 2010 to facilitate the removal of the old grating and installation of the new one. The bridge was fully opened to vehicular traffic on November 23, 2010. The component rehabilitation project was substantially completed on January 20, 2011.



## ACCOMPLISHMENTS & PLANNED PROJECTS



Finished Greenpoint Avenue Bridge Roadway and Sidewalk in November 2010.

### ***When and Where Unit***

In 2010, 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, West 79<sup>th</sup> Street Bridge over Amtrak, Harlem River Drive NB Ramp over Harlem River Drive, West 40<sup>th</sup> Street Bridge over Amtrak 30<sup>th</sup> Street Branch, 149<sup>th</sup> Street Bridge over BCIP, West 148<sup>th</sup> Street Pedestrian Bridge over 30<sup>th</sup> Street Branch, Henry Hudson Parkway Bridge over Amtrak 30<sup>th</sup> Street Line, Hill Drive Bridge over Prospect Park Lake, West 181<sup>st</sup> Pedestrian Bridge over Henry Hudson Parkway North Bound, East 6<sup>th</sup> Street Bridge over FDR Drive, Corlears Park Road Bridge over FDR Drive, Central Drive Bridge over Transverse Road #1, Grand Concourse over 174<sup>th</sup> Street, Boston Post Road Bridge over Hutchinson River, West 79<sup>th</sup> Street Bridge over Amtrak 30<sup>th</sup> Street Line, East 156<sup>th</sup> Street/Access to Housing, West 207<sup>th</sup>/West Fordham Bridge over Harlem River, Trans-Manhattan Expressway, City Island Bridge over Eastchester Bay, 14<sup>th</sup> Avenue Bridge over BCIP, Linden Boulevard over BCIP, 28<sup>th</sup> Avenue Pedestrian Bridge over BCIP, Hempstead Avenue Bridge over BCIP, Richmond Avenue Bridge over Richmond Creek, Motor Parkway Bridge over Francis Lewis Boulevard, 49<sup>th</sup> Street Bridge over Grand Central Parkway, 150<sup>th</sup> Street over CIP, Hempstead Avenue Entrance/Exit Tunnel over Cross Island Parkway, Flushing Meadow Park Bridge over Meadow Lake, and Arthur Kill Road Bridge over SIRT South Shore.

Currently scheduled projects include the Henry Hudson Parkway Viaduct over West 72<sup>nd</sup> Street to West 79<sup>th</sup> Street, West 79<sup>th</sup> Street Bridge over Amtrak, and Hill Drive Bridge over Prospect Park Lake, and Arthur Kill Road over SIRT South Shore.

An unusually large amount of work was done to fix a PIA flag at the Harlem River Drive NB Ramp over Harlem River Drive. A through-hole had been observed in the structural deck slab, and a temporary plate was placed over the hole. After several months, it became apparent that this plate would not suffice for long. Upon this determination, a PIA flag was issued, and the When and Where contractor was immediately mobilized to address the situation. A special re-design of the entire ¼ span surrounding the through-hole was effected by a coordinated team of Division personnel from the Flag Engineering and When & Where Contract Units. The permanent repair consisted of a support system of three new stringers and the heavy reinforcement of the existing stringer. This major work was accomplished without closing the ramp, and with only minor late night intermittent disruptions of traffic on the south bound Harlem River Drive below repair area.

### **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. 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 staffing nor the

## ACCOMPLISHMENTS & PLANNED PROJECTS

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 already addressed include City Island Road Bridge over Eastchester Bay, 207<sup>th</sup> Street/West Fordham Road Bridge over the Harlem River, Shore Road (Pelham Parkway) Bridge over the Hutchinson River and additional safety flags on the Broadway Bridge over the Harlem River.

Some of these locations experience repeated damage due to heavy marine traffic and/or a narrow channel. The issuance of new flags necessitates new visits to even recently completed projects. Timber fender systems are subject to recurring hits by barge traffic, and consequently require periodic restoration. 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.



Working on the Shore Road Bridge in September 2010.

The project to replace the City Island Road Bridge had to be postponed. As a result, it became necessary to repair deficiencies in the existing structure that could have otherwise been left in place until the replacement work began. Concrete deteriorating from the underside of the bridge deck at many locations needed to be shielded with timber to protect the boat traffic in the bay. In addition, loose and cracked stones in channel piers had to be secured and patched to maintain the integrity of the substructure. A significant number of stones supporting the west abutment were cracked, and grout was missing at many others. Concrete repairs were necessary to maintain the abutment's integrity.

### PAINTING

In 2010, the following bridges were painted: Belt Parkway Bridge over Bay Parkway, Brooklyn Queens Expressway East Leg North Bound Bridge over 32<sup>nd</sup> Avenue (to Brooklyn Queens Expressway West Leg), Brooklyn Queens Expressway East Leg South Bound Bridge over 31<sup>st</sup> Avenue, Brooklyn Queens Expressway Bridge over 34<sup>th</sup> Avenue, Cropsey Avenue Bridge over Coney Island Creek, East Tremont Avenue Bridge over Bronx River, Grand Concourse Bridge over East Tremont Avenue, Harlem River Drive northbound ramp to the George Washington Bridge, Hunters Point Avenue Bridge over Dutch Kills, Riverside Drive Viaduct at West 158<sup>th</sup> Street, East 12<sup>th</sup> Street Bridge over Belt Parkway, 71<sup>st</sup> Avenue Bridge over Cooper Avenue, East 163<sup>rd</sup> Street over CSX Trans – Port Morris, and 163<sup>rd</sup> Street Pedestrian Bridge over Hawtree Basin.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Painting a Belt Parkway Overpass in April 2010: Bridge Painters Osvaldo Lima and Julio Perez. Painting the BQE Bridges in 2010: Bridge Painters Anthony Attore, Branko Grzancic, and Supervisor Bridge Painter David Yanolatos. (Credit: Earlene Powell)



Painting the BQE Bridges in 2010: Bridge Painters Henry Bollin (Obscured), Thomas Jones (Obscured), and Michael Scotti. Bridge Painter Michael Scotti. Bridge Painters Anthony Attore and Branko Grzancic. (Credit: Earlene Powell)



Painting the BQE Bridges in 2010: Bridge Painters Thomas Jones and Anthony Attore. Operating the Lift: Bridge Painter Brian Casey, Supervisor Bridge Painter David Yanolatos, and Bridge Painter Henry Bollin (Obscured). Completed Paint Job. (Credit: Earlene Powell)



Supervisor Bridge Painter David Yanolatos. (Credit: Earlene Powell) Deputy Director of In-House Painting Earlene Powell, Bridge Painters Anthony Attore, Michael Scotti, Henry Bollin, Thomas Jones, and Brian Casey. (Credit: David Yanolatos) Bridge Painter Efrosini Katanakis at the Harlem River Drive Northbound Ramp to the Trans-Manhattan Expressway in September 2010. (Credit: Artemio Angeles)

## ACCOMPLISHMENTS & PLANNED PROJECTS



Contract Painting of Bay 8<sup>th</sup> Street over Belt Parkway in August 2010. All Abrasive Blasting Activities Were Conducted During the Nightshift. Prior to the Abrasive Blasting Operation the Environmental Inspector Conducted Air Flow Measurements and Measured the Negative Pressure Inside of the Class 1A Containment System.



Contract Painting of Bruckner Expressway (Eastbound) Bridge over Bronx River in June 2010.

During 2010, the following structures were also painted: DOT Bridge Repair Facility Boiler Room at 390 Kent Avenue, DOT Coin Collection facilities at 66-26 Metropolitan Avenue, DOT Facilities at the Hamilton Avenue Asphalt Plant, DOT Harper Street Maintenance and Repair Shop, Bridge Inspection Facilities at Kingsland Avenue, DOT Ironworker's Office at 372 Kent Avenue, DOT Ironworker Shop at 59<sup>th</sup> Street, DOT Sign Shop at Maspeth, DOT Sign Shop at 34 Wave Street, DOT Traffic Operation facilities at 28-11 Queens Plaza, Madison Avenue Bridge Operator House, and Third Avenue Bridge Operator House.



## ACCOMPLISHMENTS & PLANNED PROJECTS

### GRAFFITI REMOVAL

In 2010, 4,115,377 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.



Pressure Washing Machine Used for Graffiti Removal. It is Set to 2500 psi and 212° F. Bridge Painters Frank Duic and Russell Newme Feeding the Spray Pump and Preparing the Paint.



Painting the White Line on the Brooklyn Bridge Walkway/Bikeway in June 2010. Bridge Painters Frank Duic, Russell Newme, and Vlatko Zic. Bridge Painter Frank Pinheiro Painting his Last White Line Before Retiring. Supervisor Bridge Painter Cesar Pazmino Checking the Line. The Freshly Painted Line. (Credit: Earlene Powell)

During 2010, graffiti was also removed from the following structures: Baychester Avenue Pedestrian Overpass, Bay Parkway, Bruckner Expressway Service Road, Cannon Place Retaining Wall Barriers, Citi Field Vicinity, South Conduit Avenue and Linden Boulevard, Cooper Ave and 80<sup>th</sup> Street, Cropsey Avenue, Cross Island Parkway, FDR Drive at 6<sup>th</sup> Street, FDR Drive at 23<sup>rd</sup> Street, FDR Drive between East 35<sup>th</sup> Street and 125<sup>th</sup> Street, FDR Drive at East 155<sup>th</sup> Street, Five Borough Bicycle Tour Route, Flushing Avenue and Rust Street, Francis Lewis Boulevard, 21 Front Street, Grand Concourse between East 167<sup>th</sup> and East 170<sup>th</sup> Streets, Grand Concourse over East 170<sup>th</sup> Street, Grand Concourse over East 174<sup>th</sup> Street, Grand Concourse over East 204<sup>th</sup> Street, Hutchinson River Parkway, Jackie Robinson Parkway-Union Turnpike Bridge over Austin Street, Lafayette Avenue Pedestrian Overpass, Lincoln Road over Flatbush

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

Avenue, Manton Place and Main Street, Marathon Route, Penny Field Avenue Seawall, Seeley Street, Skillman Avenue and Jackson Avenue, Springfield Boulevard Overpass between Kingsbury Avenue and 76<sup>th</sup> Avenue, Webster Avenue and 181<sup>st</sup> Street, Woodhaven Boulevard at 82<sup>nd</sup> Street, Yankee Stadium Vicinity, York Avenue between 59<sup>th</sup> and 60<sup>th</sup> Streets, South 5<sup>th</sup> Street, 11<sup>th</sup> Avenue and 36<sup>th</sup> Street, 12<sup>th</sup> Avenue between 31<sup>st</sup> and 33<sup>rd</sup> Streets, East 14<sup>th</sup> Street Pedestrian Bridge over Belt Parkway, West 33<sup>rd</sup> Street at Park Avenue, 63<sup>rd</sup> Street between 6<sup>th</sup> and 7<sup>th</sup> Avenue, 78<sup>th</sup> Avenue and Woodhaven Boulevard, 90<sup>th</sup> Avenue and 102<sup>nd</sup> Street railroad overpass, 91<sup>st</sup> Avenue between 99<sup>th</sup> and 102<sup>nd</sup> Street, 94<sup>th</sup> Street between 44<sup>th</sup> and 45<sup>th</sup> Avenue, 95<sup>th</sup> Avenue and Woodhaven Boulevard, 163<sup>rd</sup> Street Pedestrian Bridge over Hawtree Basin, West 179<sup>th</sup> Street at Cedar Avenue, West 181<sup>st</sup> Street and Riverside Drive, 204<sup>th</sup> Street Yard, 208<sup>th</sup> Street and 9<sup>th</sup> Avenue, and West 238<sup>th</sup> Street and Cannon Place.



Bridge Painters Andrew Law, Frank Hollen, and Julio Perez. (Credit: Robert Avellino)

## ACCOMPLISHMENTS & PLANNED PROJECTS

### ***Engineering Review and Support***

#### **IN-HOUSE DESIGN**

In-House Design staff prepares 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 provided construction support services for the component rehabilitation project to replace the concrete-filled steel grid deck of the Greenpoint Avenue Bridge over Newtown Creek, which connects the boroughs of Brooklyn and Queens. Greenpoint Avenue is a key corridor that links light industry in northern Brooklyn with freight distribution hubs and Interstate highway routes in western Queens. The existing bascule span bridge was built in 1990 and carries two lanes of traffic in each direction. The bridge consists of eleven fixed spans and a bascule span. This project included the replacement of the cracked stringers and the compression seals at all of the joints, as well as the resurfacing of the approach pavement and the intersection at the Queens end, and will extend the useful life of the bridge structure by 10 years. The bridge was fully opened to vehicular traffic on November 23, 2010. The component rehabilitation project was substantially completed on January 20, 2011.



Aerial View of Greenpoint Avenue Bridge. Elevation Right Span.

Other projects underway include the Union Turnpike Bridge over Cross Island Parkway (and Creedmoor Center Road), Springfield Boulevard Bridge over Belt Parkway, and Hillside Avenue Bridge over Cross Island Parkway in Queens. All three bridges are two span rigid frame concrete structures. The project is in the preliminary design phase, with construction scheduled to start in late 2016.

This unit is supervising the design of a proposed pedestrian bridge that will connect Park Row to the existing One Police Plaza overpass. The bridge will enhance the area while providing a safe pedestrian connection from Police Plaza to Park Row. The new bridge will be part of a Park Row/Chatham Square reconstruction project, which is being handled by DDC. The design work was completed and the contract documents were submitted to DDC, who will combine them with their contract documents, bid the final contract and oversee the construction.

This unit also started the design of the Bryant Avenue Bridge over Amtrak and Conrail in the Bronx. This is a one span structure constructed in 1908. This project includes replacement of the steel superstructure, bearings, approaches, and rehabilitation of both abutments. Both abutments will be rehabilitated to withstand seismic forces. The water main, electrical conduits and gas line on the existing bridge will also be replaced.

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. Some of the contracts reviewed during 2010 included the Willis Avenue, Broadway, and 145<sup>th</sup> Street Bridges over the

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

Harlem River, the Wards Island Pedestrian Bridge over the Harlem River; Hamilton Avenue and Union Street Bridges over the Gowanus Canal; and Belt Parkway Bridge over Paerdegat Basin in Brooklyn; Roosevelt Island Bridge over East River Channel; Shore Road Bridge over Hutchinson River; Queensboro Bridge; and Brooklyn Bridge.

### **ENGINEERING SUPPORT**

#### **BRIDGE PROJECT SPECIFICATIONS**

In 2010, the Specifications Unit of the Engineering Support Section prepared and/or reviewed contract proposal books and/or specifications for 22 contracts, including 15 bridge rehabilitation and new construction/reconstruction contracts and 7 non-bridge contracts, in addition to replying to specification requests for 7 on-going construction projects. Six of the above contracts totaling approximately \$70 million in construction costs were advertised for bid and were bid in 2010.

Notable among the construction contracts prepared and /or reviewed, advertised and sent for bid were: the reconstruction of Claremont Parkway Bridge over Metro North Railroad; preventive maintenance of the four East River Bridges; East 153<sup>rd</sup> Street Bridge (building demolition and site work), and off-site tidal mitigation for the Belt Parkway Bridges.

#### **CONVERSION OF DIVISION ENGINEERING ARCHIVES**

Since the first digitizing contract of engineering records began 11 years ago, we have converted over 58,000 full-size contract drawings and 20,000 construction photographs into digital formats.

The next phase of the project consisted of the digitizing of the microfilm collection. Since we began microfilming bridge drawings in the early 1980s, we accumulated more than 450 microfilm rolls (over 110,000 frames of film). Microfilming of records is rapidly becoming an obsolete technology as it cannot be used to perform rapid searches, sort records, send/ share files via the Internet, or copy electronic files to CDs/DVDs.

Under the digitizing contract completed in July 2009, these microfilms were transferred to digital media, and the records were consolidated according to their BIN (Bridge Identification Number) for future use.

In order to expand our records database we were able to acquire a complete digital set of the NYSDOT contracts from 1930. The NYC-based bridge-related records consisted of about 1,000 projects, which we were able to extract, label and incorporate into our server-based database according to their BIN and contract.

Server-based records support quality communications and enhance our public image. They ensure faster, flexible and effective delivery, improve document security, and organize, retrieve, distribute and print all documents more efficiently.

The Records Management Unit started the conversion of all TIFF (Tag Image File Format ) drawings to pdf (Portable Document Format) format and the indexing of these drawings. Some 200,000 TIFF drawings will be converted to PDF format. To date, approximately 30,000 drawings have been converted and about 28,000 have been indexed.

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.



## *ACCOMPLISHMENTS & PLANNED PROJECTS*

### **SURVEYING AND LOAD RATING**

The 9<sup>th</sup> Street Bridge over Gowanus Canal is about 11 years old. This is a vertical lift bridge with an 85 foot bridge span. In 2010, bridge operators discovered that the bridge deck was rubbing and hitting the east abutment during the closing procedure in the summer period. Unit staff performed bi-weekly monitoring of the movement of the east abutment.

The stone masonry retaining wall at Cannon Place in the Bronx is approximately 200 feet long with a varying height of 18 to 28 feet. Overall, the wall is in poor condition, with two sections identified as visibly bulging. The sidewalk along the Cannon Place is also in a deteriorated condition. In 2010, unit staff performed monthly monitoring of the movement of the two bulging wall sections and the deteriorated side walkway, and will continue to do so until the contract is awarded.

### **ENGINEERING REVIEW**

#### **MACY'S THANKSGIVING DAY PARADE**

As in past years, the staff of the Engineering Review Section actively participated in the 2010 Macy's Thanksgiving Parade. Months before the parade, the engineers reviewed the balloon specifications and flight analyses, and were involved in walkthroughs along the parade route to ensure the adequacy of the available envelope and the removal of any obstructions. 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 will also include a half tunnel section in what was formerly known as the Miller Highway Tunnel. When completed, the infrastructure network will be transferred to 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. Construction is complete for five of the bridges (which are open for traffic), and the other two bridges are under construction. The first phase of construction for the half tunnel section is complete and phase two is in progress. The project is now in its second stage, and is 92 percent complete overall.

### **RETAINING WALLS**

659 City-owned retaining walls (along major streets and highways) have been inspected and inventoried since 2005, 40 of which have been estimated to be in poor condition. Out of the 40 walls, 28 retaining walls have been scoped and forwarded to DDC with capital funding for rehabilitation. These retaining walls are now in various stages of design and construction. AS of October 2010, DDC has completed or nearly completed construction of 8 retaining walls, including the retaining wall at West 181<sup>st</sup> Street. DDC has been requested to accelerate the rehabilitation of walls that are being forwarded to them. The rest of the retaining walls will be in a program for future rehabilitation.

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

### **OVERWEIGHT TRUCK PERMIT REVIEWS**

The number of review requests for overweight truck and/or crane permits increased from an average of 15 per week in 2009 to an average of 95 per week in 2010. This necessitated the assignment of a group of engineers to the dedicated task of engineering reviews of these time-sensitive permit applications received from the Division's Truck Permit Unit.

### **PROJECT SCOPING**

In 2010, the unit was requested to prepare the scopes of work for the Design Investigative Study for 43 bridges owned by the Parks Department. As part of this commitment, the Unit prepared the scope of work for the Request for Proposals (RFP) for the procurement of a design consultant for package #1 consisting of eight bridges. The remaining bridges are split into four packages and the scope preparation is in progress.

### **HARPER STREET ASPHALT PLANT**

The Department acquired the Grace Asphalt Plant in Corona, Queens (both the real estate and the plant equipment) for its Roadway Repair and Maintenance Division. The acquisition of this private plant will help the City streamline its asphalt procurement and save costs. The Department will also be able to recycle some milled asphalt materials. The Land Use Unit coordinated the ULURP application process for this project.

The Harper Street Asphalt Plant opened in July 2010. Once the plant has been fully upgraded, it will enable us to increase the recycled content in our pavement to 40%. The second asphalt plant in Queens will allow the Agency to take the Hamilton Avenue Plant in Brooklyn offline for upgrades, allowing the Hamilton Plant to produce warm mix asphalt with up to 50% recycled content. When DOT's Hamilton Avenue asphalt plant is upgraded, it will be designed with this new production system in mind.

### **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 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

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

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 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 2011.

### **QUALITY ASSURANCE**

#### **FRESH CONCRETE INSPECTION AND TESTING PROTOCOL**

Concrete is one of the major materials utilized in our bridge construction/rehabilitation projects. The Quality Assurance Section's in-place procedures to ascertain the quality of the fresh concrete

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

delivered to our bridge sites require that all of its raw ingredients be obtained from NYSDOT-approved sources. Inspections are conducted at the batching plant during the manufacture of the concrete, in accordance with the design mixes reviewed and approved by the Section. Fresh concrete brought to the project site is then tested to ensure it meets its specification requirements, and concrete cylinder specimens are made at the point of placement by our own resident engineering staff. These specimens are then tested by an inspection firm in direct contract with us, without any influence from the contractor or its supplier, to confirm that hardened concrete has met its design strength. Unit staff formally developed concrete inspection, testing, and acceptance protocol.

### **MASS CONCRETE PLACEMENT GUIDELINES**

Large concrete bridge elements generate a high heat of hydration which can lead to thermal cracking if the concrete is not cured according to a mass placement requirement. The Quality Assurance Unit, in consultation with In-House Design, developed mass placement guidelines using ACI recommendations. These guidelines have since been implemented on current projects with favorable results, including the Willis Ave Bridge, the emergency reconstruction of the Borden Avenue Bridge, the East 8<sup>th</sup> Street Access Ramp, and the Belt Parkway Bridges.

### **ENVIRONMENTAL ENGINEERING**

The Environmental Engineering staff of the Quality Assurance section provides environmental oversight and compliance on all capital projects, as well as in-house maintenance, in the Division. Lead paint abrasive cleaning projects underway or completed in 2010 included the Manhattan Bridge, Rikers Island Bridge, Roosevelt Island Bridge, Brooklyn Bridge, Wards Island Pedestrian Bridge, Willis Avenue Bridge, Williamsburg Bridge, the Bruckner Expressway Bridges over the Bronx River and Amtrak rail lines, and various bridges over the Brooklyn-Queens Expressway and Grand Central Parkway. In addition, the unit continued to provide emergency response related to environmental issues.

As part of the Environmental Committee for the Office of Environmental Assessment and Compliance (OEAC), the unit assisted in developing environmental procedures such as spill prevention, control and countermeasures protocols, roadway spill clean-up protocols, RCRA contingency plans and the disposal of universal waste. The unit also worked with OEAC to develop and implement training for working over water as well as the Clean Water Act.

The unit performs quarterly water discharge monitoring in compliance with the NYSDEC SPDES system for bridges that cross waterways such as the Gowanus Canal, English Kills Creek and the Newtown Creek. Environmental oversight was provided to emergency work-over-water projects on the Brooklyn Bridge, Mill Basin Bridge, Roosevelt Island Bridge, Willis Avenue Bridge, Hamilton Avenue Bridge, Gerritsen Inlet Bridge, Paerdegat Basin Bridge, Third Avenue Bridge, Borden Avenue Bridge, Grand Street Bridge, Hutchinson River Parkway Bridge, Unionport Bridge, and Greenpoint Avenue Bridge. This environmental oversight ensured that there was no environmental impact to the city's waterways during emergency repair projects.

The unit also manages hazardous waste generated by both the in-house work of the Division and the capital projects. Through the use of environmental testing laboratories, the unit has continued to identify and dispose of out-of-date and expired chemical products stored in bridge facilities. Hazardous waste such as spent paints, solvents, oils and lead-paint debris is generated during maintenance and construction projects. This waste is managed in accordance with all applicable regulations for treatment and disposal. The unit is responsible for providing reports to the NYSDEC regarding the management and disposal of this waste.

The unit ensures compliance with storm water regulations, hazardous waste management, Clean Air Act requirements, Clean Water Act requirements, asbestos regulations, lead paint removal protocols, and health and safety on NYCDOT bridge projects. This includes projects such as the



## *ACCOMPLISHMENTS & PLANNED PROJECTS*

Willis Avenue Bridge, Belt Parkway Bridge over Paerdegat Basin, Belt Parkway Bridge over Rockaway Parkway, Belt Parkway Bridge over Fresh Creek Basin, and Roosevelt Island Bridge, where compliance with environmental concerns such as dredging and dewatering is required in conjunction with submarine cable installation, pier demolition, pier construction, and channel widening (on projects such as the Willis Avenue and Belt Parkway bridges).

The unit also continued to provide environmental oversight during the environmental remediation investigation of a gas station located over the Metropolitan Avenue Bridge. Petroleum-contaminated soil was present in the subsurface at the location of the previously removed underground storage tanks. The unit inspected the soil remediation activities performed by Exxon/Mobil in accordance with the remedial action plans. The successful remediation resulted in the NYSDEC closing out the spill at this location.

In addition, the staff continued the implementation of a new quality assurance plan for coating inspection and application on Division bridge structures. Services are implemented through the use of consultant contracts. Coating inspection services and engineering were provided on numerous projects such as the Brooklyn Bridge traveler repair project, East 78<sup>th</sup> Street Pedestrian Bridge, Roosevelt Island Bridge, Manhattan Bridge, Williamsburg Bridge, Grand Central Parkway Bridges, Brooklyn-Queens Expressway Bridges, Willis Avenue Bridge, and the Wards Island Pedestrian Bridge.

## 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 spray trucks, six 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 2009-2010, a total of 45,740 gallons of potassium acetate and 133 tons of sodium acetate were applied on the roadways of all four East River Bridges.



Anti-Icing Trucks. (Credit: Chris Gilbride)



Anti-Icing Trucks on the Queensboro Bridge During a Storm.  
(Credit: Paul Schwartz)

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### **INSPECTIONS**

In 2010, Inspections covered 101 bridges and 571 spans. Emphasis was placed on ensuring public safety through the monitoring of potentially hazardous conditions and temporary repairs. The unit performed 588 monitoring inspections, and 227 special winter monitoring inspections of cellular structures, shorings, and potential fire hazards. In addition, 152 emergency inspections were conducted in response to hot line calls, in-house requests, or citizen complaints.



Administrative Engineer Rajendra Pandya, Civil Engineers Tiffany Wong and Michael Galasso, and Assistant Civil Engineer Andrew Hoang Preparing to Inspect a Red Flag Condition in August 2010.

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 test version of the system was field verified in 2006, along with the selected portable computers. The production version of the system was implemented in 2007.

Work is underway under a new contract 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.

In 2002, the Division began to receive State DOT bridge inspection reports in CD-ROM 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.

The Bridge Inspection and Research and Development 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).

On September 17, 2007, Division representatives, along with engineers from NYS DOT, the Port Authority of New York and New Jersey, and the Metropolitan Transit Authority reported to the New York City Council on the safety of the bridges and the methods of inspection and hazard mitigation.

## ACCOMPLISHMENTS & PLANNED PROJECTS

### STRAIN GAUGE AND TELLTALE TESTING

In January 2009, in-house forces assisted researchers from the University of Illinois at Chicago in the installation of fiber optic sensors on the Manhattan approach of the Brooklyn Bridge, designed to monitor the condition of two brick masonry arches. The sensors monitor the behavior of existing cracks with the results transmitted electronically to the website, using a computer system capable of monitoring up to 40 channels of information on displacements, vibration, and temperature. The project is sponsored by the FHWA and contracted by NYSDOT at no cost to the City. Dr. Yanev presented its progress at the Non-Destructive Testing TRB Committee meeting in January 2010.

In 2010 the Brooklyn Bridge monitoring was concluded. Recommendations were made for the repair of the cracks in the forthcoming rehabilitation contracts. The equipment was dismantled and stored for possible future use.

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. 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 data collection from the instruments in the cable is expected to continue through 2011 and to provide conclusive information about non-invasive technology suitable for monitoring of suspension cables.



April 2010: Division Ironworkers Installed Scaffolding Along Cable "D" of the Brooklyn Side Span for the Field Test Phase of the FHWA-Sponsored Bridge Cable Corrosion Study. (Credit: Hany Soliman)



Executive Director of Bridge Inspections and Bridge Management Dr. Bojidar Yanev. (Yanev Credit: Brian Gill) Manhattan Bridge Engineer-in-Charge Brian Gill Inspecting Cable "D."



## ACCOMPLISHMENTS & PLANNED PROJECTS



November 2010: Cable "D" Work Area. (Credit: Bojidar Yanev)



November 2010. Final Night of Testing on the Westbound Manhattan Bridge Upper Roadway. Bridge Repairer and Riveters Alfred Benecke and Randall Palmenta. Assistant Civil Engineer Hany Soliman, Supervisor Electrician Ben Cipriano, Executive Director of Bridge Inspections and Bridge Management Dr. Bojidar Yanev, Dr. Noriyoshi Inoue of Tokyo Rope Co., and Chief Engineer Masamichi Sugahara of Tokyo Rope Co. On Cable D in Front of the Magnetizer: Bridge Repairer and Riveters Charlie Zhao, John Mcallister, and Christopher Sabbagh, Supervisor Bridge Repairer and Riveter Gean Pilipiak, and Bridge Repairer And Riveter Daniel Jederlinic. (Credit: Thomas Whitehouse) Dr. Noriyoshi Inoue of Tokyo Rope Co., Bridge Repairer and Riveter Christopher Sabbagh, Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse, and Supervisor Electrician Ben Cipriano. (Credit: Hany Soliman)

In addition, in 2010 the Bridge Management Unit issued an RFP for the design and installation of a real time on-line system monitoring the condition of the abutments of three bridges in the Bronx identified as vulnerable to scour.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Snuff Mill Road Bridge is One of the Bridges Investigated for Scour Vulnerability and Found to be Structurally Sound, But it Remains Under Surveillance During Heavy Rains and Floods.

### CLEANING

In 2010, 8,802 cubic yards of debris were removed from bridges and their surrounding areas, and 1,853 drains were cleaned.

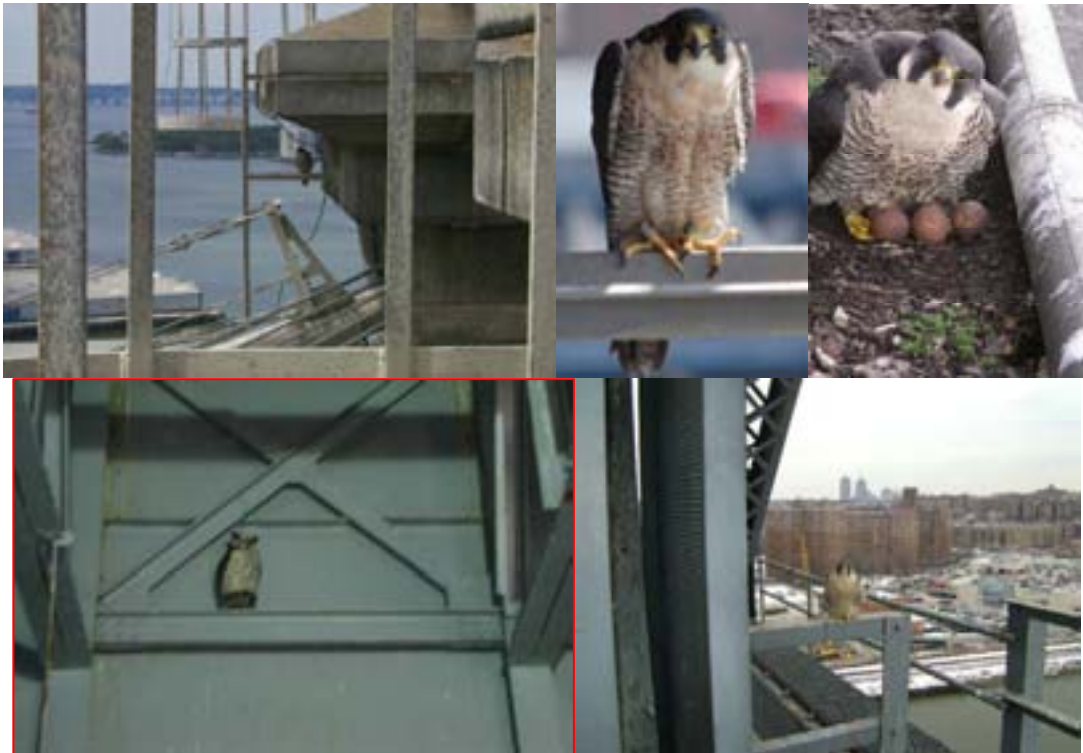
### PIGEON DETERRENCE

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 four 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 2010, pigeon dropping removal and/or pigeon proofing were performed at the Manhattan anchorage of the Brooklyn Bridge; Belt Parkway Bridges over Ocean Parkway, Nostrand Avenue, and Bay Parkway; Manhattan side of the Queensboro Bridge; Brooklyn-Queens Expressway East Leg Northbound over 32<sup>nd</sup> Avenue; the 59<sup>th</sup> Street Ironworkers Shop; Bruckner Expressway over Westchester Creek (Unionport Bridge); 207<sup>th</sup> Street (University Heights) Bridge over the Harlem River; Grand Concourse at 174<sup>th</sup> Street; 175<sup>th</sup> Street and Burnside Avenue; and at Woodhaven Boulevard Bridge over Queens Boulevard.

## ACCOMPLISHMENTS & PLANNED PROJECTS



Nature's Pigeon Deterrent—A Falcon on the Brooklyn Bridge South Side Tower. Falcon at the Brooklyn Bridge Manhattan Tower Top in July 2010. 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 Are Now 17 Falcon Pairs in New York City. (Family Credit: Russell Holcomb) "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)

## *ACCOMPLISHMENTS & PLANNED PROJECTS*

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.

The reduction in planned personnel will save 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 May 2012. 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 1996 - 2010

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brdn Ave. (Q)	105	15	0	3	0	28	0	0	0	1	0	0	0	0	0
Brdwy (B/M)	24	7	2	0	6	27	83	49	16	2	18	42	58	57	15
Brcknr Expwy (Estrn Blvd) (B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brcknr Expwy (Unnpnt Brdg) (B)	386	363	257	345	385	420	332	300	309	253	250	281	323	349	308
Carroll St. (K)	245	142	110	174	102	80	124	186	49	22	28	13	38	91	146
Grand St. (K/Q)	189	37	23	24	17	50	19	10	8	5	2	5	0	0	0
Gnpoint Ave. (K/Q)	557	626	669	787	688	641	659	738	1093	1045	905	641	485	428	388
Hmltn Ave. (K)	1191	1157	996	982	933	832	946	824	757	677	1077	354	0	150	905
Hntrs Point Ave. (Q)	113	15	0	1	0	36	0	0	0	0	0	1	0	0	0
Htchsn River PkwY (B)	31	32	75	46	5	120	30	5	37	10	2	51	61	170	224
Macombs Dam (B/M)	13	3	0	0	0	0	0	0	0	0	0	4	2	0	3
Mdsn Ave. (B/M)	0	0	0	0	0	0	0	0	7	0	9	35	8	0	3
Metrltn Ave. (K)	407	423	448	513	279	366	339	342	153	0	104	329	245	240	254
Mill Bsn (K)	903	628	591	433	336	317	142	173	164	162	174	182	190	183	197
Pulaski (K/Q)	195	291	332	383	276	208	308	599	694	734	433	489	639	611	467
Rsvlt Islnd (M/Q)	0	0	4	0	58	48	125	63	669	150	54	48	0	62	0
Shore Rd (Pelham Pky) (B)	2167	2158	2274	2162	2168	2222	1897	1910	2011	1683	1704	1645	1446	806	1197
Union St. (K)	236	144	103	144	85	101	62	24	21	11	9	5	10	28	32
Ward's Islnd Pdstrn (M)	0	2	1	0	0	279	0	0	7	2	8	4	6	3	5
Willis Ave. (B/M)	17	9	0	4	4	40	0	7	25	2	41	67	17	9	1
3 <sup>rd</sup> Ave. (B/M)	18	9	0	2	1	1	0	0	0	0	6	60	7	0	3
3 <sup>rd</sup> St. (K)	256	149	112	157	178	117	212	152	99	43	31	39	49	89	74
9th St. (K)	0	0	0	192	513	808	733	547	457	360	480	333	287	387	475
145 <sup>th</sup> St. (B/M)	24	3	0	0	1	6	0	0	9	0	0	0	0	0	0
W.207 <sup>th</sup> St. (B/M)	12	7	2	0	6	14	4	6	10	1	12	24	2	3	7
<b>TOTAL</b>	<b>7089</b>	<b>6220</b>	<b>5999</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>

## ACCOMPLISHMENTS & PLANNED PROJECTS

### RESEARCH AND PRESENTATIONS

In 2010, research work and/or case histories of the Division were presented in the following proceedings:

Transportation Research Board 89<sup>th</sup> Annual Meeting, Washington, D.C., 10 – 14 January 2010. Hodge, S., Karras, J., Promisel, I., Flynn, J., and Weiss, J. S. *Bridge Strike Mitigation in New York*.

Transportation Research Board 89<sup>th</sup> Annual Meeting, Washington, D.C., 10 – 14 January 2010. Mayer, L., Yanev, B., Olson, L. D., and Smyth, A. W. *Monitoring of Manhattan Bridge for Vertical and Torsional Performance with GPS and Interferometric Radar Systems*.

Transportation Research Board 89<sup>th</sup> Annual Meeting, Washington, D.C., 10 – 14 January 2010. Talebinejad, I., Fischer, C., Ansari, F., and Yanev, B. *Structural Health Monitoring of the Masonry Arch Approach Spans in Brooklyn Bridge*.

Bruce Podwal Seminar Series in Structural, Environmental, and Transportation Engineering, New York City, 23 March 2010. King, L.S., and Gandhi, K. *Design of Woodside Avenue Bridge over LIRR Main in Queens*.

6<sup>th</sup> US – China Bridge Engineering Workshop, May 17-18, 2010, Secaucus, N.J. Yanev B., *Suspension Bridge Cables: 200 Years of Empiricism, Analysis and Management*.

7<sup>th</sup> PRC – US Bridge Engineering Workshop, Sept. 5-10, Shanghai, China. Yanev, B. *Bridge Maintenance in New York City: Network and Project Level Interaction*.

ASCE Metropolitan Section Geotechnical Group Seminar: Mega Projects of New York City, Geotechnical Aspects, New York City, 13 May 2010, Nyman, W. E., and Mankbadi, R. *Willis Avenue Swing Bridge over the Harlem River*.

27<sup>th</sup> Annual International Bridge Conference, Pittsburgh, Pennsylvania, 6 – 9 June 2010. Mele, C., and Lantigna, P. *Grand Concourse Bridge over Metro-North Railroad*.

27<sup>th</sup> Annual International Bridge Conference, Pittsburgh, Pennsylvania, 6 – 9 June 2010. Buyson, M., and Shams, M. *Rehabilitation of the Northbound and Southbound Bruckner Expressway Bridges as Easy as A, B, C (Accelerated Bridge Construction)*.

27<sup>th</sup> Annual International Bridge Conference, Pittsburgh, Pennsylvania, 6 – 9 June 2010. McMillan, C., and Rauch, R. *Red Means Go*.

IABMAS 2010 – The 5<sup>th</sup> International Conference on Bridge Maintenance, Safety and Management, Philadelphia, Pennsylvania, 11 – 15 July 2010. Kroely, B., McAnulty, K. and Daza, J. *The Bridge Management System of the NYCDOT*.

IABMAS 2010 – The 5<sup>th</sup> International Conference on Bridge Maintenance, Safety and Management, Philadelphia, Pennsylvania, 11 – 15 July 2010. Mayer, L. Yanev, B., Olson, L. D., and Smyth, A. *Monitoring of the Manhattan Bridge and Interferometric Radar Systems*.

IABMAS 2010 – The 5<sup>th</sup> International Conference on Bridge Maintenance, Safety and Management, Philadelphia, Pennsylvania, 11 – 15 July 2010. Yanev, B. - Session Chair *Implementation of Bridge Management Administration in Japan*.

NDE/NDT for Highways and Bridges: Structural Materials Technology, New York City, 16 – 20 August 2010. Agrawal, A. *Corrosion Monitoring of Annadale Road Bridge in Staten Island*.

NDE/NDT for Highways and Bridges: Structural Materials Technology, New York City, 16 – 20 August 2010. Fischer, C., Talebinejad, I., Ansari, F., and Yanev, B. *Structural Health Monitoring of the Masonry Arch Approach Spans on the Brooklyn Bridge*.

Transportation Research Board 90<sup>th</sup> Annual Meeting, Washington, D.C., 23 – 27 January 2011. Mcelwee, William. *Special Construction Techniques for Steel and Concrete Highway Bridges – Willis Avenue Bridge*.

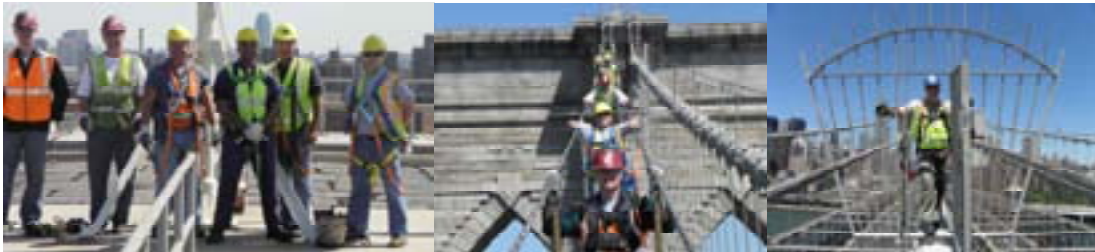
## ACCOMPLISHMENTS & PLANNED PROJECTS

Transportation Research Board 90<sup>th</sup> Annual Meeting, Washington, D.C., 23 – 27 January 2011.  
Yanev, B. *Bridge Maintenance in New York City: Network- and Project-Level Interaction.*

In addition, Dr. Bojidar Yanev continued his participation on the FHWA project “Structural Safety Appraisal Guidelines for Suspension Bridge Cables” along with the principal investigator, Columbia University. He guided a team of researchers installing sensors on the Manhattan Bridge during the final phase of the project. He is a member of the expert panel reviewing the progress of the FHWA project “Long Term Health Monitoring of Bridges,” along with principal investigator Rutgers University.

Dr. Yanev is on the review panel for NCHRP Project 20-07/Task 244 *Modifications for AASHTO LRFD Bridge Design Specifications to Incorporate or Update the Guide Specifications for Design of Pedestrian Bridges*. He is also a member of the Transportation Research Board Committees on Bridge Maintenance, Management, and Seismic Design.

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 2010 included: long term bridge performance program; health monitoring of bridges; carbon fiber composite cable, new materials for concrete deck repairs, and new types of bridge deck expansion joints.



Crew Atop the Brooklyn Bridge in June 2010: Electrician Eugene Kolesnyk, Oilers Stanley Karolewicz, Thomas McAuliffe, Samuel Garcia Jr., and Daniel Cantirino, and Electrician Brian Heaney. (Credit: Thomas Whitehouse) Crew on the Cable. (Credit: Thomas Whitehouse) Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse at the Suicide Gate.



Carpenter John Green Installing a Platform for Strain Gauge Measurement at the Hamilton Avenue Bridge in March 2010.  
(Credit: Vera Ovetskaya)



April 2010: Repairing Spalled Asphalt (a Tripping Condition) Near a Finger Joint on the Pulaski Bridge.  
(Credit: Samuel Teaw)

## ACCOMPLISHMENTS & PLANNED PROJECTS



Replacing Asphalt Around a Plate on the 5<sup>th</sup> Avenue Bridge in June 2010: Highway Repairer Robert Tuite, Bridge Repairer and Riveter Ignazio Trapani, and Assistant City Highway Repairers Umberto Fava and Thomas McKenzie II. (Credit: Joseph Flood)  
Cement Masons Repairing the Retaining Wall at the Southern Boulevard Bridge over East Fordham Road in November 2010. (Credit: Sohrab Hossain)



Deputy Chief Engineer Jay Patel, Past ASCE Met Section President Craig Ruyle, Robert A. Olmsted, Commissioner Janette Sadik-Khan, ASCE National President Blaine Leonard, Chief Bridge Officer Henry Perahia, and Deputy Chief Engineer Russ Holcomb. (Credit: Brian Gill)



## Appendix A

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### BRIDGE CAPITAL PROGRAM

<b>East River Bridge Rehabilitation Plans</b>	<b>A-1</b>
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<b>Bridges Under Construction</b>	<b>A-2</b>
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<b>Component Rehabilitation</b>	<b>A-3</b>
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<b>Bridges Under Design</b>	<b>A-4</b>
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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*
• Eyebars 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)	149.38**
• 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. (2017)</li> </ul>	40.00
	to
	60.00***
	<b>TOTAL: \$ 880.78</b>
	<b>to</b>
	<b>\$ 900.78</b>

- \* Construction Complete
- \*\* In Construction
- \*\*\* In Design
- \*\*\*\* Research and Development (completed)

Revised 11/12/10

## APPENDIX A-1

<b>QUEENSBORO BRIDGE</b> <b>REHABILITATION ITEMS</b> <b>TOTAL ESTIMATED COST</b>		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)		167.75*
• Miscellaneous Items – Component Rehabilitation. (In Progress)		43.88*
• Eye bar investigation. (In Progress)		0.62****
• Seismic Retrofit. (2017)		40.00
	to	
		60.00***
• Installation of aviation lighting (2010)		1.76**
<b>TOTAL: \$ 787.56</b>		<b>to</b>
		<b>\$ 807.56</b>

\* Construction Complete

\*\* In Construction

\*\*\* In Design

\*\*\*\* Research and Development

Revised 11/12/10



<b>WILLIAMSBURG BRIDGE</b> 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> <b>REHABILITATION ITEMS</b> <b>TOTAL ESTIMATED COST</b>		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

**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. (2015)	30.00
	to
	60.00**
• Replacement of Travelers.	22.34*
	<b>TOTAL: \$ 806.22</b>
	to
	<b>\$ 836.22</b>

\* Construction Complete

\*\* In Design

\*\*\* In Construction

Revised 11/12/10



**BRIDGES UNDER CONSTRUCTION**  
*CALENDAR YEAR 2010*

**CONTRACT # BRIDGE**


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HBX1029	145 <sup>th</sup> Street Bridge over Harlem River
HBX1123	Bruckner Expressway SB & NB over Amtrak & CSX
HBX1195	Shore Road Circle Bridge over Amtrak
HBM1117	Roosevelt Island Bridge over East River/East Channel
HBM1120	11 <sup>th</sup> Avenue Viaduct (West 30 <sup>th</sup> Street to West 33 <sup>rd</sup> Street) over LIRR West Side Yard
HBM1124	Willis Avenue Bridge over Harlem River
HBM1159	Wards Island Pedestrian Bridge over Harlem River
HBMC029	East 78th Street Pedestrian Bridge over FDR Drive (NB & SB)
HBCBORERS-ER	Northbound FDR Drive at East 53rd Street
HBK668	East 8 <sup>th</sup> Street Access Ramp (Guider Avenue Ramp to Belt Parkway) over Belt Parkway
HBK1024	Belt Parkway Bridge over Paerdegat Basin
HBK1072	Belt Parkway Bridge over Fresh Creek
HBK1091	Belt Parkway Bridge over Rockaway Parkway
HBQ1162E	Borden Avenue Bridge over Dutch Kills
HBR1166	Annadale Road Bridge over SIRT South Shore
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
BRC231D	Queensboro Bridge Aviation Lights
BRC253CC	Williamsburg Bridge – Contract #8
BRC270C (#6)	Brooklyn Bridge (Ramps and painting)

**BRIDGE CONSTRUCTION***Projects Completed in Calendar Year 2010***CONTRACT #    BRIDGE**

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HBCBORERS-ER	Northbound FDR Drive at East 53rd Street
HBR1166	Annadale Road Bridge over SIRT South Shore

### Component Rehabilitation

The following table illustrates the program's performance over the last eight years:

	**FY 03	#FY 04	FY 05	*FY 06	##FY 07	FY 08	###FY 09	FY 10
Number of Bridges	0	12	9	0	0	10	0	13
Construction Cost	\$0	\$8.25	\$5.63	\$0	\$0	\$14.93	\$0	\$12.74

\*No contracts were bid during the 2006 calendar years.

\*\*One contract was bid during the 2003 calendar year, but was not registered until February 2004.

# One contract was bid during the 2004 calendar year, but was not registered until February 2005.

## 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.

In 2010, work was completed at the following bridges, in the indicated boroughs, at the final cost shown, in millions:

Queensboro Bridge Ramp F to 21st & 22nd Streets (Q)	\$0.913
Queensboro Bridge Ramp G to 11th Street & Terrain (Access from Bridge Plaza South) (Q)	\$1.275
<b>TOTAL</b>	<b><u>\$2.188 M</u></b>

During calendar year 2010, work commenced at the following bridges:

Greenpoint Avenue over Newtown Creek (KQ)  
 East 174<sup>th</sup> Street (North) Pedestrian Bridge over Sheridan Expressway (BX)  
 East 174<sup>th</sup> Street (South) Pedestrian Bridge over Sheridan Expressway (BX)  
 37<sup>th</sup> Street over Brooklyn-Queens Expressway (Q)  
 Superior Road over Cross Island Parkway (Q)  
 15<sup>th</sup> Avenue over LIRR Bay Ridge (K)  
 13<sup>th</sup> Avenue over LIRR & Sea Beach (K)  
 East Drive over East Wood Arch (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)  
 West 181<sup>st</sup> Street over Ramp to Washington Bridge (M)  
 Jackie Robinson Parkway & Union Turnpike over Austin Street (Q)  
 Albee Avenue over SIRT South Shore (R)

Revised 2/8/11

### Component Rehabilitation

There is one project “still under construction” since the 2009 *Annual Report* was issued.\*  
Belt Parkway over Ocean Avenue (K)

\*Two bridges were deleted from the contract –  
3<sup>rd</sup> Avenue/Conrail Port Morris (BX)  
East 156<sup>th</sup> Street/Conrail Port Morris (BX)

17 component rehabilitation projects are slated to continue, commence or be completed in the 2011 calendar year. They are:

149<sup>th</sup> Street over LIRR (Q)  
United Nations Plaza over 1<sup>st</sup> Avenue Tunnel (M)  
Belt Parkway over Ocean Avenue (K)  
Ocean Avenue over LIRR Bay Ridge (K)  
  
Greenpoint Avenue over Newtown Creek (KQ)  
  
East 174<sup>th</sup> Street (North) Pedestrian Bridge over Sheridan Expressway (BX)  
East 174<sup>th</sup> Street (South) Pedestrian Bridge over Sheridan Expressway (BX)  
37<sup>th</sup> Street over Brooklyn-Queens Expressway (Q)  
Superior Road over Cross Island Parkway (Q)  
15<sup>th</sup> Avenue over LIRR Bay Ridge (K)  
13<sup>th</sup> Avenue over LIRR & Sea Beach (K)  
East Drive over East Wood Arch (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)  
West 181<sup>st</sup> Street over Ramp to Washington Bridge (M)  
Jackie Robinson Parkway & Union Turnpike over Austin Street (Q)  
Albee Avenue over SIRT South Shore (R)

Revised 2/8/11



## 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)	2012	FD	B
2241139	HBCR01B	LEGGETT AVENUE	AMTRAK - CSX	2012	FD	B
2241620	HBCR01B	EAST 162 <sup>ND</sup> ST	METRO NORTH RR HAR	2012	FD	B
2241630	HBCR01B	EAST 165 <sup>TH</sup> ST	METRO NORTH RR HAR	2012	FD	B
2241820	HBCR01B	EAST 187 <sup>TH</sup> ST	METRO NORTH RR HAR	2012	FD	B
2242029	HBCR01B	SOUTHERN BOULEVARD	EAST FORDHAM ROAD	2012	FD	B
2242280	HBCR01B	GRAND CONCOURSE	EAST 167 <sup>TH</sup> ST	2012	FD	B
2242400	HBCR01B	EAST 180 <sup>TH</sup> ST	BRONX RIVER	2012	FD	B
2230290	HBCR02A	MOSHOLU PARKWAY	EQUESTRIAN PATH	2013	PD	B
2242350	HBCR02A	EAST FORDHAM ROAD	GRAND CONCOURSE	2013	PD	B
2269030	HBCR02A	MATTHEWSON ROAD	MAC CRACKEN AVENUE	2013	PD	B
2241080	HBCR02B	SOUTHERN BLVD	CSX PORT MORRIS	2014	PD	B
2241129	HBCR02B	EAST 149 <sup>TH</sup> STREET	AMTRAK & CSX	2014	PD	B
2241330	HBCR02B	UNIONPORT ROAD	AMTRAK & CSX	2014	PD	B
2242071	HBCR02B	BRONX BLVD S.B.	BRONX RIVER	2014	PD	B
2242072	HBCR02B	BRONX BLVD N.B.	BRONX RIVER	2014	PD	B
2241570	HBX199	EAST 153 <sup>RD</sup> ST	METRO NORTH RR	2020	FD	B
2075837	HBX1086	WESTCHESTER AVENUE	HRP	2013	FD	B
2241590	HBX1103	CONCOURSE VILL AVE	METRO NORTH RR HAR	2020	FD	B
1066510	HBX1131	BRUCKNER EXP.	WESTCHESTER CREEK	2015	PD	B
2241800	HBX1139	EAST 183 <sup>RD</sup> ST	METRO NORTH RR HAR	2012	FD	B
NEW 2240200	HBX1148B	SHORE ROAD (NEW)	HUTCHINSON RIVER	2021	PD	B
2241210	HBX1152	BRYANT AVE	AMTRAK	2012	PD	B
2240210	HBX1164	CITY ISLAND ROAD	EASTCHESTER BAY	2012	FD	B
2241810	HBX1172	EAST 188 <sup>TH</sup> ST	METRO NORTH RR HAR	2018	FD	B
2241409	HBX1190	GRAND CONCOURSE	METRO NORTH RR HUD	2013	FD	B
2242319	HBX1191	GRAND CONCOURSE	EAST 174 <sup>TH</sup> ST	2018	PD	B
2242220	HBX1214	SNUFF MILL ROAD (SOUTHERN BLVD)	BRONX RIVER	2019	PD	B
2241740	HBX1215	EAST 175 <sup>TH</sup> ST	METRO NORTH RR	2019	PD	B
2230250	HBX1216	MOSHOLU PARKWAY	BRONX RIVER	2019	PD	B
2240137	HBM1147	BROADWAY	HARLEM RIVER	2014	FD	BM
2240079	HBX644S	MADISON AVE	HARLEM RIVER	2017	PD	BM
1240090	BRX287S	MACOMBS DAM BRIDGE	HARLEM RIVER	2015	PD	BM
2240028	BRC156S2	MANHATTAN BRIDGE (UL)	NYCTA TRACKS-BMT	2020	PD	KM
2240019	BRC270S	BROOKLYN BRIDGE	2781 (B.Q.E.)	2017	FD	KM
VARIOUS	HBCBORERS- R	VARIOUS	VARIOUS	2011	FD	KM
2230360	HBCR01A	UNION ST	2781 (B.Q.E.)	2012	FD	K
2230440	HBCR01A	2781 (B.Q.E.)	ADAMS ST N.B.	2012	FD	K
2230450	HBCR01A	2781 (B.Q.E.)	ADAMS ST S.B.	2012	FD	K
2231270	HBCR01A	4 <sup>TH</sup> AVE	BSHP	2012	FD	K
2231429	HBCR01A	BSHP	BEDFORD AVE	2012	FD	K
2240260	HBCR01A	CARROLL ST	GOWANUS CANAL	2012	FD	K
2243230	HBCR01A	CROWN ST	FRANKLIN SHUTTLE	2012	FD	K
2243490	HBCR01A	BEDFORD AVE	LIRR BAY RIDGE	2012	FD	K
2244060	HBCR01A	CLEFT RIDGE SPAN	PROSPECT PARK	2012	FD	K
2244480	HBCR01A	5 <sup>TH</sup> AVE	GREENWOOD CEMETERY	2012	FD	K

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## BRIDGES UNDER DESIGN BY NEW YORK CITY

BIN NO.	CAPIS NO.	FEATURE CARRIED	FEATURE CROSSED	FY CNST	PHASE	BORO
2230420	HBCR02A	B.Q.E. (S.B.)	WASHINGTON STREET	2013	PD	K
2244030	HBCR02A	EAST DRIVE	BRIDLE PATH	2013	PD	K
2230370	HBCR02B	SACKETT STREET	B.Q.E.	2014	PD	K
2243710	HBKC062	19TH AVE	BMT SEA BEACH	2018	FD	K
2243100	HBKC064	BEVERLY ROAD	BMT SUBWAY, BRIGHTON	2014	FD	K
2240250	HBKC068	3 <sup>RD</sup> STREET	GOWANUS CANAL	2017	PD	K
2243020	HBK530	PARKSIDE AVE	BMT SUBWAY, BRIGHTON	2015	FD	K
2243820	HBK548	21 <sup>ST</sup> AVE	BMT SEA BEACH	2020	FD	K
2231450	HBK643	BSHP	GERRITSEN INLET	2012	FD	K
2231479	HBK1023	BSHP	MILL BASIN	2012	FD	K
2243510	HBK1046	FLATBUSH AVE	LIRR BAY RIDGE	2020	FD	K
2231249	HBK1089	BSHP	BAY RIDGE AVE	2013	FD	K
2231439	HBK1090	BSHP	NOSTRAND AVE	2013	FD	K
2230887	HBK1151	278I W.B. (B.Q.E.)	CADMAN PLAZA	2015	FD	K
2230888	HBK1151	278I E.B. (B.Q.E.)	CADMAN PLAZA	2015	FD	K
2243140	HBK1153	NEWKIRK AVE	BMT SUBWAY, BRIGHTON	2019	FD	K
2243040	HBK1154	CROOKE AVE	BMT SUBWAY, BRIGHTON	2019	FD	K
2243569	HBK1201	ATLANTIC AVE	LIRR ATLANTIC AVE	2015	FD	K
2240270	HBK1213	UNION STREET BRIDGE	GOWANUS CANAL	2017	PD	K
2240390	HBK1161	GRAND ST BRIDGE	NEWTON CREEK	2018	PD	KQ
2231319	HBK1202	BELT PARKWAY	BAY PARKWAY	2015	PD	K
2243400	HBK1204	50 <sup>TH</sup> STREET	LIRR BAY RIDGE	2015	FD	K
2243580	HBK1205	5 <sup>TH</sup> AVENUE	LIRR & SEA BEACH	2020	PD	K
2243150	HBK1208	FOSTER AVENUE	BMT SUBWAY BRIGHTON	2020	FD	K
2240047	BRC231S	QUEENSBORO BRIDGE (LL)	EAST RIVER	2020	PD	MQ
2240048	BRC231S	QUEENSBORO BRIDGE (UL)	EAST RIVER	2020	PD	MQ
2246980	HBCR01B	RIVERSIDE DRIVE	WEST 138 <sup>TH</sup> ST	2012	FD	M
2267130	HBCR01B	RIVERSIDE DRIVE	WEST 145 <sup>TH</sup> ST	2012	FD	M
2245220	HBCR02A	WEST 57 <sup>TH</sup> STREET	AMTRAK 30 <sup>TH</sup> ST BRANCH	2013	PD	M
2245319	HBCR02A	EAST 97 <sup>TH</sup> STREET	METRO NORTH	2013	PD	M
223204B	HBCR02B	HOUSTON STREET RAMP TO FDR DRIVE	RELIEF	2014	PD	M
2245090	HBMC032	W 43 <sup>RD</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	PD	M
2245130	HBMC033	W 47 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2019	PD	M
2245150	HBMC034	W 49 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	PD	M
2245340	HBMC035	W 50 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	PD	M
2245180	HBMC036	W 53 <sup>RD</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	PD	M
224501C	HBMC037	W 33 <sup>RD</sup> ST	LAND ADJ TO AMTRAK	2020	FD	M
2246540	HBM551	EAST 34 <sup>TH</sup> ST	PARK AVE TUNNEL	2017	FD	M
2233059	HBM1027	HARLEM RIVER DRIVE	RAMP TO HRD N.B.	2013	DB	M
2245010	HBM1120	11 <sup>TH</sup> AVE VIADUCT [NORTH]	LIRR WEST SIDE YARD	2020	FD	M
2246720	HBM1165	RIVERSIDE DRIVE	WEST 158 <sup>TH</sup> ST	2017	PD	M
226672A	HBM1171	W 31 <sup>ST</sup> ST	AMTRAK LAYUP TRACKS	2020	FD	M
2245070	HBM1174	W 38 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2019	PD	M
2245080	HBM1175	W 39 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2019	PD	M
2245100	HBM1176	W 44 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	PD	M
2245120	HBM1177	W 46 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	PD	M
2245140	HBM1178	W 48 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2019	PD	M

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## BRIDGES UNDER DESIGN BY NEW YORK CITY

BIN NO.	CAPIS NO.	FEATURE CARRIED	FEATURE CROSSED	FY CNST	PHASE	BORO
2245210	HBM1179	W 42 <sup>ND</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2019	PD	M
2245440	HBM1180	W 40 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	PD	M
2245330	HBM1183	W 41 <sup>ST</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	PD	M
224501B	HBM1184	W 33 <sup>RD</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	FD	M
224501D	HBM1185	W 34 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	FD	M
224501E	HBM1186	W 35 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	FD	M
224501F	HBM1187	W 36 <sup>TH</sup> ST	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	FD	M
2245209	HBM1188	11 <sup>TH</sup> AVE	AMTRAK 30 <sup>TH</sup> ST BRANCH	2020	PD	M
2229290	HBM1189	W 79 <sup>TH</sup> ST	AMTRAK	2017	PD	M
2267717	HBM1189	79 <sup>TH</sup> ST PED PLAZA	79 <sup>TH</sup> ST BOAT BASIN GARAGE	2017	PD	M
2267718	HBM1189	79 <sup>TH</sup> ST TRAFFIC CIRCLE	79 <sup>TH</sup> ST PED PLAZA	2017	PD	M
226771A	HBM1189	79 <sup>TH</sup> ST RAMP TO HHP	79 <sup>TH</sup> ST BOAT BASIN GARAGE	2017	PD	M
226771B	HBM1189	79 <sup>TH</sup> ST RAMP TO GARAGE	79 <sup>TH</sup> ST BOAT BASIN GARAGE	2017	PD	M
226771C	HBM1189	GARAGE RAMP TO 79 <sup>TH</sup> ST	79 <sup>TH</sup> ST BOAT BASIN GARAGE	2017	PD	M
226771D	HBM1189	SB HHP RAMP TO 79 <sup>TH</sup> ST	79 <sup>TH</sup> ST BOAT BASIN GARAGE	2017	PD	M
2240660	BRC289A	RIKERS ISLAND BRIDGE	RIKERS ISLAND CHANNEL	2020	DB	Q
2214004D	HBCR01C	RAMP TO QUEENSBORO BRIDGE	E 59 <sup>TH</sup> ST	2013	PD	Q
224004H	HBCR01C	RAMP FROM QUEENSBORO BRIDGE	BRIDGE PLAZA SOUTH	2013	PD	Q
2247220	HBCR01C	80 <sup>TH</sup> ROAD	LIRR	2013	PD	Q
2248300	HBCR01C	71 <sup>ST</sup> AVE	COOPER AVENUE	2013	PD	Q
2266129	HBCR01C	DOUGLASTON PARKWAY SB	BCIP	2013	PD	Q
2266139	HBCR01C	DOUGLASTON PARKWAY NB	BCIP	2013	PD	Q
2267160	HBCR01C	ROOSEVELT AVE	PARK ROAD	2013	PD	Q
2231880	HBCR02A	CROCHERON PARK PEDESTRIAN	CROSS ISLAND PARKWAY	2013	PD	Q
2266160	HBCR02A	WHITESTONE EXPRESSWAY S.B. TO CROSS ISLAND PARKWAY E.B.	ACCESS ROAD FROM WHITESTONE EXPRESSWAY	2013	PD	Q
2230890	HBCR02B	49 <sup>TH</sup> STREET	GRAND CENTRAL PARKWAY	2014	PD	Q
1247560	HBQ1112	METRO AVE (FRESH POND)	LIRR MONTAUK DIV	2014	FD	Q
2231780	HBQ1114	HEMPSTEAD AVE	BCIP	2020	PD	Q
2266149	HBQ1114	HEMPSTEAD AVE	RAMP TO BCIP NB	2020	PD	Q
2231850	HBQ1115	UNION TPKE	BCIP	2016	PD	Q
2247120	HBQ1130	WOODSIDE AVE	LIRR MAIN LINE	2017	FD	Q
2248159	HBQ1134	WOODHAVEN BLVD	QUEENS BLVD	2018	FD	Q
2248160	HBQ1137	ELLIOT AVE	QUEENS BLVD	2019	PD	Q
2240410	HBQ1162	BORDEN AVENUE	DUTCH KILLS	2017	PD	Q
2231760	HBQ1173	BCIP	DUTCH BRDWAY-115 AVE	2020	PD	Q
2240507	HBQ1203	ROOSEVELT AVE	VAN WYCK EXPRY	2012	FD	Q

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## BRIDGES UNDER DESIGN BY NEW YORK CITY

BIN NO.	CAPIS NO.	FEATURE CARRIED	FEATURE CROSSED	FY CNST	PHASE	BORO
2248280	HBQ1206	HIGHLAND PK PED BRDG	PEDESTRIAN PATH	2014	PD	Q
2231840	HBQ1207	HILLSIDE AVE	BCIP	2016	PD	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	2013	PD	R
2249800	HBCR01C	FOREST AVE	CLOVE LAKES PARK STREAM	2013	PD	R
2249240	HBCR02B	ARTHUR KILL ROAD	SIRT SOUTH SHORE	2014	PD	R
R00010	HBRC036	GALLOWAY AVE	MARIANNE ST	2014	FD	R
R00011	HBRC037	FOREST AVE	CRYSTAL AVE	2014	FD	R
R00013	HBRC038	NAUGHTON AVE	PATTERSON AVE	2014	FD	R
R00023	HBRC039	MIDLAND AVE	HYLAN BLVD	2014	FD	R
R00034	HBRC040	ROCKLAND AVE	BRIELLE AVE	2014	FD	R
R00068	HBRC041	FOREST AVE	RANDALL AVE	2014	FD	R
R00069	HBRC042	GREGG PLACE	RANDALL AVE	2014	FD	R
R00084	HBRC043	ARTHUR KILL RD	MULDOON AVE	2014	FD	R
R00097	HBRC044	RICHMOND HILL RD	RICHMOND RD	2014	FD	R
R00122	HBRC045	ARTHUR KILL RD	RIDGEWOOD AVE	2014	FD	R
2249820	HBRC1149	ARTHUR KILL ROAD	ARTHUR KILL STREAM	2020	FD	R

Revised 11/17/10

PD=Preliminary Design; FD=Final Design; DB=Design Build



## Appendix B

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### FLAG CONDITIONS

**Definitions and Procedures**

**B-1**

**2006-2010 Red, Yellow and Safety Flags**

**B-2**

**Flag Reporting and Tracking Process**

**B-3**

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## 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.



Flag Engineers Inspecting a Red Flag (Floor Beam Web) on the Tower Structure of the Manhattan Bridge. Closeup of the Location.  
(Credit: Bojidar Yanev)



September 2008: Advanced Corrosion of Steel Stringer and Girder.



Assistant Civil Engineer Andrew Hoang and Civil Engineer Rajendra Pandya Measuring the Section Loss of the Bottom Flange of A Floor Beam, Utilizing a Digital Caliper. Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse Inspecting a Red Flag on a Girder Floor Beam at the Belt Parkway Bridge over Gerritsen Inlet. Mr. Whitehouse Operating a Zoomboom. (Gerritsen Credit: Steve Havemann)

*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.

## FLAG DEFINITIONS AND PROCEDURES

(Source: NYSDOT Engineering Instruction 94-002)



February 2008: Yellow Structural Flag Due to the Deteriorated Cap Beam. October 2008: Corrosion of Steel Secondary Member. November 2008: Crack in Steel Girder.

**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.



February 2008: Loose Bolts at the Lighting Base. October 2008: Electrical Hazard, and Loose Joint.

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)

## APPENDIX B-2

### FLAG CONDITIONS BY CALENDAR YEAR

#### *Citywide*

	2006*	2007*	2008*	2009*	2010*	% increase (2006 – 2010)
FLAGS ROUTED	1,253	1,261	1,764	1,286	1,591	27%
RED	24	41	84	72	53	121%
YELLOW	127	206	247	155	387	205%
SAFETY	1,102	1,014	1,433	1,059	1,151	4%
TTL FLGS ELIMINATED	987	1,083	1,137	973	1,297	31%
RED	19	36	60	67	47	147%
YELLOW	99	214	195	188	214	116%
SAFETY	869	833	882	718	1,036	19%
TTL FLGS OUTSTANDING	2,178	2,356	2,983	3,296	3,612	66%
RED	10	15	39	44	50	400%
YELLOW	576	568	620	587	760	32%
SAFETY	1,592	1,773	2,324	2,665	2,802	76%
<b><i>Division of Bridges Workload</i></b>						
FLAGS ROUTED	1,002	931	1,127	973	1,390	39%
RED	19	38	66	66	52	174%
YELLOW	119	203	240	147	383	222%
SAFETY	864	690	821	760	955	11%
FLAGS ELIMINATED	796	916	969	897	1,198	51%
RED	14	34	41	67	40	186%
YELLOW	99	193	188	185	207	109%
SAFETY	683	689	740	645	951	39%
FLAGS OUTSTANDING	1,638	1,650	1,823	1,903	2,076	27%
RED	10	14	39	38	50	400%
YELLOW	527	537	594	556	731	39%
SAFETY	1,101	1,099	1,190	1,309	1,295	18%

\*The number of flags routed, eliminated, and outstanding has been revised since the 2009 Annual Condition Report.

Revised 1/7/11



## 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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### 2010 INVENTORY

<b>Inventory Summary</b>	<b>C-1</b>
<b>Posted, Partially Closed &amp; Closed Bridges</b>	<b>C-2</b>
<b>Bridge Identification Numbers</b>	<b>C-3</b>
<b>New York State Inspection System</b>	<b>C-4</b>
<b>Standard Abbreviations</b>	<b>C-5</b>
<b>Information on Inventory Lists</b>	<b>C-6</b>
<b>Adjustments to the Inventory</b>	<b>C-7</b>
<b>Listing of Bridge Inventory and Conditions</b>	<b>C-8</b>

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### Inventory Summary

In Calendar Year 2010, the total number of bridge and tunnel structures under the jurisdiction of the New York City Department of Transportation (NYCDOT) increased to 787. NYCDOT owns, operates, and/or maintains 757 non-movable bridges, 25 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 61) 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 787 elevated bridge structures (including five tunnels), as measured by the City's general condition rating, are as follows: 4 structures were rated *Poor*, 462 structures were rated *Fair*, 207 structures were rated *Good*, 113 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 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 nineteen (40.5%) of the Division's structures consist of one span (the portion of a bridge between two supports). One hundred four (13%) bridges carry pedestrian traffic. Of the 787 structures in the City's inventory, 102 (13%) cross waterways; of these, 20 connect the boroughs of the Bronx, Brooklyn, Manhattan and Queens. Three hundred twenty-six (41%) structures cross the City's labyrinthine system of railroad and subway tracks. Two hundred forty-eight (31.5%) 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 671 (85%) bridge structures. The balance of 115 (14.6%) were inspected by the City, with the exception of the High Bridge over the Harlem River, which was inspected 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 2010 Structure Conditions

Rating	Number of Structures	Percent	Number of Spans	Percent	Deck Area Sq Ft	Percent
Poor	4	0.51%	88	1.98%	525,608	3.62%
Fair	462	58.78%	3,404	76.72%	10,117,483	69.72%
Good	207	26.34%	638	14.38%	2,530,830	17.44%
Very Good	113	14.38%	307	6.92%	1,336,814	9.21%
Not Rated	1	—	—	—	—	—
Total	787	100%	4,437	100%	14,510,735	100.62%

As of December 31, 2010, the condition of the City's bridges and tunnels indicated that 0.51% were rated as *Poor*, 58.78% were classified as *Fair*, 26.34% were awarded ratings of *Good*, and 14.38% as *Very Good*. Those structures given ratings of *Poor* and *Fair* encompassed 78.70% of bridge spans.

Rating	2007		2008		2009		2010	
Poor	3	0.38%	3	0.38%	4	0.51%	4	0.51%
Fair	459	58.25%	455	57.81%	456	58.09%	462	58.78%
Good	215	27.28%	213	27.06%	209	26.62%	207	26.34%
Very Good	111	14.09%	116	14.74%	116	14.78%	113	14.38%
Not Rated	1		1		1		1	
Total	789	100%	788	100	786	100	787	100

During 2010, Manhattan had the highest percentage of bridge structures rated *fair* – 75.29% - as well as the lowest percentage of bridge structures rated *good* – 20.69%. Staten Island had the highest percentage of bridge structures classified as *good* – 32.84%, and the third highest percentage of bridge structures rated *very good* – 16.42%, for a total of 49.26%. In 2010, Brooklyn had the highest percentage of bridge structures rated as *very good* – 24.57%. The Bronx had the second highest percentage of bridge structures classified as *fair* – 63.82%, and the third highest percentage of bridge structures rated as *good* – 27.63%. Queens had no bridges rated as *poor*, the second highest percentage of bridge structures classified as *very good* – 19.70%, and the second highest percentage of bridge structures rated as *good* – 29.80%.

Borough*	Poor	% of Boro	Fair	% of Boro	Good	% of Boro	Very Good	% of Boro	Total
Bronx	1	0.66%	97	63.82%	42	27.63%	12	7.89%	152
Brooklyn	1	0.57%	86	49.14%	45	25.71%	43	24.57%	175
Manhattan	1	0.57%	131	75.29%	36	20.69%	6	3.45%	174
Queens	0	0.00%	100	50.51%	59	29.80%	39	19.70%	198
Staten Island	0	0.00%	34	50.75%	22	32.84%	11	16.42%	67
Total	3	0.39%	448	58.49%	204	26.63%	111	14.49%	766

\* Does not include borough-crossing bridges (see next table).



### Summary of 2010 Structure Conditions

Seventy five percent of the 20 bridge structures that service the five boroughs were rated in either *poor* or *fair* condition in 2010, and 25% 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%	7	70.00%	1	10.00%	2	20.00%	10
Brooklyn-Manhattan	1	25.00%	2	50.00%	1	25.00%	0	0.00%	4
Queens-Manhattan	0	0.00%	2	66.67%	1	33.33%	0	0.00%	3
Brooklyn-Queens	0	0.00%	3	100.00%	0	0.00%	0	0.00%	3
Total	1	5.00%	14	70.00%	3	15.00%	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 2010, the total number of closed or partially closed bridge structures was three, with one closed and two 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
2-23145-0	BROOKLYN	BELT SHORE PKWY.	GERRITSEN INLET		2012	5	CONDITION OF PAERDEGAT BASIN BRIDGE
2-23147-9	BROOKLYN	BELT SHORE PKWY.	MILL BASIN CREEK		2012	5	CONDITION OF PAERDEGAT BASIN BRIDGE
2-23148-9	BROOKLYN	BELT SHORE PKWY.	PAERDEGAT BASIN		2010	5	
2-23149-9	BROOKLYN	BELT SHORE PKWY.	ROCKAWAY PKWY.		2010	5	PASSENGER CARS ONLY
2231509	BROOKLYN	BELT SHORE PKWY.	FRESH CREEK		2010	5	PASSENGER CARS ONLY
	MANHATTAN	FDR DRIVE (NB & SB)	23 <sup>RD</sup> TO 63 <sup>RD</sup> STREET			4	PASSENGER CARS ONLY
2-24001-9	BROOKLYN & MANHATTAN	BROOKLYN BRIDGE	EAST RIVER	INCLUDING RAMPS	2009	3	NO COMMERCIAL TRAFFIC NO TRUCKS, NO BUSES; 11'0" CLEARANCE
2240027	MANHATTAN & BROOKLYN	MANHATTAN BRIDGE	EAST RIVER				DESIGN LOAD FOR HS 20 TRUCK LOAD [36 TONS]; FROM 6 TO 10 AM, M-F, THE LEFT LANE OF THE NORTH UPPER ROADWAY IS HOV2+ BUSES ONLY; MANHATTAN-BOUND TRUCKS MUST USE THE LOWER ROADWAY 5 AM TO 3 PM, M-F; BICYCLES ONLY ON NORTH BIKEWAY. DURING CONSTRUCTION, ONLY TWO LANES OPEN AT LOWER ROADWAY.
2-24003-9	BROOKLYN & MANHATTAN	WILLIAMSBURG BRIDGE	EAST RIVER				INNER ROADWAYS, <u>NO</u> TRUCKS; OUTER ROADWAYS DESIGN FOR HS20 [36 TONS] AND TRUCKS ARE PERMITTED ON OUTER ROADWAY
2-24004-7	MANHATTAN & QUEENS	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</u> , <u>ONLY BUSES</u>
2-24026-0	BROOKLYN	CARROLL STREET BRIDGE	GOWANUS CANAL	CARROLL STREET	2012	10	
2-24064-0	MANHATTAN & QUEENS	ROOSEVELT ISLAND	EAST CHANNEL OF THE EAST RIVER			36	
2-24066-0	QUEENS	RIKERS ISLAND BRIDGE	RIKERS ISLAND CHANNEL		2020	36	
2-24655-0	MANHATTAN	PARK AVENUE VIADUCT	42 <sup>ND</sup> STREET			15	NO COMMERCIAL TRAFFIC
2-24759-0	QUEENS	FOREST PARK DRIVE	LIRR			8	
2-24766-0	QUEENS	FOREST PARK DRIVE	ABANDONED LIRR			8	
2-24546-0	MANHATTAN	PARK AVENUE SB	EAST 45 <sup>TH</sup> STREET			15	NO COMMERCIAL TRAFFIC
2-24547-0	MANHATTAN	PARK AVENUE NB	EAST 45 <sup>TH</sup> STREET			15	NO COMMERCIAL TRAFFIC
2-26976-0	STATEN ISLAND	NORTH RAMP	SIRT SOUTH SHORE		2011	5	

18 COUNT

\* - CONSTRUCTION CONTRACT LETTING

Revised 1/26/11

## Partially Closed Bridges

### NEW YORK CITY DEPARTMENT OF TRANSPORTATION

BIN	BOROUGH	LOCATION FEATURE-1	LOCATION FEATURE-2	LOCATION FEATURE-3	FISCAL YEAR*	REMARKS
2-07664-0	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.

2 COUNT

\* - CONSTRUCTION CONTRACT LETTING

Revised 11/12/10



Paerdegat Basin, Fresh Creek, Carroll Street Bridges, and Staten  
Island North Ramp Posted Weight Restriction Signs. (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



### 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 in October  
2007. (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	T	Tunnel
M	Movable	W	Waterway
O	Off-System		
- **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>2010 Bridge Inventory Adjustments</b>
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B.I.N.	BORO	FEATURE CARRIED	FEATURE CROSSED	EXPLANATION
<b>- Bridges added to the City's Inventory:</b>				
2246320	M	WEST 77 <sup>TH</sup> STREET PEDESTRIAN BRIDGE (OAK BRIDGE)	THE LAKE	REBUILT BY PARKS DEPARTMENT

REV. DATE 2/2/11

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	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 (2065210)			A	1	S	7/22/2010	4.476	F	2500	\$10,000,000	407		
1066510	B	BRUCKNER EXPWY SVC RD	WESTCHESTER CREEK			WMA	17	S	11/2/2009	3.597	F	39400	\$157,600,000	209		
1067150	B	NEREID AVE (E. 240TH ST)	BRONX RIVER PKWY	M		O	10	S	12/16/2009	4.632	F	57750	\$231,000,000	212		
1240090	BM	MACOMBS DAM BRIDGE	HARLEM RIVER	M		WMO	52	S	12/22/2009	3.930	F	220000	\$880,000,000	110	204	
1247010	Q	91 PLACE (2247010)	LIRR PT WASH BR	L		O	1	S	11/17/2009	6.567	V	2760	\$11,040,000	404		
1247200	Q	67 AVE PED BR (2247200)	LIRR MAIN LINE	L		O-PED	3	C	10/9/2009	4.500	F	1300	\$5,200,000	406		
1247280	Q	51 AVE PED BR (2247280)	LIRR MAIN LINE	L		O-PED	5	C	10/6/2009	3.018	F	700	\$2,800,000	402		
1247560	Q	METROPOLITAN AVE	LIRR -NY&ATL	LN		O	2	S	12/15/2010	3.603	F	20900	\$83,600,000	405		
2055801	Q	NORTHERN BLVD WB	FLUSHING RIVER			WO	40	S	10/21/2010	4.282	F	71900	\$287,600,000	407		
2055802	Q	NORTHERN BLVD EB	FLUSHING RIVER			WO	40	S	10/18/2010	4.099	F	78894	\$315,576,000	407		
205580A	Q	N.BLVD WB TO 678I SB	VACANT LAND			AR	16	S	6/30/2010	5.571	G	8600	\$34,400,000	407		
2065629	B	BRONX RIVER PKWY	BOSTON RD BX ZOO			A	1	S	8/28/2009	5.276	G	6300	\$25,200,000	227		
2065930	Q	HAMILTON PLACE	495I (L.I.E.)			A	2	S	3/9/2010	5.847	G	11111	\$44,444,000	405		
2065940	Q	GRAND AVE	495I (L.I.E.)			A	2	S	11/18/2010	4.861	F	12850	\$51,400,000	405		
2065950	Q	69TH STREET	495I (L.I.E.)			A	2	S	5/20/2009	5.361	G	10336	\$41,344,000	405		
2066002	Q	495I (2066000)	WOODHAVEN BLVD			A	2	S	6/26/2009	5.592	G	25200	\$100,800,000	406	404	
2066100	K	5TH AVE	27 X PROSPECT EXPWY			A	1	S	6/4/2010	5.104	G	8800	\$35,200,000	307		
2066671	B	BRUCKNER EXPWY SB	BRONX RIVER			WMA	3	S	11/3/2009	5.222	G	12400	\$49,600,000	202	209	
2066672	B	BRUCKNER EXPWY NB	BRONX RIVER			WMA	8	S	11/3/2009	4.239	F	22300	\$89,200,000	202	209	
2066720	B	E 174TH ST	SHERIDAN EXPWY/AMTRAK	A		A	13	S	10/30/2008	4.125	F	35573	\$142,292,000	209	203	
206672A	B	174TH ST-NTH PED BRDG	895I - SHERIDAN EXPWY			A-PED	4	C	5/10/2010	4.736	F	1800	\$7,200,000	209		
206672B	B	174TH ST-STH PED BRDG	895I - SHERIDAN EXPWY			A-PED	4	C	4/13/2010	4.972	F	1900	\$7,600,000	209		
2066919	BM	WASHINGTON BRIDGE	HARLEM RIVER	M		WO	9	S	10/8/2008	4.642	F	128339	\$513,356,000	112	205	204
2075351	B	BRUCKNER EXPWY SB	AMTRAK - CSX	AC		A	1	S	11/25/2008	3.625	F	11600	\$46,400,000	202		
2075352	B	BRUCKNER EXPWY NB	AMTRAK - CSX	AC		A	1	S	11/10/2009	2.875	P	10900	\$43,600,000	202		
2075820	B	E TREMONT AVE	HUTCHINSON RVR PKWY			A	2	S	12/8/2009	4.500	F	10200	\$40,800,000	210		
2075837	B	WESTCHESTER AVE	HUTCHINSON RVR PKWY			A	2	S	2/5/2010	4.306	F	15858	\$63,432,000	210	211	
2075849	B	BRONX PELHAM PKWY	HUTCHINSON RVR PKWY			A	2	S	6/9/2010	3.974	F	17600	\$70,400,000	210	211	
2075859	B	HUTCHINSON RVR PKWY	HUTCHINSON RIVER			WMA	7	S	12/18/2009	4.859	F	60500	\$242,000,000	210	228	
2076109	B	BE NB SERVICE RD	HUTCHINSON RVR PKWY			A	2	S	9/8/2009	4.632	F	7800	\$31,200,000	210		
2076129	B	BE SB SERVICE RD	HUTCHINSON RVR PKWY			A	2	S	1/22/2010	5.105	G	7100	\$28,400,000	210		
2076640	B	DEPOT PLACE	METRO NORTH RR HUD	CM		O	11	S	8/12/2009	5.083	G	26566	\$106,264,000	204		
2076929	B	BRUCKNER EXPWY	CSX - HUNTS POINT	C		A	1	S	9/30/2009	4.700	F	3800	\$15,200,000	202		
2229289	M	HHP VIADUCT	AMTRAK - W72 ST - W79 ST	A		A	145	S	12/23/2008	3.373	F	236100	\$944,400,000	107		
222928C	M	PED BR AT 73RD ST	HHP - AMTRAK	A	P	A-PED	5	C	12/10/2010	4.145	F	3480	\$13,920,000	107		
2229290	M	W 79 ST	AMTRAK	A		A	1	S	10/18/2010	4.492	F	4500	\$18,000,000	107		
2229309	M	HHP	RIVERSIDE PARK			A	1	S	1/6/2010	5.267	G	2172	\$8,688,000	107		
2229311	M	HHP SB	RAMP TO 96 ST			A	1	S	2/11/2010	4.455	F	2000	\$8,000,000	107		
2229312	M	HHP NB	RAMP TO 96 ST			A	1	S	2/11/2010	4.364	F	2000	\$8,000,000	107		
2229321	M	HHP SB	RAMP FROM 96 ST			A	1	S	2/17/2010	5.133	G	2000	\$8,000,000	107		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2229322	M	HHP NB	RAMP FROM 96 ST			A	1	S	2/18/2010	5.300	G	2000	\$8,000,000	107		
2229349	M	HHP	W 158 ST	A		A	44	S	12/11/2008	4.268	F	140000	\$560,000,000	109	112	
222934A	M	RAMP TO N.B. HHP	AMTRAK WEST SIDE	A		AR	26	S	10/11/2010	3.736	F	10800	\$43,200,000	112		
2229400	M	W 181ST ST PED BRDG	HHP N.B.		P	A-PED	7	C	2/5/2010	4.657	F	1500	\$6,000,000	112		
2229440	B	HHP	KAPPOCK ST			A	1	S	8/25/2009	4.931	F	3900	\$15,600,000	208		
2229450	B	232ND ST	HHP			A	2	S	8/26/2009	5.026	G	4900	\$19,600,000	208		
2229460	B	236TH ST PED BRDG	HHP			A-PED	3	C	7/2/2010	4.607	F	2500	\$10,000,000	208		
2229470	B	239TH ST	HHP			A	2	S	5/27/2009	5.368	G	6100	\$24,400,000	208		
2229480	B	MANHATTAN COLL PKWY	HHP			A	3	S	5/26/2009	5.368	G	6200	\$24,800,000	208		
2229490	B	246TH ST	HHP			A	2	S	5/22/2009	4.947	F	5600	\$22,400,000	208		
2229500	B	252ND ST	HHP			A	2	S	2/4/2010	5.791	G	4500	\$18,000,000	208		
2229510	B	RIVERDALE AVE	HHP			A	2	S	8/25/2009	4.474	F	5200	\$20,800,000	208		
2229520	B	FIELDSTON ROAD	HHP			A	1	S	8/20/2009	5.500	G	6600	\$26,400,000	208		
2229530	B	HHP	BROADWAY			A	1	S	8/20/2009	4.660	F	7500	\$30,000,000	208		
2229540	B	VAN CRTLDT PARK	HHP		P	A-PED	2	C	7/1/2010	4.306	F	3900	\$15,600,000	226		
2229550	B	VAN CRTLDT EQUES	HHP		P	A-PED	2	C	7/1/2010	4.556	F	2100	\$8,400,000	226		
2229560	B	BRONX PELHAM PKWY	AMTRAK - CSX	AC		A	3	S	6/13/2010	4.542	F	24591	\$98,364,000	211		
2229579	B	BOSTON POST ROAD	HUTCHINSON RIVER			WO	14	S	6/25/2009	4.194	F	95700	\$382,800,000	212		
2230000	K	HIGHLAND BLVD E.B.	JACKIE ROBINSON PKWY			A	1	S	3/24/2010	4.724	F	4900	\$19,600,000	305		
2230010	K	HIGHLAND BLVD W.B.	JACKIE ROBINSON PKWY			A	1	S	3/24/2010	4.767	F	3500	\$14,000,000	305		
2230020	K	HIGHLAND BLVD W.B.	JACKIE ROBINSON PKWY			A	2	S	3/25/2010	4.711	F	4700	\$18,800,000	305		
2230040	Q	CYPRESS HILLS ST	JACKIE ROBINSON PKWY			A	1	S	4/15/2010	4.611	F	5000	\$20,000,000	405		
2230099	Q	JACKIE ROBINSON PKWY	CYPRESS HILLS CEMETRY			A	1	S	1/14/2010	5.444	G	4200	\$16,800,000	405		
2230120	Q	MYRTLE AVE	JACKIE ROBINSON PKWY			A	1	S	5/5/2010	5.354	G	6400	\$25,600,000	405	482	
2230179	Q	JACKIE ROBINSON PKWY	METROPOLITAN AVE			A	2	S	5/21/2010	5.286	G	8673	\$34,692,000	482		
2230180	Q	UNION TPKE	JACKIE ROBINSON PKWY			A	1	S	2/9/2010	5.797	G	5359	\$21,436,000	482		
2230190	Q	MARKWOOD ROAD	JACKIE ROBINSON PKWY			A	1	S	2/9/2010	5.167	G	4400	\$17,600,000	482	406	
2230209	Q	QUEENS BLVD	JACKIE ROBINSON PKWY	T		A	5	S	7/23/2010	4.778	F	37700	\$150,800,000	409		
2230220	K	HIGHLAND BLVD NB	VERMONT AVE			A	1	S	6/10/2009	5.857	G	3995	\$15,980,000	305		
2230250	B	MOSHOLU PARKWAY	BRONX RIVER			WA	5	S	1/13/2010	4.316	F	16300	\$65,200,000	227		
2230260	B	MOSHOLU PARKWAY	METRO NORTH	M		A	1	S	5/13/2010	5.516	G	8880	\$35,520,000	227	207	
2230270	B	MOSHOLU PARKWAY	WEBSTER AVE			A	1	S	6/17/2009	5.422	G	8480	\$33,920,000	207		
2230287	B	JEROME AVE	MOSHOLU PARKWAY	T		A	3	S	5/18/2009	4.711	F	11800	\$47,200,000	207		
2230290	B	MOSHOLU PARKWAY	EQUESTRIAN PATH			A	1	S	1/22/2010	4.448	F	4300	\$17,200,000	226		
2230300	B	MOSHOLU PARKWAY	CONRAIL (ABANDONED)	C		A	1	S	10/15/2010	4.271	F	4600	\$18,400,000	226		
2230310	B	MOSHOLU PARKWAY	SB RAMP TO HHP			A	2	S	10/8/2009	4.919	F	7400	\$29,600,000	226		
2230350	K	SUMMIT ST PED BRDG	278I (B.Q.E.)			A-PED	2	S	4/1/2010	4.386	F	1400	\$5,600,000	306		
2230360	K	UNION ST	278I (B.Q.E.)			A	2	S	4/1/2010	4.236	F	5000	\$20,000,000	306		
2230370	K	SACKETT ST	278I (B.Q.E.)			A	2	S	3/26/2010	4.431	F	5000	\$20,000,000	306		
2230380	K	KANE ST	278I (B.Q.E.)			A	2	S	4/9/2010	4.208	F	5000	\$20,000,000	306		



# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230390	K	CONGRESS ST	278I (B.Q.E.)			A	2	S	4/9/2010	6.279	V	5000	\$20,000,000	306		
2230410	K	278I EB (B.Q.E.)	WASHINGTON ST			A	1	S	7/2/2010	4.438	F	2500	\$10,000,000	302		
2230420	K	278I WB (B.Q.E.)	WASHINGTON ST			A	1	S	7/2/2010	5.109	G	2500	\$10,000,000	302		
2230430	K	278I (B.Q.E.)	PROSPECT ST			A	1	S	1/19/2010	5.000	G	1100	\$4,400,000	302		
2230440	K	278I WB (B.Q.E.)	ADAMS ST			A	1	S	1/15/2010	5.167	G	2700	\$10,800,000	302		
2230450	K	278I EB (B.Q.E.)	ADAMS ST			A	1	S	1/15/2010	4.933	F	2500	\$10,000,000	302		
2230460	K	278I (B.Q.E.)	PEARL ST			A	1	S	3/10/2008	5.333	G	4500	\$18,000,000	302		
2230470	K	278I (B.Q.E.)	JAY ST			A	1	S	3/10/2008	4.833	F	5100	\$20,400,000	302		
2230480	K	278I (B.Q.E.)	PROSPECT ST			A	1	S	2/18/2010	5.093	G	8400	\$33,600,000	302		
2230490	K	278I (B.Q.E.)	SANDS ST			A	1	S	3/1/2010	5.019	G	12600	\$50,400,000	302		
2230500	K	278I (B.Q.E.)	RAMP TO BQE EB			A	1	S	3/5/2010	5.100	G	1300	\$5,200,000	302		
2230510	K	278I (B.Q.E.)	NASSAU ST			A	6	S	6/11/2010	5.169	G	51200	\$204,800,000	302		
2230520	Q	65TH PLACE	278I (B.Q.E.)			A	2	S	2/17/2010	6.111	V	11668	\$46,672,000	402		
2230530	Q	QUEENS BLVD	278I (B.Q.E.)			A	2	S	11/1/2010	6.417	V	25543	\$102,172,000	402		
2230540	Q	WOODSIDE AVE	278I (B.Q.E.)			A	1	S	1/19/2010	5.797	G	7529	\$30,116,000	402		
2230550	Q	69TH ST	278I (B.Q.E.)			A	2	S	1/19/2010	5.123	G	12600	\$50,400,000	402		
2230560	Q	70TH ST	278I (B.Q.E.)			A	2	S	10/29/2010	6.833	V	8580	\$34,320,000	402		
2230570	Q	41ST AVE	278I (B.Q.E.)			A	2	S	10/29/2010	6.735	V	8580	\$34,320,000	402		
2230587	Q	ROOSEVELT AVE	278I (B.Q.E.)			A	2	S	10/29/2009	5.917	G	11022	\$44,088,000	402		
2230590	Q	BROADWAY	278I (B.Q.E.)			O	2	S	11/12/2010	5.789	G	16000	\$64,000,000	402		
2230600	Q	STEINWAY ST	278I WB (BQE)			A	1	S	10/4/2010	6.581	V	5229	\$20,916,000	401		
2230610	Q	STEINWAY ST	278I EB (BQE)			A	1	S	9/29/2010	6.581	V	5146	\$20,584,000	401		
2230620	Q	37TH ST	278I (B.Q.E.)			A	2	S	3/25/2010	4.597	F	5300	\$21,200,000	401		
2230630	Q	35TH ST	278I (B.Q.E.)			A	4	S	4/9/2010	4.667	F	9000	\$36,000,000	401		
2230640	Q	32ND ST	278I (B.Q.E.)			A	2	S	6/15/2009	4.903	F	8100	\$32,400,000	401		
2230657	Q	31ST ST	278I (B.Q.E.)			A	2	S	11/6/2010	4.569	F	9500	\$38,000,000	401		
2230669	Q	278I (B.Q.E.)	35TH AVE			A	1	S	8/6/2009	6.525	V	13135	\$52,540,000	402		
2230679	Q	278I (B.Q.E.)	34TH AVE			A	1	S	6/11/2009	6.203	V	7793	\$31,172,000	402		
2230680	Q	278I (B.Q.E.)	NORTHERN BLVD			A	1	S	11/12/2010	6.079	V	27011	\$108,044,000	402	401	
2230690	Q	278I NB (BQE WEST LEG)	32ND AVE			A	1	S	7/7/2010	6.492	V	4080	\$16,320,000	401		
2230700	Q	278I NB (BQE EAST LEG)	32ND AVE (TO BQE WEST LEG)			A	8	S	11/9/2010	6.662	V	31600	\$126,400,000	401	403	
2230710	Q	278I SB (BQE WEST LEG)	32ND AVE			A	1	S	8/5/2009	6.695	V	5240	\$20,960,000	401		
2230720	Q	278I SB (BQE EAST LEG)	278I NB (BQE WEST LEG)			A	3	S	5/15/2009	6.364	V	20896	\$83,584,000	401		
2230730	Q	31ST AVE	278I NB (BQE WEST LEG)			A	1	S	7/20/2009	6.433	V	5875	\$23,500,000	401		
2230740	Q	278I SB (BQE WEST LEG)	31ST AVE			A	1	S	8/4/2009	6.217	V	5246	\$20,984,000	401		
2230750	Q	278I SB (BQE EAST LEG)	31ST AVE			A	1	S	8/24/2009	6.508	V	4221	\$16,884,000	401	403	
2230760	Q	278I NB (BQE EAST LEG)	31ST AVE			A	1	S	10/4/2010	6.610	V	4161	\$16,644,000	401		
2230770	Q	278I (BQE WEST LEG)	30TH AVE			A	1	S	6/19/2009	6.695	V	6199	\$24,796,000	401		
2230780	Q	278I (BQE EAST LEG)	30TH AVE			A	1	S	6/19/2009	6.524	V	7071	\$28,284,000	403	401	
2230790	Q	BULOVA AVE	278I (BQE WEST LEG)			A	2	S	4/23/2010	5.333	G	3300	\$13,200,000	401		

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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230800	Q	49TH ST	278I (BQE WEST LEG)			A	2	S	4/23/2010	5.333	G	4900	\$19,600,000	401		
2230810	Q	ASTORIA BLVD EB	278I (BQE WEST LEG)			A	4	S	4/6/2010	4.044	F	8200	\$32,800,000	401		
2230820	Q	47TH ST	GCP			A	2	S	5/21/2010	4.944	F	5700	\$22,800,000	401		
2230830	Q	278I NB (BQE WEST LEG)	GCP			A	2	S	5/20/2010	4.583	F	7600	\$30,400,000	401		
2230840	Q	44TH ST	GCP			A	2	S	5/21/2010	4.681	F	5000	\$20,000,000	401		
2230857	K	278I WB (B.Q.E.)	JORALEMON ST			A	1	S	3/18/2010	5.000	G	2100	\$8,400,000	302		
2230858	K	278I EB (B.Q.E.)	JORALEMON ST / BQE WB			A	2	S	3/18/2010	4.048	F	5900	\$23,600,000	302		
2230869	Q	QUEENS BLVD	ACCESS RD BQE S.B.			A	1	S	11/8/2010	5.727	G	7900	\$31,600,000	402		
2230870	K	COLUMBIA HEIGHTS	278I (B.Q.E.)			A	1	S	7/21/2010	4.550	F	16500	\$66,000,000	302		
2230887	K	278I W.B. (B.Q.E.)	CADMAN PLAZA			A	2	S	7/20/2010	4.397	F	4500	\$18,000,000	302		
2230888	K	278I E.B. (B.Q.E.)	CADMAN PLAZA / 278I WB			A	2	S	7/23/2010	5.263	G	4500	\$18,000,000	302		
2230890	Q	49TH ST	GCP			A	2	S	5/20/2010	4.444	F	6350	\$25,400,000	401		
2231249	K	BSHP	BAY RIDGE AVE			A	1	S	4/8/2010	3.313	F	4900	\$19,600,000	310		
2231250	K	81ST ST PED BR	BSHP		P	A-PED	5	C	3/10/2010	4.418	F	3100	\$12,400,000	310		
2231260	K	92ND ST PED BR	BSHP		P	A-PED	6	C	7/30/2010	3.952	F	3000	\$12,000,000	310		
2231270	K	4TH AVE	BSHP			A	2	S	3/31/2010	4.684	F	6100	\$24,400,000	310		
2231290	K	BAY 8TH ST	BSHP			A	1	S	5/29/2009	5.921	G	4950	\$19,800,000	311		
2231300	K	17TH AVE PED BRDG	BSHP		P	A-PED	1	C	9/7/2010	3.397	F	2100	\$8,400,000	311		
2231319	K	BSHP	BAY PKWY			A	1	S	6/2/2010	4.442	F	7200	\$28,800,000	311		
2231329	K	BSHP	26TH AVE			A	1	S	4/30/2010	4.600	F	6700	\$26,800,000	313		
2231330	K	27TH AVE PED BRDG	BSHP		P	A-PED	1	C	1/7/2010	4.106	F	2100	\$8,400,000	313		
2231340	K	CROPSEY AVE	BSHP			A	2	S	6/15/2010	4.583	F	13100	\$52,400,000	313		
2231360	K	BSHP	OCEAN PKWY			A	3	S	7/16/2010	6.535	V	29637	\$118,548,000	313		
2231370	K	GUIDER AV RAMP TO BSHP	BSHP			A	4	S	7/16/2010	3.292	F	12800	\$51,200,000	313		
2231380	K	CONEY ISLAND AVE	BSHP			A	4	S	9/21/2009	6.181	V	19866	\$79,464,000	313		
2231390	K	E 12TH ST	BSHP			A	4	S	6/18/2010	4.694	F	17200	\$68,800,000	315		
2231409	K	BSHP	SHEEPSHEAD BAY ROAD			A	1	S	4/27/2010	4.836	F	6500	\$26,000,000	315		
2231419	K	BSHP	OCEAN AVE			A	3	S	4/27/2010	4.083	F	14000	\$56,000,000	315		
2231429	K	BSHP	BEDFORD AVE			A	3	S	4/29/2010	4.097	F	12000	\$48,000,000	315		
2231439	K	BSHP	NOSTRAND AVE			A	3	S	4/29/2010	3.986	F	13000	\$52,000,000	315		
2231449	K	KNAPP ST	BSHP			A	1	S	4/28/2010	4.391	F	9500	\$38,000,000	315		
2231450	K	BSHP	GERRITSEN INLET			WA	11	S	8/16/2010	3.463	F	52000	\$208,000,000	356		
2231460	K	FLATBUSH AVE	BSHP			A	2	S	10/13/2009	6.306	V	14058	\$56,232,000	356		
2231479	K	BSHP	MILL BASIN			WMA	14	S	10/14/2010	3.463	F	73500	\$294,000,000	318		
2231489	K	BSHP	PAERDEGAT BASIN			WA	15	S	9/3/2010	3.222	F	58300	\$233,200,000	318		
2231499	K	BSHP	ROCKAWAY PKWY			A	4	S	9/2/2010	3.778	F	11500	\$46,000,000	356		
2231509	K	BSHP	FRESH CREEK			WA	5	S	8/16/2010	3.083	F	23000	\$92,000,000	356		
2231519	K	PENNSYLVANIA AVE	BSHP			A	2	S	5/14/2009	5.806	G	6640	\$26,560,000	356		
2231559	Q	CROSS BAY BLVD	BSHP			A	4	S	6/15/2010	5.139	G	23205	\$92,820,000	410		
2231560	Q	S CONDUIT BLVD	BSOP			A	2	S	7/27/2010	5.465	G	15776	\$63,104,000	410		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2231570	Q	COHANCY ST	BSOP			A	2	S	5/10/2010	4.368	F	6400	\$25,600,000	410		
2231590	Q	130TH ST	BSOP			A	2	S	2/2/2010	4.659	F	6800	\$27,200,000	410		
2231610	Q	GUY R. BREWER BLVD	BSOP			A	4	S	5/12/2009	6.319	V	12342	\$49,368,000	413		
2231620	Q	FARMERS BLVD	BSOP			A	2	S	5/17/2010	4.568	F	6400	\$25,600,000	413		
2231630	Q	SPRINGFIELD BLVD	BSOP			A	2	S	5/19/2010	4.614	F	8500	\$34,000,000	413		
2231640	Q	225TH ST	BSOP			A	2	S	5/20/2010	5.000	G	7000	\$28,000,000	413		
2231650	Q	SUNRISE HWY W.B.	BLP E.B.			A	1	S	4/26/2010	4.393	F	4100	\$16,400,000	413		
2231660	Q	SUNRISE HWY W.B.	BLP W.B.			A	2	S	3/11/2010	4.565	F	5350	\$21,400,000	413		
2231670	Q	N CONDUIT AVE WB	BLP E.B.			A	1	S	1/26/2010	4.917	F	4000	\$16,000,000	413		
2231680	Q	N CONDUIT AVE WB	BLP W.B.			A	2	S	1/27/2010	4.932	F	6500	\$26,000,000	413		
2231690	Q	FRANCIS LEWIS BLVD	BLP E.B.			A	1	S	4/13/2010	5.167	G	6000	\$24,000,000	413		
2231700	Q	FRANCIS LEWIS BLVD	BLP W.B.			A	1	S	4/13/2010	4.833	F	6000	\$24,000,000	413		
2231710	Q	MERRICK BLVD	BLP N.B.			A	1	S	2/22/2010	4.533	F	6000	\$24,000,000	413		
2231720	Q	MERRICK BLVD	BLP S.B.			A	1	S	2/22/2010	4.200	F	6000	\$24,000,000	413		
2231730	Q	130TH AVE	BLP N.B.			A	1	S	1/21/2010	5.267	G	4400	\$17,600,000	413		
2231740	Q	130TH AVE	BLP S.B.			A	1	S	1/20/2010	4.833	F	4400	\$17,600,000	413		
2231750	Q	LINDEN BLVD	BCIP			A	2	S	3/8/2010	4.432	F	6700	\$26,800,000	413		
2231760	Q	BCIP	DUTCH BROADWAY-115 AVE			A	1	S	3/8/2010	4.395	F	7300	\$29,200,000	413		
2231770	Q	BELMONT PARK RAMP	BCIP		P	A	1	S	2/8/2010	4.688	F	3200	\$12,800,000	413		
2231780	Q	HEMPSTEAD AVE	BCIP			A	2	S	2/8/2010	3.968	F	14200	\$56,800,000	413		
2231790	Q	BELMONT PARK RAMP	BCIP		P	A	1	S	1/14/2010	4.563	F	3400	\$13,600,000	413		
2231800	Q	SUPERIOR ROAD	BCIP			A	2	S	4/13/2010	4.136	F	7000	\$28,000,000	413		
2231819	Q	JAMAICA AVE	BCIP			A	2	S	3/25/2010	4.773	F	11500	\$46,000,000	413		
2231829	Q	BRADDOCK AVE	BCIP			A	2	S	3/25/2010	4.591	F	10600	\$42,400,000	413		
2231840	Q	HILLSIDE AVE	BCIP			A	2	S	4/8/2010	4.079	F	9672	\$38,688,000	413		
2231850	Q	UNION TPKE	BCIP			A	2	S	4/1/2010	4.409	F	13600	\$54,400,000	413		
2231860	Q	W ALLEY ROAD	BCIP			A	2	S	7/28/2009	5.263	G	7200	\$28,800,000	411		
2231870	Q	NORTHERN BLVD	BCIP			A	2	S	9/21/2010	6.125	V	9400	\$37,600,000	411		
2231880	Q	CROCHERON PK PED	BCIP		P	A-PED	9	C	5/5/2010	4.145	F	2300	\$9,200,000	411		
2231890	Q	28TH AVE PED BRDG	BCIP		P	A-PED	24	C	6/4/2010	4.467	F	7600	\$30,400,000	411		
2231900	Q	BCIP	TOTTEN AVE			A	1	S	6/23/2010	4.641	F	4900	\$19,600,000	407		
2231910	Q	UTOPIA PKWY	BCIP			A	2	S	3/19/2010	5.114	G	7200	\$28,800,000	407		
2231920	Q	160TH ST	BCIP			A	2	S	4/24/2009	5.694	G	5550	\$22,200,000	407		
2231930	Q	FRANCIS LEWIS BLVD	BCIP			A	3	S	2/5/2010	4.682	F	9100	\$36,400,000	407		
2231940	Q	CLINTONVILLE ST	BCIP			A	2	S	2/5/2010	4.659	F	7400	\$29,600,000	407		
2231950	Q	150TH ST	BCIP			A	2	S	2/18/2010	4.614	F	5900	\$23,600,000	407		
2231960	Q	149TH ST	BCIP			A	2	S	2/18/2010	4.795	F	6210	\$24,840,000	407		
2231970	Q	14TH AVE	BCIP			A	2	S	2/18/2010	4.614	F	8100	\$32,400,000	407		
2231980	Q	147TH ST	BCIP			A	2	S	3/10/2010	4.705	F	6300	\$25,200,000	407		
2232000	M	BATTERY PLACE	FDR DRIVE			AT	2	S	11/18/2009	5.318	G	142000	\$568,000,000	101		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
223201A	M	FDR DR N.B. OFF RMP	FDR DR & SOUTH ST			AR	17	S	2/29/2008	3.716	F	23373	\$93,492,000	101		
223201B	M	STH ST RMP TO FDR S.B.	SOUTH ST			AR	10	S	4/29/2010	3.761	F	44625	\$178,500,000	101		
223201C	M	FDR DR S.B. OFF RMP	SOUTH ST			AR	8	S	2/5/2010	4.821	F	39150	\$156,600,000	103		
223201D	M	RAMP TO N.B. FDR DRIVE	FDR & SOUTH ST.			AR	22	S	2/18/2010	5.033	G	15825	\$63,300,000	101	103	
2232029	M	CORLEARS PARK ROAD	FDR DRIVE		P	A	4	S	3/19/2010	3.938	F	4100	\$16,400,000	103		
2232030	M	DELANCEY ST PED BRDG	FDR DRIVE		P	A-PED	12	C	11/15/2009	4.174	F	2900	\$11,600,000	103		
2232040	M	HOUSTON ST	FDR DRIVE			A	2	S	5/10/2010	3.455	F	11010	\$44,040,000	103		
223204A	M	FDR NB RAMP TO HOUSTON ST	RELIEF			AR	4	S	1/20/2010	4.471	F	6150	\$24,600,000	103		
223204B	M	HOUSTON ST RAMP TO FDR NB	RELIEF			AR	4	S	1/22/2010	4.625	F	7125	\$28,500,000	103		
2232050	M	E 6TH ST PED BRDG	FDR DRIVE		P	A-PED	19	C	10/17/2010	4.196	F	2200	\$8,800,000	103		
2232070	M	E 25TH ST PED BRDG	FDR DRIVE			A-PED	4	C	3/18/2010	4.525	F	1700	\$6,800,000	106		
2232100	M	E 51ST ST PED BRDG	FDR DRIVE		P	A-PED	8	C	4/28/2010	4.400	F	2800	\$11,200,000	106		
2232110	M	E 64TH ST PED BRDG	FDR DRIVE		P	A-PED	24	U	9/24/2009	5.931	G	2100	\$8,400,000	108		
2232120	M	E 71ST ST PED BRDG	FDR DRIVE		P	A-PED	19	C	8/15/2010	5.000	G	340	\$1,360,000	108		
2232140	M	E 78TH ST PED BRDG	FDR DRIVE		P	A-PED	9	C	4/18/2010	2.711	P	3120	\$12,480,000	108		
2232167	M	PROMENADE OVER FDR	FDR - E81ST ST - E90TH ST		P	A-PED	53	S	7/9/2009	3.857	F	93000	\$372,000,000	108		
2232180	M	E 103RD ST PED BRDG	FDR DRIVE			A-PED	18	C	9/9/2010	4.447	F	4800	\$19,200,000	111		
2232190	M	E 111TH ST PED BRDG	FDR DRIVE		P	A-PED	14	C	8/19/2010	4.353	F	4200	\$16,800,000	111		
2232200	M	E 120TH ST PED BRDG	FDR DRIVE		P	A-PED	21	C	8/8/2010	4.259	F	3978	\$15,912,000	111		
2233020	M	E 10TH ST PED BRDG	FDR DRIVE		P	A-PED	25	C	12/2/2009	4.686	F	2754	\$11,016,000	103		
2233038	M	FDR DRIVE SB	FDR NB / E 62ND ST			AT	34	S	12/19/2008	6.620	V	58700	\$234,800,000	106	108	
2233040	M	E 60TH ST	FDR DRIVE			A	17	S	8/3/2009	4.806	F	24480	\$97,920,000	108		
2233059	M	HARLEM RIVER DRIVE	RAMP TO & FROM HRD N.B.			A	11	S	9/9/2009	3.269	F	51000	\$204,000,000	111		
2233080	K	E 14 ST PED BR	BSHP			A-PED	14	C	7/13/2010	4.213	F	4700	\$18,800,000	315		
2240019	KM	BROOKLYN BRIDGE	EAST RIVER			WEO	75	S	10/25/2008	2.944	P	503788	\$2,015,152,000	103	302	101
224001A	M	PARK ROW TO BKLN	WILLIAM ST N.B.			OE	4	S	4/29/2010	4.167	F	10167	\$40,668,000	101		
224001B	M	TO BKLN FRM FDR	FRANKFRT & CITY			OE	31	S	12/20/2008	4.074	F	51400	\$205,600,000	101	103	
224001C	M	PEARL ST TO BKLN	LAND ADJ TO BRDG			OE	9	S	4/28/2010	3.881	F	6365	\$25,460,000	101		
224001D	M	TO FDR DR N.B.	PEARL STREET			OE	30	S	6/8/2009	4.868	F	49600	\$198,400,000	101	103	
224001E	M	TO PEARL ST	LAND ADJ TO BRDG			OE	3	S	6/1/2009	5.141	G	5300	\$21,200,000	101		
224001F	M	PEARL ST TO FDR DR	LAND ADJ TO BRDG			OE	3	S	4/27/2010	5.282	G	5200	\$20,800,000	103		
224001G	M	TO PARK ROW	ROSE ST			OE	11	S	6/8/2009	4.606	F	16551	\$66,204,000	101		
2240027	KM	MANHATTAN BRIDGE(LL)	EAST RIVER	T		WEO	23	S	11/24/2008	5.014	G	616390	\$2,465,560,000	103	302	
2240028	KM	MANHATTAN BRIDGE(UL)	NYCTA TRACKS-BMT	T		WEO	43	S	11/24/2008	4.214	F	587424	\$2,349,696,000	103	302	
2240039	KM	WILLIAMSBURG BRIDGE	EAST RIVER	T		WEO	53	S	10/31/2008	4.653	F	824000	\$3,296,000,000	103	301	
2240047	MQ	QUEENSBORO BRIDGE (LL)	EAST RIVER	AL		WEO	53	S	12/8/2008	4.208	F	626900	\$2,507,600,000	108	402	401
2240048	MQ	QUEENSBORO BRIDGE (UL)	EAST RIVER - LL			WEO	37	S	12/8/2008	4.340	F	322300	\$1,289,200,000	108	402	401
224004A	M	TO E 60TH ST FROM QNS	FIRST AVE			OE	13	S	4/12/2010	5.394	G	14800	\$59,200,000	108		
224004B	M	TO QNS FRM E 59TH ST	FIRST AVE			OE	13	S	4/13/2010	5.708	G	14800	\$59,200,000	108		
224004C	M	TO E 62ND ST FROM QNS	E 60TH - E 61ST ST			OE	10	S	9/24/2010	4.985	F	16720	\$66,880,000	108		



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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
224004D	M	TO QNS FROM E 58TH ST	E 59TH ST			OE	12	S	6/18/2010	4.321	F	11781	\$47,124,000	106	108	
224004E	Q	TO NY FR THOMSON AVE	JACKSON AVE	L		OE	94	S	12/24/2008	4.642	F	104600	\$418,400,000	402		
224004F	Q	TO NY FROM 21ST ST	21ST ST			OE	63	S	11/24/2010	4.712	F	63310	\$253,240,000	402	401	
224004G	Q	TO NY FROM 11TH ST	TERRAIN (CHAMBER)			OE	36	S	9/10/2010	5.268	G	8360	\$33,440,000	401	402	
224004H	Q	TO 21ST ST FROM NY	22ND ST			OE	43	S	11/23/2010	4.268	F	48100	\$192,400,000	402		
224004I	Q	TO THOMSON AVE FROM NY	JACKSON AVE	L		OE	39	S	12/16/2010	4.951	F	59100	\$236,400,000	402		
224004J	M	25X	NYC GARAGE			OE	14	S	4/23/2010	4.780	F	22058	\$88,232,000	108		
2240059	BM	WILLIS AVENUE	HARLEM RIVER			WMO	26	S	11/6/2009	3.292	F	171105	\$684,420,000	111	201	
224005A	M	FROM FDR DRIVE	HARLEM RIVER DR			OR	19	S	6/6/2008	4.299	F	28233	\$112,932,000	111		
224005B	B	TO BRUCKNER BLVD	RELIEF			OR	5	S	11/4/2009	4.028	F	12100	\$48,400,000	201		
2240069	BM	THIRD AVE BRIDGE	HARLEM RIVER			WMO	14	S	8/24/2010	6.521	V	100232	\$400,928,000	111	201	
224006A	B	FROM BRUCKNER BLVD	RELIEF			OR	5	S	10/6/2009	6.817	V	14037	\$56,148,000	201		
2240079	BM	MADISON AVE BRIDGE	HARLEM RIVER			WMO	21	S	9/30/2010	4.944	F	80000	\$320,000,000	111	201	
224007A	M	TO MADISON AVENUE	E 138TH ST			OR	7	S	3/20/2010	5.225	G	19880	\$79,520,000	111		
2240089	BM	145TH ST BRIDGE	HARLEM RIVER			WMO	8	S	11/13/2009	6.403	V	56700	\$226,800,000	110	204	201
2240120	BM	W 207TH/W FORDHAM RD	HARLEM RIVER			WMO	5	S	8/20/2010	5.222	G	31784	\$127,136,000	112	207	
2240137	BM	BROADWAY BRIDGE	HARLEM RIVER	TM		WMO	3	S	11/12/2009	3.972	F	46848	\$187,392,000	112	207	208
2240138	BM	NYCTA IRT	HARLEM RVR/BROADWAY	TM		WMO	3	S	11/17/2009	4.706	F	19520	\$78,080,000	112	207	208
2240180	B	WESTCHESTER AVE	BRONX RIVER			WO	1	S	9/18/2009	4.765	F	5476	\$21,904,000	202	209	
2240200	B	SHORE ROAD	HUTCHINSON RIVER			WMO	7	S	6/28/2010	4.597	F	43576	\$174,304,000	228		
2240210	B	CITY ISLAND ROAD	EASTCHESTER BAY			WO	7	S	8/25/2009	3.389	F	19915	\$79,660,000	228		
2240231	K	HAMILTON AVE BRIDGE	GOWANUS CANAL			WMO	3	S	10/8/2010	5.472	G	7300	\$29,200,000	307	306	
2240232	K	HAMILTON AVE BRIDGE	GOWANUS CANAL			WMO	3	S	9/10/2009	5.306	G	7300	\$29,200,000	306		
2240240	K	NINTH ST BRIDGE	GOWANUS CANAL			WMO	3	S	6/11/2009	6.581	V	5772	\$23,088,000	306		
2240250	K	THIRD ST	GOWANUS CANAL			WMO	5	S	6/12/2009	4.931	F	4900	\$19,600,000	306		
2240260	K	CARROLL ST	GOWANUS CANAL			WMO	2	S	6/10/2009	4.803	F	3000	\$12,000,000	306		
2240270	K	UNION ST	GOWANUS CANAL			WMO	5	S	9/3/2010	4.000	F	4900	\$19,600,000	306		
2240290	K	METROPOLITAN AVE	ENGLISH KILLS			WMO	5	S	7/30/2009	6.139	V	10550	\$42,200,000	301		
2240301	K	CROPSEY AVE	CONEY ISLAND CREEK			WO	3	S	7/8/2009	5.225	G	9400	\$37,600,000	313		
2240302	K	CROPSEY AVE	CONEY ISLAND CREEK			WO	3	S	10/12/2010	4.831	F	9400	\$37,600,000	313		
2240310	K	THIRD AVE	GOWANUS CANAL			WO	1	S	6/19/2009	7.000	V	3200	\$12,800,000	306		
2240320	K	OCEAN AVE PED BRDG	SHEEPSHEAD BAY			WO-PED	30	C	7/19/2010	3.939	F	4450	\$17,800,000	315		
2240350	R	RICHMOND AVE	RICHMOND CREEK			WO	3	S	7/8/2009	5.444	G	32589	\$130,356,000	502		
2240370	KQ	GREENPOINT AVE BRIDGE	NEWTOWN CREEK	L		WMO	12	S	8/6/2009	4.861	F	76106	\$304,424,000	301	402	
2240390	KQ	GRAND ST BRIDGE	NEWTOWN CREEK			WMO	2	S	10/12/2010	4.125	F	5100	\$20,400,000	301	405	
2240410	Q	BORDEN AVE	DUTCH KILLS			WMO	2	S	12/2/2010	3.181	F	8400	\$33,600,000	402		
2240440	Q	NORTHERN BLVD	ALLEY CREEK			WO	2	S	8/12/2010	4.681	F	8300	\$33,200,000	411		
2240450	Q	HUNTERS PT AVE	DUTCH KILLS			WMO	4	S	7/30/2010	5.083	G	12168	\$48,672,000	402		
2240507	Q	ROOSEVELT AVE	678I - FLUSHING RIVER			WA	27	S	12/8/2010	3.465	F	84424	\$337,696,000	407	481	
2240540	K	STILLWELL AVE	CONEY ISLAND CRK			WO	2	S	6/17/2009	6.292	V	17000	\$68,000,000	313		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2240620	M	WARDS ISLAND PED BRDG	HARLEM RIVER			WMO-PED	10	C	11/1/2008	4.367	F	12600	\$50,400,000	111		
2240639	KQ	PULASKI BRIDGE	NEWTOWN CREEK			WMO	44	S	4/29/2010	4.606	F	205770	\$823,080,000	301	402	
2240640	MQ	ROOSEVELT ISLAND BRDG	E. RIVER E. CHANNEL			WMO	8	S	12/10/2010	5.611	G	36500	\$146,000,000	108	401	
2240650	Q	163RD AVE PED BRDG	HAWTREE BASIN			WO-PED	13	C	10/19/2010	4.440	F	5000	\$20,000,000	410		
2240660	Q	RIKERS ISLAND BRIDGE	RIKERS ISL CHANNEL			WO	56	S	12/9/2010	4.493	F	183100	\$732,400,000	401	480	
2241000	B	WESTCHESTER AVE	CSX TRANS - PT MORRIS	C		O	1	S	6/16/2010	4.660	F	1740	\$6,960,000	201		
2241010	B	E 156TH STREET	CSX TRANS - PT MORRIS	C		O	1	S	7/16/2010	4.556	F	2400	\$9,600,000	201		
2241020	B	E 161ST STREET	CSX TRANS - PT MORRIS	C		O	1	S	5/20/2010	6.700	V	12800	\$51,200,000	203		
2241030	B	E 163RD STREET	CSX TRANS - PT MORRIS	C		O	1	S	3/10/2010	4.833	F	3200	\$12,800,000	203		
2241040	B	THIRD AVE	CSX TRANS - PT MORRIS	C		O	1	S	9/28/2010	4.563	F	2700	\$10,800,000	201	203	
2241050	B	E 149TH ST/JACKSON AVE	CSX TRANS - PT MORRIS	C		O	1	S	6/15/2010	4.850	F	65000	\$260,000,000	201		
2241060	B	ST. MARYS & CONCORD	CSX TRANS - PT MORRIS	C		O	1	S	9/16/2010	5.370	G	4500	\$18,000,000	201		
2241070	B	WALES AVE	CSX TRANS - PT MORRIS	C		O	1	S	9/27/2010	6.567	V	2535	\$10,140,000	201		
2241080	B	SOUTHERN BLVD	CSX TRANS - PT MORRIS	C		O	1	S	9/17/2010	4.167	F	3900	\$15,600,000	201		
2241099	B	BRUCKNER BLVD	CSX TRANS - PT MORRIS	C		O	1	S	9/17/2010	6.583	V	6700	\$26,800,000	201		
2241110	B	MELROSE AVE	CSX TRANS - PT MORRIS	C		O	8	S	8/24/2009	5.611	G	37854	\$151,416,000	203		
2241129	B	E 149TH ST	AMTRAK - CSX	AC		O	2	S	12/12/2008	4.620	F	18258	\$73,032,000	201	202	
2241139	B	LEGGETT AVE	AMTRAK - CSX	AC		O	3	S	12/11/2008	4.690	F	41551	\$166,204,000	202		
2241159	B	LONGWOOD AVE	AMTRAK - CSX	AC		O	2	S	7/23/2008	5.306	G	10625	\$42,500,000	202		
2241169	B	LAFAYETTE AVE	AMTRAK - CSX	AC		O	1	S	12/12/2008	5.730	G	12000	\$48,000,000	202		
2241170	B	TIFFANY ST	AMTRAK - CSX	AC		O	1	S	11/1/2009	5.627	G	7267	\$29,068,000	202		
2241180	B	BARRETTO ST	AMTRAK - CSX	AC		O	1	S	7/25/2008	6.000	G	5313	\$21,252,000	202		
2241190	B	HUNTS POINT AVE	AMTRAK - CSX	AC		O	1	S	11/7/2008	4.984	F	10049	\$40,196,000	202		
2241200	B	FAILE ST	AMTRAK - CSX	AC		O	1	S	11/7/2008	5.672	G	6208	\$24,832,000	202		
2241210	B	BRYANT AVE	AMTRAK - CSX	AC		O	1	S	11/10/2009	3.136	F	5300	\$21,200,000	202		
2241230	B	WESTCHESTER AVE	AMTRAK - CSX	AC		O	3	S	11/23/2008	6.111	V	15600	\$62,400,000	202	209	
2241259	B	204TH ST PED BRDG	METRO NORTH RR HAR	M	P	O-PED	1	C	3/4/2009	4.034	F	4700	\$18,800,000	227	207	
2241269	B	E 177TH ST	AMTRAK - CSX	AC		O	3	S	10/4/2010	5.403	G	16606	\$66,424,000	206		
2241270	B	E TREMONT AVE	AMTRAK - CSX	AC		O	2	S	10/1/2010	5.153	G	22300	\$89,200,000	209	211	
2241329	B	WHITE PLAINS ROAD	AMTRAK - CSX	AC		O	1	S	9/14/2010	4.719	F	6900	\$27,600,000	211		
2241330	B	UNIONPORT ROAD	AMTRAK - CSX	AC		O	1	S	9/14/2010	4.781	F	7631	\$30,524,000	211		
2241369	B	WILLIAMSBRIDGE RD	AMTRAK - CSX	AC		O	2	S	11/18/2008	4.836	F	6510	\$26,040,000	211		
2241380	B	PELHAM BAY PK EQUES	AMTRAK - CSX	AC	P	O-PED	1	C	3/7/2009	3.508	F	4223	\$16,892,000	228		
2241390	B	SHORE RD CIRCLE	AMTRAK - CSX	AC		O	2	S	8/22/2010	3.433	F	4800	\$19,200,000	228		
2241409	B	GRAND CONCOURSE	METRO NORTH RR HUD	MT		O	1	S	6/1/2010	3.797	F	14300	\$57,200,000	204		
2241410	B	WALTON AVE	METRO NORTH RR HUD	M		O	1	S	6/1/2010	5.297	G	3600	\$14,400,000	204		
2241420	B	GERARD AVE	METRO NORTH RR HUD	M		O	1	S	5/18/2010	5.797	G	5063	\$20,252,000	204		
2241430	B	RIVER AVE	METRO NORTH RR HUD	M		O	1	S	8/5/2009	6.156	V	5040	\$20,160,000	204		
2241460	B	W TREMONT AVE	METRO NORTH RR HUD	M		O	8	S	6/14/2010	4.164	F	12900	\$51,600,000	205		
2241470	B	W FORDHAM RD	METRO NORTH RR HUD	M		O	4	S	8/6/2009	5.694	G	16052	\$64,208,000	207		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241489	B	W 225TH ST	CSX TRASP - PUTNAM	C		O	2	S	6/11/2010	5.149	G	10900	\$43,600,000	207	208	
2241490	B	W 230TH ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	4/10/2009	5.625	G	5600	\$22,400,000	208		
2241509	B	W 231ST ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	9/29/2010	4.745	F	4723	\$18,892,000	208		
2241510	B	W 233RD ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	4/7/2009	5.275	G	3760	\$15,040,000	208		
2241520	B	W 234TH ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	4/7/2009	5.176	G	3770	\$15,080,000	208		
2241550	B	E 144TH ST	METRO NORTH RR HAR	M		O	2	S	8/5/2009	6.319	V	8290	\$33,160,000	201		
2241560	B	E 149TH ST	METRO NORTH RR HAR	M		O	8	S	5/27/2010	4.819	F	27900	\$111,600,000	201	204	
2241590	B	CONCOURSE VILL AVE	METRO NORTH RR HAR	M		O	1	S	5/13/2010	4.031	F	12077	\$48,308,000	204		
2241600	B	E 158TH ST	METRO NORTH RR HAR	M		O	1	S	8/6/2009	5.200	G	3400	\$13,600,000	204		
2241610	B	E 161ST ST	METRO NORTH RR HAR	M		O	1	S	12/8/2009	5.050	G	6600	\$26,400,000	204	203	
2241620	B	E 162ND ST	METRO NORTH RR HAR	M		O	1	S	5/1/2010	4.859	F	4700	\$18,800,000	203		
2241630	B	E 165TH ST	METRO NORTH RR HAR	M		O	1	S	4/29/2010	4.217	F	16400	\$65,600,000	203		
2241650	B	E 167TH ST	METRO NORTH RR HAR	M		O	1	S	4/27/2010	5.510	G	3363	\$13,452,000	203		
2241660	B	E 168TH ST	METRO NORTH RR HAR	M		O	1	S	4/26/2010	4.797	F	4800	\$19,200,000	203		
2241670	B	E 169TH ST	METRO NORTH RR HAR	M		O	1	S	4/23/2010	4.250	F	3300	\$13,200,000	203		
2241680	B	E 170TH ST	METRO NORTH RR HAR	M		O	1	S	4/22/2010	6.333	V	3150	\$12,600,000	203		
2241700	B	ST PAULS PL PED BRDG	METRO NORTH RR HAR	M		O-PED	2	C	2/10/2009	5.000	G	600	\$2,400,000	203		
2241710	B	CLAREMONT PKWY	METRO NORTH RR HAR	M		O	1	S	4/21/2010	4.422	F	6300	\$25,200,000	203		
2241720	B	E 173RD ST	METRO NORTH RR HAR	M		O	1	S	4/20/2010	4.875	F	3000	\$12,000,000	203		
2241740	B	E 175TH ST	METRO NORTH RR HAR	M		O	1	S	4/19/2010	3.922	F	3600	\$14,400,000	206		
2241760	B	E TREMONT AVE	METRO NORTH RR HAR	M		O	1	S	7/22/2009	6.517	V	8424	\$33,696,000	206		
2241770	B	E 178TH ST PED BRDG	METRO NORTH RR HAR	M		O-PED	1	C	2/11/2009	5.159	G	700	\$2,800,000	206		
2241780	B	E 179TH ST PED BRDG	METRO NORTH RR HAR	M		O-PED	6	C	2/11/2009	5.797	G	700	\$2,800,000	206		
2241790	B	E 180TH ST	METRO NORTH RR HAR	M		O	1	S	4/19/2010	3.906	F	5000	\$20,000,000	206		
2241800	B	E 183TH ST	METRO NORTH RR HAR	M		O	1	S	4/14/2010	4.109	F	4080	\$16,320,000	206		
2241810	B	E 188TH ST	METRO NORTH RR HAR	M		O	1	S	4/12/2010	4.063	F	5300	\$21,200,000	206		
2241820	B	E 187TH ST	METRO NORTH RR HAR	M		O	1	S	4/13/2010	4.344	F	3800	\$15,200,000	206		
2241839	B	E 189TH ST	METRO NORTH RR HAR	M		O	1	S	8/6/2009	6.467	V	43157	\$172,628,000	206	207	
2241840	B	BEDFORD PARK BLVD	METRO NORTH RR HAR	M		O	1	S	5/13/2010	4.844	F	6400	\$25,600,000	227	207	
2241860	B	GUN HILL RD	METRO NORTH RR HAR	M		O	1	S	5/17/2010	6.531	V	9128	\$36,512,000	212		
2241870	B	E 233RD ST	METRO NORTH RR HAR	M		O	1	S	5/17/2010	4.941	F	7664	\$30,656,000	212	207	
2241890	B	E 241ST ST	BRP, METRO NORTH HAR	M		WO	28	S	10/9/2009	4.444	F	49500	\$198,000,000	212		
2241900	B	EASTCHESTER ROAD	NYCTA-DYRE AVE LN	T		O	3	S	8/14/2008	4.667	F	13500	\$54,000,000	212		
2241910	B	GUN HILL ROAD	NYCTA-DYRE AVE LN	T		O	1	S	11/12/2010	5.750	G	7500	\$30,000,000	211	212	
2241930	B	BEDFORD PARK BLVD	NYCTA IND YARDS	T		O	4	S	8/12/2008	5.681	G	46300	\$185,200,000	207		
2241940	B	W 205TH ST	NYCTA IND YARDS	T		O	4	S	8/14/2008	5.625	G	32508	\$130,032,000	207		
2241959	B	HUTCHINSON RVR PKWY	AMTRAK - CSX	AC		O	1	S	6/13/2010	5.780	G	15444	\$61,776,000	210	211	
2242010	B	EAST FORDHAM RD	BRONX RIVER			WA	1	S	4/20/2010	5.207	G	9200	\$36,800,000	227		
2242029	B	SOUTHERN BLVD	EAST FORDHAM ROAD			O	2	S	2/8/2010	4.553	F	12900	\$51,600,000	227		
2242030	B	CROTONA AVE	BRONX PELHAM PKWY			O	2	S	2/8/2010	5.447	G	7600	\$30,400,000	206		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2242071	B	BRONX BLVD S.B.	BRONX RIVER			WO	1	S	5/6/2010	4.633	F	1800	\$7,200,000	212		
2242072	B	BRONX BLVD N.B.	BRONX RIVER			WO	1	S	5/6/2010	4.967	F	1800	\$7,200,000	212		
2242081	B	BRONX BLVD S.B.	BRONX RIVER			WO	1	S	5/6/2010	4.467	F	2800	\$11,200,000	212		
2242082	B	BRONX BLVD N.B.	BRONX RIVER			WO	1	S	5/6/2010	4.467	F	2800	\$11,200,000	212		
2242099	B	PARK ROAD (204TH ST)	BRONX RIVER			WO	1	S	6/7/2010	4.793	F	4700	\$18,800,000	212		
2242100	B	BOTANICAL GARDEN ROAD	TWIN LAKES		P	WO	1	S	3/29/2010	4.833	F	2200	\$8,800,000	227		
2242110	B	BOSTON ROAD	BRONX RIVER			WO	1	S	4/7/2010	4.227	F	6200	\$24,800,000	227		
2242120	B	FTBG N OF RTE 1	BRONX RIVER		P	WO-PED	1	C	1/13/2010	3.583	F	1900	\$7,600,000	227		
2242149	B	E TREMONT AVE	BRONX RIVER			WO	2	S	6/3/2010	4.500	F	12900	\$51,600,000	206		
2242210	B	S OF ALLERTON AVE	BRONX RIVER			WO	3	S	6/7/2010	4.763	F	6200	\$24,800,000	227		
2242220	B	SNUFF MILL ROAD	BRONX RIVER			WO	2	S	1/15/2010	4.395	F	4800	\$19,200,000	227		
2242259	B	GRAND CONCOURSE	E 161ST ST			O	1	S	9/15/2010	6.400	V	27017	\$108,068,000	204		
2242260	B	EAGLE AVE	E 161ST ST			O	1	S	3/5/2010	5.017	G	2800	\$11,200,000	201	203	
2242280	B	GRAND CONCOURSE	E 167TH ST			O	2	S	8/20/2010	4.754	F	42900	\$171,600,000	204		
2242299	B	GRAND CONCOURSE	E 138TH ST			O	1	S	6/4/2009	4.733	F	9500	\$38,000,000	201		
2242300	B	GRAND CONCOURSE	E 170TH ST			O	2	S	3/26/2010	4.789	F	39300	\$157,200,000	204		
2242319	B	GRAND CONCOURSE	E 174TH ST	T		O	1	S	3/26/2010	4.067	F	14900	\$59,600,000	204		
2242329	B	GRAND CONCOURSE	E 175TH ST	T		O	1	S	8/19/2010	4.867	F	11900	\$47,600,000	205		
2242330	B	GRAND CONCOURSE	E TREMONT AVE			O	1	S	10/22/2009	5.983	G	11700	\$46,800,000	205		
2242340	B	GRAND CONCOURSE	EAST KINGSBRIDGE			O	2	S	9/9/2010	4.714	F	18285	\$73,140,000	207		
2242350	B	EAST FORDHAM RD	GRAND CONCOURSE			O	1	S	3/19/2010	4.567	F	10300	\$41,200,000	205	207	
2242360	B	GRAND CONCOURSE	BURNSIDE AVE			O	2	S	9/16/2008	4.441	F	8400	\$33,600,000	205		
2242370	B	GRAND CONCOURSE	BEDFORD PARK BLVD			O	1	S	3/18/2010	4.294	F	8418	\$33,672,000	207		
2242380	B	GRAND CONCOURSE	E 204TH ST			O	1	S	10/15/2009	5.484	G	9272	\$37,088,000	207		
2242400	B	E 180TH ST	BRONX RIVER			WO	1	S	10/7/2010	4.810	F	4500	\$18,000,000	206	227	
2242430	B	GUN HILL ROAD	BRONX BLVD			O	4	S	3/17/2010	4.737	F	9400	\$37,600,000	212		
2242440	B	GUN HILL ROAD	BRONX RIVER			WO	1	S	2/24/2010	4.767	F	8700	\$34,800,000	212		
2242459	B	E 233RD ST	BRONX RIVER			WO	1	S	3/25/2010	4.367	F	7000	\$28,000,000	212		
2242460	B	E 233RD ST	ENTR RD BNX RVR PKWY			O	1	S	1/18/2010	4.900	F	5300	\$21,200,000	212		
2243010	K	LINCOLN ROAD	BMT SUBWAY, BRIGHTON	T		O	1	S	12/23/2010	6.722	V	6016	\$24,064,000	355		
2243020	K	PARKSIDE AVE	BMT SUBWAY, BRIGHTON	T		O	6	S	12/23/2010	4.000	F	48700	\$194,800,000	314		
2243040	K	CROOKE AVE	BMT SUBWAY, BRIGHTON	T		O	4	S	11/19/2010	4.105	F	6000	\$24,000,000	314		
2243050	K	CATON AVE	BMT SUBWAY, BRIGHTON	T		O	4	S	8/13/2009	4.500	F	20800	\$83,200,000	314		
2243080	K	CHURCH AVE	BMT SUBWAY, BRIGHTON	T		O	4	S	8/14/2009	4.545	F	18200	\$72,800,000	314		
2243100	K	BEVERLY ROAD	BMT SUBWAY, BRIGHTON	T		O	3	S	11/18/2010	3.667	F	4200	\$16,800,000	314		
2243110	K	CORTEYOU ROAD	BMT SUBWAY, BRIGHTON	T		O	3	S	9/21/2009	6.139	V	4810	\$19,240,000	314		
2243120	K	DORCHESTER ROAD	BMT SUBWAY, BRIGHTON	T		O	1	S	12/21/2010	5.882	G	4825	\$19,300,000	314		
2243130	K	DITMAS AVE	BMT SUBWAY, BRIGHTON	T		O	1	S	10/22/2009	5.723	G	5150	\$20,600,000	314		
2243140	K	NEWKIRK AVE	BMT SUBWAY, BRIGHTON	T		O	3	S	12/21/2010	4.250	F	4100	\$16,400,000	314		
2243150	K	FOSTER AVE	BMT SUBWAY, BRIGHTON	T		O	1	S	12/21/2010	4.450	F	3000	\$12,000,000	314		



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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2243170	K	STERLING PLACE	FRANKLIN SHUTTLE	T		O	1	S	9/1/2009	6.500	V	2300	\$9,200,000	308		
2243180	K	ST JOHNS PLACE	FRANKLIN SHUTTLE	T		O	1	S	9/1/2009	6.781	V	2300	\$9,200,000	308		
2243190	K	LINCOLN PLACE	FRANKLIN SHUTTLE	T		O	1	S	10/15/2008	6.922	V	2460	\$9,840,000	308		
2243200	K	UNION ST	FRANKLIN SHUTTLE	T		O	2	S	10/13/2008	5.043	G	4100	\$16,400,000	309		
2243210	K	PRESIDENT ST	FRANKLIN SHUTTLE	T		O	2	S	10/10/2008	5.314	G	2500	\$10,000,000	309		
2243220	K	CARROLL ST PED BRDG	FRANKLIN SHUTTLE	T		O-PED	3	C	10/12/2010	5.268	G	600	\$2,400,000	309		
2243230	K	CROWN ST	FRANKLIN SHUTTLE	T		O	3	S	9/4/2009	5.097	G	4060	\$16,240,000	309		
2243240	K	MONTGOMERY ST	FRANKLIN SHUTTLE	T		O	1	S	9/4/2009	6.275	V	2240	\$8,960,000	309		
2243250	K	WASHINGTON AVE	FRANKLIN SHUTTLE	T		O	1	S	10/6/2008	6.344	V	3657	\$14,628,000	309	355	
2243260	K	FLATBUSH AVE	FRANKLIN SHUTTLE	T		O	2	S	9/2/2008	4.961	F	11300	\$45,200,000	309		
2243279	K	EASTERN PKWY	FRANKLIN SHUTTLE	T		O	1	S	10/14/2008	4.861	F	7700	\$30,800,000	309	308	
2243280	K	6TH AVE	LIRR ATLANTIC AVE	L		O	9	S	11/23/2008	5.403	G	12276	\$49,104,000	302		
2243290	K	CARLTON AVE	LIRR ATLANTIC AVE	L		O	7	S	12/29/2010	5.069	G	10823	\$43,292,000	302		
2243310	K	2ND AVE	LIRR BAY RIDGE	N		O	2	S	12/14/2010	6.472	V	17751	\$71,004,000	310		
2243320	K	3RD AVE	LIRR BAY RIDGE	N		O	4	S	8/31/2009	5.083	G	17230	\$68,920,000	310		
2243330	K	4TH AVE	LIRR BAY RIDGE	NT		O	4	S	9/9/2009	5.736	G	13668	\$54,672,000	310		
2243340	K	15TH AVE	LIRR BAY RIDGE	N		O	1	S	12/6/2010	4.723	F	3614	\$14,456,000	311		
2243350	K	60TH ST	LIRR BAY RIDGE	N		O	1	S	9/4/2009	6.267	V	3900	\$15,600,000	311		
2243360	K	16TH AVE	LIRR BAY RIDGE	N		O	1	S	12/6/2010	5.350	G	4345	\$17,380,000	311		
2243370	K	17TH AVE	LIRR BAY RIDGE	N		O	1	S	12/7/2010	4.824	F	3406	\$13,624,000	312		
2243380	K	18TH AVE	LIRR BAY RIDGE	N		O	1	S	12/7/2010	4.688	F	6006	\$24,024,000	312		
2243390	K	52ND ST	LIRR BAY RIDGE	N		O	1	S	12/9/2010	6.250	V	3293	\$13,172,000	312		
2243400	K	50TH ST	LIRR BAY RIDGE	N		O	2	S	9/4/2009	4.731	F	7100	\$28,400,000	312		
2243410	K	MCDONALD AVE	LIRR BAY RIDGE	N		O	1	S	12/9/2010	5.047	G	2760	\$11,040,000	312		
2243420	K	E 3RD ST	LIRR BAY RIDGE	N		O	1	S	9/4/2009	6.583	V	1840	\$7,360,000	312		
2243439	K	OCEAN PKWY	LIRR BAY RIDGE	N		O	1	S	12/10/2010	4.927	F	7000	\$28,000,000	312		
2243440	K	CONEY ISLAND AVE	LIRR BAY RIDGE	N		O	1	S	12/2/2010	5.234	G	3231	\$12,924,000	312		
2243450	K	E 14TH ST	LIRR BAY RIDGE	N		O	1	S	12/2/2010	4.809	F	1775	\$7,100,000	314		
2243460	K	E 15TH ST PED BRDG	LIRR BAY RIDGE	N		O-PED	3	C	9/16/2008	5.193	G	900	\$3,600,000	314		
2243480	K	OCEAN AVE	LIRR BAY RIDGE	N		O	2	S	12/1/2010	4.825	F	5000	\$20,000,000	314		
2243490	K	BEDFORD AVE	LIRR BAY RIDGE	N		O	6	S	11/24/2010	4.319	F	12000	\$48,000,000	314		
2243500	K	NOSTRAND AVE	LIRR BAY RIDGE	N		O	2	S	11/30/2010	4.966	F	4320	\$17,280,000	314		
2243510	K	FLATBUSH AVE	LIRR BAY RIDGE	N		O	2	S	11/29/2010	4.702	F	5900	\$23,600,000	318		
2243520	K	BROOKLYN AVE	LIRR BAY RIDGE	N		O	3	S	9/11/2009	6.236	V	4500	\$18,000,000	318		
2243530	K	AVENUE H	LIRR BAY RIDGE	N		O	2	S	9/10/2009	5.956	G	35100	\$140,400,000	318		
2243569	K	ATLANTIC AVE	LIRR ATLANTIC AVE	L		O	75	S	5/28/2010	3.676	F	135100	\$540,400,000	316	305	
2243570	K	86TH ST	BMT SEA BEACH	T		O	1	S	9/11/2008	6.078	V	12167	\$48,668,000	313		
2243580	K	5TH AVE	LIRR & SEA BEACH	NT		O	4	S	12/2/2008	4.147	F	12395	\$49,580,000	310		
2243590	K	6TH AVE	LIRR & SEA BEACH	NT		O	2	S	10/22/2009	6.250	V	14382	\$57,528,000	310		
2243600	K	7TH AVE	LIRR & SEA BEACH	NT		O	7	S	12/9/2008	5.028	G	18628	\$74,512,000	310		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2243610	K	8TH AVE	LIRR & SEA BEACH	NT		O	2	S	10/22/2009	6.153	V	10834	\$43,336,000	310		
2243620	K	FORT HAMILTON PKWY	LIRR & SEA BEACH	NT		O	3	S	12/18/2008	4.797	F	14800	\$59,200,000	310		
2243630	K	11TH AVE	LIRR & SEA BEACH	NT		O	5	S	12/18/2008	6.103	V	9700	\$38,800,000	310		
2243640	K	13TH AVE	LIRR & SEA BEACH	NT		O	5	S	9/23/2009	4.694	F	16000	\$64,000,000	310		
2243650	K	14TH AVE	LIRR BAY RIDGE	N		O	1	S	12/23/2010	6.600	V	4720	\$18,880,000	311		
2243660	K	NEW UTRECHT AVE	LIRR BAY RIDGE	N		O	1	S	12/23/2010	6.217	V	2350	\$9,400,000	311		
2243670	K	15TH AVE	BMT SEA BEACH	T		O	4	S	9/24/2009	6.386	V	16020	\$64,080,000	311		
2243680	K	16TH AVE	BMT SEA BEACH	T		O	3	S	11/26/2008	5.370	G	6816	\$27,264,000	311		
2243690	K	17TH AVE	BMT SEA BEACH	T		O	4	S	11/26/2008	6.327	V	8946	\$35,784,000	311		
2243700	K	18TH AVE	BMT SEA BEACH	T		O	1	S	9/25/2009	6.632	V	5200	\$20,800,000	311		
2243710	K	19TH AVE	BMT SEA BEACH	T		O	4	S	10/27/2008	4.395	F	4800	\$19,200,000	311		
2243720	K	20TH AVE	BMT SEA BEACH	T		O	1	S	10/28/2008	6.673	V	12500	\$50,000,000	311		
2243730	K	65TH ST	BMT SEA BEACH	T		O	4	S	12/16/2010	5.132	G	12000	\$48,000,000	311		
2243740	K	BAY PKWY	BMT SEA BEACH	T		O	4	S	12/14/2010	4.816	F	16800	\$67,200,000	311		
2243750	K	AVENUE O	BMT SEA BEACH	T		O	1	S	10/7/2009	5.863	G	4658	\$18,632,000	311		
2243760	K	AVENUE P	BMT SEA BEACH	T		O	1	S	10/7/2009	6.605	V	5544	\$22,176,000	311		
2243770	K	KINGS HIGHWAY	BMT SEA BEACH	T		O	1	S	10/8/2009	6.767	V	5032	\$20,128,000	311		
2243780	K	HIGHLAWN AVE	BMT SEA BEACH	T		O	1	S	10/8/2009	6.440	V	6960	\$27,840,000	311		
2243790	K	AVENUE S	BMT SEA BEACH	T		O	1	S	10/8/2009	5.967	G	5360	\$21,440,000	315		
2243800	K	AVENUE T	BMT SEA BEACH	T		O	1	S	10/8/2009	6.033	V	5360	\$21,440,000	311		
2243810	K	AVENUE U	BMT SEA BEACH	T		O	1	S	12/17/2010	5.686	G	5880	\$23,520,000	315		
2243820	K	21ST AVE	BMT SEA BEACH	T		O	4	S	12/16/2010	3.974	F	21400	\$85,600,000	311		
2243839	K	4TH AVE	NYCTA BMT TRACKS	T		O	1	S	9/18/2009	6.267	V	4440	\$17,760,000	307		
2243840	K	9TH AVE	NYCTA BMT YARD	T		O	5	S	9/18/2009	6.028	V	12440	\$49,760,000	312		
2243850	K	LIBERTY AVE	LIRR BAY RIDGE	N		O	3	S	12/14/2010	6.294	V	6659	\$26,636,000	316		
2243860	K	GLENMORE AVE	LIRR BAY RIDGE	N		O	2	S	12/14/2010	6.559	V	5616	\$22,464,000	316		
2243870	K	PITKIN AVE	LIRR BAY RIDGE	N		O	2	S	12/14/2010	6.515	V	5328	\$21,312,000	316		
2243890	K	SUTTER AVE	LIRR BAY RIDGE	N		O	3	S	12/15/2010	6.542	V	5497	\$21,988,000	316		
2243900	K	BLAKE AVE	LIRR BAY RIDGE LINE	N		O	3	S	12/15/2010	5.000	G	4912	\$19,648,000	316		
2243910	K	LIVONIA AVE PED BRDG	LIRR BAY RIDGE LINE	N		O-PED	6	C	3/2/2010	5.000	G	2500	\$10,000,000	316		
2243920	K	7TH AVE	NYCTA BMT YARD	T		O	2	S	10/16/2008	6.324	V	4700	\$18,800,000	307		
2243940	K	9TH AVE	NYCTA IND SBWY	T		O	5	S	9/18/2009	4.737	F	6300	\$25,200,000	312		
2244010	K	EAST DR (ENDALE ARCH)	PED PATH NR GRND ARMY PLZ		P	O	1	C	5/6/2010	4.367	F	1533	\$6,132,000	355		
2244020	K	WEST DR (MEADOWPORT ARCH)	PED PATH NR GRND ARMY PLZ		P	O	1	S	4/28/2009	5.321	G	2500	\$10,000,000	355		
2244030	K	EAST DRIVE	BRIDLE PATH NR ZOO		P	O	1	S	4/28/2009	4.796	F	2000	\$8,000,000	355		
2244040	K	EAST DR (EAST WOOD ARCH)	PED PATH NR CENTER DR		P	O	1	C	6/24/2010	4.033	F	1066	\$4,262,400	355		
2244050	K	CENTER DR (NETHERMEAD ARCHES)	PED PATH & STREAM		P	WO	3	S	5/1/2009	5.000	G	7400	\$29,600,000	355		
2244060	K	HILL DR (LEFT RIDGE SPAN)	PED PATH SO OF BOATHOUSE		P	O	1	C	4/28/2010	4.433	F	750	\$3,000,000	355		
2244100	K	WEST FOOTBRIDGE	PROSPCT PK STREAM		P	WO-PED	1	C	12/2/2010	4.875	F	3200	\$12,800,000	355		
2244120	K	HILL DR (TERRACE BRDG)	PROSPECT PK LAKE		P	WO	3	S	2/5/2010	2.927	P	7800	\$31,200,000	355		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2244130	K	PED NR BOATHSE (LULLWATER BRDG)	PROSPECT PK LAKE		P	WO-PED	1	C	8/11/2010	4.898	F	1000	\$4,000,000	355		
2244150	K	RIDGE BLVD	SHORE RD DRIVE			O	1	S	5/13/2009	6.667	V	4350	\$17,400,000	310		
2244160	K	3RD AVE	SHORE RD DRIVE			O	1	S	5/8/2009	6.727	V	4360	\$17,440,000	310		
2244170	K	ATLNTC AV SVC RD E.B.	EAST NEW YORK AVE			O	2	S	8/13/2009	5.474	G	3192	\$12,768,000	305		
2244180	K	ATLNTC AV SVC RD W.B.	EAST NEW YORK AVE			O	2	S	8/13/2009	5.105	G	5600	\$22,400,000	305		
2244440	K	SOUTH OF TILLARY ST	NAVY ST			O-PED	1	C	7/23/2010	4.271	F	6200	\$24,800,000	302		
2244460	K	CONDUIT BLVD NB	ATLANTIC AVE EB			O	1	S	10/15/2010	4.833	F	3800	\$15,200,000	305		
2244470	K	SEELEY ST	PROSPECT AVE			O	1	S	4/9/2010	4.067	F	8482	\$33,928,000	307		
2244480	K	5TH AVE	GREENWOOD CEMETERY			O	1	S	9/9/2009	4.667	F	3600	\$14,400,000	307		
2245010	M	11TH AVE VIADUCT	LIRR WEST SIDE YARD	AL		O	39	S	12/30/2008	4.028	F	157500	\$630,000,000	104		
224501B	M	W 33RD ST	AMTRAK 30 ST BRANCH	A		O	8	S	3/17/2010	4.611	F	16500	\$66,000,000	104		
224501C	M	W 33RD ST	LAND ADJ TO AMTRAK	A		O	2	S	6/25/2009	4.417	F	4620	\$18,480,000	104		
224501D	M	W 34TH ST	AMTRAK 30 ST BRANCH	A		O	4	S	6/26/2009	4.514	F	11800	\$47,200,000	104		
224501E	M	W 35TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	12/5/2008	4.141	F	6500	\$26,000,000	104		
224501F	M	W 36TH ST	AMTRAK 30 ST BRANCH	A		O	7	S	12/15/2008	4.015	F	16400	\$65,600,000	104		
2245040	M	MARGARET CORBIN DR	PED PATH NEAR CAFÉ		P	O	1	C	5/10/2010	4.933	F	598	\$2,392,000	112		
2245050	M	MARGARET CORBIN DR	PED PATH NR NO ENTR		P	O	1	C	5/10/2010	4.800	F	889	\$3,556,000	112		
2245060	M	W 37TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	11/20/2009	6.190	V	7505	\$30,020,000	104		
2245070	M	W 38TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	10/1/2010	4.154	F	6200	\$24,800,000	104		
2245080	M	W 39TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	10/1/2010	4.196	F	6300	\$25,200,000	104		
2245090	M	W 43RD ST	AMTRAK 30 ST BRANCH	A		O	2	S	5/1/2010	4.662	F	4100	\$16,400,000	104		
2245100	M	W 44TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/24/2010	4.662	F	4300	\$17,200,000	104		
2245110	M	W 45TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/19/2008	5.662	G	4100	\$16,400,000	104		
2245120	M	W 46TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/19/2008	4.412	F	4100	\$16,400,000	104		
2245130	M	W 47TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/21/2008	4.721	F	4100	\$16,400,000	104		
2245140	M	W 48TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/24/2008	4.618	F	4100	\$16,400,000	104		
2245150	M	W 49TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	5/26/2010	4.426	F	4100	\$16,400,000	104		
2245160	M	W 51ST ST	AMTRAK 30 ST BRANCH	A		O	2	S	6/5/2010	4.882	F	4300	\$17,200,000	104		
2245170	M	W 52ND ST	AMTRAK 30 ST BRANCH	A		O	2	S	6/5/2010	4.956	F	4300	\$17,200,000	104		
2245180	M	W 53RD ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/7/2008	5.029	G	5100	\$20,400,000	104		
2245190	M	W 58TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/11/2008	4.706	F	4100	\$16,400,000	104		
2245209	M	11TH AVE	AMTRAK 30 ST BRANCH	A		O	2	S	4/10/2008	4.471	F	15400	\$61,600,000	104		
2245210	M	W 42ND ST	AMTRAK 30 ST BRANCH	A		O	4	S	12/22/2008	4.619	F	9155	\$36,620,000	104		
2245220	M	W 57TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	4/11/2008	4.765	F	9100	\$36,400,000	104		
2245230	M	W 148TH ST PED BRDG	AMTRAK 30 ST BRANCH	A	P	O-PED	3	C	11/5/2010	4.033	F	1100	\$4,400,000	109		
2245250	M	W 158TH ST	AMTRAK 30 ST BRANCH	A		O	7	S	11/14/2009	6.319	V	29170	\$116,680,000	112		
2245260	M	W 173RD ST PED BRDG	AMTRAK 30 ST BRANCH	A	P	O-PED	2	C	10/29/2010	4.446	F	1500	\$6,000,000	112		
2245290	M	W 155TH ST PED BRDG	AMTRAK 30 ST BRANCH	A		O-PED	3	C	10/31/2010	3.292	F	800	\$3,200,000	109	112	
2245300	M	INWOOD HILL PK FTBR	AMTRAK 30 ST BRANCH	A	P	O-PED	6	C	11/5/2010	4.100	F	700	\$2,800,000	112		
2245319	M	E 97TH ST	METRO NORTH MAIN LN	M		O	1	S	12/31/2008	4.647	F	3200	\$12,800,000	111		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2245330	M	W 41ST ST	AMTRAK 30 ST BRANCH	A		O	3	S	9/28/2010	4.388	F	6200	\$24,800,000	104		
2245340	M	W 50TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	5/26/2010	4.544	F	4100	\$16,400,000	104		
2245350	M	W 54TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/8/2008	5.476	G	4700	\$18,800,000	104		
2245360	M	W 55TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	7/10/2010	5.353	G	4300	\$17,200,000	104		
2245370	M	W 56TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/10/2008	5.618	G	4400	\$17,600,000	104		
2245380	M	TRANSVERSE RD #1 WB	PED PATH OPP E 66TH ST		P	O	1	S	1/7/2010	5.000	G	1500	\$6,000,000	164		
2245420	M	W 65TH ST ENTR EB	BRIDLE PATH W END		P	O	1	S	1/25/2010	5.167	G	1600	\$6,400,000	164		
2245440	M	W 40TH ST	AMTRAK 30 ST BRANCH	A		O	4	S	10/16/2010	4.236	F	9400	\$37,600,000	104		
2245460	M	PARK AVE S.B.	E 45TH ST			O	1	S	7/28/2009	4.514	F	2400	\$9,600,000	105		
2245470	M	PARK AVE N.B	E 45TH ST			O	1	S	7/28/2009	4.865	F	2400	\$9,600,000	105		
2245480	M	TO GWB OPP W 171ST ST	RIVERSIDE DRIVE			O	1	S	3/17/2010	4.952	F	10800	\$43,200,000	112		
2246000	M	WEST DR (GREYSHOT ARCH)	PED BET 61ST & 62ST		P	O	1	S	1/14/2010	5.400	G	2500	\$10,000,000	164		
2246010	M	W 62 ST PED BRDG (PINEBANK ARCH)	BRIDLE PATH		P	O-PED	1	C	7/9/2010	4.404	F	1000	\$4,000,000	164		
2246030	M	E 62 ST PED BRDG (GAPSTOW BRDG)	THE POND		P	O-PED	1	C	7/26/2010	3.897	F	1400	\$5,600,000	164		
2246040	M	EAST DR (INSCOPE ARCH)	PED PATH OPP E 62 ST		P	O	1	C	4/28/2010	4.400	F	1515	\$6,060,000	164		
2246050	M	CENTER DR (DRIPROCK ARCH)	PED OPP 63RD ST		P	O	1	S	1/18/2010	5.067	G	2000	\$8,000,000	164		
2246069	M	EAST DR (GREEN GAP ARCH)	PED BET E 63ST & E 64ST		P	O	1	S	1/26/2010	4.500	F	2700	\$10,800,000	164		
2246070	M	CENTER DR (PLAYMATES ARCH)	PED PATH OPP 65TH ST		P	O	1	C	6/2/2010	4.500	F	1129	\$4,516,000	164		
2246080	M	WEST DR (DALEHEAD ARCH)	BRIDLE OPP W 64TH ST		P	O	1	S	1/5/2010	4.667	F	2000	\$8,000,000	164		
2246090	M	PED BRDG OPP 65 ST	TRANSVERSE RD #1		P	O-PED	1	C	7/24/2010	4.655	F	2300	\$9,200,000	164		
2246100	M	CENTER DRIVE	TRANSVERSE RD #1		P	O	1	S	4/2/2010	4.467	F	6000	\$24,000,000	164		
2246110	M	EAST DRIVE	TRANSVERSE RD #1		P	O	1	S	3/25/2010	4.667	F	6000	\$24,000,000	164		
2246120	M	WEST DRIVE	TRANSVERSE RD #1		P	O	1	S	4/2/2010	4.967	F	7900	\$31,600,000	164		
2246130	M	EAST DR (WILLOWDELL ARCH)	PED PATH OPP E 67TH ST		P	O	1	C	5/25/2010	3.633	F	666	\$2,665,600	164		
2246140	M	W 72 ST ENTR (RIFTSTONE ARCH)	BRIDLE PATH		P	O	1	S	1/12/2010	4.533	F	3600	\$14,400,000	164		
2246150	M	72 ST CROSS DR (TERRACE BRDG)	PED PATH TO FOUNTAIN		P	O	3	S	3/12/2010	5.786	G	7300	\$29,200,000	164		
2246160	M	73 ST PED BRDG (BOW BRIDGE)	THE LAKE		P	WO-PED	1	C	5/13/2010	3.718	F	1700	\$6,800,000	164		
2246170	M	EAST DR (TREFOIL ARCH)	PED PATH OPP E 73RD ST		P	O	1	S	2/3/2010	5.056	G	1900	\$7,600,000	164		
2246230	M	EAST DRIVE	TRANSVERSE RD #2		P	O	1	S	3/23/2010	4.600	F	6500	\$26,000,000	164		
2246240	M	WEST DRIVE	TRANSVERSE RD #2		P	O	1	S	3/23/2010	4.167	F	7200	\$28,800,000	164		
2246250	M	EAST DRIVE	TRANSVERSE RD #3		P	O	1	S	2/9/2010	4.300	F	5100	\$20,400,000	164		
2246260	M	WEST DRIVE	TRANSVERSE RD #3		P	O	1	S	3/26/2010	4.933	F	5100	\$20,400,000	164		
2246270	M	EAST DRIVE	TRANSVERSE RD #4		P	O	1	S	3/24/2010	4.100	F	7000	\$28,000,000	164		
2246280	M	WEST DRIVE	TRANSVERSE RD #4		P	O	1	S	3/24/2010	4.300	F	4700	\$18,800,000	164		
2246320	M	W77 ST PED (OAK BRDG)	THE LAKE		P	WO-PED	3	C	12/22/2010	6.684	V	919	\$3,676,000	164		
2246330	M	WEST DR (BALCONY BRDG)	STREAM TO THE LAKE		P	WO	1	S	2/1/2010	5.000	G	2019	\$8,076,000	164		
2246340	M	W77 ST PED (LADIES POND BRDG)	STREAM TO THE LAKE		P	WO-PED	3	C	10/26/2010	4.032	F	500	\$2,000,000	164		
2246350	M	EAST DR (GREYWACKE ARCH)	PED PATH OPP E 80TH ST		P	O	1	C	5/19/2010	3.667	F	1266	\$5,064,000	164		
2246360	M	WEST DR (WINTERDALE ARCH)	PED PATH OPP W 82 ST		P	O	1	S	1/27/2010	5.273	G	3100	\$12,400,000	164		
2246380	M	W86 ST PED (SW RESERVOIR BRDG)	BRIDLE PATH		P	O-PED	1	C	10/7/2010	4.143	F	700	\$2,800,000	164		



# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2246390	M	E86 ST PED (SE RESERVOIR BRDG)	BRIDLE PATH		P	O-PED	3	C	10/7/2010	4.404	F	1100	\$4,400,000	164		
2246400	M	PED PATH OPP E79 ST	TRANSVERSE RD #2		P	O-PED	1	C	7/31/2010	4.233	F	3700	\$14,800,000	164		
2246410	M	TRNSVRS RD 1 EB (DENESMOUTH ARCH)	PED PATH OPP E 65TH ST		P	O	1	S	2/2/2010	4.727	F	1739	\$6,956,000	164		
2246430	M	W110 ST ENTR (MOUNTCLIFF ARCH)	PED PATH OPP W109 ST		P	O	1	S	3/29/2010	4.383	F	1200	\$4,800,000	164		
2246440	M	79 TH ST PED BRDG	TRANSVERSE RD #2		P	O-PED	1	C	9/3/2010	3.926	F	5900	\$23,600,000	164		
2246450	M	E77 ST PED (GLADE ARCH)	PED PATH OPP E77 ST		P	O-PED	1	C	1/27/2010	5.000	G	5000	\$20,000,000	164		
2246460	M	W77 ST ENTR (EAGLEVALE ARCH)	PED PATH OPP W77 ST		P	O	2	S	1/15/2010	4.263	F	5800	\$23,200,000	164		
2246470	M	EAST DR (HUDDLESTONE ARCH)	THE LOCH		P	WO	1	S	2/2/2010	4.500	F	1100	\$4,400,000	164		
2246489	M	W 181 ST	RAMP TO WASH BR			O	1	S	3/16/2010	4.500	F	8200	\$32,800,000	112		
2246490	M	A.C. POWELL BLVD N.B.	A.C. POWELL BLVD			O	1	S	2/11/2010	4.020	F	5600	\$22,400,000	110		
2246500	M	FORT TRYON PLACE	ENTR FROM RIVERSIDE DR		P	O	1	S	3/18/2010	4.333	F	6600	\$26,400,000	112		
2246510	M	CORBIN PL OVERPASS	CORBIN PLACE		P	O	1	S	1/13/2010	5.000	G	2223	\$8,892,000	112		
2246540	M	E 34TH ST	PARK AVE TUNNEL			OT	1	S	11/19/2008	4.117	F	36200	\$144,800,000	105	106	
2246550	M	PARK AVE VIADUCT	E 42ND ST			O	10	S	10/15/2009	4.537	F	22150	\$88,600,000	105		
2246560	M	TUDOR CITY PLACE	E 42ND ST			O	1	S	2/1/2010	5.133	G	6600	\$26,400,000	106		
2246570	M	E42ND ST - E47TH ST	FIRST AVE TUNNEL			OT	2	S	6/17/2010	4.882	F	95000	\$380,000,000	106		
2246580	BM	HIGH BRIDGE PDOVP	187 - HARLEM RIVER	M	P	WA-PED	11	P	8/12/2002	3.759	F	34100	\$136,400,000	112	204	
2246600	M	W 176TH ST PED BRDG	APPROACH TO G.W.B.			O-PED	1	C	1/15/2010	3.897	F	1200	\$4,800,000	112		
2246620	M	W 128TH ST PED BRDG	3RD AVE BRDG APPR			O-PED	18	C	7/1/2010	4.048	F	2300	\$9,200,000	111		
2246660	M	RIVERSIDE DRIVE	W125TH ST - W134TH ST			O	27	S	7/16/2009	4.444	F	148300	\$593,200,000	109		
2246670	M	W 134 ST	TERRAIN			O	4	S	7/13/2009	4.870	F	7500	\$30,000,000	109		
2246690	M	ISHAM PK VEHICULR	HARLEM RIVER INLET		P	O	1	S	7/7/2008	6.261	V	911	\$3,644,000	112		
2246700	M	ISHAM PK PED BRDG	HARLEM RV INLET		P	WO-PED	1	C	1/11/2010	3.828	F	300	\$1,200,000	112		
2246710	M	W 153 ST	A.C. POWELL BLVD			O	1	S	2/11/2010	4.370	F	3082	\$12,328,000	110		
2246720	M	RIVERSIDE DRIVE	W 158TH ST - AMTRAK	A		O	77	S	9/30/2010	3.472	F	185658	\$742,632,000	109	112	
2246970	M	RIVERSIDE DRIVE	W 96TH ST			O	3	S	7/2/2009	5.500	G	10600	\$42,400,000	107		
2246980	M	RIVERSIDE DRIVE	W 138TH ST			O	1	S	1/29/2010	4.767	F	6700	\$26,800,000	109		
2246990	M	E 129TH ST PED BRDG	3RD AVE BRDG RAMP			O-PED	5	C	10/8/2010	4.545	F	1046	\$4,184,000	111		
2247020	Q	94TH ST PED BRDG	LIRR PORT WASH BR	L		O-PED	5	C	10/8/2009	4.030	F	500	\$2,000,000	404		
2247040	Q	UNION ST	LIRR PORT WASH BR	L		O	1	S	9/15/2009	6.328	V	3313	\$13,252,000	407		
2247050	Q	BOWNE AVE	LIRR PORT WASH BR	L		O	1	S	12/15/2010	5.490	G	4974	\$19,896,000	407		
2247060	Q	PARSONS BLVD	LIRR PORT WASH BR	L		O	1	S	11/30/2010	4.745	F	4200	\$16,800,000	407		
2247070	Q	147TH ST	LIRR PORT WASH BR	L		O	1	S	9/10/2009	5.353	G	2800	\$11,200,000	407		
2247080	Q	149TH ST	LIRR PORT WASH BR	L		O	1	S	9/8/2009	4.776	F	4100	\$16,400,000	407		
2247090	Q	149TH PLACE	LIRR PORT WASH BR	L		O	2	S	9/9/2009	5.000	G	4300	\$17,200,000	407		
2247100	Q	150TH ST	LIRR PORT WASH BR	L		O	2	S	9/4/2009	6.176	V	7830	\$31,320,000	407		
2247110	Q	MURRAY ST	LIRR PORT WASH BR	L		O	1	S	9/3/2009	5.370	G	4000	\$16,000,000	407		
2247120	Q	WOODSIDE AVE	LIRR MAIN LINE	L		O	3	S	10/28/2009	4.444	F	14900	\$59,600,000	402		
2247130	Q	CORPORAL KENNEDY ST	LIRR PORT WASH BR	L		O	1	S	10/30/2009	6.235	V	3379	\$13,516,000	411		
2247140	Q	BELL BLVD	LIRR PORT WASH BR	L		O	1	S	9/17/2009	5.780	G	4320	\$17,280,000	411		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2247150	Q	65TH ST	LIRR MAIN LINE	L		O	3	S	10/26/2009	6.375	V	6344	\$25,376,000	402		
2247160	Q	65TH PLACE	LIRR MAIN LINE	L		O	3	S	10/29/2009	6.441	V	8381	\$33,524,000	402		
2247170	Q	DOUGLASTON PKWY	LIRR PORT WASH BR	L		O	3	S	12/15/2010	4.712	F	6300	\$25,200,000	411		
2247180	Q	GRAND AVE	LIRR MAIN LINE	L		O	3	S	12/16/2010	4.585	F	7415	\$29,660,000	404		
2247190	Q	55TH AVE PED BRDG	LIRR MAIN LINE	L		O-PED	3	C	10/7/2009	4.309	F	13000	\$52,000,000	404		
2247220	Q	80TH ROAD	LIRR MAIN LINE	L		O	3	S	10/7/2009	4.857	F	4100	\$16,400,000	409		
2247230	Q	82ND AVE	LIRR MAIN LINE	L		O	3	S	10/6/2009	5.377	G	4100	\$16,400,000	409		
2247240	Q	LEFFERTS BLVD	LIRR MAIN LINE	L		O	3	S	10/8/2009	5.750	G	5460	\$21,840,000	409		
2247260	Q	JACKSON AVE	LIRR MONTAUK DIV	L		O	1	S	12/16/2010	6.117	V	4517	\$18,068,000	402		
2247270	Q	21ST ST	LIRR N SIDE DIV	L		O	6	S	11/23/2009	5.306	G	17590	\$70,360,000	402		
2247290	Q	49TH AVE	LIRR,AMT,CON NE	L		O	5	S	12/13/2010	4.014	F	20400	\$81,600,000	402		
2247300	Q	THOMPSON AVE	AMTRAK & LIRR YARD	AL		O	14	S	12/16/2010	5.042	G	61280	\$245,120,000	402		
2247310	Q	QUEENS BLVD	AMTRAK & LIRR YARD	AL		O	19	S	12/16/2010	6.324	V	92400	\$369,600,000	402	401	
2247320	Q	HONEYWELL ST	AMTRAK & LIRR YARD	AL		O	22	S	11/11/2009	5.903	G	99036	\$396,144,000	402	401	
2247330	Q	39TH ST (NORTH)	SUNNYSIDE YARD	A		O	14	S	11/3/2009	6.556	V	48200	\$192,800,000	402	401	
2247370	Q	37TH AVE	CSX - HELLGATE	C		O	1	S	9/22/2009	6.447	V	6868	\$27,472,000	402		
2247380	Q	ROOSEVELT AVE	CSX - HELLGATE	C		O	2	S	9/23/2009	6.389	V	7380	\$29,520,000	402	403	404
2247390	Q	41ST AVE	CSX - HELLGATE	C		O	2	S	9/23/2009	4.942	F	4400	\$17,600,000	402	404	
2247400	Q	WOODSIDE AVE	CSX TRANSPORT	C		O	1	S	9/24/2009	5.033	G	8200	\$32,800,000	402	404	
2247410	Q	43RD AVE	CSX TRANSPORT	C		O	1	S	9/24/2009	5.000	G	4800	\$19,200,000	402	404	
2247420	Q	44TH AVE	CSX TRANSPORT	C		O	1	S	9/24/2009	5.000	G	5100	\$20,400,000	402	404	
2247430	Q	45TH AVE	CSX TRANSPORT	C		O	1	S	10/2/2009	5.306	G	2400	\$9,600,000	402	404	
2247440	Q	GRAND AVE	CSX TRANSPORT	C		O	1	S	9/29/2009	6.183	V	3280	\$13,120,000	405		
2247450	Q	57TH AVE	CSX TRANSPORT	C		O	1	S	9/29/2009	6.073	V	2248	\$8,992,000	405		
2247460	Q	CALDWELL AVE	CSX TRANSPORT	C		O	1	S	12/13/2010	5.889	G	2243	\$8,972,000	405		
2247470	Q	ELIOT AVE	CSX TRANSPORT	C		O	1	S	10/5/2009	5.250	G	2960	\$11,840,000	405		
2247480	Q	JUNIPER BLVD SO	CSX TRANSPORT	C		O	1	S	10/6/2009	5.000	G	9000	\$36,000,000	405		
2247490	Q	69TH ST JUNPR BLVD	CSX TRANSPORT	C		O	1	S	12/13/2010	5.021	G	6175	\$24,700,000	405		
2247500	Q	METROPOLITAN AVE	CSX TRANSPORT	C		O	1	S	10/6/2009	4.233	F	18650	\$74,600,000	405		
2247530	Q	ANDREWS AVE	LIRR MONTAUK DIV	L		O	1	S	9/23/2009	7.000	V	1765	\$7,060,000	405		
2247540	Q	60TH ST	LIRR MONTAUK DIV	L		O	2	S	10/23/2009	5.097	G	5340	\$21,360,000	405		
2247550	Q	ELIOT AVE	LIRR MONTAUK DIV	L		O	2	S	9/23/2009	5.712	G	9550	\$38,200,000	405		
2247570	Q	80TH ST	77TH AVE - LIRR MT	L		O	5	S	12/13/2010	5.169	G	11725	\$46,900,000	405		
2247590	Q	FOREST PARK DRIVE	LIRR MONTAUK DIV	L	P	O	5	S	12/14/2010	5.298	G	6000	\$24,000,000	409		
2247600	Q	PARK LANE SOUTH	LIRR MONTAUK DIV	L		O	1	S	12/14/2010	6.983	V	3024	\$12,096,000	409	482	
2247620	Q	MYRTLE AVE	ABANDONED LIRR			O	3	S	1/12/2010	5.028	G	6725	\$26,900,000	482	406	
2247630	Q	PED BRG NEAR UNION TPK	ABANDONED LIRR			O-PED	8	C	5/26/2010	5.359	G	1449	\$5,796,000	406		
2247640	Q	39TH ST (SOUTH)	AMTRAK & LIRR YARD	AL		O	9	S	11/11/2009	6.125	V	34100	\$136,400,000	402		
2247650	Q	60TH RD PED BRDG	LIRR MAIN LINE	L		O-PED	3	C	10/16/2009	5.000	G	2293	\$9,172,000	405	406	
2247660	Q	FOREST PARK DRIVE	ABANDONED LIRR		P	O	6	S	3/5/2010	4.746	F	10000	\$40,000,000	409		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2247680	Q	221ST ST	LIRR PORT WASH BR	L		O	3	S	9/16/2009	5.941	G	6050	\$24,200,000	411		
2248019	Q	WOODHAVEN BLVD	ATLANTIC AVE			O	3	S	4/8/2010	4.236	F	19400	\$77,600,000	409		
2248020	Q	WHITELAW PED BRDG	CONDUIT AVE			O-PED	7	C	10/8/2010	4.775	F	5500	\$22,000,000	410		
2248039	Q	CROSS BAY BLVD	NASSAU EXPWY - RTE 27			O	2	S	6/30/2009	6.417	V	16544	\$66,176,000	410		
2248040	Q	RAMP TO LINDEN BLVD	SO. CONDUIT AVE			O	1	S	6/10/2010	5.200	G	3352	\$13,408,000	410		
2248059	Q	MOTOR PKWY (PED)	FRANCIS LEWIS BLVD		P	O-PED	2	C	6/3/2010	4.194	F	2800	\$11,200,000	408		
2248060	Q	MOTOR PKWY (PED)	BELL BLVD		P	O-PED	2	C	6/8/2010	4.181	F	2650	\$10,600,000	411		
2248070	Q	MOTOR PKWY (PED)	SPRINGFIELD BLVD		P	O-PED	3	C	6/14/2010	3.582	F	2900	\$11,600,000	411		
2248080	Q	MOTOR PKWY (PED)	HOLLIS COURT BLVD		P	O-PED	3	C	1/7/2010	4.731	F	2700	\$10,800,000	408		
2248090	Q	FLSHG MDW PK PED	COLLEGE POINT BLVD		P	O-PED	3	C	3/16/2010	4.690	F	8400	\$33,600,000	407		
2248100	Q	MOTOR PKWY (PED)	73RD AVE		P	O-PED	3	C	2/8/2010	4.965	F	2600	\$10,400,000	408		
2248110	Q	MOTOR PKWY (PED)	ALLEY PK PED WALK		P	O-PED	1	C	6/30/2010	4.103	F	1000	\$4,000,000	413		
2248129	Q	UNION TPKE	CREEDMOORE HOSP RD			O	1	S	6/30/2009	4.867	F	3500	\$14,000,000	413		
2248130	Q	FLUSHING MEADOW PK PED	WILLOW LK&76TH RD		P	WO-PED	4	C	4/20/2002	1.000	C	1891	\$7,564,000	481		
2248140	Q	FLUSHING MEADW PK RD	STREAM N OF LIE		P	WO	5	C	7/20/2010	4.673	F	4100	\$16,400,000	481		
2248159	Q	WOODHAVEN BLVD	QUEENS BLVD			O	2	S	8/20/2010	4.275	F	11500	\$46,000,000	404		
2248160	Q	ELLIOT AVE	QUEENS BLVD			O	2	S	8/20/2010	4.804	F	13785	\$55,140,000	406		
2248200	Q	RUST ST	FLUSHING AVE			O	1	S	7/15/2009	5.047	G	2940	\$11,760,000	405		
2248220	Q	SERVICE RD TURNAROUND	FLUSHING AVE			O	1	S	7/15/2009	5.125	G	2940	\$11,760,000	405		
2248230	Q	BEACH CHANNEL DR WB	BEACH CHANNEL DR EB			O	1	S	7/15/2009	4.400	F	3600	\$14,400,000	484		
2248240	Q	FLUSHING AV SERVICE RD	FLUSHING AVE			O	1	S	7/15/2009	5.250	G	2940	\$11,760,000	405		
2248250	Q	102ND ST	HAWTREE BASIN			WO	3	S	8/17/2009	5.941	G	4900	\$19,600,000	410		
2248260	Q	FLUSHING MDW PARK RD	MEADOW LAKE		P	WO	5	S	5/21/2010	4.745	F	4200	\$16,800,000	481		
2248280	Q	HIGHLAND PK PED.	PEDESTRIAN PATH		P	O-PED	1	C	10/20/2010	3.667	F	1900	\$7,600,000	405		
2248299	Q	J.R. PKWY-UNION TPKE	AUSTIN ST			O	1	S	6/2/2010	4.194	F	5900	\$23,600,000	409	406	
2248300	Q	71ST AVE	COOPER AVE			O	1	S	7/13/2009	4.373	F	2800	\$11,200,000	405		
2248340	Q	FOREST PARK DR	MYRTLE AVE		P	O	3	S	6/15/2009	4.984	F	5100	\$20,400,000	409		
2248369	Q	ROCKAWAY BLVD	THURSTON BASIN			WO	2	S	8/20/2009	5.158	G	6000	\$24,000,000	483	413	
2248379	Q	FLUSHING MDW PARK RD	AQUACADE LAKE		P	WO	5	C	7/13/2009	4.041	F	6300	\$25,200,000	481		
2249040	R	TOMPKINS AVE	B&O RR (ABANDONED)			O	1	S	5/24/2010	6.047	V	5096	\$20,384,000	501		
2249070	R	JOHN ST	B&O RR (ABANDONED)	O		O-PED	2	C	8/31/2010	5.648	G	1050	\$4,200,000	501		
2249090	R	MORNINGSTAR ROAD	B&O RR (ABANDONED)	O		O	4	S	3/19/2010	4.864	F	7900	\$31,600,000	501		
2249100	R	GRANITE AVE	B&O RR (ABANDONED)	O		O	4	S	3/26/2010	6.034	V	7300	\$29,200,000	501		
2249110	R	LAKE AVE	B&O RR (ABANDONED)	O		O	3	S	1/22/2010	5.333	G	5900	\$23,600,000	501		
2249120	R	SIMONSON AVE	B&O RR (ABANDONED)	O		O	3	S	4/24/2009	5.981	G	5819	\$23,276,000	501		
2249130	R	VAN NAME AVE	B&O RR (ABANDONED)	O		O	3	S	3/12/2010	5.254	G	5474	\$21,896,000	501		
2249140	R	VAN PELT AVE	B&O RR (ABANDONED)	O		O	3	S	4/28/2009	5.644	G	5000	\$20,000,000	501		
2249160	R	DE HART AVE	B&O RR (ABANDONED)	O		O	4	S	4/27/2009	6.500	V	6700	\$26,800,000	501		
2249170	R	UNION AVE	B&O RR (ABANDONED)	O		O	4	S	4/28/2009	5.426	G	6500	\$26,000,000	501		
2249180	R	HARBOR ROAD	B&O RR (ABANDONED)	O		O	4	S	6/20/2009	6.322	V	5778	\$23,112,000	501		

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BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249200	R	SOUTH AVE	B&O RR (ABANDONED)	O		O	3	S	6/20/2009	6.745	V	8322	\$33,288,000	501		
2249210	R	MAIN ST PED BRDG	SIRT SOUTH SHORE	S		O-PED	9	C	7/23/2010	4.309	F	400	\$1,600,000	503		
2249230	R	TRACY AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	9	C	7/19/2010	3.383	F	635	\$2,540,000	503		
2249240	R	ARTHUR KILL ROAD	SIRT SOUTH SHORE	S		O	1	S	11/1/2010	4.685	F	3650	\$14,600,000	503		
2249250	R	BETHEL AV PED BRDG	SIRT SOUTH SHORE	S		O-PED	12	C	7/21/2010	3.525	F	111	\$444,000	503		
2249269	R	PAGE AVE	SIRT SOUTH SHORE	S		O	4	S	8/25/2009	6.347	V	30710	\$122,840,000	503		
2249270	R	RICHMOND VALLY ROAD	SIRT SOUTH SHORE	S		O	4	S	8/24/2009	5.284	G	9440	\$37,760,000	503		
2249280	R	CHAMP COURT PED BRDG	SIRT SOUTH SHORE	S		O-PED	7	C	7/22/2010	4.423	F	595	\$2,380,000	503		
2249290	R	SEGUINE AVE	SIRT SOUTH SHORE	S		O	1	S	10/19/2009	6.016	V	3250	\$13,000,000	503		
2249300	R	HUGUENOT AVE	SIRT SOUTH SHORE	S		O	2	S	10/20/2009	4.864	F	4900	\$19,600,000	503		
2249320	R	ALBEE AVE	SIRT SOUTH SHORE	S		O	3	S	10/21/2009	4.623	F	6500	\$26,000,000	503		
2249330	R	ANNADALE ROAD	SIRT SOUTH SHORE	S		O	2	S	8/18/2009	4.576	F	4500	\$18,000,000	503		
2249350	R	NELSON AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	3	C	7/15/2010	3.846	F	300	\$1,200,000	503		
2249360	R	GIFFORDS LANE	SIRT SOUTH SHORE	S		O	1	S	11/2/2010	5.531	G	3042	\$12,168,000	503		
2249370	R	GREAVES AVE	SIRT SOUTH SHORE	S		O	1	S	8/26/2009	6.750	V	2650	\$10,600,000	503		
2249380	R	GUYON AVE	SIRT SOUTH SHORE	S		O	3	S	8/27/2009	4.869	F	6900	\$27,600,000	503		
2249390	R	CEDARVIEW AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	5	C	7/28/2010	3.615	F	625	\$2,500,000	503		
2249400	R	BEACH AVE	SIRT SOUTH SHORE	S		O	2	S	8/6/2009	5.576	G	3700	\$14,800,000	502		
2249410	R	ROSS AVE	SIRT SOUTH SHORE	S		O	2	S	8/6/2009	5.379	G	3800	\$15,200,000	502		
2249420	R	ROSE AVE	SIRT SOUTH SHORE	S		O	2	S	8/6/2009	5.591	G	3800	\$15,200,000	502		
2249430	R	NEW DORP LANE	SIRT SOUTH SHORE	S		O	2	S	11/4/2009	4.903	F	7600	\$30,400,000	502		
2249440	R	BANCROFT AVE	SIRT SOUTH SHORE	S		O	3	S	11/4/2009	5.361	G	5900	\$23,600,000	502		
2249450	R	FREMONT AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	3	C	8/31/2010	4.000	F	800	\$3,200,000	502		
2249460	R	LINCOLN AVE	SIRT SOUTH SHORE	S		O	1	S	11/4/2009	5.276	G	4500	\$18,000,000	502		
2249470	R	MIDLAND AVE	SIRT SOUTH SHORE	S		O	1	S	11/25/2009	5.466	G	3000	\$12,000,000	502		
2249480	R	FINGERBOARD ROAD	SIRT SOUTH SHORE	S		O	2	S	11/25/2009	6.542	V	5100	\$20,400,000	502		
2249490	R	CLOVE ROAD	SIRT SOUTH SHORE	S		O	3	S	11/5/2010	5.986	G	5104	\$20,416,000	502		
2249510	R	TOMPKINS AVE	WILLOW AVE, SIRT	S		O	2	S	11/4/2010	5.328	G	5378	\$21,512,000	501		
2249520	R	HANNAH ST	SIRT SOUTH SHORE	S		O	10	S	9/25/2009	4.763	F	10020	\$40,080,000	501		
2249530	R	MINTHORNE ST PED BRDG	SIRT SOUTH SHORE	S		O-PED	26	C	7/30/2010	4.377	F	6000	\$24,000,000	501		
2249580	R	BELFIELD AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	5	C	7/27/2010	4.098	F	400	\$1,600,000	503		
2249710	R	WEST FOOTBRIDGE	CLOVE LAKE		P	WO-PED	2	C	8/6/2010	4.600	F	900	\$3,600,000	501		
2249720	R	EAST FOOTBRIDGE	CLOVE LAKE		P	WO-PED	2	C	8/6/2010	4.343	F	900	\$3,600,000	501		
2249730	R	BRIDGE OVER DAM	N.END CLOVE LAKE		P	WO-PED	1	C	7/28/2010	3.351	F	1000	\$4,000,000	501		
2249760	R	MARTLINGS AVE	RICHMOND LAKE DAM			WO	2	S	6/2/2009	4.600	F	7000	\$28,000,000	501		
2249770	R	S OF BROOKS LAKE	STREAM IN PARK		P	WO-PED	3	C	10/8/2010	4.730	F	700	\$2,800,000	501		
2249780	R	FOOTBRIDGE	BROOKS LAKE DAM		P	WO-PED	1	C	11/17/2009	3.467	F	800	\$3,200,000	501		
2249790	R	FB S OF FOREST AV	STREAM IN PARK		P	WO-PED	3	C	10/8/2010	4.814	F	700	\$2,800,000	501		
2249800	R	FOREST AVE	CLOVE LAKES PK STREAM		P	WO	1	S	11/4/2009	4.867	F	1600	\$6,400,000	501		
2249810	R	HYLAN BLVD	LEMON CREEK			WO	1	S	3/10/2010	6.406	V	11400	\$45,600,000	503		



# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249820	R	ARTHUR KILL ROAD	ARTHUR KILL STREAM			WO	1	S	5/8/2009	4.286	F	2000	\$8,000,000	503		
2249840	R	TOMPKINS AVE	GREENFIELD AVE			O	1	S	3/17/2010	5.021	G	2690	\$10,760,000	501		
2249860	R	SLATER BLVD	NEW CREEK			WO	1	S	5/6/2009	5.673	G	2037	\$8,148,000	502		
2249870	R	TRAVIS AVE	MAIN CREEK			WO	1	S	9/3/2010	5.733	G	1700	\$6,800,000	502		
2249880	R	CHELSEA ROAD	SAWMILL CREEK			WO	1	S	5/11/2009	6.816	V	2205	\$8,820,000	502		
2257569	M	MILLER HIGHWAY	TERRAIN			A	64	S	10/19/2009	4.803	F	264190	\$1,056,760,000	104	107	
2266129	Q	DOUGLASTON PKWY	BCIP SB			A	1	S	3/19/2010	4.592	F	4400	\$17,600,000	411		
2266139	Q	DOUGLASTON PKWY	BCIP NB			A	1	S	3/18/2010	4.510	F	6400	\$25,600,000	411		
2266149	Q	HEMPSTEAD AVE	BCIP RAMP NB			A	2	S	3/17/2010	4.063	F	9500	\$38,000,000	413		
2266160	Q	678I SB TO BCIP EB	ACCESS RD FROM 678I			A	1	S	7/22/2010	3.984	F	2300	\$9,200,000	407		
2266229	M	HHP	PED UNDERPASS @ 148 ST			A	1	S	2/16/2010	5.476	G	1840	\$7,360,000	109		
2266230	M	HHP NB	PED UNDERPASS INWD PK			A	1	S	1/8/2010	5.286	G	800	\$3,200,000	112		
2266240	M	HHP SB	PED UNDERPASS INWD PK			A	1	S	1/11/2010	5.571	G	1100	\$4,400,000	112		
2266540	B	278I	BRUCKNER BLVD			A	2	S	7/8/2009	4.565	F	32900	\$131,600,000	201		
226672A	M	W 31ST ST	AMTRAK LAYUP TRACKS	A		O	9	S	12/29/2008	3.619	F	8800	\$35,200,000	104		
2266770	Q	BCIP	LAURELTON PKWY			A	1	S	3/10/2010	4.972	F	9508	\$38,032,000	413		
2267130	M	RIVERSIDE DRIVE	W 145TH ST			O	1	S	6/22/2009	4.867	F	5800	\$23,200,000	109		
2267160	Q	ROOSEVELT AVE	FLUSHING MDW PK ROAD			O	4	S	8/12/2009	4.873	F	7280	\$29,120,000	408		
2267199	Q	FRANCIS LEWIS BLVD	CUNNINGHAM PK RD			O	1	S	4/9/2009	5.033	G	7085	\$28,340,000	408		
2267240	M	HRD RAMP TO GWB	HARLEM RIVER DR SB			A	55	S	10/9/2009	3.431	F	122900	\$491,600,000	112		
2267250	M	HHP	AMTRAK - W96TH ST	A		A	55	S	11/25/2008	3.710	F	40000	\$160,000,000	107		
2267380	M	WEST STREET	RECTOR ST			AT	1	S	11/19/2009	5.033	G	25760	\$103,040,000	101		
2267717	M	79 ST PED PLAZA	79 ST BT BASIN GAR		P	A	10	S	5/1/2009	4.519	F	27400	\$109,600,000	107		
2267718	M	79 ST TRAFFIC CIRC	79 ST PED PLAZA		P	A	34	S	5/8/2009	3.885	F	24130	\$96,520,000	107		
226771A	M	79 ST RAMP TO HHP	79 ST BT BASIN GAR		P	AR	4	S	5/11/2009	4.221	F	3131	\$12,524,000	107		
226771B	M	79 ST RAMP TO GAR	79 ST BT BASIN GAR		P	AR	21	S	5/1/2009	4.532	F	8989	\$35,956,000	107		
226771C	M	GAR RAMP TO 79 ST	79 ST BT BASIN GAR		P	AR	21	S	5/13/2009	4.565	F	9095	\$36,380,000	107		
226771D	M	SB HHP RAMP TO 79 ST	79 ST BT BASIN GAR		P	AR	4	S	5/15/2009	4.516	F	2601	\$10,404,000	107		
2267860	K	BROOKLYN BR APPROACH	STORAGE (SANDS ST)			O	1	S	7/27/2010	4.607	F	6490	\$25,960,000	302		
2268350	K	BROOKLYN PROMENADE	278I EB (BQE)		P	A-PED	35	C	3/21/2010	3.690	F	46184	\$184,736,000	302		
2268480	M	CHAMBERS ST PED BRDG	RTE 9A - WEST ST			O-PED	10	C	4/23/2010	5.250	G	7481	\$29,924,000	101		
2268497	K	278I W.B. (B.Q.E.)	FURMAN ST			A	45	S	7/14/2009	4.381	F	86406	\$345,624,000	302		
2268498	K	278I E.B. (B.Q.E.)	278I WB (BQE)			A	69	S	7/17/2009	3.965	F	133708	\$534,832,000	302		
2268507	K	278I W.B. (B.Q.E.)	YORK ST			A	6	S	5/26/2009	4.071	F	10388	\$41,552,000	302		
2268508	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)			A	11	S	5/26/2009	4.034	F	20529	\$82,116,000	302		
2268517	K	278I W.B. (B.Q.E.)	FURMAN ST			A	7	S	6/29/2009	3.882	F	10988	\$43,952,000	302		
2268518	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)			A	5	S	7/2/2009	4.214	F	9275	\$37,100,000	302		
2268650	M	FDR NB E42ND TO E49TH ST	EAST RIVER			A	119	S	10/20/2009	4.075	F	30767	\$123,068,000	106		
2268760	M	PS-5 PED BRDG	TENTH AVE			O-PED	5	C	3/9/2010	4.735	F	1285	\$5,140,000	112		
2268770	Q	SPRINGFIELD BLVD	EQUES. PATH (ABAND.)			O	1	S	4/20/2009	4.667	F	1470	\$5,880,000	413		

# INVENTORY SORTED BY B.I.N.

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2268920	R	AMBOY ROAD	LEMON CREEK			WO	1	S	3/15/2010	6.000	G	1310	\$5,240,000	503		
2268930	M	MORRIS ST PED BRDG	BKLN-BATTERY TUNN PLZ			A-PED	3	C	5/24/2010	3.333	F	1200	\$4,800,000	101		
2269030	B	MATTHEWSON ROAD	MAC CRACKEN AVE			O	15	S	12/26/2008	4.544	F	14880	\$59,520,000	205		
2269190	M	W 70TH ST	AMTRAK	A		O	3	S	11/19/2009	5.806	G	17258	\$69,032,000	107		
2269210	M	W 68TH ST	AMTRAK	A		O	3	S	11/24/2009	6.780	V	5382	\$21,528,000	107		
2269240	M	RIVERSIDE DRIVE	W. 155TH ST			O	1	S	6/23/2009	4.640	F	2780	\$11,120,000	109	112	
2269260	K	W. 8TH ST PED BRDG	SURF AVE.		P	O-PED	39	C	3/8/2010	3.093	F	14742	\$58,968,000	313		
2269600	K	ERSKINE ST	BSHP			A	1	S	9/10/2010	5.938	G	8258	\$33,032,000	305		
2269730	R	PARKING EXIT RAMP	SIRT	S	F	O	10	S	10/28/2010	4.028	F	20727	\$82,908,000	501		
2269740	R	BUS STATION NORTH	SIRT	S	F	O	12	S	12/4/2009	3.980	F	64605	\$258,420,000	501		
2269750	R	BUS STATION SOUTH	SIRT	S	F	O	12	S	10/29/2010	4.720	F	154688	\$618,752,000	501		
2269760	R	NORTH RAMP	SIRT	S	F	O	9	S	11/16/2009	4.042	F	17589	\$70,356,000	501		
2269770	R	BUS STA ENTR RAMP	SIRT	S	F	O	19	S	12/26/2008	4.181	F	39333	\$157,332,000	501		
2269780	R	PARKING ENTR RAMP	SIRT	S	F	O	3	S	12/18/2008	4.986	F	8589	\$34,356,000	501		
2269790	R	BUS STATION EXIT RAMP	SIRT	S	F	O	7	S	10/29/2010	5.025	G	28721	\$114,884,000	501		
2269820	M	E 81 ST PED BRDG	FDR DRIVE N.B.		P	A-PED	3	C	1/12/2010	3.149	F	900	\$3,600,000	108		
2270030	B	E 156TH ST	ACCESS TO HOUSING		ED	O	16	S	10/16/2009	3.821	F	49696	\$198,784,000	204		
2270170	R	SI FERRY PED BRDG	PARKING LOT EXIT RDWY		F	O-PED	5	C	6/17/2010	3.163	F	2917	\$11,668,000	501		
2270180	R	BOROUGH PLACE - RAMP A	STATEN ISLAND RAILWAY	S	F	O	1	S	12/29/2005	4.938	F	1250	\$5,000,000	501		
2270250	B	BROOKE AVE	CSX TRANS - PT MORRIS			O	1	S	5/20/2010	3.800	F	21035	\$84,140,000	201		
2300130	Q	ROCKAWAY BLVD	HOOK CREEK			WO	3	S	8/19/2009	6.271	V	18302	\$73,208,000	413		
7703720	Q	216TH ST PED BRDG	LIRR PORT WASH BR	L		O-PED	6	C	10/25/2009	3.556	F	400	\$1,600,000	411		
7705510	Q	167TH ST PED BRDG	LIRR PORT WASH BR	L		O-PED	3	C	10/9/2009	3.902	F	600	\$2,400,000	407		
M00001	M	W191ST ST PED TNL	BROADWAY - IRT #1 SUBWAY			O-PED	1	C	1/5/2010	5.000	G	2000	\$8,000,000	112		
M00003	M	HHP ON/OFF RMP-79TH ST SO. SIDE	PED PATH SO. OF 79TH ST			A	1	C	5/11/2010	3.700	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	6/22/2010	4.967	F	900	\$3,600,000	107		
Q00002	Q	BCIP	PATH OPP. 88TH RD			A	1	C	6/16/2010	4.267	F	1272	\$5,088,000	413		
786 OPEN BRIDGES					OPEN SPANS 4,441					OPEN SF		14,512,626	58,050,504,000			

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	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	12/12/2008	4.620	F	18258	\$73,032,000	201	202	
2241040	B	THIRD AVE	CSX TRANS - PT MORRIS	C		O	1	S	9/28/2010	4.563	F	2700	\$10,800,000	201	203	
2242260	B	EAGLE AVE	E 161ST ST			O	1	S	3/5/2010	5.017	G	2800	\$11,200,000	201	203	
2241560	B	E 149TH ST	METRO NORTH RR HAR	M		O	8	S	5/27/2010	4.819	F	27900	\$111,600,000	201	204	
224005B	B	TO BRUCKNER BLVD	RELIEF			OR	5	S	11/4/2009	4.028	F	12100	\$48,400,000	201		
224006A	B	FROM BRUCKNER BLVD	RELIEF			OR	5	S	10/6/2009	6.817	V	14037	\$56,148,000	201		
2241000	B	WESTCHESTER AVE	CSX TRANS - PT MORRIS	C		O	1	S	6/16/2010	4.660	F	1740	\$6,960,000	201		
2241010	B	E 156TH STREET	CSX TRANS - PT MORRIS	C		O	1	S	7/16/2010	4.556	F	2400	\$9,600,000	201		
2241050	B	E 149TH ST/JACKSON AVE	CSX TRANS - PT MORRIS	C		O	1	S	6/15/2010	4.850	F	65000	\$260,000,000	201		
2241060	B	ST. MARYS & CONCORD	CSX TRANS - PT MORRIS	C		O	1	S	9/16/2010	5.370	G	4500	\$18,000,000	201		
2241070	B	WALES AVE	CSX TRANS - PT MORRIS	C		O	1	S	9/27/2010	6.567	V	2535	\$10,140,000	201		
2241080	B	SOUTHERN BLVD	CSX TRANS - PT MORRIS	C		O	1	S	9/17/2010	4.167	F	3900	\$15,600,000	201		
2241099	B	BRUCKNER BLVD	CSX TRANS - PT MORRIS	C		O	1	S	9/17/2010	6.583	V	6700	\$26,800,000	201		
2241550	B	E 144TH ST	METRO NORTH RR HAR	M		O	2	S	8/5/2009	6.319	V	8290	\$33,160,000	201		
2242299	B	GRAND CONCOURSE	E 138TH ST			O	1	S	6/4/2009	4.733	F	9500	\$38,000,000	201		
2266540	B	278I	BRUCKNER BLVD			A	2	S	7/8/2009	4.565	F	32900	\$131,600,000	201		
2270250	B	BROOKE AVE	CSX TRANS - PT MORRIS			O	1	S	5/20/2010	3.800	F	21035	\$84,140,000	201		
2066671	B	BRUCKNER EXPWY SB	BRONX RIVER			WMA	3	S	11/3/2009	5.222	G	12400	\$49,600,000	202	209	
2066672	B	BRUCKNER EXPWY NB	BRONX RIVER			WMA	8	S	11/3/2009	4.239	F	22300	\$89,200,000	202	209	
2240180	B	WESTCHESTER AVE	BRONX RIVER			WO	1	S	9/18/2009	4.765	F	5476	\$21,904,000	202	209	
2241230	B	WESTCHESTER AVE	AMTRAK - CSX	AC		O	3	S	11/23/2008	6.111	V	15600	\$62,400,000	202	209	
2075351	B	BRUCKNER EXPWY SB	AMTRAK - CSX	AC		A	1	S	11/25/2008	3.625	F	11600	\$46,400,000	202		
2075352	B	BRUCKNER EXPWY NB	AMTRAK - CSX	AC		A	1	S	11/10/2009	2.875	P	10900	\$43,600,000	202		
2076929	B	BRUCKNER EXPWY	CSX - HUNTS POINT	C		A	1	S	9/30/2009	4.700	F	3800	\$15,200,000	202		
2241139	B	LEGGETT AVE	AMTRAK - CSX	AC		O	3	S	12/11/2008	4.690	F	41551	\$166,204,000	202		
2241159	B	LONGWOOD AVE	AMTRAK - CSX	AC		O	2	S	7/23/2008	5.306	G	10625	\$42,500,000	202		
2241169	B	LAFAYETTE AVE	AMTRAK - CSX	AC		O	1	S	12/12/2008	5.730	G	12000	\$48,000,000	202		
2241170	B	TIFFANY ST	AMTRAK - CSX	AC		O	1	S	11/1/2009	5.627	G	7267	\$29,068,000	202		
2241180	B	BARRETTO ST	AMTRAK - CSX	AC		O	1	S	7/25/2008	6.000	G	5313	\$21,252,000	202		
2241190	B	HUNTS POINT AVE	AMTRAK - CSX	AC		O	1	S	11/7/2008	4.984	F	10049	\$40,196,000	202		
2241200	B	FAILE ST	AMTRAK - CSX	AC		O	1	S	11/7/2008	5.672	G	6208	\$24,832,000	202		
2241210	B	BRYANT AVE	AMTRAK - CSX	AC		O	1	S	11/10/2009	3.136	F	5300	\$21,200,000	202		
2241020	B	E 161ST STREET	CSX TRANS - PT MORRIS	C		O	1	S	5/20/2010	6.700	V	12800	\$51,200,000	203		
2241030	B	E 163RD STREET	CSX TRANS - PT MORRIS	C		O	1	S	3/10/2010	4.833	F	3200	\$12,800,000	203		
2241110	B	MELROSE AVE	CSX TRANS - PT MORRIS	C		O	8	S	8/24/2009	5.611	G	37854	\$151,416,000	203		
2241620	B	E 162ND ST	METRO NORTH RR HAR	M		O	1	S	5/1/2010	4.859	F	4700	\$18,800,000	203		
2241630	B	E 165TH ST	METRO NORTH RR HAR	M		O	1	S	4/29/2010	4.217	F	16400	\$65,600,000	203		
2241650	B	E 167TH ST	METRO NORTH RR HAR	M		O	1	S	4/27/2010	5.510	G	3363	\$13,452,000	203		
2241660	B	E 168TH ST	METRO NORTH RR HAR	M		O	1	S	4/26/2010	4.797	F	4800	\$19,200,000	203		
2241670	B	E 169TH ST	METRO NORTH RR HAR	M		O	1	S	4/23/2010	4.250	F	3300	\$13,200,000	203		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241680	B	E 170TH ST	METRO NORTH RR HAR	M		O	1	S	4/22/2010	6.333	V	3150	\$12,600,000	203		
2241700	B	ST PAULS PL PED BRDG	METRO NORTH RR HAR	M		O-PED	2	C	2/10/2009	5.000	G	600	\$2,400,000	203		
2241710	B	CLAREMONT PKWY	METRO NORTH RR HAR	M		O	1	S	4/21/2010	4.422	F	6300	\$25,200,000	203		
2241720	B	E 173RD ST	METRO NORTH RR HAR	M		O	1	S	4/20/2010	4.875	F	3000	\$12,000,000	203		
2241610	B	E 161ST ST	METRO NORTH RR HAR	M		O	1	S	12/8/2009	5.050	G	6600	\$26,400,000	204	203	
2076640	B	DEPOT PLACE	METRO NORTH RR HUD	CM		O	11	S	8/12/2009	5.083	G	26566	\$106,264,000	204		
2241409	B	GRAND CONCOURSE	METRO NORTH RR HUD	MT		O	1	S	6/1/2010	3.797	F	14300	\$57,200,000	204		
2241410	B	WALTON AVE	METRO NORTH RR HUD	M		O	1	S	6/1/2010	5.297	G	3600	\$14,400,000	204		
2241420	B	GERARD AVE	METRO NORTH RR HUD	M		O	1	S	5/18/2010	5.797	G	5063	\$20,252,000	204		
2241430	B	RIVER AVE	METRO NORTH RR HUD	M		O	1	S	8/5/2009	6.156	V	5040	\$20,160,000	204		
2241590	B	CONCOURSE VILL AVE	METRO NORTH RR HAR	M		O	1	S	5/13/2010	4.031	F	12077	\$48,308,000	204		
2241600	B	E 158TH ST	METRO NORTH RR HAR	M		O	1	S	8/6/2009	5.200	G	3400	\$13,600,000	204		
2242259	B	GRAND CONCOURSE	E 161ST ST			O	1	S	9/15/2010	6.400	V	27017	\$108,068,000	204		
2242280	B	GRAND CONCOURSE	E 167TH ST			O	2	S	8/20/2010	4.754	F	42900	\$171,600,000	204		
2242300	B	GRAND CONCOURSE	E 170TH ST			O	2	S	3/26/2010	4.789	F	39300	\$157,200,000	204		
2242319	B	GRAND CONCOURSE	E 174TH ST	T		O	1	S	3/26/2010	4.067	F	14900	\$59,600,000	204		
2270030	B	E 156TH ST	ACCESS TO HOUSING		ED	O	16	S	10/16/2009	3.821	F	49696	\$198,784,000	204		
2242350	B	EAST FORDHAM RD	GRAND CONCOURSE			O	1	S	3/19/2010	4.567	F	10300	\$41,200,000	205	207	
2241460	B	W TREMONT AVE	METRO NORTH RR HUD	M		O	8	S	6/14/2010	4.164	F	12900	\$51,600,000	205		
2242329	B	GRAND CONCOURSE	E 175TH ST	T		O	1	S	8/19/2010	4.867	F	11900	\$47,600,000	205		
2242330	B	GRAND CONCOURSE	E TREMONT AVE			O	1	S	10/22/2009	5.983	G	11700	\$46,800,000	205		
2242360	B	GRAND CONCOURSE	BURNSIDE AVE			O	2	S	9/16/2008	4.441	F	8400	\$33,600,000	205		
2269030	B	MATTHEWSON ROAD	MAC CRACKEN AVE			O	15	S	12/26/2008	4.544	F	14880	\$59,520,000	205		
2241839	B	E 189TH ST	METRO NORTH RR HAR	M		O	1	S	8/6/2009	6.467	V	43157	\$172,628,000	206	207	
2242400	B	E 180TH ST	BRONX RIVER			WO	1	S	10/7/2010	4.810	F	4500	\$18,000,000	206	227	
2241269	B	E 177TH ST	AMTRAK - CSX	AC		O	3	S	10/4/2010	5.403	G	16606	\$66,424,000	206		
2241740	B	E 175TH ST	METRO NORTH RR HAR	M		O	1	S	4/19/2010	3.922	F	3600	\$14,400,000	206		
2241760	B	E TREMONT AVE	METRO NORTH RR HAR	M		O	1	S	7/22/2009	6.517	V	8424	\$33,696,000	206		
2241770	B	E 178TH ST PED BRDG	METRO NORTH RR HAR	M		O-PED	1	C	2/11/2009	5.159	G	700	\$2,800,000	206		
2241780	B	E 179TH ST PED BRDG	METRO NORTH RR HAR	M		O-PED	6	C	2/11/2009	5.797	G	700	\$2,800,000	206		
2241790	B	E 180TH ST	METRO NORTH RR HAR	M		O	1	S	4/19/2010	3.906	F	5000	\$20,000,000	206		
2241800	B	E 183TH ST	METRO NORTH RR HAR	M		O	1	S	4/14/2010	4.109	F	4080	\$16,320,000	206		
2241810	B	E 188TH ST	METRO NORTH RR HAR	M		O	1	S	4/12/2010	4.063	F	5300	\$21,200,000	206		
2241820	B	E 187TH ST	METRO NORTH RR HAR	M		O	1	S	4/13/2010	4.344	F	3800	\$15,200,000	206		
2242030	B	CROTONA AVE	BRONX PELHAM PKWY			O	2	S	2/8/2010	5.447	G	7600	\$30,400,000	206		
2242149	B	E TREMONT AVE	BRONX RIVER			WO	2	S	6/3/2010	4.500	F	12900	\$51,600,000	206		
2241489	B	W 225TH ST	CSX TRASP - PUTNAM	C		O	2	S	6/11/2010	5.149	G	10900	\$43,600,000	207	208	
2230270	B	MOSHOLU PARKWAY	WEBSTER AVE			A	1	S	6/17/2009	5.422	G	8480	\$33,920,000	207		
2230287	B	JEROME AVE	MOSHOLU PARKWAY	T		A	3	S	5/18/2009	4.711	F	11800	\$47,200,000	207		
2241470	B	W FORDHAM RD	METRO NORTH RR HUD	M		O	4	S	8/6/2009	5.694	G	16052	\$64,208,000	207		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241930	B	BEDFORD PARK BLVD	NYCTA IND YARDS	T		O	4	S	8/12/2008	5.681	G	46300	\$185,200,000	207		
2241940	B	W 205TH ST	NYCTA IND YARDS	T		O	4	S	8/14/2008	5.625	G	32508	\$130,032,000	207		
2242340	B	GRAND CONCOURSE	EAST KINGSBRIDGE			O	2	S	9/9/2010	4.714	F	18285	\$73,140,000	207		
2242370	B	GRAND CONCOURSE	BEDFORD PARK BLVD			O	1	S	3/18/2010	4.294	F	8418	\$33,672,000	207		
2242380	B	GRAND CONCOURSE	E 204TH ST			O	1	S	10/15/2009	5.484	G	9272	\$37,088,000	207		
2229440	B	HHP	KAPPOCK ST			A	1	S	8/25/2009	4.931	F	3900	\$15,600,000	208		
2229450	B	232ND ST	HHP			A	2	S	8/26/2009	5.026	G	4900	\$19,600,000	208		
2229460	B	236TH ST PED BRDG	HHP			A-PED	3	C	7/2/2010	4.607	F	2500	\$10,000,000	208		
2229470	B	239TH ST	HHP			A	2	S	5/27/2009	5.368	G	6100	\$24,400,000	208		
2229480	B	MANHATTAN COLL PKWY	HHP			A	3	S	5/26/2009	5.368	G	6200	\$24,800,000	208		
2229490	B	246TH ST	HHP			A	2	S	5/22/2009	4.947	F	5600	\$22,400,000	208		
2229500	B	252ND ST	HHP			A	2	S	2/4/2010	5.791	G	4500	\$18,000,000	208		
2229510	B	RIVERDALE AVE	HHP			A	2	S	8/25/2009	4.474	F	5200	\$20,800,000	208		
2229520	B	FIELDSTON ROAD	HHP			A	1	S	8/20/2009	5.500	G	6600	\$26,400,000	208		
2229530	B	HHP	BROADWAY			A	1	S	8/20/2009	4.660	F	7500	\$30,000,000	208		
2241490	B	W 230TH ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	4/10/2009	5.625	G	5600	\$22,400,000	208		
2241509	B	W 231ST ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	9/29/2010	4.745	F	4723	\$18,892,000	208		
2241510	B	W 233RD ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	4/7/2009	5.275	G	3760	\$15,040,000	208		
2241520	B	W 234TH ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	4/7/2009	5.176	G	3770	\$15,080,000	208		
2066720	B	E 174TH ST	SHERIDAN EXPWY/AMTRAK	A		A	13	S	10/30/2008	4.125	F	35573	\$142,292,000	209	203	
2241270	B	E TREMONT AVE	AMTRAK - CSX	AC		O	2	S	10/1/2010	5.153	G	22300	\$89,200,000	209	211	
1066510	B	BRUCKNER EXPWY SVC RD	WESTCHESTER CREEK			WMA	17	S	11/2/2009	3.597	F	39400	\$157,600,000	209		
206672A	B	174TH ST-NTH PED BRDG	895I - SHERIDAN EXPWY			A-PED	4	C	5/10/2010	4.736	F	1800	\$7,200,000	209		
206672B	B	174TH ST-STH PED BRDG	895I - SHERIDAN EXPWY			A-PED	4	C	4/13/2010	4.972	F	1900	\$7,600,000	209		
2075837	B	WESTCHESTER AVE	HUTCHINSON RVR PKWY			A	2	S	2/5/2010	4.306	F	15858	\$63,432,000	210	211	
2075849	B	BRONX PELHAM PKWY	HUTCHINSON RVR PKWY			A	2	S	6/9/2010	3.974	F	17600	\$70,400,000	210	211	
2241959	B	HUTCHINSON RVR PKWY	AMTRAK - CSX	AC		O	1	S	6/13/2010	5.780	G	15444	\$61,776,000	210	211	
2075859	B	HUTCHINSON RVR PKWY	HUTCHINSON RIVER			WMA	7	S	12/18/2009	4.859	F	60500	\$242,000,000	210	228	
2075820	B	E TREMONT AVE	HUTCHINSON RVR PKWY			A	2	S	12/8/2009	4.500	F	10200	\$40,800,000	210		
2076109	B	BE NB SERVICE RD	HUTCHINSON RVR PKWY			A	2	S	9/8/2009	4.632	F	7800	\$31,200,000	210		
2076129	B	BE SB SERVICE RD	HUTCHINSON RVR PKWY			A	2	S	1/22/2010	5.105	G	7100	\$28,400,000	210		
2241910	B	GUN HILL ROAD	NYCTA-DYRE AVE LN	T		O	1	S	11/12/2010	5.750	G	7500	\$30,000,000	211	212	
2229560	B	BRONX PELHAM PKWY	AMTRAK - CSX	AC		A	3	S	6/13/2010	4.542	F	24591	\$98,364,000	211		
2241329	B	WHITE PLAINS ROAD	AMTRAK - CSX	AC		O	1	S	9/14/2010	4.719	F	6900	\$27,600,000	211		
2241330	B	UNIONPORT ROAD	AMTRAK - CSX	AC		O	1	S	9/14/2010	4.781	F	7631	\$30,524,000	211		
2241369	B	WILLIAMSBRIDGE RD	AMTRAK - CSX	AC		O	2	S	11/18/2008	4.836	F	6510	\$26,040,000	211		
2241870	B	E 233RD ST	METRO NORTH RR HAR	M		O	1	S	5/17/2010	4.941	F	7664	\$30,656,000	212	207	
1067150	B	NEREID AVE (E. 240TH ST)	BRONX RIVER PKWY	M		O	10	S	12/16/2009	4.632	F	57750	\$231,000,000	212		
2229579	B	BOSTON POST ROAD	HUTCHINSON RIVER			WO	14	S	6/25/2009	4.194	F	95700	\$382,800,000	212		
2241860	B	GUN HILL RD	METRO NORTH RR HAR	M		O	1	S	5/17/2010	6.531	V	9128	\$36,512,000	212		



# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241890	B	E 241ST ST	BRP, METRO NORTH HAR	M		WO	28	S	10/9/2009	4.444	F	49500	\$198,000,000	212		
2241900	B	EASTCHESTER ROAD	NYCTA-DYRE AVE LN	T		O	3	S	8/14/2008	4.667	F	13500	\$54,000,000	212		
2242071	B	BRONX BLVD S.B.	BRONX RIVER			WO	1	S	5/6/2010	4.633	F	1800	\$7,200,000	212		
2242072	B	BRONX BLVD N.B.	BRONX RIVER			WO	1	S	5/6/2010	4.967	F	1800	\$7,200,000	212		
2242081	B	BRONX BLVD S.B.	BRONX RIVER			WO	1	S	5/6/2010	4.467	F	2800	\$11,200,000	212		
2242082	B	BRONX BLVD N.B.	BRONX RIVER			WO	1	S	5/6/2010	4.467	F	2800	\$11,200,000	212		
2242099	B	PARK ROAD (204TH ST)	BRONX RIVER			WO	1	S	6/7/2010	4.793	F	4700	\$18,800,000	212		
2242430	B	GUN HILL ROAD	BRONX BLVD			O	4	S	3/17/2010	4.737	F	9400	\$37,600,000	212		
2242440	B	GUN HILL ROAD	BRONX RIVER			WO	1	S	2/24/2010	4.767	F	8700	\$34,800,000	212		
2242459	B	E 233RD ST	BRONX RIVER			WO	1	S	3/25/2010	4.367	F	7000	\$28,000,000	212		
2242460	B	E 233RD ST	ENTR RD BNX RVR PKWY			O	1	S	1/18/2010	4.900	F	5300	\$21,200,000	212		
2229540	B	VAN CRTLDT PARK	HHP		P	A-PED	2	C	7/1/2010	4.306	F	3900	\$15,600,000	226		
2229550	B	VAN CRTLDT EQUES	HHP		P	A-PED	2	C	7/1/2010	4.556	F	2100	\$8,400,000	226		
2230290	B	MOSHOLU PARKWAY	EQUESTRIAN PATH			A	1	S	1/22/2010	4.448	F	4300	\$17,200,000	226		
2230300	B	MOSHOLU PARKWAY	CONRAIL (ABANDONED)	C		A	1	S	10/15/2010	4.271	F	4600	\$18,400,000	226		
2230310	B	MOSHOLU PARKWAY	SB RAMP TO HHP			A	2	S	10/8/2009	4.919	F	7400	\$29,600,000	226		
2230260	B	MOSHOLU PARKWAY	METRO NORTH	M		A	1	S	5/13/2010	5.516	G	8880	\$35,520,000	227	207	
2241259	B	204TH ST PED BRDG	METRO NORTH RR HAR	M	P	O-PED	1	C	3/4/2009	4.034	F	4700	\$18,800,000	227	207	
2241840	B	BEDFORD PARK BLVD	METRO NORTH RR HAR	M		O	1	S	5/13/2010	4.844	F	6400	\$25,600,000	227	207	
2065629	B	BRONX RIVER PKWY	BOSTON RD BX ZOO			A	1	S	8/28/2009	5.276	G	6300	\$25,200,000	227		
2230250	B	MOSHOLU PARKWAY	BRONX RIVER			WA	5	S	1/13/2010	4.316	F	16300	\$65,200,000	227		
2242010	B	EAST FORDHAM RD	BRONX RIVER			WA	1	S	4/20/2010	5.207	G	9200	\$36,800,000	227		
2242029	B	SOUTHERN BLVD	EAST FORDHAM ROAD			O	2	S	2/8/2010	4.553	F	12900	\$51,600,000	227		
2242100	B	BOTANICAL GARDEN ROAD	TWIN LAKES		P	WO	1	S	3/29/2010	4.833	F	2200	\$8,800,000	227		
2242110	B	BOSTON ROAD	BRONX RIVER			WO	1	S	4/7/2010	4.227	F	6200	\$24,800,000	227		
2242120	B	FTBG N OF RTE 1	BRONX RIVER		P	WO-PED	1	C	1/13/2010	3.583	F	1900	\$7,600,000	227		
2242210	B	S OF ALLERTON AVE	BRONX RIVER			WO	3	S	6/7/2010	4.763	F	6200	\$24,800,000	227		
2242220	B	SNUFF MILL ROAD	BRONX RIVER			WO	2	S	1/15/2010	4.395	F	4800	\$19,200,000	227		
2240200	B	SHORE ROAD	HUTCHINSON RIVER			WMO	7	S	6/28/2010	4.597	F	43576	\$174,304,000	228		
2240210	B	CITY ISLAND ROAD	EASTCHESTER BAY			WO	7	S	8/25/2009	3.389	F	19915	\$79,660,000	228		
2241380	B	PELHAM BAY PK EQUES	AMTRAK - CSX	AC	P	O-PED	1	C	3/7/2009	3.508	F	4223	\$16,892,000	228		
2241390	B	SHORE RD CIRCLE	AMTRAK - CSX	AC		O	2	S	8/22/2010	3.433	F	4800	\$19,200,000	228		
1240090	BM	MACOMBS DAM BRIDGE	HARLEM RIVER	M		WMO	52	S	12/22/2009	3.930	F	220000	\$880,000,000	110	204	
2240089	BM	145TH ST BRIDGE	HARLEM RIVER			WMO	8	S	11/13/2009	6.403	V	56700	\$226,800,000	110	204	201
2240059	BM	WILLIS AVENUE	HARLEM RIVER			WMO	26	S	11/6/2009	3.292	F	171105	\$684,420,000	111	201	
2240069	BM	THIRD AVE BRIDGE	HARLEM RIVER			WMO	14	S	8/24/2010	6.521	V	100232	\$400,928,000	111	201	
2240079	BM	MADISON AVE BRIDGE	HARLEM RIVER			WMO	21	S	9/30/2010	4.944	F	80000	\$320,000,000	111	201	
2246580	BM	HIGH BRIDGE PDOVP	I87 - HARLEM RIVER	M	P	WA-PED	11	P	8/12/2002	3.759	F	34100	\$136,400,000	112	204	
2066919	BM	WASHINGTON BRIDGE	HARLEM RIVER	M		WO	9	S	10/8/2008	4.642	F	128339	\$513,356,000	112	205	204
2240120	BM	W 207TH/W FORDHAM RD	HARLEM RIVER			WMO	5	S	8/20/2010	5.222	G	31784	\$127,136,000	112	207	

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2240137	BM	BROADWAY BRIDGE	HARLEM RIVER	TM		WMO	3	S	11/12/2009	3.972	F	46848	\$187,392,000	112	207	208
2240138	BM	NYCTA IRT	HARLEM RVR/BROADWAY	TM		WMO	3	S	11/17/2009	4.706	F	19520	\$78,080,000	112	207	208
2240290	K	METROPOLITAN AVE	ENGLISH KILLS			WMO	5	S	7/30/2009	6.139	V	10550	\$42,200,000	301		
2230410	K	278I EB (B.Q.E.)	WASHINGTON ST			A	1	S	7/2/2010	4.438	F	2500	\$10,000,000	302		
2230420	K	278I WB (B.Q.E.)	WASHINGTON ST			A	1	S	7/2/2010	5.109	G	2500	\$10,000,000	302		
2230430	K	278I (B.Q.E.)	PROSPECT ST			A	1	S	1/19/2010	5.000	G	1100	\$4,400,000	302		
2230440	K	278I WB (B.Q.E.)	ADAMS ST			A	1	S	1/15/2010	5.167	G	2700	\$10,800,000	302		
2230450	K	278I EB (B.Q.E.)	ADAMS ST			A	1	S	1/15/2010	4.933	F	2500	\$10,000,000	302		
2230460	K	278I (B.Q.E.)	PEARL ST			A	1	S	3/10/2008	5.333	G	4500	\$18,000,000	302		
2230470	K	278I (B.Q.E.)	JAY ST			A	1	S	3/10/2008	4.833	F	5100	\$20,400,000	302		
2230480	K	278I (B.Q.E.)	PROSPECT ST			A	1	S	2/18/2010	5.093	G	8400	\$33,600,000	302		
2230490	K	278I (B.Q.E.)	SANDS ST			A	1	S	3/1/2010	5.019	G	12600	\$50,400,000	302		
2230500	K	278I (B.Q.E.)	RAMP TO BQE EB			A	1	S	3/5/2010	5.100	G	1300	\$5,200,000	302		
2230510	K	278I (B.Q.E.)	NASSAU ST			A	6	S	6/11/2010	5.169	G	51200	\$204,800,000	302		
2230857	K	278I WB (B.Q.E.)	JORALEMON ST			A	1	S	3/18/2010	5.000	G	2100	\$8,400,000	302		
2230858	K	278I EB (B.Q.E.)	JORALEMON ST / BQE WB			A	2	S	3/18/2010	4.048	F	5900	\$23,600,000	302		
2230870	K	COLUMBIA HEIGHTS	278I (B.Q.E.)			A	1	S	7/21/2010	4.550	F	16500	\$66,000,000	302		
2230887	K	278I W.B. (B.Q.E.)	CADMAN PLAZA			A	2	S	7/20/2010	4.397	F	4500	\$18,000,000	302		
2230888	K	278I E.B. (B.Q.E.)	CADMAN PLAZA / 278I WB			A	2	S	7/23/2010	5.263	G	4500	\$18,000,000	302		
2243280	K	6TH AVE	LIRR ATLANTIC AVE	L		O	9	S	11/23/2008	5.403	G	12276	\$49,104,000	302		
2243290	K	CARLTON AVE	LIRR ATLANTIC AVE	L		O	7	S	12/29/2010	5.069	G	10823	\$43,292,000	302		
2244440	K	SOUTH OF TILLARY ST	NAVY ST			O-PED	1	C	7/23/2010	4.271	F	6200	\$24,800,000	302		
2267860	K	BROOKLYN BR APPROACH	STORAGE (SANDS ST)			O	1	S	7/27/2010	4.607	F	6490	\$25,960,000	302		
2268350	K	BROOKLYN PROMENADE	278I EB (BQE)		P	A-PED	35	C	3/21/2010	3.690	F	46184	\$184,736,000	302		
2268497	K	278I W.B. (B.Q.E.)	FURMAN ST			A	45	S	7/14/2009	4.381	F	86406	\$345,624,000	302		
2268498	K	278I E.B. (B.Q.E.)	278I WB (BQE)			A	69	S	7/17/2009	3.965	F	133708	\$534,832,000	302		
2268507	K	278I W.B. (B.Q.E.)	YORK ST			A	6	S	5/26/2009	4.071	F	10388	\$41,552,000	302		
2268508	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)			A	11	S	5/26/2009	4.034	F	20529	\$82,116,000	302		
2268517	K	278I W.B. (B.Q.E.)	FURMAN ST			A	7	S	6/29/2009	3.882	F	10988	\$43,952,000	302		
2268518	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)			A	5	S	7/2/2009	4.214	F	9275	\$37,100,000	302		
2230000	K	HIGHLAND BLVD E.B.	JACKIE ROBINSON PKWY			A	1	S	3/24/2010	4.724	F	4900	\$19,600,000	305		
2230010	K	HIGHLAND BLVD W.B.	JACKIE ROBINSON PKWY			A	1	S	3/24/2010	4.767	F	3500	\$14,000,000	305		
2230020	K	HIGHLAND BLVD W.B.	JACKIE ROBINSON PKWY			A	2	S	3/25/2010	4.711	F	4700	\$18,800,000	305		
2230220	K	HIGHLAND BLVD NB	VERMONT AVE			A	1	S	6/10/2009	5.857	G	3995	\$15,980,000	305		
2244170	K	ATLNTC AV SVC RD E.B.	EAST NEW YORK AVE			O	2	S	8/13/2009	5.474	G	3192	\$12,768,000	305		
2244180	K	ATLNTC AV SVC RD W.B.	EAST NEW YORK AVE			O	2	S	8/13/2009	5.105	G	5600	\$22,400,000	305		
2244460	K	CONDUIT BLVD NB	ATLANTIC AVE EB			O	1	S	10/15/2010	4.833	F	3800	\$15,200,000	305		
2269600	K	ERSKINE ST	BSHP			A	1	S	9/10/2010	5.938	G	8258	\$33,032,000	305		
2230350	K	SUMMIT ST PED BRDG	278I (B.Q.E.)			A-PED	2	S	4/1/2010	4.386	F	1400	\$5,600,000	306		
2230360	K	UNION ST	278I (B.Q.E.)			A	2	S	4/1/2010	4.236	F	5000	\$20,000,000	306		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230370	K	SACKETT ST	278I (B.Q.E.)			A	2	S	3/26/2010	4.431	F	5000	\$20,000,000	306		
2230380	K	KANE ST	278I (B.Q.E.)			A	2	S	4/9/2010	4.208	F	5000	\$20,000,000	306		
2230390	K	CONGRESS ST	278I (B.Q.E.)			A	2	S	4/9/2010	6.279	V	5000	\$20,000,000	306		
2240232	K	HAMILTON AVE BRIDGE	GOWANUS CANAL			WMO	3	S	9/10/2009	5.306	G	7300	\$29,200,000	306		
2240240	K	NINTH ST BRIDGE	GOWANUS CANAL			WMO	3	S	6/11/2009	6.581	V	5772	\$23,088,000	306		
2240250	K	THIRD ST	GOWANUS CANAL			WMO	5	S	6/12/2009	4.931	F	4900	\$19,600,000	306		
2240260	K	CARROLL ST	GOWANUS CANAL			WMO	2	S	6/10/2009	4.803	F	3000	\$12,000,000	306		
2240270	K	UNION ST	GOWANUS CANAL			WMO	5	S	9/3/2010	4.000	F	4900	\$19,600,000	306		
2240310	K	THIRD AVE	GOWANUS CANAL			WO	1	S	6/19/2009	7.000	V	3200	\$12,800,000	306		
2240231	K	HAMILTON AVE BRIDGE	GOWANUS CANAL			WMO	3	S	10/8/2010	5.472	G	7300	\$29,200,000	307	306	
2066100	K	5TH AVE	27 X PROSPECT EXPWY			A	1	S	6/4/2010	5.104	G	8800	\$35,200,000	307		
2243839	K	4TH AVE	NYCTA BMT TRACKS	T		O	1	S	9/18/2009	6.267	V	4440	\$17,760,000	307		
2243920	K	7TH AVE	NYCTA BMT YARD	T		O	2	S	10/16/2008	6.324	V	4700	\$18,800,000	307		
2244470	K	SEELEY ST	PROSPECT AVE			O	1	S	4/9/2010	4.067	F	8482	\$33,928,000	307		
2244480	K	5TH AVE	GREENWOOD CEMETERY			O	1	S	9/9/2009	4.667	F	3600	\$14,400,000	307		
2243170	K	STERLING PLACE	FRANKLIN SHUTTLE	T		O	1	S	9/1/2009	6.500	V	2300	\$9,200,000	308		
2243180	K	ST JOHNS PLACE	FRANKLIN SHUTTLE	T		O	1	S	9/1/2009	6.781	V	2300	\$9,200,000	308		
2243190	K	LINCOLN PLACE	FRANKLIN SHUTTLE	T		O	1	S	10/15/2008	6.922	V	2460	\$9,840,000	308		
2243279	K	EASTERN PKWY	FRANKLIN SHUTTLE	T		O	1	S	10/14/2008	4.861	F	7700	\$30,800,000	309	308	
2243250	K	WASHINGTON AVE	FRANKLIN SHUTTLE	T		O	1	S	10/6/2008	6.344	V	3657	\$14,628,000	309	355	
2243200	K	UNION ST	FRANKLIN SHUTTLE	T		O	2	S	10/13/2008	5.043	G	4100	\$16,400,000	309		
2243210	K	PRESIDENT ST	FRANKLIN SHUTTLE	T		O	2	S	10/10/2008	5.314	G	2500	\$10,000,000	309		
2243220	K	CARROLL ST PED BRDG	FRANKLIN SHUTTLE	T		O-PED	3	C	10/12/2010	5.268	G	600	\$2,400,000	309		
2243230	K	CROWN ST	FRANKLIN SHUTTLE	T		O	3	S	9/4/2009	5.097	G	4060	\$16,240,000	309		
2243240	K	MONTGOMERY ST	FRANKLIN SHUTTLE	T		O	1	S	9/4/2009	6.275	V	2240	\$8,960,000	309		
2243260	K	FLATBUSH AVE	FRANKLIN SHUTTLE	T		O	2	S	9/2/2008	4.961	F	11300	\$45,200,000	309		
2231249	K	BSHP	BAY RIDGE AVE			A	1	S	4/8/2010	3.313	F	4900	\$19,600,000	310		
2231250	K	81ST ST PED BR	BSHP		P	A-PED	5	C	3/10/2010	4.418	F	3100	\$12,400,000	310		
2231260	K	92ND ST PED BR	BSHP		P	A-PED	6	C	7/30/2010	3.952	F	3000	\$12,000,000	310		
2231270	K	4TH AVE	BSHP			A	2	S	3/31/2010	4.684	F	6100	\$24,400,000	310		
2243310	K	2ND AVE	LIRR BAY RIDGE	N		O	2	S	12/14/2010	6.472	V	17751	\$71,004,000	310		
2243320	K	3RD AVE	LIRR BAY RIDGE	N		O	4	S	8/31/2009	5.083	G	17230	\$68,920,000	310		
2243330	K	4TH AVE	LIRR BAY RIDGE	NT		O	4	S	9/9/2009	5.736	G	13668	\$54,672,000	310		
2243580	K	5TH AVE	LIRR & SEA BEACH	NT		O	4	S	12/2/2008	4.147	F	12395	\$49,580,000	310		
2243590	K	6TH AVE	LIRR & SEA BEACH	NT		O	2	S	10/22/2009	6.250	V	14382	\$57,528,000	310		
2243600	K	7TH AVE	LIRR & SEA BEACH	NT		O	7	S	12/9/2008	5.028	G	18628	\$74,512,000	310		
2243610	K	8TH AVE	LIRR & SEA BEACH	NT		O	2	S	10/22/2009	6.153	V	10834	\$43,336,000	310		
2243620	K	FORT HAMILTON PKWY	LIRR & SEA BEACH	NT		O	3	S	12/18/2008	4.797	F	14800	\$59,200,000	310		
2243630	K	11TH AVE	LIRR & SEA BEACH	NT		O	5	S	12/18/2008	6.103	V	9700	\$38,800,000	310		
2243640	K	13TH AVE	LIRR & SEA BEACH	NT		O	5	S	9/23/2009	4.694	F	16000	\$64,000,000	310		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2244150	K	RIDGE BLVD	SHORE RD DRIVE			O	1	S	5/13/2009	6.667	V	4350	\$17,400,000	310		
2244160	K	3RD AVE	SHORE RD DRIVE			O	1	S	5/8/2009	6.727	V	4360	\$17,440,000	310		
2231290	K	BAY 8TH ST	BSHP			A	1	S	5/29/2009	5.921	G	4950	\$19,800,000	311		
2231300	K	17TH AVE PED BRDG	BSHP		P	A-PED	1	C	9/7/2010	3.397	F	2100	\$8,400,000	311		
2231319	K	BSHP	BAY PKWY			A	1	S	6/2/2010	4.442	F	7200	\$28,800,000	311		
2243340	K	15TH AVE	LIRR BAY RIDGE	N		O	1	S	12/6/2010	4.723	F	3614	\$14,456,000	311		
2243350	K	60TH ST	LIRR BAY RIDGE	N		O	1	S	9/4/2009	6.267	V	3900	\$15,600,000	311		
2243360	K	16TH AVE	LIRR BAY RIDGE	N		O	1	S	12/6/2010	5.350	G	4345	\$17,380,000	311		
2243650	K	14TH AVE	LIRR BAY RIDGE	N		O	1	S	12/23/2010	6.600	V	4720	\$18,880,000	311		
2243660	K	NEW UTRECHT AVE	LIRR BAY RIDGE	N		O	1	S	12/23/2010	6.217	V	2350	\$9,400,000	311		
2243670	K	15TH AVE	BMT SEA BEACH	T		O	4	S	9/24/2009	6.386	V	16020	\$64,080,000	311		
2243680	K	16TH AVE	BMT SEA BEACH	T		O	3	S	11/26/2008	5.370	G	6816	\$27,264,000	311		
2243690	K	17TH AVE	BMT SEA BEACH	T		O	4	S	11/26/2008	6.327	V	8946	\$35,784,000	311		
2243700	K	18TH AVE	BMT SEA BEACH	T		O	1	S	9/25/2009	6.632	V	5200	\$20,800,000	311		
2243710	K	19TH AVE	BMT SEA BEACH	T		O	4	S	10/27/2008	4.395	F	4800	\$19,200,000	311		
2243720	K	20TH AVE	BMT SEA BEACH	T		O	1	S	10/28/2008	6.673	V	12500	\$50,000,000	311		
2243730	K	65TH ST	BMT SEA BEACH	T		O	4	S	12/16/2010	5.132	G	12000	\$48,000,000	311		
2243740	K	BAY PKWY	BMT SEA BEACH	T		O	4	S	12/14/2010	4.816	F	16800	\$67,200,000	311		
2243750	K	AVENUE O	BMT SEA BEACH	T		O	1	S	10/7/2009	5.863	G	4658	\$18,632,000	311		
2243760	K	AVENUE P	BMT SEA BEACH	T		O	1	S	10/7/2009	6.605	V	5544	\$22,176,000	311		
2243770	K	KINGS HIGHWAY	BMT SEA BEACH	T		O	1	S	10/8/2009	6.767	V	5032	\$20,128,000	311		
2243780	K	HIGHLAWN AVE	BMT SEA BEACH	T		O	1	S	10/8/2009	6.440	V	6960	\$27,840,000	311		
2243800	K	AVENUE T	BMT SEA BEACH	T		O	1	S	10/8/2009	6.033	V	5360	\$21,440,000	311		
2243820	K	21ST AVE	BMT SEA BEACH	T		O	4	S	12/16/2010	3.974	F	21400	\$85,600,000	311		
2243370	K	17TH AVE	LIRR BAY RIDGE	N		O	1	S	12/7/2010	4.824	F	3406	\$13,624,000	312		
2243380	K	18TH AVE	LIRR BAY RIDGE	N		O	1	S	12/7/2010	4.688	F	6006	\$24,024,000	312		
2243390	K	52ND ST	LIRR BAY RIDGE	N		O	1	S	12/9/2010	6.250	V	3293	\$13,172,000	312		
2243400	K	50TH ST	LIRR BAY RIDGE	N		O	2	S	9/4/2009	4.731	F	7100	\$28,400,000	312		
2243410	K	MCDONALD AVE	LIRR BAY RIDGE	N		O	1	S	12/9/2010	5.047	G	2760	\$11,040,000	312		
2243420	K	E 3RD ST	LIRR BAY RIDGE	N		O	1	S	9/4/2009	6.583	V	1840	\$7,360,000	312		
2243439	K	OCEAN PKWY	LIRR BAY RIDGE	N		O	1	S	12/10/2010	4.927	F	7000	\$28,000,000	312		
2243440	K	CONEY ISLAND AVE	LIRR BAY RIDGE	N		O	1	S	12/2/2010	5.234	G	3231	\$12,924,000	312		
2243840	K	9TH AVE	NYCTA BMT YARD	T		O	5	S	9/18/2009	6.028	V	12440	\$49,760,000	312		
2243940	K	9TH AVE	NYCTA IND SBWY	T		O	5	S	9/18/2009	4.737	F	6300	\$25,200,000	312		
2231329	K	BSHP	26TH AVE			A	1	S	4/30/2010	4.600	F	6700	\$26,800,000	313		
2231330	K	27TH AVE PED BRDG	BSHP		P	A-PED	1	C	1/7/2010	4.106	F	2100	\$8,400,000	313		
2231340	K	CROPSEY AVE	BSHP			A	2	S	6/15/2010	4.583	F	13100	\$52,400,000	313		
2231360	K	BSHP	OCEAN PKWY			A	3	S	7/16/2010	6.535	V	29637	\$118,548,000	313		
2231370	K	GUIDER AV RAMP TO BSHP	BSHP			A	4	S	7/16/2010	3.292	F	12800	\$51,200,000	313		
2231380	K	CONEY ISLAND AVE	BSHP			A	4	S	9/21/2009	6.181	V	19866	\$79,464,000	313		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	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	7/8/2009	5.225	G	9400	\$37,600,000	313		
2240302	K	CROPSEY AVE	CONEY ISLAND CREEK			WO	3	S	10/12/2010	4.831	F	9400	\$37,600,000	313		
2240540	K	STILLWELL AVE	CONEY ISLAND CRK			WO	2	S	6/17/2009	6.292	V	17000	\$68,000,000	313		
2243570	K	86TH ST	BMT SEA BEACH	T		O	1	S	9/11/2008	6.078	V	12167	\$48,668,000	313		
2269260	K	W. 8TH ST PED BRDG	SURF AVE.		P	O-PED	39	C	3/8/2010	3.093	F	14742	\$58,968,000	313		
2243020	K	PARKSIDE AVE	BMT SUBWAY, BRIGHTON	T		O	6	S	12/23/2010	4.000	F	48700	\$194,800,000	314		
2243040	K	CROOKE AVE	BMT SUBWAY, BRIGHTON	T		O	4	S	11/19/2010	4.105	F	6000	\$24,000,000	314		
2243050	K	CATON AVE	BMT SUBWAY, BRIGHTON	T		O	4	S	8/13/2009	4.500	F	20800	\$83,200,000	314		
2243080	K	CHURCH AVE	BMT SUBWAY, BRIGHTON	T		O	4	S	8/14/2009	4.545	F	18200	\$72,800,000	314		
2243100	K	BEVERLY ROAD	BMT SUBWAY, BRIGHTON	T		O	3	S	11/18/2010	3.667	F	4200	\$16,800,000	314		
2243110	K	CORTEYOU ROAD	BMT SUBWAY, BRIGHTON	T		O	3	S	9/21/2009	6.139	V	4810	\$19,240,000	314		
2243120	K	DORCHESTER ROAD	BMT SUBWAY, BRIGHTON	T		O	1	S	12/21/2010	5.882	G	4825	\$19,300,000	314		
2243130	K	DITMAS AVE	BMT SUBWAY, BRIGHTON	T		O	1	S	10/22/2009	5.723	G	5150	\$20,600,000	314		
2243140	K	NEWKIRK AVE	BMT SUBWAY, BRIGHTON	T		O	3	S	12/21/2010	4.250	F	4100	\$16,400,000	314		
2243150	K	FOSTER AVE	BMT SUBWAY, BRIGHTON	T		O	1	S	12/21/2010	4.450	F	3000	\$12,000,000	314		
2243450	K	E 14TH ST	LIRR BAY RIDGE	N		O	1	S	12/2/2010	4.809	F	1775	\$7,100,000	314		
2243460	K	E 15TH ST PED BRDG	LIRR BAY RIDGE	N		O-PED	3	C	9/16/2008	5.193	G	900	\$3,600,000	314		
2243480	K	OCEAN AVE	LIRR BAY RIDGE	N		O	2	S	12/1/2010	4.825	F	5000	\$20,000,000	314		
2243490	K	BEDFORD AVE	LIRR BAY RIDGE	N		O	6	S	11/24/2010	4.319	F	12000	\$48,000,000	314		
2243500	K	NOSTRAND AVE	LIRR BAY RIDGE	N		O	2	S	11/30/2010	4.966	F	4320	\$17,280,000	314		
2231390	K	E 12TH ST	BSHP			A	4	S	6/18/2010	4.694	F	17200	\$68,800,000	315		
2231409	K	BSHP	SHEEPSHEAD BAY ROAD			A	1	S	4/27/2010	4.836	F	6500	\$26,000,000	315		
2231419	K	BSHP	OCEAN AVE			A	3	S	4/27/2010	4.083	F	14000	\$56,000,000	315		
2231429	K	BSHP	BEDFORD AVE			A	3	S	4/29/2010	4.097	F	12000	\$48,000,000	315		
2231439	K	BSHP	NOSTRAND AVE			A	3	S	4/29/2010	3.986	F	13000	\$52,000,000	315		
2231449	K	KNAPP ST	BSHP			A	1	S	4/28/2010	4.391	F	9500	\$38,000,000	315		
2233080	K	E 14 ST PED BR	BSHP			A-PED	14	C	7/13/2010	4.213	F	4700	\$18,800,000	315		
2240320	K	OCEAN AVE PED BRDG	SHEEPSHEAD BAY			WO-PED	30	C	7/19/2010	3.939	F	4450	\$17,800,000	315		
2243790	K	AVENUE S	BMT SEA BEACH	T		O	1	S	10/8/2009	5.967	G	5360	\$21,440,000	315		
2243810	K	AVENUE U	BMT SEA BEACH	T		O	1	S	12/17/2010	5.686	G	5880	\$23,520,000	315		
2243569	K	ATLANTIC AVE	LIRR ATLANTIC AVE	L		O	75	S	5/28/2010	3.676	F	135100	\$540,400,000	316	305	
2243850	K	LIBERTY AVE	LIRR BAY RIDGE	N		O	3	S	12/14/2010	6.294	V	6659	\$26,636,000	316		
2243860	K	GLENMORE AVE	LIRR BAY RIDGE	N		O	2	S	12/14/2010	6.559	V	5616	\$22,464,000	316		
2243870	K	PITKIN AVE	LIRR BAY RIDGE	N		O	2	S	12/14/2010	6.515	V	5328	\$21,312,000	316		
2243890	K	SUTTER AVE	LIRR BAY RIDGE	N		O	3	S	12/15/2010	6.542	V	5497	\$21,988,000	316		
2243900	K	BLAKE AVE	LIRR BAY RIDGE LINE	N		O	3	S	12/15/2010	5.000	G	4912	\$19,648,000	316		
2243910	K	LIVONIA AVE PED BRDG	LIRR BAY RIDGE LINE	N		O-PED	6	C	3/2/2010	5.000	G	2500	\$10,000,000	316		
2231479	K	BSHP	MILL BASIN			WMA	14	S	10/14/2010	3.463	F	73500	\$294,000,000	318		
2231489	K	BSHP	PAERDEGAT BASIN			WA	15	S	9/3/2010	3.222	F	58300	\$233,200,000	318		
2243510	K	FLATBUSH AVE	LIRR BAY RIDGE	N		O	2	S	11/29/2010	4.702	F	5900	\$23,600,000	318		



# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2243520	K	BROOKLYN AVE	LIRR BAY RIDGE	N		O	3	S	9/11/2009	6.236	V	4500	\$18,000,000	318		
2243530	K	AVENUE H	LIRR BAY RIDGE	N		O	2	S	9/10/2009	5.956	G	35100	\$140,400,000	318		
2243010	K	LINCOLN ROAD	BMT SUBWAY, BRIGHTON	T		O	1	S	12/23/2010	6.722	V	6016	\$24,064,000	355		
2244010	K	EAST DR (ENDALE ARCH)	PED PATH NR GRND ARMY PLZ		P	O	1	C	5/6/2010	4.367	F	1533	\$6,132,000	355		
2244020	K	WEST DR (MEADOWPORT ARCH)	PED PATH NR GRND ARMY PLZ		P	O	1	S	4/28/2009	5.321	G	2500	\$10,000,000	355		
2244030	K	EAST DRIVE	BRIDLE PATH NR ZOO		P	O	1	S	4/28/2009	4.796	F	2000	\$8,000,000	355		
2244040	K	EAST DR (EAST WOOD ARCH)	PED PATH NR CENTER DR		P	O	1	C	6/24/2010	4.033	F	1066	\$4,262,400	355		
2244050	K	CENTER DR (NETHERMEAD ARCHES)	PED PATH & STREAM		P	WO	3	S	5/1/2009	5.000	G	7400	\$29,600,000	355		
2244060	K	HILL DR (CLEFT RIDGE SPAN)	PED PATH SO OF BOATHOUSE		P	O	1	C	4/28/2010	4.433	F	750	\$3,000,000	355		
2244100	K	WEST FOOTBRIDGE	PROSPECT PK STREAM		P	WO-PED	1	C	12/2/2010	4.875	F	3200	\$12,800,000	355		
2244120	K	HILL DR (TERRACE BRDG)	PROSPECT PK LAKE		P	WO	3	S	2/5/2010	2.927	P	7800	\$31,200,000	355		
2244130	K	PED NR BOATHSE (LULLWATER BRDG)	PROSPECT PK LAKE		P	WO-PED	1	C	8/11/2010	4.898	F	1000	\$4,000,000	355		
2231450	K	BSHP	GERRITSEN INLET			WA	11	S	8/16/2010	3.463	F	52000	\$208,000,000	356		
2231460	K	FLATBUSH AVE	BSHP			A	2	S	10/13/2009	6.306	V	14058	\$56,232,000	356		
2231499	K	BSHP	ROCKAWAY PKWY			A	4	S	9/2/2010	3.778	F	11500	\$46,000,000	356		
2231509	K	BSHP	FRESH CREEK			WA	5	S	8/16/2010	3.083	F	23000	\$92,000,000	356		
2231519	K	PENNSYLVANIA AVE	BSHP			A	2	S	5/14/2009	5.806	G	6640	\$26,560,000	356		
2240039	KM	WILLIAMSBURG BRIDGE	EAST RIVER	T		WEO	53	S	10/31/2008	4.653	F	824000	\$3,296,000,000	103	301	
2240019	KM	BROOKLYN BRIDGE	EAST RIVER			WEO	75	S	10/25/2008	2.944	P	503788	\$2,015,152,000	103	302	101
2240027	KM	MANHATTAN BRIDGE(LL)	EAST RIVER	T		WEO	23	S	11/24/2008	5.014	G	616390	\$2,465,560,000	103	302	
2240028	KM	MANHATTAN BRIDGE(UL)	NYCTA TRACKS-BMT	T		WEO	43	S	11/24/2008	4.214	F	587424	\$2,349,696,000	103	302	
2240370	KQ	GREENPOINT AVE BRIDGE	NEWTOWN CREEK	L		WMO	12	S	8/6/2009	4.861	F	76106	\$304,424,000	301	402	
2240639	KQ	PULASKI BRIDGE	NEWTOWN CREEK			WMO	44	S	4/29/2010	4.606	F	205770	\$823,080,000	301	402	
2240390	KQ	GRAND ST BRIDGE	NEWTOWN CREEK			WMO	2	S	10/12/2010	4.125	F	5100	\$20,400,000	301	405	
223201D	M	RAMP TO N.B. FDR DRIVE	FDR & SOUTH ST.			AR	22	S	2/18/2010	5.033	G	15825	\$63,300,000	101	103	
224001B	M	TO BKLN FRM FDR	FRANKFRT & CITY			OE	31	S	12/20/2008	4.074	F	51400	\$205,600,000	101	103	
224001D	M	TO FDR DR N.B.	PEARL STREET			OE	30	S	6/8/2009	4.868	F	49600	\$198,400,000	101	103	
2232000	M	BATTERY PLACE	FDR DRIVE			AT	2	S	11/18/2009	5.318	G	142000	\$568,000,000	101		
223201A	M	FDR DR N.B. OFF RMP	FDR DR & SOUTH ST			AR	17	S	2/29/2008	3.716	F	23373	\$93,492,000	101		
223201B	M	STH ST RMP TO FDR S.B.	SOUTH ST			AR	10	S	4/29/2010	3.761	F	44625	\$178,500,000	101		
224001A	M	PARK ROW TO BKLN	WILLIAM ST N.B.			OE	4	S	4/29/2010	4.167	F	10167	\$40,668,000	101		
224001C	M	PEARL ST TO BKLN	LAND ADJ TO BRDG			OE	9	S	4/28/2010	3.881	F	6365	\$25,460,000	101		
224001E	M	TO PEARL ST	LAND ADJ TO BRDG			OE	3	S	6/1/2009	5.141	G	5300	\$21,200,000	101		
224001G	M	TO PARK ROW	ROSE ST			OE	11	S	6/8/2009	4.606	F	16551	\$66,204,000	101		
2267380	M	WEST STREET	RECTOR ST			AT	1	S	11/19/2009	5.033	G	25760	\$103,040,000	101		
2268480	M	CHAMBERS ST PED BRDG	RTE 9A - WEST ST			O-PED	10	C	4/23/2010	5.250	G	7481	\$29,924,000	101		
2268930	M	MORRIS ST PED BRDG	BKLN-BATTERY TUNN PLZ			A-PED	3	C	5/24/2010	3.333	F	1200	\$4,800,000	101		
223201C	M	FDR DR S.B. OFF RMP	SOUTH ST			AR	8	S	2/5/2010	4.821	F	39150	\$156,600,000	103		
2232029	M	CORLEARS PARK ROAD	FDR DRIVE		P	A	4	S	3/19/2010	3.938	F	4100	\$16,400,000	103		
2232030	M	DELANCEY ST PED BRDG	FDR DRIVE		P	A-PED	12	C	11/15/2009	4.174	F	2900	\$11,600,000	103		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2232040	M	HOUSTON ST	FDR DRIVE			A	2	S	5/10/2010	3.455	F	11010	\$44,040,000	103		
223204A	M	FDR NB RAMP TO HOUSTON ST	RELIEF			AR	4	S	1/20/2010	4.471	F	6150	\$24,600,000	103		
223204B	M	HOUSTON ST RAMP TO FDR NB	RELIEF			AR	4	S	1/22/2010	4.625	F	7125	\$28,500,000	103		
2232050	M	E 6TH ST PED BRDG	FDR DRIVE		P	A-PED	19	C	10/17/2010	4.196	F	2200	\$8,800,000	103		
2233020	M	E 10TH ST PED BRDG	FDR DRIVE		P	A-PED	25	C	12/2/2009	4.686	F	2754	\$11,016,000	103		
224001F	M	PEARL ST TO FDR DR	LAND ADJ TO BRDG			OE	3	S	4/27/2010	5.282	G	5200	\$20,800,000	103		
2257569	M	MILLER HIGHWAY	TERRAIN			A	64	S	10/19/2009	4.803	F	264190	\$1,056,760,000	104	107	
2245010	M	11TH AVE VIADUCT	LIRR WEST SIDE YARD	AL		O	39	S	12/30/2008	4.028	F	157500	\$630,000,000	104		
224501B	M	W 33RD ST	AMTRAK 30 ST BRANCH	A		O	8	S	3/17/2010	4.611	F	16500	\$66,000,000	104		
224501C	M	W 33RD ST	LAND ADJ TO AMTRAK	A		O	2	S	6/25/2009	4.417	F	4620	\$18,480,000	104		
224501D	M	W 34TH ST	AMTRAK 30 ST BRANCH	A		O	4	S	6/26/2009	4.514	F	11800	\$47,200,000	104		
224501E	M	W 35TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	12/5/2008	4.141	F	6500	\$26,000,000	104		
224501F	M	W 36TH ST	AMTRAK 30 ST BRANCH	A		O	7	S	12/15/2008	4.015	F	16400	\$65,600,000	104		
2245060	M	W 37TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	11/20/2009	6.190	V	7505	\$30,020,000	104		
2245070	M	W 38TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	10/1/2010	4.154	F	6200	\$24,800,000	104		
2245080	M	W 39TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	10/1/2010	4.196	F	6300	\$25,200,000	104		
2245090	M	W 43RD ST	AMTRAK 30 ST BRANCH	A		O	2	S	5/1/2010	4.662	F	4100	\$16,400,000	104		
2245100	M	W 44TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/24/2010	4.662	F	4300	\$17,200,000	104		
2245110	M	W 45TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/19/2008	5.662	G	4100	\$16,400,000	104		
2245120	M	W 46TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/19/2008	4.412	F	4100	\$16,400,000	104		
2245130	M	W 47TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/21/2008	4.721	F	4100	\$16,400,000	104		
2245140	M	W 48TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/24/2008	4.618	F	4100	\$16,400,000	104		
2245150	M	W 49TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	5/26/2010	4.426	F	4100	\$16,400,000	104		
2245160	M	W 51ST ST	AMTRAK 30 ST BRANCH	A		O	2	S	6/5/2010	4.882	F	4300	\$17,200,000	104		
2245170	M	W 52ND ST	AMTRAK 30 ST BRANCH	A		O	2	S	6/5/2010	4.956	F	4300	\$17,200,000	104		
2245180	M	W 53RD ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/7/2008	5.029	G	5100	\$20,400,000	104		
2245190	M	W 58TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/11/2008	4.706	F	4100	\$16,400,000	104		
2245209	M	11TH AVE	AMTRAK 30 ST BRANCH	A		O	2	S	4/10/2008	4.471	F	15400	\$61,600,000	104		
2245210	M	W 42ND ST	AMTRAK 30 ST BRANCH	A		O	4	S	12/22/2008	4.619	F	9155	\$36,620,000	104		
2245220	M	W 57TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	4/11/2008	4.765	F	9100	\$36,400,000	104		
2245330	M	W 41ST ST	AMTRAK 30 ST BRANCH	A		O	3	S	9/28/2010	4.388	F	6200	\$24,800,000	104		
2245340	M	W 50TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	5/26/2010	4.544	F	4100	\$16,400,000	104		
2245350	M	W 54TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/8/2008	5.476	G	4700	\$18,800,000	104		
2245360	M	W 55TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	7/10/2010	5.353	G	4300	\$17,200,000	104		
2245370	M	W 56TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/10/2008	5.618	G	4400	\$17,600,000	104		
2245440	M	W 40TH ST	AMTRAK 30 ST BRANCH	A		O	4	S	10/16/2010	4.236	F	9400	\$37,600,000	104		
226672A	M	W 31ST ST	AMTRAK LAYUP TRACKS	A		O	9	S	12/29/2008	3.619	F	8800	\$35,200,000	104		
2246540	M	E 34TH ST	PARK AVE TUNNEL			OT	1	S	11/19/2008	4.117	F	36200	\$144,800,000	105	106	
2245460	M	PARK AVE S.B.	E 45TH ST			O	1	S	7/28/2009	4.514	F	2400	\$9,600,000	105		
2245470	M	PARK AVE N.B	E 45TH ST			O	1	S	7/28/2009	4.865	F	2400	\$9,600,000	105		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2246550	M	PARK AVE VIADUCT	E 42ND ST			O	10	S	10/15/2009	4.537	F	22150	\$88,600,000	105		
2233038	M	FDR DRIVE SB	FDR NB / E 62ND ST			AT	34	S	12/19/2008	6.620	V	58700	\$234,800,000	106	108	
224004D	M	TO QNS FROM E 58TH ST	E 59TH ST			OE	12	S	6/18/2010	4.321	F	11781	\$47,124,000	106	108	
2232070	M	E 25TH ST PED BRDG	FDR DRIVE			A-PED	4	C	3/18/2010	4.525	F	1700	\$6,800,000	106		
2232100	M	E 51ST ST PED BRDG	FDR DRIVE		P	A-PED	8	C	4/28/2010	4.400	F	2800	\$11,200,000	106		
2246560	M	TUDOR CITY PLACE	E 42ND ST			O	1	S	2/1/2010	5.133	G	6600	\$26,400,000	106		
2246570	M	E42ND ST - E47TH ST	FIRST AVE TUNNEL			OT	2	S	6/17/2010	4.882	F	95000	\$380,000,000	106		
2268650	M	FDR NB E42ND TO E49TH ST	EAST RIVER			A	119	S	10/20/2009	4.075	F	30767	\$123,068,000	106		
2229289	M	HHP VIADUCT	AMTRAK - W72 ST - W79 ST	A		A	145	S	12/23/2008	3.373	F	236100	\$944,400,000	107		
222928C	M	PED BR AT 73RD ST	HHP - AMTRAK	A	P	A-PED	5	C	12/10/2010	4.145	F	3480	\$13,920,000	107		
2229290	M	W 79 ST	AMTRAK	A		A	1	S	10/18/2010	4.492	F	4500	\$18,000,000	107		
2229309	M	HHP	RIVERSIDE PARK			A	1	S	1/6/2010	5.267	G	2172	\$8,688,000	107		
2229311	M	HHP SB	RAMP TO 96 ST			A	1	S	2/11/2010	4.455	F	2000	\$8,000,000	107		
2229312	M	HHP NB	RAMP TO 96 ST			A	1	S	2/11/2010	4.364	F	2000	\$8,000,000	107		
2229321	M	HHP SB	RAMP FROM 96 ST			A	1	S	2/17/2010	5.133	G	2000	\$8,000,000	107		
2229322	M	HHP NB	RAMP FROM 96 ST			A	1	S	2/18/2010	5.300	G	2000	\$8,000,000	107		
2246970	M	RIVERSIDE DRIVE	W 96TH ST			O	3	S	7/2/2009	5.500	G	10600	\$42,400,000	107		
2267250	M	HHP	AMTRAK - W96TH ST	A		A	55	S	11/25/2008	3.710	F	40000	\$160,000,000	107		
2267717	M	79 ST PED PLAZA	79 ST BT BASIN GAR		P	A	10	S	5/1/2009	4.519	F	27400	\$109,600,000	107		
2267718	M	79 ST TRAFFIC CIRC	79 ST PED PLAZA		P	A	34	S	5/8/2009	3.885	F	24130	\$96,520,000	107		
226771A	M	79 ST RAMP TO HHP	79 ST BT BASIN GAR		P	AR	4	S	5/11/2009	4.221	F	3131	\$12,524,000	107		
226771B	M	79 ST RAMP TO GAR	79 ST BT BASIN GAR		P	AR	21	S	5/1/2009	4.532	F	8989	\$35,956,000	107		
226771C	M	GAR RAMP TO 79 ST	79 ST BT BASIN GAR		P	AR	21	S	5/13/2009	4.565	F	9095	\$36,380,000	107		
226771D	M	SB HHP RAMP TO 79 ST	79 ST BT BASIN GAR		P	AR	4	S	5/15/2009	4.516	F	2601	\$10,404,000	107		
2269190	M	W 70TH ST	AMTRAK	A		O	3	S	11/19/2009	5.806	G	17258	\$69,032,000	107		
2269210	M	W 68TH ST	AMTRAK	A		O	3	S	11/24/2009	6.780	V	5382	\$21,528,000	107		
M00003	M	HHP ON/OFF RMP-79TH ST SO. SIDE	PED PATH SO. OF 79TH ST			A	1	C	5/11/2010	3.700	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	6/22/2010	4.967	F	900	\$3,600,000	107		
2232110	M	E 64TH ST PED BRDG	FDR DRIVE		P	A-PED	24	U	9/24/2009	5.931	G	2100	\$8,400,000	108		
2232120	M	E 71ST ST PED BRDG	FDR DRIVE		P	A-PED	19	C	8/15/2010	5.000	G	340	\$1,360,000	108		
2232140	M	E 78TH ST PED BRDG	FDR DRIVE		P	A-PED	9	C	4/18/2010	2.711	P	3120	\$12,480,000	108		
2232167	M	PROMENADE OVER FDR	FDR - E81ST ST - E90TH ST		P	A-PED	53	S	7/9/2009	3.857	F	93000	\$372,000,000	108		
2233040	M	E 60TH ST	FDR DRIVE			A	17	S	8/3/2009	4.806	F	24480	\$97,920,000	108		
224004A	M	TO E 60TH ST FROM QNS	FIRST AVE			OE	13	S	4/12/2010	5.394	G	14800	\$59,200,000	108		
224004B	M	TO QNS FRM E 59TH ST	FIRST AVE			OE	13	S	4/13/2010	5.708	G	14800	\$59,200,000	108		
224004C	M	TO E 62ND ST FROM QNS	E 60TH - E 61ST ST			OE	10	S	9/24/2010	4.985	F	16720	\$66,880,000	108		
224004J	M	25X	NYC GARAGE			OE	14	S	4/23/2010	4.780	F	22058	\$88,232,000	108		
2269820	M	E 81 ST PED BRDG	FDR DRIVE N.B.		P	A-PED	3	C	1/12/2010	3.149	F	900	\$3,600,000	108		
2229349	M	HHP	W 158 ST	A		A	44	S	12/11/2008	4.268	F	140000	\$560,000,000	109	112	
2245290	M	W 155TH ST PED BRDG	AMTRAK 30 ST BRANCH	A		O-PED	3	C	10/31/2010	3.292	F	800	\$3,200,000	109	112	

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2246720	M	RIVERSIDE DRIVE	W 158TH ST - AMTRAK	A		O	77	S	9/30/2010	3.472	F	185658	\$742,632,000	109	112	
2269240	M	RIVERSIDE DRIVE	W. 155TH ST			O	1	S	6/23/2009	4.640	F	2780	\$11,120,000	109	112	
2245230	M	W 148TH ST PED BRDG	AMTRAK 30 ST BRANCH	A	P	O-PED	3	C	11/5/2010	4.033	F	1100	\$4,400,000	109		
2246660	M	RIVERSIDE DRIVE	W125TH ST - W134TH ST			O	27	S	7/16/2009	4.444	F	148300	\$593,200,000	109		
2246670	M	W 134 ST	TERRAIN			O	4	S	7/13/2009	4.870	F	7500	\$30,000,000	109		
2246980	M	RIVERSIDE DRIVE	W 138TH ST			O	1	S	1/29/2010	4.767	F	6700	\$26,800,000	109		
2266229	M	HHP	PED UNDERPASS @ 148 ST			A	1	S	2/16/2010	5.476	G	1840	\$7,360,000	109		
2267130	M	RIVERSIDE DRIVE	W 145TH ST			O	1	S	6/22/2009	4.867	F	5800	\$23,200,000	109		
2246490	M	A.C. POWELL BLVD N.B.	A.C. POWELL BLVD			O	1	S	2/11/2010	4.020	F	5600	\$22,400,000	110		
2246710	M	W 153 ST	A.C. POWELL BLVD			O	1	S	2/11/2010	4.370	F	3082	\$12,328,000	110		
2232180	M	E 103RD ST PED BRDG	FDR DRIVE			A-PED	18	C	9/9/2010	4.447	F	4800	\$19,200,000	111		
2232190	M	E 111TH ST PED BRDG	FDR DRIVE		P	A-PED	14	C	8/19/2010	4.353	F	4200	\$16,800,000	111		
2232200	M	E 120TH ST PED BRDG	FDR DRIVE		P	A-PED	21	C	8/8/2010	4.259	F	3978	\$15,912,000	111		
2233059	M	HARLEM RIVER DRIVE	RAMP TO & FROM HRD N.B.			A	11	S	9/9/2009	3.269	F	51000	\$204,000,000	111		
224005A	M	FROM FDR DRIVE	HARLEM RIVER DR			OR	19	S	6/6/2008	4.299	F	28233	\$112,932,000	111		
224007A	M	TO MADISON AVENUE	E 138TH ST			OR	7	S	3/20/2010	5.225	G	19880	\$79,520,000	111		
2240620	M	WARDS ISLAND PED BRDG	HARLEM RIVER			WMO-PED	10	C	11/1/2008	4.367	F	12600	\$50,400,000	111		
2245319	M	E 97TH ST	METRO NORTH MAIN LN	M		O	1	S	12/31/2008	4.647	F	3200	\$12,800,000	111		
2246620	M	W 128TH ST PED BRDG	3RD AVE BRDG APPR			O-PED	18	C	7/1/2010	4.048	F	2300	\$9,200,000	111		
2246990	M	E 129TH ST PED BRDG	3RD AVE BRDG RAMP			O-PED	5	C	10/8/2010	4.545	F	1046	\$4,184,000	111		
222934A	M	RAMP TO N.B. HHP	AMTRAK WEST SIDE	A		AR	26	S	10/11/2010	3.736	F	10800	\$43,200,000	112		
2229400	M	W 181ST ST PED BRDG	HHP N.B.		P	A-PED	7	C	2/5/2010	4.657	F	1500	\$6,000,000	112		
2245040	M	MARGARET CORBIN DR	PED PATH NEAR CAFÉ		P	O	1	C	5/10/2010	4.933	F	598	\$2,392,000	112		
2245050	M	MARGARET CORBIN DR	PED PATH NR NO ENTR		P	O	1	C	5/10/2010	4.800	F	889	\$3,556,000	112		
2245250	M	W 158TH ST	AMTRAK 30 ST BRANCH	A		O	7	S	11/14/2009	6.319	V	29170	\$116,680,000	112		
2245260	M	W 173RD ST PED BRDG	AMTRAK 30 ST BRANCH	A	P	O-PED	2	C	10/29/2010	4.446	F	1500	\$6,000,000	112		
2245300	M	INWOOD HILL PK FTBR	AMTRAK 30 ST BRANCH	A	P	O-PED	6	C	11/5/2010	4.100	F	700	\$2,800,000	112		
2245480	M	TO GWB OPP W 171ST ST	RIVERSIDE DRIVE			O	1	S	3/17/2010	4.952	F	10800	\$43,200,000	112		
2246489	M	W 181 ST	RAMP TO WASH BR			O	1	S	3/16/2010	4.500	F	8200	\$32,800,000	112		
2246500	M	FORT TRYON PLACE	ENTR FROM RIVERSIDE DR		P	O	1	S	3/18/2010	4.333	F	6600	\$26,400,000	112		
2246510	M	CORBIN PL OVERPASS	CORBIN PLACE		P	O	1	S	1/13/2010	5.000	G	2223	\$8,892,000	112		
2246600	M	W 176TH ST PED BRDG	APPROACH TO G.W.B.			O-PED	1	C	1/15/2010	3.897	F	1200	\$4,800,000	112		
2246690	M	ISHAM PK VEHICULR	HARLEM RIVER INLET		P	O	1	S	7/7/2008	6.261	V	911	\$3,644,000	112		
2246700	M	ISHAM PK PED BRDG	HARLEM RV INLET		P	WO-PED	1	C	1/11/2010	3.828	F	300	\$1,200,000	112		
2266230	M	HHP NB	PED UNDERPASS INWD PK			A	1	S	1/8/2010	5.286	G	800	\$3,200,000	112		
2266240	M	HHP SB	PED UNDERPASS INWD PK			A	1	S	1/11/2010	5.571	G	1100	\$4,400,000	112		
2267240	M	HRD RAMP TO GWB	HARLEM RIVER DR SB			A	55	S	10/9/2009	3.431	F	122900	\$491,600,000	112		
2268760	M	PS-5 PED BRDG	TENTH AVE			O-PED	5	C	3/9/2010	4.735	F	1285	\$5,140,000	112		
M00001	M	W191ST ST PED TNL	BROADWAY - IRT #1 SUBWAY			O-PED	1	C	1/5/2010	5.000	G	2000	\$8,000,000	112		
2245380	M	TRANSVERSE RD #1 WB	PED PATH OPP E 66TH ST		P	O	1	S	1/7/2010	5.000	G	1500	\$6,000,000	164		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2245420	M	W 65TH ST ENTR EB	BRIDLE PATH W END		P	O	1	S	1/25/2010	5.167	G	1600	\$6,400,000	164		
2246000	M	WEST DR (GREYSHOT ARCH)	PED BET 61ST & 62ST		P	O	1	S	1/14/2010	5.400	G	2500	\$10,000,000	164		
2246010	M	W 62 ST PED BRDG (PINEBANK ARCH)	BRIDLE PATH		P	O-PED	1	C	7/9/2010	4.404	F	1000	\$4,000,000	164		
2246030	M	E 62 ST PED BRDG (GAPSTOW BRDG)	THE POND		P	O-PED	1	C	7/26/2010	3.897	F	1400	\$5,600,000	164		
2246040	M	EAST DR (INSOPE ARCH)	PED PATH OPP E 62 ST		P	O	1	C	4/28/2010	4.400	F	1515	\$6,060,000	164		
2246050	M	CENTER DR (DRIPROCK ARCH)	PED OPP 63RD ST		P	O	1	S	1/18/2010	5.067	G	2000	\$8,000,000	164		
2246069	M	EAST DR (GREEN GAP ARCH)	PED BET E 63ST & E 64ST		P	O	1	S	1/26/2010	4.500	F	2700	\$10,800,000	164		
2246070	M	CENTER DR (PLAYMATES ARCH)	PED PATH OPP 65TH ST		P	O	1	C	6/2/2010	4.500	F	1129	\$4,516,000	164		
2246080	M	WEST DR (DALEHEAD ARCH)	BRIDLE OPP W 64TH ST		P	O	1	S	1/5/2010	4.667	F	2000	\$8,000,000	164		
2246090	M	PED BRDG OPP 65 ST	TRANSVERSE RD #1		P	O-PED	1	C	7/24/2010	4.655	F	2300	\$9,200,000	164		
2246100	M	CENTER DRIVE	TRANSVERSE RD #1		P	O	1	S	4/2/2010	4.467	F	6000	\$24,000,000	164		
2246110	M	EAST DRIVE	TRANSVERSE RD #1		P	O	1	S	3/25/2010	4.667	F	6000	\$24,000,000	164		
2246120	M	WEST DRIVE	TRANSVERSE RD #1		P	O	1	S	4/2/2010	4.967	F	7900	\$31,600,000	164		
2246130	M	EAST DR (WILLOWDELL ARCH)	PED PATH OPP E 67TH ST		P	O	1	C	5/25/2010	3.633	F	666	\$2,665,600	164		
2246140	M	W 72 ST ENTR (RIFTSTONE ARCH)	BRIDLE PATH		P	O	1	S	1/12/2010	4.533	F	3600	\$14,400,000	164		
2246150	M	72 ST CROSS DR (TERRACE BRDG)	PED PATH TO FOUNTAIN		P	O	3	S	3/12/2010	5.786	G	7300	\$29,200,000	164		
2246160	M	73 ST PED BRDG (BOW BRIDGE)	THE LAKE		P	WO-PED	1	C	5/13/2010	3.718	F	1700	\$6,800,000	164		
2246170	M	EAST DR (TREFOIL ARCH)	PED PATH OPP E 73RD ST		P	O	1	S	2/3/2010	5.056	G	1900	\$7,600,000	164		
2246230	M	EAST DRIVE	TRANSVERSE RD #2		P	O	1	S	3/23/2010	4.600	F	6500	\$26,000,000	164		
2246240	M	WEST DRIVE	TRANSVERSE RD #2		P	O	1	S	3/23/2010	4.167	F	7200	\$28,800,000	164		
2246250	M	EAST DRIVE	TRANSVERSE RD #3		P	O	1	S	2/9/2010	4.300	F	5100	\$20,400,000	164		
2246260	M	WEST DRIVE	TRANSVERSE RD #3		P	O	1	S	3/26/2010	4.933	F	5100	\$20,400,000	164		
2246270	M	EAST DRIVE	TRANSVERSE RD #4		P	O	1	S	3/24/2010	4.100	F	7000	\$28,000,000	164		
2246280	M	WEST DRIVE	TRANSVERSE RD #4		P	O	1	S	3/24/2010	4.300	F	4700	\$18,800,000	164		
2246320	M	W77 ST PED (OAK BRDG)	THE LAKE		P	WO-PED	3	C	12/22/2010	6.684	V	919	\$3,676,000	164		
2246330	M	WEST DR (BALCONY BRDG)	STREAM TO THE LAKE		P	WO	1	S	2/1/2010	5.000	G	2019	\$8,076,000	164		
2246340	M	W77 ST PED (LADIES POND BRDG)	STREAM TO THE LAKE		P	WO-PED	3	C	10/26/2010	4.032	F	500	\$2,000,000	164		
2246350	M	EAST DR (GREYWACKE ARCH)	PED PATH OPP E 80TH ST		P	O	1	C	5/19/2010	3.667	F	1266	\$5,064,000	164		
2246360	M	WEST DR (WINTERDALE ARCH)	PED PATH OPP W 82 ST		P	O	1	S	1/27/2010	5.273	G	3100	\$12,400,000	164		
2246380	M	W86 ST PED (SW RESERVOIR BRDG)	BRIDLE PATH		P	O-PED	1	C	10/7/2010	4.143	F	700	\$2,800,000	164		
2246390	M	E86 ST PED (SE RESERVOIR BRDG)	BRIDLE PATH		P	O-PED	3	C	10/7/2010	4.404	F	1100	\$4,400,000	164		
2246400	M	PED PATH OPP E79 ST	TRANSVERSE RD #2		P	O-PED	1	C	7/31/2010	4.233	F	3700	\$14,800,000	164		
2246410	M	TRNSVRS RD 1 EB (DENESMOUTH ARCH)	PED PATH OPP E 65TH ST		P	O	1	S	2/2/2010	4.727	F	1739	\$6,956,000	164		
2246430	M	W110 ST ENTR (MOUNTCLIFF ARCH)	PED PATH OPP W109 ST		P	O	1	S	3/29/2010	4.383	F	1200	\$4,800,000	164		
2246440	M	79 TH ST PED BRDG	TRANSVERSE RD #2		P	O-PED	1	C	9/3/2010	3.926	F	5900	\$23,600,000	164		
2246450	M	E77 ST PED (GLADE ARCH)	PED PATH OPP E77 ST		P	O-PED	1	C	1/27/2010	5.000	G	5000	\$20,000,000	164		
2246460	M	W77 ST ENTR (EAGLEVALE ARCH)	PED PATH OPP W77 ST		P	O	2	S	1/15/2010	4.263	F	5800	\$23,200,000	164		
2246470	M	EAST DR (HUDDLESTONE ARCH)	THE LOCH		P	WO	1	S	2/2/2010	4.500	F	1100	\$4,400,000	164		
2240640	MQ	ROOSEVELT ISLAND BRDG	E. RIVER E. CHANNEL			WMO	8	S	12/10/2010	5.611	G	36500	\$146,000,000	108	401	
2240047	MQ	QUEENSBORO BRIDGE (LL)	EAST RIVER	AL		WEO	53	S	12/8/2008	4.208	F	626900	\$2,507,600,000	108	402	401



# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2240048	MQ	QUEENSBORO BRIDGE (UL)	EAST RIVER - LL			WEO	37	S	12/8/2008	4.340	F	322300	\$1,289,200,000	108	402	401
224004G	Q	TO NY FROM 11TH ST	TERRAIN (CHAMBER)			OE	36	S	9/10/2010	5.268	G	8360	\$33,440,000	401	402	
2230700	Q	278I NB (BQE EAST LEG)	32ND AVE (TO BQE WEST LEG)			A	8	S	11/9/2010	6.662	V	31600	\$126,400,000	401	403	
2230750	Q	278I SB (BQE EAST LEG)	31ST AVE			A	1	S	8/24/2009	6.508	V	4221	\$16,884,000	401	403	
2240660	Q	RIKERS ISLAND BRIDGE	RIKERS ISL CHANNEL			WO	56	S	12/9/2010	4.493	F	183100	\$732,400,000	401	480	
2230600	Q	STEINWAY ST	278I WB (BQE)			A	1	S	10/4/2010	6.581	V	5229	\$20,916,000	401		
2230610	Q	STEINWAY ST	278I EB (BQE)			A	1	S	9/29/2010	6.581	V	5146	\$20,584,000	401		
2230620	Q	37TH ST	278I (B.Q.E.)			A	2	S	3/25/2010	4.597	F	5300	\$21,200,000	401		
2230630	Q	35TH ST	278I (B.Q.E.)			A	4	S	4/9/2010	4.667	F	9000	\$36,000,000	401		
2230640	Q	32ND ST	278I (B.Q.E.)			A	2	S	6/15/2009	4.903	F	8100	\$32,400,000	401		
2230657	Q	31ST ST	278I (B.Q.E.)			A	2	S	11/6/2010	4.569	F	9500	\$38,000,000	401		
2230690	Q	278I NB (BQE WEST LEG)	32ND AVE			A	1	S	7/7/2010	6.492	V	4080	\$16,320,000	401		
2230710	Q	278I SB (BQE WEST LEG)	32ND AVE			A	1	S	8/5/2009	6.695	V	5240	\$20,960,000	401		
2230720	Q	278I SB (BQE EAST LEG)	278I NB (BQE WEST LEG)			A	3	S	5/15/2009	6.364	V	20896	\$83,584,000	401		
2230730	Q	31ST AVE	278I NB (BQE WEST LEG)			A	1	S	7/20/2009	6.433	V	5875	\$23,500,000	401		
2230740	Q	278I SB (BQE WEST LEG)	31ST AVE			A	1	S	8/4/2009	6.217	V	5246	\$20,984,000	401		
2230760	Q	278I NB (BQE EAST LEG)	31ST AVE			A	1	S	10/4/2010	6.610	V	4161	\$16,644,000	401		
2230770	Q	278I (BQE WEST LEG)	30TH AVE			A	1	S	6/19/2009	6.695	V	6199	\$24,796,000	401		
2230790	Q	BULOVA AVE	278I (BQE WEST LEG)			A	2	S	4/23/2010	5.333	G	3300	\$13,200,000	401		
2230800	Q	49TH ST	278I (BQE WEST LEG)			A	2	S	4/23/2010	5.333	G	4900	\$19,600,000	401		
2230810	Q	ASTORIA BLVD EB	278I (BQE WEST LEG)			A	4	S	4/6/2010	4.044	F	8200	\$32,800,000	401		
2230820	Q	47TH ST	GCP			A	2	S	5/21/2010	4.944	F	5700	\$22,800,000	401		
2230830	Q	278I NB (BQE WEST LEG)	GCP			A	2	S	5/20/2010	4.583	F	7600	\$30,400,000	401		
2230840	Q	44TH ST	GCP			A	2	S	5/21/2010	4.681	F	5000	\$20,000,000	401		
2230890	Q	49TH ST	GCP			A	2	S	5/20/2010	4.444	F	6350	\$25,400,000	401		
2230680	Q	278I (B.Q.E.)	NORTHERN BLVD			A	1	S	11/12/2010	6.079	V	27011	\$108,044,000	402	401	
224004F	Q	TO NY FROM 21ST ST	21ST ST			OE	63	S	11/24/2010	4.712	F	63310	\$253,240,000	402	401	
2247310	Q	QUEENS BLVD	AMTRAK & LIRR YARD	AL		O	19	S	12/16/2010	6.324	V	92400	\$369,600,000	402	401	
2247320	Q	HONEYWELL ST	AMTRAK & LIRR YARD	AL		O	22	S	11/11/2009	5.903	G	99036	\$396,144,000	402	401	
2247330	Q	39TH ST (NORTH)	SUNNYSIDE YARD	A		O	14	S	11/3/2009	6.556	V	48200	\$192,800,000	402	401	
2247380	Q	ROOSEVELT AVE	CSX - HELLGATE	C		O	2	S	9/23/2009	6.389	V	7380	\$29,520,000	402	403	404
2247390	Q	41ST AVE	CSX - HELLGATE	C		O	2	S	9/23/2009	4.942	F	4400	\$17,600,000	402	404	
2247400	Q	WOODSIDE AVE	CSX TRANSPORT	C		O	1	S	9/24/2009	5.033	G	8200	\$32,800,000	402	404	
2247410	Q	43RD AVE	CSX TRANSPORT	C		O	1	S	9/24/2009	5.000	G	4800	\$19,200,000	402	404	
2247420	Q	44TH AVE	CSX TRANSPORT	C		O	1	S	9/24/2009	5.000	G	5100	\$20,400,000	402	404	
2247430	Q	45TH AVE	CSX TRANSPORT	C		O	1	S	10/2/2009	5.306	G	2400	\$9,600,000	402	404	
1247280	Q	51 AVE PED BR (2247280)	LIRR MAIN LINE	L		O-PED	5	C	10/6/2009	3.018	F	700	\$2,800,000	402		
2230520	Q	65TH PLACE	278I (B.Q.E.)			A	2	S	2/17/2010	6.111	V	11668	\$46,672,000	402		
2230530	Q	QUEENS BLVD	278I (B.Q.E.)			A	2	S	11/1/2010	6.417	V	25543	\$102,172,000	402		
2230540	Q	WOODSIDE AVE	278I (B.Q.E.)			A	1	S	1/19/2010	5.797	G	7529	\$30,116,000	402		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230550	Q	69TH ST	278I (B.Q.E.)			A	2	S	1/19/2010	5.123	G	12600	\$50,400,000	402		
2230560	Q	70TH ST	278I (B.Q.E.)			A	2	S	10/29/2010	6.833	V	8580	\$34,320,000	402		
2230570	Q	41ST AVE	278I (B.Q.E.)			A	2	S	10/29/2010	6.735	V	8580	\$34,320,000	402		
2230587	Q	ROOSEVELT AVE	278I (B.Q.E.)			A	2	S	10/29/2009	5.917	G	11022	\$44,088,000	402		
2230590	Q	BROADWAY	278I (B.Q.E.)			O	2	S	11/12/2010	5.789	G	16000	\$64,000,000	402		
2230669	Q	278I (B.Q.E.)	35TH AVE			A	1	S	8/6/2009	6.525	V	13135	\$52,540,000	402		
2230679	Q	278I (B.Q.E.)	34TH AVE			A	1	S	6/11/2009	6.203	V	7793	\$31,172,000	402		
2230869	Q	QUEENS BLVD	ACCESS RD BQE S.B.			A	1	S	11/8/2010	5.727	G	7900	\$31,600,000	402		
224004E	Q	TO NY FR THOMSON AVE	JACKSON AVE	L		OE	94	S	12/24/2008	4.642	F	104600	\$418,400,000	402		
224004H	Q	TO 21ST ST FROM NY	22ND ST			OE	43	S	11/23/2010	4.268	F	48100	\$192,400,000	402		
224004I	Q	TO THOMSON AVE FROM NY	JACKSON AVE	L		OE	39	S	12/16/2010	4.951	F	59100	\$236,400,000	402		
2240410	Q	BORDEN AVE	DUTCH KILLS			WMO	2	S	12/2/2010	3.181	F	8400	\$33,600,000	402		
2240450	Q	HUNTERS PT AVE	DUTCH KILLS			WMO	4	S	7/30/2010	5.083	G	12168	\$48,672,000	402		
2247120	Q	WOODSIDE AVE	LIRR MAIN LINE	L		O	3	S	10/28/2009	4.444	F	14900	\$59,600,000	402		
2247150	Q	65TH ST	LIRR MAIN LINE	L		O	3	S	10/26/2009	6.375	V	6344	\$25,376,000	402		
2247160	Q	65TH PLACE	LIRR MAIN LINE	L		O	3	S	10/29/2009	6.441	V	8381	\$33,524,000	402		
2247260	Q	JACKSON AVE	LIRR MONTAUK DIV	L		O	1	S	12/16/2010	6.117	V	4517	\$18,068,000	402		
2247270	Q	21ST ST	LIRR N SIDE DIV	L		O	6	S	11/23/2009	5.306	G	17590	\$70,360,000	402		
2247290	Q	49TH AVE	LIRR,AMT,CON NE	L		O	5	S	12/13/2010	4.014	F	20400	\$81,600,000	402		
2247300	Q	THOMPSON AVE	AMTRAK & LIRR YARD	AL		O	14	S	12/16/2010	5.042	G	61280	\$245,120,000	402		
2247370	Q	37TH AVE	CSX - HELLGATE	C		O	1	S	9/22/2009	6.447	V	6868	\$27,472,000	402		
2247640	Q	39TH ST (SOUTH)	AMTRAK & LIRR YARD	AL		O	9	S	11/11/2009	6.125	V	34100	\$136,400,000	402		
2230780	Q	278I (BQE EAST LEG)	30TH AVE			A	1	S	6/19/2009	6.524	V	7071	\$28,284,000	403	401	
1247010	Q	91 PLACE (2247010)	LIRR PT WASH BR	L		O	1	S	11/17/2009	6.567	V	2760	\$11,040,000	404		
2247020	Q	94TH ST PED BRDG	LIRR PORT WASH BR	L		O-PED	5	C	10/8/2009	4.030	F	500	\$2,000,000	404		
2247180	Q	GRAND AVE	LIRR MAIN LINE	L		O	3	S	12/16/2010	4.585	F	7415	\$29,660,000	404		
2247190	Q	55TH AVE PED BRDG	LIRR MAIN LINE	L		O-PED	3	C	10/7/2009	4.309	F	13000	\$52,000,000	404		
2248159	Q	WOODHAVEN BLVD	QUEENS BLVD			O	2	S	8/20/2010	4.275	F	11500	\$46,000,000	404		
2247650	Q	60TH RD PED BRDG	LIRR MAIN LINE	L		O-PED	3	C	10/16/2009	5.000	G	2293	\$9,172,000	405	406	
2230120	Q	MYRTLE AVE	JACKIE ROBINSON PKWY			A	1	S	5/5/2010	5.354	G	6400	\$25,600,000	405	482	
1247560	Q	METROPOLITAN AVE	LIRR -NY&ATL	LN		O	2	S	12/15/2010	3.603	F	20900	\$83,600,000	405		
2065930	Q	HAMILTON PLACE	495I (L.I.E.)			A	2	S	3/9/2010	5.847	G	11111	\$44,444,000	405		
2065940	Q	GRAND AVE	495I (L.I.E.)			A	2	S	11/18/2010	4.861	F	12850	\$51,400,000	405		
2065950	Q	69TH STREET	495I (L.I.E.)			A	2	S	5/20/2009	5.361	G	10336	\$41,344,000	405		
2230040	Q	CYPRESS HILLS ST	JACKIE ROBINSON PKWY			A	1	S	4/15/2010	4.611	F	5000	\$20,000,000	405		
2230099	Q	JACKIE ROBINSON PKWY	CYPRESS HILLS CEMETRY			A	1	S	1/14/2010	5.444	G	4200	\$16,800,000	405		
2247440	Q	GRAND AVE	CSX TRANSPORT	C		O	1	S	9/29/2009	6.183	V	3280	\$13,120,000	405		
2247450	Q	57TH AVE	CSX TRANSPORT	C		O	1	S	9/29/2009	6.073	V	2248	\$8,992,000	405		
2247460	Q	CALDWELL AVE	CSX TRANSPORT	C		O	1	S	12/13/2010	5.889	G	2243	\$8,972,000	405		
2247470	Q	ELIOT AVE	CSX TRANSPORT	C		O	1	S	10/5/2009	5.250	G	2960	\$11,840,000	405		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2247480	Q	JUNIPER BLVD SO	CSX TRANSPORT	C		O	1	S	10/6/2009	5.000	G	9000	\$36,000,000	405		
2247490	Q	69TH ST JUNPR BLVD	CSX TRANSPORT	C		O	1	S	12/13/2010	5.021	G	6175	\$24,700,000	405		
2247500	Q	METROPOLITAN AVE	CSX TRANSPORT	C		O	1	S	10/6/2009	4.233	F	18650	\$74,600,000	405		
2247530	Q	ANDREWS AVE	LIRR MONTAUK DIV	L		O	1	S	9/23/2009	7.000	V	1765	\$7,060,000	405		
2247540	Q	60TH ST	LIRR MONTAUK DIV	L		O	2	S	10/23/2009	5.097	G	5340	\$21,360,000	405		
2247550	Q	ELIOT AVE	LIRR MONTAUK DIV	L		O	2	S	9/23/2009	5.712	G	9550	\$38,200,000	405		
2247570	Q	80TH ST	77TH AVE - LIRR MT	L		O	5	S	12/13/2010	5.169	G	11725	\$46,900,000	405		
2248200	Q	RUST ST	FLUSHING AVE			O	1	S	7/15/2009	5.047	G	2940	\$11,760,000	405		
2248220	Q	SERVICE RD TURNAROUND	FLUSHING AVE			O	1	S	7/15/2009	5.125	G	2940	\$11,760,000	405		
2248240	Q	FLUSHING AV SERVICE RD	FLUSHING AVE			O	1	S	7/15/2009	5.250	G	2940	\$11,760,000	405		
2248280	Q	HIGHLAND PK PED.	PEDESTRIAN PATH		P	O-PED	1	C	10/20/2010	3.667	F	1900	\$7,600,000	405		
2248300	Q	71ST AVE	COOPER AVE			O	1	S	7/13/2009	4.373	F	2800	\$11,200,000	405		
2066002	Q	495I (2066000)	WOODHAVEN BLVD			A	2	S	6/26/2009	5.592	G	25200	\$100,800,000	406	404	
1247200	Q	67 AVE PED BR (2247200)	LIRR MAIN LINE	L		O-PED	3	C	10/9/2009	4.500	F	1300	\$5,200,000	406		
2247630	Q	PED BRG NEAR UNION TPK	ABANDONED LIRR			O-PED	8	C	5/26/2010	5.359	G	1449	\$5,796,000	406		
2248160	Q	ELLIOT AVE	QUEENS BLVD			O	2	S	8/20/2010	4.804	F	13785	\$55,140,000	406		
2240507	Q	ROOSEVELT AVE	678I - FLUSHING RIVER			WA	27	S	12/8/2010	3.465	F	84424	\$337,696,000	407	481	
1065210	Q	WHITESTONE EXP NB	BCIP (2065210)			A	1	S	7/22/2010	4.476	F	2500	\$10,000,000	407		
2055801	Q	NORTHERN BLVD WB	FLUSHING RIVER			WO	40	S	10/21/2010	4.282	F	71900	\$287,600,000	407		
2055802	Q	NORTHERN BLVD EB	FLUSHING RIVER			WO	40	S	10/18/2010	4.099	F	78894	\$315,576,000	407		
205580A	Q	N.BLVD WB TO 678I SB	VACANT LAND			AR	16	S	6/30/2010	5.571	G	8600	\$34,400,000	407		
2231900	Q	BCIP	TOTTEN AVE			A	1	S	6/23/2010	4.641	F	4900	\$19,600,000	407		
2231910	Q	UTOPIA PKWY	BCIP			A	2	S	3/19/2010	5.114	G	7200	\$28,800,000	407		
2231920	Q	160TH ST	BCIP			A	2	S	4/24/2009	5.694	G	5550	\$22,200,000	407		
2231930	Q	FRANCIS LEWIS BLVD	BCIP			A	3	S	2/5/2010	4.682	F	9100	\$36,400,000	407		
2231940	Q	CLINTONVILLE ST	BCIP			A	2	S	2/5/2010	4.659	F	7400	\$29,600,000	407		
2231950	Q	150TH ST	BCIP			A	2	S	2/18/2010	4.614	F	5900	\$23,600,000	407		
2231960	Q	149TH ST	BCIP			A	2	S	2/18/2010	4.795	F	6210	\$24,840,000	407		
2231970	Q	14TH AVE	BCIP			A	2	S	2/18/2010	4.614	F	8100	\$32,400,000	407		
2231980	Q	147TH ST	BCIP			A	2	S	3/10/2010	4.705	F	6300	\$25,200,000	407		
2247040	Q	UNION ST	LIRR PORT WASH BR	L		O	1	S	9/15/2009	6.328	V	3313	\$13,252,000	407		
2247050	Q	BOWNE AVE	LIRR PORT WASH BR	L		O	1	S	12/15/2010	5.490	G	4974	\$19,896,000	407		
2247060	Q	PARSONS BLVD	LIRR PORT WASH BR	L		O	1	S	11/30/2010	4.745	F	4200	\$16,800,000	407		
2247070	Q	147TH ST	LIRR PORT WASH BR	L		O	1	S	9/10/2009	5.353	G	2800	\$11,200,000	407		
2247080	Q	149TH ST	LIRR PORT WASH BR	L		O	1	S	9/8/2009	4.776	F	4100	\$16,400,000	407		
2247090	Q	149TH PLACE	LIRR PORT WASH BR	L		O	2	S	9/9/2009	5.000	G	4300	\$17,200,000	407		
2247100	Q	150TH ST	LIRR PORT WASH BR	L		O	2	S	9/4/2009	6.176	V	7830	\$31,320,000	407		
2247110	Q	MURRAY ST	LIRR PORT WASH BR	L		O	1	S	9/3/2009	5.370	G	4000	\$16,000,000	407		
2248090	Q	FLSHG MDW PK PED	COLLEGE POINT BLVD		P	O-PED	3	C	3/16/2010	4.690	F	8400	\$33,600,000	407		
2266160	Q	678I SB TO BCIP EB	ACCESS RD FROM 678I			A	1	S	7/22/2010	3.984	F	2300	\$9,200,000	407		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPANS	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
7705510	Q	167TH ST PED BRDG	LIRR PORT WASH BR	L		O-PED	3	C	10/9/2009	3.902	F	600	\$2,400,000	407		
2248059	Q	MOTOR PKWY (PED)	FRANCIS LEWIS BLVD		P	O-PED	2	C	6/3/2010	4.194	F	2800	\$11,200,000	408		
2248080	Q	MOTOR PKWY (PED)	HOLLIS COURT BLVD		P	O-PED	3	C	1/7/2010	4.731	F	2700	\$10,800,000	408		
2248100	Q	MOTOR PKWY (PED)	73RD AVE		P	O-PED	3	C	2/8/2010	4.965	F	2600	\$10,400,000	408		
2267160	Q	ROOSEVELT AVE	FLUSHING MDW PK ROAD			O	4	S	8/12/2009	4.873	F	7280	\$29,120,000	408		
2267199	Q	FRANCIS LEWIS BLVD	CUNNINGHAM PK RD			O	1	S	4/9/2009	5.033	G	7085	\$28,340,000	408		
2248299	Q	J.R. PKWY-UNION TPKE	AUSTIN ST			O	1	S	6/2/2010	4.194	F	5900	\$23,600,000	409	406	
2247600	Q	PARK LANE SOUTH	LIRR MONTAUK DIV	L		O	1	S	12/14/2010	6.983	V	3024	\$12,096,000	409	482	
2230209	Q	QUEENS BLVD	JACKIE ROBINSON PKWY	T		A	5	S	7/23/2010	4.778	F	37700	\$150,800,000	409		
2247220	Q	80TH ROAD	LIRR MAIN LINE	L		O	3	S	10/7/2009	4.857	F	4100	\$16,400,000	409		
2247230	Q	82ND AVE	LIRR MAIN LINE	L		O	3	S	10/6/2009	5.377	G	4100	\$16,400,000	409		
2247240	Q	LEFFERTS BLVD	LIRR MAIN LINE	L		O	3	S	10/8/2009	5.750	G	5460	\$21,840,000	409		
2247590	Q	FOREST PARK DRIVE	LIRR MONTAUK DIV	L	P	O	5	S	12/14/2010	5.298	G	6000	\$24,000,000	409		
2247660	Q	FOREST PARK DRIVE	ABANDONED LIRR		P	O	6	S	3/5/2010	4.746	F	10000	\$40,000,000	409		
2248019	Q	WOODHAVEN BLVD	ATLANTIC AVE			O	3	S	4/8/2010	4.236	F	19400	\$77,600,000	409		
2248340	Q	FOREST PARK DR	MYRTLE AVE		P	O	3	S	6/15/2009	4.984	F	5100	\$20,400,000	409		
2231559	Q	CROSS BAY BLVD	BSHP			A	4	S	6/15/2010	5.139	G	23205	\$92,820,000	410		
2231560	Q	S CONDUIT BLVD	BSOP			A	2	S	7/27/2010	5.465	G	15776	\$63,104,000	410		
2231570	Q	COHANCY ST	BSOP			A	2	S	5/10/2010	4.368	F	6400	\$25,600,000	410		
2231590	Q	130TH ST	BSOP			A	2	S	2/2/2010	4.659	F	6800	\$27,200,000	410		
2240650	Q	163RD AVE PED BRDG	HAWTREE BASIN			WO-PED	13	C	10/19/2010	4.440	F	5000	\$20,000,000	410		
2248020	Q	WHITELAW PED BRDG	CONDUIT AVE			O-PED	7	C	10/8/2010	4.775	F	5500	\$22,000,000	410		
2248039	Q	CROSS BAY BLVD	NASSAU EXPWY - RTE 27			O	2	S	6/30/2009	6.417	V	16544	\$66,176,000	410		
2248040	Q	RAMP TO LINDEN BLVD	SO. CONDUIT AVE			O	1	S	6/10/2010	5.200	G	3352	\$13,408,000	410		
2248250	Q	102ND ST	HAWTREE BASIN			WO	3	S	8/17/2009	5.941	G	4900	\$19,600,000	410		
2231860	Q	W ALLEY ROAD	BCIP			A	2	S	7/28/2009	5.263	G	7200	\$28,800,000	411		
2231870	Q	NORTHERN BLVD	BCIP			A	2	S	9/21/2010	6.125	V	9400	\$37,600,000	411		
2231880	Q	CROCHERON PK PED	BCIP		P	A-PED	9	C	5/5/2010	4.145	F	2300	\$9,200,000	411		
2231890	Q	28TH AVE PED BRDG	BCIP		P	A-PED	24	C	6/4/2010	4.467	F	7600	\$30,400,000	411		
2240440	Q	NORTHERN BLVD	ALLEY CREEK			WO	2	S	8/12/2010	4.681	F	8300	\$33,200,000	411		
2247130	Q	CORPORAL KENNEDY ST	LIRR PORT WASH BR	L		O	1	S	10/30/2009	6.235	V	3379	\$13,516,000	411		
2247140	Q	BELL BLVD	LIRR PORT WASH BR	L		O	1	S	9/17/2009	5.780	G	4320	\$17,280,000	411		
2247170	Q	DOUGLASTON PKWY	LIRR PORT WASH BR	L		O	3	S	12/15/2010	4.712	F	6300	\$25,200,000	411		
2247680	Q	221ST ST	LIRR PORT WASH BR	L		O	3	S	9/16/2009	5.941	G	6050	\$24,200,000	411		
2248060	Q	MOTOR PKWY (PED)	BELL BLVD		P	O-PED	2	C	6/8/2010	4.181	F	2650	\$10,600,000	411		
2248070	Q	MOTOR PKWY (PED)	SPRINGFIELD BLVD		P	O-PED	3	C	6/14/2010	3.582	F	2900	\$11,600,000	411		
2266129	Q	DOUGLASTON PKWY	BCIP SB			A	1	S	3/19/2010	4.592	F	4400	\$17,600,000	411		
2266139	Q	DOUGLASTON PKWY	BCIP NB			A	1	S	3/18/2010	4.510	F	6400	\$25,600,000	411		
7703720	Q	216TH ST PED BRDG	LIRR PORT WASH BR	L		O-PED	6	C	10/25/2009	3.556	F	400	\$1,600,000	411		
2231610	Q	GUY R. BREWER BLVD	BSOP			A	4	S	5/12/2009	6.319	V	12342	\$49,368,000	413		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2231620	Q	FARMERS BLVD	BSOP			A	2	S	5/17/2010	4.568	F	6400	\$25,600,000	413		
2231630	Q	SPRINGFIELD BLVD	BSOP			A	2	S	5/19/2010	4.614	F	8500	\$34,000,000	413		
2231640	Q	225TH ST	BSOP			A	2	S	5/20/2010	5.000	G	7000	\$28,000,000	413		
2231650	Q	SUNRISE HWY W.B.	BLP E.B.			A	1	S	4/26/2010	4.393	F	4100	\$16,400,000	413		
2231660	Q	SUNRISE HWY W.B.	BLP W.B.			A	2	S	3/11/2010	4.565	F	5350	\$21,400,000	413		
2231670	Q	N CONDUIT AVE WB	BLP E.B.			A	1	S	1/26/2010	4.917	F	4000	\$16,000,000	413		
2231680	Q	N CONDUIT AVE WB	BLP W.B.			A	2	S	1/27/2010	4.932	F	6500	\$26,000,000	413		
2231690	Q	FRANCIS LEWIS BLVD	BLP E.B.			A	1	S	4/13/2010	5.167	G	6000	\$24,000,000	413		
2231700	Q	FRANCIS LEWIS BLVD	BLP W.B.			A	1	S	4/13/2010	4.833	F	6000	\$24,000,000	413		
2231710	Q	MERRICK BLVD	BLP N.B.			A	1	S	2/22/2010	4.533	F	6000	\$24,000,000	413		
2231720	Q	MERRICK BLVD	BLP S.B.			A	1	S	2/22/2010	4.200	F	6000	\$24,000,000	413		
2231730	Q	130TH AVE	BLP N.B.			A	1	S	1/21/2010	5.267	G	4400	\$17,600,000	413		
2231740	Q	130TH AVE	BLP S.B.			A	1	S	1/20/2010	4.833	F	4400	\$17,600,000	413		
2231750	Q	LINDEN BLVD	BCIP			A	2	S	3/8/2010	4.432	F	6700	\$26,800,000	413		
2231760	Q	BCIP	DUTCH BROADWAY-115 AVE			A	1	S	3/8/2010	4.395	F	7300	\$29,200,000	413		
2231770	Q	BELMONT PARK RAMP	BCIP		P	A	1	S	2/8/2010	4.688	F	3200	\$12,800,000	413		
2231780	Q	HEMPSTEAD AVE	BCIP			A	2	S	2/8/2010	3.968	F	14200	\$56,800,000	413		
2231790	Q	BELMONT PARK RAMP	BCIP		P	A	1	S	1/14/2010	4.563	F	3400	\$13,600,000	413		
2231800	Q	SUPERIOR ROAD	BCIP			A	2	S	4/13/2010	4.136	F	7000	\$28,000,000	413		
2231819	Q	JAMAICA AVE	BCIP			A	2	S	3/25/2010	4.773	F	11500	\$46,000,000	413		
2231829	Q	BRADDOCK AVE	BCIP			A	2	S	3/25/2010	4.591	F	10600	\$42,400,000	413		
2231840	Q	HILLSIDE AVE	BCIP			A	2	S	4/8/2010	4.079	F	9672	\$38,688,000	413		
2231850	Q	UNION TPKE	BCIP			A	2	S	4/1/2010	4.409	F	13600	\$54,400,000	413		
2248110	Q	MOTOR PKWY (PED)	ALLEY PK PED WALK		P	O-PED	1	C	6/30/2010	4.103	F	1000	\$4,000,000	413		
2248129	Q	UNION TPKE	CREEDMOORE HOSP RD			O	1	S	6/30/2009	4.867	F	3500	\$14,000,000	413		
2266149	Q	HEMPSTEAD AVE	BCIP RAMP NB			A	2	S	3/17/2010	4.063	F	9500	\$38,000,000	413		
2266770	Q	BCIP	LAURELTON PKWY			A	1	S	3/10/2010	4.972	F	9508	\$38,032,000	413		
2268770	Q	SPRINGFIELD BLVD	EQUES. PATH (ABAND.)			O	1	S	4/20/2009	4.667	F	1470	\$5,880,000	413		
2300130	Q	ROCKAWAY BLVD	HOOK CREEK			WO	3	S	8/19/2009	6.271	V	18302	\$73,208,000	413		
Q000002	Q	BCIP	PATH OPP. 88TH RD			A	1	C	6/16/2010	4.267	F	1272	\$5,088,000	413		
2248130	Q	FLUSHING MEADOW PK PED	WILLOW LK&76TH RD		P	WO-PED	4	C	4/20/2002	1.000	C	1891	\$7,564,000	481		
2248140	Q	FLUSHING MEADW PK RD	STREAM N OF LIE		P	WO	5	C	7/20/2010	4.673	F	4100	\$16,400,000	481		
2248260	Q	FLUSHING MDW PARK RD	MEADOW LAKE		P	WO	5	S	5/21/2010	4.745	F	4200	\$16,800,000	481		
2248379	Q	FLUSHING MDW PARK RD	AQUACADE LAKE		P	WO	5	C	7/13/2009	4.041	F	6300	\$25,200,000	481		
2230190	Q	MARKWOOD ROAD	JACKIE ROBINSON PKWY			A	1	S	2/9/2010	5.167	G	4400	\$17,600,000	482	406	
2247620	Q	MYRTLE AVE	ABANDONED LIRR			O	3	S	1/12/2010	5.028	G	6725	\$26,900,000	482	406	
2230179	Q	JACKIE ROBINSON PKWY	METROPOLITAN AVE			A	2	S	5/21/2010	5.286	G	8673	\$34,692,000	482		
2230180	Q	UNION TPKE	JACKIE ROBINSON PKWY			A	1	S	2/9/2010	5.797	G	5359	\$21,436,000	482		
2248369	Q	ROCKAWAY BLVD	THURSTON BASIN			WO	2	S	8/20/2009	5.158	G	6000	\$24,000,000	483	413	
2248230	Q	BEACH CHANNEL DR WB	BEACH CHANNEL DR EB			O	1	S	7/15/2009	4.400	F	3600	\$14,400,000	484		



# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249040	R	TOMPKINS AVE	B&O RR (ABANDONED)			O	1	S	5/24/2010	6.047	V	5096	\$20,384,000	501		
2249070	R	JOHN ST	B&O RR (ABANDONED)	O		O-PED	2	C	8/31/2010	5.648	G	1050	\$4,200,000	501		
2249090	R	MORNINGSTAR ROAD	B&O RR (ABANDONED)	O		O	4	S	3/19/2010	4.864	F	7900	\$31,600,000	501		
2249100	R	GRANITE AVE	B&O RR (ABANDONED)	O		O	4	S	3/26/2010	6.034	V	7300	\$29,200,000	501		
2249110	R	LAKE AVE	B&O RR (ABANDONED)	O		O	3	S	1/22/2010	5.333	G	5900	\$23,600,000	501		
2249120	R	SIMONSON AVE	B&O RR (ABANDONED)	O		O	3	S	4/24/2009	5.981	G	5819	\$23,276,000	501		
2249130	R	VAN NAME AVE	B&O RR (ABANDONED)	O		O	3	S	3/12/2010	5.254	G	5474	\$21,896,000	501		
2249140	R	VAN PELT AVE	B&O RR (ABANDONED)	O		O	3	S	4/28/2009	5.644	G	5000	\$20,000,000	501		
2249160	R	DE HART AVE	B&O RR (ABANDONED)	O		O	4	S	4/27/2009	6.500	V	6700	\$26,800,000	501		
2249170	R	UNION AVE	B&O RR (ABANDONED)	O		O	4	S	4/28/2009	5.426	G	6500	\$26,000,000	501		
2249180	R	HARBOR ROAD	B&O RR (ABANDONED)	O		O	4	S	6/20/2009	6.322	V	5778	\$23,112,000	501		
2249200	R	SOUTH AVE	B&O RR (ABANDONED)	O		O	3	S	6/20/2009	6.745	V	8322	\$33,288,000	501		
2249510	R	TOMPKINS AVE	WILLOW AVE, SIRT	S		O	2	S	11/4/2010	5.328	G	5378	\$21,512,000	501		
2249520	R	HANNAH ST	SIRT SOUTH SHORE	S		O	10	S	9/25/2009	4.763	F	10020	\$40,080,000	501		
2249530	R	MINTHORNE ST PED BRDG	SIRT SOUTH SHORE	S		O-PED	26	C	7/30/2010	4.377	F	6000	\$24,000,000	501		
2249710	R	WEST FOOTBRIDGE	CLOVE LAKE		P	WO-PED	2	C	8/6/2010	4.600	F	900	\$3,600,000	501		
2249720	R	EAST FOOTBRIDGE	CLOVE LAKE		P	WO-PED	2	C	8/6/2010	4.343	F	900	\$3,600,000	501		
2249730	R	BRIDGE OVER DAM	N.END CLOVE LAKE		P	WO-PED	1	C	7/28/2010	3.351	F	1000	\$4,000,000	501		
2249760	R	MARTLINGS AVE	RICHMOND LAKE DAM			WO	2	S	6/2/2009	4.600	F	7000	\$28,000,000	501		
2249770	R	S OF BROOKS LAKE	STREAM IN PARK		P	WO-PED	3	C	10/8/2010	4.730	F	700	\$2,800,000	501		
2249780	R	FOOTBRIDGE	BROOKS LAKE DAM		P	WO-PED	1	C	11/17/2009	3.467	F	800	\$3,200,000	501		
2249790	R	FB S OF FOREST AV	STREAM IN PARK		P	WO-PED	3	C	10/8/2010	4.814	F	700	\$2,800,000	501		
2249800	R	FOREST AVE	CLOVE LAKES PK STREAM		P	WO	1	S	11/4/2009	4.867	F	1600	\$6,400,000	501		
2249840	R	TOMPKINS AVE	GREENFIELD AVE			O	1	S	3/17/2010	5.021	G	2690	\$10,760,000	501		
2269730	R	PARKING EXIT RAMP	SIRT	S	F	O	10	S	10/28/2010	4.028	F	20727	\$82,908,000	501		
2269740	R	BUS STATION NORTH	SIRT	S	F	O	12	S	12/4/2009	3.980	F	64605	\$258,420,000	501		
2269750	R	BUS STATION SOUTH	SIRT	S	F	O	12	S	10/29/2010	4.720	F	154688	\$618,752,000	501		
2269760	R	NORTH RAMP	SIRT	S	F	O	9	S	11/16/2009	4.042	F	17589	\$70,356,000	501		
2269770	R	BUS STA ENTR RAMP	SIRT	S	F	O	19	S	12/26/2008	4.181	F	39333	\$157,332,000	501		
2269780	R	PARKING ENTR RAMP	SIRT	S	F	O	3	S	12/18/2008	4.986	F	8589	\$34,356,000	501		
2269790	R	BUS STATION EXIT RAMP	SIRT	S	F	O	7	S	10/29/2010	5.025	G	28721	\$114,884,000	501		
2270170	R	SI FERRY PED BRDG	PARKING LOT EXIT RDWY		F	O-PED	5	C	6/17/2010	3.163	F	2917	\$11,668,000	501		
2270180	R	BOROUGH PLACE - RAMP A	STATEN ISLAND RAILWAY	S	F	O	1	S	12/29/2005	4.938	F	1250	\$5,000,000	501		
2240350	R	RICHMOND AVE	RICHMOND CREEK			WO	3	S	7/8/2009	5.444	G	32589	\$130,356,000	502		
2249400	R	BEACH AVE	SIRT SOUTH SHORE	S		O	2	S	8/6/2009	5.576	G	3700	\$14,800,000	502		
2249410	R	ROSS AVE	SIRT SOUTH SHORE	S		O	2	S	8/6/2009	5.379	G	3800	\$15,200,000	502		
2249420	R	ROSE AVE	SIRT SOUTH SHORE	S		O	2	S	8/6/2009	5.591	G	3800	\$15,200,000	502		
2249430	R	NEW DORP LANE	SIRT SOUTH SHORE	S		O	2	S	11/4/2009	4.903	F	7600	\$30,400,000	502		
2249440	R	BANCROFT AVE	SIRT SOUTH SHORE	S		O	3	S	11/4/2009	5.361	G	5900	\$23,600,000	502		
2249450	R	FREMONT AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	3	C	8/31/2010	4.000	F	800	\$3,200,000	502		

# INVENTORY SORTED BY BOROUGH AND COMMUNITY BOARD DISTRICT

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249460	R	LINCOLN AVE	SIRT SOUTH SHORE	S		O	1	S	11/4/2009	5.276	G	4500	\$18,000,000	502		
2249470	R	MIDLAND AVE	SIRT SOUTH SHORE	S		O	1	S	11/25/2009	5.466	G	3000	\$12,000,000	502		
2249480	R	FINGERBOARD ROAD	SIRT SOUTH SHORE	S		O	2	S	11/25/2009	6.542	V	5100	\$20,400,000	502		
2249490	R	CLOVE ROAD	SIRT SOUTH SHORE	S		O	3	S	11/5/2010	5.986	G	5104	\$20,416,000	502		
2249860	R	SLATER BLVD	NEW CREEK			WO	1	S	5/6/2009	5.673	G	2037	\$8,148,000	502		
2249870	R	TRAVIS AVE	MAIN CREEK			WO	1	S	9/3/2010	5.733	G	1700	\$6,800,000	502		
2249880	R	CHELSEA ROAD	SAWMILL CREEK			WO	1	S	5/11/2009	6.816	V	2205	\$8,820,000	502		
2249210	R	MAIN ST PED BRDG	SIRT SOUTH SHORE	S		O-PED	9	C	7/23/2010	4.309	F	400	\$1,600,000	503		
2249230	R	TRACY AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	9	C	7/19/2010	3.383	F	635	\$2,540,000	503		
2249240	R	ARTHUR KILL ROAD	SIRT SOUTH SHORE	S		O	1	S	11/1/2010	4.685	F	3650	\$14,600,000	503		
2249250	R	BETHEL AV PED BRDG	SIRT SOUTH SHORE	S		O-PED	12	C	7/21/2010	3.525	F	111	\$444,000	503		
2249269	R	PAGE AVE	SIRT SOUTH SHORE	S		O	4	S	8/25/2009	6.347	V	30710	\$122,840,000	503		
2249270	R	RICHMOND VALLY ROAD	SIRT SOUTH SHORE	S		O	4	S	8/24/2009	5.284	G	9440	\$37,760,000	503		
2249280	R	CHAMP COURT PED BRDG	SIRT SOUTH SHORE	S		O-PED	7	C	7/22/2010	4.423	F	595	\$2,380,000	503		
2249290	R	SEGUINE AVE	SIRT SOUTH SHORE	S		O	1	S	10/19/2009	6.016	V	3250	\$13,000,000	503		
2249300	R	HUGUENOT AVE	SIRT SOUTH SHORE	S		O	2	S	10/20/2009	4.864	F	4900	\$19,600,000	503		
2249320	R	ALBEE AVE	SIRT SOUTH SHORE	S		O	3	S	10/21/2009	4.623	F	6500	\$26,000,000	503		
2249330	R	ANNADALE ROAD	SIRT SOUTH SHORE	S		O	2	S	8/18/2009	4.576	F	4500	\$18,000,000	503		
2249350	R	NELSON AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	3	C	7/15/2010	3.846	F	300	\$1,200,000	503		
2249360	R	GIFFORDS LANE	SIRT SOUTH SHORE	S		O	1	S	11/2/2010	5.531	G	3042	\$12,168,000	503		
2249370	R	GREAVES AVE	SIRT SOUTH SHORE	S		O	1	S	8/26/2009	6.750	V	2650	\$10,600,000	503		
2249380	R	GUYON AVE	SIRT SOUTH SHORE	S		O	3	S	8/27/2009	4.869	F	6900	\$27,600,000	503		
2249390	R	CEDARVIEW AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	5	C	7/28/2010	3.615	F	625	\$2,500,000	503		
2249580	R	BELFIELD AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	5	C	7/27/2010	4.098	F	400	\$1,600,000	503		
2249810	R	HYLAN BLVD	LEMON CREEK			WO	1	S	3/10/2010	6.406	V	11400	\$45,600,000	503		
2249820	R	ARTHUR KILL ROAD	ARTHUR KILL STREAM			WO	1	S	5/8/2009	4.286	F	2000	\$8,000,000	503		
2268920	R	AMBOY ROAD	LEMON CREEK			WO	1	S	3/15/2010	6.000	G	1310	\$5,240,000	503		
786 OPEN BRIDGES					OPEN SPANS 4,441					OPEN SF		14,512,626	58,050,504,000			

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2248250	Q	102ND ST	HAWTREE BASIN			WO	3	S	8/17/2009	5.941	G	4900	\$19,600,000	410		
2245209	M	11TH AVE	AMTRAK 30 ST BRANCH	A		O	2	S	4/10/2008	4.471	F	15400	\$61,600,000	104		
2243630	K	11TH AVE	LIRR & SEA BEACH	NT		O	5	S	12/18/2008	6.103	V	9700	\$38,800,000	310		
2245010	M	11TH AVE VIADUCT	LIRR WEST SIDE YARD	AL		O	39	S	12/30/2008	4.028	F	157500	\$630,000,000	104		
2231730	Q	130TH AVE	BLP N.B.			A	1	S	1/21/2010	5.267	G	4400	\$17,600,000	413		
2231740	Q	130TH AVE	BLP S.B.			A	1	S	1/20/2010	4.833	F	4400	\$17,600,000	413		
2231590	Q	130TH ST	BSOP			A	2	S	2/2/2010	4.659	F	6800	\$27,200,000	410		
2243640	K	13TH AVE	LIRR & SEA BEACH	NT		O	5	S	9/23/2009	4.694	F	16000	\$64,000,000	310		
2240089	BM	145TH ST BRIDGE	HARLEM RIVER			WMO	8	S	11/13/2009	6.403	V	56700	\$226,800,000	110	204	201
2231980	Q	147TH ST	BCIP			A	2	S	3/10/2010	4.705	F	6300	\$25,200,000	407		
2247070	Q	147TH ST	LIRR PORT WASH BR	L		O	1	S	9/10/2009	5.353	G	2800	\$11,200,000	407		
2247090	Q	149TH PLACE	LIRR PORT WASH BR	L		O	2	S	9/9/2009	5.000	G	4300	\$17,200,000	407		
2231960	Q	149TH ST	BCIP			A	2	S	2/18/2010	4.795	F	6210	\$24,840,000	407		
2247080	Q	149TH ST	LIRR PORT WASH BR	L		O	1	S	9/8/2009	4.776	F	4100	\$16,400,000	407		
2231970	Q	14TH AVE	BCIP			A	2	S	2/18/2010	4.614	F	8100	\$32,400,000	407		
2243650	K	14TH AVE	LIRR BAY RIDGE	N		O	1	S	12/23/2010	6.600	V	4720	\$18,880,000	311		
2231950	Q	150TH ST	BCIP			A	2	S	2/18/2010	4.614	F	5900	\$23,600,000	407		
2247100	Q	150TH ST	LIRR PORT WASH BR	L		O	2	S	9/4/2009	6.176	V	7830	\$31,320,000	407		
2243670	K	15TH AVE	BMT SEA BEACH	T		O	4	S	9/24/2009	6.386	V	16020	\$64,080,000	311		
2243340	K	15TH AVE	LIRR BAY RIDGE	N		O	1	S	12/6/2010	4.723	F	3614	\$14,456,000	311		
2231920	Q	160TH ST	BCIP			A	2	S	4/24/2009	5.694	G	5550	\$22,200,000	407		
2240650	Q	163RD AVE PED BRDG	HAWTREE BASIN			WO-PED	13	C	10/19/2010	4.440	F	5000	\$20,000,000	410		
7705510	Q	167TH ST PED BRDG	LIRR PORT WASH BR	L		O-PED	3	C	10/9/2009	3.902	F	600	\$2,400,000	407		
2243680	K	16TH AVE	BMT SEA BEACH	T		O	3	S	11/26/2008	5.370	G	6816	\$27,264,000	311		
2243360	K	16TH AVE	LIRR BAY RIDGE	N		O	1	S	12/6/2010	5.350	G	4345	\$17,380,000	311		
206672A	B	174TH ST-NTH PED BRDG	8951 - SHERIDAN EXPWY			A-PED	4	C	5/10/2010	4.736	F	1800	\$7,200,000	209		
206672B	B	174TH ST-STH PED BRDG	8951 - SHERIDAN EXPWY			A-PED	4	C	4/13/2010	4.972	F	1900	\$7,600,000	209		
2243690	K	17TH AVE	BMT SEA BEACH	T		O	4	S	11/26/2008	6.327	V	8946	\$35,784,000	311		
2243370	K	17TH AVE	LIRR BAY RIDGE	N		O	1	S	12/7/2010	4.824	F	3406	\$13,624,000	312		
2231300	K	17TH AVE PED BRDG	BSHP		P	A-PED	1	C	9/7/2010	3.397	F	2100	\$8,400,000	311		
2243700	K	18TH AVE	BMT SEA BEACH	T		O	1	S	9/25/2009	6.632	V	5200	\$20,800,000	311		
2243380	K	18TH AVE	LIRR BAY RIDGE	N		O	1	S	12/7/2010	4.688	F	6006	\$24,024,000	312		
2243710	K	19TH AVE	BMT SEA BEACH	T		O	4	S	10/27/2008	4.395	F	4800	\$19,200,000	311		
2241259	B	204TH ST PED BRDG	METRO NORTH RR HAR	M	P	O-PED	1	C	3/4/2009	4.034	F	4700	\$18,800,000	227	207	
2243720	K	20TH AVE	BMT SEA BEACH	T		O	1	S	10/28/2008	6.673	V	12500	\$50,000,000	311		
7703720	Q	216TH ST PED BRDG	LIRR PORT WASH BR	L		O-PED	6	C	10/25/2009	3.556	F	400	\$1,600,000	411		
2243820	K	21ST AVE	BMT SEA BEACH	T		O	4	S	12/16/2010	3.974	F	21400	\$85,600,000	311		
2247270	Q	21ST ST	LIRR N SIDE DIV	L		O	6	S	11/23/2009	5.306	G	17590	\$70,360,000	402		
2247680	Q	221ST ST	LIRR PORT WASH BR	L		O	3	S	9/16/2009	5.941	G	6050	\$24,200,000	411		
2231640	Q	225TH ST	BSOP			A	2	S	5/20/2010	5.000	G	7000	\$28,000,000	413		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2229450	B	232ND ST	HHP			A	2	S	8/26/2009	5.026	G	4900	\$19,600,000	208		
2229460	B	236TH ST PED BRDG	HHP			A-PED	3	C	7/2/2010	4.607	F	2500	\$10,000,000	208		
2229470	B	239TH ST	HHP			A	2	S	5/27/2009	5.368	G	6100	\$24,400,000	208		
2229490	B	246TH ST	HHP			A	2	S	5/22/2009	4.947	F	5600	\$22,400,000	208		
2229500	B	252ND ST	HHP			A	2	S	2/4/2010	5.791	G	4500	\$18,000,000	208		
224004J	M	25X	NYC GARAGE			OE	14	S	4/23/2010	4.780	F	22058	\$88,232,000	108		
2266540	B	278I	BRUCKNER BLVD			A	2	S	7/8/2009	4.565	F	32900	\$131,600,000	201		
2230679	Q	278I (B.Q.E.)	34TH AVE			A	1	S	6/11/2009	6.203	V	7793	\$31,172,000	402		
2230669	Q	278I (B.Q.E.)	35TH AVE			A	1	S	8/6/2009	6.525	V	13135	\$52,540,000	402		
2230470	K	278I (B.Q.E.)	JAY ST			A	1	S	3/10/2008	4.833	F	5100	\$20,400,000	302		
2230510	K	278I (B.Q.E.)	NASSAU ST			A	6	S	6/11/2010	5.169	G	51200	\$204,800,000	302		
2230680	Q	278I (B.Q.E.)	NORTHERN BLVD			A	1	S	11/12/2010	6.079	V	27011	\$108,044,000	402	401	
2230460	K	278I (B.Q.E.)	PEARL ST			A	1	S	3/10/2008	5.333	G	4500	\$18,000,000	302		
2230430	K	278I (B.Q.E.)	PROSPECT ST			A	1	S	1/19/2010	5.000	G	1100	\$4,400,000	302		
2230480	K	278I (B.Q.E.)	PROSPECT ST			A	1	S	2/18/2010	5.093	G	8400	\$33,600,000	302		
2230500	K	278I (B.Q.E.)	RAMP TO BQE EB			A	1	S	3/5/2010	5.100	G	1300	\$5,200,000	302		
2230490	K	278I (B.Q.E.)	SANDS ST			A	1	S	3/1/2010	5.019	G	12600	\$50,400,000	302		
2230780	Q	278I (BQE EAST LEG)	30TH AVE			A	1	S	6/19/2009	6.524	V	7071	\$28,284,000	403	401	
2230770	Q	278I (BQE WEST LEG)	30TH AVE			A	1	S	6/19/2009	6.695	V	6199	\$24,796,000	401		
2268508	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)			A	11	S	5/26/2009	4.034	F	20529	\$82,116,000	302		
2268518	K	278I E.B. (B.Q.E.)	278I W.B. (B.Q.E.)			A	5	S	7/2/2009	4.214	F	9275	\$37,100,000	302		
2268498	K	278I E.B. (B.Q.E.)	278I WB (BQE)			A	69	S	7/17/2009	3.965	F	133708	\$534,832,000	302		
2230888	K	278I E.B. (B.Q.E.)	CADMAN PLAZA / 278I WB			A	2	S	7/23/2010	5.263	G	4500	\$18,000,000	302		
2230450	K	278I EB (B.Q.E.)	ADAMS ST			A	1	S	1/15/2010	4.933	F	2500	\$10,000,000	302		
2230858	K	278I EB (B.Q.E.)	JORALEMON ST / BQE WB			A	2	S	3/18/2010	4.048	F	5900	\$23,600,000	302		
2230410	K	278I EB (B.Q.E.)	WASHINGTON ST			A	1	S	7/2/2010	4.438	F	2500	\$10,000,000	302		
2230760	Q	278I NB (BQE EAST LEG)	31ST AVE			A	1	S	10/4/2010	6.610	V	4161	\$16,644,000	401		
2230700	Q	278I NB (BQE EAST LEG)	32ND AVE (TO BQE WEST LEG)			A	8	S	11/9/2010	6.662	V	31600	\$126,400,000	401	403	
2230690	Q	278I NB (BQE WEST LEG)	32ND AVE			A	1	S	7/7/2010	6.492	V	4080	\$16,320,000	401		
2230830	Q	278I NB (BQE WEST LEG)	GCP			A	2	S	5/20/2010	4.583	F	7600	\$30,400,000	401		
2230720	Q	278I SB (BQE EAST LEG)	278I NB (BQE WEST LEG)			A	3	S	5/15/2009	6.364	V	20896	\$83,584,000	401		
2230710	Q	278I SB (BQE WEST LEG)	32ND AVE			A	1	S	8/5/2009	6.695	V	5240	\$20,960,000	401		
2230750	Q	278I SB (BQE EAST LEG)	31ST AVE			A	1	S	8/24/2009	6.508	V	4221	\$16,884,000	401	403	
2230740	Q	278I SB (BQE WEST LEG)	31ST AVE			A	1	S	8/4/2009	6.217	V	5246	\$20,984,000	401		
2230887	K	278I W.B. (B.Q.E.)	CADMAN PLAZA			A	2	S	7/20/2010	4.397	F	4500	\$18,000,000	302		
2268497	K	278I W.B. (B.Q.E.)	FURMAN ST			A	45	S	7/14/2009	4.381	F	86406	\$345,624,000	302		
2268517	K	278I W.B. (B.Q.E.)	FURMAN ST			A	7	S	6/29/2009	3.882	F	10988	\$43,952,000	302		
2268507	K	278I W.B. (B.Q.E.)	YORK ST			A	6	S	5/26/2009	4.071	F	10388	\$41,552,000	302		
2230440	K	278I WB (B.Q.E.)	ADAMS ST			A	1	S	1/15/2010	5.167	G	2700	\$10,800,000	302		
2230857	K	278I WB (B.Q.E.)	JORALEMON ST			A	1	S	3/18/2010	5.000	G	2100	\$8,400,000	302		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230420	K	278I WB (B.Q.E.)	WASHINGTON ST			A	1	S	7/2/2010	5.109	G	2500	\$10,000,000	302		
2231330	K	27TH AVE PED BRDG	BSHP		P	A-PED	1	C	1/7/2010	4.106	F	2100	\$8,400,000	313		
2231890	Q	28TH AVE PED BRDG	BCIP		P	A-PED	24	C	6/4/2010	4.467	F	7600	\$30,400,000	411		
2243310	K	2ND AVE	LIRR BAY RIDGE	N		O	2	S	12/14/2010	6.472	V	17751	\$71,004,000	310		
2230730	Q	31ST AVE	278I NB (BQE WEST LEG)			A	1	S	7/20/2009	6.433	V	5875	\$23,500,000	401		
2230657	Q	31ST ST	278I (B.Q.E.)			A	2	S	11/6/2010	4.569	F	9500	\$38,000,000	401		
2230640	Q	32ND ST	278I (B.Q.E.)			A	2	S	6/15/2009	4.903	F	8100	\$32,400,000	401		
2230630	Q	35TH ST	278I (B.Q.E.)			A	4	S	4/9/2010	4.667	F	9000	\$36,000,000	401		
2247370	Q	37TH AVE	CSX - HELLGATE	C		O	1	S	9/22/2009	6.447	V	6868	\$27,472,000	402		
2230620	Q	37TH ST	278I (B.Q.E.)			A	2	S	3/25/2010	4.597	F	5300	\$21,200,000	401		
2247330	Q	39TH ST (NORTH)	SUNNYSIDE YARD	A		O	14	S	11/3/2009	6.556	V	48200	\$192,800,000	402	401	
2247640	Q	39TH ST (SOUTH)	AMTRAK & LIRR YARD	AL		O	9	S	11/11/2009	6.125	V	34100	\$136,400,000	402		
2243320	K	3RD AVE	LIRR BAY RIDGE	N		O	4	S	8/31/2009	5.083	G	17230	\$68,920,000	310		
2244160	K	3RD AVE	SHORE RD DRIVE			O	1	S	5/8/2009	6.727	V	4360	\$17,440,000	310		
2230570	Q	41ST AVE	278I (B.Q.E.)			A	2	S	10/29/2010	6.735	V	8580	\$34,320,000	402		
2247390	Q	41ST AVE	CSX - HELLGATE	C		O	2	S	9/23/2009	4.942	F	4400	\$17,600,000	402	404	
2247410	Q	43RD AVE	CSX TRANSPORT	C		O	1	S	9/24/2009	5.000	G	4800	\$19,200,000	402	404	
2247420	Q	44TH AVE	CSX TRANSPORT	C		O	1	S	9/24/2009	5.000	G	5100	\$20,400,000	402	404	
2230840	Q	44TH ST	GCP			A	2	S	5/21/2010	4.681	F	5000	\$20,000,000	401		
2247430	Q	45TH AVE	CSX TRANSPORT	C		O	1	S	10/2/2009	5.306	G	2400	\$9,600,000	402	404	
2230820	Q	47TH ST	GCP			A	2	S	5/21/2010	4.944	F	5700	\$22,800,000	401		
2066002	Q	495I (2066000)	WOODHAVEN BLVD			A	2	S	6/26/2009	5.592	G	25200	\$100,800,000	406	404	
2247290	Q	49TH AVE	LIRR,AMT,CON NE	L		O	5	S	12/13/2010	4.014	F	20400	\$81,600,000	402		
2230800	Q	49TH ST	278I (BQE WEST LEG)			A	2	S	4/23/2010	5.333	G	4900	\$19,600,000	401		
2230890	Q	49TH ST	GCP			A	2	S	5/20/2010	4.444	F	6350	\$25,400,000	401		
2231270	K	4TH AVE	BSHP			A	2	S	3/31/2010	4.684	F	6100	\$24,400,000	310		
2243330	K	4TH AVE	LIRR BAY RIDGE	NT		O	4	S	9/9/2009	5.736	G	13668	\$54,672,000	310		
2243839	K	4TH AVE	NYCTA BMT TRACKS	T		O	1	S	9/18/2009	6.267	V	4440	\$17,760,000	307		
2243400	K	50TH ST	LIRR BAY RIDGE	N		O	2	S	9/4/2009	4.731	F	7100	\$28,400,000	312		
1247280	Q	51 AVE PED BR (2247280)	LIRR MAIN LINE	L		O-PED	5	C	10/6/2009	3.018	F	700	\$2,800,000	402		
2243390	K	52ND ST	LIRR BAY RIDGE	N		O	1	S	12/9/2010	6.250	V	3293	\$13,172,000	312		
2247190	Q	55TH AVE PED BRDG	LIRR MAIN LINE	L		O-PED	3	C	10/7/2009	4.309	F	13000	\$52,000,000	404		
2247450	Q	57TH AVE	CSX TRANSPORT	C		O	1	S	9/29/2009	6.073	V	2248	\$8,992,000	405		
2066100	K	5TH AVE	27 X PROSPECT EXPWY			A	1	S	6/4/2010	5.104	G	8800	\$35,200,000	307		
2244480	K	5TH AVE	GREENWOOD CEMETERY			O	1	S	9/9/2009	4.667	F	3600	\$14,400,000	307		
2243580	K	5TH AVE	LIRR & SEA BEACH	NT		O	4	S	12/2/2008	4.147	F	12395	\$49,580,000	310		
2247650	Q	60TH RD PED BRDG	LIRR MAIN LINE	L		O-PED	3	C	10/16/2009	5.000	G	2293	\$9,172,000	405	406	
2243350	K	60TH ST	LIRR BAY RIDGE	N		O	1	S	9/4/2009	6.267	V	3900	\$15,600,000	311		
2247540	Q	60TH ST	LIRR MONTAUK DIV	L		O	2	S	10/23/2009	5.097	G	5340	\$21,360,000	405		
2230520	Q	65TH PLACE	278I (B.Q.E.)			A	2	S	2/17/2010	6.111	V	11668	\$46,672,000	402		



# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2247160	Q	65TH PLACE	LIRR MAIN LINE	L		O	3	S	10/29/2009	6.441	V	8381	\$33,524,000	402		
2243730	K	65TH ST	BMT SEA BEACH	T		O	4	S	12/16/2010	5.132	G	12000	\$48,000,000	311		
2247150	Q	65TH ST	LIRR MAIN LINE	L		O	3	S	10/26/2009	6.375	V	6344	\$25,376,000	402		
1247200	Q	67 AVE PED BR (2247200)	LIRR MAIN LINE	L		O-PED	3	C	10/9/2009	4.500	F	1300	\$5,200,000	406		
2266160	Q	678I SB TO BCIP EB	ACCESS RD FROM 678I			A	1	S	7/22/2010	3.984	F	2300	\$9,200,000	407		
2230550	Q	69TH ST	278I (B.Q.E.)			A	2	S	1/19/2010	5.123	G	12600	\$50,400,000	402		
2247490	Q	69TH ST JUNPR BLVD	CSX TRANSPORT	C		O	1	S	12/13/2010	5.021	G	6175	\$24,700,000	405		
2065950	Q	69TH STREET	495I (L.I.E.)			A	2	S	5/20/2009	5.361	G	10336	\$41,344,000	405		
2243590	K	6TH AVE	LIRR & SEA BEACH	NT		O	2	S	10/22/2009	6.250	V	14382	\$57,528,000	310		
2243280	K	6TH AVE	LIRR ATLANTIC AVE	L		O	9	S	11/23/2008	5.403	G	12276	\$49,104,000	302		
2230560	Q	70TH ST	278I (B.Q.E.)			A	2	S	10/29/2010	6.833	V	8580	\$34,320,000	402		
2248300	Q	71ST AVE	COOPER AVE			O	1	S	7/13/2009	4.373	F	2800	\$11,200,000	405		
2246150	M	72 ST CROSS DR (TERRACE BRDG)	PED PATH TO FOUNTAIN		P	O	3	S	3/12/2010	5.786	G	7300	\$29,200,000	164		
2246160	M	73 ST PED BRDG (BOW BRIDGE)	THE LAKE		P	WO-PED	1	C	5/13/2010	3.718	F	1700	\$6,800,000	164		
2267717	M	79 ST PED PLAZA	79 ST BT BASIN GAR		P	A	10	S	5/1/2009	4.519	F	27400	\$109,600,000	107		
226771B	M	79 ST RAMP TO GAR	79 ST BT BASIN GAR		P	AR	21	S	5/1/2009	4.532	F	8989	\$35,956,000	107		
226771A	M	79 ST RAMP TO HHP	79 ST BT BASIN GAR		P	AR	4	S	5/11/2009	4.221	F	3131	\$12,524,000	107		
2267718	M	79 ST TRAFFIC CIRC	79 ST PED PLAZA		P	A	34	S	5/8/2009	3.885	F	24130	\$96,520,000	107		
2246440	M	79 TH ST PED BRDG	TRANSVERSE RD #2		P	O-PED	1	C	9/3/2010	3.926	F	5900	\$23,600,000	164		
2243600	K	7TH AVE	LIRR & SEA BEACH	NT		O	7	S	12/9/2008	5.028	G	18628	\$74,512,000	310		
2243920	K	7TH AVE	NYCTA BMT YARD	T		O	2	S	10/16/2008	6.324	V	4700	\$18,800,000	307		
2247220	Q	80TH ROAD	LIRR MAIN LINE	L		O	3	S	10/7/2009	4.857	F	4100	\$16,400,000	409		
2247570	Q	80TH ST	77TH AVE - LIRR MT	L		O	5	S	12/13/2010	5.169	G	11725	\$46,900,000	405		
2231250	K	81ST ST PED BR	BSHP		P	A-PED	5	C	3/10/2010	4.418	F	3100	\$12,400,000	310		
2247230	Q	82ND AVE	LIRR MAIN LINE	L		O	3	S	10/6/2009	5.377	G	4100	\$16,400,000	409		
2243570	K	86TH ST	BMT SEA BEACH	T		O	1	S	9/11/2008	6.078	V	12167	\$48,668,000	313		
2243610	K	8TH AVE	LIRR & SEA BEACH	NT		O	2	S	10/22/2009	6.153	V	10834	\$43,336,000	310		
1247010	Q	91 PLACE (2247010)	LIRR PT WASH BR	L		O	1	S	11/17/2009	6.567	V	2760	\$11,040,000	404		
2231260	K	92ND ST PED BR	BSHP		P	A-PED	6	C	7/30/2010	3.952	F	3000	\$12,000,000	310		
2247020	Q	94TH ST PED BRDG	LIRR PORT WASH BR	L		O-PED	5	C	10/8/2009	4.030	F	500	\$2,000,000	404		
2243840	K	9TH AVE	NYCTA BMT YARD	T		O	5	S	9/18/2009	6.028	V	12440	\$49,760,000	312		
2243940	K	9TH AVE	NYCTA IND SBWY	T		O	5	S	9/18/2009	4.737	F	6300	\$25,200,000	312		
2246490	M	A.C. POWELL BLVD N.B.	A.C. POWELL BLVD			O	1	S	2/11/2010	4.020	F	5600	\$22,400,000	110		
2249320	R	ALBEE AVE	SIRT SOUTH SHORE	S		O	3	S	10/21/2009	4.623	F	6500	\$26,000,000	503		
2268920	R	AMBOY ROAD	LEMON CREEK			WO	1	S	3/15/2010	6.000	G	1310	\$5,240,000	503		
2247530	Q	ANDREWS AVE	LIRR MONTAUK DIV	L		O	1	S	9/23/2009	7.000	V	1765	\$7,060,000	405		
2249330	R	ANNADALE ROAD	SIRT SOUTH SHORE	S		O	2	S	8/18/2009	4.576	F	4500	\$18,000,000	503		
2249820	R	ARTHUR KILL ROAD	ARTHUR KILL STREAM			WO	1	S	5/8/2009	4.286	F	2000	\$8,000,000	503		
2249240	R	ARTHUR KILL ROAD	SIRT SOUTH SHORE	S		O	1	S	11/1/2010	4.685	F	3650	\$14,600,000	503		
2230810	Q	ASTORIA BLVD EB	278I (BQE WEST LEG)			A	4	S	4/6/2010	4.044	F	8200	\$32,800,000	401		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2243569	K	ATLANTIC AVE	LIRR ATLANTIC AVE	L		O	75	S	5/28/2010	3.676	F	135100	\$540,400,000	316	305	
2244170	K	ATLNTC AV SVC RD E.B.	EAST NEW YORK AVE			O	2	S	8/13/2009	5.474	G	3192	\$12,768,000	305		
2244180	K	ATLNTC AV SVC RD W.B.	EAST NEW YORK AVE			O	2	S	8/13/2009	5.105	G	5600	\$22,400,000	305		
2243530	K	AVENUE H	LIRR BAY RIDGE	N		O	2	S	9/10/2009	5.956	G	35100	\$140,400,000	318		
2243750	K	AVENUE O	BMT SEA BEACH	T		O	1	S	10/7/2009	5.863	G	4658	\$18,632,000	311		
2243760	K	AVENUE P	BMT SEA BEACH	T		O	1	S	10/7/2009	6.605	V	5544	\$22,176,000	311		
2243790	K	AVENUE S	BMT SEA BEACH	T		O	1	S	10/8/2009	5.967	G	5360	\$21,440,000	315		
2243800	K	AVENUE T	BMT SEA BEACH	T		O	1	S	10/8/2009	6.033	V	5360	\$21,440,000	311		
2243810	K	AVENUE U	BMT SEA BEACH	T		O	1	S	12/17/2010	5.686	G	5880	\$23,520,000	315		
2249440	R	BANCROFT AVE	SIRT SOUTH SHORE	S		O	3	S	11/4/2009	5.361	G	5900	\$23,600,000	502		
2241180	B	BARRETTO ST	AMTRAK - CSX	AC		O	1	S	7/25/2008	6.000	G	5313	\$21,252,000	202		
2232000	M	BATTERY PLACE	FDR DRIVE			AT	2	S	11/18/2009	5.318	G	142000	\$568,000,000	101		
2231290	K	BAY 8TH ST	BSHP			A	1	S	5/29/2009	5.921	G	4950	\$19,800,000	311		
2243740	K	BAY PKWY	BMT SEA BEACH	T		O	4	S	12/14/2010	4.816	F	16800	\$67,200,000	311		
2231760	Q	BCIP	DUTCH BROADWAY-115 AVE			A	1	S	3/8/2010	4.395	F	7300	\$29,200,000	413		
2266770	Q	BCIP	LAURELTON PKWY			A	1	S	3/10/2010	4.972	F	9508	\$38,032,000	413		
Q000002	Q	BCIP	PATH OPP. 88TH RD			A	1	C	6/16/2010	4.267	F	1272	\$5,088,000	413		
2231900	Q	BCIP	TOTTEN AVE			A	1	S	6/23/2010	4.641	F	4900	\$19,600,000	407		
2076109	B	BE NB SERVICE RD	HUTCHINSON RVR PKWY			A	2	S	9/8/2009	4.632	F	7800	\$31,200,000	210		
2076129	B	BE SB SERVICE RD	HUTCHINSON RVR PKWY			A	2	S	1/22/2010	5.105	G	7100	\$28,400,000	210		
2249400	R	BEACH AVE	SIRT SOUTH SHORE	S		O	2	S	8/6/2009	5.576	G	3700	\$14,800,000	502		
2248230	Q	BEACH CHANNEL DR WB	BEACH CHANNEL DR EB			O	1	S	7/15/2009	4.400	F	3600	\$14,400,000	484		
2243490	K	BEDFORD AVE	LIRR BAY RIDGE	N		O	6	S	11/24/2010	4.319	F	12000	\$48,000,000	314		
2241840	B	BEDFORD PARK BLVD	METRO NORTH RR HAR	M		O	1	S	5/13/2010	4.844	F	6400	\$25,600,000	227	207	
2241930	B	BEDFORD PARK BLVD	NYCTA IND YARDS	T		O	4	S	8/12/2008	5.681	G	46300	\$185,200,000	207		
2249580	R	BELFIELD AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	5	C	7/27/2010	4.098	F	400	\$1,600,000	503		
2247140	Q	BELL BLVD	LIRR PORT WASH BR	L		O	1	S	9/17/2009	5.780	G	4320	\$17,280,000	411		
2231770	Q	BELMONT PARK RAMP	BCIP		P	A	1	S	2/8/2010	4.688	F	3200	\$12,800,000	413		
2231790	Q	BELMONT PARK RAMP	BCIP		P	A	1	S	1/14/2010	4.563	F	3400	\$13,600,000	413		
2249250	R	BETHEL AV PED BRDG	SIRT SOUTH SHORE	S		O-PED	12	C	7/21/2010	3.525	F	111	\$444,000	503		
2243100	K	BEVERLY ROAD	BMT SUBWAY, BRIGHTON	T		O	3	S	11/18/2010	3.667	F	4200	\$16,800,000	314		
2243900	K	BLAKE AVE	LIRR BAY RIDGE LINE	N		O	3	S	12/15/2010	5.000	G	4912	\$19,648,000	316		
2240410	Q	BORDEN AVE	DUTCH KILLS			WMO	2	S	12/2/2010	3.181	F	8400	\$33,600,000	402		
2270180	R	BOROUGH PLACE - RAMP A	STATEN ISLAND RAILWAY	S	F	O	1	S	12/29/2005	4.938	F	1250	\$5,000,000	501		
2229579	B	BOSTON POST ROAD	HUTCHINSON RIVER			WO	14	S	6/25/2009	4.194	F	95700	\$382,800,000	212		
2242110	B	BOSTON ROAD	BRONX RIVER			WO	1	S	4/7/2010	4.227	F	6200	\$24,800,000	227		
2242100	B	BOTANICAL GARDEN ROAD	TWIN LAKES		P	WO	1	S	3/29/2010	4.833	F	2200	\$8,800,000	227		
2247050	Q	BOWNE AVE	LIRR PORT WASH BR	L		O	1	S	12/15/2010	5.490	G	4974	\$19,896,000	407		
2231829	Q	BRADDOCK AVE	BCIP			A	2	S	3/25/2010	4.591	F	10600	\$42,400,000	413		
2249730	R	BRIDGE OVER DAM	N.END CLOVE LAKE		P	WO-PED	1	C	7/28/2010	3.351	F	1000	\$4,000,000	501		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230590	Q	BROADWAY	278I (B.Q.E.)			O	2	S	11/12/2010	5.789	G	16000	\$64,000,000	402		
2240137	BM	BROADWAY BRIDGE	HARLEM RIVER	TM		WMO	3	S	11/12/2009	3.972	F	46848	\$187,392,000	112	207	208
2242072	B	BRONX BLVD N.B.	BRONX RIVER			WO	1	S	5/6/2010	4.967	F	1800	\$7,200,000	212		
2242082	B	BRONX BLVD N.B.	BRONX RIVER			WO	1	S	5/6/2010	4.467	F	2800	\$11,200,000	212		
2242071	B	BRONX BLVD S.B.	BRONX RIVER			WO	1	S	5/6/2010	4.633	F	1800	\$7,200,000	212		
2242081	B	BRONX BLVD S.B.	BRONX RIVER			WO	1	S	5/6/2010	4.467	F	2800	\$11,200,000	212		
2229560	B	BRONX PELHAM PKWY	AMTRAK - CSX	AC		A	3	S	6/13/2010	4.542	F	24591	\$98,364,000	211		
2075849	B	BRONX PELHAM PKWY	HUTCHINSON RVR PKWY			A	2	S	6/9/2010	3.974	F	17600	\$70,400,000	210	211	
2065629	B	BRONX RIVER PKWY	BOSTON RD BX ZOO			A	1	S	8/28/2009	5.276	G	6300	\$25,200,000	227		
2270250	B	BROOKE AVE	CSX TRANS - PT MORRIS			O	1	S	5/20/2010	3.800	F	21035	\$84,140,000	201		
2243520	K	BROOKLYN AVE	LIRR BAY RIDGE	N		O	3	S	9/11/2009	6.236	V	4500	\$18,000,000	318		
2267860	K	BROOKLYN BR APPROACH	STORAGE (SANDS ST)			O	1	S	7/27/2010	4.607	F	6490	\$25,960,000	302		
2240019	KM	BROOKLYN BRIDGE	EAST RIVER			WEO	75	S	10/25/2008	2.944	P	503788	\$2,015,152,000	103	302	101
2268350	K	BROOKLYN PROMENADE	278I EB (BQE)		P	A-PED	35	C	3/21/2010	3.690	F	46184	\$184,736,000	302		
2241099	B	BRUCKNER BLVD	CSX TRANS - PT MORRIS	C		O	1	S	9/17/2010	6.583	V	6700	\$26,800,000	201		
2076929	B	BRUCKNER EXPWY	CSX - HUNTS POINT	C		A	1	S	9/30/2009	4.700	F	3800	\$15,200,000	202		
2075352	B	BRUCKNER EXPWY NB	AMTRAK - CSX	AC		A	1	S	11/10/2009	2.875	P	10900	\$43,600,000	202		
2066672	B	BRUCKNER EXPWY NB	BRONX RIVER			WMA	8	S	11/3/2009	4.239	F	22300	\$89,200,000	202	209	
2075351	B	BRUCKNER EXPWY SB	AMTRAK - CSX	AC		A	1	S	11/25/2008	3.625	F	11600	\$46,400,000	202		
2066671	B	BRUCKNER EXPWY SB	BRONX RIVER			WMA	3	S	11/3/2009	5.222	G	12400	\$49,600,000	202	209	
1066510	B	BRUCKNER EXPWY SVC RD	WESTCHESTER CREEK			WMA	17	S	11/2/2009	3.597	F	39400	\$157,600,000	209		
2241210	B	BRYANT AVE	AMTRAK - CSX	AC		O	1	S	11/10/2009	3.136	F	5300	\$21,200,000	202		
2231329	K	BSHP	26TH AVE			A	1	S	4/30/2010	4.600	F	6700	\$26,800,000	313		
2231319	K	BSHP	BAY PKWY			A	1	S	6/2/2010	4.442	F	7200	\$28,800,000	311		
2231249	K	BSHP	BAY RIDGE AVE			A	1	S	4/8/2010	3.313	F	4900	\$19,600,000	310		
2231429	K	BSHP	BEDFORD AVE			A	3	S	4/29/2010	4.097	F	12000	\$48,000,000	315		
2231509	K	BSHP	FRESH CREEK			WA	5	S	8/16/2010	3.083	F	23000	\$92,000,000	356		
2231450	K	BSHP	GERRITSEN INLET			WA	11	S	8/16/2010	3.463	F	52000	\$208,000,000	356		
2231479	K	BSHP	MILL BASIN			WMA	14	S	10/14/2010	3.463	F	73500	\$294,000,000	318		
2231439	K	BSHP	NOSTRAND AVE			A	3	S	4/29/2010	3.986	F	13000	\$52,000,000	315		
2231419	K	BSHP	OCEAN AVE			A	3	S	4/27/2010	4.083	F	14000	\$56,000,000	315		
2231360	K	BSHP	OCEAN PKWY			A	3	S	7/16/2010	6.535	V	29637	\$118,548,000	313		
2231489	K	BSHP	PAERDEGAT BASIN			WA	15	S	9/3/2010	3.222	F	58300	\$233,200,000	318		
2231499	K	BSHP	ROCKAWAY PKWY			A	4	S	9/2/2010	3.778	F	11500	\$46,000,000	356		
2231409	K	BSHP	SHEEPSHEAD BAY ROAD			A	1	S	4/27/2010	4.836	F	6500	\$26,000,000	315		
2230790	Q	BULOVA AVE	278I (BQE WEST LEG)			A	2	S	4/23/2010	5.333	G	3300	\$13,200,000	401		
2269770	R	BUS STA ENTR RAMP	SIRT	S	F	O	19	S	12/26/2008	4.181	F	39333	\$157,332,000	501		
2269790	R	BUS STATION EXIT RAMP	SIRT	S	F	O	7	S	10/29/2010	5.025	G	28721	\$114,884,000	501		
2269740	R	BUS STATION NORTH	SIRT	S	F	O	12	S	12/4/2009	3.980	F	64605	\$258,420,000	501		
2269750	R	BUS STATION SOUTH	SIRT	S	F	O	12	S	10/29/2010	4.720	F	154688	\$618,752,000	501		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2247460	Q	CALDWELL AVE	CSX TRANSPORT	C		O	1	S	12/13/2010	5.889	G	2243	\$8,972,000	405		
2243290	K	CARLTON AVE	LIRR ATLANTIC AVE	L		O	7	S	12/29/2010	5.069	G	10823	\$43,292,000	302		
2240260	K	CARROLL ST	GOWANUS CANAL			WMO	2	S	6/10/2009	4.803	F	3000	\$12,000,000	306		
2243220	K	CARROLL ST PED BRDG	FRANKLIN SHUTTLE	T		O-PED	3	C	10/12/2010	5.268	G	600	\$2,400,000	309		
2243050	K	CATON AVE	BMT SUBWAY, BRIGHTON	T		O	4	S	8/13/2009	4.500	F	20800	\$83,200,000	314		
2249390	R	CEDARVIEW AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	5	C	7/28/2010	3.615	F	625	\$2,500,000	503		
2246050	M	CENTER DR (DRIPROCK ARCH)	PED OPP 63RD ST		P	O	1	S	1/18/2010	5.067	G	2000	\$8,000,000	164		
2244050	K	CENTER DR (NETHERMEAD ARCHES)	PED PATH & STREAM		P	WO	3	S	5/1/2009	5.000	G	7400	\$29,600,000	355		
2246070	M	CENTER DR (PLAYMATES ARCH)	PED PATH OPP 65TH ST		P	O	1	C	6/2/2010	4.500	F	1129	\$4,516,000	164		
2246100	M	CENTER DRIVE	TRANSVERSE RD #1		P	O	1	S	4/2/2010	4.467	F	6000	\$24,000,000	164		
2268480	M	CHAMBERS ST PED BRDG	RTE 9A - WEST ST			O-PED	10	C	4/23/2010	5.250	G	7481	\$29,924,000	101		
2249280	R	CHAMP COURT PED BRDG	SIRT SOUTH SHORE	S		O-PED	7	C	7/22/2010	4.423	F	595	\$2,380,000	503		
2249880	R	CHELSEA ROAD	SAWMILL CREEK			WO	1	S	5/11/2009	6.816	V	2205	\$8,820,000	502		
2243080	K	CHURCH AVE	BMT SUBWAY, BRIGHTON	T		O	4	S	8/14/2009	4.545	F	18200	\$72,800,000	314		
2240210	B	CITY ISLAND ROAD	EASTCHESTER BAY			WO	7	S	8/25/2009	3.389	F	19915	\$79,660,000	228		
2241710	B	CLAREMONT PKWY	METRO NORTH RR HAR	M		O	1	S	4/21/2010	4.422	F	6300	\$25,200,000	203		
2231940	Q	CLINTONVILLE ST	BCIP			A	2	S	2/5/2010	4.659	F	7400	\$29,600,000	407		
2249490	R	CLOVE ROAD	SIRT SOUTH SHORE	S		O	3	S	11/5/2010	5.986	G	5104	\$20,416,000	502		
2231570	Q	COHANCY ST	BSOP			A	2	S	5/10/2010	4.368	F	6400	\$25,600,000	410		
2230870	K	COLUMBIA HEIGHTS	278I (B.Q.E.)			A	1	S	7/21/2010	4.550	F	16500	\$66,000,000	302		
2241590	B	CONCOURSE VILL AVE	METRO NORTH RR HAR	M		O	1	S	5/13/2010	4.031	F	12077	\$48,308,000	204		
2244460	K	CONDUIT BLVD NB	ATLANTIC AVE EB			O	1	S	10/15/2010	4.833	F	3800	\$15,200,000	305		
2231380	K	CONEY ISLAND AVE	BSHP			A	4	S	9/21/2009	6.181	V	19866	\$79,464,000	313		
2243440	K	CONEY ISLAND AVE	LIRR BAY RIDGE	N		O	1	S	12/2/2010	5.234	G	3231	\$12,924,000	312		
2230390	K	CONGRESS ST	278I (B.Q.E.)			A	2	S	4/9/2010	6.279	V	5000	\$20,000,000	306		
2246510	M	CORBIN PL OVERPASS	CORBIN PLACE		P	O	1	S	1/13/2010	5.000	G	2223	\$8,892,000	112		
2232029	M	CORLEARS PARK ROAD	FDR DRIVE		P	A	4	S	3/19/2010	3.938	F	4100	\$16,400,000	103		
2247130	Q	CORPORAL KENNEDY ST	LIRR PORT WASH BR	L		O	1	S	10/30/2009	6.235	V	3379	\$13,516,000	411		
2243110	K	CORTELYOU ROAD	BMT SUBWAY, BRIGHTON	T		O	3	S	9/21/2009	6.139	V	4810	\$19,240,000	314		
2231880	Q	CROCHERON PK PED	BCIP		P	A-PED	9	C	5/5/2010	4.145	F	2300	\$9,200,000	411		
2243040	K	CROOKE AVE	BMT SUBWAY, BRIGHTON	T		O	4	S	11/19/2010	4.105	F	6000	\$24,000,000	314		
2231340	K	CROPSEY AVE	BSHP			A	2	S	6/15/2010	4.583	F	13100	\$52,400,000	313		
2240301	K	CROPSEY AVE	CONEY ISLAND CREEK			WO	3	S	7/8/2009	5.225	G	9400	\$37,600,000	313		
2240302	K	CROPSEY AVE	CONEY ISLAND CREEK			WO	3	S	10/12/2010	4.831	F	9400	\$37,600,000	313		
2231559	Q	CROSS BAY BLVD	BSHP			A	4	S	6/15/2010	5.139	G	23205	\$92,820,000	410		
2248039	Q	CROSS BAY BLVD	NASSAU EXPWY - RTE 27			O	2	S	6/30/2009	6.417	V	16544	\$66,176,000	410		
2242030	B	CROTONA AVE	BRONX PELHAM PKWY			O	2	S	2/8/2010	5.447	G	7600	\$30,400,000	206		
2243230	K	CROWN ST	FRANKLIN SHUTTLE	T		O	3	S	9/4/2009	5.097	G	4060	\$16,240,000	309		
2230040	Q	CYPRESS HILLS ST	JACKIE ROBINSON PKWY			A	1	S	4/15/2010	4.611	F	5000	\$20,000,000	405		
2249160	R	DE HART AVE	B&O RR (ABANDONED)	O		O	4	S	4/27/2009	6.500	V	6700	\$26,800,000	501		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2232030	M	DELANCEY ST PED BRDG	FDR DRIVE		P	A-PED	12	C	11/15/2009	4.174	F	2900	\$11,600,000	103		
2076640	B	DEPOT PLACE	METRO NORTH RR HUD	CM		O	11	S	8/12/2009	5.083	G	26566	\$106,264,000	204		
2243130	K	DITMAS AVE	BMT SUBWAY, BRIGHTON	T		O	1	S	10/22/2009	5.723	G	5150	\$20,600,000	314		
2243120	K	DORCHESTER ROAD	BMT SUBWAY, BRIGHTON	T		O	1	S	12/21/2010	5.882	G	4825	\$19,300,000	314		
2266139	Q	DOUGLASTON PKWY	BCIP NB			A	1	S	3/18/2010	4.510	F	6400	\$25,600,000	411		
2266129	Q	DOUGLASTON PKWY	BCIP SB			A	1	S	3/19/2010	4.592	F	4400	\$17,600,000	411		
2247170	Q	DOUGLASTON PKWY	LIRR PORT WASH BR	L		O	3	S	12/15/2010	4.712	F	6300	\$25,200,000	411		
2232180	M	E 103RD ST PED BRDG	FDR DRIVE			A-PED	18	C	9/9/2010	4.447	F	4800	\$19,200,000	111		
2233020	M	E 10TH ST PED BRDG	FDR DRIVE		P	A-PED	25	C	12/2/2009	4.686	F	2754	\$11,016,000	103		
2232190	M	E 111TH ST PED BRDG	FDR DRIVE		P	A-PED	14	C	8/19/2010	4.353	F	4200	\$16,800,000	111		
2232200	M	E 120TH ST PED BRDG	FDR DRIVE		P	A-PED	21	C	8/8/2010	4.259	F	3978	\$15,912,000	111		
2246990	M	E 129TH ST PED BRDG	3RD AVE BRDG RAMP			O-PED	5	C	10/8/2010	4.545	F	1046	\$4,184,000	111		
2231390	K	E 12TH ST	BSHP			A	4	S	6/18/2010	4.694	F	17200	\$68,800,000	315		
2233080	K	E 14 ST PED BR	BSHP			A-PED	14	C	7/13/2010	4.213	F	4700	\$18,800,000	315		
2241550	B	E 144TH ST	METRO NORTH RR HAR	M		O	2	S	8/5/2009	6.319	V	8290	\$33,160,000	201		
2241129	B	E 149TH ST	AMTRAK - CSX	AC		O	2	S	12/12/2008	4.620	F	18258	\$73,032,000	201	202	
2241560	B	E 149TH ST	METRO NORTH RR HAR	M		O	8	S	5/27/2010	4.819	F	27900	\$111,600,000	201	204	
2241050	B	E 149TH ST/JACKSON AVE	CSX TRANS - PT MORRIS	C		O	1	S	6/15/2010	4.850	F	65000	\$260,000,000	201		
2243450	K	E 14TH ST	LIRR BAY RIDGE	N		O	1	S	12/2/2010	4.809	F	1775	\$7,100,000	314		
2270030	B	E 156TH ST	ACCESS TO HOUSING		ED	O	16	S	10/16/2009	3.821	F	49696	\$198,784,000	204		
2241010	B	E 156TH STREET	CSX TRANS - PT MORRIS	C		O	1	S	7/16/2010	4.556	F	2400	\$9,600,000	201		
2241600	B	E 158TH ST	METRO NORTH RR HAR	M		O	1	S	8/6/2009	5.200	G	3400	\$13,600,000	204		
2243460	K	E 15TH ST PED BRDG	LIRR BAY RIDGE	N		O-PED	3	C	9/16/2008	5.193	G	900	\$3,600,000	314		
2241610	B	E 161ST ST	METRO NORTH RR HAR	M		O	1	S	12/8/2009	5.050	G	6600	\$26,400,000	204	203	
2241020	B	E 161ST STREET	CSX TRANS - PT MORRIS	C		O	1	S	5/20/2010	6.700	V	12800	\$51,200,000	203		
2241620	B	E 162ND ST	METRO NORTH RR HAR	M		O	1	S	5/1/2010	4.859	F	4700	\$18,800,000	203		
2241030	B	E 163RD STREET	CSX TRANS - PT MORRIS	C		O	1	S	3/10/2010	4.833	F	3200	\$12,800,000	203		
2241630	B	E 165TH ST	METRO NORTH RR HAR	M		O	1	S	4/29/2010	4.217	F	16400	\$65,600,000	203		
2241650	B	E 167TH ST	METRO NORTH RR HAR	M		O	1	S	4/27/2010	5.510	G	3363	\$13,452,000	203		
2241660	B	E 168TH ST	METRO NORTH RR HAR	M		O	1	S	4/26/2010	4.797	F	4800	\$19,200,000	203		
2241670	B	E 169TH ST	METRO NORTH RR HAR	M		O	1	S	4/23/2010	4.250	F	3300	\$13,200,000	203		
2241680	B	E 170TH ST	METRO NORTH RR HAR	M		O	1	S	4/22/2010	6.333	V	3150	\$12,600,000	203		
2241720	B	E 173RD ST	METRO NORTH RR HAR	M		O	1	S	4/20/2010	4.875	F	3000	\$12,000,000	203		
2066720	B	E 174TH ST	SHERIDAN EXPWY/AMTRAK	A		A	13	S	10/30/2008	4.125	F	35573	\$142,292,000	209	203	
2241740	B	E 175TH ST	METRO NORTH RR HAR	M		O	1	S	4/19/2010	3.922	F	3600	\$14,400,000	206		
2241269	B	E 177TH ST	AMTRAK - CSX	AC		O	3	S	10/4/2010	5.403	G	16606	\$66,424,000	206		
2241770	B	E 178TH ST PED BRDG	METRO NORTH RR HAR	M		O-PED	1	C	2/11/2009	5.159	G	700	\$2,800,000	206		
2241780	B	E 179TH ST PED BRDG	METRO NORTH RR HAR	M		O-PED	6	C	2/11/2009	5.797	G	700	\$2,800,000	206		
2242400	B	E 180TH ST	BRONX RIVER			WO	1	S	10/7/2010	4.810	F	4500	\$18,000,000	206	227	
2241790	B	E 180TH ST	METRO NORTH RR HAR	M		O	1	S	4/19/2010	3.906	F	5000	\$20,000,000	206		



# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2241800	B	E 183TH ST	METRO NORTH RR HAR	M		O	1	S	4/14/2010	4.109	F	4080	\$16,320,000	206		
2241820	B	E 187TH ST	METRO NORTH RR HAR	M		O	1	S	4/13/2010	4.344	F	3800	\$15,200,000	206		
2241810	B	E 188TH ST	METRO NORTH RR HAR	M		O	1	S	4/12/2010	4.063	F	5300	\$21,200,000	206		
2241839	B	E 189TH ST	METRO NORTH RR HAR	M		O	1	S	8/6/2009	6.467	V	43157	\$172,628,000	206	207	
2242459	B	E 233RD ST	BRONX RIVER			WO	1	S	3/25/2010	4.367	F	7000	\$28,000,000	212		
2242460	B	E 233RD ST	ENTR RD BNX RVR PKWY			O	1	S	1/18/2010	4.900	F	5300	\$21,200,000	212		
2241870	B	E 233RD ST	METRO NORTH RR HAR	M		O	1	S	5/17/2010	4.941	F	7664	\$30,656,000	212	207	
2241890	B	E 241ST ST	BRP, METRO NORTH HAR	M		WO	28	S	10/9/2009	4.444	F	49500	\$198,000,000	212		
2232070	M	E 25TH ST PED BRDG	FDR DRIVE			A-PED	4	C	3/18/2010	4.525	F	1700	\$6,800,000	106		
2246540	M	E 34TH ST	PARK AVE TUNNEL			OT	1	S	11/19/2008	4.117	F	36200	\$144,800,000	105	106	
2243420	K	E 3RD ST	LIRR BAY RIDGE	N		O	1	S	9/4/2009	6.583	V	1840	\$7,360,000	312		
2232100	M	E 51ST ST PED BRDG	FDR DRIVE		P	A-PED	8	C	4/28/2010	4.400	F	2800	\$11,200,000	106		
2233040	M	E 60TH ST	FDR DRIVE			A	17	S	8/3/2009	4.806	F	24480	\$97,920,000	108		
2246030	M	E 62 ST PED BRDG (GAPSTOW BRDG)	THE POND		P	O-PED	1	C	7/26/2010	3.897	F	1400	\$5,600,000	164		
2232110	M	E 64TH ST PED BRDG	FDR DRIVE		P	A-PED	24	U	9/24/2009	5.931	G	2100	\$8,400,000	108		
2232050	M	E 6TH ST PED BRDG	FDR DRIVE		P	A-PED	19	C	10/17/2010	4.196	F	2200	\$8,800,000	103		
2232120	M	E 71ST ST PED BRDG	FDR DRIVE		P	A-PED	19	C	8/15/2010	5.000	G	340	\$1,360,000	108		
2232140	M	E 78TH ST PED BRDG	FDR DRIVE		P	A-PED	9	C	4/18/2010	2.711	P	3120	\$12,480,000	108		
2269820	M	E 81 ST PED BRDG	FDR DRIVE N.B.		P	A-PED	3	C	1/12/2010	3.149	F	900	\$3,600,000	108		
2245319	M	E 97TH ST	METRO NORTH MAIN LN	M		O	1	S	12/31/2008	4.647	F	3200	\$12,800,000	111		
2241270	B	E TREMONT AVE	AMTRAK - CSX	AC		O	2	S	10/1/2010	5.153	G	22300	\$89,200,000	209	211	
2242149	B	E TREMONT AVE	BRONX RIVER			WO	2	S	6/3/2010	4.500	F	12900	\$51,600,000	206		
2075820	B	E TREMONT AVE	HUTCHINSON RVR PKWY			A	2	S	12/8/2009	4.500	F	10200	\$40,800,000	210		
2241760	B	E TREMONT AVE	METRO NORTH RR HAR	M		O	1	S	7/22/2009	6.517	V	8424	\$33,696,000	206		
2246570	M	E42ND ST - E47TH ST	FIRST AVE TUNNEL			OT	2	S	6/17/2010	4.882	F	95000	\$380,000,000	106		
2246450	M	E77 ST PED (GLADE ARCH)	PED PATH OPP E77 ST		P	O-PED	1	C	1/27/2010	5.000	G	5000	\$20,000,000	164		
2246390	M	E86 ST PED (SE RESERVOIR BRDG)	BRIDLE PATH		P	O-PED	3	C	10/7/2010	4.404	F	1100	\$4,400,000	164		
2242260	B	EAGLE AVE	E 161ST ST			O	1	S	3/5/2010	5.017	G	2800	\$11,200,000	201	203	
2244040	K	EAST DR (EAST WOOD ARCH)	PED PATH NR CENTER DR		P	O	1	C	6/24/2010	4.033	F	1066	\$4,262,400	355		
2244010	K	EAST DR (ENDALE ARCH)	PED PATH NR GRND ARMY PLZ		P	O	1	C	5/6/2010	4.367	F	1533	\$6,132,000	355		
2246069	M	EAST DR (GREEN GAP ARCH)	PED BET E 63ST & E 64ST		P	O	1	S	1/26/2010	4.500	F	2700	\$10,800,000	164		
2246350	M	EAST DR (GREYWACKE ARCH)	PED PATH OPP E 80TH ST		P	O	1	C	5/19/2010	3.667	F	1266	\$5,064,000	164		
2246470	M	EAST DR (HUDDLESTONE ARCH)	THE LOCH		P	WO	1	S	2/2/2010	4.500	F	1100	\$4,400,000	164		
2246040	M	EAST DR (INSOPE ARCH)	PED PATH OPP E 62 ST		P	O	1	C	4/28/2010	4.400	F	1515	\$6,060,000	164		
2246170	M	EAST DR (TREFOIL ARCH)	PED PATH OPP E 73RD ST		P	O	1	S	2/3/2010	5.056	G	1900	\$7,600,000	164		
2246130	M	EAST DR (WILLOWDELL ARCH)	PED PATH OPP E 67TH ST		P	O	1	C	5/25/2010	3.633	F	666	\$2,665,600	164		
2244030	K	EAST DRIVE	BRIDLE PATH NR ZOO		P	O	1	S	4/28/2009	4.796	F	2000	\$8,000,000	355		
2246110	M	EAST DRIVE	TRANSVERSE RD #1		P	O	1	S	3/25/2010	4.667	F	6000	\$24,000,000	164		
2246230	M	EAST DRIVE	TRANSVERSE RD #2		P	O	1	S	3/23/2010	4.600	F	6500	\$26,000,000	164		
2246250	M	EAST DRIVE	TRANSVERSE RD #3		P	O	1	S	2/9/2010	4.300	F	5100	\$20,400,000	164		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2246270	M	EAST DRIVE	TRANSVERSE RD #4		P	O	1	S	3/24/2010	4.100	F	7000	\$28,000,000	164		
2249720	R	EAST FOOTBRIDGE	CLOVE LAKE		P	WO-PED	2	C	8/6/2010	4.343	F	900	\$3,600,000	501		
2242010	B	EAST FORDHAM RD	BRONX RIVER			WA	1	S	4/20/2010	5.207	G	9200	\$36,800,000	227		
2242350	B	EAST FORDHAM RD	GRAND CONCOURSE			O	1	S	3/19/2010	4.567	F	10300	\$41,200,000	205	207	
2241900	B	EASTCHESTER ROAD	NYCTA-DYRE AVE LN	T		O	3	S	8/14/2008	4.667	F	13500	\$54,000,000	212		
2243279	K	EASTERN PKWY	FRANKLIN SHUTTLE	T		O	1	S	10/14/2008	4.861	F	7700	\$30,800,000	309	308	
2247470	Q	ELIOT AVE	CSX TRANSPORT	C		O	1	S	10/5/2009	5.250	G	2960	\$11,840,000	405		
2247550	Q	ELIOT AVE	LIRR MONTAUK DIV	L		O	2	S	9/23/2009	5.712	G	9550	\$38,200,000	405		
2248160	Q	ELLIOT AVE	QUEENS BLVD			O	2	S	8/20/2010	4.804	F	13785	\$55,140,000	406		
2269600	K	ERSKINE ST	BSHP			A	1	S	9/10/2010	5.938	G	8258	\$33,032,000	305		
2241200	B	FAILE ST	AMTRAK - CSX	AC		O	1	S	11/7/2008	5.672	G	6208	\$24,832,000	202		
2231620	Q	FARMERS BLVD	BSOP			A	2	S	5/17/2010	4.568	F	6400	\$25,600,000	413		
2249790	R	FB S OF FOREST AV	STREAM IN PARK		P	WO-PED	3	C	10/8/2010	4.814	F	700	\$2,800,000	501		
223201A	M	FDR DR N.B. OFF RMP	FDR DR & SOUTH ST			AR	17	S	2/29/2008	3.716	F	23373	\$93,492,000	101		
223201C	M	FDR DR S.B. OFF RMP	SOUTH ST			AR	8	S	2/5/2010	4.821	F	39150	\$156,600,000	103		
2233038	M	FDR DRIVE SB	FDR NB / E 62ND ST			AT	34	S	12/19/2008	6.620	V	58700	\$234,800,000	106	108	
2268650	M	FDR NB E42ND TO E49TH ST	EAST RIVER			A	119	S	10/20/2009	4.075	F	30767	\$123,068,000	106		
223204A	M	FDR NB RAMP TO HOUSTON ST	RELIEF			AR	4	S	1/20/2010	4.471	F	6150	\$24,600,000	103		
2229520	B	FIELDSTON ROAD	HHP			A	1	S	8/20/2009	5.500	G	6600	\$26,400,000	208		
2249480	R	FINGERBOARD ROAD	SIRT SOUTH SHORE	S		O	2	S	11/25/2009	6.542	V	5100	\$20,400,000	502		
2231460	K	FLATBUSH AVE	BSHP			A	2	S	10/13/2009	6.306	V	14058	\$56,232,000	356		
2243260	K	FLATBUSH AVE	FRANKLIN SHUTTLE	T		O	2	S	9/2/2008	4.961	F	11300	\$45,200,000	309		
2243510	K	FLATBUSH AVE	LIRR BAY RIDGE	N		O	2	S	11/29/2010	4.702	F	5900	\$23,600,000	318		
2248090	Q	FLSHG MDW PK PED	COLLEGE POINT BLVD		P	O-PED	3	C	3/16/2010	4.690	F	8400	\$33,600,000	407		
2248240	Q	FLUSHING AV SERVICE RD	FLUSHING AVE			O	1	S	7/15/2009	5.250	G	2940	\$11,760,000	405		
2248379	Q	FLUSHING MDW PARK RD	AQUACADE LAKE		P	WO	5	C	7/13/2009	4.041	F	6300	\$25,200,000	481		
2248260	Q	FLUSHING MDW PARK RD	MEADOW LAKE		P	WO	5	S	5/21/2010	4.745	F	4200	\$16,800,000	481		
2248130	Q	FLUSHING MEADOW PK PED	WILLOW LK&76TH RD		P	WO-PED	4	C	4/20/2002	1.000	C	1891	\$7,564,000	481		
2248140	Q	FLUSHING MEADOW PK RD	STREAM N OF LIE		P	WO	5	C	7/20/2010	4.673	F	4100	\$16,400,000	481		
2249780	R	FOOTBRIDGE	BROOKS LAKE DAM		P	WO-PED	1	C	11/17/2009	3.467	F	800	\$3,200,000	501		
2249800	R	FOREST AVE	CLOVE LAKES PK STREAM		P	WO	1	S	11/4/2009	4.867	F	1600	\$6,400,000	501		
2248340	Q	FOREST PARK DR	MYRTLE AVE		P	O	3	S	6/15/2009	4.984	F	5100	\$20,400,000	409		
2247660	Q	FOREST PARK DRIVE	ABANDONED LIRR		P	O	6	S	3/5/2010	4.746	F	10000	\$40,000,000	409		
2247590	Q	FOREST PARK DRIVE	LIRR MONTAUK DIV	L	P	O	5	S	12/14/2010	5.298	G	6000	\$24,000,000	409		
2243620	K	FORT HAMILTON PKWY	LIRR & SEA BEACH	NT		O	3	S	12/18/2008	4.797	F	14800	\$59,200,000	310		
2246500	M	FORT TRYON PLACE	ENTR FROM RIVERSIDE DR		P	O	1	S	3/18/2010	4.333	F	6600	\$26,400,000	112		
2243150	K	FOSTER AVE	BMT SUBWAY, BRIGHTON	T		O	1	S	12/21/2010	4.450	F	3000	\$12,000,000	314		
2231930	Q	FRANCIS LEWIS BLVD	BCIP			A	3	S	2/5/2010	4.682	F	9100	\$36,400,000	407		
2231690	Q	FRANCIS LEWIS BLVD	BLP E.B.			A	1	S	4/13/2010	5.167	G	6000	\$24,000,000	413		
2231700	Q	FRANCIS LEWIS BLVD	BLP W.B.			A	1	S	4/13/2010	4.833	F	6000	\$24,000,000	413		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2267199	Q	FRANCIS LEWIS BLVD	CUNNINGHAM PK RD			O	1	S	4/9/2009	5.033	G	7085	\$28,340,000	408		
2249450	R	FREMONT AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	3	C	8/31/2010	4.000	F	800	\$3,200,000	502		
224006A	B	FROM BRUCKNER BLVD	RELIEF			OR	5	S	10/6/2009	6.817	V	14037	\$56,148,000	201		
224005A	M	FROM FDR DRIVE	HARLEM RIVER DR			OR	19	S	6/6/2008	4.299	F	28233	\$112,932,000	111		
2242120	B	FTBG N OF RTE 1	BRONX RIVER		P	WO-PED	1	C	1/13/2010	3.583	F	1900	\$7,600,000	227		
226771C	M	GAR RAMP TO 79 ST	79 ST BT BASIN GAR		P	AR	21	S	5/13/2009	4.565	F	9095	\$36,380,000	107		
2241420	B	GERARD AVE	METRO NORTH RR HUD	M		O	1	S	5/18/2010	5.797	G	5063	\$20,252,000	204		
2249360	R	GIFFORDS LANE	SIRT SOUTH SHORE	S		O	1	S	11/2/2010	5.531	G	3042	\$12,168,000	503		
2243860	K	GLENMORE AVE	LIRR BAY RIDGE	N		O	2	S	12/14/2010	6.559	V	5616	\$22,464,000	316		
2065940	Q	GRAND AVE	495I (L.I.E.)			A	2	S	11/18/2010	4.861	F	12850	\$51,400,000	405		
2247440	Q	GRAND AVE	CSX TRANSPORT	C		O	1	S	9/29/2009	6.183	V	3280	\$13,120,000	405		
2247180	Q	GRAND AVE	LIRR MAIN LINE	L		O	3	S	12/16/2010	4.585	F	7415	\$29,660,000	404		
2242370	B	GRAND CONCOURSE	BEDFORD PARK BLVD			O	1	S	3/18/2010	4.294	F	8418	\$33,672,000	207		
2242360	B	GRAND CONCOURSE	BURNSIDE AVE			O	2	S	9/16/2008	4.441	F	8400	\$33,600,000	205		
2242299	B	GRAND CONCOURSE	E 138TH ST			O	1	S	6/4/2009	4.733	F	9500	\$38,000,000	201		
2242259	B	GRAND CONCOURSE	E 161ST ST			O	1	S	9/15/2010	6.400	V	27017	\$108,068,000	204		
2242280	B	GRAND CONCOURSE	E 167TH ST			O	2	S	8/20/2010	4.754	F	42900	\$171,600,000	204		
2242300	B	GRAND CONCOURSE	E 170TH ST			O	2	S	3/26/2010	4.789	F	39300	\$157,200,000	204		
2242319	B	GRAND CONCOURSE	E 174TH ST	T		O	1	S	3/26/2010	4.067	F	14900	\$59,600,000	204		
2242329	B	GRAND CONCOURSE	E 175TH ST	T		O	1	S	8/19/2010	4.867	F	11900	\$47,600,000	205		
2242380	B	GRAND CONCOURSE	E 204TH ST			O	1	S	10/15/2009	5.484	G	9272	\$37,088,000	207		
2242330	B	GRAND CONCOURSE	E TREMONT AVE			O	1	S	10/22/2009	5.983	G	11700	\$46,800,000	205		
2242340	B	GRAND CONCOURSE	EAST KINGSBRIDGE			O	2	S	9/9/2010	4.714	F	18285	\$73,140,000	207		
2241409	B	GRAND CONCOURSE	METRO NORTH RR HUD	MT		O	1	S	6/1/2010	3.797	F	14300	\$57,200,000	204		
2240390	KQ	GRAND ST BRIDGE	NEWTOWN CREEK			WMO	2	S	10/12/2010	4.125	F	5100	\$20,400,000	301	405	
2249100	R	GRANITE AVE	B&O RR (ABANDONED)	O		O	4	S	3/26/2010	6.034	V	7300	\$29,200,000	501		
2249370	R	GREAVES AVE	SIRT SOUTH SHORE	S		O	1	S	8/26/2009	6.750	V	2650	\$10,600,000	503		
2240370	KQ	GREENPOINT AVE BRIDGE	NEWTOWN CREEK	L		WMO	12	S	8/6/2009	4.861	F	76106	\$304,424,000	301	402	
2231370	K	GUIDER AV RAMP TO BSHP	BSHP			A	4	S	7/16/2010	3.292	F	12800	\$51,200,000	313		
2241860	B	GUN HILL RD	METRO NORTH RR HAR	M		O	1	S	5/17/2010	6.531	V	9128	\$36,512,000	212		
2242430	B	GUN HILL ROAD	BRONX BLVD			O	4	S	3/17/2010	4.737	F	9400	\$37,600,000	212		
2242440	B	GUN HILL ROAD	BRONX RIVER			WO	1	S	2/24/2010	4.767	F	8700	\$34,800,000	212		
2241910	B	GUN HILL ROAD	NYCTA-DYRE AVE LN	T		O	1	S	11/12/2010	5.750	G	7500	\$30,000,000	211	212	
2231610	Q	GUY R. BREWER BLVD	BSOP			A	4	S	5/12/2009	6.319	V	12342	\$49,368,000	413		
2249380	R	GUYON AVE	SIRT SOUTH SHORE	S		O	3	S	8/27/2009	4.869	F	6900	\$27,600,000	503		
2240231	K	HAMILTON AVE BRIDGE	GOWANUS CANAL			WMO	3	S	10/8/2010	5.472	G	7300	\$29,200,000	307	306	
2240232	K	HAMILTON AVE BRIDGE	GOWANUS CANAL			WMO	3	S	9/10/2009	5.306	G	7300	\$29,200,000	306		
2065930	Q	HAMILTON PLACE	495I (L.I.E.)			A	2	S	3/9/2010	5.847	G	11111	\$44,444,000	405		
2249520	R	HANNAH ST	SIRT SOUTH SHORE	S		O	10	S	9/25/2009	4.763	F	10020	\$40,080,000	501		
2249180	R	HARBOR ROAD	B&O RR (ABANDONED)	O		O	4	S	6/20/2009	6.322	V	5778	\$23,112,000	501		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	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	RAMP TO & FROM HRD N.B.			A	11	S	9/9/2009	3.269	F	51000	\$204,000,000	111		
2231780	Q	HEMPSTEAD AVE	BCIP			A	2	S	2/8/2010	3.968	F	14200	\$56,800,000	413		
2266149	Q	HEMPSTEAD AVE	BCIP RAMP NB			A	2	S	3/17/2010	4.063	F	9500	\$38,000,000	413		
2267250	M	HHP	AMTRAK - W96TH ST	A		A	55	S	11/25/2008	3.710	F	40000	\$160,000,000	107		
2229530	B	HHP	BROADWAY			A	1	S	8/20/2009	4.660	F	7500	\$30,000,000	208		
2229440	B	HHP	KAPPOCK ST			A	1	S	8/25/2009	4.931	F	3900	\$15,600,000	208		
2266229	M	HHP	PED UNDERPASS @ 148 ST			A	1	S	2/16/2010	5.476	G	1840	\$7,360,000	109		
2229309	M	HHP	RIVERSIDE PARK			A	1	S	1/6/2010	5.267	G	2172	\$8,688,000	107		
2229349	M	HHP	W 158 ST	A		A	44	S	12/11/2008	4.268	F	140000	\$560,000,000	109	112	
2266230	M	HHP NB	PED UNDERPASS INWD PK			A	1	S	1/8/2010	5.286	G	800	\$3,200,000	112		
2229322	M	HHP NB	RAMP FROM 96 ST			A	1	S	2/18/2010	5.300	G	2000	\$8,000,000	107		
2229312	M	HHP NB	RAMP TO 96 ST			A	1	S	2/11/2010	4.364	F	2000	\$8,000,000	107		
M00004	M	HHP ON/OFF RMP-79TH ST NO. SIDE	PED PATH NO. OF 79TH ST			A	1	C	6/22/2010	4.967	F	900	\$3,600,000	107		
M00003	M	HHP ON/OFF RMP-79TH ST SO. SIDE	PED PATH SO. OF 79TH ST			A	1	C	5/11/2010	3.700	F	900	\$3,600,000	107		
2266240	M	HHP SB	PED UNDERPASS INWD PK			A	1	S	1/11/2010	5.571	G	1100	\$4,400,000	112		
2229321	M	HHP SB	RAMP FROM 96 ST			A	1	S	2/17/2010	5.133	G	2000	\$8,000,000	107		
2229311	M	HHP SB	RAMP TO 96 ST			A	1	S	2/11/2010	4.455	F	2000	\$8,000,000	107		
2229289	M	HHP VIADUCT	AMTRAK - W72 ST - W79 ST	A		A	145	S	12/23/2008	3.373	F	236100	\$944,400,000	107		
2246580	BM	HIGH BRIDGE PDOVP	I87 - HARLEM RIVER	M	P	WA-PED	11	P	8/12/2002	3.759	F	34100	\$136,400,000	112	204	
2230000	K	HIGHLAND BLVD E.B.	JACKIE ROBINSON PKWY			A	1	S	3/24/2010	4.724	F	4900	\$19,600,000	305		
2230220	K	HIGHLAND BLVD NB	VERMONT AVE			A	1	S	6/10/2009	5.857	G	3995	\$15,980,000	305		
2230010	K	HIGHLAND BLVD W.B.	JACKIE ROBINSON PKWY			A	1	S	3/24/2010	4.767	F	3500	\$14,000,000	305		
2230020	K	HIGHLAND BLVD W.B.	JACKIE ROBINSON PKWY			A	2	S	3/25/2010	4.711	F	4700	\$18,800,000	305		
2248280	Q	HIGHLAND PK PED.	PEDESTRIAN PATH		P	O-PED	1	C	10/20/2010	3.667	F	1900	\$7,600,000	405		
2243780	K	HIGHLAWN AVE	BMT SEA BEACH	T		O	1	S	10/8/2009	6.440	V	6960	\$27,840,000	311		
2244060	K	HILL DR (CLEFT RIDGE SPAN)	PED PATH SO OF BOATHOUSE		P	O	1	C	4/28/2010	4.433	F	750	\$3,000,000	355		
2244120	K	HILL DR (TERRACE BRDG)	PROSPECT PK LAKE		P	WO	3	S	2/5/2010	2.927	P	7800	\$31,200,000	355		
2231840	Q	HILLSIDE AVE	BCIP			A	2	S	4/8/2010	4.079	F	9672	\$38,688,000	413		
2247320	Q	HONEYWELL ST	AMTRAK & LIRR YARD	AL		O	22	S	11/11/2009	5.903	G	99036	\$396,144,000	402	401	
2232040	M	HOUSTON ST	FDR DRIVE			A	2	S	5/10/2010	3.455	F	11010	\$44,040,000	103		
223204B	M	HOUSTON ST RAMP TO FDR NB	RELIEF			AR	4	S	1/22/2010	4.625	F	7125	\$28,500,000	103		
2267240	M	HRD RAMP TO GWB	HARLEM RIVER DR SB			A	55	S	10/9/2009	3.431	F	122900	\$491,600,000	112		
2249300	R	HUGUENOT AVE	SIRT SOUTH SHORE	S		O	2	S	10/20/2009	4.864	F	4900	\$19,600,000	503		
2240450	Q	HUNTERS PT AVE	DUTCH KILLS			WMO	4	S	7/30/2010	5.083	G	12168	\$48,672,000	402		
2241190	B	HUNTS POINT AVE	AMTRAK - CSX	AC		O	1	S	11/7/2008	4.984	F	10049	\$40,196,000	202		
2241959	B	HUTCHINSON RVR PKWY	AMTRAK - CSX	AC		O	1	S	6/13/2010	5.780	G	15444	\$61,776,000	210	211	
2075859	B	HUTCHINSON RVR PKWY	HUTCHINSON RIVER			WMA	7	S	12/18/2009	4.859	F	60500	\$242,000,000	210	228	
2249810	R	HYLAN BLVD	LEMON CREEK			WO	1	S	3/10/2010	6.406	V	11400	\$45,600,000	503		
2245300	M	INWOOD HILL PK FTBR	AMTRAK 30 ST BRANCH	A	P	O-PED	6	C	11/5/2010	4.100	F	700	\$2,800,000	112		
2246700	M	ISHAM PK PED BRDG	HARLEM RV INLET		P	WO-PED	1	C	1/11/2010	3.828	F	300	\$1,200,000	112		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2246690	M	ISHAM PK VEHICULR	HARLEM RIVER INLET		P	O	1	S	7/7/2008	6.261	V	911	\$3,644,000	112		
2248299	Q	J.R. PKWY-UNION TPKE	AUSTIN ST			O	1	S	6/2/2010	4.194	F	5900	\$23,600,000	409	406	
2230099	Q	JACKIE ROBINSON PKWY	CYPRESS HILLS CEMETRY			A	1	S	1/14/2010	5.444	G	4200	\$16,800,000	405		
2230179	Q	JACKIE ROBINSON PKWY	METROPOLITAN AVE			A	2	S	5/21/2010	5.286	G	8673	\$34,692,000	482		
2247260	Q	JACKSON AVE	LIRR MONTAUK DIV	L		O	1	S	12/16/2010	6.117	V	4517	\$18,068,000	402		
2231819	Q	JAMAICA AVE	BCIP			A	2	S	3/25/2010	4.773	F	11500	\$46,000,000	413		
2230287	B	JEROME AVE	MOSHOLU PARKWAY	T		A	3	S	5/18/2009	4.711	F	11800	\$47,200,000	207		
2249070	R	JOHN ST	B&O RR (ABANDONED)	O		O-PED	2	C	8/31/2010	5.648	G	1050	\$4,200,000	501		
2247480	Q	JUNIPER BLVD SO	CSX TRANSPORT	C		O	1	S	10/6/2009	5.000	G	9000	\$36,000,000	405		
2230380	K	KANE ST	278I (B.Q.E.)			A	2	S	4/9/2010	4.208	F	5000	\$20,000,000	306		
2243770	K	KINGS HIGHWAY	BMT SEA BEACH	T		O	1	S	10/8/2009	6.767	V	5032	\$20,128,000	311		
2231449	K	KNAPP ST	BSHP			A	1	S	4/28/2010	4.391	F	9500	\$38,000,000	315		
2241169	B	LAFAYETTE AVE	AMTRAK - CSX	AC		O	1	S	12/12/2008	5.730	G	12000	\$48,000,000	202		
2249110	R	LAKE AVE	B&O RR (ABANDONED)	O		O	3	S	1/22/2010	5.333	G	5900	\$23,600,000	501		
2247240	Q	LEFFERTS BLVD	LIRR MAIN LINE	L		O	3	S	10/8/2009	5.750	G	5460	\$21,840,000	409		
2241139	B	LEGGETT AVE	AMTRAK - CSX	AC		O	3	S	12/11/2008	4.690	F	41551	\$166,204,000	202		
2243850	K	LIBERTY AVE	LIRR BAY RIDGE	N		O	3	S	12/14/2010	6.294	V	6659	\$26,636,000	316		
2249460	R	LINCOLN AVE	SIRT SOUTH SHORE	S		O	1	S	11/4/2009	5.276	G	4500	\$18,000,000	502		
2243190	K	LINCOLN PLACE	FRANKLIN SHUTTLE	T		O	1	S	10/15/2008	6.922	V	2460	\$9,840,000	308		
2243010	K	LINCOLN ROAD	BMT SUBWAY, BRIGHTON	T		O	1	S	12/23/2010	6.722	V	6016	\$24,064,000	355		
2231750	Q	LINDEN BLVD	BCIP			A	2	S	3/8/2010	4.432	F	6700	\$26,800,000	413		
2243910	K	LIVONIA AVE PED BRDG	LIRR BAY RIDGE LINE	N		O-PED	6	C	3/2/2010	5.000	G	2500	\$10,000,000	316		
2241159	B	LONGWOOD AVE	AMTRAK - CSX	AC		O	2	S	7/23/2008	5.306	G	10625	\$42,500,000	202		
1240090	BM	MACOMBS DAM BRIDGE	HARLEM RIVER	M		WMO	52	S	12/22/2009	3.930	F	220000	\$880,000,000	110	204	
2240079	BM	MADISON AVE BRIDGE	HARLEM RIVER			WMO	21	S	9/30/2010	4.944	F	80000	\$320,000,000	111	201	
2249210	R	MAIN ST PED BRDG	SIRT SOUTH SHORE	S		O-PED	9	C	7/23/2010	4.309	F	400	\$1,600,000	503		
2240027	KM	MANHATTAN BRIDGE(LL)	EAST RIVER	T		WEO	23	S	11/24/2008	5.014	G	616390	\$2,465,560,000	103	302	
2240028	KM	MANHATTAN BRIDGE(UL)	NYCTA TRACKS-BMT	T		WEO	43	S	11/24/2008	4.214	F	587424	\$2,349,696,000	103	302	
2229480	B	MANHATTAN COLL PKWY	HHP			A	3	S	5/26/2009	5.368	G	6200	\$24,800,000	208		
2245040	M	MARGARET CORBIN DR	PED PATH NEAR CAFÉ		P	O	1	C	5/10/2010	4.933	F	598	\$2,392,000	112		
2245050	M	MARGARET CORBIN DR	PED PATH NR NO ENTR		P	O	1	C	5/10/2010	4.800	F	889	\$3,556,000	112		
2230190	Q	MARKWOOD ROAD	JACKIE ROBINSON PKWY			A	1	S	2/9/2010	5.167	G	4400	\$17,600,000	482	406	
2249760	R	MARTLINGS AVE	RICHMOND LAKE DAM			WO	2	S	6/2/2009	4.600	F	7000	\$28,000,000	501		
2269030	B	MATTHEWSON ROAD	MAC CRACKEN AVE			O	15	S	12/26/2008	4.544	F	14880	\$59,520,000	205		
2243410	K	MCDONALD AVE	LIRR BAY RIDGE	N		O	1	S	12/9/2010	5.047	G	2760	\$11,040,000	312		
2241110	B	MELROSE AVE	CSX TRANS - PT MORRIS	C		O	8	S	8/24/2009	5.611	G	37854	\$151,416,000	203		
2231710	Q	MERRICK BLVD	BLP N.B.			A	1	S	2/22/2010	4.533	F	6000	\$24,000,000	413		
2231720	Q	MERRICK BLVD	BLP S.B.			A	1	S	2/22/2010	4.200	F	6000	\$24,000,000	413		
2247500	Q	METROPOLITAN AVE	CSX TRANSPORT	C		O	1	S	10/6/2009	4.233	F	18650	\$74,600,000	405		
2240290	K	METROPOLITAN AVE	ENGLISH KILLS			WMO	5	S	7/30/2009	6.139	V	10550	\$42,200,000	301		



# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
1247560	Q	METROPOLITAN AVE	LIRR -NY&ATL	LN		O	2	S	12/15/2010	3.603	F	20900	\$83,600,000	405		
2249470	R	MIDLAND AVE	SIRT SOUTH SHORE	S		O	1	S	11/25/2009	5.466	G	3000	\$12,000,000	502		
2257569	M	MILLER HIGHWAY	TERRAIN			A	64	S	10/19/2009	4.803	F	264190	\$1,056,760,000	104	107	
2249530	R	MINTHORNE ST PED BRDG	SIRT SOUTH SHORE	S		O-PED	26	C	7/30/2010	4.377	F	6000	\$24,000,000	501		
2243240	K	MONTGOMERY ST	FRANKLIN SHUTTLE	T		O	1	S	9/4/2009	6.275	V	2240	\$8,960,000	309		
2249090	R	MORNINGSTAR ROAD	B&O RR (ABANDONED)	O		O	4	S	3/19/2010	4.864	F	7900	\$31,600,000	501		
2268930	M	MORRIS ST PED BRDG	BKLN-BATTERY TUNN PLZ			A-PED	3	C	5/24/2010	3.333	F	1200	\$4,800,000	101		
2230250	B	MOSHOLU PARKWAY	BRONX RIVER			WA	5	S	1/13/2010	4.316	F	16300	\$65,200,000	227		
2230300	B	MOSHOLU PARKWAY	CONRAIL (ABANDONED)	C		A	1	S	10/15/2010	4.271	F	4600	\$18,400,000	226		
2230290	B	MOSHOLU PARKWAY	EQUESTRIAN PATH			A	1	S	1/22/2010	4.448	F	4300	\$17,200,000	226		
2230260	B	MOSHOLU PARKWAY	METRO NORTH	M		A	1	S	5/13/2010	5.516	G	8880	\$35,520,000	227	207	
2230310	B	MOSHOLU PARKWAY	SB RAMP TO HHP			A	2	S	10/8/2009	4.919	F	7400	\$29,600,000	226		
2230270	B	MOSHOLU PARKWAY	WEBSTER AVE			A	1	S	6/17/2009	5.422	G	8480	\$33,920,000	207		
2248100	Q	MOTOR PKWY (PED)	73RD AVE		P	O-PED	3	C	2/8/2010	4.965	F	2600	\$10,400,000	408		
2248110	Q	MOTOR PKWY (PED)	ALLEY PK PED WALK		P	O-PED	1	C	6/30/2010	4.103	F	1000	\$4,000,000	413		
2248060	Q	MOTOR PKWY (PED)	BELL BLVD		P	O-PED	2	C	6/8/2010	4.181	F	2650	\$10,600,000	411		
2248059	Q	MOTOR PKWY (PED)	FRANCIS LEWIS BLVD		P	O-PED	2	C	6/3/2010	4.194	F	2800	\$11,200,000	408		
2248080	Q	MOTOR PKWY (PED)	HOLLIS COURT BLVD		P	O-PED	3	C	1/7/2010	4.731	F	2700	\$10,800,000	408		
2248070	Q	MOTOR PKWY (PED)	SPRINGFIELD BLVD		P	O-PED	3	C	6/14/2010	3.582	F	2900	\$11,600,000	411		
2247110	Q	MURRAY ST	LIRR PORT WASH BR	L		O	1	S	9/3/2009	5.370	G	4000	\$16,000,000	407		
2247620	Q	MYRTLE AVE	ABANDONED LIRR			O	3	S	1/12/2010	5.028	G	6725	\$26,900,000	482	406	
2230120	Q	MYRTLE AVE	JACKIE ROBINSON PKWY			A	1	S	5/5/2010	5.354	G	6400	\$25,600,000	405	482	
2231670	Q	N CONDUIT AVE WB	BLP E.B.			A	1	S	1/26/2010	4.917	F	4000	\$16,000,000	413		
2231680	Q	N CONDUIT AVE WB	BLP W.B.			A	2	S	1/27/2010	4.932	F	6500	\$26,000,000	413		
205580A	Q	N.BLVD WB TO 678I SB	VACANT LAND			AR	16	S	6/30/2010	5.571	G	8600	\$34,400,000	407		
2249350	R	NELSON AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	3	C	7/15/2010	3.846	F	300	\$1,200,000	503		
1067150	B	NEREID AVE (E. 240TH ST)	BRONX RIVER PKWY	M		O	10	S	12/16/2009	4.632	F	57750	\$231,000,000	212		
2249430	R	NEW DORP LANE	SIRT SOUTH SHORE	S		O	2	S	11/4/2009	4.903	F	7600	\$30,400,000	502		
2243660	K	NEW UTRECHT AVE	LIRR BAY RIDGE	N		O	1	S	12/23/2010	6.217	V	2350	\$9,400,000	311		
2243140	K	NEWKIRK AVE	BMT SUBWAY, BRIGHTON	T		O	3	S	12/21/2010	4.250	F	4100	\$16,400,000	314		
2240240	K	NINTH ST BRIDGE	GOWANUS CANAL			WMO	3	S	6/11/2009	6.581	V	5772	\$23,088,000	306		
2269760	R	NORTH RAMP	SIRT	S	F	O	9	S	11/16/2009	4.042	F	17589	\$70,356,000	501		
2240440	Q	NORTHERN BLVD	ALLEY CREEK			WO	2	S	8/12/2010	4.681	F	8300	\$33,200,000	411		
2231870	Q	NORTHERN BLVD	BCIP			A	2	S	9/21/2010	6.125	V	9400	\$37,600,000	411		
2055802	Q	NORTHERN BLVD EB	FLUSHING RIVER			WO	40	S	10/18/2010	4.099	F	78894	\$315,576,000	407		
2055801	Q	NORTHERN BLVD WB	FLUSHING RIVER			WO	40	S	10/21/2010	4.282	F	71900	\$287,600,000	407		
2243500	K	NOSTRAND AVE	LIRR BAY RIDGE	N		O	2	S	11/30/2010	4.966	F	4320	\$17,280,000	314		
2240138	BM	NYCTA IRT	HARLEM RVR/BROADWAY	TM		WMO	3	S	11/17/2009	4.706	F	19520	\$78,080,000	112	207	208
2243480	K	OCEAN AVE	LIRR BAY RIDGE	N		O	2	S	12/1/2010	4.825	F	5000	\$20,000,000	314		
2240320	K	OCEAN AVE PED BRDG	SHEEPSHEAD BAY			WO-PED	30	C	7/19/2010	3.939	F	4450	\$17,800,000	315		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2243439	K	OCEAN PKWY	LIRR BAY RIDGE	N		O	1	S	12/10/2010	4.927	F	7000	\$28,000,000	312		
2249269	R	PAGE AVE	SIRT SOUTH SHORE	S		O	4	S	8/25/2009	6.347	V	30710	\$122,840,000	503		
2245470	M	PARK AVE N.B	E 45TH ST			O	1	S	7/28/2009	4.865	F	2400	\$9,600,000	105		
2245460	M	PARK AVE S.B.	E 45TH ST			O	1	S	7/28/2009	4.514	F	2400	\$9,600,000	105		
2246550	M	PARK AVE VIADUCT	E 42ND ST			O	10	S	10/15/2009	4.537	F	22150	\$88,600,000	105		
2247600	Q	PARK LANE SOUTH	LIRR MONTAUK DIV	L		O	1	S	12/14/2010	6.983	V	3024	\$12,096,000	409	482	
2242099	B	PARK ROAD (204TH ST)	BRONX RIVER			WO	1	S	6/7/2010	4.793	F	4700	\$18,800,000	212		
224001A	M	PARK ROW TO BKLN	WILLIAM ST N.B.			OE	4	S	4/29/2010	4.167	F	10167	\$40,668,000	101		
2269780	R	PARKING ENTR RAMP	SIRT	S	F	O	3	S	12/18/2008	4.986	F	8589	\$34,356,000	501		
2269730	R	PARKING EXIT RAMP	SIRT	S	F	O	10	S	10/28/2010	4.028	F	20727	\$82,908,000	501		
2243020	K	PARKSIDE AVE	BMT SUBWAY, BRIGHTON	T		O	6	S	12/23/2010	4.000	F	48700	\$194,800,000	314		
2247060	Q	PARSONS BLVD	LIRR PORT WASH BR	L		O	1	S	11/30/2010	4.745	F	4200	\$16,800,000	407		
224001C	M	PEARL ST TO BKLN	LAND ADJ TO BRDG			OE	9	S	4/28/2010	3.881	F	6365	\$25,460,000	101		
224001F	M	PEARL ST TO FDR DR	LAND ADJ TO BRDG			OE	3	S	4/27/2010	5.282	G	5200	\$20,800,000	103		
222928C	M	PED BR AT 73RD ST	HHP - AMTRAK	A	P	A-PED	5	C	12/10/2010	4.145	F	3480	\$13,920,000	107		
2246090	M	PED BRDG OPP 65 ST	TRANSVERSE RD #1		P	O-PED	1	C	7/24/2010	4.655	F	2300	\$9,200,000	164		
2247630	Q	PED BRG NEAR UNION TPK	ABANDONED LIRR			O-PED	8	C	5/26/2010	5.359	G	1449	\$5,796,000	406		
2244130	K	PED NR BOATHSE (LULLWATER BRDG)	PROSPECT PK LAKE		P	WO-PED	1	C	8/11/2010	4.898	F	1000	\$4,000,000	355		
2246400	M	PED PATH OPP E79 ST	TRANSVERSE RD #2		P	O-PED	1	C	7/31/2010	4.233	F	3700	\$14,800,000	164		
2241380	B	PELHAM BAY PK EQUES	AMTRAK - CSX	AC	P	O-PED	1	C	3/7/2009	3.508	F	4223	\$16,892,000	228		
2231519	K	PENNSYLVANIA AVE	BSHP			A	2	S	5/14/2009	5.806	G	6640	\$26,560,000	356		
2243870	K	PITKIN AVE	LIRR BAY RIDGE	N		O	2	S	12/14/2010	6.515	V	5328	\$21,312,000	316		
2243210	K	PRESIDENT ST	FRANKLIN SHUTTLE	T		O	2	S	10/10/2008	5.314	G	2500	\$10,000,000	309		
2232167	M	PROMENADE OVER FDR	FDR - E81ST ST - E90TH ST		P	A-PED	53	S	7/9/2009	3.857	F	93000	\$372,000,000	108		
2268760	M	PS-5 PED BRDG	TENTH AVE			O-PED	5	C	3/9/2010	4.735	F	1285	\$5,140,000	112		
2240639	KQ	PULASKI BRIDGE	NEWTOWN CREEK			WMO	44	S	4/29/2010	4.606	F	205770	\$823,080,000	301	402	
2230530	Q	QUEENS BLVD	278I (B.Q.E.)			A	2	S	11/1/2010	6.417	V	25543	\$102,172,000	402		
2230869	Q	QUEENS BLVD	ACCESS RD BQE S.B.			A	1	S	11/8/2010	5.727	G	7900	\$31,600,000	402		
2247310	Q	QUEENS BLVD	AMTRAK & LIRR YARD	AL		O	19	S	12/16/2010	6.324	V	92400	\$369,600,000	402	401	
2230209	Q	QUEENS BLVD	JACKIE ROBINSON PKWY	T		A	5	S	7/23/2010	4.778	F	37700	\$150,800,000	409		
2240047	MQ	QUEENSBORO BRIDGE (LL)	EAST RIVER	AL		WEO	53	S	12/8/2008	4.208	F	626900	\$2,507,600,000	108	402	401
2240048	MQ	QUEENSBORO BRIDGE (UL)	EAST RIVER - LL			WEO	37	S	12/8/2008	4.340	F	322300	\$1,289,200,000	108	402	401
2248040	Q	RAMP TO LINDEN BLVD	SO. CONDUIT AVE			O	1	S	6/10/2010	5.200	G	3352	\$13,408,000	410		
223201D	M	RAMP TO N.B. FDR DRIVE	FDR & SOUTH ST.			AR	22	S	2/18/2010	5.033	G	15825	\$63,300,000	101	103	
222934A	M	RAMP TO N.B. HHP	AMTRAK WEST SIDE	A		AR	26	S	10/11/2010	3.736	F	10800	\$43,200,000	112		
2240350	R	RICHMOND AVE	RICHMOND CREEK			WO	3	S	7/8/2009	5.444	G	32589	\$130,356,000	502		
2249270	R	RICHMOND VALLY ROAD	SIRT SOUTH SHORE	S		O	4	S	8/24/2009	5.284	G	9440	\$37,760,000	503		
2244150	K	RIDGE BLVD	SHORE RD DRIVE			O	1	S	5/13/2009	6.667	V	4350	\$17,400,000	310		
2240660	Q	RIKERS ISLAND BRIDGE	RIKERS ISL CHANNEL			WO	56	S	12/9/2010	4.493	F	183100	\$732,400,000	401	480	
2241430	B	RIVER AVE	METRO NORTH RR HUD	M		O	1	S	8/5/2009	6.156	V	5040	\$20,160,000	204		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2229510	B	RIVERDALE AVE	HHP			A	2	S	8/25/2009	4.474	F	5200	\$20,800,000	208		
2246980	M	RIVERSIDE DRIVE	W 138TH ST			O	1	S	1/29/2010	4.767	F	6700	\$26,800,000	109		
2267130	M	RIVERSIDE DRIVE	W 145TH ST			O	1	S	6/22/2009	4.867	F	5800	\$23,200,000	109		
2246720	M	RIVERSIDE DRIVE	W 158TH ST - AMTRAK	A		O	77	S	9/30/2010	3.472	F	185658	\$742,632,000	109	112	
2246970	M	RIVERSIDE DRIVE	W 96TH ST			O	3	S	7/2/2009	5.500	G	10600	\$42,400,000	107		
2269240	M	RIVERSIDE DRIVE	W. 155TH ST			O	1	S	6/23/2009	4.640	F	2780	\$11,120,000	109	112	
2246660	M	RIVERSIDE DRIVE	W125TH ST - W134TH ST			O	27	S	7/16/2009	4.444	F	148300	\$593,200,000	109		
2300130	Q	ROCKAWAY BLVD	HOOK CREEK			WO	3	S	8/19/2009	6.271	V	18302	\$73,208,000	413		
2248369	Q	ROCKAWAY BLVD	THURSTON BASIN			WO	2	S	8/20/2009	5.158	G	6000	\$24,000,000	483	413	
2230587	Q	ROOSEVELT AVE	278I (B.Q.E.)			A	2	S	10/29/2009	5.917	G	11022	\$44,088,000	402		
2240507	Q	ROOSEVELT AVE	678I - FLUSHING RIVER			WA	27	S	12/8/2010	3.465	F	84424	\$337,696,000	407	481	
2247380	Q	ROOSEVELT AVE	CSX - HELLGATE	C		O	2	S	9/23/2009	6.389	V	7380	\$29,520,000	402	403	404
2267160	Q	ROOSEVELT AVE	FLUSHING MDW PK ROAD			O	4	S	8/12/2009	4.873	F	7280	\$29,120,000	408		
2240640	MQ	ROOSEVELT ISLAND BRDG	E. RIVER E. CHANNEL			WMO	8	S	12/10/2010	5.611	G	36500	\$146,000,000	108	401	
2249420	R	ROSE AVE	SIRT SOUTH SHORE	S		O	2	S	8/6/2009	5.591	G	3800	\$15,200,000	502		
2249410	R	ROSS AVE	SIRT SOUTH SHORE	S		O	2	S	8/6/2009	5.379	G	3800	\$15,200,000	502		
2248200	Q	RUST ST	FLUSHING AVE			O	1	S	7/15/2009	5.047	G	2940	\$11,760,000	405		
2231560	Q	S CONDUIT BLVD	BSOP			A	2	S	7/27/2010	5.465	G	15776	\$63,104,000	410		
2242210	B	S OF ALLERTON AVE	BRONX RIVER			WO	3	S	6/7/2010	4.763	F	6200	\$24,800,000	227		
2249770	R	S OF BROOKS LAKE	STREAM IN PARK		P	WO-PED	3	C	10/8/2010	4.730	F	700	\$2,800,000	501		
2230370	K	SACKETT ST	278I (B.Q.E.)			A	2	S	3/26/2010	4.431	F	5000	\$20,000,000	306		
226771D	M	SB HHP RAMP TO 79 ST	79 ST BT BASIN GAR		P	AR	4	S	5/15/2009	4.516	F	2601	\$10,404,000	107		
2244470	K	SEELEY ST	PROSPECT AVE			O	1	S	4/9/2010	4.067	F	8482	\$33,928,000	307		
2249290	R	SEGUINE AVE	SIRT SOUTH SHORE	S		O	1	S	10/19/2009	6.016	V	3250	\$13,000,000	503		
2248220	Q	SERVICE RD TURNAROUND	FLUSHING AVE			O	1	S	7/15/2009	5.125	G	2940	\$11,760,000	405		
2241390	B	SHORE RD CIRCLE	AMTRAK - CSX	AC		O	2	S	8/22/2010	3.433	F	4800	\$19,200,000	228		
2240200	B	SHORE ROAD	HUTCHINSON RIVER			WMO	7	S	6/28/2010	4.597	F	43576	\$174,304,000	228		
2270170	R	SI FERRY PED BRDG	PARKING LOT EXIT RDWY		F	O-PED	5	C	6/17/2010	3.163	F	2917	\$11,668,000	501		
2249120	R	SIMONSON AVE	B&O RR (ABANDONED)	O		O	3	S	4/24/2009	5.981	G	5819	\$23,276,000	501		
2249860	R	SLATER BLVD	NEW CREEK			WO	1	S	5/6/2009	5.673	G	2037	\$8,148,000	502		
2242220	B	SNUFF MILL ROAD	BRONX RIVER			WO	2	S	1/15/2010	4.395	F	4800	\$19,200,000	227		
2249200	R	SOUTH AVE	B&O RR (ABANDONED)	O		O	3	S	6/20/2009	6.745	V	8322	\$33,288,000	501		
2244440	K	SOUTH OF TILLARY ST	NAVY ST			O-PED	1	C	7/23/2010	4.271	F	6200	\$24,800,000	302		
2241080	B	SOUTHERN BLVD	CSX TRANS - PT MORRIS	C		O	1	S	9/17/2010	4.167	F	3900	\$15,600,000	201		
2242029	B	SOUTHERN BLVD	EAST FORDHAM ROAD			O	2	S	2/8/2010	4.553	F	12900	\$51,600,000	227		
2231630	Q	SPRINGFIELD BLVD	BSOP			A	2	S	5/19/2010	4.614	F	8500	\$34,000,000	413		
2268770	Q	SPRINGFIELD BLVD	EQUES. PATH (ABAND.)			O	1	S	4/20/2009	4.667	F	1470	\$5,880,000	413		
2243180	K	ST JOHNS PLACE	FRANKLIN SHUTTLE	T		O	1	S	9/1/2009	6.781	V	2300	\$9,200,000	308		
2241700	B	ST PAULS PL PED BRDG	METRO NORTH RR HAR	M		O-PED	2	C	2/10/2009	5.000	G	600	\$2,400,000	203		
2241060	B	ST. MARYS & CONCORD	CSX TRANS - PT MORRIS	C		O	1	S	9/16/2010	5.370	G	4500	\$18,000,000	201		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2230610	Q	STEINWAY ST	278I EB (BQE)			A	1	S	9/29/2010	6.581	V	5146	\$20,584,000	401		
2230600	Q	STEINWAY ST	278I WB (BQE)			A	1	S	10/4/2010	6.581	V	5229	\$20,916,000	401		
2243170	K	STERLING PLACE	FRANKLIN SHUTTLE	T		O	1	S	9/1/2009	6.500	V	2300	\$9,200,000	308		
223201B	M	STH ST RMP TO FDR S.B.	SOUTH ST			AR	10	S	4/29/2010	3.761	F	44625	\$178,500,000	101		
2240540	K	STILLWELL AVE	CONEY ISLAND CRK			WO	2	S	6/17/2009	6.292	V	17000	\$68,000,000	313		
2230350	K	SUMMIT ST PED BRDG	278I (B.Q.E.)			A-PED	2	S	4/1/2010	4.386	F	1400	\$5,600,000	306		
2231650	Q	SUNRISE HWY W.B.	BLP E.B.			A	1	S	4/26/2010	4.393	F	4100	\$16,400,000	413		
2231660	Q	SUNRISE HWY W.B.	BLP W.B.			A	2	S	3/11/2010	4.565	F	5350	\$21,400,000	413		
2231800	Q	SUPERIOR ROAD	BCIP			A	2	S	4/13/2010	4.136	F	7000	\$28,000,000	413		
2243890	K	SUTTER AVE	LIRR BAY RIDGE	N		O	3	S	12/15/2010	6.542	V	5497	\$21,988,000	316		
2241040	B	THIRD AVE	CSX TRANS - PT MORRIS	C		O	1	S	9/28/2010	4.563	F	2700	\$10,800,000	201	203	
2240310	K	THIRD AVE	GOWANUS CANAL			WO	1	S	6/19/2009	7.000	V	3200	\$12,800,000	306		
2240069	BM	THIRD AVE BRIDGE	HARLEM RIVER			WMO	14	S	8/24/2010	6.521	V	100232	\$400,928,000	111	201	
2240250	K	THIRD ST	GOWANUS CANAL			WMO	5	S	6/12/2009	4.931	F	4900	\$19,600,000	306		
2247300	Q	THOMPSON AVE	AMTRAK & LIRR YARD	AL		O	14	S	12/16/2010	5.042	G	61280	\$245,120,000	402		
2241170	B	TIFFANY ST	AMTRAK - CSX	AC		O	1	S	11/1/2009	5.627	G	7267	\$29,068,000	202		
224004H	Q	TO 21ST ST FROM NY	22ND ST			OE	43	S	11/23/2010	4.268	F	48100	\$192,400,000	402		
224001B	M	TO BKLN FRM FDR	FRANKFRT & CITY			OE	31	S	12/20/2008	4.074	F	51400	\$205,600,000	101	103	
224005B	B	TO BRUCKNER BLVD	RELIEF			OR	5	S	11/4/2009	4.028	F	12100	\$48,400,000	201		
224004A	M	TO E 60TH ST FROM QNS	FIRST AVE			OE	13	S	4/12/2010	5.394	G	14800	\$59,200,000	108		
224004C	M	TO E 62ND ST FROM QNS	E 60TH - E 61ST ST			OE	10	S	9/24/2010	4.985	F	16720	\$66,880,000	108		
224001D	M	TO FDR DR N.B.	PEARL STREET			OE	30	S	6/8/2009	4.868	F	49600	\$198,400,000	101	103	
2245480	M	TO GWB OPP W 171ST ST	RIVERSIDE DRIVE			O	1	S	3/17/2010	4.952	F	10800	\$43,200,000	112		
224007A	M	TO MADISON AVENUE	E 138TH ST			OR	7	S	3/20/2010	5.225	G	19880	\$79,520,000	111		
224004E	Q	TO NY FR THOMSON AVE	JACKSON AVE	L		OE	94	S	12/24/2008	4.642	F	104600	\$418,400,000	402		
224004G	Q	TO NY FROM 11TH ST	TERRAIN (CHAMBER)			OE	36	S	9/10/2010	5.268	G	8360	\$33,440,000	401	402	
224004F	Q	TO NY FROM 21ST ST	21ST ST			OE	63	S	11/24/2010	4.712	F	63310	\$253,240,000	402	401	
224001G	M	TO PARK ROW	ROSE ST			OE	11	S	6/8/2009	4.606	F	16551	\$66,204,000	101		
224001E	M	TO PEARL ST	LAND ADJ TO BRDG			OE	3	S	6/1/2009	5.141	G	5300	\$21,200,000	101		
224004B	M	TO QNS FRM E 59TH ST	FIRST AVE			OE	13	S	4/13/2010	5.708	G	14800	\$59,200,000	108		
224004D	M	TO QNS FROM E 58TH ST	E 59TH ST			OE	12	S	6/18/2010	4.321	F	11781	\$47,124,000	106	108	
224004I	Q	TO THOMSON AVE FROM NY	JACKSON AVE	L		OE	39	S	12/16/2010	4.951	F	59100	\$236,400,000	402		
2249040	R	TOMPKINS AVE	B&O RR (ABANDONED)			O	1	S	5/24/2010	6.047	V	5096	\$20,384,000	501		
2249840	R	TOMPKINS AVE	GREENFIELD AVE			O	1	S	3/17/2010	5.021	G	2690	\$10,760,000	501		
2249510	R	TOMPKINS AVE	WILLOW AVE, SIRT	S		O	2	S	11/4/2010	5.328	G	5378	\$21,512,000	501		
2249230	R	TRACY AVE PED BRDG	SIRT SOUTH SHORE	S		O-PED	9	C	7/19/2010	3.383	F	635	\$2,540,000	503		
2245380	M	TRANSVERSE RD #1 WB	PED PATH OPP E 66TH ST		P	O	1	S	1/7/2010	5.000	G	1500	\$6,000,000	164		
2249870	R	TRAVIS AVE	MAIN CREEK			WO	1	S	9/3/2010	5.733	G	1700	\$6,800,000	502		
2246410	M	TRNSVRS RD 1 EB (DENESMOUTH ARCH)	PED PATH OPP E 65TH ST		P	O	1	S	2/2/2010	4.727	F	1739	\$6,956,000	164		
2246560	M	TUDOR CITY PLACE	E 42ND ST			O	1	S	2/1/2010	5.133	G	6600	\$26,400,000	106		

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SRC	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2249170	R	UNION AVE	B&O RR (ABANDONED)	O		O	4	S	4/28/2009	5.426	G	6500	\$26,000,000	501		
2230360	K	UNION ST	278I (B.Q.E.)			A	2	S	4/1/2010	4.236	F	5000	\$20,000,000	306		
2243200	K	UNION ST	FRANKLIN SHUTTLE	T		O	2	S	10/13/2008	5.043	G	4100	\$16,400,000	309		
2240270	K	UNION ST	GOWANUS CANAL			WMO	5	S	9/3/2010	4.000	F	4900	\$19,600,000	306		
2247040	Q	UNION ST	LIRR PORT WASH BR	L		O	1	S	9/15/2009	6.328	V	3313	\$13,252,000	407		
2231850	Q	UNION TPKE	BCIP			A	2	S	4/1/2010	4.409	F	13600	\$54,400,000	413		
2248129	Q	UNION TPKE	CREEDMOORE HOSP RD			O	1	S	6/30/2009	4.867	F	3500	\$14,000,000	413		
2230180	Q	UNION TPKE	JACKIE ROBINSON PKWY			A	1	S	2/9/2010	5.797	G	5359	\$21,436,000	482		
2241330	B	UNIONPORT ROAD	AMTRAK - CSX	AC		O	1	S	9/14/2010	4.781	F	7631	\$30,524,000	211		
2231910	Q	UTOPIA PKWY	BCIP			A	2	S	3/19/2010	5.114	G	7200	\$28,800,000	407		
2229550	B	VAN CRTLDT EQUES	HHP		P	A-PED	2	C	7/1/2010	4.556	F	2100	\$8,400,000	226		
2229540	B	VAN CRTLDT PARK	HHP		P	A-PED	2	C	7/1/2010	4.306	F	3900	\$15,600,000	226		
2249130	R	VAN NAME AVE	B&O RR (ABANDONED)	O		O	3	S	3/12/2010	5.254	G	5474	\$21,896,000	501		
2249140	R	VAN PELT AVE	B&O RR (ABANDONED)	O		O	3	S	4/28/2009	5.644	G	5000	\$20,000,000	501		
2246620	M	W 128TH ST PED BRDG	3RD AVE BRDG APPR			O-PED	18	C	7/1/2010	4.048	F	2300	\$9,200,000	111		
2246670	M	W 134 ST	TERRAIN			O	4	S	7/13/2009	4.870	F	7500	\$30,000,000	109		
2245230	M	W 148TH ST PED BRDG	AMTRAK 30 ST BRANCH	A	P	O-PED	3	C	11/5/2010	4.033	F	1100	\$4,400,000	109		
2246710	M	W 153 ST	A.C. POWELL BLVD			O	1	S	2/11/2010	4.370	F	3082	\$12,328,000	110		
2245290	M	W 155TH ST PED BRDG	AMTRAK 30 ST BRANCH	A		O-PED	3	C	10/31/2010	3.292	F	800	\$3,200,000	109	112	
2245250	M	W 158TH ST	AMTRAK 30 ST BRANCH	A		O	7	S	11/14/2009	6.319	V	29170	\$116,680,000	112		
2245260	M	W 173RD ST PED BRDG	AMTRAK 30 ST BRANCH	A	P	O-PED	2	C	10/29/2010	4.446	F	1500	\$6,000,000	112		
2246600	M	W 176TH ST PED BRDG	APPROACH TO G.W.B.			O-PED	1	C	1/15/2010	3.897	F	1200	\$4,800,000	112		
2246489	M	W 181 ST	RAMP TO WASH BR			O	1	S	3/16/2010	4.500	F	8200	\$32,800,000	112		
2229400	M	W 181ST ST PED BRDG	HHP N.B.		P	A-PED	7	C	2/5/2010	4.657	F	1500	\$6,000,000	112		
2241940	B	W 205TH ST	NYCTA IND YARDS	T		O	4	S	8/14/2008	5.625	G	32508	\$130,032,000	207		
2240120	BM	W 207TH/W FORDHAM RD	HARLEM RIVER			WMO	5	S	8/20/2010	5.222	G	31784	\$127,136,000	112	207	
2241489	B	W 225TH ST	CSX TRASP - PUTNAM	C		O	2	S	6/11/2010	5.149	G	10900	\$43,600,000	207	208	
2241490	B	W 230TH ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	4/10/2009	5.625	G	5600	\$22,400,000	208		
2241509	B	W 231ST ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	9/29/2010	4.745	F	4723	\$18,892,000	208		
2241510	B	W 233RD ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	4/7/2009	5.275	G	3760	\$15,040,000	208		
2241520	B	W 234TH ST	CONRAIL (ABANDONED) PUTNAM			O	1	S	4/7/2009	5.176	G	3770	\$15,080,000	208		
226672A	M	W 31ST ST	AMTRAK LAYUP TRACKS	A		O	9	S	12/29/2008	3.619	F	8800	\$35,200,000	104		
224501B	M	W 33RD ST	AMTRAK 30 ST BRANCH	A		O	8	S	3/17/2010	4.611	F	16500	\$66,000,000	104		
224501C	M	W 33RD ST	LAND ADJ TO AMTRAK	A		O	2	S	6/25/2009	4.417	F	4620	\$18,480,000	104		
224501D	M	W 34TH ST	AMTRAK 30 ST BRANCH	A		O	4	S	6/26/2009	4.514	F	11800	\$47,200,000	104		
224501E	M	W 35TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	12/5/2008	4.141	F	6500	\$26,000,000	104		
224501F	M	W 36TH ST	AMTRAK 30 ST BRANCH	A		O	7	S	12/15/2008	4.015	F	16400	\$65,600,000	104		
2245060	M	W 37TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	11/20/2009	6.190	V	7505	\$30,020,000	104		
2245070	M	W 38TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	10/1/2010	4.154	F	6200	\$24,800,000	104		
2245080	M	W 39TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	10/1/2010	4.196	F	6300	\$25,200,000	104		



# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	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	10/16/2010	4.236	F	9400	\$37,600,000	104		
2245330	M	W 41ST ST	AMTRAK 30 ST BRANCH	A		O	3	S	9/28/2010	4.388	F	6200	\$24,800,000	104		
2245210	M	W 42ND ST	AMTRAK 30 ST BRANCH	A		O	4	S	12/22/2008	4.619	F	9155	\$36,620,000	104		
2245090	M	W 43RD ST	AMTRAK 30 ST BRANCH	A		O	2	S	5/1/2010	4.662	F	4100	\$16,400,000	104		
2245100	M	W 44TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/24/2010	4.662	F	4300	\$17,200,000	104		
2245110	M	W 45TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/19/2008	5.662	G	4100	\$16,400,000	104		
2245120	M	W 46TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/19/2008	4.412	F	4100	\$16,400,000	104		
2245130	M	W 47TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/21/2008	4.721	F	4100	\$16,400,000	104		
2245140	M	W 48TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	3/24/2008	4.618	F	4100	\$16,400,000	104		
2245150	M	W 49TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	5/26/2010	4.426	F	4100	\$16,400,000	104		
2245340	M	W 50TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	5/26/2010	4.544	F	4100	\$16,400,000	104		
2245160	M	W 51ST ST	AMTRAK 30 ST BRANCH	A		O	2	S	6/5/2010	4.882	F	4300	\$17,200,000	104		
2245170	M	W 52ND ST	AMTRAK 30 ST BRANCH	A		O	2	S	6/5/2010	4.956	F	4300	\$17,200,000	104		
2245180	M	W 53RD ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/7/2008	5.029	G	5100	\$20,400,000	104		
2245350	M	W 54TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/8/2008	5.476	G	4700	\$18,800,000	104		
2245360	M	W 55TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	7/10/2010	5.353	G	4300	\$17,200,000	104		
2245370	M	W 56TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/10/2008	5.618	G	4400	\$17,600,000	104		
2245220	M	W 57TH ST	AMTRAK 30 ST BRANCH	A		O	3	S	4/11/2008	4.765	F	9100	\$36,400,000	104		
2245190	M	W 58TH ST	AMTRAK 30 ST BRANCH	A		O	2	S	4/11/2008	4.706	F	4100	\$16,400,000	104		
2246010	M	W 62 ST PED BRDG (PINEBANK ARCH)	BRIDLE PATH		P	O-PED	1	C	7/9/2010	4.404	F	1000	\$4,000,000	164		
2245420	M	W 65TH ST ENTR EB	BRIDLE PATH W END		P	O	1	S	1/25/2010	5.167	G	1600	\$6,400,000	164		
2269210	M	W 68TH ST	AMTRAK	A		O	3	S	11/24/2009	6.780	V	5382	\$21,528,000	107		
2269190	M	W 70TH ST	AMTRAK	A		O	3	S	11/19/2009	5.806	G	17258	\$69,032,000	107		
2246140	M	W 72 ST ENTR (RIFTSTONE ARCH)	BRIDLE PATH		P	O	1	S	1/12/2010	4.533	F	3600	\$14,400,000	164		
2229290	M	W 79 ST	AMTRAK	A		A	1	S	10/18/2010	4.492	F	4500	\$18,000,000	107		
2231860	Q	W ALLEY ROAD	BCIP			A	2	S	7/28/2009	5.263	G	7200	\$28,800,000	411		
2241470	B	W FORDHAM RD	METRO NORTH RR HUD	M		O	4	S	8/6/2009	5.694	G	16052	\$64,208,000	207		
2241460	B	W TREMONT AVE	METRO NORTH RR HUD	M		O	8	S	6/14/2010	4.164	F	12900	\$51,600,000	205		
2269260	K	W. 8TH ST PED BRDG	SURF AVE.		P	O-PED	39	C	3/8/2010	3.093	F	14742	\$58,968,000	313		
2246430	M	W110 ST ENTR (MOUNTCLIFF ARCH)	PED PATH OPP W109 ST		P	O	1	S	3/29/2010	4.383	F	1200	\$4,800,000	164		
M00001	M	W191ST ST PED TNL	BROADWAY - IRT #1 SUBWAY			O-PED	1	C	1/5/2010	5.000	G	2000	\$8,000,000	112		
2246460	M	W77 ST ENTR (EAGLEVALE ARCH)	PED PATH OPP W77 ST		P	O	2	S	1/15/2010	4.263	F	5800	\$23,200,000	164		
2246340	M	W77 ST PED (LADIES POND BRDG)	STREAM TO THE LAKE		P	WO-PED	3	C	10/26/2010	4.032	F	500	\$2,000,000	164		
2246320	M	W77 ST PED (OAK BRDG)	THE LAKE		P	WO-PED	3	C	12/22/2010	6.684	V	919	\$3,676,000	164		
2246380	M	W86 ST PED (SW RESERVOIR BRDG)	BRIDLE PATH		P	O-PED	1	C	10/7/2010	4.143	F	700	\$2,800,000	164		
2241070	B	WALES AVE	CSX TRANS - PT MORRIS	C		O	1	S	9/27/2010	6.567	V	2535	\$10,140,000	201		
2241410	B	WALTON AVE	METRO NORTH RR HUD	M		O	1	S	6/1/2010	5.297	G	3600	\$14,400,000	204		
2240620	M	WARDS ISLAND PED BRDG	HARLEM RIVER			WMO-PED	10	C	11/1/2008	4.367	F	12600	\$50,400,000	111		
2243250	K	WASHINGTON AVE	FRANKLIN SHUTTLE	T		O	1	S	10/6/2008	6.344	V	3657	\$14,628,000	309	355	
2066919	BM	WASHINGTON BRIDGE	HARLEM RIVER	M		WO	9	S	10/8/2008	4.642	F	128339	\$513,356,000	112	205	204

# INVENTORY SORTED BY FEATURE CARRIED

BIN	BORO	FEATURE CARRIED	FEATURE CROSSED	RAIL ROAD	OTHER OWNER	BRIDGE TYPE	SPAN S	RT NG SR C	Inspection Date	Condition Rating	VR BL RT NG	DECK AREA	REPLACEMENT COST	CD	CD2	CD3
2246330	M	WEST DR (BALCONY BRDG)	STREAM TO THE LAKE		P	WO	1	S	2/1/2010	5.000	G	2019	\$8,076,000	164		
2246080	M	WEST DR (DALEHEAD ARCH)	BRIDLE OPP W 64TH ST		P	O	1	S	1/5/2010	4.667	F	2000	\$8,000,000	164		
2246000	M	WEST DR (GREYSHOT ARCH)	PED BET 61ST & 62ST		P	O	1	S	1/14/2010	5.400	G	2500	\$10,000,000	164		
2244020	K	WEST DR (MEADOWPORT ARCH)	PED PATH NR GRND ARMY PLZ		P	O	1	S	4/28/2009	5.321	G	2500	\$10,000,000	355		
2246360	M	WEST DR (WINTERDALE ARCH)	PED PATH OPP W 82 ST		P	O	1	S	1/27/2010	5.273	G	3100	\$12,400,000	164		
2246120	M	WEST DRIVE	TRANSVERSE RD #1		P	O	1	S	4/2/2010	4.967	F	7900	\$31,600,000	164		
2246240	M	WEST DRIVE	TRANSVERSE RD #2		P	O	1	S	3/23/2010	4.167	F	7200	\$28,800,000	164		
2246260	M	WEST DRIVE	TRANSVERSE RD #3		P	O	1	S	3/26/2010	4.933	F	5100	\$20,400,000	164		
2246280	M	WEST DRIVE	TRANSVERSE RD #4		P	O	1	S	3/24/2010	4.300	F	4700	\$18,800,000	164		
2249710	R	WEST FOOTBRIDGE	CLOVE LAKE		P	WO-PED	2	C	8/6/2010	4.600	F	900	\$3,600,000	501		
2244100	K	WEST FOOTBRIDGE	PROSPCT PK STREAM		P	WO-PED	1	C	12/2/2010	4.875	F	3200	\$12,800,000	355		
2267380	M	WEST STREET	RECTOR ST			AT	1	S	11/19/2009	5.033	G	25760	\$103,040,000	101		
2241230	B	WESTCHESTER AVE	AMTRAK - CSX	AC		O	3	S	11/23/2008	6.111	V	15600	\$62,400,000	202	209	
2240180	B	WESTCHESTER AVE	BRONX RIVER			WO	1	S	9/18/2009	4.765	F	5476	\$21,904,000	202	209	
2241000	B	WESTCHESTER AVE	CSX TRANS - PT MORRIS	C		O	1	S	6/16/2010	4.660	F	1740	\$6,960,000	201		
2075837	B	WESTCHESTER AVE	HUTCHINSON RVR PKWY			A	2	S	2/5/2010	4.306	F	15858	\$63,432,000	210	211	
2241329	B	WHITE PLAINS ROAD	AMTRAK - CSX	AC		O	1	S	9/14/2010	4.719	F	6900	\$27,600,000	211		
2248020	Q	WHITELAW PED BRDG	CONDUIT AVE			O-PED	7	C	10/8/2010	4.775	F	5500	\$22,000,000	410		
1065210	Q	WHITESTONE EXP NB	BCIP (2065210)			A	1	S	7/22/2010	4.476	F	2500	\$10,000,000	407		
2241369	B	WILLIAMSBRIDGE RD	AMTRAK - CSX	AC		O	2	S	11/18/2008	4.836	F	6510	\$26,040,000	211		
2240039	KM	WILLIAMSBURG BRIDGE	EAST RIVER	T		WEO	53	S	10/31/2008	4.653	F	824000	\$3,296,000,000	103	301	
2240059	BM	WILLIS AVENUE	HARLEM RIVER			WMO	26	S	11/6/2009	3.292	F	171105	\$684,420,000	111	201	
2248019	Q	WOODHAVEN BLVD	ATLANTIC AVE			O	3	S	4/8/2010	4.236	F	19400	\$77,600,000	409		
2248159	Q	WOODHAVEN BLVD	QUEENS BLVD			O	2	S	8/20/2010	4.275	F	11500	\$46,000,000	404		
2230540	Q	WOODSIDE AVE	278I (B.Q.E.)			A	1	S	1/19/2010	5.797	G	7529	\$30,116,000	402		
2247400	Q	WOODSIDE AVE	CSX TRANSPORT	C		O	1	S	9/24/2009	5.033	G	8200	\$32,800,000	402	404	
2247120	Q	WOODSIDE AVE	LIRR MAIN LINE	L		O	3	S	10/28/2009	4.444	F	14900	\$59,600,000	402		
786 OPEN BRIDGES					OPEN SPANS 4,441					OPEN SF		14,512,626	58,050,504,000			

STATEN ISLAND CULVERTS							
BIN	BORO	FEATURE CARRIED	FEATURE CROSSED		BRIDGE TYPE	SPANS	SOURCE
R00003	R	DELAFIELD AVE	RAYMOND PLACE		O	1	CITY
R00004	R	DICKIE AVE	NEAR COLUMBUS PLACE		O	1	CITY
R00005	R	BIDWELL AVE	COLUMBUS PLACE		O	1	CITY
R00006	R	LIVERMORE AVE	WATCHOGUE ROAD		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
R00039	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
R00048	R	VAN NAME AVE	WALKER AVE		O	1	CITY
R00049	R	VAN PELT AVE	WALKER ST		O	1	CITY
R00050	R	UNION AVE	NETHERLAND AVE		O	1	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
R00078	R	WILLOW BROOK ROAD	FILLMORE AVE		O	1	CITY
R00079	R	FILLMORE AVE	WILLOW BROOK ROAD		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
R00106	R	ARTHUR KILL ROAD	RICHMONDTOWN ROAD		O	1	CITY
R00111	R	ELTINGVILLE BLVD	KATAN AVE		O	2	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

A brief 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. (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.

### **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)

## **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.



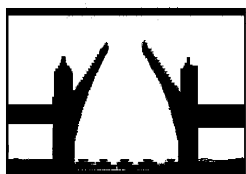
Hamilton Avenue Asphalt Plant Silo. (Credit: Sheena Diaz)

## **BACKFILL**

Material used to refill an excavated area.

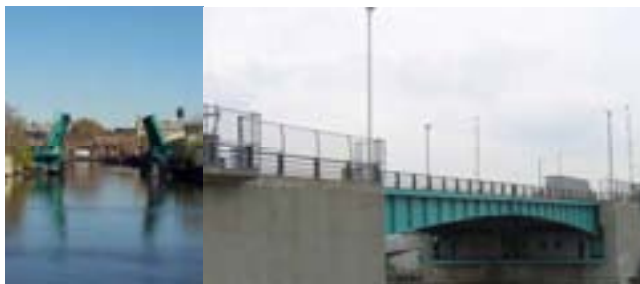
## **BASCULE BRIDGES**

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**, and **Greenpoint Avenue** Bridges.



Unionport Bridge. (Credit: NYSDOT) Shore Road (Pelham) Bridge. (Credit: Peter Basich)  
Hamilton Avenue Bridge. (Credit: NYSDOT)





Union Street Bridge. Greenpoint Avenue Bridge.  
(Greenpoint Credit: Michele N. Vulcan)

**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.



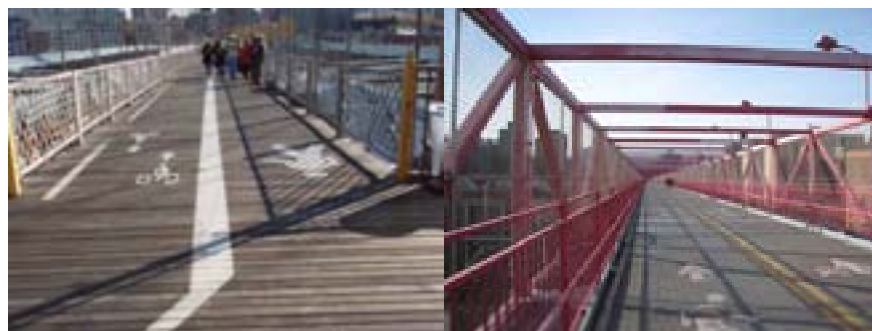
Truss Bearing on Manhattan Bridge.  
(Credit: NYSDOT)

**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 **Queensboro Bridge** is a notable example of this type of structure.



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 grided 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.



Queensboro Bridge Lower Level Flooring System Catwalk under Lower Level Queens Approach.  
Manhattan Bridge Brooklyn Tower Catwalk. (Credit: NYSDOT)

## 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.

## CLEARANCE

The unobstructed vertical and horizontal space provided between two objects.



Woodhaven Boulevard Bridge Eastbound, United Nations – 1<sup>st</sup> Avenue Tunnel, and Macombs Dam Bridge Vertical  
Clearance Postings. (Credit: NYSDOT)





Retro-reflective Material Improves Visibility of These Low Vertical Clearance Bridges: 17<sup>th</sup> Avenue Pedestrian Bridge Over Belt Parkway, 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.

### **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.

### ***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.

### ***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 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 waterborne 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. 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.





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.

## **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 Queensboro Bridge. Masonry of the East Drive Bridge Over Eastwood Arch.

## **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.)



Tugboat Pushing a Barge Under the Open Metropolitan Avenue Bridge. Hunterspoint Avenue Bridge (Hunterspoint Credit: Vera Ovetskaya) Roosevelt Island Bridge in 2010. Shore Road Bridge in 2009. (Shore Road Credit: George Kern) Third Avenue Bridge Over Harlem River. (Third Avenue Credit: Edgardo Montanez) 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.



A Bulb of the Queensboro Bridge Necklace Lights. (Credit: Peter Basich) Repairing a Manhattan Bridge Necklace Light. (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 8<sup>th</sup> Street, PS-5 and Ocean Avenue 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 of Hamilton Avenue Bridge. Pier 17 of Rikers Island Bridge. Pier 1 of Hunters Point Avenue Bridge. Queensboro Bridge Pier. Pier 15 of Madison Avenue Bridge. 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.

## **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.





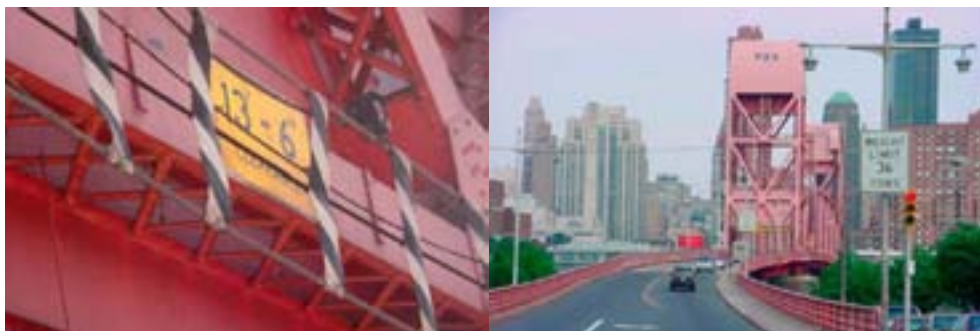
Pointing Joints on the East Face of the Brooklyn Anchorage of the Manhattan Bridge.

### **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.

### **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.

## 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.

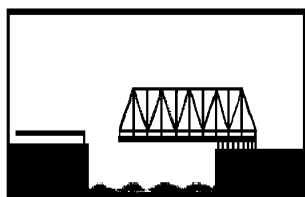
## RETARDING AGENT

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).



Borden Avenue Bridge. (Credit: Peter Basich). Carroll Street Bridge. (Credit: NYSDOT)

### **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)

### **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 Mosholu Parkway Bridge Over Bronx River in 2008.  
(Credit: NYSDOT)

### **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.

## **SOFFIT**

The underside of a structural component, such as a beam or arch.

## **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)

## **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**

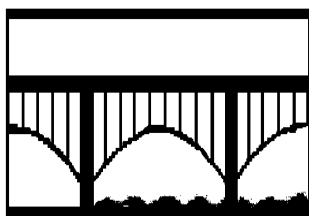
When the surface to be painted is contaminated with de-icing salts, sea salt, bird excrement, or other corrosive agents, the area is prepared by power washing, using clean water or steam. When grease or oil is present, it is removed by solvents. Mechanical cleaning with hand and/or power tools is performed 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.

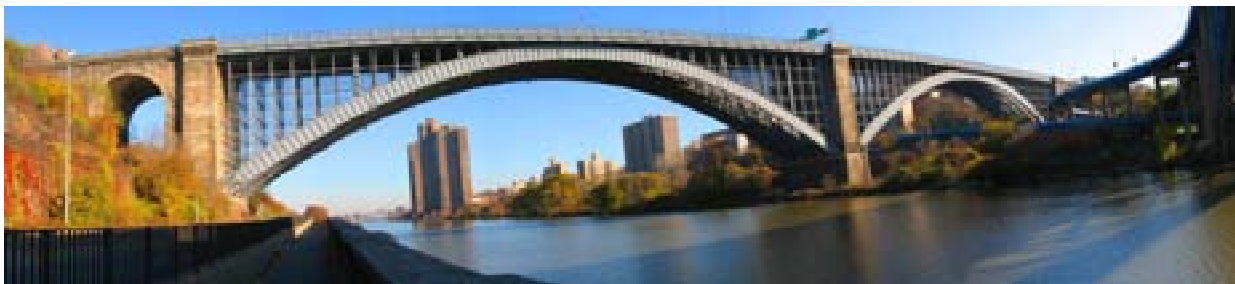
## **STEEL ARCH BRIDGES**

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.



Division Staff Installing Strain Gauges in 1995 and 2006 on the Greenpoint Avenue Bridge. Checking the Measurements in 2006.  
(2006 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 & 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.

### **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.

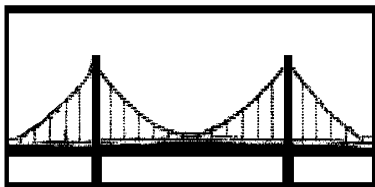


Manhattan Bridge Suspenders. (Credit: NYSDOT and Jagtar Khinda)

### **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

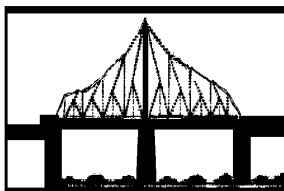
prevent excessive deflection at any point. The Brooklyn, **Manhattan** and **Williamsburg** Bridges are noted New York City examples of this type.



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 and Madison Avenue Bridge. (Madison Avenue Credit: Peter Basich)



145<sup>th</sup> Street Bridge. (Credit: Peter Basich) University Heights Bridge. (Credit: Michele N. Vulcan)



Grand Street Bridge. (Credit: NYSDOT) Macombs Dam Bridge. (Credit: Michele N. Vulcan)

## **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.



Williamsburg Bridge Tower. (Credit: Peter Basich) Inspectors on Manhattan Bridge Tower. (Inspector Credit: NYSDOT) Manhattan Bridge Tower. (Credit: Michele N. Vulcan) Manhattan Bridge Tower Detail. (Credit: Russell Holcomb) 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.

## 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. (2<sup>nd</sup> View Credit: Peter Basich)



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 2009.

### **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.

### **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, and Queensboro Bridge Wingwalls. (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) Hutchinson River Parkway Under Westchester Avenue. (Credit: Anthony Napolitano) 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.

## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM\*

### 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.



Drain Truck on Brooklyn Bridge Ramp. (Credit: Peter Basich)



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.



## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM\*



Expansion Joint Cleaning and Cleaned Joint on the Manhattan Bridge.



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, Highway Repairer Louie Dumeng, and Interim Director of Bridge Preventive Maintenance Paul Schwartz. (Credit: Thomas Whitehouse)

### **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)

## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM\*

**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.



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)

### 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.

**Repair of Sidewalks and Curbs** 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\*



Sidewalk Repairs at East 174<sup>th</sup> Street Over The Ramp to The Cross Island Parkway. (Credit: Reza Taheri)

### 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.



Asphalt Trailer and Tar Kettle. (Credit: Peter Basich)



2008: 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)

## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM\*



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 Before Breakout, Exhibiting Rutting, Cracking and Excessive Patching. Breakout and Removal of Deteriorated Wearing Surface.



Belt Parkway Bridge over Mill Basin: Ironworker Assisting the Crew. Prepped Cut, Ready for Asphalt. Installation of New Asphalt. (Credit: Yousef Demis)



Belt Parkway Bridge over Mill Basin: Installation of New Asphalt. Compacting the Asphalt With the Assistance of a Gasoline Roller Engine From the Roadway Repair and Maintenance Division. Completed Resurfacing Work. (Installation Credit: Yousef Demis, GRE Credit: Ali Mozaffari)



Performing Wear and Tear Resurfacing Work on the Roosevelt Avenue Bridges to prepare for the Mets' Opening Day 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)



## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM\*

### 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.



Electrician Robert Stackpole and Supervisor Electrician Ben Cipriano Atop the Queensboro Bridge. Electrician Helper Richard Parisi. (Credit: Peter Basich) Supervisor Electrician Ben Cipriano Installing an Outlet on the Brooklyn Bridge. (Credit: Hany Soliman)



Changing a Bulb on the Queensboro Bridge Necklace Lighting. (Credit: Peter Basich)



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)

## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM\*

**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.



Inspecting the Eyebars in the Brooklyn Anchorage of the Manhattan Bridge. (Credit: NYSDOT) 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. (Credit: Anatoly Orlov) Oiler T. McAuliffe at the 9<sup>th</sup> Street Bridge. Assistant Mechanical Engineer Vera Ovetskaya Climbing to the Brooklyn Bridge Tower in 2008. (Credit: Gennadiy Kaplun) Oiler Samuel Garcia Jr. Climbing the Brooklyn Bridge Cable in June 2010. (Credit: Thomas Whitehouse)



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)

## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM\*

### 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.



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.



## COMPONENTS OF THE PREVENTIVE MAINTENANCE PROGRAM\*



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) Containment Examples. Manhattan Bridge - Painting Containment Structures on the Cables of the Manhattan Approach Span. Preventing Paint From Falling Into the Dutch Kills under the Hunters Point Avenue Bridge. (Credit: Sergiy Parayev) Working Inside the Queensboro Bridge Containment.



2008: Roosevelt Island Bridge Containment. Preparing the South Truss Containment. South Side of Main Span. Erecting Scaffold to Build Containment at the West Tower.



2007: Queensboro Bridge Lower Level and Upper Level Shielding. 2006: Erecting Scaffold to Build Painting Containment at Base of Brooklyn Tower of the Manhattan Bridge.

## *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



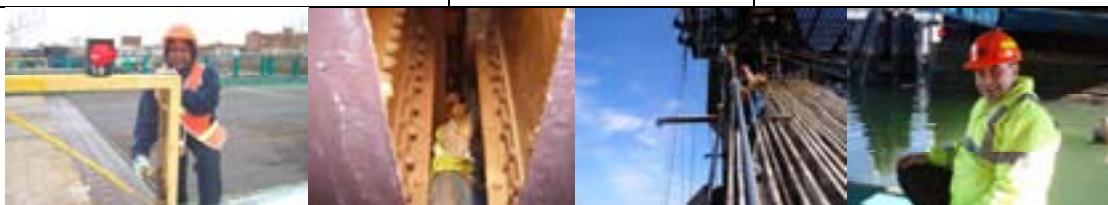
Cleaning the Brooklyn Bridge Brooklyn Anchorage in July 2007. (Credit: Serag Saad)  
 During Fall Protection Training in August 2010, Executive Director of Bridge Preventive Maintenance and Repair Thomas Whitehouse Was Hoisted in the Air While Wearing a Full Body Harness - Demonstrating How to Deploy 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)

\*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.

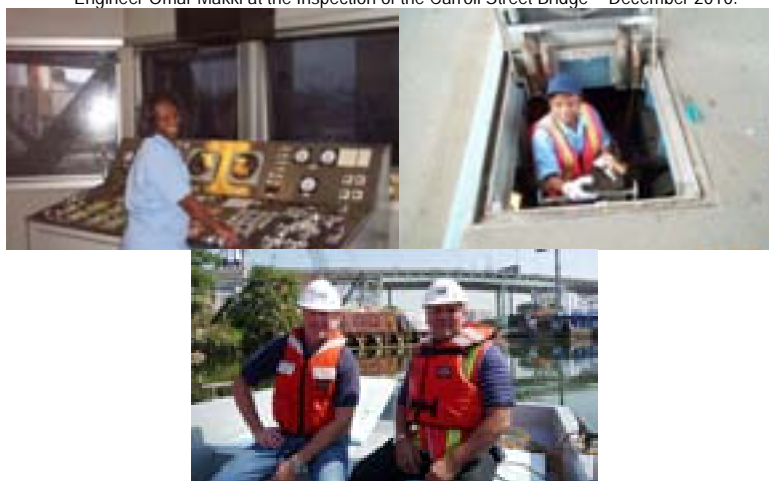
## *MAINTENANCE PERSONNEL RESOURCES IN 2010*

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	2	4
BRIDGE OPERATORS (INCLUDES ASSISTANTS)	22	69
BRIDGE PAINTERS	5	29
BRIDGE REPAIRERS/RIVETERS	3	41
CARPENTERS	3	14
CEMENT MASONS	-	9
ELECTRICIANS (INCLUDES HELPERS)	4	25
HIGHWAY REPAIRERS (INCLUDES ASSISTANTS & SEASONAL WORKERS)	26	82
MACHINISTS	-	2
MOTOR GRADER OPERATORS	-	1
OILERS	-	15
TRACTOR OPERATORS	-	1
<b>TOTALS</b>	<b>65 SUPERVISORS</b>	<b>292 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 Queensboro Bridge – August 2010. (Credit: Hany Soliman) Supervisor Electrician Ben Cipriano Repairing a Damaged Electrical Cable on The Queensboro Bridge in March 2007. (Credit: Bala Nair) 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.

Revised 10/25/10

## *MAINTENANCE PERSONNEL RESOURCES IN 1900*

A breakdown of the Department of Bridges work force by trade in 1900:

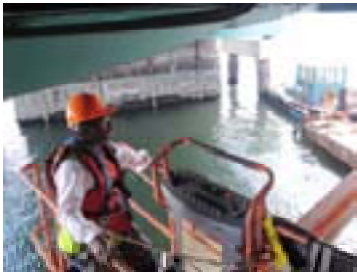

	SUPERVISORS	MECHANICS
AXEMAN		8
BLACKSMITH	1	2
BOILERMAKER		1
BRICK MASON	1	4
BRIDGE TENDER	15	137
CARPENTER	1	23
DOCKBUILDER		1
DRIVER		11
FIREMAN		18
FITTER		3
GATEMAN		7
INSPECTOR (INCLUDING STEEL)		10
LABORER (INCLUDES HELPERS)	7	111
LEVELER		4
LINEMAN		3
MACHINIST (INCLUDING HELPERS)		13
MASONRY 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 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 Work Gloves Lined Work Boots  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) Screwdriver Set (Phillips) Dye Penetrant Kit  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' 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)</p>		 <p>Division Personnel Inspecting Paerdegat Bridge Utilizing a Barge. (Credit: Avelino Leyco Jr.)</p>

\*New York City Department of Transportation, Division of Bridges. *Inspections and Bridge Management Section Equipment Checklist*. 2006, Revised 11/15/10.



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Bridge Flags Engineer Rajendra Pandya and Harlem River Bridges Engineer Reza Taheri. (Credit: Peter Basich) Deputy Chief Engineer Russell Holcomb on Queensboro Bridge. Mechanical Engineering Intern Christopher Brathwaite Assisting in Strain Gauge Balance Testing on Unionport Bridge in October 2010.



Design-Build Engineer Leonid Gitis. 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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Civil Engineers Tiffany Wong and Maria Mikolajczyk, Administrative Engineer Danuta Ryduchowska, Civil Engineer Aldona Ulanecka, Assistant Civil Engineer Allison Rienecker, Civil Engineering Intern Jana Krettova, and Civil Engineer Simona Finkelstein. (Credit: Jagtar Khinda)



Assistant Civil Engineer Elena Maressova, Associate Project Manager Mariya Zhurakhinskaya, Assistant Civil Engineer Ajda Ozyurt, Project Manager Tamara Berlyavsky, Assistant Mechanical Engineer Nancy Guernsey. Future Engineers on the Brooklyn Bridge. (Children Credit: Joseph Flood)

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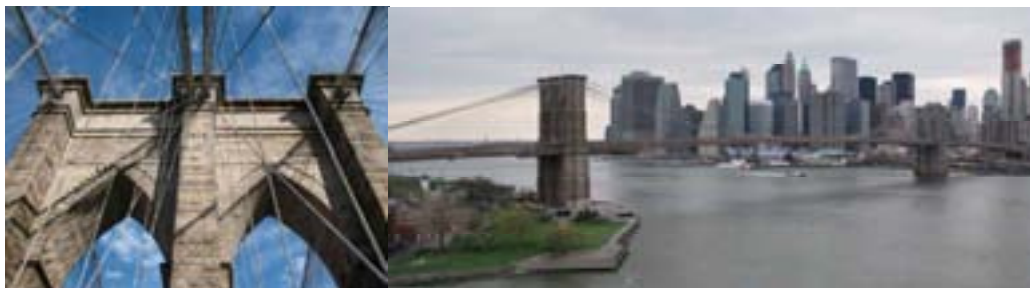
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Brooklyn Bridge: 1909 View, 2009 Tower Closeup, and 2010 View. (2009 Credit: Emily Goodman, 2010 Credit: Jagtar Khinda)

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Manhattan Bridge Plaque Detail. (Credit: Peter Basich)

Revised 2/16/11



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## In Memoriam

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The 2010 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 Department are the strength of the Agency, providing a tradition of quality service to the public.

### **Anthony J. Fasulo, First Deputy Commissioner**

May 13, 1934 – March 8, 2010

40 years, 3 months City service

Anthony J. Fasulo was appointed as the Department of Transportation's First Deputy Commissioner (FDC) on January 7, 1999. He retired in March 2002. This was the culmination of a 40-year career at DOT, where he began his tenure as a laborer on Staten Island's ferries for the former Marine & Aviation Department. With his reputation as an innovator, he progressed through the ranks. FDC Fasulo's approach to governmental decision-making was greatly influenced by his many years in City service and 18 years of experience in private enterprise. As the First Deputy Commissioner, Mr. Fasulo headed an organization of several thousand people committed to the safe, efficient, and environmentally responsible movement of people, goods, and vehicles throughout the City of New York. He directed DOT units that maintained approximately 5,700 miles of streets and highways, including the management and rehabilitation of over 764 bridge structures and six tunnels, and that coordinated programs to promote traffic safety, improve traffic mobility, reduce congestion by improving and maintaining traffic signals and traffic signs, parking infrastructures, policies, and technologies. He also oversaw the Staten Island Ferry, private ferry services, franchise buses, Pre-Kindergarten buses, and other alternative modes of transportation. Prior to his assignment as First Deputy Commissioner, Mr. Fasulo was the Second Deputy Commissioner of the Office of Operations. In that capacity, he was responsible for the daily operations of the Staten Island Ferry, the Bridges program, the Street and Arterial Maintenance Division, the Surface Transit and Alternative Fuel programs, and the Traffic Operations Division, which included the Parking and Traffic Engineering programs.

As Deputy Commissioner, Mr. Fasulo formulated the Department's newly established Street and Arterial Maintenance Division in December of 1996. This new unit consisted of the Citywide Borough Street Maintenance forces, Arterial Highways forces, Municipal Asphalt Plant, Citywide Concrete crew, Resource Management, Jolt Elimination Team (JETs), Speed Reducer program, Quality Assurance Unit, Citywide Fleet Services, and the Central Depot. Prior to taking on this new position, he served as the original DOT Queens Borough Commissioner from October of 1994 to December of 1996. The genial Mr. Fasulo, with his tinted bifocals and 5-foot-4-inch frame, quickly became a sort of ambassador of the asphalt.

Commissioner Fasulo began his Civil Service career in 1962 with the Department of Marine and Aviation, which was later absorbed into the Department of Transportation. He served under six different Mayors. Mr. Fasulo was a product of the New York City public school system and a native New Yorker, born on Staten Island. During the Korean conflict from 1951 to 1954, Mr. Fasulo enlisted in the U.S. Marine Corps as a private. Within 18 months he was promoted to Sergeant, an extremely rare feat for an enlisted person in the Marine Corps during those years. Since 1989, Mr. Fasulo served as the President of the New York City Chapter of the Society of Asphalt Technologists (SAT), an organization consisting of individuals from the asphalt industry, including producers, users, owners, consultants, engineers, educators, testing labs, equipment manufacturers, distributors and supplies. SAT is dedicated to gathering and disseminating information on quality asphalt technology intended to improve the design, construction and maintenance of asphalt pavements. Mr. Fasulo was also a member of the Steering Committee of the New York Interagency Engineering Council and a board member of United Cerebral Palsy of Queens.



Anthony J. Fasulo.





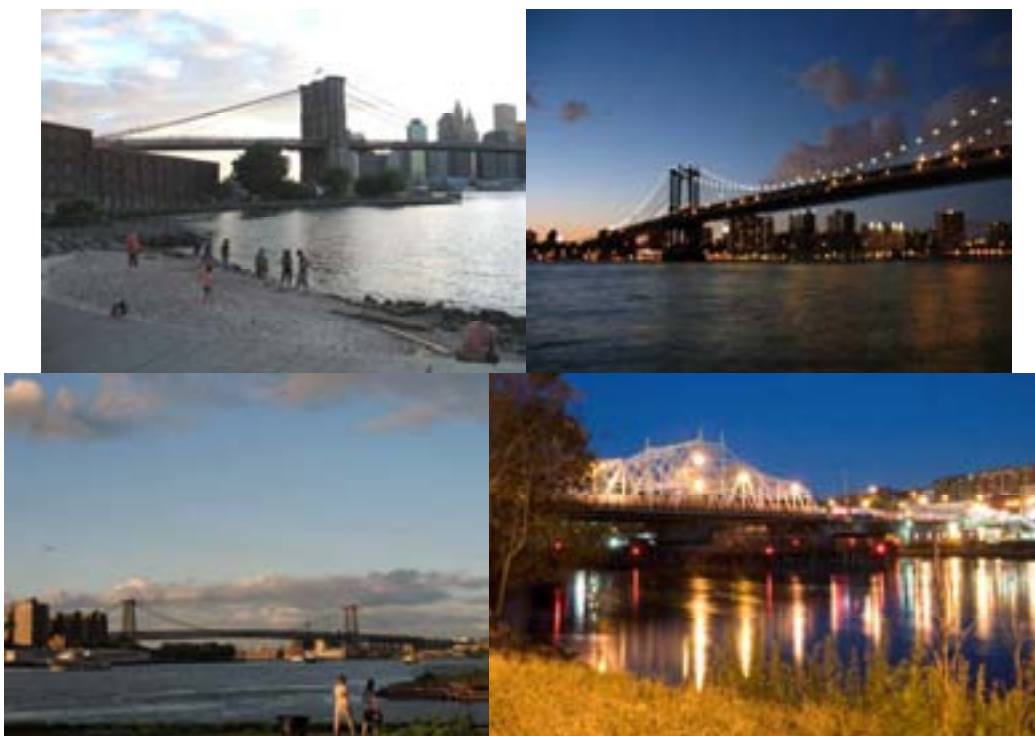
## 2010 INVENTORY LOCATION MAPS

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

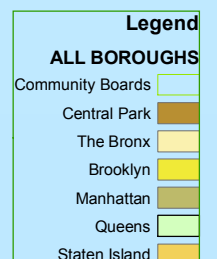
The Community Board listings correspond to those listed in the inventory, which begins on page 197.

Some structures fall on Community Board dividing lines: their additional Community Boards are identified in the inventory in columns CD2 and CD3.



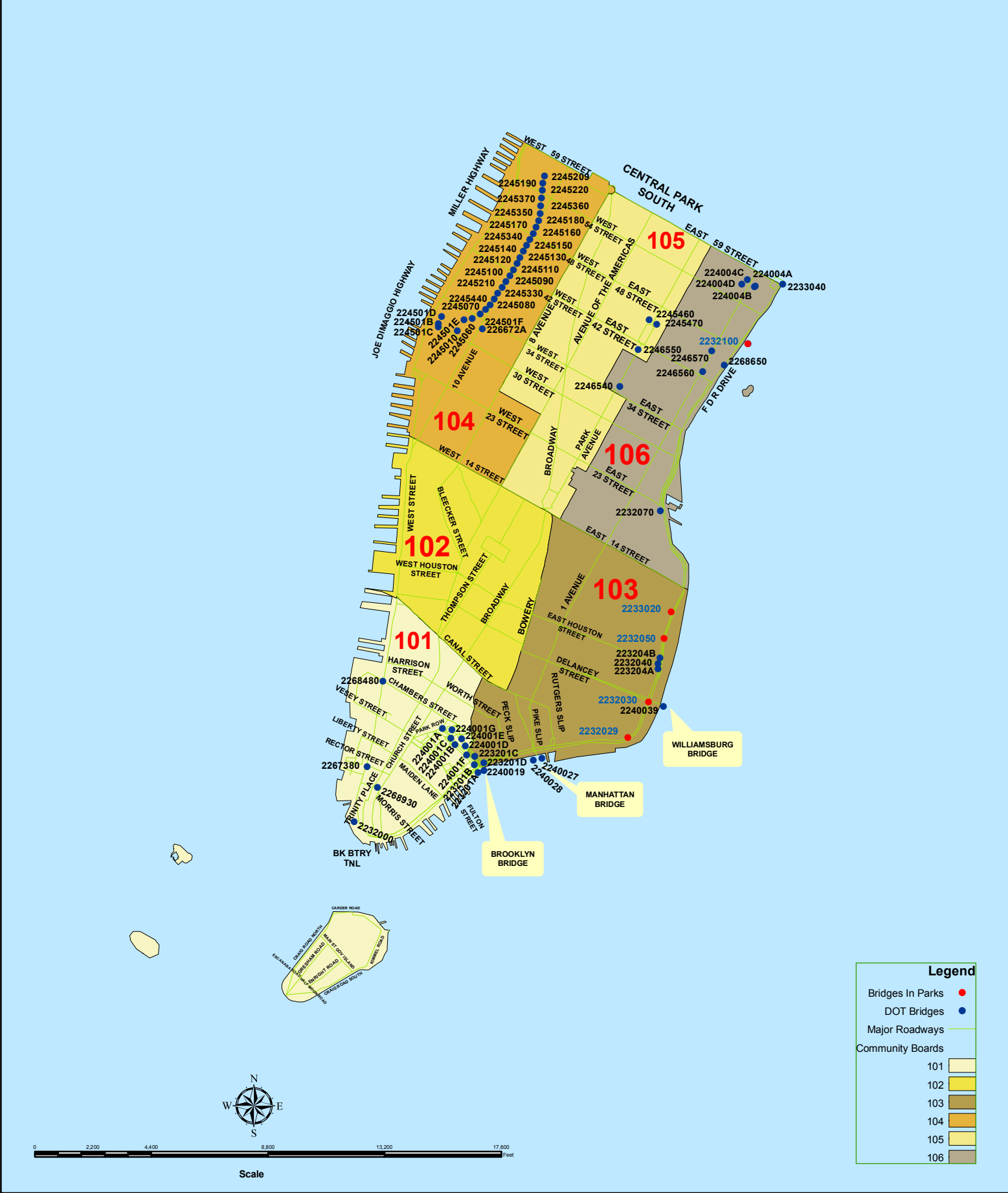
Brooklyn, Manhattan, and Williamsburg Bridges. (Credit: Michele N. Vulcan) University Heights Bridge in October 2010. (Credit: Duane Bailey-Castro)

# ALL BOROUGHES

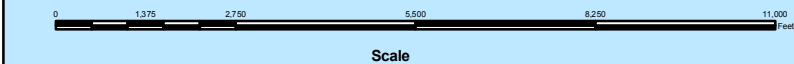
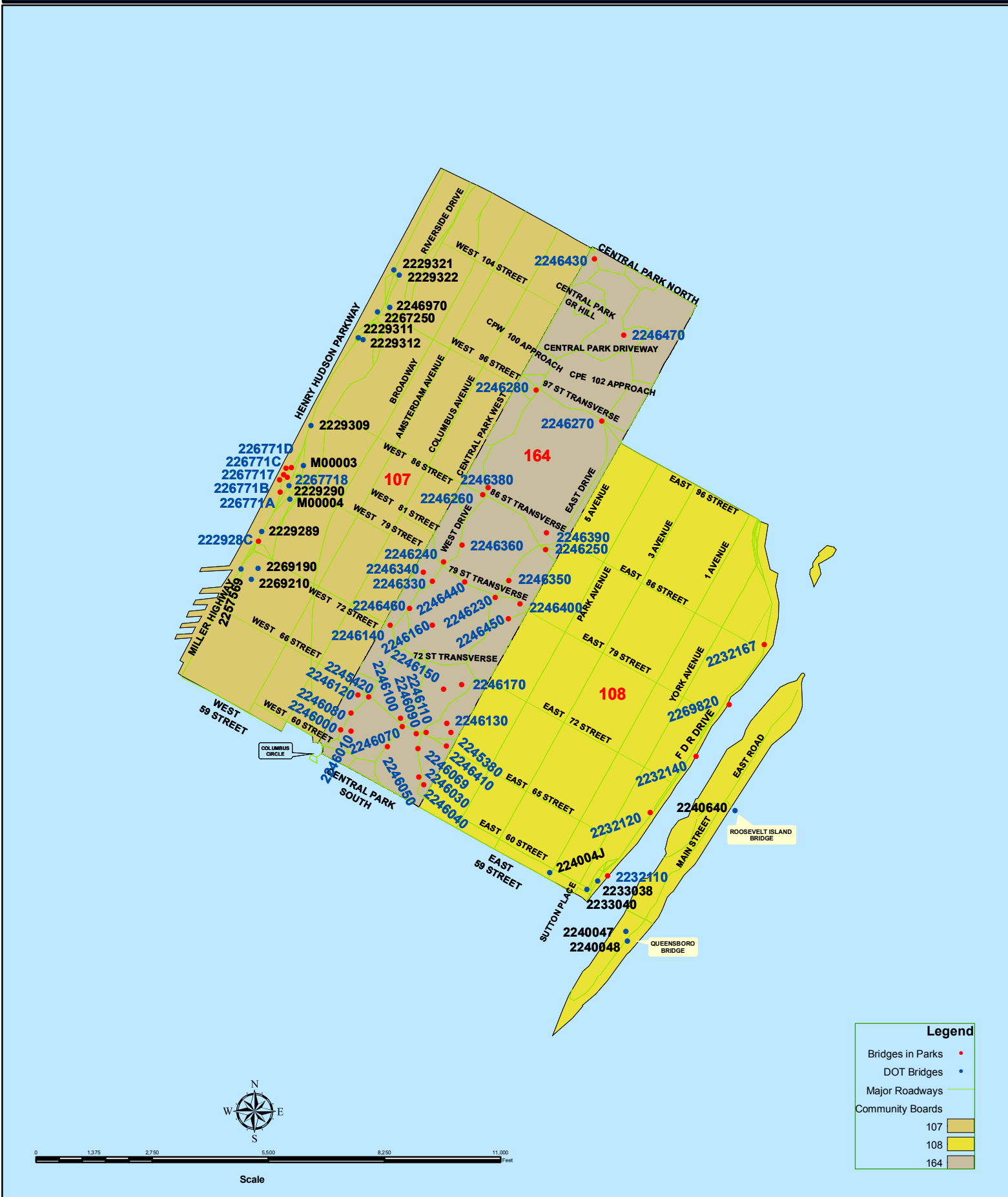


Scale

# DOWNTOWN MANHATTAN



## MIDTOWN MANHATTAN

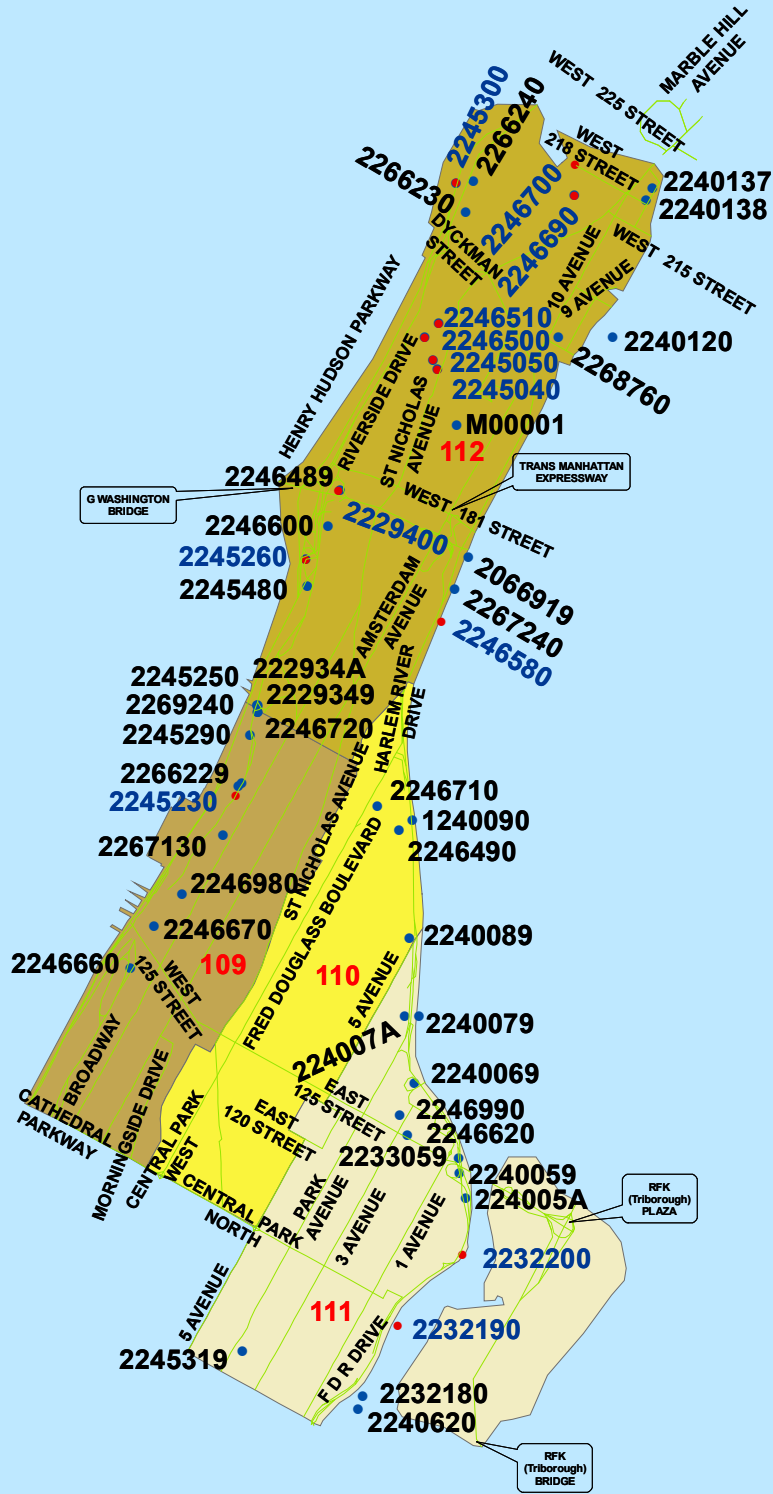


### Scale

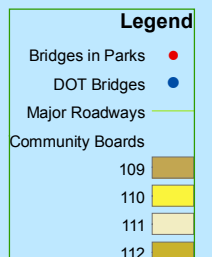
### Legend

- Bridges in Parks •  
 DOT Bridges •  
 Major Roadways —  
 Community Boards
- |     |  |
|-----|--|
| 107 |  |
| 108 |  |
| 164 |  |

# UPTOWN MANHATTAN



Scale

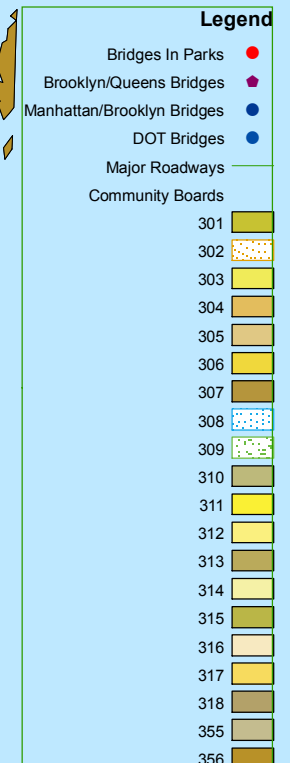




# BRONX

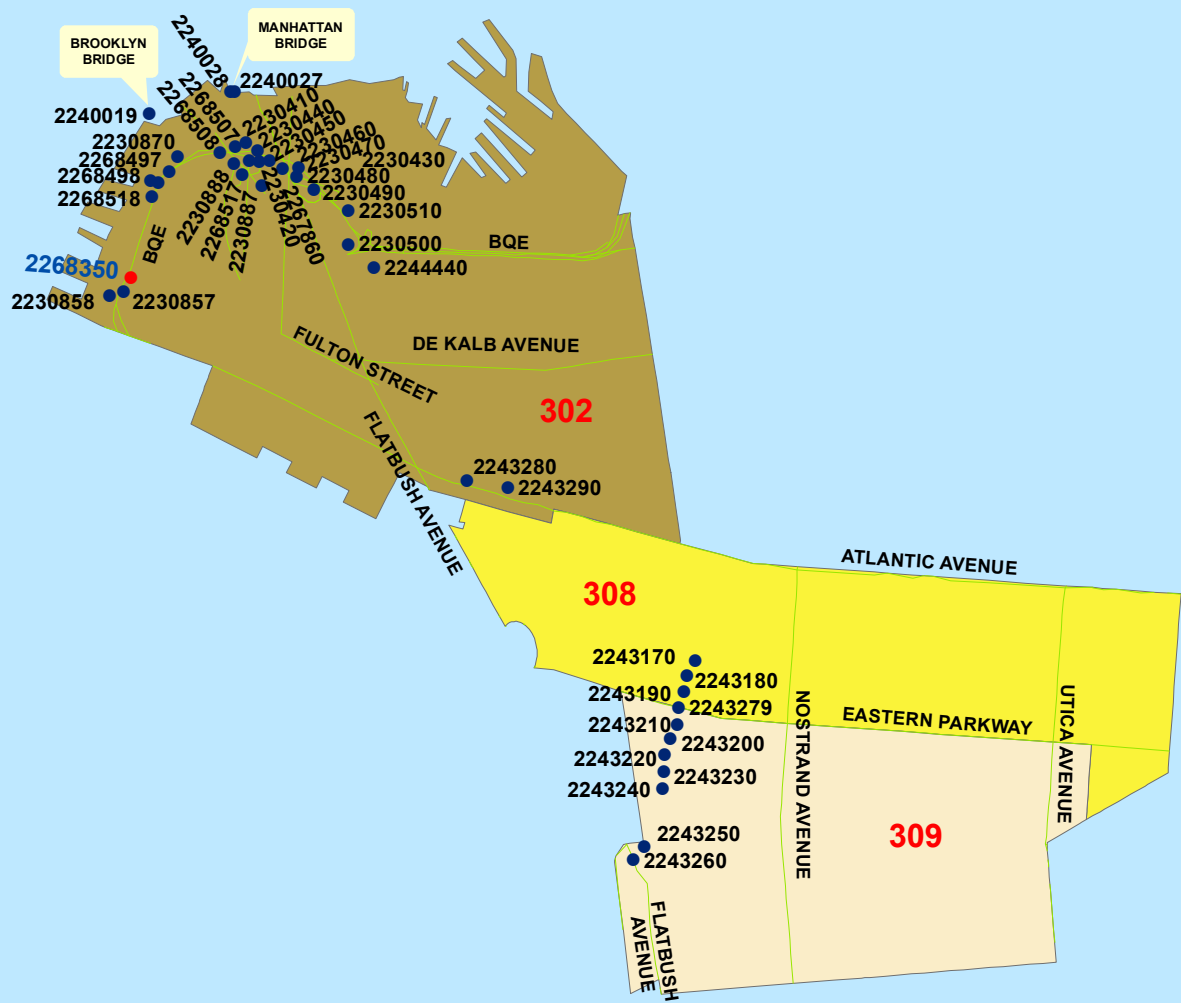


# BROOKLYN

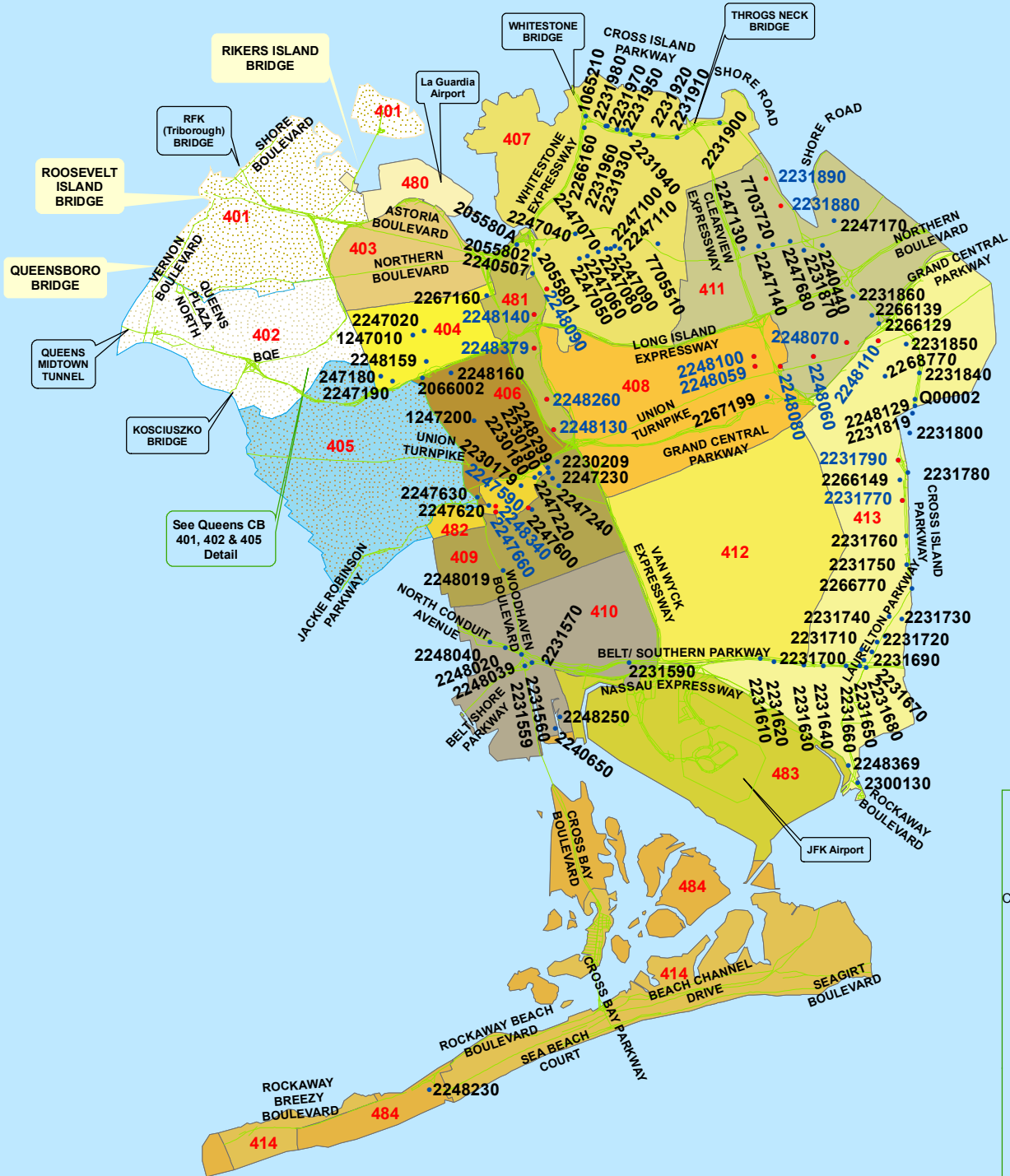


# BROOKLYN

## CB 302, 308, 309 DETAIL



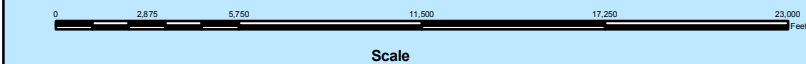
# QUEENS



0 6,250 12,500 25,000 37,500 50,000 Feet

Scale

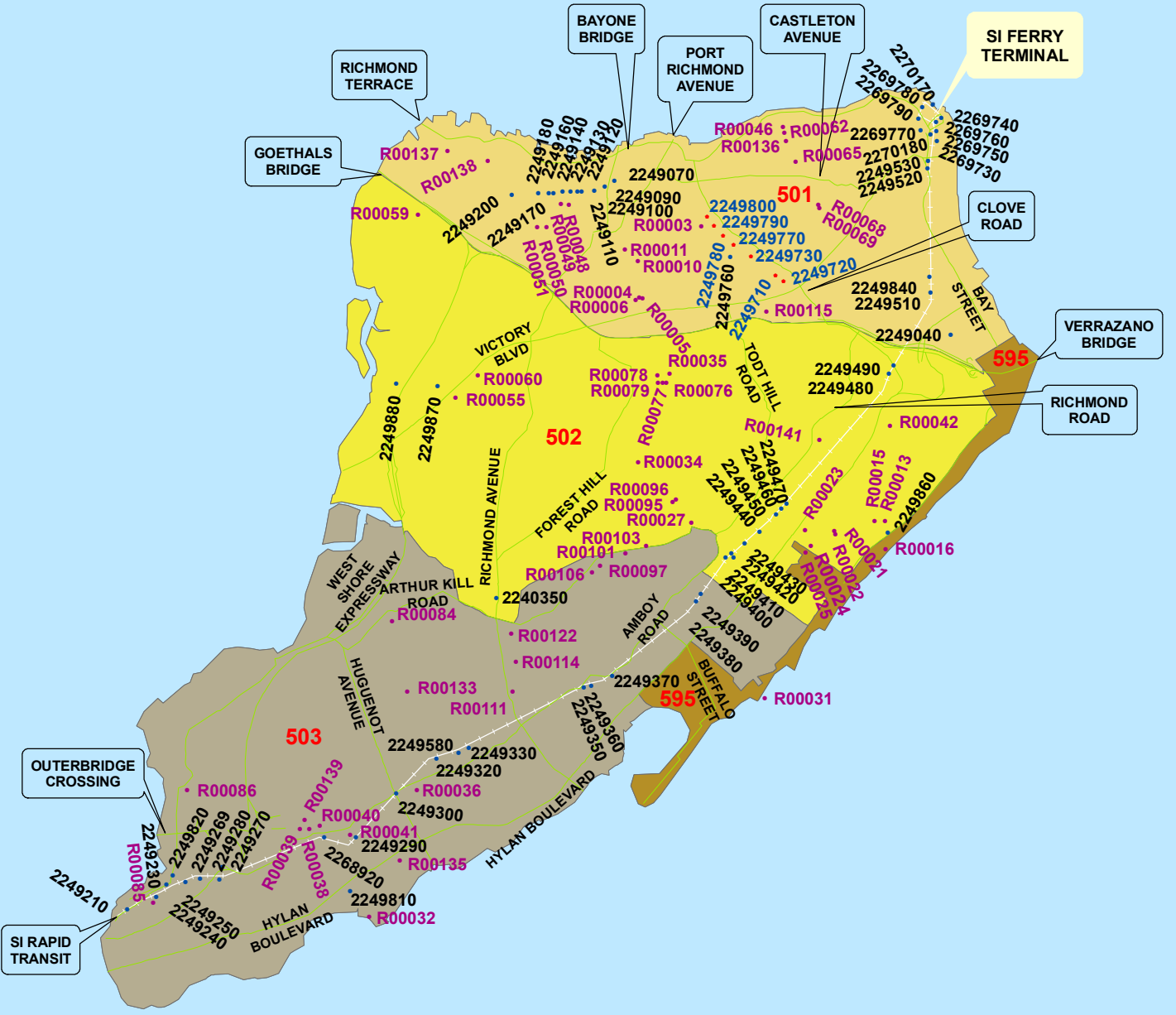
**QUEENS  
CB 401, 402, 405 DETAIL**



- Legend**
- Bridges In Parks
  - Manhattan/Queens Bridges
  - DOT Bridges
  - Major Roadways
  - Community Boards
  - 401
  - 402
  - 405



# STATEN ISLAND



**Legend**

- Bridges In Parks (Red dot)
- DOT Bridges (Blue dot)
- Culverts (Purple dot)
- Major Roadways (Green line)
- Staten Island Railway (Black line)
- Community Boards (Color swatches)

Community Board	Color
501	Yellow
502	Orange
503	Brown
595	Dark Brown

