

**NEW YORK CITY DEPARTMENT OF TRANSPORTATION  
DIVISION OF BRIDGES  
2003 BRIDGES AND TUNNELS ANNUAL CONDITION REPORT**



View from Manhattan of the Williamsburg Bridge  
August 2003 (Credit: Michele N. Vulcan)

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## A Message from the

## Commissioner

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On behalf of the many dedicated professionals who staff the Division of Bridges, it is my pleasure to distribute the 2003 Edition of the New York City Department of Transportation's Annual Bridges and Tunnels Condition Report, as mandated under New York City's Charter. The cover of this issue of the report marks the 100<sup>th</sup> anniversary of the opening of the Williamsburg Bridge on December 19, 1903. Designed by Leffert L. Buck, the bridge was the longest suspension bridge at the time of its completion and the first with towers entirely made of steel. A massive restoration project is near completion, and will make the bridge as vital for New Yorkers in the 21<sup>st</sup> century, as it was in the 20<sup>th</sup>. The release of this document provides the Department of Transportation with an opportunity to display the many achievements, innovations and improvements that were realized by the Division of Bridges during the 2003 calendar year.

As a service organization, the Department of Transportation's Division of Bridges always aims to improve the quality of life for all New Yorkers and to minimize construction disruptions. The judicious use of Incentive/Disincentive clauses to accelerate construction programs, where appropriate, is just one example.

Preventive maintenance is essential in preserving the City's multi-billion dollar investment in its bridges. These steel and concrete structures must be vigilantly protected from the stresses of the weather, traffic, deterioration and neglect. In accordance with the Division of Bridges' pro-active mission, 2003 was an important year for preventive maintenance. In-house repair crews eliminated 208 safety flag conditions that presented clear vehicle or pedestrian traffic hazards. Some 12,037 cubic yards of debris were removed, while 24,292 square feet of concrete were used to renew sidewalks, curbs, and road decks. Workers cleaned 1,549 bridge drains and, in the winter, sprayed 125,000 gallons of anti-icing chemicals on the East River bridges. In addition, crews eliminated 3,367,010 square feet of graffiti.

The Division's proud tradition of design and engineering excellence was recognized with the receipt of awards from the New York Association of Consulting Engineers for the rehabilitation of the Queens Boulevard Bridge over Amtrak and LIRR Yard, as well as the reconstruction of the north roadways of the Williamsburg Bridge (Contract #7). The New York City Art Commission selected the 153<sup>rd</sup> Street Bridge over Metro North project for an Award for Excellence in Design.

In addition, in recognition of their commitment, dedication and outstanding work, Deputy Chief Engineer Kamal Kishore was presented the Outstanding Engineer of the Year award from Local 375, AFSCME, and Chief Bridge Officer Henry Perahia was presented the Municipal Engineer of the Year award from the Municipal Engineers of the City of New York.

In 2003, the Division and its personnel proved, as always, equipped and ready to help the City prepare for major events including the Five Borough Bike Tour, the New York City Marathon, the West Indian Day Parade, the Thanksgiving Day Parade, and New Year's Eve in Times Square.

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

Sincerely,



Iris Weinshall  
Commissioner

## EXECUTIVE SUMMARY

### Inventory

In calendar year 2003, the inventory of bridges under the jurisdiction of the Division decreased from 755 to 753. This was not the only change to the inventory: the condition ratings of the bridges also changed. In fact, over the past 10 years, there has been a steady decline in the number of bridges rated "Poor," and a somewhat steady increase in the number of bridges rated "Very Good," as shown below.

	1994	1995	1996*	1997	1998	1999	2000	2001	2002	2003
<b>Poor</b>	<b>57</b>	<b>60</b>	<b>48</b>	<b>40</b>	<b>24</b>	<b>16</b>	<b>13</b>	<b>9</b>	<b>8</b>	<b>4</b>
<b>Fair</b>	421	406	524	530	516	507	481	459	451	429
<b>Good</b>	321	342	148	145	154	160	180	196	202	209
<b>Vgood</b>	<b>61</b>	<b>51</b>	<b>59</b>	<b>55</b>	<b>75</b>	<b>81</b>	<b>85</b>	<b>88</b>	<b>94</b>	<b>111</b>
<b>Unrated</b>			68							
	<b>861</b>	<b>859</b>	<b>847</b>	<b>770</b>	<b>769</b>	<b>764</b>	<b>759</b>	<b>752</b>	<b>755</b>	<b>753</b>

\* In 1996, NYCDOT adopted a new rating scale to be used to determine the verbal condition of bridges. The new scale matches the rating scale by New York State DOT. The new scale changed the dividing line between Fair and Good bridges from 4.500 to 4.999. The net effect of this change was that, in 1996, 157 bridges that would have been rated Good were classified as Fair. This accounts for the increase in Fair rated bridges and the decrease in Good rated bridges.

### 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).

2003 was a year in which contract acceleration and the use of incentives/disincentives resulted in the early completion of several new bridge projects, such as:

In March 2003, the **Belt Parkway Bridge over Mill Basin** contractor completed the emergency median guide rail installation and re-opened all lanes to traffic six days ahead of schedule.

In June 2003, the North Upper Roadway of the **Manhattan Bridge** was re-opened to traffic 61 days ahead of schedule, thus earning the contractor a \$3 million incentive.

The reconstruction of the **Grand Avenue Bridge over Conrail** was substantially completed in November 2003, four months ahead of schedule.

## **EXECUTIVE SUMMARY**

### **Restorations**

In 2003, the Division completed the following restoration project:

In May 2000, the ironworkers began installing a replica of a historic promenade railing on the Brooklyn-side walkway of the Brooklyn Bridge. The replacement of the deteriorated sections of promenade railing with replicas of the existing steel was completed in December 2003.

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

The Division's Anti-Icing Program uses the chemicals potassium acetate and magnesium chloride. The anti-icing fleet consists of fifteen spray trucks, ten plow trucks and several smaller plows. Six of the spray trucks are combination spray/plow trucks with an 1800 gallon tank capacity, and four are spray-spreader/plow trucks with a 900 gallon spray capacity, and a four cubic yard spreader capacity. There are a total fourteen chemical storage tanks, with a total storage capacity of 76,250 gallons.

In the winter of 2002-2003, a total of 125,000 gallons of anti-icing chemicals were applied on the roadways of all four East River Bridges.

### **Waterway Study**

In 1999, the Department procured the services of an engineering firm to undertake a comprehensive study of the City's 25 movable bridges. The surrounding areas, land use, maritime laws, regulations and other factors were considered to assist the Department of Transportation in providing justification to the U.S. Coast Guard for permission to either convert certain of these movable bridges to fixed structures, or to modify their status to reduce the number of bridge openings. Such conversions would save the City annual operation and maintenance costs.

By the end of 2001, DOT advanced the waterway study to the point that we were able to identify those bridges that are suitable candidates for conversion to fixed status. Those bridges are the Borden Avenue and Hunters Point Avenue Bridges over Dutch Kills, the Grand Street Bridge over Newtown Creek, and the Bruckner Expressway over the Bronx River. The Grand Street Bridge is anticipated to be the first to be converted, beginning in Fiscal 2006. The next phase of this study will involve researching right-of-way, legal, and community impact issues.

### **Marine Borer Study**

In October 1999, the Department began a study to assess the present damage caused by marine borers as well as the potential for future damage at several waterfront DOT structures, including the supporting structures of the relieving platforms along the FDR and Harlem River Drives, and the timber piles and structures of the Carroll Street and Ocean Avenue bridges in Brooklyn. The underwater inspection of timber piles supporting the FDR Drive began on May 8, 2000. Inspection of the Brooklyn sites was conducted during the week of October 23, 2000. The inspections were completed in October 2000, and the Marine Borer Evaluation Report was published in June 2001. Using the results of the underwater inspections, preliminary plans were developed for the implementation of repairs and remediation measures to protect the structures from attack. These preliminary plans were completed in December 2001. The construction work is expected to commence in December 2005.

## **EXECUTIVE SUMMARY**

Based upon information gathered during this study, DOT has expanded the scope of the study to include the inspection of other City-owned property not under the jurisdiction of the Agency. In addition to timber pile supported low level relieving platforms, these structures include masonry or crib-type gravity retaining walls, high level decks, steel sheet pile bulkheads and rip rap embankments. The additional inspection of property belonging to the City but not under the jurisdiction of DOT, which began on May 7, 2001, was completed in April 2002.

In August 2002, an underwater inspection of the timber piles supporting the FDR Drive relieving platform near East 15th Street revealed severe damage by marine borers. Emergency repairs to address this red flagged section began on August 19, 2002, and were completed on September 7, 2002.

A total of six critical conditions and twenty-one immediate repair conditions were identified during the inspections. Critical condition reports, which identified the condition and included sketches and cost estimates for the proposed repairs, were provided for each of the critical conditions. Conceptual repair details and cost estimates were prepared for the immediate repair conditions, defined as those requiring repairs to be carried out within three years from the date of inspection. A detailed evaluation/recommendation report, consisting of inspection findings, repair details, cost estimates and general recommendations, was prepared and distributed to all the concerned agencies, including the Department of Parks and Recreation, the NYC Economic Development Corporation, and the Departments of Sanitation and Environmental Protection.

### **2003 Awards**

In 2003, the outstanding work of the Division was recognized by the receipt of several awards. In April 2003 the New York Association of Consulting Engineers selected the rehabilitation of the Queens Boulevard Bridge over Amtrak and LIRR Yard for an Engineering Excellence Award. The Engineering Excellence Awards Program recognizes engineering achievements that demonstrate the highest degree of skill and ingenuity. In addition to the award for the Queens Boulevard Bridge, in April 2003, the New York Association of Consulting Engineers selected the Reconstruction of the North Roadways of the Williamsburg Bridge (Contract #7) for an Engineering Excellence Award.

In July 2003, the New York City Art Commission selected the 153<sup>rd</sup> Street Bridge over Metro North project for an Award for Excellence in Design. It was recognized as an outstanding public project which exceeded the Commission's high standards of design.

In November 2003, in recognition of his commitment, dedication and outstanding work, Deputy Chief Engineer Kamal Kishore was presented the Outstanding Engineer of the Year award from Local 375, AFSCME. The Civil Service Technical Guild represents approximately 6,500 professionals, including engineers, architects, scientists, chemists, planners and other technical trades. In addition, on November 21, 2003, Chief Bridge Officer Henry Perahia was presented the Municipal Engineer of the Year award from the Municipal Engineers of the City of New York.

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***

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 753 bridges (including 6 tunnels), and 67 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 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 **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.

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 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 spot and salt splash/spot painting. Salt splash/spot painting is performed five years after full steel painting, and spot painting is performed four years after salt splash/spot. Three years after spot, we once again perform full steel painting. The interval between full steel applications is 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.

## ***DIVISION OVERVIEW***

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. 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 Deputy Chief Engineer for Specialty Engineering and Construction 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***.



## ***DIVISION OVERVIEW***

***In-House Design*** staff prepare plans and specifications for bridge rehabilitation/reconstruction 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 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.

The ***Engineering Support Section*** is comprised of three units: *Specifications, Surveying and Load Rating*, and *Microfilm and Records Management*.

The *Specifications Unit* prepares and reviews specifications for all in-house and consultant-designed bridge projects, processes the contracts for bidding, prepares and transmits addenda, maintains and updates boiler plates, and maintains an inventory of all NYC and NYS special specifications used in City-let bridge projects. This unit also supervises the consultant design contract “Protection Against Marine Borers”.

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 *Microfilm and Records Management Unit* establishes drawing and microfilm standards, and reviews contract drawings prepared by consultants, as well as shop drawings, “as-built” drawings, microfilms and indexes prepared by contractors. This unit maintains design documents and original plan files, upgrades the plan files of original drawings into electronic media and answers requests for information regarding City-owned bridges.

The ***Engineering Review Section*** consists of five units: *Engineering Review and Estimates, Utilities, Land Acquisition, Geotechnical Engineering*, and *Scope Development*.

The *Engineering Review and Estimates Unit* reviews all City-let bridge construction contract drawings; reviews drawings from other Agencies and entities, as well as State and private companies; and ensures that the work to be performed conforms to NYCDOT requirements. This unit establishes design standards, including seismic requirements, and oversees estimates prepared by consultants. This unit also reviews superload truck permit applications and performs load analyses for the City’s bridges. 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 *Utilities Unit* coordinates all issues related to utility design as they affect City-owned bridge projects and related projects.

The *Land Acquisition Unit* reviews and maintains a database of easement issues, right-of-way, and Uniform Land use Review Procedures (ULURP).

The *Geotechnical Engineering Unit* provides geotechnical-engineering services and oversees seismic design requirements for City-let contracts for bridge projects.

The *Scope Development Unit* reviews inspection reports and structural condition ratings to develop the scope of work for the rehabilitation of deficient bridges, and initiates the procurement of Design Consultant contracts.

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.

## ***DIVISION OVERVIEW***

Off-site Quality Assurance services relative to fabrication of structural steel and precast/prestressed structural components for federally funded projects, previously handled by NYSDOT, are now being handled by this section. Current major projects include the Macombs Dam Bridge, the Williamsburg Bridge, the Third Avenue Bridge, and the rehabilitation of the Manhattan Bridge North Spans.

Through its *Lead Waste and Hazardous Waste Unit*, Quality Assurance also oversees the implementation of the Final Environmental Impact Statement (FEIS) 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 such as asbestos abatement, soil sampling, groundwater sampling, worker exposure to environmental contaminants, management of waste oil, storage of hazardous waste, site safety, and OSHA compliance. It develops training programs to educate field personnel in proper materials acceptance requirements procedures and methods. The role of this unit in ensuring public safety has been recognized and commended by the community.

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 six major sections:

The ***Flag Engineering*** section is an engineering group that reviews, routes, and tracks hazardous or potentially hazardous safety and structural conditions ("flags") in or on the city's 753 bridges (including 6 tunnels). The Flags staff are 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.

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

## ***DIVISION OVERVIEW***

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; 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.

The *Research and Development Unit* is 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. The unit contributed to the 1999 update of the Preventive Maintenance Manual for NYC bridges. In conjunction with the Port, Triborough Bridge and Tunnel, 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. The Bridge Management and Research and Development Units 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 2003, Bridge Operations effected a total of 7,059 openings, 5,935 of which allowed 10,063 vessels to pass beneath the bridges. The remaining 1,124 openings were for operational and maintenance testing. The section also operates the city's six 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 **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 six primary sections: ***Office of the Executive Director, Administrative, Budget, Capital Procurement, Capital Coordination and Truck Sections***. 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 (EEO) enforcement, confidential investigations, Freedom of Information Law (FOIL) requests, space allocation, mail delivery, and special projects, the ***Executive Director*** oversees, on an executive level, the following areas and functions:

The ***Director of the Administrative 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 EEO 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 Two Rector Street in Manhattan. The Director of Administration also serves as the Deputy Director of the Bureau of Management and Support Services, and assumes the responsibilities of the Executive Director in that person's absence.

The Director of the Administrative Section also oversees the following two units:

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

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

The ***Director of the Budget Section*** 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.

## ***DIVISION OVERVIEW***

The **Capital Procurement Section** serves as a liaison between the Division of Bridges and the Office of the Agency Chief Contracting Officer (ACCO). The duties of this unit include: overseeing the Division's capital contracts from inception to completion; acting as liaison between engineers and the consultant programs unit, handling all engineering questions and answers; preparing status reports; managing Bridges' Engineering Service Agreements; overseeing and coordinating all activities involved in the Contract Closeout process; coordinating Railroad Force Account Agreements for Division construction projects; and providing in-house review of contracts.

*Railroad Force Account Agreements* are a vital component in the rehabilitation/reconstruction program since train traffic affects 317 (42%) 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.

Our Legal Department and Division engineering staff work together to clarify force account language in an attempt to avoid ambiguity. New agreements are being designed to specify clearly when notices for outages or flagging protection are required, who will be responsible when outage/flagging is canceled, and specify those documents that can be audited to expedite reimbursement of bills. These additions will streamline payment processing. The use of a Master Agreement is not feasible since each railroad has its own rules and regulations governing its employees, its own scheduling procedures and different billing requirements/procedures.

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.

This approval process typically requires three to six months to complete. A tracking process for change orders has been implemented; it reduces the time for the approval process to one-and-a-half to three months.

The **Capital Coordination Section** is responsible for preparing, coordinating and updating the capital budget and capital program initiative within the Division of Bridges. Currently, the Division's Ten Year Capital Plan is worth approximately \$5 billion. This plan is designed to rehabilitate the City's bridges. Responsibilities include: administering and participating in the development and implementation of planning capital projects; acting as liaison with oversight agencies, DOT Administration and all responsibility centers within Bridges; developing and maintaining criteria by which the City's involvement in joint City/State projects is analyzed and evaluated; and determining applicability of projects for funding through the Federal Inter-modal Surface Transportation Efficiency Act (ISTEA).

The **Truck Section** issues Annual Overweight Load Permits, Annual Self-Propelled Crane Permits, and Daily Oversize/Overdimensional/Supersize Truck Permits, all in accordance with the New York City Department of Transportation Policy and Procedures and the New York City Traffic Rules and Regulations.

## **CHRONOLOGY**

### **JANUARY**

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

Beginning on the evening of January 2, 2003, and ending on January 8, 2003, Division personnel applied 18,000 gallons of anti-icing chemicals to the East River bridges. In addition, they shoveled and plowed pedestrian walkways and overpasses, and monitored icicle conditions on the FDR Drive, the Brooklyn-Queens Expressway, the Agency-maintained tunnels, and the Cross Bronx Expressway.

#### ***Icicle Patrol***

On January 10 and 11, 2003, weather conditions were closely monitored and icicle patrols were sent to the FDR Drive, Cross-Bronx Expressway, Brooklyn-Queens Expressway, as well as the Agency-maintained tunnels.

#### ***Glenmore, Pitkin, Sutter, and Liberty Avenue Bridges over LIRR Bay Ridge (Brooklyn)***

A Notice to Proceed for the reconstruction of these bridges was issued to the contractor with a start date of January 14, 2003.

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

On January 15 and 16, 2003, Division personnel applied anti-icing chemicals 15 times to the East River bridges. Priority overpasses were de-iced as well. Icicle patrols monitored the FDR Drive, the Brooklyn-Queens Expressway, the Agency-maintained tunnels, and the Cross Bronx Expressway.

#### ***Honeywell Street Bridge over Amtrak and LIRR Yard (Queens)***

The reconstruction of this bridge was substantially completed and it was re-opened to both vehicular and pedestrian traffic on January 17, 2003.



New Honeywell Street Bridge (Credit: Peter Basich)

#### ***Roadway Collapse at 4<sup>th</sup> Avenue and 19<sup>th</sup> Street (Brooklyn)***

At 7:00 AM on January 17, 2003, at the request of the Office of Emergency Management, Chief Bridge Officer Henry Perahia and Engineer-in-Charge Sajjan Jain of the Division's Geo-Technical Section assessed an emergency condition regarding a partial roadway collapse at 4<sup>th</sup> Avenue and 19<sup>th</sup> Street. As a result of unsupported soil cuts deeper than 9 feet made for utility work by NYCDEP's contractor, the soil under a 16-inch gas line was undermined, causing concern regarding the possible collapse of that line. As a result, the Fire Department ordered that all train service at that location be stopped, and that 4<sup>th</sup> Avenue at that location be closed to vehicular traffic. The vibration levels were measured as a test train on a track furthest from the gas line

## **CHRONOLOGY**

(northbound local) was run at low speed, and then another train on the northbound express line was run. Based on these tests, the engineers agreed to allow northbound trains to resume service, and to allow vehicles to travel on 4<sup>th</sup> Avenue northbound, while the contractor placed compacted sand under the gas line. Southbound subway service and vehicular traffic were allowed to resume only after the gas line was completely supported.

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

On January 26 and 27, 2003, Division personnel applied anti-icing chemicals 8 times to the East River bridges. In addition, the East River bridge pedestrian walkways were plowed, and the priority overpasses were de-iced. Icicle patrols monitored the FDR Drive, the Brooklyn-Queens Expressway, the Agency-maintained tunnels, and the Cross Bronx Expressway.

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

Due to a Con Edison high voltage power line failure, the bridge lost power for approximately 28 hours, from 7:10 AM on January 27, 2003, to 11:15 AM on January 28, 2003. By noon on January 27, Division personnel were able to restart the boiler and heating system. All services resumed after Con Edison restored power and after a successful test opening.

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

In January 2003, Division ironworkers installed the plant's burner, fabricated and installed an additional catwalk with new supports, fabricated and welded braces on the shakers, modified the base at the front end of the drum, extended the conveyor, and restored the standpipe lines and street lights. In addition, they performed repairs on the plant's dryer, auger, and blue smoke chute.

### ***Broadway Bridge over Harlem River (Bronx/Manhattan)***

Cleaning and painting of the bridge operator house began and was completed in January 2003.

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

Cleaning and painting of the bridge operator house began and was completed in January 2003.

## **FEBRUARY**

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

On February 1, 2003, Division ironworkers fabricated and installed a new bulkhead plate for the plant's main drum.

### ***Space Shuttle Columbia Tribute***

All seven astronauts on board the Space Shuttle Columbia were lost on the morning of February 1, 2003. The shuttle crew members were Colonel Rick Husband, Lt. Colonel Michael Anderson, Commander Laurel Clark, Captain David Brown, Commander William McCool, Dr. Kalpana Chawla, and Israeli Colonel Ilan Ramon. The American flag on the Brooklyn Bridge was lowered to half-mast by Division bridge painters on the morning of February 2, 2003 in tribute to the Shuttle Columbia astronauts. It remained at half-mast until February 5, 2003.

### ***Conference***

On February 3, 2003, Chief Bridge Officer Henry Perahia made a presentation on the construction and rehabilitation of the Williamsburg Bridge cables at the Bridge Engineering Association's seminar on the assessment, design, and erection of bridge cables. This seminar brought together experts from the United States, France, and Norway.

## **CHRONOLOGY**

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

At about 11:50 AM on February 1, 2003, the bridge's southeast semaphore gate was struck by a vehicle and destroyed. Division personnel responded and made the area safe. The eastbound parkway was closed by the NYPD until the vehicle was removed. The bridge was placed on 4-hour notice until the gate was replaced. On the night of February 3, 2003, crews erected a containment and scaffolding. The following night, Division electricians performed all of the necessary wiring. A new gate was installed on the night of February 5, 2003. Removal of the containment and scaffolding took place the following week.

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

In response to the February 6, 2003 snowstorm, Division personnel applied almost 9,900 gallons (26 applications) of anti-icing chemicals to the East River bridges. In addition, they de-iced and plowed the priority overpasses, and monitored icicle conditions on the FDR Drive, Brooklyn-Queens Expressway, the Agency-maintained tunnels, and the Cross Bronx Expressway.

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

In response to the February 16, 2003 blizzard that deposited an average of 21 inches of snow throughout the City, Division personnel applied 22,000 gallons of anti-icing chemicals to the East River bridges. Pedestrian walkways were shoveled and plowed, and priority overpasses were cleared utilizing shovels and snow-blowers. In addition, they monitored icicle conditions on the FDR Drive, the Brooklyn-Queens Expressway, the Agency-maintained tunnels, and the Cross Bronx Expressway. Snow removal continued through February 21, 2003 on the East River bridges and on priority overpasses citywide.

### ***Pulaski Bridge over Newtown Creek (Brooklyn/Manhattan)***

On February 22, 2003, Division personnel repaired the bridge's northeast semaphore gate, which had been struck and broken in half by a vehicle on February 11, 2003.

### ***Williamsburg Bridge***

The bronze plaque removed earlier during construction was re-installed on the overhead truss at the Brooklyn anchorage on February 24, 2003. A newly fabricated bronze plaque was installed on the overhead truss at the Manhattan anchorage on February 26, 2003. These historical markers commemorate the opening of the bridge on December 19, 1903.



# CHRONOLOGY

The plaque is attached to the truss in three sections as follows:

## Left Panel:

FIRST COMMISSION  
APPOINTED JUNE 1895  
ANDREW D BAIRD-PRES- SALEM H-NALES-VICE-PRES-  
FRANCIS B-THURBER-SECY- RICHARD DEEVES-TREAS-  
JAMES A-SPERRY HENRY BETTERMAN  
W-L-STRONG- EX-OFFICIO  
C-A-SCHIEREN-EX-OFFICIO- F-W WURSTER-EX-OFFICIO

SECOND COMMISSION  
APPOINTED JAN 19-1898  
LEWIS NIXON-PRES- JAMES W-BOYLE-VICE-PRES-  
SMITH E-LANE-SECY-1899 JAMES D-BELL-SECY-1901  
JULIAN D-FAIRCHILD-TREASURER-  
JOHN W-WEBER THOS-S-MOORE  
R-A-VAN WYCK-EX-OFFICIO

SECOND COMMISSION SUCCEEDED BY  
DEPARTMENT OF BRIDGES OF NEW YORK JANUARY 1 1902

## Center Panel:

1896 WILLIAMSBURG BRIDGE 1903  
AUTHORIZED BY THE NEW YORK STATE LEGISLATURE-LEVI F-MORTON GOVERNOR 1895-WORK WAS STARTED 1896  
UNDER THE ADMINISTRATIONS OF W-L-STRONG MAYOR OF NEW YORK C-A-SCHIEREN AND F-W-WURSTER MAYORS  
OF BROOKLYN-CONTINUED DURING THE ADMINISTRATION OF R-A-VAN WYCK MAYOR OF NEW YORK-OPENED  
TO THE PUBLIC UNDER THE ADMINISTRATION OF SETH LOW MAYOR OF NEW YORK DECEMBER-19-1903-

## Right Panel:

-LEFFERT LEFFERTS BUCK- CHIEF ENGINEER-  
O-F-NICHOLS-PRN-ASST-ENGR-  
E-G-FREEMAN RESIDENT ENGR'S  
E-DURYEA-JR-  
J-D-WILKENS  
R-E-HAWLEY  
W-R-BASCOMBE  
ASSISTANT ENGINEERS:  
A-JOHNSON  
G-S-G-LEWIS  
E-D-KNAP  
J-A-TILLY  
ENG'RS-IN CHARGE  
H-D-ROBINSON  
K-L-MARTIN  
F-L-BRUYN  
O-M-KELLY  
C-G-WILLIAMS

Text of the Williamsburg Bridge Bronze Plaques

## ***Bruckner Expressway (NB) Service Road Railings over Hutchinson River Parkway (Bronx)***

Cleaning and painting of the railings began and was completed in February 2003.

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

Cleaning and painting of the bridge operator house, which began in January 2003, was completed in February 2003.

## ***145<sup>th</sup> Street Bridge over Harlem River (Bronx/Manhattan)***

Cleaning and painting of the bridge operator house was completed in February 2003.

## **MARCH**

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

On March 1, 2003, Division ironworkers replaced broken brackets on the silos, repaired holes, and removed, straightened, reinforced, and re-installed a grizzly screen.

### ***Williamsburg Bridge***

A Notice to Proceed for Contract #8 was issued to the contractor with a start date of March 3, 2003.



Brooklyn Tower Leg of the Williamsburg Bridge

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

In response to the March 6, 2003 snowstorm, Division personnel applied almost 10,000 gallons of anti-icing chemicals to the East River bridges.

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

On March 8, 2003, Division ironworkers performed emergency repairs on the plant's grizzly screen and calibrator.

### ***Grand Street Bridge over Newton Creek (Brooklyn/Queens)***

On March 10, 2003, Division personnel installed a new warning gate and made repairs to the light pole that had been damaged by a vehicle on March 1, 2003.

### ***Belmont Park Ramp over Cross Island Parkway (Queens)***

The project to point and caulk the stone wall of the underpass, which began on March 6, 2003, was completed by Division masonry crews on March 11, 2003.

### ***St. Patrick's Day Parade***

On March 17, 2003, at the request of the Mayor's Office of Special Events, Division personnel temporarily placed four variable message boards along the route to assist participants in the St. Patrick's Day parade in Manhattan. The boards were removed that same evening.

### ***Aqueduct Racetrack Ramp over Belt Parkway (Queens)***

The overhead chipping of the bridge's loose concrete, which began on March 19, 2003, was completed by Division personnel on March 24, 2003. During the course of this project, a total of 130 square feet of loose concrete was removed.

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

On March 24 and 25, 2003, Division ironworkers fabricated and installed a 20-foot probe on a front end loader bucket for use at the plant's silos.

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

The contractor completed the emergency median guide rail installation and re-opened all lanes to traffic on March 29, 2003, six days ahead of schedule.

## **CHRONOLOGY**



Bridge Inspectors at the Belt Parkway Bridge Over Mill Basin (Credit: Bojidar Yanev)

### ***Greek Day Parade***

On March 29, 2003, at the request of the Mayor's Office of Special Events, Division personnel temporarily placed four variable message boards along the route to assist participants in the Greek Day parade in Manhattan. The boards were removed that same evening.

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

Stage III construction was completed on March 31, 2003.



Northwest View of Macombs Dam Bridge Swing Span (Credit: Hani Faouri)

### **APRIL**

#### ***Award***

In April 2003, the New York Association of Consulting Engineers selected the rehabilitation of the Queens Boulevard Bridge over Amtrak and LIRR Yard for an Engineering Excellence Award. The Engineering Excellence Awards Program recognizes engineering achievements that demonstrate the highest degree of skill and ingenuity.

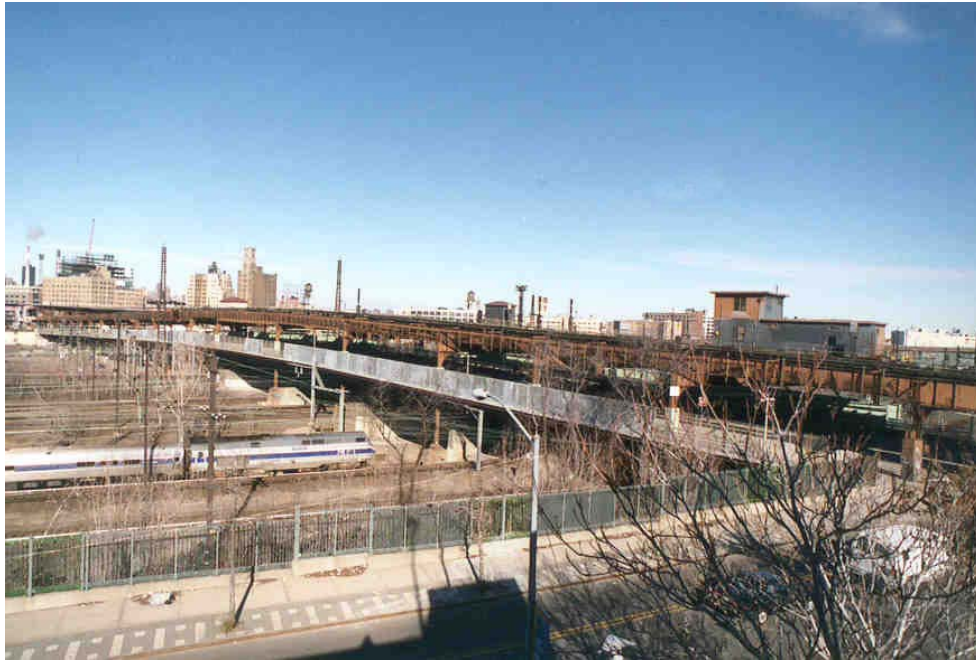
Age, weather and increased traffic took their toll on the Queens Boulevard Bridge, which was originally built in 1910. The 93-year-old bridge carries motorists over the Sunnyside Rail Yards, linking Queens Boulevard to Queens Plaza. The structural steel which supports the bridge, roadway surface and bridge joints was severely deteriorated. The bridge had outlived its useful life and needed to be rebuilt to maintain and improve the service it provides as a connector to and from Manhattan.

Besides connecting Sunnyside and Long Island City in Queens, the Queens Boulevard Bridge is a vital link between western Queens and Manhattan via the Queensboro Bridge. More than 52,000 motorists used the bridge in 2000.

The bridge underwent a complete reconstruction, beginning in April 2001. Over the course of this \$41 million project, the major improvements included the reconstruction of concrete abutments, crash walls and steel piers; new bridge steel; the installation of new concrete decks and approach pavement; new sidewalks including a walkway/bikeway separated from traffic by concrete barrier; a new and improved overhead lighting system; and the installation of an ITS consisting of nine closed circuit television cameras to monitor traffic and roadway conditions. It also included installation of temporary traffic signals and modifications to the existing signal timing. Nine electronic message boards provided motorists with real-time traffic information. NYPD Traffic Enforcement Agents were strategically deployed at various locations to ease the flow of traffic.

The reconstruction of this bridge was substantially completed on July 31, 2002, and the bridge was fully re-opened to traffic at 5 AM on that date, two months ahead of schedule. The rebuilt bridge carries three westbound lanes, three eastbound lanes and two shared sidewalk/bicycle paths.





Queens Boulevard Bridge over Amtrak & LIRR Yard (Credit: Peter Basich)

### **Award**

In addition to the award for the Queens Boulevard Bridge, in April 2003, the New York Association of Consulting Engineers selected the Reconstruction of the North Roadways of the Williamsburg Bridge (Contract #7) for an Engineering Excellence Award.

The reconstruction work on the north roadways of the Williamsburg Bridge was a mirror image of the completed reconstruction work on the south roadways. It included the complete replacement of the main bridge deck with a steel orthotropic deck system and the construction of new structures on both the Manhattan and Brooklyn approaches. This \$202.8 million contract included provisions for financial incentives to ensure that the project was completed within the scheduled roadway closure period, thereby minimizing the impact the closures had on the public.

Work on the north roadway substructure (pile foundations, piers and columns), began in early 2000. All four lanes that constitute the north roadways of the bridge were closed to traffic on January 29, 2001 for demolition and reconstruction.

The two lanes on the north outer roadway were completed and reopened to traffic on December 10, 2001, 50 days ahead of schedule. This allowed four travel lanes into Manhattan during the morning rush hour, and four lanes into Brooklyn during the afternoon rush hour. In addition, Manhattan-bound truck traffic was restored to the two outer roadway lanes, decreasing the demand at both the Manhattan Bridge and the Queens Midtown Tunnel. The contractor earned \$100,000 per day (for a maximum of 50 days) in incentive payments for early completion.

The north outer roadway reopening was complemented by the State Department of Transportation's early reopening of the Marcy Avenue connector ramp from the Brooklyn-Queens Expressway to the Williamsburg Bridge. This is the first time in the State's history that a segmented highway bridge was built using technology suited to situations requiring rapid construction with minimal traffic and community impacts.

The north inner roadway was re-opened to traffic on June 10, 2002, 50 days ahead of schedule, thus earning the contractor a \$5 million incentive. Mayor Bloomberg and Commissioner Weinshall presided over the opening ceremony.

## **CHRONOLOGY**

During construction, the Department maintained pedestrian/bike access across the bridge. The south footpath/bikeway remained open at all times. During Contract #7, DOT constructed a new Manhattan approach ramp and north footpath/bikeway. The new footpath/bikeway has one common access point for pedestrians and cyclists in Manhattan at Clinton Street, which leads to a crossover before the main span of the bridge to enable people to access either the north or south paths. The north path is open to both pedestrians and bicyclists and leads to an access point at Washington Park in Brooklyn. The south path is dedicated to pedestrians and leads to an access point at Bedford Avenue. Completion of the new north walkway also means that, for the first time ever, the bridge is accessible to wheelchair users and meets the requirements of the Americans with Disabilities Act.

Contract #7 was substantially completed on December 12, 2002. The newly completed pedestrian walkway opened to traffic at 3:00 PM on this day.



Williamsburg Bridge

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

The bridge was re-opened to marine traffic on April 3, 2003. The emergency project on this bridge, which began on December 23, 2002, was substantially completed on April 5, 2003.

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

In response to the April 7, 2003 snowstorm, Division personnel applied 11,000 gallons of anti-icing chemicals to the East River bridges. Pedestrian walkways were plowed, and priority overpasses were shoveled and plowed.



Brooklyn Bridge Walkway & Removing Snow From the Approach Ramp (Credit: Anthony Napolitano)



Removing Snow From the Brooklyn Bridge Roadway & Applying Anti-Icing Chemicals (Credit: Anthony Napolitano)



Applying Anti-Icing Chemicals & Removing Snow from the Brooklyn Bridge Walkway (Credit: Anthony Napolitano)

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

Two lanes on the bridge, which had been taken out of service on November 26, 2002, were re-opened to traffic on April 18, 2003, after completion of structural repairs.

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

On April 24, 2003, as part of the Agency's second annual "Take Our Children to Work Day," Division personnel hosted 27 children at Division headquarters at 2 Rector Street. The children were treated to videos about bridge painting and the rehabilitation of the Williamsburg Bridge, as well as presentations on bridge painting and safety education.



## CHRONOLOGY



Deputy Chief Engineer Albert Novak Answering Questions & Bridge Painter Albert Pappas Demonstrating Safety Equipment on a Volunteer (Credit: Gladys Millan)



Chief Bridge Officer Henry Perahia With the Children (Credit: Gladys Millan)

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

On April 29, 2003, Bridge Operations personnel hosted kindergarten students from PS #321 on a class trip to the bridges. Students, teachers, and parents enjoyed their visit.



Children at the Carroll Street and Union Street Bridges. (Credit: Keith Burrowes)

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

On April 30, 2003, Bridge Operations personnel hosted first grade students from the Children's School on a class trip to the bridges. Students, teachers, and parents enjoyed their visit.

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

Cleaning and painting of the bridge was completed in April 2003.

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

Cleaning and painting of the bridge was completed in April 2003.



## **CHRONOLOGY**

### ***Roosevelt Avenue Bridge over Flushing Meadow Park Road (Queens)***

Cleaning and painting of the bridge was completed in April 2003.

## **MAY**

### ***Five Borough Bike Tour***

In preparation for the Five Borough Bike Tour on May 4, 2003, Division personnel performed pothole repairs on the Queensboro Bridge, and the contractor for the Third Avenue Bridge completed all necessary deck and ramp repairs. The night before the event, Division personnel performed mechanical sweeping along the route, including the Queensboro, Pulaski, Third Avenue, Madison Avenue, and Willis Avenue Bridges, and remained on standby until noon on May 4 for any emergency repairs which might have been necessary.

### ***East 3<sup>rd</sup> and 52<sup>nd</sup> Street Bridges over LIRR (Brooklyn)***

A Notice to Proceed for the reconstruction of these bridges was issued to the contractor with a start date of May 5, 2003.

### ***8<sup>th</sup> Avenue Bridge over LIRR & Sea Beach NYCT (Brooklyn)***

The reconstruction of this bridge was substantially completed and it was re-opened to traffic on May 5, 2003.



New 8<sup>th</sup> Avenue Bridge as Seen From 62<sup>nd</sup> Street

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

On May 6, 2003, Bridge Operations personnel hosted kindergarten students from PS #321 on a class trip to the bridges. Students, teachers, and parents enjoyed their visit.

### ***Conference***

On May 8, 2003, Chief Bridge Officer Henry Perahia, Deputy Chief Engineer Lawrence King, Director of Bronx, Queens, and Staten Island Roadway Bridges Ali Mallick, and George Tawfik of Ammann & Whitney P.C. made a presentation on the reconstruction of the Queens Boulevard Bridge at the American Society of Civil Engineers Metropolitan Section Structures Group 2003 Spring Seminar.



Amman & Whitney Project Design Engineer George Tawfik; Deputy Chief Engineer Lawrence King; Assistant Project Engineer Waliur Rahman; Chief Bridge Officer Henry Perahia; Project Engineer Mohan Makhijani; and Director of Bronx, Queens, and Staten Island Roadway Bridges Ali Mallick (Credit: Jagtar Khinda)

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

On May 8, 2003, Bridge Operations personnel hosted kindergarten students from PS #321 on a class trip to the bridge. Students, teachers, and parents enjoyed their visit.

### ***Park Avenue Tunnel under 34th Street (Manhattan)***

On May 12, 2003, the tunnel was closed from 9:00 PM until 6:00 AM the following morning as Division masonry crews removed concrete in preparation for stringer repairs. On May 12 and 13, 2003, the tunnel was closed for stringer repairs. Division masons removed concrete from the stringer, and ironworkers installed supports and reinforced the web.



Masonry Crew Removing Concrete Encasement From a Steel Beam Inside the Park Avenue Tunnel  
(Credit: Joseph Saverino)

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

On May 17, 2003, Division ironworkers repaired the plant's motor bracket, chute, and drum.



## CHRONOLOGY

### ***East 120th Street Pedestrian Bridge over FDR Drive (Manhattan)***

On April 1 and 2, 2003, Division masonry crews performed safety flag repairs to the collapsed concrete on the ramps on both sides of the bridge. The repairs to the bridge's concrete sidewalk and curbs, which began on April 9, 2003, were completed by the Division's masonry crews on May 22, 2003. During the course of this project, a total of 6,600 square feet of concrete was installed. These repairs were requested by DOT's Bicycle Program, as the bridge is part of a waterfront greenway route circling Manhattan.



Southbound Ramp Before and After Safety Flag Concrete Repairs (Credit: Anthony Napolitano)



Curb and Sidewalk Before Repairs (Credit: Joseph Saverino)



Highway Repairer Clifton Gravesande and Motor Grader Operator Robert Lovdhal Excavating With Pneumatic Hammer and Backhoe. Pouring Concrete for Sidewalk Replacement. (Credit: Joseph Saverino)

## CHRONOLOGY



Completed Curb and Sidewalk (Credit: Joseph Saverino)

### **Brooklyn Bridge**

May 24, 2003 marked the 120<sup>th</sup> birthday of the bridge. In preparation for the festivities, Division electricians installed new lens covers on the walkway light poles, and tested and repaired the necklace lighting.



Brooklyn Bridge to the World Celebration

Third U.S. Infantry (the Old Guard) – the U.S. Army's Official Ceremonial Unit Performing Under the Bridge. DOT Commissioner Iris Weinshall; Mayor Michael Bloomberg; Brooklyn Borough President Marty Markowitz; and Senator Charles Schumer Crossing the Bridge into Manhattan. (Credit: Kathryn Kirk)

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

On May 24, 2003, Division ironworkers fabricated and installed ten plates in the plant's main drum, and patched holes in the chute.

### **Gowanus Expressway at 65<sup>th</sup> Street (Brooklyn)**

On May 26, 2003, approximately 25 feet of bridge rail was damaged in a vehicular accident. In spite of torrential downpours, Division ironworkers removed the damaged rail and tied steel cables to make the area safe. Permanent repairs were completed on May 27, 2003.

### **Manhattan Bridge**

Microsurfacing of the suspended spans was performed on May 15 and 19, 2003. Asphalt was placed on the Manhattan approach to the bridge May 20, 2003, and on the Brooklyn approach to the bridge on May 27, 2003.



## CHRONOLOGY



Microsurfacing of the Manhattan Bridge Steel Deck (Credit: Yuliy Zak)

Completion of the Final Inspection of the Manhattan Bridge North Upper Roadway by the Quality Assurance Section: Yuliy Zak; Javed Sarwar; Ravindera Soni; Mansoor Khan; Director of Quality Assurance Muhammad Afzal; Syed Arfeen; and Director of Environmental Engineering John Kurre

### ***Cross Bay Boulevard Bridge over Conduit Boulevard (Queens)***

Stage I reconstruction of the bridge began on May 28, 2003.

### ***Israel Day Parade***

On May 31, 2003, at the request of the Mayor's Office of Special Events, Division personnel temporarily placed two variable message boards along the route to assist participants in the Israel Day parade in Manhattan. The boards were removed that same evening.

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

Cleaning and painting of the bridge was completed in May 2003.

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

Cleaning and painting of the bridge began and was completed in May 2003.

### ***Flushing Avenue Service Road Turnaround Railings over Flushing Avenue (near 56<sup>th</sup> Street) (Queens)***

Cleaning and painting of the railings, which began in April 2003, was completed in May 2003.

### ***Matthewson Road Bridge over MacCracken Avenue (Bronx)***

Cleaning and painting of the bridge, which began in April 2003, was completed in May 2003.

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

Cleaning and painting of the bridge was completed in May 2003.



Freshly Painted Wards Island Bridge

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

Cleaning and painting of the bridge was completed in May 2003.



Freshly Painted Span #6 of the Willis Avenue Bridge

***31<sup>st</sup> Street Bridge over Brooklyn-Queens Expressway (Queens)***

Cleaning and painting of the bridge was completed in May 2003.

***32<sup>nd</sup> Street Bridge over Brooklyn-Queens Expressway (Queens)***

Cleaning and painting of the bridge was completed in May 2003.

***35<sup>th</sup> Street Bridge over Brooklyn-Queens Expressway (Queens)***

Cleaning and painting of the bridge, which began in December 2002, was completed in May 2003.

## CHRONOLOGY

### JUNE

#### **Manhattan Bridge**

On August 1, 2002, the North Upper Roadway of the bridge was closed for rehabilitation. The roadway was re-opened to traffic on June 1, 2003, 61 days ahead of schedule, thus earning the contractor a \$3 million incentive.



Consultants, Contractors, and Division Personnel at the Ribbon Cutting Ceremony for the Re-Opening of the Manhattan Bridge North Upper Roadway: Steve Koch; Bob Koch; Peter Zimmerman; Thomas Nilsson; Deputy Chief Engineer Jay Patel; Jim Tarpey; Chief Bridge Officer Henry Perahia; Terry Daly; and Manhattan Bridge Engineer-in-Charge Reza Lotfi

#### **East 189<sup>th</sup> Street over Metro North (Bronx)**

On January 5, 2001, a Division engineer discovered that the brick façades on two decorative columns in Fordham Plaza were loose, due to leaking water which had frozen. The safety flag was resolved at the time by removing all of the loose bricks. The project to replace the brick façades and match them “in-kind” to the other columns in Fordham Plaza, which had been performed intermittently since April 9, 2003, was completed by Division personnel on June 5, 2003.



Bricklayers Luigi Cuffari and Paul Stolpiniski, and Highway Repairer Timothy Pope Rebuilding a Column. A Nearly Completed Column With Matching Existing Column in Rear. (Credit: Joseph Saverino)



## **CHRONOLOGY**

### ***Puerto Rican Day Parade***

On June 7, 2003, at the request of the Mayor's Office of Special Events, Division personnel temporarily placed four variable message boards along the route to assist participants in the Puerto Rican Day parade in Manhattan. The boards were removed on June 9, 2003.

### ***East 64th Street Pedestrian Bridge over FDR Drive (Manhattan)***

On June 8, 2003, one lane of the FDR Drive in both directions was closed from 5:00 AM to 11:00 AM for routine inspection. For the first time, a 120-foot boom was used to inspect this cable-stayed pedestrian bridge.



East 64<sup>th</sup> Street Pedestrian Bridge (in Foreground). 120-Foot Boom. (Credit: Bojidar Yanev)

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

On June 10, 2003, Division personnel replaced the bridge's wooden pedestrian crash gate, which had been struck by a motorist on April 11, 2003.

### ***Grand Avenue Bridge over Conrail (Queens)***

Stage I reconstruction of the bridge was completed on June 10, 2003.

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

On June 10, 2003, Bridge Operations personnel hosted kindergarten students from PS #321 on a class trip to the bridge. Students, teachers, and parents enjoyed their visit.





Bridge Operator-in-Charge Delonda Bates-Pinkney at the Controls of the 9<sup>th</sup> Street Bridge. She has worked for the Department since 1989. (Credit: Keith Burrowes)

***East 78th Street Pedestrian Bridge over FDR Drive (Manhattan)***

The concrete repairs to the bridge's stairs and ramp, which began on June 2, 2003, were completed by Division personnel on June 10, 2003.

***Atlantic Avenue Bridge (EB) over East New York Avenue (Brooklyn)***

The bridge, which had been closed to vehicular and pedestrian traffic since October 22, 2002, was re-opened on June 11, 2003.

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

On June 14, 2003, Division ironworkers repaired the plant's patch bins and catwalks.

***Cross Bay Boulevard Bridge over Conduit Boulevard (Queens)***

Stage II reconstruction of the bridge began on June 16, 2003.

## **CHRONOLOGY**



Placing Concrete for the Cross Bay  
Boulevard Grid Deck

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

Due to mechanical problems, the bridge was closed to marine traffic beginning on the afternoon of May 22, 2003. It was returned to service at 9:30 AM on June 19, 2003, after Division personnel completed repairs to the bridge's motor and machinery brakes.

### ***Williamsburg Bridge***

On June 19, 2003, Division engineers participated in a panel discussion celebrating 100 years of engineering history and innovation related to the 100th Anniversary of the bridge. The event was held at the Brooklyn Public Library in Grand Army Plaza.

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

Due to heat expansion, the bridge was closed to marine traffic beginning at 4:24 PM on June 23, 2003. It was returned to service at 11 PM that night. On June 24, 2003, beginning at 4:40 PM, the bridge was once again closed to marine traffic due to heat expansion. It was returned to service at 11 PM that night.

### ***Carroll Street, Hamilton Avenue, Union Street, 3<sup>rd</sup> Street, and 9<sup>th</sup> Street Bridges over the Gowanus Canal (Brooklyn)***

Due to heat expansion, the bridges were closed to marine traffic beginning at 5:45 PM on June 24, 2003. They were returned to service at 11 PM that night.

### ***Riverside Drive Bridge over West 96<sup>th</sup> Street (Manhattan)***

The component rehabilitation of this bridge was substantially completed on June 26, 2003.

## CHRONOLOGY



Formwork for the Concrete Barrier on 96<sup>th</sup> Street to Protect the Public From Vehicular Traffic. Concrete Pour for the Sidewalk Replacement With Rebars Exposed for the Concrete Barrier (Credit: Nasir Khanzada)

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

Effective June 27, 2003, the bridge was closed to traffic for rehabilitation, as agreed to by Community Board #6.

### ***91<sup>st</sup> Place Bridge over LIRR (Queens)***

The reconstruction of this bridge, which began on September 17, 2001, was substantially completed on June 30, 2003.



East Sidewalk of the New 91<sup>st</sup> Place Bridge

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

Cleaning and painting of the bridge, which began in May 2003, was completed in June 2003.

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

Cleaning and painting of the bridge, which began in April 2003, was completed in June 2003.

### ***Cypress Hills Street Bridge Railings over Jackie Robinson Parkway (Queens)***

Cleaning and painting of the railings, which began in May 2003, was completed in June 2003.

### ***Francis Lewis Boulevard Bridge Railings over Belt Parkway (Queens)***

Cleaning and painting of the railings began and was completed in June 2003.

### ***Highland Boulevard Bridge Railings (Westbound) over Jackie Robinson Parkway (Brooklyn)***

Cleaning and painting of the railings began and was completed in June 2003.

## **CHRONOLOGY**

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

Cleaning and painting of the railings, which began in May 2003, was completed in June 2003.

### ***North Conduit Avenue Bridge Railings (Westbound) over Belt Parkway (Queens)***

Cleaning and painting of the railings began and was completed in June 2003.

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

Cleaning and painting of the railings began and was completed in June 2003.

### ***Rust Street Bridge Railings over Flushing Avenue (Queens)***

Cleaning and painting of the railings, which began in May 2003, was completed in June 2003.

### ***Springfield Boulevard Bridge Railings over Abandoned Equestrian Path (Queens)***

Cleaning and painting of the railings began and was completed in June 2003.

### ***Springfield Boulevard Bridge Railings over Southern Parkway (Queens)***

Cleaning and painting of the railings began and was completed in June 2003.

### ***130<sup>th</sup> Avenue Bridge Railings over Laurelton Parkway (Eastbound and Westbound) (Queens)***

Cleaning and painting of the railings began and was completed in June 2003.

## **JULY**

### ***Glenmore and Sutter Avenue Bridges over the LIRR (Brooklyn)***

Effective July 10, 2003, these bridges were fully closed to traffic for a one year period.

### ***West 37<sup>th</sup> Street Bridge over Amtrak (Manhattan)***

Stage II reconstruction of the bridge began on July 11, 2003.

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

On July 12, 2003, Division ironworkers patched the plant's cyclone and scale, and installed a new bracket for the motor.

### ***Award***

On July 14, 2003, the New York City Art Commission selected the 153<sup>rd</sup> Street Bridge over Metro North project for an Award for Excellence in Design. It was recognized as an outstanding public project which exceeded the Commission's high standards of design.

## **CHRONOLOGY**



Rendering of New 153<sup>rd</sup> Street Bridge

### ***14<sup>th</sup> Avenue Bridge over LIRR Bay Ridge (Brooklyn)***

Stage I reconstruction of the bridge began on July 14, 2003.

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

On July 19, 2003, Division ironworkers repaired the plant's scale, motor, and chute.

### ***Clove Road Bridge over Staten Island Expressway (Staten Island) (NYS)***

On July 29, 2003, Division ironworkers performed emergency repairs on a broken bridge rail of this State-owned bridge.

### ***East Tremont Avenue Bridge over Metro North RR (Bronx)***

The reconstruction of this bridge was substantially completed and it was re-opened to traffic on July 30, 2003.

### ***Aqueduct Racetrack Ramp over Belt Parkway (Queens)***

Cleaning and painting of the bridge, which began in June 2003, was completed in July 2003.

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

Cleaning and painting of the bridge, which began in May 2003, was completed in July 2003.



## **CHRONOLOGY**



Bridge Painters Milan Radovic, Goncarlo Lima, and Samuel Martinez applying the Finishing Touches on the Beams of the Belt Parkway Bridge over Ocean Avenue. (Credit: Lisi de Bourbon)

### ***Botanical Garden Road Bridge Railings over Twin Lakes (Bronx)***

Cleaning and painting of the railings, which began in June 2003, was completed in July 2003.

### ***Park Road (204<sup>th</sup> Street) Bridge Railings over the Bronx River (Bronx)***

Cleaning and painting of the railings, which began in June 2003, was completed in July 2003.

### ***PS #5 Pedestrian Bridge Staircase over 10<sup>th</sup> Avenue (Manhattan)***

Cleaning and painting of the bridge staircase, began and was completed in July 2003.

### ***East 12<sup>th</sup> Street Bridge over Belt Parkway (Brooklyn)***

Cleaning and painting of the bridge, which began in May 2003, was completed in July 2003.

### ***East 14<sup>th</sup> Street Pedestrian Bridge over Belt Parkway (Brooklyn)***

Cleaning and painting of the bridge, which began in May 2003, was completed in July 2003.

## **AUGUST**

### ***Andrews Avenue Bridge over LIRR (Queens)***

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of August 4, 2003.

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

On August 9, 2003, Division ironworkers performed emergency repairs on the plant's bin and feeder.

### ***Brooklyn Bridge***

On August 13, 2003, Division personnel completed the red flag repairs to the bridge's west fascia girder that had been struck by a vehicle on June 30, 2003.

## **CHRONOLOGY**

### ***The Blackout of 2003***

At the request of the Office of Emergency Management, an emergency inspection of the Brooklyn Bridge was performed the evening of August 14, 2003 as a result of complaints of “swaying”; no structural problems were found. Division electricians provided emergency lighting at Pier 11, and at the Manhattan terminal of the Staten Island Ferry; they remained on standby until 11:00 PM on August 15, 2003. Bridge personnel assisted with crowd control at the Staten Island Ferry. A Division crew with a fork-lift spent the night of August 15, 2003 unloading bottled water from 9 tractor-trailers at the headquarters of the American Red Cross. In addition, crews worked on August 15 and August 16, 2003 to clean debris from the East River Bridges, which had experienced a high pedestrian volume.

### ***Hamilton Avenue Bridge over the Gowanus Canal (Brooklyn)***

Due to heat expansion, the bridge was closed to marine traffic beginning at 11:40 PM on August 16, 2003. It was returned to service at 11:38 PM on August 17, 2003.

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

On August 20, 2003, Mayor Michael Bloomberg announced plans for a new state-of-the art bridge to replace the more than 100-year old bridge that connects City Island to the rest of the Bronx. The new structure will be a mast-type cable-stayed bridge with a single tower founded on the mainland side. The new bridge will carry one lane of traffic in each direction as well as one emergency lane in each direction. The towers will be 50 meters in height, and will taper from a base of 8 meters to a top of 4 meters. This bridge will be built at the same footprint of the old bridge. A temporary vehicular bridge will be constructed on the south side of the existing bridge to provide vehicular and pedestrian access to and from City Island during construction of the new bridge.



Rendering of New City Island Bridge

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

The component rehabilitation of this bridge was substantially completed on August 20, 2003.



Painting the Huguenot Avenue Bridge (Credit: Rezaul Karim)

### ***North Channel Bridge (Queens) (a.k.a. Congressman Joseph P. Addabbo Bridge) (NYS)***

On August 20, 2003, Division electricians, assisted by ironworkers, performed repairs to the navigation lights of this State-owned bridge.

### ***East 10<sup>th</sup> Street Pedestrian Bridge over FDR Drive (Manhattan)***

The erection of structural steel at the bridge was completed on August 24, 2003, between the hours of 2 AM and 8 AM. During that time, the FDR Drive was closed intermittently for 15 minutes on the hour.



Erection of Structural Steel at the East 10<sup>th</sup> Street Bridge (Credit: Bojidar Yanev)

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

The rehabilitation of this bridge, which began in 1994, was substantially completed on August 29, 2003.

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

Cleaning and painting of the bridge began and was completed in August 2003.

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

Cleaning and painting of the bridge, which began in July 2003, was completed in August 2003.

## **CHRONOLOGY**

### ***Woodhaven Boulevard Bridge over Atlantic Avenue (Queens)***

Cleaning and painting of the bridge, which began in July 2003, was completed in August 2003.

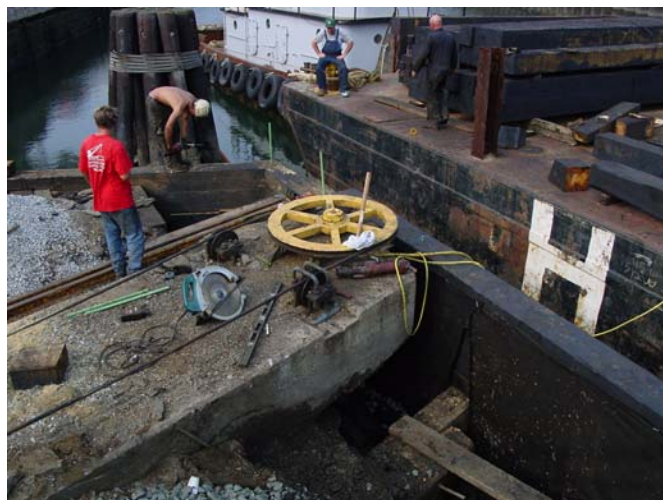


Bridge Painter Frank Capalija on the Woodhaven Boulevard Bridge Over Atlantic Avenue (Credit: Lisi de Bourbon)

## **SEPTEMBER**

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

The bridge was re-opened to traffic on September 1, 2003.



Completing Repairs at Carroll Street Bridge. (Credit: Thomas Leung)

### ***West Indian Day Parade***

On September 1, 2003, at the request of the Mayor's Office of Special Events, Division electricians assisted event organizers with electrical installations at the West Indian Day parade in Brooklyn. In addition, four variable message boards were temporarily placed along the route to assist participants.



## **CHRONOLOGY**

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

A Notice to Proceed for the emergency repair project on this bridge was issued to the contractor with a start date of September 2, 2003.



Barge and Crane Utilized in Paerdegat Avenue Bridge Repairs  
(Credit: Mansoor Khan)

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

On September 6, 2003, Division ironworkers performed emergency repairs on the plant's conveyor belt bracket.

### ***Great Irish Fair***

On September 6 and 7, 2003, at the request of the Mayor's Office of Special Events, Division electricians assisted event organizers with electrical installations at the Great Irish Fair in Dreier Offerman Park in Coney Island.

### ***Williamsburg Bridge***

Painting of the south side stiffening trusses, which began on June 1, 2003, was completed on September 6, 2003.

### ***West 51st Street Bridge over Amtrak 30th Street Branch (Manhattan)***

The repairs to the bridge's concrete sidewalk, which began on September 3, 2003, were completed by the Division's masonry crews on September 9, 2003.

### ***Tudor City Place Bridge over East 42nd Street (Manhattan)***

The component rehabilitation of this bridge was substantially completed on September 11, 2003.



## CHRONOLOGY



Concrete Base Course Repair and Sidewalk Repair at Tudor City Place Bridge (Credit: Nasir Khanzada)



Completed Asphalt Installation at Tudor City Place Bridge  
(Credit: Nasir Khanzada)

### ***Belt Parkway Bridge over 26th Avenue (Brooklyn)***

At about 7:00 AM on September 14, 2003, a vehicle traveling west in the right lane of the parkway hit the stone parapet. 26<sup>th</sup> Avenue was closed due to fallen debris. Division crews placed Jersey barriers, removed debris, and made the area safe.



Clearing the Debris Below the Parapet. Drilling and Installing Pins Into the Jersey Barriers (Credit: Joseph Saverino)

## **CHRONOLOGY**

### ***Hurricane Isabel***

Both contract and Division forces prepared for severe weather related to Hurricane Isabel. This work included picking up all small pieces of loose material and tying down equipment. Small temporary work scaffolds that were in use on a daily basis were dismantled before the impending storm. Containments were either dismantled or secured in such a manner that they were certified to withstand the expected winds. The flags on the Brooklyn Bridge were removed as a precautionary measure, and the work platform under the Paerdegat Basin Bridge was removed, as were all suspended floats from under the deck of the Brooklyn Bridge. Higher-elevation parking for vehicles was arranged where necessary. Masts on VMS boards were lowered and their outriggers extended.

During the hurricane on September 19, 2003, at least 116 trees were downed in the city, with most of the damage in Queens. The warning gates of the Metropolitan, Greenpoint, and Pulaski Bridges were damaged by the high winds. Division personnel installed new warning gates on the Metropolitan Bridge on September 26, 2003, on the Greenpoint Avenue Bridge on the nights of September 29 and 30, 2003, and on the Pulaski Bridge on October 2 and 3, 2003.

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

On September 26 and 27, 2003, Division ironworkers repaired the plant's silo, drum, and chute.

### ***15<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, and 20<sup>th</sup> Avenue Bridges over NYCT (Brooklyn)***

A Notice to Proceed for the reconstruction of these bridges was issued to the contractor with a start date of September 29, 2003.

### ***Cohancy Street Bridge Railings over Southern Parkway (Queens)***

Cleaning and painting of the railings, which began in June 2003, was completed in September 2003.

## **OCTOBER**

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

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of October 10, 2003.

### ***Atlantic Avenue Bridge (WB) over East New York Avenue (Brooklyn)***

The bridge, which had been closed to vehicular and pedestrian traffic since June 12, 2003, was re-opened on October 17, 2003.

### ***Brooklyn Bridge***

Filming of the feature film "Stay" required the closure of the Manhattan-bound roadway of the bridge on the nights of October 5-8, 2003, and October 13-16, 2003. Division personnel provided power and replaced missing lens covers on the promenade lights. The film's production company funded the lighting of both the Brooklyn and Manhattan Bridges' necklace lights during the shoot, and temporarily installed 40 more lights to illuminate the Brooklyn Bridge's Gothic arches.



Brooklyn Bridge With Illuminated Towers During the Filming of “Stay” (Credit: Jason Farrar)

### ***Brooklyn Bridge Approach over Sands Street (Brooklyn)***

On the night of October 21, 2003, Division crews took advantage of the nighttime lane closures for the filming of “Stay” to repair an expansion joint and the adjacent curb at the Sands Street approach, and to repair a stone wall on the approach over the BQE.



Breaking Out the Area With Jackhammers. (Credit: Anthony Napolitano)



## CHRONOLOGY



Repairing the Expansion Joint. (Credit: Anthony Napolitano)



Placing Fresh Asphalt. (Credit: Anthony Napolitano)

### **Conference**

At the Second New York City Bridge Conference, held on October 20 and 21, 2003, Division Directors presented papers on the new East 153<sup>rd</sup> Street Bridge and the East River Bridges Preventive Maintenance Program. In addition, Chief Bridge Officer Henry Perahia chaired the session on Bridge Analysis and Design, and Dr. Bojidar Yanev, the Division's Executive Director of Inspections and Bridge Management, chaired the session on Bridge Health Monitoring and Management.

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

On October 23, 2003, Division ironworkers replaced the bridge's southwest warning gate and housing, which had been struck by a vehicle on October 18, 2003.

### **Brooklyn-Queens Expressway at Joralemon Street (Brooklyn)**

Responding to a 311 complaint of a noisy and vibrating plate on October 2, 2003, Division crews broke out the area, recessed the plate, and ramped it with asphalt. Permanent repairs were completed on the night of October 23, 2003, utilizing a quick setting, high early strength cement.

## CHRONOLOGY



Breaking Out the Asphalt Under the Plate to Expose the Condition. Exposed Rebar at the Construction Joint.  
(Credit: Joseph Saverino)



Side View of the Deteriorated Concrete to be Removed and Replaced. Placing Asphalt Over the Recessed Plates.  
(Credit: Joseph Saverino)

### ***East 10<sup>th</sup> Street Pedestrian Bridge over FDR Drive (Manhattan)***

The reconstruction of this bridge was substantially completed and it was re-opened to traffic on October 24, 2003.



New East 10<sup>th</sup> Street Pedestrian Bridge



### ***Queensboro Bridge***

A Notice to Proceed for the rehabilitation of various components of this bridge was issued to the contractor with a start date of October 31, 2003.



Queensboro Bridge (Credit: Bojidar Yanev)

### ***Long Island Expressway at 31<sup>st</sup> Place (Queens) (NYS)***

On October 31, 2003, Division personnel addressed an emergency condition of a broken expansion joint on this State-owned bridge by placing three plates and ramping the area with asphalt.

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

In October 2003, Division ironworkers repaired the plant's crusher teeth, vacuum cap, chutes, discharge paddles, main drum, rap bin, and crusher. In addition, they replaced the plant's main conveyor chain.

### ***Broadway Bridge over Harlem River (Bronx/Manhattan)***

Cleaning and painting of the bridge was completed in October 2003.

### ***Riverside Drive Bridge over West 96<sup>th</sup> Street (Manhattan)***

Cleaning and painting of the bridge, which began in August 2003, was completed in October 2003.

### ***Grand Avenue Bridge over Conrail (Queens)***

Stage III reconstruction of the bridge began in October 2003.

## **NOVEMBER**

### ***New York City Marathon***

In preparation for the Marathon on November 2, 2003, Division personnel inspected and cleaned the Pulaski, Madison Avenue, and Willis Avenue Bridges, and painters searched for and removed all graffiti along the race route. On October 25, 2003, possible tripping hazards on the Willis Avenue Bridge were repaired following placement of a containment using a barge. On the night before the race, all bridges along the route were swept. Concrete barriers at both the 59<sup>th</sup> Street

## **CHRONOLOGY**

and 60<sup>th</sup> Street walkway ramps of the Queensboro Bridge were temporarily removed for access by disabled race participants, and hay bales were placed at both locations. Traffic delineators were removed from the area at Queens Plaza South and Crescent Street to allow participants to enter the lower roadway. Standard configurations were restored before the next morning rush hour.

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

At about 6:05 AM on November 5, 2003, an eastbound vehicle lost control and struck the center divider. The bridge operator reported that the newly installed median guide rail barrier prevented the sports utility vehicle from crossing over the median. Although the vehicle was damaged, the driver was able to walk away.

### ***East River Bridge Necklace Lighting***

The necklace lights of the East River Bridges, which were shut off in March 2003 as an austerity measure, were relit on November 5, 2003. At a ceremony at the River Café, Commissioner Weinshall acknowledged four businesses that donated \$20,000 each for the next two years to fund this effort: the River Café, Travelex, Carter Ledyard & Millburn, and the International Gemological Institute. There are a total of 906 100-watt mercury vapor bulbs in the necklace lights: 160 on the Brooklyn Bridge, 224 on the Williamsburg Bridge, 304 on the Manhattan Bridge, and 218 on the Queensboro Bridge.

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

On November 7, 2003, Bridge Operations personnel hosted students from PS #321 on a class trip to the bridges. Students, teachers, and parents enjoyed their visit.

### ***Cross Bay Boulevard Bridge over Conduit Boulevard (Queens)***

Stage III reconstruction of the bridge began on November 7, 2003.

### ***East 161<sup>st</sup> Street Bridge over Conrail Port Morris (Bronx)***

The bridge was re-opened to traffic on November 7, 2003.

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

On November 8, Division ironworkers repaired the plant's main drum, discharge paddles, crusher, and blower.

### ***Brooklyn Bridge***

On November 13, 2003, Director of Bridge Repair George Klein conducted a tour of the Brooklyn Bridge for a group of high school physics students from Emily Roebling's alma mater, Georgetown Visitation Preparatory School, in Washington D.C. Ms. Roebling supervised the construction of the Brooklyn Bridge after the death of her father-in-law John Roebling and the decompression illness of her husband Washington Roebling. She was also the first woman to address a meeting of the American Society of Civil Engineers. The class visit was part of the students' project on her contributions to the construction of the Brooklyn Bridge. 2003 was the 100<sup>th</sup> anniversary of Ms. Roebling's death. Students and teachers enjoyed their visit.



Director of Bridge Repair George Klein and the Students (Credit: Peter Basich)

### ***Grand Avenue Bridge over Conrail (Queens)***

The bridge was re-opened to traffic on November 12, 2003. The reconstruction of this bridge, which began on September 16, 2002, was substantially completed on November 13, 2003, four months ahead of schedule.



New Grand Avenue Bridge

### ***Brooklyn Bridge***

On November 17, 2003, Division electricians replaced navigation lights on the east side of the bridge.

### ***14<sup>th</sup> Avenue Bridge over LIRR Bay Ridge (Brooklyn)***

Four precast deck panels were installed on the bridge on November 18, 2003.

## CHRONOLOGY



Precast Deck Panel in the Fabricator's Yard (Credit: Boowong Kim) Lowering the Panel Into Place.



Installing the Precast Panels

### **Award**

On November 19, 2003, in recognition of his commitment, dedication and outstanding work, Deputy Chief Engineer Kamal Kishore was presented the Outstanding Engineer of the Year award from Local 375, AFSCME. The Civil Service Technical Guild represents approximately 6,500 professionals, including engineers, architects, scientists, chemists, planners and other technical trades.



## **CHRONOLOGY**



First Row: Deputy Chief Engineer Russell Holcomb; Director of In-House Design Vitali Ghin; Deputy Chief Engineer Kamal Kishore; Chief Bridge Officer Henry Perahia; Secretary Ahmed Shakir; Director of Quality Assurance Muhammad Afzal; Ramakumar Magge; and Shakti Chattopadhyay. Second Row: Engineer-in-Charge, Geo-Technical Section Sajjan Jain, Bharat Parekh; Jitendra Kothari; Mansoor Khan; and Director of Engineering Review Abul Hossain (Credit: Mahabal Shah)

Local 375 President Claude Forte; Deputy Chief Engineer Kamal Kishore; Secretary Ahmed Shakir; George Lawrence; and Second Vice President David Grant (Credit: Mahabal Shah)

### ***Award***

On November 21, 2003, Chief Bridge Officer Henry Perahia was presented the Municipal Engineer of the Year award from the Municipal Engineers of the City of New York. Members of the society include professional engineers as well as licensed architects, attorneys and urban planners, all of whom share the common goal of guiding and promoting the development of infrastructure improvements within the New York metropolitan area. Through monthly meetings and lectures, the organization serves as a conduit for these professionals to exchange information and remain up to date with current practice. The organization was founded in 1903. Commissioner Iris Weinshall presented the award to Mr. Perahia at the organization's annual dinner-dance.





Deputy Chief Engineer Lawrence King; Deputy Chief Engineer Jay Patel; Deputy Chief Engineer Russell Holcomb; Chief Bridge Officer Henry Perahia; Deputy Chief Engineer Kamal Kishore; DOT Commissioner Iris Weinshall; Deputy Chief Engineer Albert Novak; Chief Staff Manager Diana Recor; and First Deputy Commissioner Judith Bergtraum (Credit: Jagtar Khinda)

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

On November 22, 2003, Division ironworkers repaired the plant's rap bin and fabricated and installed sections of the blue smoke duct.

### ***Williamsburg Bridge***

Painting of the north side stiffening trusses, which began on September 6, 2003, was completed on November 25, 2003.

### ***East 3<sup>rd</sup> Street Bridge over LIRR (Brooklyn)***

The bridge's deck concrete was placed on November 25, 2003.

### ***East 183<sup>rd</sup> Street and Tiebout Avenue Step Street (Bronx)***

In October 2003, NYCDDC requested the assistance of DOT in securing a step street until reconstruction can begin. A chain link fence was installed to protect pedestrians and the NYCHA grounds from falling rocks. Concrete step repairs began on November 7, 2003. All repairs to the steps and landing were completed on November 25, 2003.

### ***Thanksgiving Day Parade***

Division engineers reviewed and approved the design specifications of three new large balloons to be introduced in the parade, as follows: Barney, Garfield, and Super Grover. 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. On November 8, 2003, a Division engineer attended the successful test flight of the new balloons in the parking lot of the New Jersey Meadowlands Sports Complex. On the night of November 26, 2003, and continuing through the parade, a Division electrician assisted parade organizers with electrical installations. On November 27, Chief Bridge Officer Henry Perahia, Deputy Chief Engineer Kamal Kishore, Director of Engineering Review Abul Hossain and Mahabal Shah, as well as two consultants, were positioned at various locations along the parade route to ensure that the balloons were flown within the prescribed requirements for the wind conditions at that site. Wind speeds were extremely low and the balloons were all flown safely and at their highest positions.

## **CHRONOLOGY**



New Barney (Credit: Kamal Kishore) New Super Grover (Credit: Mahabal Shah)



Charlie Brown (Credit: Mahabal Shah) Wild Thing and Pumpkins (Credit: Kamal Kishore)

## **CHRONOLOGY**



New Garfield (Credit: Kamal Kishore)



DOT Commissioner Iris Weinshall; Deputy Chief Engineer Kamal Kishore; Chief Bridge Officer Henry Perahia; First Deputy Commissioner Judith Bergtraum; Mahabal Shah; and Director of Engineering Review Abul Hossain

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

As of November 2003, the north truss of the bridge's new swing span was fully assembled in the fabricator's shop in Alabama.



## **CHRONOLOGY**



Third Avenue Bridge Truss Fabrication in Alabama



Third Avenue Bridge Truss Pieces on the Barge in Alabama

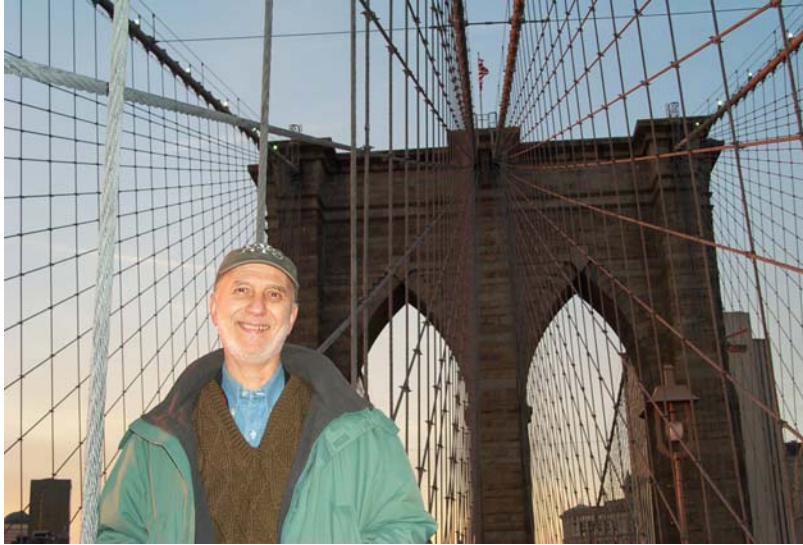
### ***Cross Island Parkway Bridge over Fort Totten Entrance (Queens)***

Cleaning and painting of the bridge, which began in September 2003, was completed in November 2003.

## **DECEMBER**

### ***Award***

In December 2003, the Mayor's Office of Film, Theatre, and Broadcasting named Peter Basich of the Bureau of Maintenance, Inspections and Operations as the "Agency Star of the Month" for his efforts in coordinating requests from entertainment production companies.



Peter Basich on the Brooklyn Bridge (Credit: Vasily Avadiev)

Having assisted hundreds of feature films, commercials and television shows over the years, Mr. Basich knows how to expedite the process for shooting on a bridge. Production companies are referred to him by the Mayor's Office of Film, Theatre and Broadcasting after an initial discussion and agreement on the nature of their work. Companies then need to supply a letter of intent to Mr. Basich, detailing the work planned and equipment used. He then checks the scheduled work on the bridge to avoid any conflicts with the activity of DOT tradespeople or contractors. On more complex requests, he can also arrange for engineers to meet with the production company. His major requirement? Don't block pedestrian, vehicular or bike traffic - most bridges are busy with commuters and tourists.

*The Sopranos*, *Sex & The City*, *NYPD Blue*, *Third Watch*, and the feature films *Stay* and *The Forgotten* are just some of the projects that have been keeping him busy lately. But he also coordinated the ambitious work of *Kate & Leopold* back in 2001, which recreated the atmosphere of the Brooklyn Bridge in the early 1880s. And as a testament to his ingenuity, he was able to arrange for the film *Frequency* (1999) to flip a fake gasoline truck and stage a fireball crash under the 125th Street overpass to the West Side Highway - right after the structure had been painted and rehabilitated. Having once paid the rent as a full-time photographer, Mr. Basich can also make practical suggestions with a creative payoff: "When they ask for a certain angle or view, I've sometimes suggested a better one, translating it in my mind's eye. I can fully appreciate what they're trying to do." Oftentimes he can even coordinate standby electricians to keep the necklace lights on a bridge illuminated past 1AM for certain bridge scenes. He was able to pull this off just recently for *The Sopranos*, when they shot the Brooklyn and Manhattan bridges from Fulton Ferry State Park.

In short, not only does Mr. Basich help to keep the City's bridges camera ready, but he is production's passport to some of the most stunning views in all of New York.

Cho, J. 2003. Peter Basich, Bridge to the Stars. *Agency Star of the Month*. (December 2003), [http://www.nyc.gov/html/film/html/office/star\\_basich.shtml](http://www.nyc.gov/html/film/html/office/star_basich.shtml) (accessed December 1, 2003).

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

On December 2, 2003, Division ironworkers replaced several broken diaphragms that had been damaged when a truck hit the bridge on October 29, 2003.



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

In the first snowstorm of the 2003-2004 winter season, 14 inches of snow were recorded in Central Park. In response to the December 5, 2003 blizzard, Division personnel applied 37,000 gallons (80 applications) of anti-icing chemicals to the East River bridges. In addition, they shoveled and plowed pedestrian walkways, and monitored icicle conditions on the FDR Drive, the Brooklyn-Queens Expressway, the Agency-maintained tunnels, the Cross Bronx Expressway, and the East river bridge cables. Clearing of priority overpasses continued through December 10, 2003.



Anti-Icing Team: Traffic Device Maintainer Ronald Whytock; Highway Repairers Timothy Pope, Joseph Cappello, and Abraham James; Supervisor Highway Repairer Joseph Lopez; and Deputy Director of Preventive Maintenance Michael Cummiskey (Credit: Lisi de Bourbon)

### ***Manhattan Bridge***

The repairs to the bridge's necklace lights, which began on December 1, 2003, were completed by Division electricians on December 9, 2003.

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

On December 13, 2003, Division ironworkers installed the plant's blue smoke duct and made repairs to the chute, grizzlies, drum, and scales.

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

In the second snowstorm of the 2003-2004 winter season, 5.8 inches of snow were recorded in Central Park. Beginning at 7 AM on December 14, Division personnel applied anti-icing chemicals 18 times to the East River bridges within 24 hours. In addition, the East River bridge pedestrian walkways and priority overpasses were cleared of snow.

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

The bridge's concrete deck was repaired over the course of two weekends. The bridge was retracted over land and was closed to traffic from 11:00 PM on November 21, 2003 until 5:00 AM on November 24, 2003, and again from 11:00 PM on December 12, 2003 until 5:00 AM on December 15, 2003. During the course of this project, a total of 675 square feet of concrete deck was repaired. In addition, Division ironworkers took advantage of the closure to repair delaminated flanges and webs of the bridge's floor beams.

## CHRONOLOGY

### ***East 161<sup>st</sup> Street Bridge over Conrail Port Morris (Bronx)***

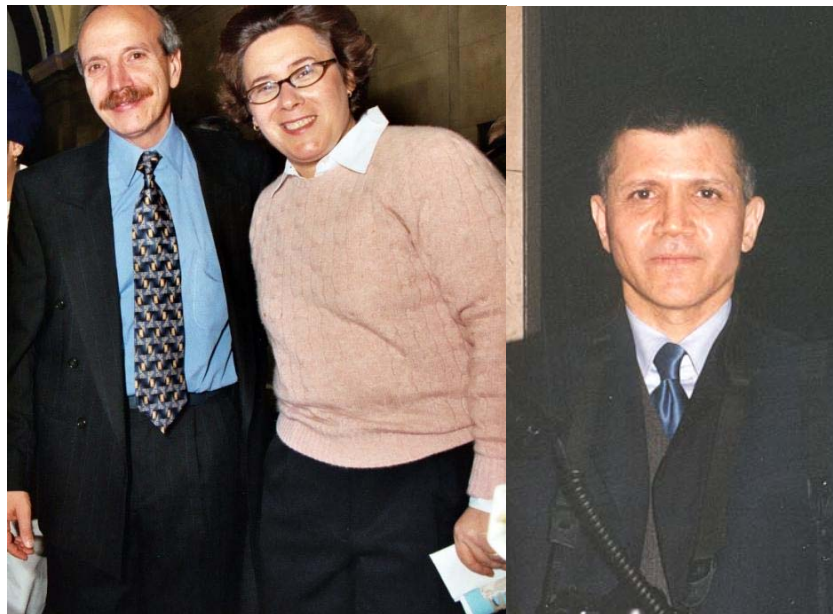
The reconstruction of this bridge, which began on June 11, 2001, was substantially completed on December 15, 2003.



Completion of the Final Inspection of East 161<sup>st</sup> Street Bridge over Conrail by Contractor, Consultant and Division Personnel, including Wen-Yang Tsay, Yuliy Zak, and Syed Naqvi of the Quality Assurance Section, as well as Lakshminarayan Ghante and Roly Parroco of Roadway Bridges. (Credit: Mansoor Khan)

### ***Williamsburg Bridge***

December 19, 2003 was the 100<sup>th</sup> anniversary of the opening of the Williamsburg Bridge. There was a beautiful and well attended ceremony in the lobby of the Department's headquarters at 40 Worth Street, along with displays for which the Division contributed many of the exhibit items. Chief Bridge Officer Henry Perahia was the Master of Ceremonies at the event.



Chief Bridge Officer Henry Perahia and DOT Commissioner Iris Weinshall  
(Credit: Hasan Ahmed)  
Director of East River Bridges Hasan Ahmed (Credit: Peter Basich)

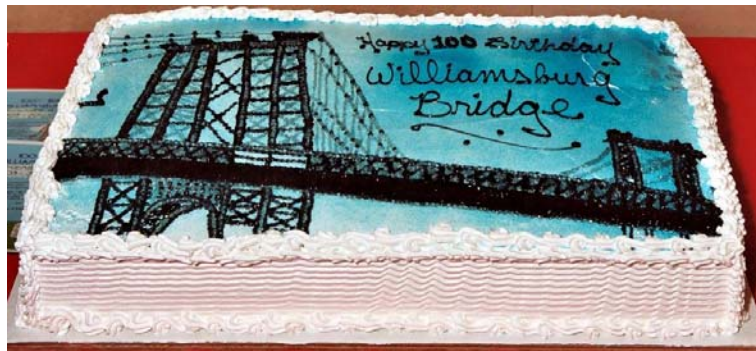
## CHRONOLOGY



Deputy Chief Engineer Jay Patel; and Director of Community Affairs Jennifer Dee-Leibman (Credit: Peter Basich)  
Brooklyn Arts Council Folklorist Dr. Kay Turner, DOT Commissioner Iris Weinshall, and Brooklyn Arts Council President  
Ella Weiss (Credit: Hasan Ahmed)



Williamsburg Bridge Memorabilia on Display at DOT Headquarters (Credit: Hasan Ahmed)



Williamsburg Bridge Birthday Cake (Credit: Hasan Ahmed)



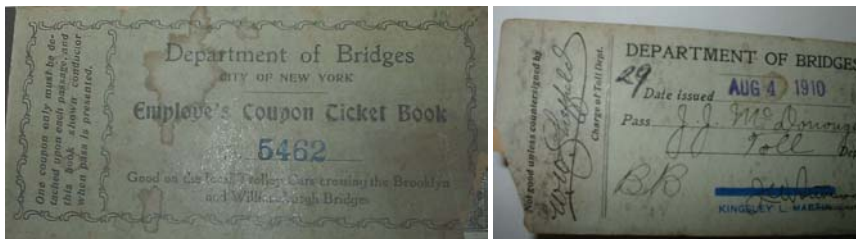


Mayor Bloomberg Proclaimed December 19, 2003 as "Williamsburg Bridge Centennial Day"

## CHRONOLOGY



Gateman J. J. McDonough (on left), Great-Grandfather of Deputy Chief Engineer Russell Holcomb



Trolley Coupon Ticket Book Used by J. J. McDonough on the Brooklyn and Williamsburg Bridges in the Early 1900's (Credit: Russell Holcomb)

### ***New Year's Eve***

At the request of the Mayor's Office of Special Events and the NYPD, Division ironworkers temporarily welded shut all manholes in the Times Square area in preparation for New Year's Eve.

### ***New Dorp Lane Bridge over SIRT South Shore (Staten Island)***

The component rehabilitation of this bridge, which began in December 2000, was substantially completed on December 30, 2003.