

**NEW YORK CITY
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES
2002 BRIDGES AND TUNNELS
ANNUAL CONDITION REPORT**



Three East River Bridges As Seen From the Staten Island Ferry (Credit: Dorothy Roses)

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A Message from the

Commissioner

On behalf of the many dedicated professionals who staff the Division of Bridges, it is my pleasure to distribute the 2002 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 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 2002 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, 2002 was an important year for preventive maintenance. In-house repair crews eliminated 469 safety flag conditions that presented clear vehicle or pedestrian traffic hazards. Some 12,616 cubic yards of debris were removed, while 76,916 square feet of concrete were used to renew sidewalks, curbs, and road decks. Workers cleaned 1,630 bridge drains and, in the winter, sprayed 20,150 gallons of anti-icing chemicals on the East River bridges. In addition, crews eliminated 6,865,564 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 Design-Build reconstruction of the Ridge Boulevard (a.k.a. Second Avenue) and Third Avenue Bridges over Shore Road Drive in Brooklyn, as well as the Movable Bridge Waterway Study. The New York Construction News "Best of 2002 Awards Program" selected the restoration of St. Felix Street in Brooklyn as the 2002 Rehabilitation Project of the Year. In addition, in recognition of his outstanding contributions to the status of the civil engineering profession, Jay Patel, Deputy Chief Engineer for East River and Movable Bridges, was presented the Herbert Howard Government Civil Engineer of the Year award by the Metropolitan Section of the American Society of Civil Engineers.

In 2002, 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 NFL Kick-Off in Times Square, the Special Joint Session of Congress in the Financial District, the Century Bicycle Tour, the New York City Marathon, 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 2002, the inventory of bridges under the jurisdiction of the Division increased from 752 to 755. 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.

	1993	1994	1995	1996*	1997	1998	1999	2000	2001	2002 ¹
Poor[#]	72	57	60	48	40	24	16	13	9	8
Fair	420	421	406	524	530	516	507	481	459	451
Good	329	321	342	148	145	154	160	180	196	202
Vgood	57	61	51	59	55	75	81	85	88	94
Unrated				68						
	878	861	859	847	770	769	764	759	752	755

* 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.

¹New condition ratings for the East River Bridges were not available at the time of publication.

[#]Number of poor bridges in 2002 does not reflect the recently completed reconstruction of the Honeywell Street Bridge in Queens.

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).

2002 was a year in which contract acceleration and the use of incentives/disincentives resulted in the early completion of a number of new bridge projects, such as:

The **Hope Avenue Bridge** over the abandoned railroad in Staten Island was demolished and replaced with an at-grade roadway and sidewalks. The roadway was opened to traffic in April 2002, almost two months ahead of schedule.

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In June 2002, the North Inner Roadway of the **Williamsburg Bridge** was re-opened to traffic 50 days ahead of schedule, thus earning the contractor a \$5 million incentive. The opening ceremony was presided over by Mayor Bloomberg and Commissioner Weinsahl.

In July 2002, the **Queens Boulevard Bridge over Amtrak and LIRR Yard** was re-opened to traffic two months ahead of schedule.

In November 2002, the **Guy Brewer Boulevard Bridge over the Belt Parkway** was re-opened to both vehicular and pedestrian traffic 104 days ahead of schedule.

Restorations

In 2002, the Division continued several restoration projects, such as:

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 will continue through the summer of 2003.

The project to repair and restore the sidewalks, curbs, stone wall, and handrail at Crotona Avenue and Southern Boulevard over the Pelham Parkway in the Bronx, which had been performed intermittently over the past two years, was completed by Division personnel on November 12, 2002. The stone wall was originally constructed in 1958. The public's safety was ensured during the repairs through the use of Jersey barriers, as well as wood and snow fencing. During the course of this project, a total of 985 cubic yards of concrete, 750 linear feet of bridge railing and 5,680 linear feet of steel curb were installed. In addition, 4,500 fascia stones were removed and reset by Division masonry crews.

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 mild winter of 2001-2002, a total of 20,150 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

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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 cost of the construction work, which is expected to commence in 2004, is estimated to be \$35 to \$40 million.

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.

2002 Awards

In 2002, the outstanding work of the Division was recognized by the receipt of several awards. In April 2002 the New York Association of Consulting Engineers selected the Design-Build reconstruction of the Ridge Boulevard (a.k.a. Second Avenue) and Third Avenue Bridges over Shore Road Drive in Brooklyn 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 Shore Drive Bridges, in April 2002, the New York Association of Consulting Engineers selected the Movable Bridge Waterway Study for an Engineering Excellence Award.

EXECUTIVE SUMMARY

In June 2002, in recognition of his outstanding contributions to the status of the civil engineering profession, Deputy Chief Engineer Jay Patel was presented the Herbert Howard Government Civil Engineer of the Year award by the Metropolitan Section of the American Society of Civil Engineers.

In December 2002, the New York Construction News "Best of 2002 Awards Program" selected the restoration of St. Felix Street as the 2002 Rehabilitation Project of the Year.

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 755 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, thus enabling 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 and construction.

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 the capital 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 painting. Spot painting is performed at three and nine year intervals, while salt splash painting is performed at six year intervals. Members of the in-house program also 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.

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The engineers and inspectors of the **When and Where Unit** supervise the contractors' repairs of structural and safety flags citywide. 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**.

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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, Inspection 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.

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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.

Employing almost 500 engineering, professional, administrative, and skilled trades employees in the maintenance and smooth operation of New York City's elevated infrastructure, the **Bureau of Bridge Maintenance, Inspection and Operations** 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 755 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, reporting 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*.

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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. Operating under a variety of federal mandates that call for 24-hour coverage at many locations, this section's mission is to provide safe and expedient passage to all marine and vehicular traffic under and on movable bridges. In calendar year 2002, Bridge Operations effected a total of 7,542 openings, 6,015 of which allowed 9,929 vessels to pass beneath the bridges. The remaining 1,527 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, Inspection 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 are continuing 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 section is divided into five primary areas: **Office of the Executive Director, Administrative, Budget, Capital Procurement, and Capital Coordination**. Each highly-specialized unit 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, assuming 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 Unit** oversees the Division's entire expense budget process including, but not limited to, base-line preparation, spending plans, overtime control, financial plan changes, and budget modifications. The unit further oversees all Division-wide fiscal activities, including the establishment and monitoring of all IFA-related project budgets, while simultaneously ensuring that the budget and plans represent the Division's priorities.

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The ***Capital Procurement Unit*** 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.

Coordination with our Legal Department and Division engineering staff to clarify force account language in an attempt to avoid ambiguity is continuing. New agreements are being designed to explicitly identify when notices for outages or flagging protection are required, who will be responsible when outage/flagging is canceled, and specifying 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, adding 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, reducing the time for the approval process to one-and-a-half to three months.

The ***Capital Coordination Unit*** 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).

CHRONOLOGY

JANUARY

Anti-Icing

Beginning on the evening of January 6, and ending on January 8, 2002, Division personnel mobilized plow trucks and anti-icing equipment to clear the East River bridges and pedestrian overpasses citywide. Icicle patrols monitored the Cross-Bronx Expressway, FDR Drive, Battery Park Underpass, and Brooklyn-Queens Expressway.

Hamilton Avenue Asphalt Plant (Brooklyn)

On January 9, 2002, Division ironworkers performed emergency welding repairs on the plant's main drum.

Carroll Street Bridge over the Gowanus Canal (Brooklyn)

On January 16, 2002, Bridge Operations personnel hosted students from the Children's School on a class trip to the bridge. Students, teachers, and parents enjoyed their visit.

Sidewalk Vault Collapse at West 35th Street near 6th Avenue (Manhattan)

On January 18, 2002, Division carpenters joined the emergency response to a sidewalk vault collapse at West 35th Street near 6th Avenue. They constructed a timber curb and barricade around the failed area and assisted in the placement of Jersey barriers.

Anti-Icing

In response to the January 19, 2002 snowstorm, Division personnel applied almost 20,000 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, Brooklyn-Queens Expressway, the Agency-maintained tunnels, and the Cross Bronx Expressway.

Hamilton Avenue Asphalt Plant (Brooklyn)

On January 19, 2002, Division ironworkers installed the plant's newly fabricated replacement reject chute.

West 37th Street Bridge over Amtrak (Manhattan)

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of January 21, 2002.

Brooklyn-Queens Expressway over Nassau Street (Brooklyn)

Cleaning and painting of the bridge was completed in January 2002.

FEBRUARY

Hamilton Avenue Asphalt Plant (Brooklyn)

On February 2 and 9, 2002, Division ironworkers performed repairs on the plant's conveyer scrapers and main drum.

Walton Avenue over Metro North (Bronx)

The component rehabilitation of this bridge was substantially completed on February 12, 2002.

Macombs Dam Bridge over Harlem River (Bronx/Manhattan)

Stage II construction was completed on February 20, 2002, 39 days ahead of schedule.

CHRONOLOGY

Northern Boulevard over Flushing River (Queens)

Beginning on February 21, and ending on February 25, 2002, Division personnel removed over 650 cubic yards of debris from an illegal dumping site adjacent to the bridge.

Conference

On February 28, 2002, Director of Movable Bridges Michael Hershey made a presentation on the reconstruction of the East River Bridges at the Association for Bridge Construction and Design, Eastern New York Chapter in Albany as part of their Engineer's Week Seminar.

MARCH

Carroll Street & Union Street Bridges over the Gowanus Canal (Brooklyn)

On March 13, 2002, Bridge Operations personnel hosted students from Middle School #88 on class trips to the Carroll and Union Street bridges. Students, teachers, and parents enjoyed their visits.

Belt Parkway Bridge over Mill Basin (Brooklyn)

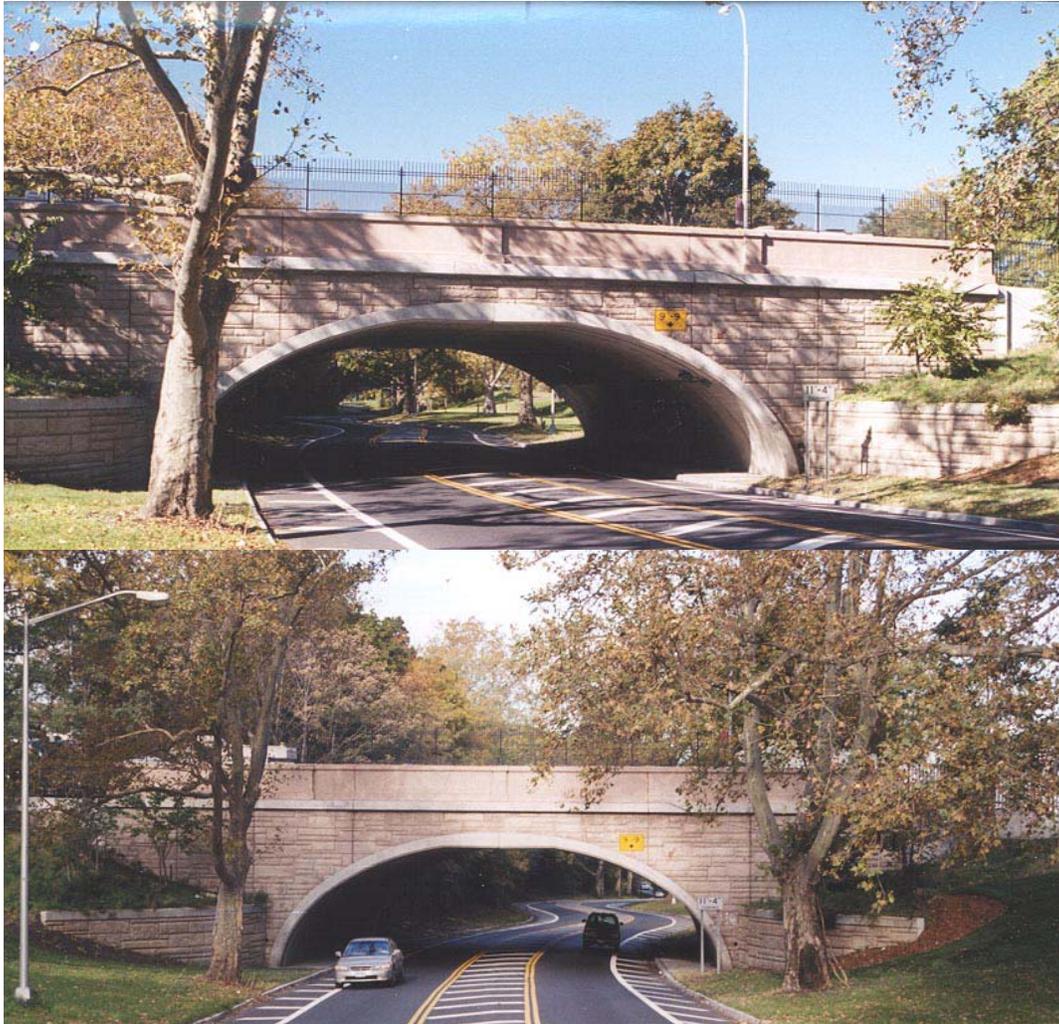
The project to install new gratings on the bridge catwalk, which began on February 11, 2002, was completed on March 15, 2002.

APRIL

Award

In April 2002 the New York Association of Consulting Engineers selected the Design-Build reconstruction of the Ridge Boulevard (a.k.a. Second Avenue) and Third Avenue Bridges over Shore Road Drive in Brooklyn for an Engineering Excellence Award. The Engineering Excellence Awards Program recognizes engineering achievements that demonstrate the highest degree of skill and ingenuity. This \$7 million project, begun in April 2000, rehabilitated the two masonry arch bridges over Shore Road Drive in Brooklyn. Traffic was accommodated by providing a temporary road through parkland, reversing the entrance ramp to the Belt Parkway, and maintaining pedestrian access to the bridge. The erection of arches underneath the truss used to support the utilities was innovative and expedited the project. Another innovation was designing around the existing scroll monuments at Ridge Boulevard and cleaning them in place, thus eliminating the need to remove, clean, and reinstall them. In addition, the decision to use form liners rather than stone veneer resulted in a \$150,000 savings, while providing for a safer structure. The bridges were reopened on February 15, 2001, 13½ months ahead of the original schedule, and 1½ months ahead of the accelerated schedule.

CHRONOLOGY



Shore Road Drive Bridges

Award

In addition to the award for the Shore Drive Bridges, in April 2002, the New York Association of Consulting Engineers selected the Movable Bridge Waterway Study for an Engineering Excellence Award.

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 realistic candidates to be converted 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.

CHRONOLOGY

Hope Avenue over Abandoned Railroad (Staten Island)

This bridge was demolished and replaced with an at-grade roadway and sidewalks. The roadway was opened to traffic on April 1, 2002, almost two months ahead of schedule.

Frederick Douglass Boulevard Building Collapse (Manhattan)

On April 3, 2002, Division personnel joined the Office of Emergency Management and other agencies in the emergency response to the building collapse at Frederick Douglass Boulevard at West 123rd Street. Division ironworkers placed steel plates to stabilize the area under the sinking crane.

New Utrecht Avenue over LIRR Bay Ridge (Brooklyn)

This bridge was completed on April 12, 2002. This project was completed on schedule.

Shore Road Bridge over Hutchinson River (Bronx)

This bridge, built in 1908, was originally called the Pelham Parkway Bridge over Eastchester Bay. The \$5 million interim rehabilitation of the existing bridge superstructure and substructure will enable the Department to keep it operational for a period of 10 years while a new bridge is being designed and built adjacent to the existing bridge. The existing bridge will be demolished once the new bridge is in service. The rehabilitation project began in April 2001, and all traffic lanes were reopened to traffic on April 24, 2002, three days earlier than scheduled.

Carroll Street Bridge over the Gowanus Canal (Brooklyn)

On April 25, 2002, as part of the Agency's first annual "Take Our Children to Work Day," Bridge Operations personnel hosted a trip to the bridge. Children and parents enjoyed their visits.



Children at the Carroll Street Bridge (Credit: Gladys Santiago)

Conference

On April 29, 2002, Director of Movable Bridges Michael Hershey made a presentation on the innovations of the Harlem River Bridge reconstruction program at the American Society of Civil Engineers Metropolitan Section Structures Group 2002 Spring Seminar.

CHRONOLOGY

59 Maiden Lane (Manhattan)

The Bureau of Roadway Bridges moved to 59 Maiden Lane on April 29, 2002.

Travis Avenue over Main Creek (Staten Island)

The component rehabilitation of this bridge, which began on October 29, 2001, was substantially completed on April 30, 2002.



Travis Avenue - Structural Deck and Sidewalk Construction (Credit: Nasir Khanzada)



Travis Avenue – After Component Rehabilitation (Credit: Nasir Khanzada)

Marine Borer Project

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.

CHRONOLOGY

MAY

Carroll Street & Union Street Bridges over the Gowanus Canal (Brooklyn)

On May 2 and 14, 2002, Bridge Operations personnel hosted students from PS #321 on class trips to the Carroll and Union Street bridges. Students, teachers, and parents enjoyed their visits.

Five Borough Bike Tour

In preparation for the Five Borough Bike Tour on May 5, 2002, Division personnel repaired potholes on bridges along the route. The night before the event, they performed mechanical sweeping and debris removal, and remained on standby for any emergency repairs which might have been necessary.

Movable Bridges Workshop

The Inspection and Maintenance of Movable Bridges Workshop, part of the Cornell Local Roads Program, sponsored jointly by the Federal Highway Administration, NYCDOT, NYSDOT, and Cornell University, was held at the U.S. Customs House Building in Lower Manhattan on May 9, 2002. One hundred and forty people from twelve states attended the conference, which featured several speakers from the Division, as well as engineers from the State DOTs of Florida, Maine, New Jersey, the City DOT of Chicago, and three consulting firms. Participants had an opportunity to tour the Gowanus Canal bridges on May 10, 2002.

9th Street Bridge over Gowanus Canal (Brooklyn)

On May 9, 2002, Bridge Operations operating personnel hosted kindergarten students from PS #321 on a class trip to the bridge. Students, teachers, and parents enjoyed their visit.

Hamilton Avenue Asphalt Plant (Brooklyn)

On May 11, 2002, Division ironworkers repaired the plant's RAP chute, bins, and main drum.

Brooklyn Bridge

On May 21, 2002, Division carpenters completed the restoration and installation of fifteen benches along the walkway.

Carroll Street & Union Street Bridges over the Gowanus Canal (Brooklyn)

On May 22, 2002, Bridge Operations personnel hosted students from the Children's School on a class trip to the bridge. Students, teachers, and parents enjoyed their visit.

Brooklyn Bridge

May 24, 2002 marked the 119th birthday of the bridge.



Brooklyn Bridge Tower
(Credit: Peter Basich)

CHRONOLOGY

ASCE 150th Anniversary Celebration

On May 24, 2002, as part of the American Society of Civil Engineers' (ASCE) 150th anniversary celebration, Dr. Yanev, the Division's Executive Director of Inspections and Bridge Management, as well as a Director of the ASCE Metropolitan Section, delivered a lecture on the history of New York City bridge management.

Carroll Street Bridge over the Gowanus Canal (Brooklyn)

Cleaning and painting of the bridge was completed in May 2002.

Cross Island Parkway Bridge over Dutch Broadway—115th Avenue (Queens)

Cleaning and painting of the bridge was completed in May 2002.

Page Avenue Bridge over SIRT South Shore (Staten Island)

Cleaning and painting of the bridge was completed in May 2002.

JUNE

Award

On June 14, 2002, in recognition of his outstanding contributions to the status of the civil engineering profession, Deputy Chief Engineer Jay Patel was presented the Herbert Howard Government Civil Engineer of the Year award by the Metropolitan Section of the American Society of Civil Engineers.



Jay Patel

Hamilton Avenue Asphalt Plant (Brooklyn)

On June 1, 2002, Division ironworkers performed emergency repairs on the plant's chutes and the mixing drum.

Brooklyn Bridge & the Carroll Street Bridge over the Gowanus Canal (Brooklyn)

On June 7, 2002, the Division hosted the Society for Industrial Archeology at the Brooklyn Bridge anchorage and the Carroll Street Bridge. The Society is an organization that studies history and culture through industrial-related artifacts.

9th Street Bridge over Gowanus Canal (Brooklyn)

On June 7, 2002, Bridge Operations personnel hosted students from PS #321 on a class trip to the bridge. Students and teachers enjoyed their visit.

Williamsburg Bridge

On January 29, 2001, the North Inner Roadway of the bridge was closed for rehabilitation. The roadway was re-opened to traffic on June 10, 2002, 50 days ahead of schedule, thus earning the contractor a \$5 million incentive. The opening ceremony was presided over by Mayor Bloomberg and Commissioner Weinshall.

CHRONOLOGY



First Traffic Over the Rehabilitated North Inner Roadway of the Williamsburg Bridge

Shore Road Bridge over Hutchinson River (Bronx)

The interim rehabilitation of this bridge was substantially completed on June 17, 2002.



Shore Road Bridge over Hutchinson River (Credit: Sudhir Jariwala)

CHRONOLOGY

Rockaway Boulevard over Thurston Basin (Queens)

The component rehabilitation of this bridge was substantially completed on June 19, 2002.

7th Avenue Bridge over NYCT BMT Yard (Brooklyn)

The bridge was closed to traffic for 10 months beginning June 19, 2002, as agreed to by Community Board #7.

Guy Brewer Boulevard over Belt Parkway (Queens)

Normal travel lanes on the Belt Parkway were restored on June 28, 2002, resulting in the completion of Phases II and III of this project 57 days ahead of schedule.

Crocheron Park Pedestrian Bridge over Cross Island Parkway

Cleaning and painting of the bridge was completed in June 2002.

Richmond Avenue Bridge over Richmond Creek (Staten Island)

Cleaning and painting of the bridge was completed in June 2002.

Sunrise Highway over Laurelton Parkway (Queens)

Cleaning and painting of the bridge was completed in June 2002.

28th Avenue Pedestrian Bridge over Cross Island Parkway (Queens)

Cleaning and painting of the bridge was completed in June 2002.

Madison Avenue Bridge over Harlem River (Bronx/Manhattan)

In late June 2002, the bridge was successfully partially opened utilizing the interim drive machinery. This was the first time the bridge had opened under its own power in several years.

JULY

Steinway Street Bridge over Brooklyn-Queens Expressway (WB & EB) (Queens)

A Notice to Proceed for the reconstruction of these bridges was issued to the contractor with a start date of July 1, 2002.

Belt Parkway Bridge over Mill Basin, & Hamilton Avenue, 3rd Avenue, and 3rd Street Bridges over the Gowanus Canal (Brooklyn)

Due to a heat wave, these bridges were closed to marine traffic beginning on July 3, 2002. They were all returned to service the morning of July 5, 2002.

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

The project to replace and re-secure the vertical members of the bridge's fender system, which began on January 24, 2002, was completed on July 8, 2002.

Cypress Hills Cemetery Road (West & East) over Jackie Robinson Parkway (Queens)

The repair and replacement of the bridges' damaged metal underdeck shielding, which began on June 12, 2002, was completed by Division personnel on July 9, 2002.

Cross Bay Boulevard Bridge over Conduit Boulevard (Queens)

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of July 15, 2002.

CHRONOLOGY

Sutphin Boulevard Crane Collapse (Queens)

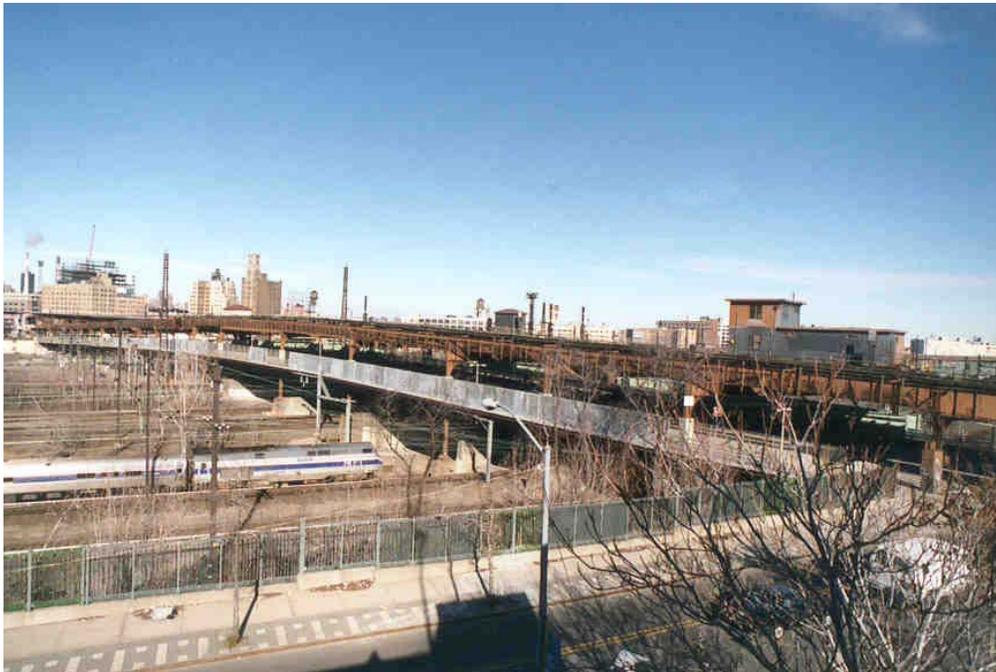
On July 15, 2002, a crane with a 170-foot boom overturned, its boom leaning against the courthouse at 88-11 Sutphin Boulevard in Queens. At the request of the Office of Emergency Management, Division engineers evaluated the bearing capacity of the street and reviewed suggested methods to remove the crane. They remained on-site until the following afternoon, when the crane was removed.

High Bridge Pedestrian Bridge over Harlem River (Bronx/Manhattan)

A Notice to Proceed for the comprehensive in-depth inspection of this Department of Parks and Recreation (DPR) landmark bridge was issued to the contractor with a start date of July 18, 2002. The resultant report will be furnished to DPR to pursue rehabilitation of the structure. Its goal is to open the historic promenade level for public use by pedestrians and cyclists and, once again, link the Bronx and Manhattan portions of High Bridge Park.

Queens Boulevard Bridge over Amtrak and LIRR Yard (Queens)

The reconstruction of this bridge was substantially completed on July 26, 2002, and the bridge was fully re-opened to traffic at 5 AM on July 31, 2002, two months ahead of schedule. The 92-year-old bridge carries motorists over the Sunnyside Rail Yards, linking Queens Boulevard to Queens Plaza. During the \$41 million project, two Manhattan-bound lanes remained open to traffic at all times. Queens-bound traffic was diverted to side streets, including Crescent Street, 27th Street and Jackson Avenue. More than 52,000 motorists used the bridge in 2000.



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

Brooklyn-Queens Expressway Railings between Brooklyn Bridge and Atlantic Avenue (Brooklyn)

Cleaning and painting of the railings was completed in July 2002.

Grand Concourse Bridge over East 170th Street (Bronx)

Cleaning and painting of the bridge was completed in July 2002.

CHRONOLOGY

Grand Concourse Bridge over East 204th Street (Bronx)

Cleaning and painting of the bridge was completed in July 2002.

Hamilton Avenue Bridge over Gowanus Canal (Brooklyn)

Cleaning and painting of the bridge was completed in July 2002.

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

Cleaning and painting of the bridge was completed in July 2002.

Markwood Road Bridge Railings over Jackie Robinson Parkway (Queens)

Cleaning and painting of the railings was completed in July 2002.

Queens Boulevard over Jackie Robinson Parkway (Queens)

Cleaning and painting of the bridge was completed in July 2002.

AUGUST

Manhattan Bridge

Effective August 1, 2002, the bridge's north upper roadway was closed for a scheduled 12-month period.



Removal of the Existing Roadway Above the North Subway Tunnel Roof on the Brooklyn Side of the Manhattan Bridge

3rd Street Bridge over the Gowanus Canal (Brooklyn)

Due to a heat wave, the bridge was closed to marine traffic beginning at 6:30 AM on July 30, 2002. It was returned to service at 6 AM on August 6, 2002.

CHRONOLOGY

Isham Park Vehicular Bridge over the Harlem River Inlet (Manhattan)

The component rehabilitation of this bridge, which began in January 2002, was substantially completed on August 13, 2002.



Isham Park – Installation of Precast Slab Panels (Credit: Nasir Khanzada)



Isham Park – Installation of Precast Slab Panels (Credit: Nasir Khanzada)

Pulaski Bridge over Newtown Creek (Brooklyn/Manhattan)

Cleaning and painting of the bridge was completed on August 19, 2002, seven months ahead of schedule.

Belt Parkway Bridge over Mill Basin, & Hamilton Avenue and 3rd Street Bridges over the Gowanus Canal (Brooklyn)

Due to a heat wave and excessive thermal expansion, these bridges were closed to marine traffic beginning on August 13, 2002. They were all returned to service on August 20, 2002.

CHRONOLOGY

Crocheron Park Pedestrian Bridge over Cross Island Parkway (Queens)

The project to replace the bridge's damaged and deteriorated handrail, which began on June 5, 2002, was completed on August 23, 2002.

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

On the morning of August 21, 2002, the sailboat "Twist of Fate" accidentally wedged beneath the bridge, its mast stuck beneath the movable span. After the bridge was raised, the NYPD Harbor Unit removed the vessel. Although Division engineers found three through-holes in the grating that needed immediate repair, they determined that the bridge was safe for vehicular traffic, and one lane of the roadway in each direction was re-opened to traffic. The necessary bridge containment structures were erected, and repairs then commenced. All repairs were completed on August 25, and the containment was dismantled on August 28, 2002.



Bridge Inspectors in Sloop Under the Roosevelt Island Bridge (Credit: Bojidar Yanev)

Hamilton Avenue Asphalt Plant (Brooklyn)

On August 24 and 31, 2002, Division ironworkers performed emergency repairs on the plant's main drum, main crusher, and mixing drum.

163rd Street Pedestrian Bridge over Hawtree Basin (Queens)

The repair and replacement of 225 feet of damaged or missing handrail, which began on August 22, 2002, was completed by Division carpenters on August 26, 2002.

Boston Post Road over Hutchinson River (Bronx)

Cleaning and painting of the bridge was completed in August 2002.

Bruckner Boulevard Overpass from 133rd to 135th Streets (Bronx)

Cleaning and painting of the bridge was completed in August 2002.

Grand Concourse over East 175th Street (Bronx)

Cleaning and painting of the bridge was completed in August 2002.

Hylan Boulevard over Lemon Creek (Staten Island)

Cleaning and painting of the bridge was completed in August 2002.

CHRONOLOGY

Myrtle Avenue Bridge over the Jackie Robinson Parkway (Queens)

Cleaning and painting of the bridge was completed in August 2002.

West 181st Street Pedestrian Bridge over Henry Hudson Parkway NB (Bronx)

Cleaning and painting of the bridge was completed in August 2002.

SEPTEMBER

NFL Kick-Off in Times Square

From September 3 to 5, 2002, at the request of the Mayor's Office of Special Events and in conjunction with the NYPD, Division ironworkers temporarily welded secure catch basins, covers, and manholes in the Times Square area in preparation for the National Football League kick-off event on the afternoon of September 5, 2002.

Special Joint Session of Congress (Financial District in Manhattan)

From September 3 to 5, 2002, at the request of the Mayor's Office of Special Events and in conjunction with the NYPD, Division ironworkers temporarily welded secure catch basins, covers, and manholes in the Financial District in preparation for the special joint session of Congress on September 6, 2002.

Marine Borer Project

In August 2002, an underwater inspection of the timber piles supporting the FDR Drive relieving platform at approximately 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.

Five Borough Century Bicycle Tour

In preparation for the September 8, 2002 Century Bicycle Tour, Division personnel inspected the route, swept, and made any necessary repairs.

Atlantic Avenue Bridges (EB & WB) over East New York Avenue (Brooklyn)

A Notice to Proceed for the reconstruction of these bridges was issued to the contractor with a start date of September 9, 2002.

Manhattan Bridge

A Notice to Proceed for the additional work for NYCT on the bridge's north side tracks was issued to the contractor with a start date of September 9, 2002.

CHRONOLOGY



Manhattan Bridge North Side Tracks (Credit: Bojidar Yanev)

Belt Parkway over Ocean Parkway (Brooklyn)

A Notice to Proceed for the design-build reconstruction of this bridge was issued to the contractor with a start date of September 12, 2002.

Willis Avenue Bridge over Harlem River (Bronx/Manhattan)

Emergency repairs to column C3 at pier 19 of the bridge began on August 9, 2002, at which point the bridge was jacked up and temporarily supported on steel columns. The project was completed on September 14, 2002, when the temporary supports were removed and the bridge was lowered.

Grand Avenue over Conrail (Queens)

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of September 16, 2002.

Henry Hudson Parkway over Pedestrian Underpass at 148th Street (Manhattan)

The component rehabilitation of this bridge, which began in June 2001, was substantially completed on September 25, 2002.

Hamilton Avenue Asphalt Plant (Brooklyn)

On September 28, 2002, Division ironworkers performed emergency repairs on the plant's mixing drum and other components.

Brooklyn-Queens Expressway Railings over Prospect Street (Brooklyn)

Cleaning and painting of the railings was completed in September 2002.

Cross Bay Boulevard over Belt Parkway (Queens)

Cleaning and painting of the bridge was completed in September 2002.

Grand Concourse over 167th Street (Bronx)

Cleaning and painting of the bridge was completed in September 2002.

Hunters Point Avenue Bridge over Dutch Kills (Queens)

Cleaning and painting of the bridge was completed in September 2002.

Stillwell Avenue Bridge over Coney Island Creek (Brooklyn)

Cleaning and painting of the bridge was completed in September 2002.

CHRONOLOGY

3rd Street over Gowanus Canal (Brooklyn)

Cleaning and painting of the bridge was completed in September 2002.

21st Street Bridge over Conrail (Queens)

Cleaning and painting of the bridge was completed in September 2002.

71st Avenue Bridge over Cooper Avenue (Queens)

Cleaning and painting of the bridge was completed in September 2002.

OCTOBER

City Island Road over Eastchester Bay (Bronx)

On October 1 and 2, 2002, Division personnel replaced the bridge's navigation lights.

West 45th Street over Amtrak (Manhattan)

The component rehabilitation of this bridge, which began on July 29, 2002, was substantially completed on October 2, 2002. This bridge was completed one month ahead of schedule.

Hamilton Avenue Asphalt Plant (Brooklyn)

On October 5, Bridge Repair crews performed emergency repairs on various plant components.

Macombs Dam Bridge over Harlem River (Bronx/Manhattan)

Stage III reconstruction of the bridge began on October 7, 2002.

Cross Bay Boulevard Bridge over Conduit Avenue (Queens)

Effective October 10, 2002, the left lane in each direction on Conduit Avenue at Cross Bay Boulevard was closed to traffic for a period of two years.

Manhattan and Williamsburg Bridges

On October 28, 2002, Dr. Yanev, the Division's Executive Director of Inspections and Bridge Management, hosted a group of Japanese engineers and academicians on a tour of the Manhattan and Williamsburg bridges.

6th Avenue Bridge over LIRR & NYCT (Brooklyn)

The reconstruction of this bridge was substantially completed on October 31, 2002.

Brooklyn-Queens Expressway West Leg over Grand Central Parkway (Queens)

Cleaning and painting of the bridge was completed in October 2002.

Grand Concourse over East Kingsbridge Road (Bronx)

Cleaning and painting of the bridge was completed in October 2002.

Grand Concourse over East 161st Street (Bronx)

Cleaning and painting of the bridge was completed in October 2002.

47th Street Bridge over Grand Central Parkway (Queens)

Cleaning and painting of the bridge was completed in October 2002.

69th Street Bridge over Brooklyn-Queens Expressway (WB) (Queens)

Cleaning and painting of the bridge was completed in October 2002.

CHRONOLOGY

163rd Street Pedestrian Bridge over Hawtree Basin (Queens)

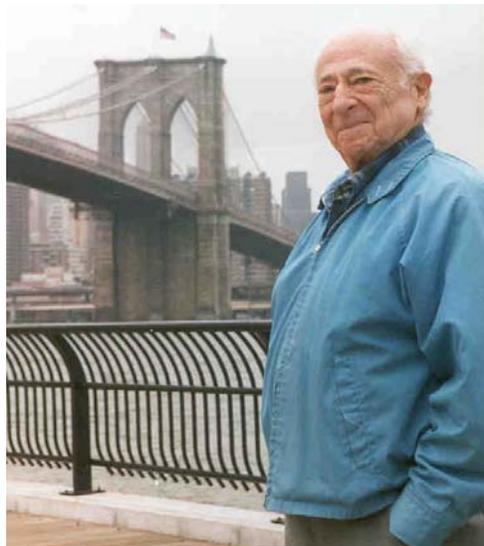
Cleaning and painting of the bridge was completed in October 2002.

Retirement of Philip Brooks

After 56 years of service to New York City as an electrical inspector, Philip Brooks retired in October 2002. Mr. Brooks began working for New York City on October 1, 1946 at the Department of Water Supply, Gas and Electricity, and continued his service over the decades at the Department of Public Works, the Department of General Services, and ultimately, beginning in 1986, at the Department of Transportation.

Mr. Brooks supervised the maintenance of roadway lighting on bridges (performed by private contractors under the jurisdiction of the Traffic Division), reviewed bridge reconstruction lighting plans, and reviewed contractor-submitted shop drawings for material and equipment to be used in bridge reconstruction. An example of the Agency's use of his expertise was the change in the lighting of the Williamsburg Bridge footwalk. The lights were being routinely vandalized to facilitate criminal attacks on pedestrians and cyclists as they crossed over the bridge. Mr. Brooks provided re-design suggestions for the lighting and pushed to have those design changes added on to an upcoming bridge construction contract. All of the old fixtures were replaced, thus increasing public safety on the walkway as expeditiously as possible.

His last project before retirement was the main bridge lighting installation on the Williamsburg Bridge, which was completed on December 10, 2002.



Philip Brooks (Credit: Peter Basich)

NOVEMBER

Guy Brewer Boulevard over Belt Parkway (Queens)

The bridge was re-opened to both vehicular and pedestrian traffic on November 1, 2002, 104 days ahead of schedule.

Brooklyn-Queens Expressway Eastbound from Atlantic Avenue to Cadman Plaza (Brooklyn)

The nighttime project to install 2,000 linear feet of new curb, which began on September 23, 2002, was completed on November 2, 2002.

CHRONOLOGY



BQE – Batching the Concrete & Form Ready for Concrete (Credit: Joseph Saverino)

Hamilton Avenue Asphalt Plant (Brooklyn)

On November 2, 15, and 25, 2002, Division ironworkers performed emergency repairs on the plant's mixing drum and other components.

New York City Marathon

In preparation for the Marathon on November 3, 2002, Division personnel readied the Queensboro, Pulaski, Willis Avenue and Madison Avenue bridges, and painters searched for and removed all graffiti. On October 30, 2002, possible roadway plate tripping hazards were corrected on the Willis Avenue Bridge. On the night before the race, lanes were prepared for runners and vehicular traffic with signs, hay bales, concrete barriers, and rubber mats over expansion joints. Some of the fencing and barriers at the Queensboro Bridge 60th Street walkway ramp were temporarily removed for access by disabled race participants. Standard configurations were restored before the morning rush hour on November 4, 2002.

2nd Avenue over LIRR Bay Ridge (Brooklyn)

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor with a start date of November 4, 2002.

Carroll Street & Union Street Bridges over the Gowanus Canal (Brooklyn)

On November 7, 2002, Bridge Operations personnel hosted first grade students from the Children's School on a class trip to the bridges. Students and teachers enjoyed their visit.

Thanksgiving Day Parade

Division engineers reviewed and approved the design specifications of four new large balloons to be introduced in the parade, as follows: Kermit, Charlie Brown, Mr. Monopoly, and Little Bill. 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 9, 2002, 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 27, Chief Bridge Officer Henry Perahia attended the balloons' inflation and checked Macy's compliance with the required anchor vehicle weights. In addition, a Division electrician assisted parade organizers with electrical installations. On November 28, the Chief Bridge Officer and two Division engineers, 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. At 4 Times Square, the building owner retracted the extended arms of the exterior lighting fixtures on the building, including the fixtures under the Motorola sign, alleviating the Division's concerns about their possible interference with the balloons. The high winds that were predicted did not materialize. Sustained winds were in the vicinity of 5 mph, and gusts did not exceed 12 mph.

CHRONOLOGY



Chief Bridge Officer Henry Perahia, DOT Commissioner Iris Weinshall, and Mayor Michael Bloomberg at the Thanksgiving Day Parade. New Charlie Brown balloon. (Credit: Mahabal Shah)

Crotona Avenue and Southern Boulevard over Bronx Pelham Parkway (Bronx)

The project to repair the sidewalks, curbs, stone wall, and handrail, which had been performed intermittently over the past two years, was completed by Division personnel on November 12, 2002. The stone wall was originally constructed in 1958. The public's safety was ensured during the repairs through the use of Jersey barriers, as well as wood and snow fencing. During the course of this project, a total of 985 cubic yards of concrete, 750 linear feet of bridge railing and 5,680 linear feet of steel curb were installed. In addition, 4500 fascia stones were removed and reset by Division masonry crews.



New Curb and Bridge Railing. New Pedestrian Ramp (Credit: Joseph Saverino)

CHRONOLOGY



View of Crotona Avenue (Credit: Joseph Saverino)

Guy Brewer Boulevard over Belt Parkway (Queens)

Removal of the temporary pedestrian bridge at Guy Brewer Boulevard was completed on November 14, 2002.

Greenpoint Avenue Bridge over Newton Creek (Brooklyn/Queens)

On November 26, 2002, Division personnel completed the repairs to the arm of the bridge's northeast semaphore gate that had broken off during high winds on November 23, 2002.

Crotona Avenue Bridge Railings over Bronx Pelham Parkway

Cleaning and painting of the railings was completed in November 2002.

Grand Concourse Bridge over East Tremont Avenue

Cleaning and painting of the bridge was completed in November 2002.

Henry Hudson Parkway Bridge over Broadway (Bronx)

Cleaning and painting of the bridge was completed in November 2002.

Van Cortlandt Park Pedestrian Bridge over Henry Hudson Parkway (Bronx)

Cleaning and painting of the bridge was completed in November 2002.

Woodside Avenue over Brooklyn-Queens Expressway (Queens)

Cleaning and painting of the bridge was completed in November 2002.

236th Street Pedestrian Bridge over Henry Hudson Parkway (Bronx)

Cleaning and painting of the bridge was completed in November 2002.

CHRONOLOGY

DECEMBER

Award

In January 1997, an eight inch water main burst beneath St. Felix Street between Hanson Place and Lafayette Street in Brooklyn. This break caused damage to a number of buildings, including partial wall collapses, building façade cracking, and stoop movement. Inspection revealed pervasive soil loss under the street bed over several blocks.

The B and D subway lines run below the street, along with numerous public and private utilities. The #2, #3, #4, and #5 subway lines and the Long Island Railroad run immediately adjacent to that area, as well. Any of these infrastructure elements could have caused or contributed to the existing soil loss.

Preliminary evidence pointed to an improper backfill created during the original subway construction in 1916. Soil borings and test pits suggested that timber was left in the ground causing huge voids below the street's surface. Over the years, the soil shifted into the voids causing water main damages.

Consequently, on February 19, 1997, in the interest of public safety, the Agency declared the situation to be an emergency, pursuant to Section 315 of the New York City Charter. Division engineers from the Design-Build section oversaw the restoration project.

Soil stabilization, drilling and grouting were completed in December 1997. Façade work began in March 1999. In the spring of 2000, the Landmarks Preservation Commission requested the full replacement of all windows for all of the houses.

These repairs were substantially completed on November 15, 2001. All remaining punchlist items were completed as of the end of April 2002. The street was stabilized and its houses restored to early 20th century landmark condition. The project provided homeowners with new facades, straight stoops, areaways and trees, lampposts, stamped colored concrete sidewalks, custom-made windows and cornices, and numerous other exterior and interior repairs.

The New York Construction News "Best of 2002 Awards Program" selected the restoration of St. Felix Street as the 2002 Rehabilitation Project of the Year.



Newly Restored St. Felix Street

East Tremont Avenue over Metro North RR (Bronx)

Stage II construction of this project began on December 2, 2002.

14th Avenue over LIRR Bay Ridge (Brooklyn)

A Notice to Proceed for the reconstruction of this bridge was issued to the contractor, with a start date of December 2, 2002.

CHRONOLOGY

Anti-Icing

In preparation for a blizzard on December 5, 2002, Division crews mobilized in the early morning hours and staffed the East River bridges by 5:00 AM. Throughout the day, a combination of plowing and spraying kept the bridges free of snow and ice, with minimal impact on vehicular traffic. After the snow ended, spray truck crews continued to stand by and monitor road conditions throughout the night, while additional crews plowed, shoveled and sanded other routes and structures. A total of 18,000 gallons of anti-icing chemicals were applied during the storm event. Crews used 15 trucks equipped with various combinations of chemical storage/dispensing tanks and sand spreaders, as well as 10 trucks equipped with plows. Supervisors' vehicles are now equipped with temperature sensors. Fifteen storage tanks for anti-icing chemicals, in close proximity to the East River bridges, are maintained at full capacity. Snow removal on overpasses continued until December 10, 2002. Icicle patrols monitored the FDR Drive, Cross-Bronx Expressway, Brooklyn-Queens Expressway promenade, and the underpasses.

Clove Road over Staten Island Expressway (Staten Island) (NYS)

On December 10, 2002, Division ironworkers replaced 20 feet of bridge rail that had been damaged in an accident on this State-owned bridge on November 5, 2002 and had been temporarily made safe at the time with Jersey barriers.

Fieldston Road over Henry Hudson Parkway (Bronx)

The component rehabilitation of this bridge, which began in October 2001, was substantially completed on December 11, 2002.

Guy Brewer Boulevard over Belt Parkway (Queens)

The reconstruction of this bridge, which began on July 9, 2001, was substantially completed on December 12, 2002.

Williamsburg Bridge

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 New Pedestrian Walkway
(left side of photo)

CHRONOLOGY

Belt Parkway Bridge over Mill Basin (Brooklyn)

A Notice to Proceed for the emergency median construction project on this bridge was issued to the contractor with a start date of December 23, 2002.

Anti-Icing

Beginning on the night of December 24, 2002, Division crews working 12-hour shifts were mobilized at all four East River bridges, deploying a total of 24 anti-icing vehicles. At approximately 4:00 PM on December 25, the rain quickly turned to moderate-to-heavy snow accompanied by severe winds, making driving conditions dangerous. Shortly thereafter, spraying and plowing started on the four bridges and continued until 1:00 AM, roughly an hour after the snow stopped. The crews then began snow removal on the East River bridge pedestrian walkways and "priority one" overpasses throughout the City. 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.

New Year's Eve

At the request of the Mayor's Office of Special Events, Division ironworkers temporarily welded shut all manholes in the Times Square area on the nights of December 26, 27, and 30, 2002, in preparation for New Year's Eve.

Borden Avenue Bridge over Dutch Kills (Queens)

Cleaning and painting of the bridge was completed in December 2002.

Grand Concourse Bridge Railings over East 138th Street (Bronx)

Cleaning and painting of the railings was completed in December 2002.

Henry Hudson Parkway Entrance and Exit Ramp Railings at 96th Street (Manhattan)

Cleaning and painting of the railings was completed in December 2002.

Steinway Street Bridge Railings over Brooklyn-Queens Expressway (WB & EB) (Queens)

Cleaning and painting of the railings was completed in December 2002.

Pedestrian Bridge near Union Turnpike over Abandoned LIRR (Queens)

Cleaning and painting of the bridge was completed in December 2002.

37th Street Bridge over Brooklyn-Queens Expressway (Queens)

Cleaning and painting of the bridge was completed in December 2002.

44th Street Bridge over Grand Central Parkway (Queens)

Cleaning and painting of the bridge was completed in December 2002.

49th Street over Grand Central Parkway (Queens)

Cleaning and painting of the bridge was completed in December 2002.

79th Street Pedestrian Plaza Railings over 79th Street Boat Basin Garage (Manhattan)

Cleaning and painting of the railings was completed in December 2002.

Hamilton Avenue Asphalt Plant (Brooklyn)

In December 2002, Division ironworkers removed the plant's severely damaged mixing drum and installed a replacement.

CHRONOLOGY

Cross Bay Boulevard Bridge over Conduit Boulevard (Queens)

Installation of both the east and west temporary pedestrian bridges at Cross Bay Boulevard over North and South Conduit Boulevard was completed in December 2002.