New Jersey Turnpike Authority

MEMORANDUM

TO: James S. Simpson
Commissioner, NJ Department of Transportation &
Chairman, NJTA

FROM: Veronique Hakim
Executive Director, NJTA

RE: 2011 Capital Investment and Project Plan

DATE: November 30, 2010

N.J.S.A. 27:23-3.2(c) requires that "prior to December 1 of each year, the Authority shall prepare and file with the Commissioner a Capital Project and Investment Plan that details proposed transportation projects and proposed work on existing transportation projects that further the goals of attaining coordinated and integrated Statewide and regional transportation systems…", thus, I respectfully submit the 2011 New Jersey Turnpike Authority Capital Project and Investment Plan ("Plan").

This Plan has been prepared in accordance with the directives outlined in the statute and demonstrates the Authority's continued commitment to operating safe, efficient, and well-maintained roadways that serve as an integral part of the regional transportation network and bolster the State's economy through the creation of jobs on large-scale projects included in the Authority's $7 billion Capital Program.

I am pleased to submit this Plan to you and proud to lead the Authority at this exciting and ambitious time in its history.

Enclosure

New Jersey Turnpike Authority

2011 Capital Project & Investment Plan

2011

Capital Project & Investment Plan

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December 2010

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Introduction

The construction of the New Jersey Turnpike and Garden State Parkway sparked a period of unparalleled economic growth in New Jersey. When the toll roads opened to traffic in the 1950s, they enabled New Jersey to participate fully in the prosperity of post-war America. At a time when the state highway system was perilously close to gridlock, the toll roads created in New Jersey the highway capacity necessary to accommodate 110 consecutive months of economic growth.

The toll roads remain an essential element in our state's prosperity today. With the sea ports, airports and interstate highways, the Turnpike and Parkway are part of a transportation network that is New Jersey's most distinctive advantage in the global economy. They are critical to the flow of goods and people between population and employment centers in New Jersey and just beyond in New York City and Philadelphia. They are links in the vital corridor that connects the cities of the East Coast.

Operating and maintaining the Turnpike and Parkway in such a way that they continue to fuel the economy of our state is a core strategic mission of the New Jersey Turnpike Authority ("the Authority"). That goal has a particular urgency at a time when the national economy continues to struggle.

This Strategic Plan Update & Capital Investment Plan for 2011 represents the Authority's blueprint for fulfilling that core goal and others. It updates the multi-year capital plan adopted by the Authority in 2008 and the corresponding financing programs.

This report is presented pursuant to NJSA 27:23-3.2, which requires the Authority to submit certain reports to the Governor, the Chairs of the Senate and General Assembly Appropriations Committees and the Director of the Division of Budget and Accounting in the Department of Treasury. This strategic plan is mandated under paragraph (c): "Prior to December 1 of each year, the Authority shall prepare and file with the Commissioner a Capital Project and Investment Plan that details proposed transportation projects and proposed

NJTA mission statement

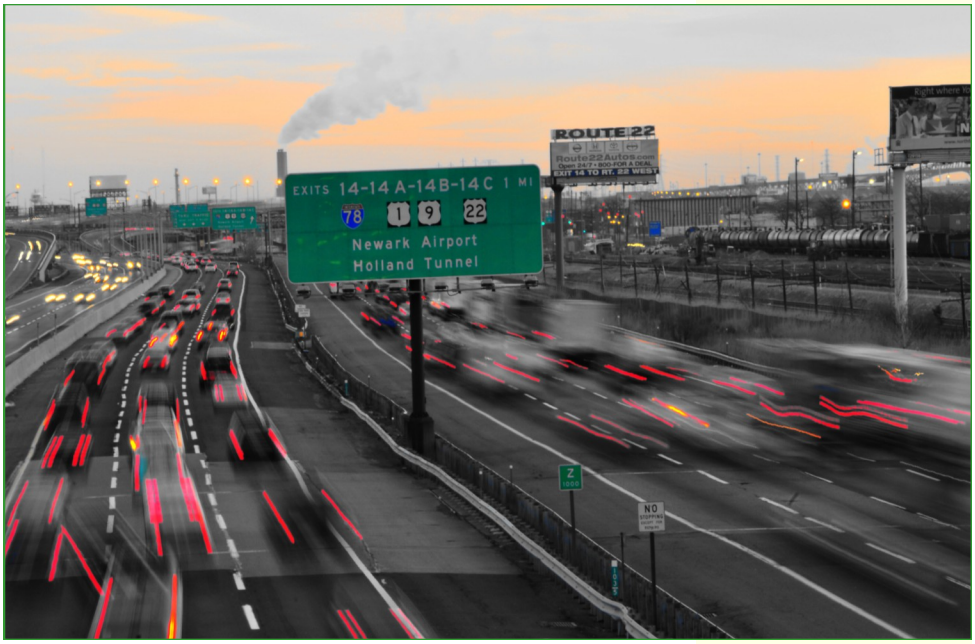
The New Jersey Turnpike Authority is dedicated to the safe, efficient movement of people and goods over two of the busiest toll roads in America, the New Jersey Turnpike and the Garden State Parkway. Our highways are a critical link in the transportation network of the Northeastern United States and the safest, quickest and most convenient route for hundreds of thousands of commuters, truckers and recreational travelers every day.

work on existing transportation projects that further the goals of attaining coordinated and integrated Statewide and regional transportation systems. The plan shall address, among other matters, the interconnection of the New Jersey Turnpike and the Garden State Parkway with other transportation systems. The plan should also consider the impact of an improved transportation system on the State's economy. …"

The projects described in this report are interrelated with the Capital Plan of the New Jersey Department of Transportation (NJDOT) and are included in the Statewide Transportation Improvement Plan.

Financed through bond proceeds backed by future toll revenue, the spending in the Capital Plan represents considerable investment in the future of our state. It includes large projects that will add lanes to the Turnpike and Parkway and smaller ones that will expand interchanges, rehabilitate bridges or deploy new technologies. The work will create jobs and strengthen New Jersey's economy.

The projects described in this report are organized around the benefits they offer to the Authority's customers and to other residents of our state. Many of the Authority's capital projects offer more than one benefit. Indeed, nearly all of them could be classified as "economic development." But for the purpose of organizing this report, projects are grouped by the primary benefit they offer into one of the following categories: congestion management; consolidating services and operational support; infrastructure maintenance; safety; environmental compliance and Green Corridor initiatives; and economic development.



The Turnpike connects New Jersey to the world by providing highway access to the major cities of the East Coast, along with convenient access to rail lines, the ports of Newark and Elizabeth and Newark Liberty International Airport.

2011 Capital Investment Plan
GSP Interchange 168 Improvements
GSP Interchanges 157 to 161 Improvements
TPK Widening Interchanges 16W to 18W
GSP Interchanges 154 and 155P Roadway Improvements
TPK Interchange 16E-18E Bridge Improvements
GSP Watchung Avenue Bridges Replacement, Milepost 152.4
TPK East Hackensack River Bridge Rehabilitation
GSP Interchanges 141, 142(I-78) and 145 Improvements
Newark Bay-Hudson County Extension Bridge Redecking
TPK Interchange 10 Improvements
TPK Interchange 9 Improvements
TPK Interchange 14A Reconstruction
TPK Interchange 8A to Rt. 130 Connection
GSP Interchange 125 Improvements
TPK Widening Interchanges 6 to 9
GSP Interchange 91 Improvements Burnt Tavern Road
GSP Interchange 88 Improvements
GSP Widening Interchanges 63 to 80
GSP Mullica River Bridge Widening/Redecking, Milepost 49
GSP Bass River Bridge Widening & Replacement
GSP Interchange 44 Improvements
GSP Patcong Creek Bridge Widening and Rehabilitation, Milepost 31
GSP Interchange 41 Improvements
GSP Grade Separation Improvements, Interchanges 9, 10 and 11
MORRIS
ESSEX
UNION
MIDDLESEX
MERCER
MONMOUTH
OCEAN
BURLINGTON
CAMDEN
GLOUCESTER
SALEM
ATLANTIC
CUMBERLAND
CAPE MAY
PARKWAY
TURNPIKE
Bridge Deck Rehabilitation & Replacement
Bridge Rehabilitation & Replacement
Highway Operational Improvements - Large
Major Widenings
Missing Links

Congestion Management

Widening the New Jersey Turnpike

Turnpike Widening Timeline

2005	Preliminary engineering/ Environmental Impact study completed
2009	Permits issued by New Jersey Department of Environmental Protection
2009	Ground breaking ceremony held at Interchange 8 Maintenance Yard in East Windsor
2014	Projected completion date

Traffic volumes on the New Jersey Turnpike continue to increase steadily, but the increase between Interchanges 6 and 8A has been dramatic. The volume in that area today is nearly double the 1990 volume; as a result, drivers who use the Turnpike in that area have experienced more frequent periods of traffic congestion in recent years.

If ignored, the problem would likely get worse. Between 2005 and 2032, population and employment numbers in central New Jersey are expected to increase by 17.5 percent and 28.2 percent respectively. The volume of goods moving from Port Newark and Port Elizabeth will continue to grow. Expansions at the Port of NY/NJ and growth at Newark Liberty International Airport will also contribute to increased traffic along the roadway. By 2032, southbound traffic volume is expected to increase by 92 percent and northbound traffic volume by nearly 68 percent. New Jersey has simply outgrown that section of the highway.

Widening the road between Interchanges 6 and 9 will ease the burden for the commuters and commercial drivers who sit in heavy traffic in that area nearly every day.

The Turnpike widening program will be the largest expansion of Turnpike capacity since the roadway opened in 1951, adding an additional 170 lane miles to the 35-mile stretch of roadway between Interchanges 6 in Mansfield Township, Burlington County, and 9 in East Brunswick, Middlesex County. This project will add three lanes in each direction between Interchanges 6 and 8A and one lane to the outer set of lanes in each direction between Interchanges 8A and 9. The project is scheduled to be completed by 2014.

The Authority anticipates awarding a total of 28 construction contracts for the widening program. By the end of 2010, the Authority expects to have awarded 26 of those contracts with a construction value of approximately $1.4 billion. The final two contracts will be awarded

This photo illustration shows how the Turnpike will look near Interchange 7 when the widening program is complete.

in 2011.

Congestion relief on an artery as important as the Turnpike provides an economic benefit to New Jersey; improving the flow of goods and the mobility of the state's workforce reduces the cost of operating here and makes New Jersey more attractive to business. Moreover, the widening program will provide a significant direct economic benefit by creating and sustaining thousands of jobs in the construction and consulting industries.

Widening the Garden State Parkway

The Garden State Parkway Widening Program, when complete, will add one travel lane in each direction and full-width shoulders on both sides of the road between Interchange 30 in Somers Point and Interchange 80 in Toms River. One hundred new lane miles will be added to the Parkway over an area that passes through 14 municipalities in Ocean, Burlington and Atlantic counties.

The construction of Phase I of the widening began in 2009 and continued in 2010. Construction of the new Mullica River Bridge crossing progressed steadily through the year and is expected to be completed in December. Work on the three roadway contracts between mileposts 63 and 80.3 also continued. The first phase of the widening is scheduled to be completed by the summer of 2011.

The design of Phase II also continued through 2010. The Authority selected three design firms to develop plans for widening from Interchange 48 to 63, one firm to develop plans to widen and rehabilitate the Bass River Bridge at milepost 51.9, one firm to develop plans to widen and rehabilitate the Patcong Creek Bridge

The first phase of the Garden State Parkway widening includes a third lane of travel in each direction between mileposts 63 and 80, the rehabilitation and construction of the Mullica River Bridge and the installation of high-speed E-ZPass at the Barnegat Toll Plaza (pictured below)

Parkway Widening Timeline

2003	**Preliminary engineering completed**
2008	**Environmental permitting completed; work begins on Mullica River Bridge**
2009	**Work begins on 63-80 widening**
2010	**New Mullica River span to be completed**
2011	**Work on 63-80 widening to be completed; Phase II construction to begin based on availability of funding**
2012	**Rehabilitation of existing Mullica River Bridge span to be completed**

at milepost 31.0 and one firm to complete grading and drainage improvements from Interchange 30 to 48. Phase II continues to be supervised by a program management team.

The estimated cost for the full widening project, from Interchange 30 to Interchange 80, is $900 million, with construction costs accounting for approximately $690 million of that total. Only Phase I of the widening project is fully funded at this time.

The Authority is sensitive to the need to protect both the fragile Pinelands habitat along the roadway and the scenic character of the road itself. As such, we have worked closely with the New Jersey Department of Environmental Protection, the New Jersey Pinelands Commission and other governmental entities to ensure that the project meets their standards. A majority (70%) of the land for the new lanes will be taken from the median; thus, the widening will be accomplished almost entirely inside the existing GSP right-of-way. The environmental mitigation requirements for the entire Interchange 30 to 80 program were met with the purchase and preservation of 743 acres of property to address impacts to threatened and endangered species habitat and wetlands.

The widening will benefit both drivers who use the Garden State Parkway to get back and forth from weekend trips or summer vacations at the Shore and the year-round residents who depend on the road for commuting and other everyday purposes. A widened roadway will speed their trips by easing congestion.

The widening program will also improve public safety. This section of the roadway would serve as the main evacuation route for the heavily populated coastal counties in the event of a hurricane or other major storm. Increasing capacity on the roadway will help decrease evacuation times.

Traffic is using all four lanes of the existing Mullica River Bridge while a new span is being built alongside it.

Consolidating services & Operational Support

The Statewide Traffic Management Center (STMC) continues to function as the nerve center of New Jersey's highway system. Operations personnel from the Authority, NJDOT and the New Jersey State Police work side by side as they monitor highways around New Jersey, including our toll roads. Images from traffic surveillance cameras and data from other sources are delivered to the STMC in Woodbridge over the Turnpike Authority's 440-mile fiber optic network.

During a 2010 snow emergency, Governor Christie met with the media at the STMC in Woodbridge.

There is a clear advantage to having personnel from all three agencies working in a single location. New Jersey's transportation system is complex and interdependent. An incident on a road operated by NJDOT could affect traffic on one or more of the toll roads and vice versa. Working under the same roof improves communication among the agencies and enables the operations personnel to better manage incidents that have the potential to disrupt traffic on more than one roadway.

Most of the traffic information available to the motoring public emanates from the STMC. That information is delivered in many ways – by telephone, email or text message, on the Web or on variable message signs along the highways, over the Highway Advisory Radio system or over the radio, television or Web outlets of traditional media companies. Cooperation between the Authority and NJDOT enables both agencies to provide more timely and accurate traffic information.

That cooperation also leads to efficiencies. In November 2010, the Authority made available a **free iPhone application** that enables motorists to get traffic alerts on their phones without ever taking their eyes off the

Two-hundred and twenty Variable Message Signs will be installed along the Turnpike and Parkway at a cost of $175 million.

road. The application, known as Trumpit, provides alerts not only for incidents on the Turnpike and Parkway, but also for any road in the state highway system. Though it is an Authority initiative, NJDOT is able to offer the benefits of Trumpit to those who travel on its roads, too.

Likewise, when NJDOT developed a system for displaying estimated travel times on its 511nj.org Web site in 2010, it included the Turnpike and Parkway, thus sharing the benefits of that initiative with the Authority's customers.

With the purchase of servers, digital assistants, networking hardware, fiber connectivity, and major software packages, the Authority continues to maintain the most **up-to-date technology infrastructure** for our Operations personnel.

The Authority continues to dedicate funds for various **Intelligent Transportation Systems projects** and for studies in support of our Real-Time Traffic Information System. The work includes the replacement of variable message signs along the toll roads and the design of a new changeable message system.

The Authority will also purchase **core software** for the STMC to improve the flow of information to and from an operator's console. The software will automatically detect traffic events and provide intelligent response plans. It will also forecast impending traffic congestion. The Authority is also developing a Lane Closing System that will automate the complex traffic-permitting and lane-closure paper process used by operations personnel. That system is likely to be deployed in 2011.

To complement the information provided by the STMC, the Authority will continue to upgrade its Web-enabled viewer for GIS, video log imagery and straight-line diagrams. Monitoring wells and utilities will be added to the system in 2011, as will an environmental documents management module and accident statistics.

To improve the flow of information to the STMC, the Technology and Administrative Services Department is developing an Authority-wide **common network** for data, voice, radio, and video information. This uniform network will be comprised of fiber, wireless, and digital microwave components to facilitate interagency data sharing and provide an efficient, cost-effective highway for our vital information.

Infrastructure Maintenance

The Authority's mission is to provide for the safe and efficient movement of people, goods and information over the Turnpike and Parkway. With roadways and facilities that date back more than a half-century, making investments today to maintain our infrastructure is essential to fulfilling that mission. With the annual Maintenance Reserve Program and multi-year Capital Plan in place, the Authority continues to invest in maintaining, rehabilitating and rebuilding infrastructure to improve the safety and reliability of our system.

The Newark Bay Bridge (foreground) will be redecked under one contract awarded in 2010 and another scheduled to be awarded in 2011.

As part of the Maintenance Reserve Program, in 2010 the Authority awarded four **bridge repair and resurfacing contracts** totaling over $27 million dollars.

These contracts primarily addressed bridge deck repairs, resurfacing, and miscellaneous structural repairs. The contracts included repairs to 54 Parkway bridges and 47 Turnpike bridges.

In 2011 the Authority plans to award four more contracts under the Maintenance Reserve Program for the repair and resurfacing of bridges. The contracts will include 45 Parkway bridges and 51 Turnpike bridges.

In 2010 under the Capital Program, the Authority awarded a $6 million dollar construction contract for the repainting of the Turnpike's **Raritan River Bridges** (Basilone Memorial Bridges) and a $94 million dollar construction contract for bridge deck reconstruction, miscellaneous structural, roadway, and lighting improvements on the Turnpike's **Newark Bay Bridge and Approaches** (Casciano Memorial Bridge).

In addition, the Authority awarded a design contract for the development of contract documents for a Parkway Substructure & Miscellaneous Structural repairs and for the preliminary engineering and permitting for the

replacement of the Parkway's **Great Egg and Drag Channel Southbound bridges**.

For 2011, the Authority plans to award contracts for the following projects:

- Bridge deck reconstruction on the Turnpike's westbound **Newark Bay-Hudson County Extension** from the Holland Tunnel to Interchange 14C. Estimated project cost $70 million.
- Bridge deck reconstruction, seismic retrofit, and repainting of the Turnpike's **Easterly Hackensack River Bridge**. Estimated project cost $150 million.
- Widening and rehabilitation of the Parkway's **Bass River Bridge.** Estimated project cost $80 million;
- Rehabilitation of the Parkway's **Mullica River Bridge.** Estimated project cost $25 million;
- Replacement of the Parkway's **Watchung Avenue bridges**. Estimated project cost is $15 million.
- Substructure and superstructure repairs on **other Parkway bridges.** The estimated project cost is $10 million;
- Security improvements on **major bridges.** Estimated project cost $50 million;

- **Bridge perimeter security**. Estimated project cost $6 million.

In addition, the Authority plans to award the following design contracts:

- Phase two of the bridge deck reconstruction on the **NBHCE** from Interchange 14 to the Casciano Memorial Bridge;
- Bridge deck reconstruction on **high priority Parkway and Turnpike bridges**;
- Repainting of the Turnpike's **Delaware River**

Major improvements will be made to the Turnpike's Easterly Hackensack River Bridge under a contract scheduled to be awarded in 2011.

Bridge and Parkway's **Driscoll Bridge**;

- Detailed **vulnerability assessments** and conceptual seismic retrofit design for routine bridges.

The often-patched Watchung Avenue Bridges over the Parkway will be replaced under a contract scheduled to be let in 2011.

The preservation of the Authority's roadway system also includes an **annual pavement restoration and resurfacing** effort. The 2,500 lane miles that make up the New Jersey Turnpike and Garden State Parkway infrastructure consist of bare-concrete and asphalt-overlaid bridge decks, which are maintained as part of the annual bridge maintenance and repair program; concrete lane pavement; and asphalt pavement. The annual pavement restoration and resurfacing program operates on an annual budget of $20 million with $10 million apiece spent on the Parkway and Turnpike.

Typically the program will award two resurfacing contracts per roadway. At that budget amount, the Authority is able to resurface approximately 70 lane miles on each roadway annually.

In 2010, the Authority's Board of Commissioners authorized four cost sharing agreements between the Turnpike Authority and the NJDOT for **improvements to feeder roads** that connect to the New Jersey Turnpike and the Garden State Parkway. In consideration of the benefit of these improvements to the Turnpike Authority, the Authority will invest a total of $101 million between 2010 and 2011. The funding for these agreements has been secured in the Authority's Supplemental Capital Fund.

The projects include:

- Structural repairs to **Route 495, Route 1 & 9/ Paterson Plank Road Bridge** in the amount of $62,605,000. Route 495 provides direct access from the Lincoln Tunnel to the Turnpike at Interchange 16E/18E;
- Structural repairs to **Route 46/Hackensack River Brid**ge in the amount of $18,400,000. Route 46 provides access to the Route 95 section of the Turnpike;
- Intersection improvements at **Route 168 and Benigno Boulevard** in the amount of $3,700,000. Route 168 provides direct access to the Turnpike at Interchange 3;
- Resurfacing of **Route 78 from Milepost 53.7 to 58.5** in the amount of $16,295,000. This project is located at Route 78's interchange with the Garden State Parkway and is an extension of work included in the Parkway's Interchange 142 project.

These funds represent the New Jersey Turnpike Authority's share of the construction costs for these four projects.

Safety

The Turnpike and Parkway both have notable records of achievement in highway safety. The number of fatal accidents as a share of vehicle miles traveled has fallen sharply on both roads over the past half century. The toll roads are an important reason why New Jersey's highways are statistically among the safest in the nation every year.

Providing safe roads to our customers is a core strategic value of the Authority. While we are proud of our record, we strive every year to invest in capital projects and initiatives to make our roadways even safer.

To that end, the Authority began a **Median Barrier Improvement Program** in on the Parkway in 2010. The improvements made under the program will help prevent deadly cross-median crashes by replacing deteriorated and substandard median barriers. The program will continue in 2011 with the final design and construction of median barrier between mileposts 141 and 150.

Construction is expected to begin in 2011 on the **Parkway Mainline Shoulder Improvement Program**. The program is designed to improve safety on the Parkway between mileposts 84 and 100. That stretch of the roadway currently has reduced shoulder widths and substandard lane widths. When this project is completed, the road will have 12-foot wide shoulders over the entire section. Wider shoulders contribute to highway safety in several ways. They allow disabled vehicles to pull safely out of the traffic lanes. They enable ambulances, fire trucks and other emergency services vehicles to reach the scene of a crash more quickly. And they afford a greater margin of error to drivers whose vehicles for one reason or another leave the highway.

State Police Troops D and E are charged with enforcing the law on our roadways - Troop D on the Turnpike and Troop E on the Parkway. While the two troops are being consolidated in January 2011, policing levels will be maintained for both roadways. In 2010, the Authority made significant **investments in tools to help the State Police do their jobs**. Purchases included 142 state police vehicles, 100 mobile digital video recorders and 125 E-Ticketing scanner kits.

In 2010, the Authority

Fatalities per million vehicles

Year	Turnpike	Parkway
1969	.52	.16
1979	.30	.13
1989	.18	.07
1999	.10	.09
2009	.10	.06

also began construction on the **Herbertsville Bus & Truck Inspection Facility.** That facility will enable State Police to conduct more efficient, full Level 1 inspections of the buses and trucks that travel on the Garden State Parkway. When complete, the facility will have four bays with lighted and ventilated pits. (Trucks, in excess of 10,000 pounds, are not permitted north of Exit 105 on the Garden State Parkway). Construction also began in 2010, for the new Holmdel Vehicle Maintenance Facility; a 4,500-square-foot facility with three bays which will service the State Police vehicle fleet. Both projects are expected to be completed in mid-2011.

Repairing deteriorated median barriers like this one helps prevent deadly crossover crashes.

The Authority awarded the first contract in 2010 in the **Replacement of Variable Message Signs Program**. Five other contracts will follow. The VMS will be installed at key decision points along the Turnpike and Parkway. The current program includes the installation of 220 signs at a cost of approximately $175 million.

To keep the roadway system open in safe conditions during the winter months, the Authority relies upon a fleet of heavy vehicles to enable our maintenance employees to do their jobs safely and effectively. During severe snowstorms, the Authority may be plowing and spreading salt with up to 271 of its own trucks at any one time. (The NJTA's fleet is augmented by contractors' equipment during heavy snow storms.) To maintain our ability to keep our roads clear during winter storms, we make regular **investments in our fleet.**

Under ideal conditions, 10 to 15 percent of a fleet must be replaced every year due to the lifecycle of heavy-duty vehicles.

In 2010, the Authority was able to order 30 replacement dump trucks, which during the warmer months are used for large maintenance projects as well as roadway construction projects for which asphalt and other products are needed. Other vehicles in our fleet include bulldozers, derrick diggers, post pounders and loaders. Several light duty trucks were also purchased for use in routine maintenance, litter patrols and a variety of other maintenance projects.

In order to ensure the safety of our employees and the traveling public, the Authority purchased traffic control signs for use by maintenance for routine roadway projects, lane closures or other emergencies.

In 2011, the Authority will continue to upgrade our heavy-duty fleet with vehicles that will not only meet the increased needs of the Au-

Environmental Compliance & Green Corridor Initiatives

The Authority initiated a "Green Corridor" program in 2009 to comply with State air quality requirements and greenhouse gas reduction initiatives.

The Authority continues its efforts to find energy alternatives and energy efficiencies in all new and existing construction activities, as well as in existing operations and maintenance practices and procedures.

An **energy audit** of the Authority's infrastructure including maintenance yards, service areas and other facilities has been completed resulting in the identification of a multitude of improvements that can be implemented to reduce energy usage. This wide-ranging audit also included recommendations on whether various types of renewable energy production would be environmentally feasible and financially advantageous on Authority property.

In 2011, the Authority will continue its Green Corridor initiatives with capital funding dedicated to the **remediation of environmental contamination** from prior releases of petroleum products caused by leaking underground storage tanks and piping. All such contamination has been identified and is either being actively remediated or monitored to ensure that sensitive environmental receptors are protected.

Additionally, the Authority will complete a **multi-year underground storage tank upgrade program** in 2011 to protect against future releases of petroleum products into the environment.

The Authority will continue to fund the **rehabilitation and replacement of non-functioning and substandard storm drainage systems** in 2011. The work will include the drainage system improvements necessary to comply with current NJDEP storm water regulations. Moreover, the Authority will continue to **install vehicle wash water reclamation systems** at various roadway maintenance yards to ensure that vehicle wash water does not contaminate local streams or waterways.

The Authority is in the process of reviewing technical specifications for light-emitting diode (LED) light fixtures with the ultimate goal of **replacing all existing roadway lighting with LED fixtures**. The LED fixtures use a fraction of the energy required by current fixtures and last up to 10 years. It is anticipated that LED fixtures will be approved for use some time in 2011. After that, all new lighting installations will use this efficient technology. The result will be lower energy and maintenance costs and a reduction in greenhouse gas emissions.

Economic Development

The Turnpike and Parkway are essential to the movement of people and goods within New Jersey and beyond. The Authority's capital plan includes projects critical to the state's transportation infrastructure. Each project represents an investment in the growth of commerce and the mobility of the workforce. The most notable of these projects are the widenings of the Turnpike and the Parkway, which were described earlier in this report. There are several other projects that will have significant impact on the economic growth and vitality of New Jersey.

Spending on design and construction sustains existing jobs and creates new ones.

Projects on the **Garden State Parkway** include the following:

Interchange 142. This project will improve connection between the Parkway and Interstate 78. The interchange is situated on the northern border of Union County in the Townships of Hillside and Union. Through a joint effort between the Authority, NJDOT and the Federal Highway Administration, new ramp connections are being built from the Parkway southbound to I-78 eastbound and from the Parkway northbound to I-78 westbound. The project also provides for other operational improvements, including additional capacity from I-78 westbound to the Parkway and elimination of a weaving condition for traffic entering the Parkway from I-78. The Authority anticipates that all construction will be complete on the GSP Interchange 142 Improvement Project in early 2011.

Interchange 88. Final design for improvements to Interchange 88 began in 2009 and continued in 2010. These improvements will consist of construction of service roads connecting the existing Interchange 89 ramps to a full interchange at Interchange 88 with new entrance and exit ramps located within

the southeast and southwest quadrants of the Route 70 (Brick Township / Lakewood) / Garden State Parkway intersection. The existing Interchange 88 ramp tolls are to be eliminated as part of the improvement, with all toll collection occurring at the existing Interchange 89 ramp toll plaza. The Interchange 89 toll plaza will be expanded to account for the increase in vehicular use and will consist of a combination of new conventional toll lanes plus a free-flow E-ZPass toll lane at each ramp plaza. These improvements are necessary to accommodate existing and future traffic volumes at these interchanges as well as on the surrounding local roadways. The Authority anticipates awarding the construction contract for Interchange 88 improvements in mid-2011. The estimated construction cost is approximately $40 million.

Interchange 125. This project will improve access between the Parkway and Chevalier Avenue in Sayreville, Middlesex County. Final design and environmental permitting began in 2010 and will continue through 2011. The improvements will generally consist of the construction of new southbound exit and northbound entrance ramps to improve access between the Parkway and Chevalier Avenue.

The Interchange 125 improvements include the widening of Chevalier Avenue to accommodate the anticipated increase in traffic volumes generated by the redevelopment of the former National Lead site as follows improvements at the intersection of the Main Street Extension with Chevalier Avenue and the new southbound exit ramp; improvements at the intersection of Chevalier Avenue with the existing northbound exit ramp; construction of a new northbound entrance ramp from Chevalier Avenue; construction of a new toll plaza on the proposed southbound exit ramp; and replacement of the northbound and southbound Parkway bridges over Chevalier Avenue, due to existing horizontal and vertical clearance deficiencies. The Authority anticipates that all permitting and final design work will be completed in late 2011 with award of a construction contract in early 2012. The total cost for the Phase I improvements at Interchange 125 is $40 million.

The Interchange 142 project will complete the interchange between Route 78 and the Garden State Parkway

Interchanges 41 and 44. This project will construct a new Interchange 41 in Galloway Township, Atlantic County,

and improve the existing Interchange 44. Motorists currently treat the Atlantic City Service Area as a de facto interchange by using its service road to provide access between the Parkway and Jimmie Leeds Road. This cut-through movement presents a potentially hazardous condition to Service Area patrons. If no improvements are made, this hazard could grow in coming years when the expansion of nearby Stockton College creates additional travel demand at this location. The service area is located at about milepost 41.4.

The planned improvements for Interchange 41 consist of new exit and entrance ramps, two new signalized intersections and two new lanes in each direction on Jimmie Leeds Road with center turning lanes. The existing Interchange 44 at Pomona Road includes a southbound exit ramp and northbound entrance ramp. The Interchange 44 improvements consist of a new northbound exit ramp and southbound entrance ramp located within the northeast and northwest quadrants and replacement of the existing local road structures over the Parkway. The Authority anticipates final design of improvements to Interchanges 41 and 44 to begin in early 2011, at an estimated cost of $50 million.

Interchange 91. This project, which is being done jointly with Ocean County, will complete the interchange between the Parkway and Burnt Tavern Road in Brick Township. It will include the construction of a new southbound Parkway entrance ramp and northbound Parkway exit ramp. These interchange improvements will improve traffic flow, relieve congestion on local roads and enhance traffic safety. Final design is expected to be completed in 2011.

Other interchange improvements. A recent study of interchanges on the northern Garden State Parkway performed by our consultant recommended projects at several interchanges to improve the movement of traffic by upgrading the geometry to current standards. The interchanges are 141, 145, 154, 155P, 157, 161 and 168. Construction contracts are currently under design for those improvements. The design of these improvements is underway. Construction contracts will be awarded in 2011, and all work will be completed within 12 months of award.

Projects on the **New Jersey Turnpike** include the following:

Interchange 16E/18E. This project will widen the bridge that connects Route 495 out of the Lincoln Tunnel to Turnpike Interchange 16E/18E. The bridge will provide three lanes approaching the toll plaza to ease congestion and improve traffic flow from the Tunnel. Construction is expected to be completed in 2011.

Newark Bay Bridge deck replacement. The concrete deck on the Newark Bay Bridge along the Newark Bay Hudson County Extension (NBHCE) is being replaced with precast concrete deck panels. This is the first time the precast panels are being used on a major Turnpike structure. A second bridge deck replacement on the NBHCE, scheduled to begin in late 2011, will re-

place the bridge deck on the westbound viaduct between the Holland Tunnel and Interchange 14C.

Interchange 14A. This project will address existing deficiencies at Interchange 14A and accommodate significant ongoing development in Jersey City and Bayonne, Hudson County. The development includes the commercial and residential build-out of The Peninsula at Bayonne Harbor (formerly MOTBY) as well as a significant expansion of port operations planned by The Port Authority of New York and New Jersey and Global Terminal and Container Services, LLC. Design is currently underway. The interchange improvements are anticipated to be completed by the end of 2015.

Interchange 8A. This project will help to alleviate traffic congestion in the area caused by the large volume of trucks leaving the Turnpike and using Route 32 to reach Route 130, a major corridor between New Brunswick and Camden. When completed, this project will ease the burden on local motorists by providing improved access from the Turnpike directly to Route 130.

Other interchange improvements. Improvements at Interchanges 9, 10, 15W and 16W will improve safety and enhance the operational characteristics at these interchanges. Construction is expected to begin in 2011.

Warehouse and distribution facilities are concentrated along the Turnpike near Interchange 8A. They are an important source of jobs for New Jersey residents.

Capital Investment Plan

The Authority's Capital Investment Plan is comprised of four funds: the Construction Fund, the Supplemental Capital Fund, the Maintenance Reserve Fund and the Special Project Reserve Fund.

The Capital Investment Plan includes large capital projects financed through bonds and smaller projects financed primarily through toll revenues. The smaller projects are ones that address essential system preservation, maintenance and operating requirements.

Please note that projects included in this plan are fiscally unconstrained; therefore, this investment plan is subject to available funding.

The **Construction Fund (CF)** includes amounts from Turnpike Revenue Bonds for large capital construction projects. These projects include major reconstruction and maintenance of roads, bridges and facilities. Construction Fund projects improve operations, expand capacity, and in

CIP Funding Requirements

10-year Spending Projections

Fund	Estimated Funding Requirements (2010 Dollars)
Construction Fund	$7,000,000,000*
Supplemental Capital Fund	$380,000,000**
Maintenance Reserve Fund	$785,000,000
Special Project Reserve Fund	$400,000,000
Total	**$8,565,000,000**

* Includes New Bond Money
** Does not include any contributions made to the State.

many cases, create economic development opportunities. Projects funded through the CF are defined at the time the bonds are issued (life-to-date budget).

The Turnpike Widening Program, which is included in the CF, involves the construction of 58 new structures and the modification of 36 existing structures.

The projects in the CF are included in the 10-year, $7 billion capital investment program adopted by the Authority in October 2008. This program is comprised of approximately 35 projects. They include large construction projects like the Turnpike and Parkway widening and ongoing, smaller-scale projects.

Amounts in the **General Reserve/ Supplemental Capital Fund** are used for capital projects not funded by bond proceeds, small- to medium-sized pay-as-you-go projects, extraordinary events, or other corporate purposes including any annual contributions to the state.

The **Maintenance Reserve Fund** contains annual operating revenue funds to preserve the toll system's roadways and bridges to certain standards – major or cyclical maintenance – including pavement resurfacing and restoration, and bridge replacement, repairs, or reconstruction. Projects to be funded through the Maintenance Reserve Fund are recommended, on annually by the Chief Engineer with the concurrence of the General Consulting Engineer and approved by the Executive Director and Board of Commissioners (annual budget).

The **Special Project Reserve Fund** contains annual operating revenue funds to be applied to the cost of all types of projects not considered ordinary or routine, including preliminary planning and studies; safety improvements; repairs and renovation of buildings and other facilities; maintenance of equipment and vehicle fleet; and improvements in administrative, tolls and communication systems. Projects to be considered for funding through the SPRF are submitted by the department directors annually. Funding availability is confirmed by the Finance Department prior to forwarding the summary of projects to the Executive Director for consideration. The final list of projects to be funded is determined by the Executive Director and presented to the Board of Commissioners for approval.

New Jersey Turnpike Authority
Capital Budget Projects

Listed below are 10-year spending projections for the three non-Capital Program funds. The spending is broken down to illustrate projected spending in specific areas within each fund.

Maintenance Reserve Fund		
Bridge Repairs		$ 510,000,000
Resurfacing		$ 275,000,000
	10 Year Projection	$ 785,000,000

Special Project Reserve Fund		
Environmental		$ 60,000,000
Technology Improvements		$ 70,000,000
Facility Improvements		$ 30,000,000
Fleet		$ 95,000,000
Roadway Improvements		$ 125,000,000
Other		$ 20,000,000
	10 Year Projection	$ 400,000,000

Supplemental Capital Fund		
Facility Improvements		$ 70,000,000
Technology Improvements		$ 70,000,000
Fleet		$ 70,000,000
Extraordinary Snow Removal Costs		$ 100,000,000
Roadway Improvements		$ 70,000,000
	10 Year Projection	$ 380,000,000

New Jersey Turnpike Authority
Capital Program

Description

Turnpike Widening

The project involves the construction of 3 additional lanes, both northbound and southbound, between interchanges 6 and 8A, a distance of approximately 25 miles. The project also includes the addition of one lane between interchanges 8A and 9. Upon completion, the widening project will result in 6 mainline lanes being provided between interchanges 6 and 9. In addition, the project will include interchange improvements within the project limits as determined to be necessary to meet traffic demands in the design year of 2032.

Parkway Widening

This project provides for a third travel lane with full shoulders in each direction of the Parkway and E-Zpass/One Way Southbound Tolls at the Barnegat Toll Plaza. Three (3) individual design and construction contracts will provide for widening the 17 mile section in both travel directions of the Parkway, new sign structures, ten bridge replacements, realignment of the Parkway at the Barnegat Toll Plaza to provide for the elimination of tolls in the northbound direction and Express E-ZPass operation in the southbound direction and a new Toll Utility Building located on the Southbound side.

Bridge Improvement

This project provides for the Parkway Mullica River Widening/Redecking, Parkway Bass River Bridge, Newark Bay Hudson County Extension (NBHCE) Bridge Redecking, Turnpike Hackensack Easterly Bridge Rehabilitation, Interchange 16E to 18E Bridge Improvement, Tremley Point Connector Road, Bridge Preservation and Security, Deck Reconstruction Phase 1 and 2, Parkway Substructure Repairs, Bridge Painting Phase 1 and 2, and Turnpike Specialized Bridge Structure Work.

Interchange Improvement

This project provides for the Parkway Interchange 142 Improvement, Parkway Interchange 125 Phase 1, Parkway Interchanges 9, 10, & 11 Improvements, Turnpike Interchange 8A to Route 130 Connection, Parkway Interchange 44 Improvements, Parkway Interchange 41 Improvements, Turnpike Interchange 14A Reconstruction, Parkway Interchange 88 Improvements, and Parkway Interchange 91 Improvements.

Roadway Improvement

This project provides for the Parkway Mainline Shoulder Improvements, Turnpike/Parkway Southern Improvements (Atlantic, Burlington, Camden, Cape May, Gloucester, Salem Counties), Improvements of Roadway Appurtenances (Safety Improvements), Drainage improvements, Sign Replacements Phase 1 and 2, Median Barrier Improvements, and Turnpike Widening from Interchanges 16W to 18W.

Toll Plaza & Building Improvement

This project provides for Facilities Improvements Phase 1 and 2 which includes inspection, assessment and implementation of the remedial measures necessary to bring 50+ year old Toll Utility Buildings, Toll Plaza and Maintenance Buildings on both roadways into compliance with current building codes and operational standards.

NEW JERSEY TURNPIKE AUTHORITY
Capital Program

Project Number	Project Name	Original Plan	Current Cost Estimate	Completed To Date	% Complete
Turnpike Widening					
3xx18001	Turnpike Int 6-9 Widening	$ 2,500,000,000	$ 2,300,000,000	$ 500,000,000	21.7%
Parkway Widening					
3xx28018	Widening GSP Int 63 - 80	200,000,000	220,000,000	165,000,000	75.0%
Bridge Improvement					
3xx01008	Bridge Painting Phase I	100,000,000	100,000,000	40,000,000	40.0%
3xx01010	Deck Reconstruction Phase I	150,000,000	150,000,000	21,700,000	14.5%
3xx01011	Bridge Preservation & Security	265,000,000	265,000,000	2,000,000	0.8%
3xx11002	Int 16E-18E Bridge Improvement	15,000,000	15,000,000	12,800,000	85.3%
3xx11012	TP Hackensack East Bridge Rehab	135,000,000	190,000,000	3,600,000	1.9%
3xx11025	NBHCE Bridge Redecking	250,000,000	250,000,000	16,800,000	6.7%
3xx11028	TP Special Bridge Structure	15,000,000	15,000,000	2,500,000	16.7%
3xx12026	Tremley Point Connector Road	125,000,000	125,000,000	4,400,000	3.5%
3xx21004	Parkway Bass River Bridge	125,000,000	125,000,000	6,250,000	5.0%
3xx21015	Pky Mullica River Bridge	75,000,000	92,000,000	60,720,000	66.0%
3xx21020	Parkway Substructure Repairs	20,000,000	22,000,000	8,000,000	36.4%
3xxx1033	Deck Reconstruction Phase II	350,000,000	350,000,000	-	0.0%
3xxx1034	Bridge Painting Phase II	150,000,000	150,000,000	-	0.0%
		1,775,000,000	1,849,000,000	178,770,000	9.7%
Interchange Improvement					
3xx13005	TP Int 8A to Rte 130 Connect	100,000,000	100,000,000	412,000	0.4%
3xx23006	Pky I/C 41 Improvements	25,000,000	25,000,000	179,000	0.7%
3xx23007	Pky I/C 142 Improvements	45,000,000	45,000,000	34,700,000	77.1%
3xx23009	Parkway Int 44 Improvements	25,000,000	25,000,000	102,000	0.4%
3xx23022	Parkway Int 9, 10 & 11 Improve	125,000,000	125,000,000	12,500,000	10.0%
3xx23024	Parkway Int 125 Phase I	40,000,000	40,000,000	705,000	1.8%
3xx13027	TPK Int 14A Reconstruction	500,000,000	250,000,000	2,000,000	0.8%
3xx23029	GSP I/C 88 Improvements	50,000,000	50,000,000	1,000,000	2.0%
3xx23030	Parkway Int 91 Improvements	50,000,000	50,000,000	128,000	0.3%
		960,000,000	710,000,000	51,726,000	7.3%
Roadway Improvement					
3xx02003	Drainage Improvements	50,000,000	50,000,000	4,100,000	8.2%
3xx02016	Imp Roadway Appurtenances	30,000,000	37,000,000	22,000,000	59.5%
3xx02017	Median Barrier Improvements	85,000,000	85,000,000	22,600,000	26.6%
3xx22023	Parkway Mainline Shoulder Imp	250,000,000	250,000,000	12,500,000	5.0%
3xx06014	Sign Replacements Phase I	100,000,000	150,000,000	3,100,000	2.1%
3xx06019	Sign Replacements Phase II	175,000,000	175,000,000	17,000,000	9.7%
3xx09036	Turnpike/Parkway So Improve	100,000,000	100,000,000	1,000,000	1.0%
3xx18032	Turnpike Widening Int 16W to Int 18W	200,000,000	200,000,000	-	0.0%
		990,000,000	1,047,000,000	82,300,000	7.9%
Toll Plaza & Building Improvement					
3xx05013	Facilities Improvements Phase I	300,000,000	300,000,000	11,200,000	3.7%
3xx03035	Facilities Improvements Phase II	275,000,000	275,000,000	7,400,000	2.7%
		575,000,000	575,000,000	18,600,000	3.2%
	Total Capital Program Costs	7,000,000,000	6,701,000,000	996,396,000	14.9%