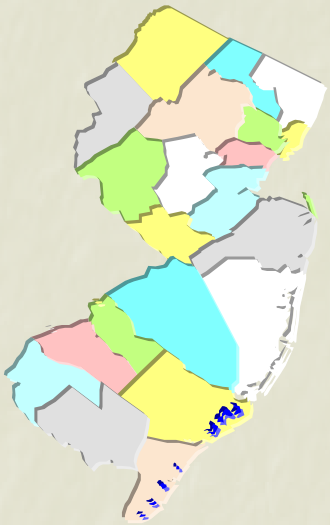
FY 2008 - 2012
Statewide
Capital Investment Strategy

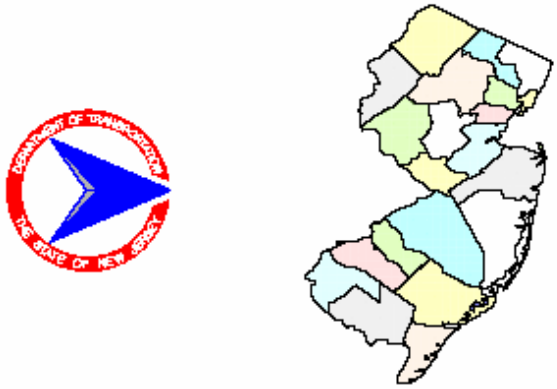


…performance-based decision-making

March 30, 2007

Governor Jon S. Corzine Commissioner Kris Kolluri, Esq.

Capital Investment Strategy Fiscal Years 2008-2012



Governor Jon S. Corzine **Commissioner Kris Kolluri, Esq.**

Table of Contents

Executive Summary

The FY 2008-12 "Capital Investment Strategy"

What is a Capital Investment Strategy (CIS)?

The New Jersey Department of Transportation's Capital Investment Strategy (CIS) is seeking to provide a cost effective approach to formulating and implementing the state's Fiscal Year 200*8* Transportation Capital Program into the next decade. Within the context of NJDOT's Draft Long-range Transportation Plan (LRTP), the State Development Redevelopment Plan (SDRP) and the Governor's "Economic Growth Strategy" Policy, the Capital Investment Strategy is a performance-based decision-making tool used to develop investment options for major transportation program categories based on goals, objectives and performance measures. It provides strategic direction in the formulation of the capital program. This asset management approach uses program level performance analyses. It demonstrates to stakeholders how well current and proposed capital programs perform over time subject to alternative investment scenarios to achieve the following goals:

- Safety First
- Fix It First
- Congestion Relief
- Smart Growth
- Inter-modal Efficiency
- Environmental/Quality of Life
- Economic Development Opportunities

Statutory goals set out in the Congestion Relief and Transportation Trust Fund Renewal Act of 2000 is discussed in this report as well.

The Capital Investment Strategy (CIS) Task Force

The Capital Investment Strategy for Fiscal Years 2008 – 2012 was guided by a CIS Task Force and subcommittees represented by a collaboration of various NJDOT, NJ TRANSIT, FHWA, MPOs, NJ Turnpike and SJTA staff. The mission of the CIS Task Force was to produce a Capital Investment Strategy report that:

- Clearly depicts the current and predicted condition of New Jersey's transportation system.
- Outlines recommended investment patterns, based on alternative funding scenarios, which can be used to guide the development of NJDOT, NJ TRANSIT and Toll Road Authority capital programs.
- Presents a needs analysis that documents the investments required to meet New Jersey's needs in the 21st Century.

- Makes clear policy and action recommendations.
- Represents a consensus of the CIS Task Force and subcommittee members.

The CIS Report

The first section of the report describes the capital investment strategy for programs funded by the New Jersey Department of Transportation (NJDOT). The second and third sections describe the capital investment strategy for NJ TRANSIT, New Jersey Turnpike Authority and the South Jersey Transportation Authority.

NJDOT section groups programs into nine areas:

- Safety Management
- Bridges Preservation
- Roadway Preservation
- Congestion Relief
- Multi-modal (including goods movement, maritime and aviation needs)
- Local Aid (including County and Municipal Aid as well as other special programs)
- Economic Development
- Environmental/Quality of Life (including bicycle needs)
- Capital Program Support

An investment strategy is provided for each program area shown above and is presented as follows:

- Introduction
- Capital Investment Strategy Recommendations and Guidelines
- Goals, Objectives and Performance Measures
- Program Categories
- Current Conditions
- Meeting the Need: FY2008- FY2012 Management System Performance Analysis
    - FY2007 CIS Program Category Allocation and Projected Performance
    - Projected Output – proposed projects (next 5 yrs.)
    - Project Prioritization
    - Alternative Investment Scenarios

The CIS lays out capital investment goals for the New Jersey Department of Transportation and the NJ TRANSIT. This report is a companion document to the Governor's Proposed Capital Program for Fiscal Year 2008. The Proposed Capital

Program details the projects to be funded during the next fiscal year. The Capital Investment Strategy discusses the goals and longer-term strategy behind those project choices.

The Capital Investment Strategy is based on the same funding assumptions as the Proposed Capital Program and the draft multi-year program: that state and federal funding will continue at roughly current levels (an annual total of $3.2 billion for both NJDOT and NJ TRANSIT) into the future. There is no guarantee that these assumptions will be realized.

As detailed program discussions in this report will show, increased investment levels are required in many areas to meet program goals, improve the mobility of our citizens, and assure the soundness of our transportation infrastructure. The CIS uses specific performance measures to calculate capital program achievement against annual target allocations for each investment objective. Performance measurement and management system data (for bridges, pavement, safety and congestion etc.) are used to link the selection of projects for capital funding with broad program objectives. Bridge projects, for example, are selected for funding based on their contribution to the current objectives that focus on reducing or eliminating the backlog of structurally deficient bridges on the state highway system over the next 10 years. "Performance analyses" are developed to evaluate how well present and proposed capital programs perform in meeting this and other objectives.

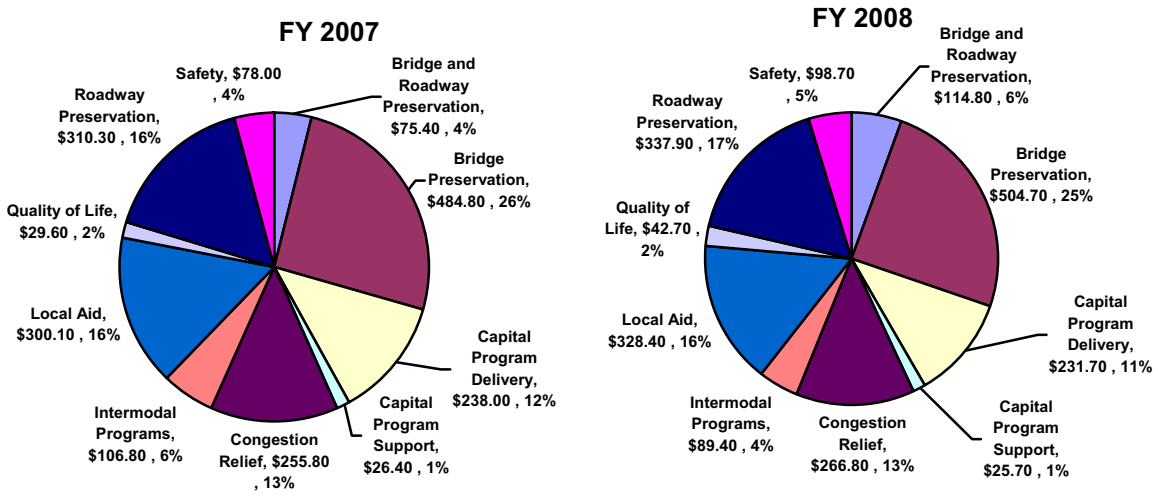
For example, the CIS enables the Department to predict the status of pavement conditions of the state highway network expressed in terms of "percent deficient" for roughness or surface distress. The analysis demonstrates to what extent the Five-Year Capital Program maintains a status quo pavement quality condition level or reduces deficiency and slows down future accruing deterioration. This evaluation, in turn, can be compared to a "total need" scenario that is an investment level higher than the current Five-Year Capital Program. The CIS can also assist in determining the number of future resurfacing and roadway reconstruction problem statements which must be introduced into the project development pipeline in order to continue the flow of work needed to address future pavement preservation.

The CIS Task Force held various meetings and formed nine subcommittees to develop investment strategy guidelines for each of the program category areas above. A revenue projections meeting was also held by NJDOT to discuss anticipated capital resource levels for the FY 2008-FY 2011 STIP. This meeting in effect, functioned as a CIS Financial Subcommittee. Most projects and programs funded by NJDOT can be classified into one of the areas listed above, but it is important to note that many projects serve more than one purpose. A highway rehabilitation project may include intersection improvements that relieve congestion bottlenecks. A bridge replacement project may provide improved sight distance and other measures that enhance safety.

For some program areas, NJDOT's capital investment strategy methodology has developed to the point that quantitative assessments can be made of the effect of different funding levels on the future condition of elements of the transportation system as described above.

Every capital program involves the making of choices and tradeoffs. As the Capital Investment Strategy and the Proposed Capital Program both demonstrate, NJDOT is committed in the near future to focusing investments on the most efficient use of funding for the purpose of optimizing the system to achieve the greatest possible rate of return. As a result, in order to implement our mission, "Improving Lives by Improving Transportation," the FY 2008-2012 Capital Investment Strategy (CIS), as an asset allocation, performance-based tool, makes the following funding allocation recommendations that call for:

CIS Program Category Allocations
FY07-FY08 Comparison



- ☑ **Continue highest priority investment for "Safety First" and "Fix It First"** under the various system preservation programs.
- ☑ **New Focus** on the importance of the direct link between transportation investments, economic growth and the quality of life for New Jersey citizens
- ☑ **Safety Management -** *Increase Investment Levels* – to at least maintain the current performance indicator conditions to reduce fatality and injury severity rates; promote diversification of solutions to achieve more effective strategies and new programs for safety based on a comprehensive interagency partnership approach that includes a combination of: Engineering, Education, Enforcement and Emergency service response (the 4 E's) actions.

- ☑ **Bridge Preservation and Roadway Preservation -** *Increase Investments Levels* – due to the overwhelming need for bridge and roadway preservation focusing on implementing a life-cycle cost approach that completes life-extension treatments including preventive maintenance, rehabilitation and selective replacements to sustain infrastructure until full reconstruction/replacement projects are financially achievable.
- ☑ **Congestion Relief –** *Increase Investment Levels* – Target congestion relief treatments on mitigating key traffic bottlenecks and implementing innovative strategies, including land use patterns (NJFIT: New Jersey Future in Transportation) and Intelligent Transportation Systems (ITS) approaches, designed to increase reliability, reduce delay and increase mobility in the most efficient manner.
- ☑ **Inter-modal Programs -** *Continue Current Investment Levels* - Target resources more efficiently for the enhanced performance of multi-modal transportation programs including goods movement, maritime and aviation improvements. While all transportation improvements are critical to enhancing the vitality of the economy, these programs, in particular, are directly linked to advancing the state's Economic Growth Strategy.
- ☑ **Local Aid Programs -** *Continue Current Investment Levels* **-** Improve performance of all Local Aid transportation programs moving forward to meet the goals and objectives.
- ☑ **Environmental/Quality of Life** – *Continue Current Investment Levels* - Implement improvements in the most environmentally sound manner consistent with NJDOT's Long-range Transportation Plan and the State Development Redevelopment Plan.
- ☑ **Economic Development –** *Increase Current Investment Levels* **-** Target funding for specific economic development related improvements.
- ☑ **Other Programs -** *Continue at or near Current Investment Levels* – Target other programs needed to achieve the overall goals and objectives set in NJDOT's Long-range Transportation Plan.

Second, the Capital Investment Strategy calls for the tremendous need to grow core transit system capacity to serve ambient market growth and new customers. Increasing rail capacity along the Northeast Corridor into Midtown Manhattan is the keystone of future capacity.

In addition to increased capacity of rail and bus right of way, the Capital Investment Strategy calls for expanded commuter parking, the creation of new regional inter-modal park & rides, and expanded rail fleet and yard capacity.

Finally, the CIS also calls for selective service expansions that work with and fully complement prior investments.

NJ TRANSIT's Capital Investment Strategy will guide transit investments in New Jersey for the next ten years. Implementing the CIS will deliver an improved transit system to the state, one of greater reach, reliability and level of service.

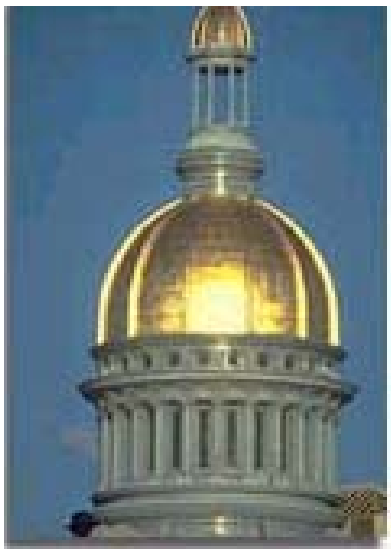
An executive summary of the FY08 New Jersey Turnpike Authority Capital Investment Plan is provided in that agency's section of this report.

Introduction

Transportation Investment & New Jersey's Economic Growth Strategy

The Capital Investment Strategy (CIS) sets out the overall *strategy* that NJDOT follows for investing capital transportation dollars for transportation improvements in the future. In a time of multiple competing needs and limited capital, the CIS seeks a cost-effective return on public investments. It tells us how we can get more "bang for our buck". It enables NJDOT, the Metropolitan Planning Organizations, and the Legislature to make informed decisions about which projects and programs receive funding. The result is a cost-effective approach to improving the overall quality of New Jersey's transportation system.

NJDOT's CIS is a performance-based decision-making tool used to develop investment options for major program categories and provides strategic direction in the formulation of the FY 2008-2012 Capital Program. The CIS provides alternative investment scenarios that include outputs (in terms of prospective project lists) and outcomes (in terms of system condition) for high, medium, and low investment levels. Performance analyses are developed to show policy-makers and other stakeholders how well current and proposed capital programs perform over time to reach the established goals.



On September 7, 2006 Governor Corzine unveiled an economic growth strategy for the State of New Jersey. The purpose of this strategy is to develop an economic growth environment throughout New Jersey that benefits all cities and regions creating new financial opportunities for all citizens of the state. The Governor stated:

"Today I am unveiling a strategy to support the growth of companies that will make New Jersey the best place to live, work and raise a family. Through the intelligent management of our state resources, we will create a stronger and more stable business environment for businesses to grow, prosper and create jobs."

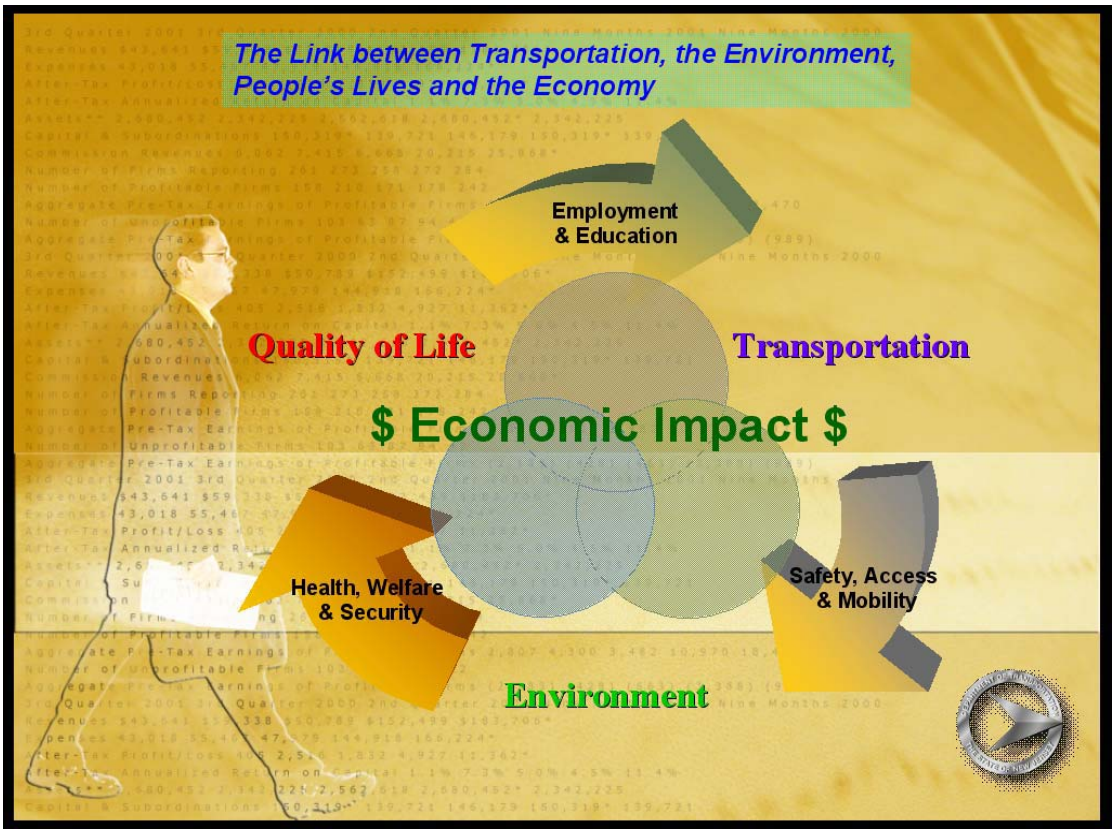
In an effort to implement the Economic Growth Strategy, the Governor has identified six priorities and corresponding action steps for growing New Jersey's economy. Priority #3 links directly to investments in transportation infrastructure:

To remain competitive, the state needs to upgrade its infrastructure with strategic investments designed to encourage economic growth and improve the quality of life of the state's residents. This must include providing job opportunities where people live and providing access to jobs through investments in transportation.

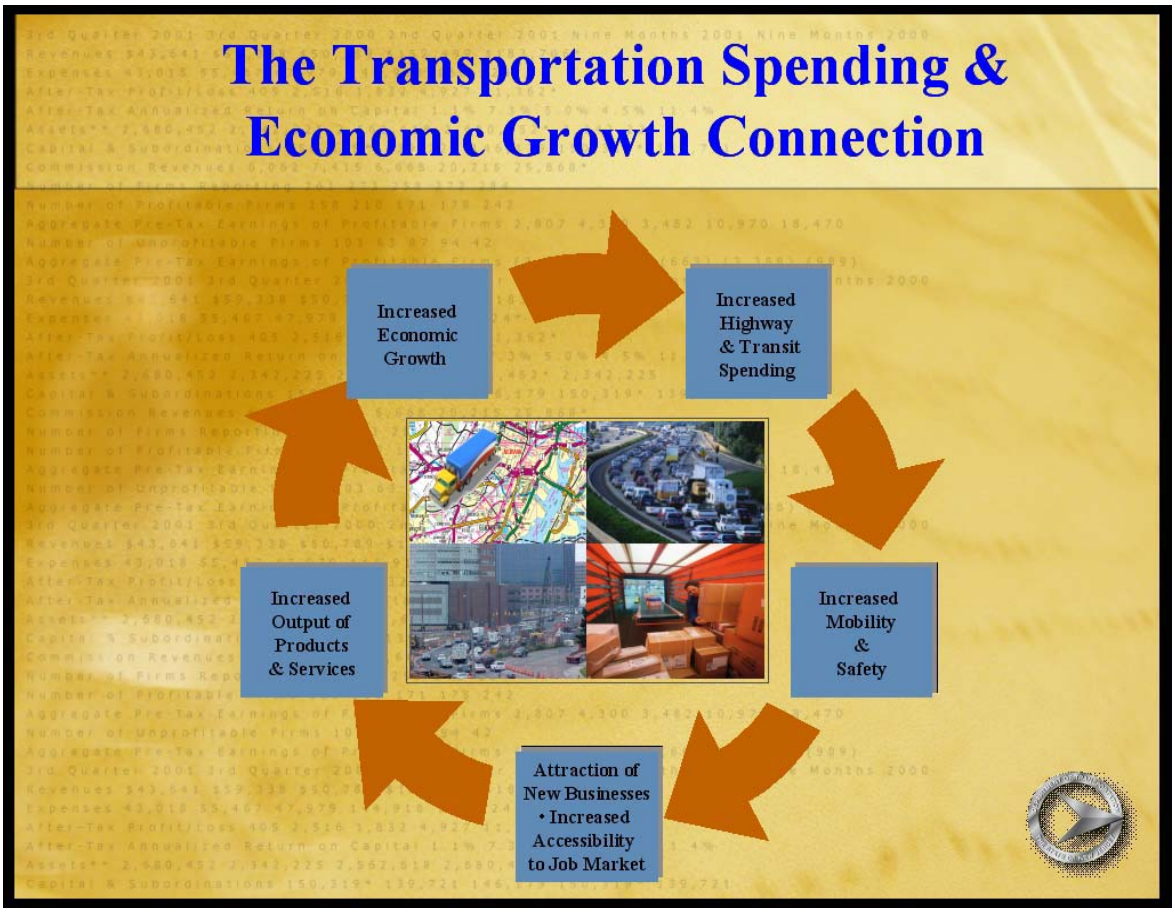
Economic Growth Strategy for the State of New Jersey ~ 2006

"Promote sustainable growth with a particular emphasis on the state's cities and make strategic infrastructure investments to support economic growth while protecting the environment."

This priority focuses on the need to direct economic growth especially to cities where Governor Corzine will also continue to implement his "Economic Growth Strategy." One part of the Strategy calls for infrastructure investments to support economic growth. NJDOT will do its part to implement this Strategy and increase economic growth and opportunities. The link between transportation, the environment, quality of life and the economy can be illustrated as follows:



Transportation investments in our cities play a key role in attracting and maintaining businesses and residents that help to revitalize our urban centers by rebuilding the socio-ecomonic and cultural foundation as places to live, work, do business, and visit. An example of the connection between transportation investment and economic growth can be illustrated as follows:



"A modern, efficient highway system is essential to meet the needs of our growing population, our expanding economy, and our national security." … President Dwight Eisenhower, 1955

The highways themselves—designed for the needs of the middle of the 20th century—are often substandard, deteriorated, and ill-suited to meet the needs of the 21st century. Nevertheless, these roads carry huge amounts of traffic and represent enormous economic investment. One of NJDOT's top priorities is restoring deficient parts of this network to a state of good repair and maintaining the entire system at the best possible level of condition. New Jersey currently has an immense investment in its highway infrastructure. As noted in the state's Long-range Transportation Plan:

"New Jersey has already invested billions of dollars in its transportation infrastructure; protecting this investment remains the state's highest priority."

NJDOT's mission statement is "Improving Lives by Improving Transportation". By pursuing our long-range goals and objectives, NJDOT's CIS provides guidance for the formulation of a capital program that pursues essential transportation investments vital for the improvement of New Jersey's economy and the quality of life of its citizens while minimizing harm to the environment.

For example, the economic impact of traffic on communities and commuters is evident everyday as people travel to and from work, school, shopping, and recreation. It is important to select transportation investments for highway and pedestrian safety, congestion relief, bridge and roadway preservation, environmental and intermodal improvements on both the state and local highway networks to fulfill critical transportation goals and objectives:

- Safety First
- Fix It First
- Congestion Relief
- Smart Growth
- Inter-modal Efficiency
- Environmental/Quality of Life
- Economic Development Opportunities

Internationally, New Jersey serves as a global gateway for the world economy. The distribution of goods to, from and within New Jersey is extremely dependent upon the physical status of the roadway infrastructure. With regard to the world

***Congestion** is one of the single largest threats to our economic prosperity and way of life.*

Whether it takes the form of trucks stalled in traffic, cargo stuck at overwhelmed seaports, or airplanes circling over crowded airports, congestion is costing America an estimated $200 billion a year.

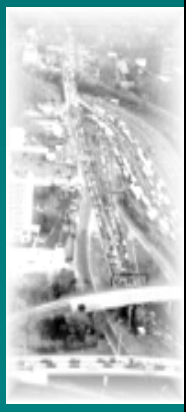
Each year, Americans lose 3.7 billion hours and 2.3 billion gallons of fuel sitting in traffic jams and waste $9.4 billion as a result of airline delays.

Worse, congestion is affecting the quality of Americans lives by robbing them of time that could be spent with families and friends.

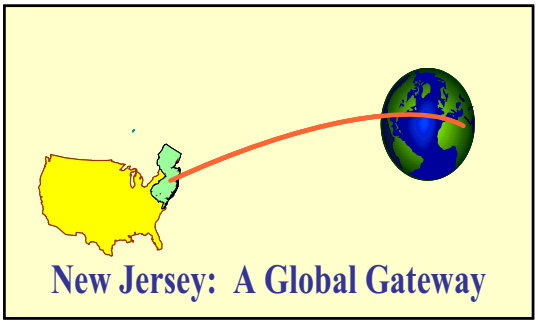
Norman Y. Mineta
U.S. Secretary of Transportation
May 2006

~ Excerpt from the National Strategy to Reduce Congestion on America's Transportation Network ~



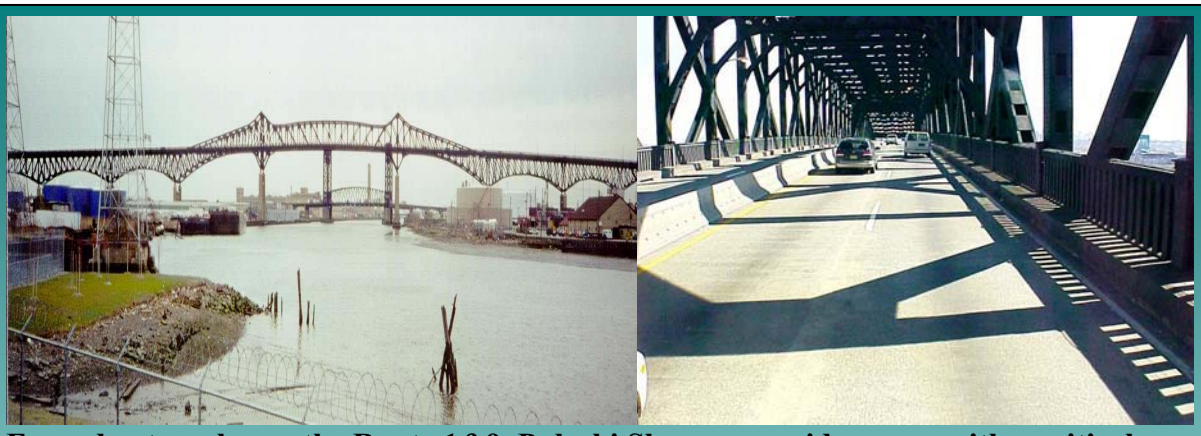


economy, transportation investment in New Jersey also functions to drive another important aspect of our economy. Maintaining and upgrading the structural integrity and surface condition of the state's highway network as well as safety and congestion relief is mandatory for economic growth. One of the keys to building and sustaining a strong economy is to minimize the cost of transporting people and goods by maintaining transportation systems that are efficient, well-planned, and in a state of good repair.



NJDOT FY 2008-2012 CIS serves as a key mechanism to assist in the implementation of the Economic Growth Strategy as well as for the advancement of other important policies. In an effort to develop the FY 2008-2012 Capital Program, the Capital Investment Strategy (CIS) was used to select the best, most efficient investments, subject to funding constraints, that at least preserve and sustain our transportation network.

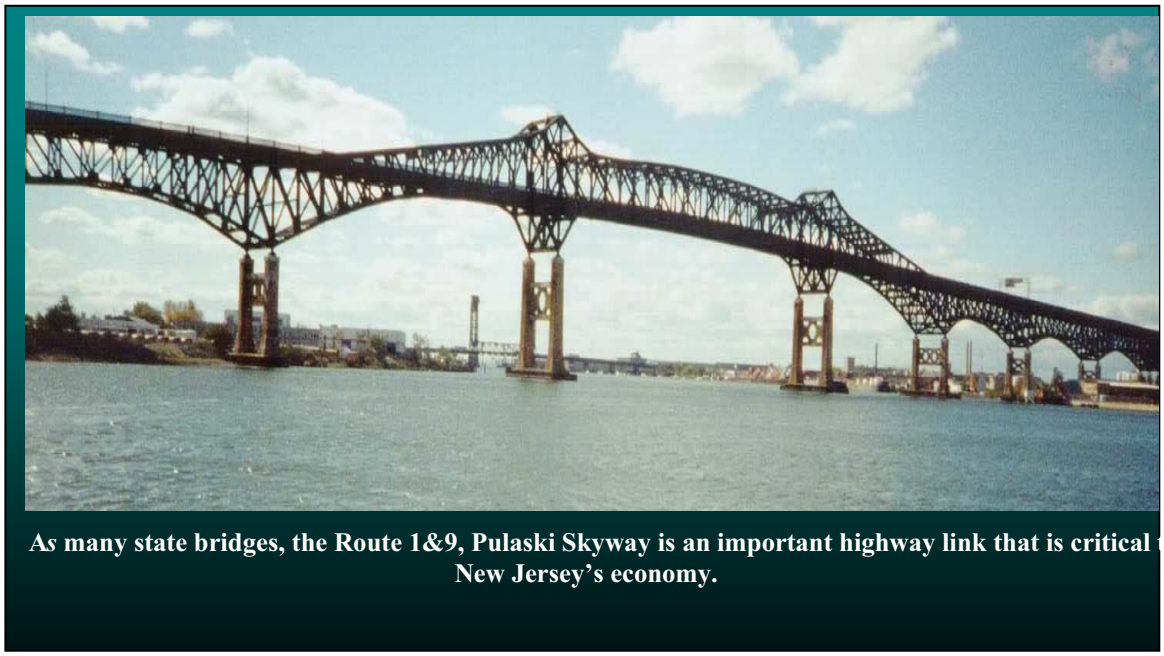
NJDOT's CIS is making recommendations that will promote safe and durable roadway connections designed to serve as efficient conduits that fulfill the transportation needs of the public. Other recommendations that serve to increase mobility and accessibility to and from residential, commercial, industrial and recreational land uses producing employment, business and tourism opportunities will be realized. In addition to the enhancement of our citizens' quality of life, local, regional and national activity centers are more likely to experience economic gain. The CIS guidelines and recommendations for developing the capital program can hopefully continue to move us forward in achieving these goals.



Everyday travel over the Route 1&9, Pulaski Skyway provides users with a critical connection to and from the northeastern part of the state. This highway network link functions to maintain and strengthen the economic growth of this region as well as the entire state of New Jersey.

Bridge Preservation

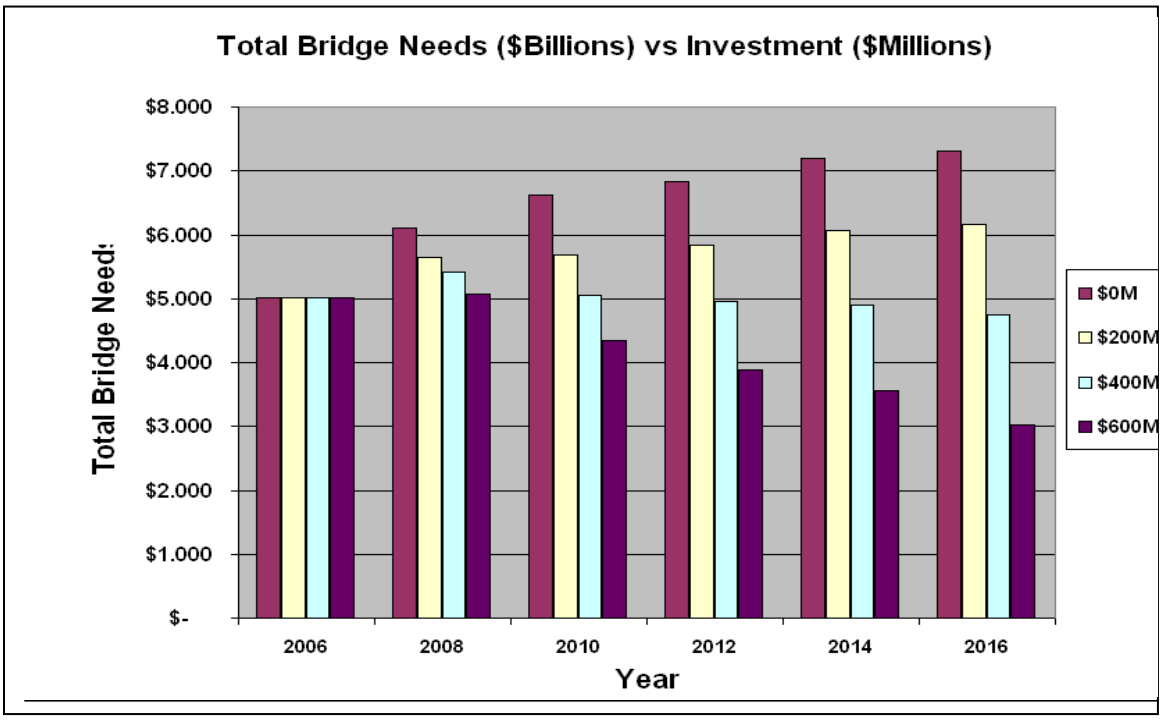
New Jersey's Highway Bridges



As many state bridges, the Route 1&9, Pulaski Skyway is an important highway link that is critical t New Jersey's economy.

New Jersey's highly developed network of roads, bridges, rail, air and port facilities has over 6,400 bridges on 35,000 miles of roads which efficiently move people and products throughout the state. All major roads are designed to move commercial trucks, commuter vehicles and vacation travelers safely and quickly to their destinations across the state. Obviously, maintaining our bridges and infrastructure is critically important to New Jersey's economy.

Through years of under-funding, and the continued escalation of both costs and deterioration, New Jersey's bridge needs are approaching $5 billion! Even though the most recent Capital Program allocated approximately $300 million to bridge projects, this amount does not even allow the Department to keep pace with the deterioration of NJ's bridges. The programming and implementation of the highest priority bridges is critical due to limited financial resources. As can be seen on the chart on the following page annually spending $400 million only keeps the Department at a status quo condition level. In addition, even at this funding level, the Department is incapable of addressing the High Cost Bridges. The construction costs of each of the High Cost Bridges ranges from $100 million to $750 million. Therefore, in order to reverse the continued deterioration curve as well as address the High Cost Bridges, it is estimated the Department needs to annually spend $600 million on its bridges.



This report was prepared to estimate the required multi-year bridge funding necessary to maintain the status quo condition for the bridges on New Jersey's State Highway System. Utilizing the PONTIS Bridge Management system, the current status of the state's bridges was determined. Then, using historically based deterioration models, an analysis of the impacts of applying various funding scenarios for bridge painting, deck repairs and bridge rehabilitation and/or replacement was completed. Based on this analysis, an estimate of required future funding, and the effect on the state's bridges, is presented.

Bridge Preservation

CIS Guidelines and Recommendations

Bridge Asset Preservation

1. Proposed increased funding levels over the next four years will begin to arrest the deterioration rate of New Jersey's aging bridge population.

2. The five-year program advances the next wave of major (high-cost) bridge projects: Route 1&9T over St. Paul's Avenue, Route 3 over the Passaic River, Route 7 over the Hackensack River (Wittpenn Bridge), Route 36 Highlands Bridge over the Shrewsbury River, Route 52 Causeway (Contract B), and Route 139 Contract 3 (Hoboken and Conrail Viaducts).

3. Other major structures (notably the Pulaski Skyway) will be programmed for rolling programs of life-extending repairs. This funding strategy involves developing annual preservation and rehabilitation contracts to extend the serviceability of high cost structures in the program rather than continuing to carry them as replacement projects that cannot feasibly be funded.

4. In addition, funding will be increased for programs that slow deterioration and extend useful bridge life, including emergency repair contracts, rehabilitation of bridge decks, bridge painting (especially critical to stop deterioration in marine environments), reconstruction of "orphan" bridges (highway bridges over railroads, often without clear ownership), and corridor preservation contracts.

5. Initiate a series of significant ($15- $20 million) preservation and rehabilitation projects to extend the serviceability of the "next generation" of high-cost and

movable bridges. Further, this investment (for several bridge preservation and rehabilitation contracts) should be done on an annual basis, to extend the serviceability of high-cost bridges, rather then expending significant planning and preliminary design funds for bridge replacement projects that will never be funded.

6. It is recommended that investments should be made at a level which maintains the bridges at the current service levels, which would be as follows:

- Bridge Replacement/Rehabilitation $600M
  (Includes 8-10 Prev. Maint.Contracts for High Cost Bridges ~ $150M)
- Bridge Rehabilitation(Deck Repl/Rehab) $50M
- Bridge Painting $25M
- Bridge Preventive Maintenance $25M

TOTAL ANNUAL INVESTMENT $700M +/-

Bridge Preservation

Current Condition of New Jersey's Bridges

There are two primary determinants to the health of a bridge structure. First and foremost is deck deterioration. The second, and almost as visible as deck deterioration, is corrosion (rusting). Additionally there are several secondary determinants, such as scour, fatigue, cracking, etc., which when combined with deck deterioration and corrosion, result in a bridge that needs to be rehabilitated or replaced.

Since New Jersey's bridges get an element level inspection, painting needs and deck repair needs are known, and structures which require more in-depth rehabilitation or replacement are also identified. The bridge painting needs are provided in linear foot of beam that needs to be painted. The deck repair needs are provided in square foot of deck. Finally, in order to "normalize" rehabilitation and/or replacement needs, they are shown in "deck square footage". This is necessary to give appropriate weight to each bridge rather than simply show the number of bridges.

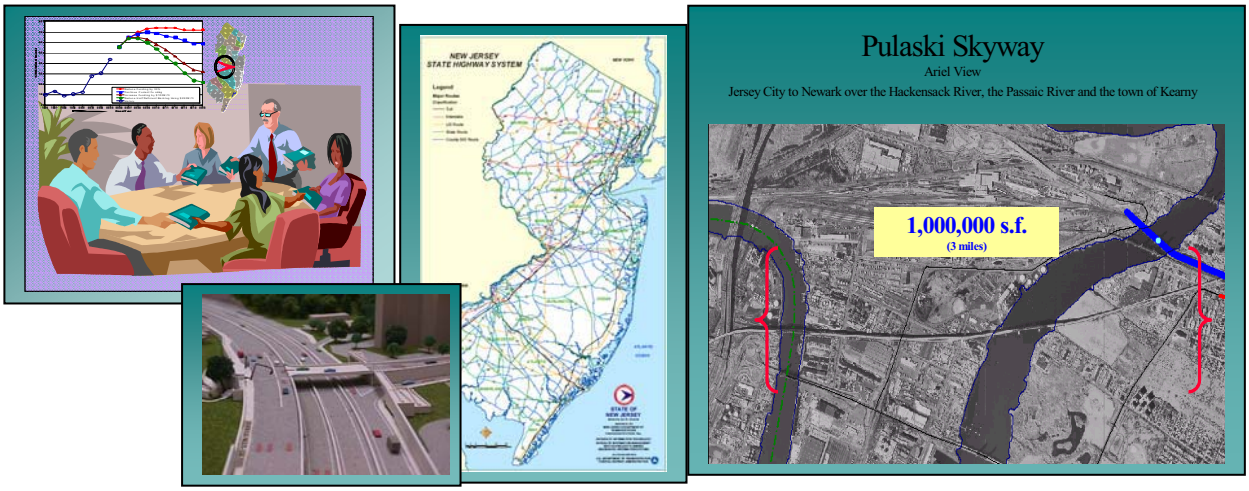
CURRENT CONDITION OF THE STATE'S BRIDGES*

	Acceptable	Unacceptable
Paint Needs (Lin ft of beam)	2,250,000	850,000
Deck Needs only (sq ft of deck)	28,210,000	1,360,000
Rehab/Repl Needs (sq ft of deck)	28,250,000	10,510,000

*The status and analysis is only for state owned bridges, County and Municipal owned bridges and Agency owned bridges are not included.

Bridge Preservation

Goals and Objectives



One of the goals of the Long-range Transportation Plan 2030 is to "Improve and maintain the transportation infrastructure". With regard to the bridge population, the following objectives have also been identified in an effort to achieve this goal:

- **To slow the deterioration of bridges**
- **To maintain bridges in a state of good repair**
- **To rehabilitate, reconstruct and/or replace bridges that are Structurally Deficient or Functionally Obsolete**
- **To operate a bridge management system**

NJDOT's long-term goal continues to be to move the entire population of bridges into the "acceptable" range and to keep them there. Given the sheer number of bridges and the ongoing aging and deterioration process, this will be a huge effort requiring many years to achieve. A closer-term objective, as identified by the Legislature in the Trust Fund amendments of 2000 (N.J.SA 27:1B-22.b) is to reduce the backlog by half over 10 years.

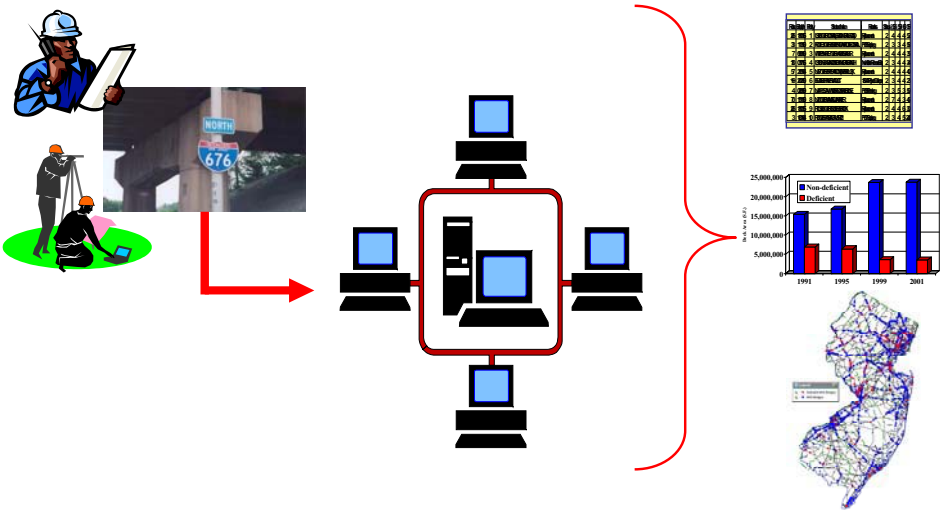
Bridge Preservation

Bridge Management System: Performance Measures

A brief technical note concerning how NJDOT collects and analyzes bridge data may be helpful to understanding how the capital investment strategy for bridges is developed.

NJDOT operates a bridge management system to track detailed information on the status of every bridge in the state and on overall system conditions and trends. Every bridge is inspected at least every other year. The inspection includes a careful engineering examination of every component of the bridge—the substructure, superstructure, and deck. This data is fed into a computerized system for further evaluation. The analysis is used both to initiate specific bridge rehabilitation and replacement projects and to develop systems level projections. The bridge inspection process, which is done under consultant contracts, costs $12 to $15 million per year.

Bridge Management System



Bridge Inspection & Data Collection | **Inventory Tracking & Retrieval** | **Performance Analysis**

What is "acceptable"? For capital investment strategy purposes, NJDOT relies on federally developed definitions of structural deficiency and functionally obsolete. These performance measures, in addition to others that are used to evaluate the status of the bridge population over time are listed below:

Performance Measures:

- High Cost & Moveable Bridge Preservation:
  No. of bridges & Service Life Extension in Years
- Major Rehab/Reconstr. or Total Replacement:
  No. of bridges
- Deck Rehabilitation or Replacement:
  Square feet deck area
- Bridge Preservation:
  1. Painting – No. of bridges
  2. Deck Patching - Square feet of deck area
  3. Joint Rehab. – Linear feet of deck joint
  4. Scour Countermeasures – No. of bridges
- Bridge Preventive Maintenance:
  No. of bridges

A bridge is considered structurally deficient if it scores a low rating on one or more of several engineering standards. It is important to note that a structurally deficient bridge is not an unsafe bridge. Structural deficiency indicates a need for possible rehabilitation or replacement. If a bridge is determined to be unsafe, it is closed to traffic. If a bridge is so deficient that it is in danger of rapid deterioration, it may be posted for maximum load. At the current time, no bridges on the state highway system are closed or load-posted due to poor condition. Functional obsolescence is a measure of how a bridge meets current geometric design standards and how efficiently it handles today's traffic volumes and types (which includes an overall structural evaluation).

For capital investment strategy purposes, as stated earlier, NJDOT also factors "deck square footage" of each bridge into the scoring, so as to give weight to the size as well as the number of deficient bridges.
The bridge management system also incorporates expected deterioration rates into its projections, so that the "backlog" of bridges in unacceptable condition is properly seen as a moving target.
NJDOT also maintains other management systems—for pavement, congestion, safety, and drainage—to monitor the condition of our infrastructure and to develop projections for the capital investment strategy.

Bridge Preservation

Program Categories

The Department is planning to implement bridge rehabilitation improvements where appropriate as opposed to bridge replacement alternatives in order to address structural deficiency and functional obsolescence problems. Since the unit-costs for rehabilitation improvements tend to be less expensive short-term solutions, this strategy may provide a more economical approach to reducing the backlog of structurally deficient bridges over the next ten years. As illustrated below, along with the more expensive bridge rehabilitation and replacement projects, NJDOT implements several programs aimed at maintaining or improving bridge conditions. As available funding permits, investment in these needs must be top priorities as well, if we are to maintain our bridges in a safe condition and manage them efficiently. Bridge preservation investments are currently allocated into the following program categories:

- Bridge Rehabilitation and Replacement — This category refers to individual bridge projects that require major rehabilitation or replacement efforts. The rehabilitation or replacement of structurally deficient bridges is by far the largest and most expensive activity of NJDOT's bridge program.

- Bridge deck rehabilitation—Sometimes only the deck of a bridge—the part that actually carries the traffic—is deficient. In these cases, NJDOT is often able to solve the problem through the bridge deck rehabilitation program, which offers cheaper, faster repairs.

- Bridge painting—Steel bridges require strong, weather-resistant coatings to protect them from corrosion. Many bridges were once painted with lead-based paints. Replacing lead-based paints with modern, environmentally friendly paints requires expensive containment and disposal. About 29 percent of the population of state highway bridges still needs recoating. In past analyses the performance measurement has been reduction of the backlog, expressed in remaining tons of steel

requiring treatment. The new performance measure is "linear feet of deteriorated painted beam".

- Bridge scour program—Bridges crossing waterways are subject to damage from extreme stream flows during flooding, which can wash away underwater support structures. NJDOT is working with the Federal Highway Administration (FHWA) to identify bridges most at risk and to design and implement underwater protection.

- Bridge betterments program—This program funds minor repair work done by contract. Bridge capital maintenance implements minor repairs and preventive maintenance activities. Transportation experts agree that the most economical way to preserve infrastructure is to provide adequate and timely preventive maintenance. The rule of thumb is that one dollar in maintenance costs can save four dollars in capital costs. Nevertheless, in the past 20 years, state and federal funding for transportation capital improvements in New Jersey has increased significantly, while funding for maintenance has not.

Consideration will be given to reclassify bridge preservation projects into the following program categories**:**

- High Cost & Moveable Bridge Preservation
  Defn. Bridge > 500' in length or Moveable

- Major Rehab/Reconstruction. or Total Replacement
  Prioritized: Sufficiency Rating, ADT, Deck Condition, Functional Class

- Deck Rehabilitation or Replacement
  Deck Only Select List

- Bridge Preservation – Painting, Deck Patching, Joint Rehab. & Scour Countermeasures – i.e. Corridor Contracts

- Bridge Preventive Maintenance - As identified by biennial inspections or other means

Bridge Preservation

High Cost Bridges

One of New Jersey's greatest funding challenges is finding a way to pay for a small number of "high-cost bridges." These bridges (defined as those costing more than $50 million in construction costs) are critical links in the state's transportation system. Beginning in the late 1990s, several of these major bridges reached the point where replacement or rehabilitation became essential. NJDOT has been steadily advancing projects to upgrade these structures. Within the past few years, for example, all the highway bridges over the Raritan River near the mouth of the river have been replaced, rebuilt, or are under construction. A new Route 1&9 viaduct over the Elizabeth River and the Route 52 Causeway bridge replacement projects are also under construction. NJDOT began construction on the Route 52 bridge project in the summer 2006. This is the first contract of this $400 million project. It will replace the Route 52 Causeway bridges and the roadway section between Somers Point and Ocean City, including the elimination of the Somers Point Circle.

However, bridge rehabilitation and replacement improvements in this category currently represent an outstanding total need of approximately $2.147 billion in construction costs. These exorbitant financial needs together with other necessary competing bridge and roadway improvements have created a serious dilemma due to lack of adequate funding. Initiating bridge replacement projects that cannot feasibly be funded is counterproductive at the present time.

Until a funding solution can be pursued to implement long-term high cost bridge improvements, NJDOT will seek to "right size" bridge projects currently in the pipeline by developing annual interim repair contracts to extend the serviceability of these

structures. For example, the Route 1&9, Pulaski Skyway project will be programmed for rolling programs of life-extending repairs rather than just pursuing this needed improvement as a replacement project that cannot feasibly be funded. Due to the size of the structure, various contracts to provide for the interim repairs are planned, including painting, is anticipated to be $175 million. In general, funding will be increased for programs that slow deterioration and extend useful bridge life, including emergency repair contracts, rehabilitation of bridge decks, bridge painting (especially critical to stop deterioration in marine environments), and reconstruction of "orphan" bridges (highway bridges over railroads, often without clear ownership).

Currently, the high cost bridge rehabilitation\ replacement projects that are funded include:

Funded High-Cost Bridges	
1. Route 52 Causeway over Rainbow and Elbow Thorofares—GARVEE Bonds	$142 M
2. NJ Route 139 Contract #2—12th and 14th Street Viaducts	$ 75 M
Total Estimated Construction Costs	$217 MILLION

There are eight major bridges on the current "high-cost" list awaiting funding and are now subject to be reviewed for "rightsizing" into life-extension projects. Those bridges include:

- Route 1&9 Pulaski Skyway—Major historic structure linking Newark and Jersey City. Interim repairs, including repainting of this huge viaduct, will cost at least $175 million.
- Route 1&9T, St. Paul's Avenue Bridge—Major truck route and key link in the Portway system. Construction cost estimate $186 million.
- Route 3 bridge over the Passaic River—Many structural, operational, and safety deficiencies; traffic bottleneck on one of New Jersey's most congested corridors. Replacement cost estimate $250 million.
- Route 7 bridge over the Hackensack River (Wittpenn Bridge)—Key traffic and goods movement link; part of Portway. Construction cost estimate $400 million.
- Route 36, Highlands Bridge—Replacement of deficient bridge; major tourist and shore evacuation route. Cost estimate $107 million.
- Route 72, bridge over Manahawkin Bay—Another key tourist and shore evacuation link. Cost estimate $155 million.
- Route 139 viaduct, contract #3—the last part of a series of construction contracts rebuilding the viaducts leading to the Holland Tunnel. Key interstate link. Cost estimate $134 million.

- 52 Causeway, Contract B over Beach & Ship Channels— This project will provide the replacement of two movable bridges located closest to Somers Point and Ocean City at Ship Channel and Broad Thorofare with high- level fixed span structures (i.e. 55-foot vertical clearance above the navigation channel). Part of the reconstruction of the causeway connecting Ocean City and Somers Point, including replacement of other deficient bridges, operational improvements, context sensitive design elements and the replacement of the visitors center as part of a planned scenic overlook. Major tourist and shore evacuation route. Construction Contract B cost estimate $165 million.


Rendering of future bridge (from Somers Point)

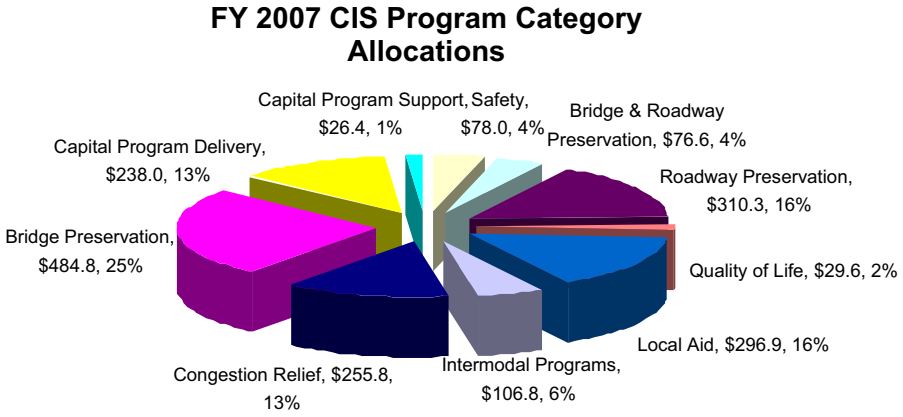
The new practice of rightsizing projects will also be used to initiate a series of significant ($15- $20 million) interim rehabilitation projects to extend the serviceability of the "next generation" of high-cost bridges. The following ten structures have been identified as the “next generation of high cost bridges” (totaling $930 million):

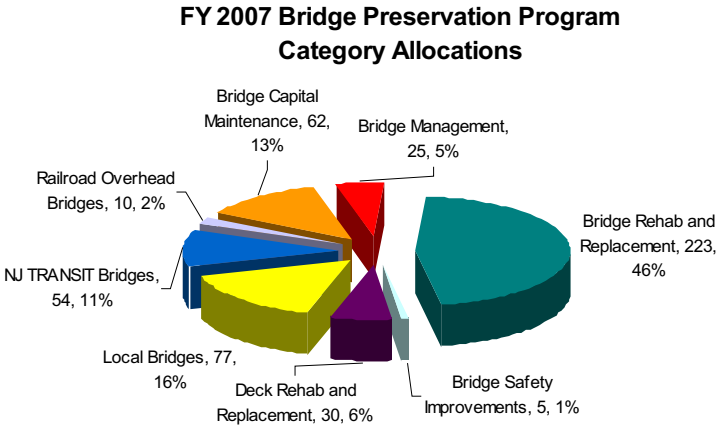
NEXT GENERATION of HIGH COST BRIDGES
(UNFUNDED)

NAME	CONSTRUCTION COST
1. US Route 1&9T over Passaic River	$125 M
2. US Route 1&9T over Hackensack River	$160 M
3. NJ Route 3 EB & WB over Hackensack River	$ 75 M
4. US Route 30 over Beach Thorofare	$ 50 M
5. NJ Route 35 over Cheesequake Creek	$ 75 M
6. NJ Route 37 EB over Barnegat Bay (Mathis Bridge)	$150 M
7. US Route 46 over Hackensack River	$130 M
8. NJ Route 47 over Grassy Sound	$ 65 M
9. NJ Route 495 Viaduct over US 1&9	$100 M
TOTAL COST	$930 MILLION

FY07 CIS Program Category Allocation and projected output:

The funding allocations for the bridge preservation program by category are shown in the chart below. As illustrated, the bridge allocation is at $485 million or 25% of the Capital Program.





A breakdown of the $485 million allocated to bridge programs indicates that almost half of the FY 2007 bridge funding was invested in rehabilitation and replacement projects on the state system.

About 13% of the FY 2007 safety funding was invested in Bridge Capital Maintenance improvements such as betterments/ minor repairs, painting, scour measures and emergency repairs.

Based on the program over

FY 2007-FY 2011 - Projected Output Programmed
• Decks - 6-8 Projects per year representing 20- 25 bridge decks
• Betterments Bridge Preservation - 1-2 Projects per year representing 20 - 40 bridges (20+/- if one contract; 40+/- if two contracts)
• Bridge Painting - 4-5 Projects per year representing 50-60 bridges

- Bridge Scour Countermeasures - 3 Projects per year representing ~10 bridges
- Bridge Safety, Movable Bridge Repair - 1 Project per year representing 2 bridges
- Number of NBIS Bridge Inspections = 13,050 Bridges (includes State, Orphan, NJ TRANSIT, County & Municipal)
- Number of State Culvert (<20') Bridge Inspections = 900 Culverts
- Number of State Sign Structure Inspections = 1,550 Sign Structures

Use of the Bridge Management System

The Bridge Management System (BMS) is used as the tool in targeting investments to reduce the backlog of deficient bridge needs thereby improving the system condition level or the bridge population statewide. By using various bridge performance data to conduct network level analyses of the state's bridge inventory, the bridge management system serves as a rational and systematic tool for identifying and prioritizing projects and measuring the effectiveness of bridge capital programs. It also functions to identify future needs. Developing a Capital Investment Strategy for the bridge program heavily relies on the bridge management system. As previously discussed in this report, for the Bridge Preservation program it involves establishing goals and performance measures and analyzing the performance of the bridge population in relationship to various investment scenarios. For example, NJDOT has used BMS performance data for problem statement initiation and assignment into the Study and Development Program in addition to project selection for advancement into the capital program.

Project Prioritization: Currently, bridge preservation projects and problem statements are prioritized using the following Bridge Management System performance criteria shown below. This methodology was used to rank bridge projects being selected for advancement in the FY 2008-FY2012 Capital Program.

DRAFT - Bridge Project Ranking Criteria

	Criteria	Weighting (W)	Scoring (S)
A	Average Daily Traffic (Item 29) (If Item 102 =1 multiply ADT by 2)	20%	0 to 30,000 = 0 30,001 to 60,000 = 0.25 60,001 to 90,000 = 0.50 90,001 to 120,000 = 0.75 Greater than 120,000 = 1.0
B	Functional Class (Item 26)	10%	Interstate/Freeways (01,11,12) = 1.0 Arterials (02,06,14,16) = 0.67 Collectors (07,08,17) = 0.33 Locals (09,19) = 0
C	Deck (I-58)	10%	3 or 4 = 1.0 5 or 6 = 0.50 >6 = 0.00
D	Sufficiency Rating	60%	(100 – S.R.)/ 100

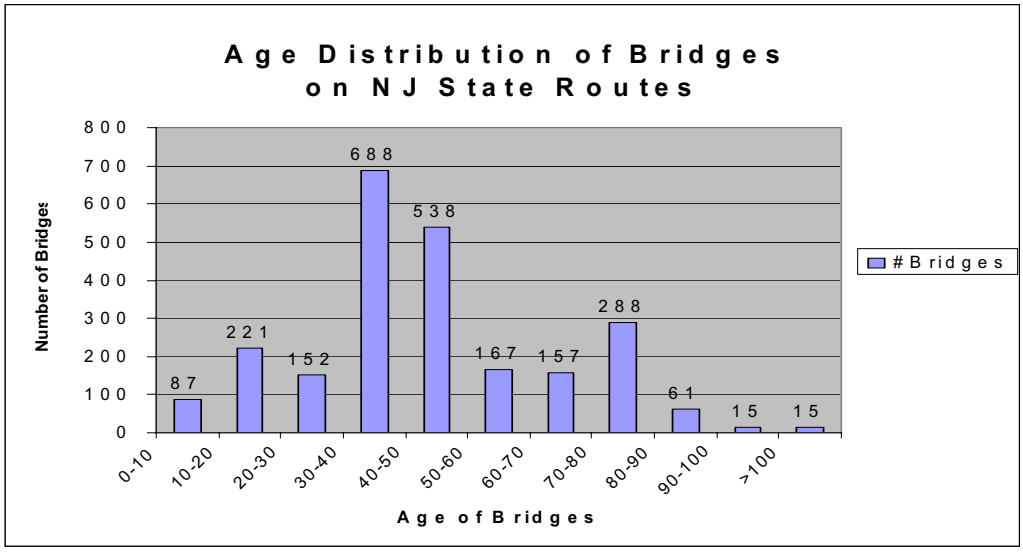
$$\text{Final Score} = \frac{((S_a \times W_a) + (S_b \times W_b) + (S_c \times W_c) + (S_d \times W_d)) \times 1{,}000}{4}$$

The higher the score the higher the ranking. After ranking the list is the reviewed by an engineering group to further refine list based on engineering judgment.

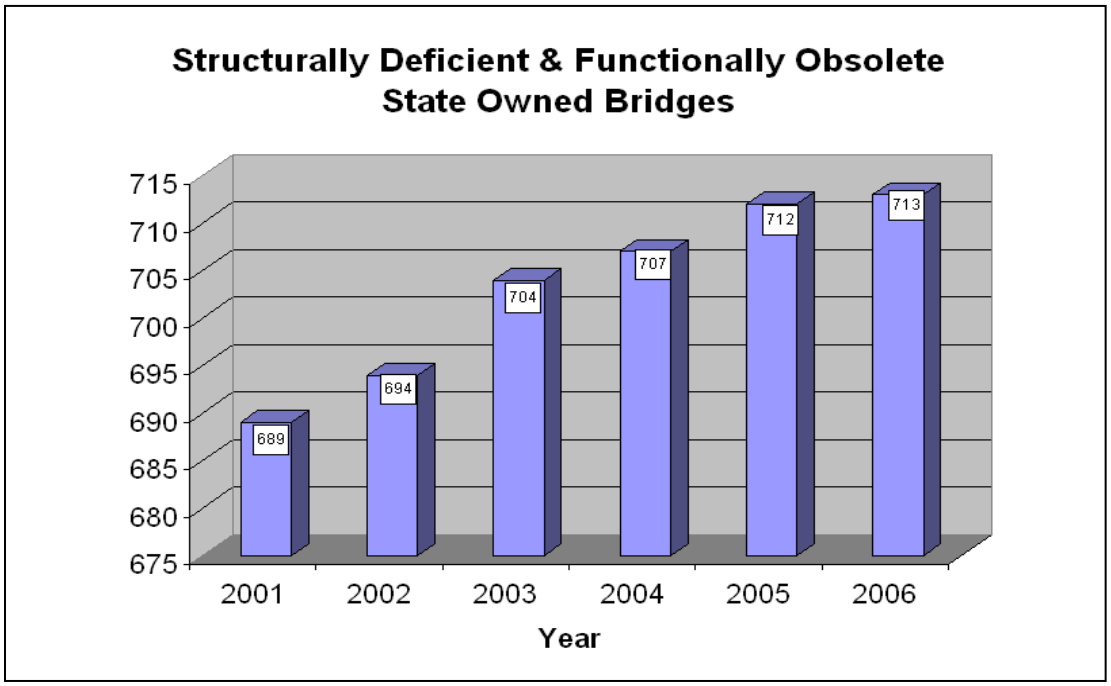
The higherthe score the higher the ranking. Max is 250 ; Priority 1: >200 2: 150-199, 3: 100-149, 4: 50-99, 5: <50

Alternative Investment Scenarios

There are several points that need to be explained to better understand that, although a straight forward analysis is provided, a simple increase in funding will not necessarily solve this problem. First, it is critical to an understanding of bridge conditions to note that the "backlog" of unacceptable bridges is not static. While some bridges are being repaired (or replaced), and being reclassified from "unacceptable" (deficient) to "acceptable", other bridges are continuing to age and will be reclassified from "acceptable" to "unacceptable". A histogram is provided below showing how many bridges were built per year, which indicates that in some years in the future, significantly more bridges will drop into the "unacceptable" category than in other years.



In addition to the age of bridges adding to the dynamic nature of the condition of our bridges, there is also the ever increasing cost of repairs. As shown in the chart below, despite receiving significant funding from the FHWA and the NJTTF, the number of structurally deficient and functionally obsolete bridges on the state highway system continues to grow. Therefore, not only can we anticipate that more and more bridges will become categorized as "'unacceptable" in the ensuing years, but funding rehabilitation repairs and bridge replacements at the same levels will only result in an ever increasing number of Structurally Deficient and Functionally Obsolete bridges.

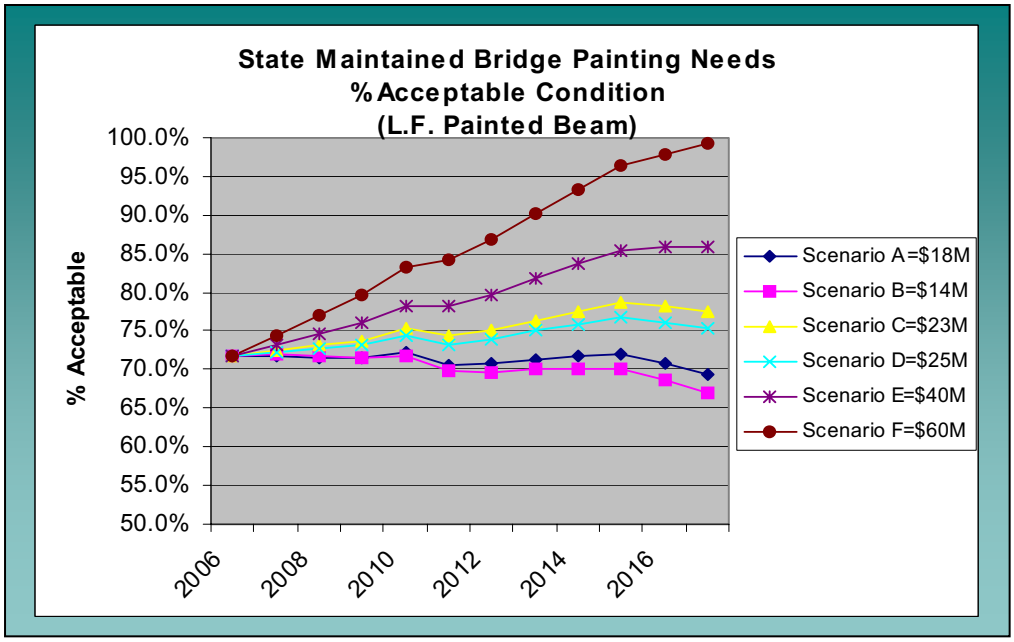


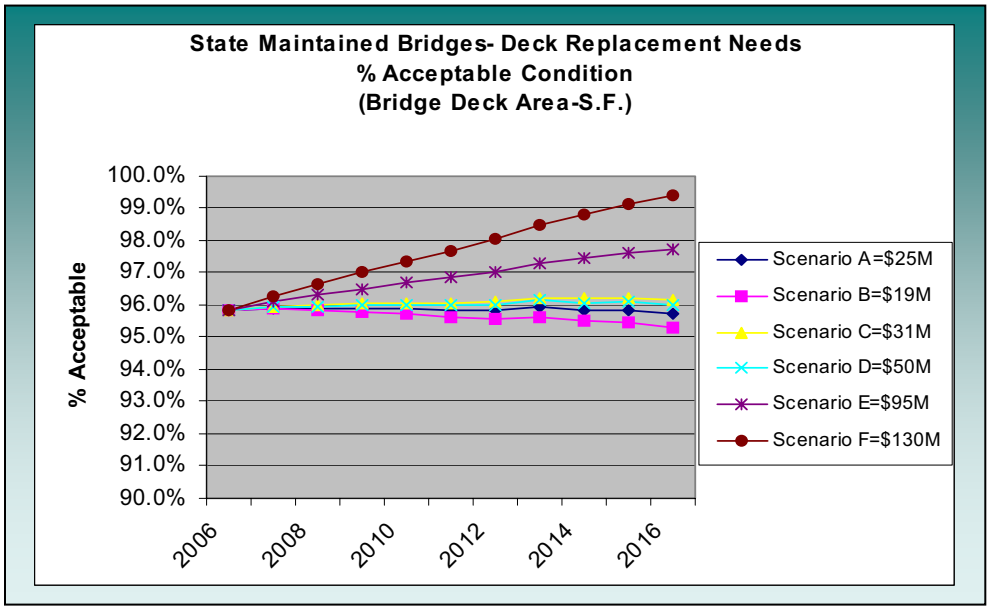
Also, painting needs are identified as beam specific, but cannot be repainted on a beam by beam basis. The costs for traffic control, mobilization, containment systems, etc. are significant. From a construction efficiency standpoint, whole bridges are painted rather than singular beams. Finally, in the near future, a significant number of major bridges will be reaching the point where rehabilitation or replacement will be required. Each of these major bridges by themselves will require from $75 million to over $300 million for construction.

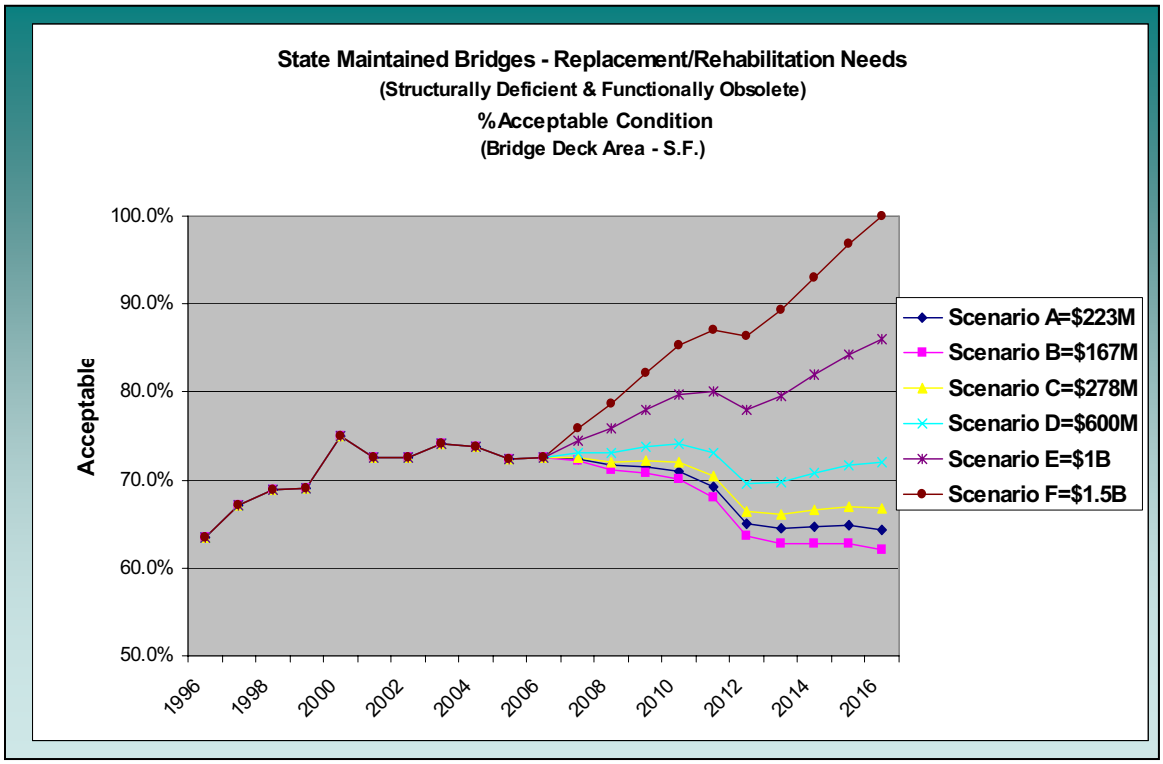
A performance analysis was conducted which predicts bridge condition levels for painting needs, deck repairs and replacement/rehabilitation needs over the next ten years. This analysis is based on the bridge deterioration that can be improved by implementing current and anticipated bridge improvement projects given specified funding level scenarios. The accompanying charts for several investment scenarios illustrate six different projected outcomes based on various funding levels. The graphs on the following pages illustrate the predicted performance trends over the next ten years for

painting, deck repair and rehabilitation/replacement backlog. These "performance curves" depicts how that backlog increases or decreases with the various investment scenarios shown:

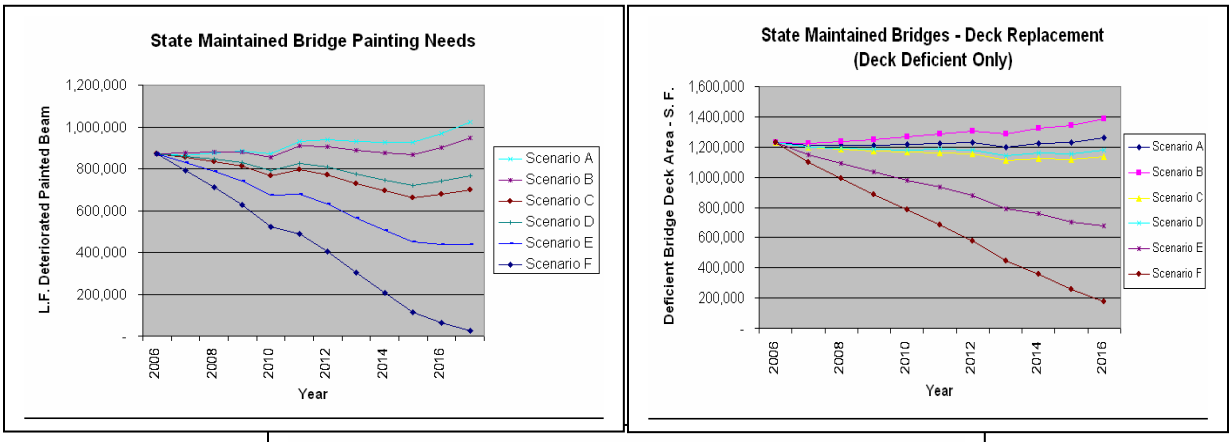
- Scenario A: Continued Funding
- Scenario B: 25% Reduction in Funding
- Scenario C: 25% Increase in Funding
- Scenario D: Maintain Current Condition
- Scenario E: Reduce Backlog by 50 %
- Scenario F: Total Need: Eliminate Backlog







The charts above depict the percentage of acceptable condition based on the following deterioration analyses for each of the scenarios listed:



Conclusions:

- **Scenario A: Continued Funding**

  The current status of New Jersey's state-owned bridges show a need of over 850,000 linear feet of beams (28%) need to be painted, over 1,300,000 square feet (4%) of deck needs to be repaired, and over 10,000,000 square feet (27%) (representing over 700 bridges) of bridges need to be rehabilitated or replaced.

  The backlog is expected to continue to grow if the current funding levels are maintained. As shown in the replacement/rehabilitation graph above, at current investment levels of about $223 million a year for this program category, the bridge acceptability rate is projected to decrease from 73% to 64% over the next ten years. A decrease in acceptability rate is also expected for bridges that require painting (73% to 67%). However, a continued level of investment over the next ten years for bridge deck placement needs is anticipated to maintain the current acceptability rate of 96%. Therefore, a "flat" funding projection into the future would cause a reduction in bridge infrastructure that is in "acceptable" condition. An increase in the bridge population that is structurally deficient and functionally obsolete would be the result.

  In this scenario, the High Cost Bridges impact will be most significant. For example, all of the annual bridge funding will not be enough to pay for the replacement of the Route 7 Wittpenn Bridge (current estimate $400M+). Unless separate or additional funding is provided in FY 08, the backlog would spike since one bridge would utilize all available bridge funds.

- **Scenario B: 25% Reduction in Funding**

  Funding for this scenario would provide about $360 million per year for the bridge preservation program. This investment option is anticipated to result in an even larger backlog of the deficient bridge population on the state highway system over the next decade compared to a continued funding scenario. The bottom line is that less investment will result in more backlog of bridge painting, deck replacement and bridge rehabilitation and replacement needs!

- **Scenario C: 25% Increase in Funding**

  While this alternative increases the total bridge program investment level by 25% to $606 million per year, the acceptability rate substantially declines shown in the graph above. In other words, the backlog of deficient bridge rehabilitation and replacement needs is still anticipated to significantly to grow over the next ten year period. However, the system condition level for bridge painting needs is expected to improve. For instance, the backlog of bridge painting needs is predicted to drop moderately as illustrated by an increase shown by an increase in the acceptability rate from 73% in

2007 to 78% by 2017. The percentage of acceptable bridge decks is projected to remain consistent at about 96 (% by 2017).

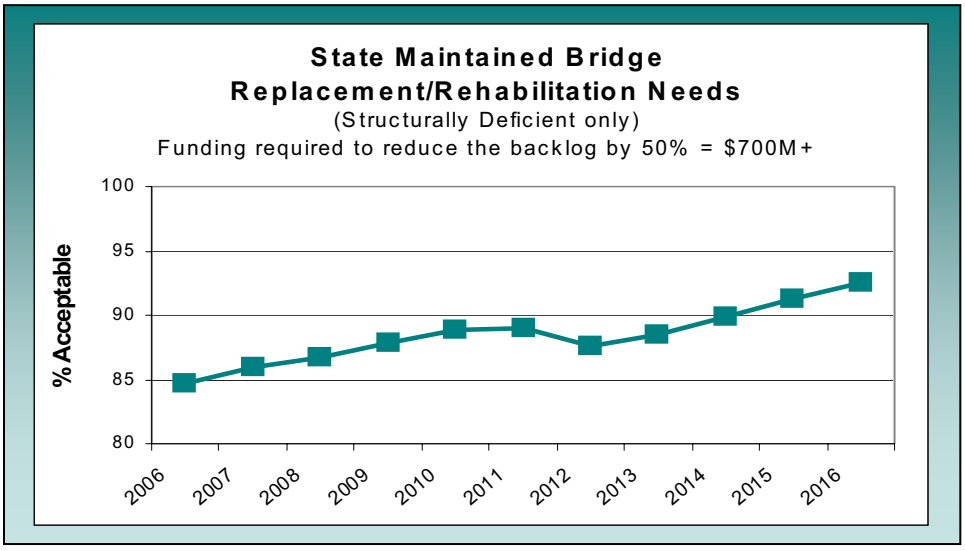
- **Scenario D: Maintain Current Condition**

  As illustrated in the graph above, maintaining the status quo condition of New Jersey's state-owned bridges will require: $25 million in preventive maintenance, $25 million in bridge painting, $50 million in deck repairs, and $600 million in bridge rehabilitation/replacement. Additionally, separate funding will still be required for the High Cost Bridges.

- **Scenario E: Reduce Backlog by 50 %**

  To fully address the bridge need, NJDOT has set objectives based on broad performance measures which focus on reducing structural deficiency and functional obsolescence on state maintained bridges.

  NJDOT's long-term goal continues to be to move the entire population of bridges into the "acceptable" range and to keep them there. Given the sheer number of bridges and the ongoing aging and deterioration process, this will be a huge effort requiring many years to achieve. A closer-term objective, as identified by the Legislature in the Trust Fund amendments of 2000 (N.J.SA 27:1B-22.b) is to reduce the backlog by half over 10 years. As shown in the graph below, reducing the backlog in half in 10 years (to an acceptable rate of 93 percent) would require an annual investment of about $700+ million, an increase of over 400 million per year.



- **Scenario F: Total Need: Eliminate Backlog**

  The Scenario F performance analysis answers the question: How much would it cost annually over the next decade to eliminate the backlog of deficient bridge painting, deck replacement, and bridge replacement/rehabilitation needs for New Jersey's state maintained bridge population? It is projected, as illustrated by the sum of all three graphs above for the "Total Need" Scenario, that a total annual investment of at least $1.7 billion would be required to eliminate the deficient backlog over the next ten years.

- **Scenario Summary**

  A summation of the investment scenarios over the next ten years is provided below:

	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E	Scenario F
	Millions $					
Painting	18 ⇩	14 ⇩	23 ⇧	25 ⇔	40 ⇧	60 ⇧ ⇧
Decks	25 ⇩	19 ⇩	31 ⇧	50 ⇔	95 ⇧	130 ⇧ ⇧
Replace/Rehab	223 ⇩	167 ⇩	278 ⇩	600 ⇔	1000 ⇧	1500 ⇧ ⇧
Total	$266	$199	$332	$675	$1135	$1690

Acceptability Rate Decreases = ⇩ **Acceptability Rate Increases =** ⇧

Acceptability Rate Maintained = ⇔ **Acceptability Rate Increases to 100% =** ⇧ ⇧

To meet the bridge challenge for state bridges, Scenario D appears to be the investment option that allows NJDOT to stabilize the condition level of the bridge population. However, an increase to $675 million per year from about $266 million in FY07 for these three categories will require a substantial reallocation of funding from other programs.

- NJDOT is also pursuing a variety of measures to address bridge deficiencies within the limits of available funding. There is a new emphasis on investing funding based on the following strategy:

  1. Invest in priority bridge repairs at funding levels above what has been previously provided in all categories - bridge replacements, bridge deck replacement/rehabilitation, moveable bridge repairs, bridge painting, and bridge preventive maintenance (repairs aimed at extending the service life).

  2. Invest in interim repair contracts, on an annual basis, to extend the serviceability of high-cost bridges, rather then expending significant planning and preliminary

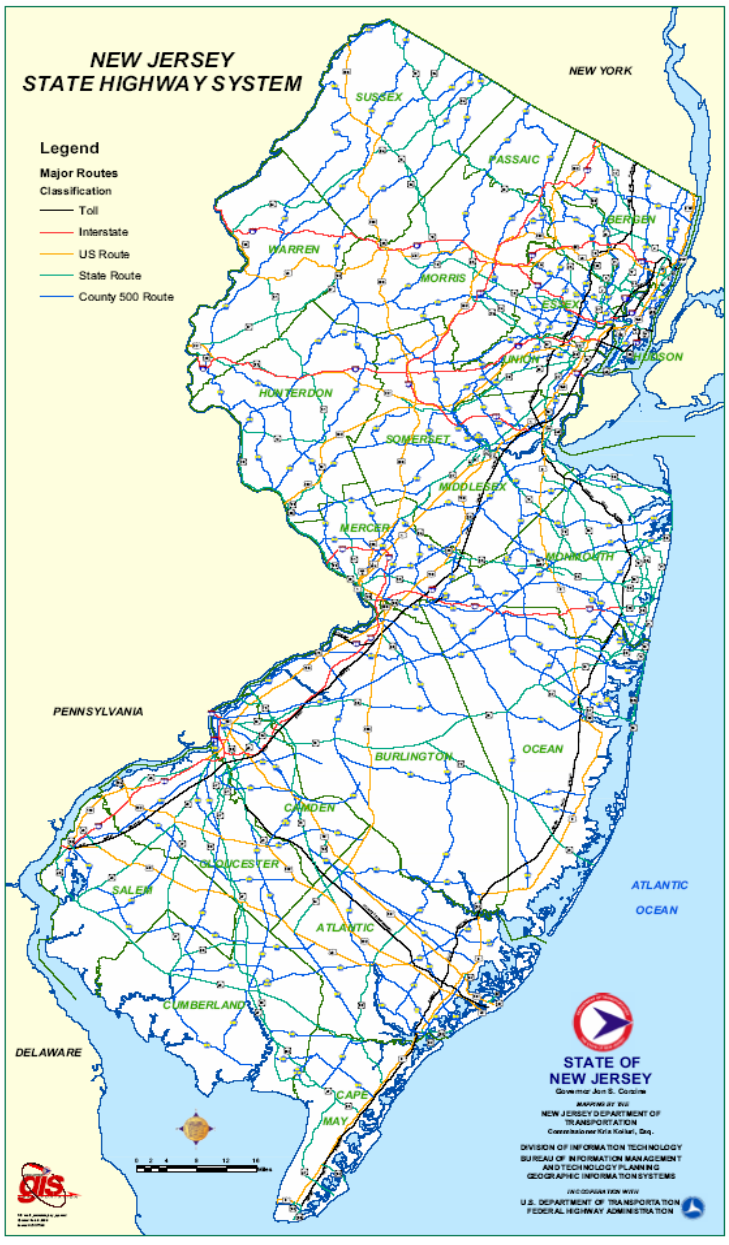
design funds for bridge replacement projects that may not be funded for many years.

- Rehabilitating a bridge—instead of tearing it down and building a new one—is usually cheaper and may also fit better with local community desires. There are tradeoffs, however. Building a new bridge often provides an opportunity to alleviate traffic problems and may avoid the necessity of detour routes during construction.
- NJDOT is also stretching available financial resources through the potential use of innovative finance for high-cost bridges and through seeking lower-cost solutions to maintain bridges in good working order.

Roadway Preservation

New Jersey's State Highways

There are approximately 36,000 centerline miles of roadways in New Jersey. NJDOT maintains approximately 2,344 centerline miles of state-owned roads, commonly referred to as the state highway system. Most of the remaining mileage is under the jurisdiction of county and municipal governments. Although NJDOT jurisdiction represents only about 6% of the total statewide mileage, approximately two-thirds of all traffic, including a high percentage of heavy trucks, is carried on state-owned roads. The New Jersey state highway system constitutes the heart of our state's surface transportation network. Unfortunately, New Jersey state highways continue to be faced with a serious backlog of deficient pavements in poor to fair condition. Approximately 49% of the state highway system is deficient based on roughness and surface distress measurements. A lack of significant funding availability for increased roadway preservation investments allocated towards resurfacing, rehabilitation, reconstruction, and particularly preventive maintenance programs remains the major constraint to pavement quality improvement.



The state highway system plays a major role in stabilizing and enhancing the economic vitality of New Jersey by serving as a conduit to local, regional and national activity centers. It is an indispensable element providing safe access and mobility to and from

residential, commercial, industrial and recreational land uses producing employment, business and tourism opportunities.

NJDOT's Capital Investment Strategy (CIS) is a performance-based capital programming mechanism that links broad transportation goals and policies to specific investment choices. The investment strategy includes pavement condition as one of its essential elements. It evaluates the need for investment in pavement preservation programs compared to other allocations for competing highway improvements.

Within its overall "Fix It First" goal, NJDOT is committed to a long-term program to shrink the backlog of deficient highway segments and to identify and implement state-of-the-art engineering techniques and management practices. The CIS provides strategic direction to achieve these goals and objectives. It offers assistance in answering practical questions: Where are we now and where would we like to be? How well is our pavement infrastructure performing over time? What is our return on investment?

The need to upgrade the structural integrity and smoothness of the state's highway network continues to be a challenging endeavor. Serious efforts to reduce pavement deterioration have been made by implementing numerous reconstruction and rehabilitation, resurfacing and preventive maintenance projects. Severe pavement deterioration has continued as age, the effects of freeze-thaw cycling, and the constant bombardment by heavy traffic takes its toll. In addition, investment in repair and maintenance activities in the past has not been enough to offset accruing deterioration. These factors have resulted in a significant backlog of deficient pavement sections.

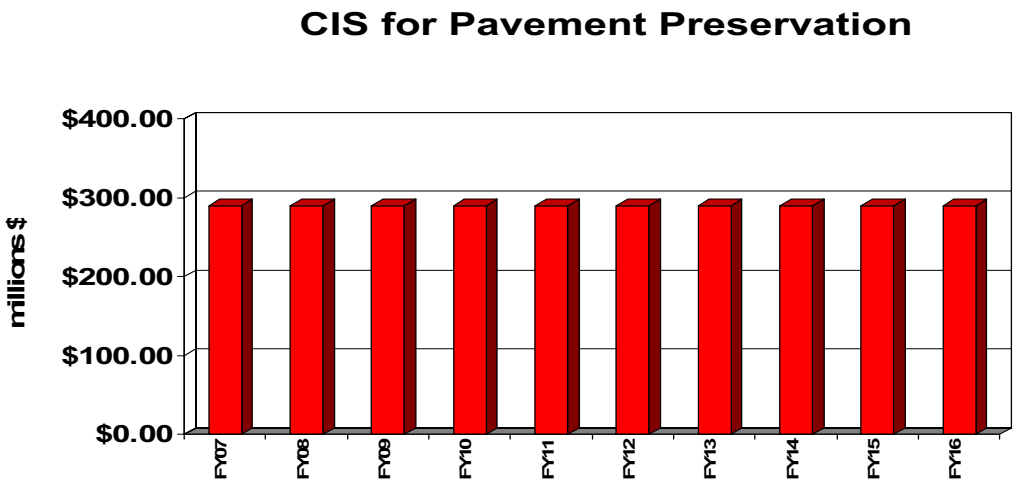
Roadway Preservation

Pavement: CIS Guidelines and Recommendations

Based on the technical analyses and guidance from recent studies on the strategic aspects of addressing pavement preservation deficiencies, the following guidelines and recommendations are made:

- **As an investment strategy, state highway infrastructure preservation projects are top priorities.** Many segments of our interstate highway system are past an age at which they need substantial rehabilitation or reconstruction. Increased investment levels will continue to be pursued to shrink the backlog of pavement deficiencies.

- **As a primary goal, program an investment level that maintains the existing system to insure safe, reliable travel for users of the state highway system. Continue to program all eligible, affordable pavement preservation projects in FY 2007 and FY 2008 at a funding level of approximately $290 million.** This investment benchmark is referenced in NJDOT Fiscal Year 2007-2011 Capital Investment Strategy Report. In fact, as shown below, it is the required annual funding commitment necessary over the next ten years to significantly improve the state highway ride quality by eliminating one-half of the current backlog of deficient pavement sections.



If the significant backlog of deficient pavements can be reduced to an acceptable level, a more proactive approach to maintaining existing highway pavements can be

embraced. Timely pavement preservation activities would enable the Department to reduce costly and disruptive reconstruction projects, and provide the traveling public with improved safety and mobility, reduced congestion, and smoother, longer lasting pavements.

- **Focus investments on a prioritized list of rehabilitation/reconstruction, resurfacing and pavement preservation projects based on previously defined needs.** The list contains both projects with designs already significantly completed and new pavement projects.

- **Continue to advance future roadway preservation projects through the study and development stages so that they will be ready for future funding**. Operate a pavement management system that provides a balanced mix of fixes with a proactive approach in selecting and implementing **pavement preservation activities.** Continued investment at this level will enable us to turn the corner on the deterioration of our state highway system.

- **Program a "Mix of Fixes" developed from the Pavement Management System that implements "The Right Treatment, At the Right Time, At the Right Place, At the Right Cost".** The proposed capital program funds a comprehensive pavement program consisting of various specific treatments for pavement deficiencies. These treatments include relatively expensive rehabilitation and reconstruction projects for significant problems, less expensive resurfacing projects that extend service life and improve smoothness, and a wide range of lower-cost and often innovative preventive maintenance repair techniques.

Capital Investment Conclusions

A Capital Investment Strategy to maintain, rehabilitate, and reconstruct New Jersey's transportation infrastructure must receive a strong emphasis. New Jersey has a large investment in its highway infrastructure. The state's existing highways, constructed over many years, will have to carry the bulk of commuter, freight and recreation traffic now and for many years in the future. Deterioration and other inadequacies in this infrastructure will be felt by frustrated motorists and ultimately by the economy.

In terms of pavement performance, there is a significant difference in "where we are now" and "where we would like to be." Our ability to invest in pavement preservation at the levels needed to shrink the current and projected backlog and significantly enhance performance can not be realized due to a lack of adequate funding. The inability to provide funding to properly reconstruct, rehabilitate, maintain, and preserve our roadway infrastructure can prove to be an extremely expensive situation in the future.

The CIS sets out the overall *strategy* that NJDOT follows for investing capital transportation dollars for pavement preservation in the future. In a time of multiple competing needs and limited capital, the CIS seeks a cost-effective return on public

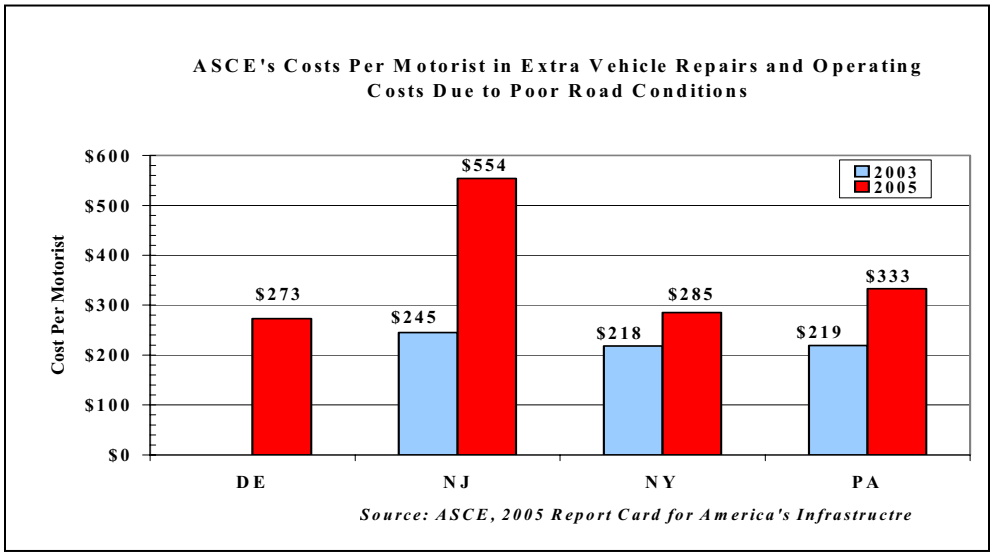
investments. It tells us how we can get more "bang for our bucks". It enables NJDOT, the Metropolitan Planning Organizations, and the Legislature to make informed decisions about which projects and programs receive funding. The result is a cost-effective approach to improving the overall quality of New Jersey's transportation system.

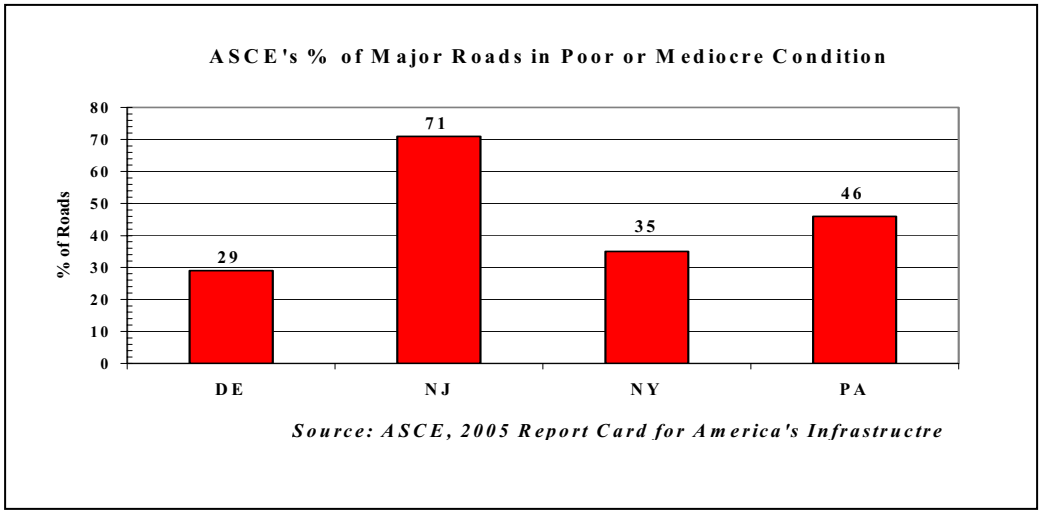
Roadway Preservation

Pavement: Current Conditions

The state highway system under NJDOT jurisdiction represents only about 6% of the total statewide mileage, but approximately two-thirds of all traffic, including a high percentage of heavy trucks, is carried on state-owned roads. Heavy traffic volumes have a significant impact on pavement deterioration and over the past several decades axle load repetitions have doubled every ten years. New Jersey's older pavements are not structurally adequate to handle this increase in axle loading. In addition, pavement repair and maintenance work have been under funded over the last decade. The result is a large backlog of roadway segments in poor or mediocre condition. In fact, a recent evaluation of the nation's transportation infrastructure by the American Society of Civil Engineers (ASCE) rated New Jersey's highways among the worst in the country. Some staggering statistics from the study show that:

- New Jersey motorists paid a total of $3.2 billion dollars in extra vehicle repairs and operating costs due to poor road conditions in 2005. Up from $1.4 billion dollars in 2003, this is the largest total and largest 2-year increase in the nation. The extra vehicle repairs break down to approximately $554 dollars per New Jersey motorist. This is almost double the amount per motorist for the states surrounding New Jersey (see the figure below).





- Approximately 71% of the major roads in New Jersey were determined to be in either poor or mediocre condition in 2005. This is an extreme increase in the percentage of poor pavements in New Jersey and illustrates how the neglect of pavement preservation can cause an immediate impact on New Jersey's highways. When compared to surrounding states, New Jersey has almost twice the amount of poor to mediocre condition highways (see the figure below).

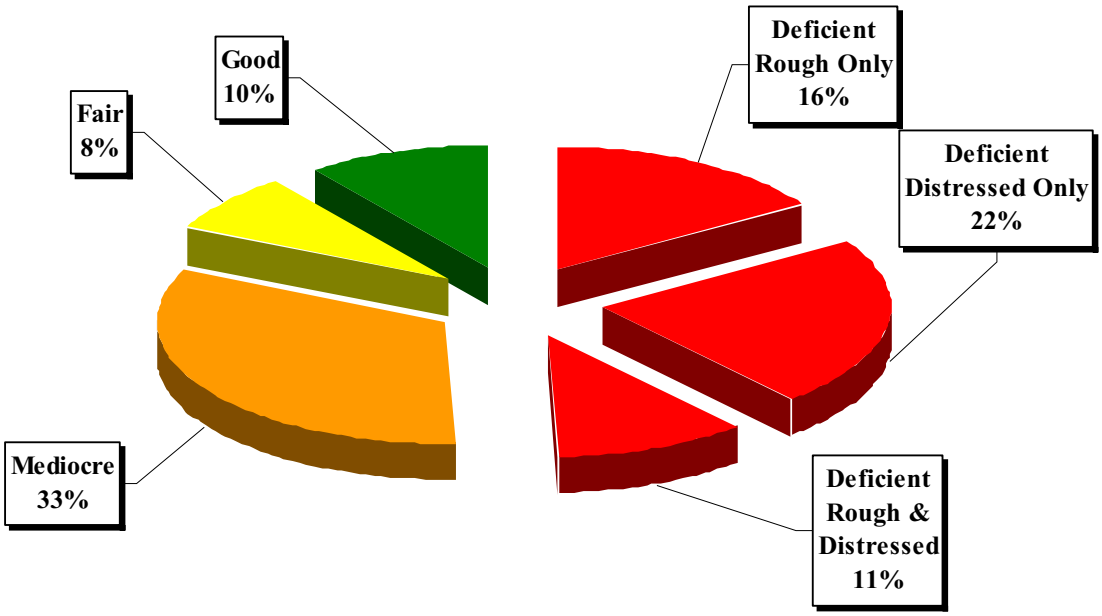
NJDOT's evaluation of the New Jersey state highway system is based upon data collected on state roads and stored in the Pavement Management System. The Pavement Technology Unit analyzes this data to assess current pavement conditions. Two primary indicators of pavement condition are International Roughness Index (IRI) and Surface

Distress Index (SDI). IRI estimates roughness by using lasers to determine the actual variations in the pavement surface from a perfectly flat condition, measured in inches per mile. SDI assesses surface distress and visible deterioration by evaluating cracking, patching, faulting, shoulder drop, and joint deterioration. SDI is reported on a scale of 0 to 5 (5 is a perfect pavement free of any distress). A recent analysis utilized 2005 data to evaluate the state highway system consisting of approximately 2344 centerline miles (4600 two-way miles) of roadway that are state-owned and maintained. This amounted to approximately 8300 lane miles of mainline roadway. Results are shown below:

Source: NJDOT Pavement Management System, 2005 Data

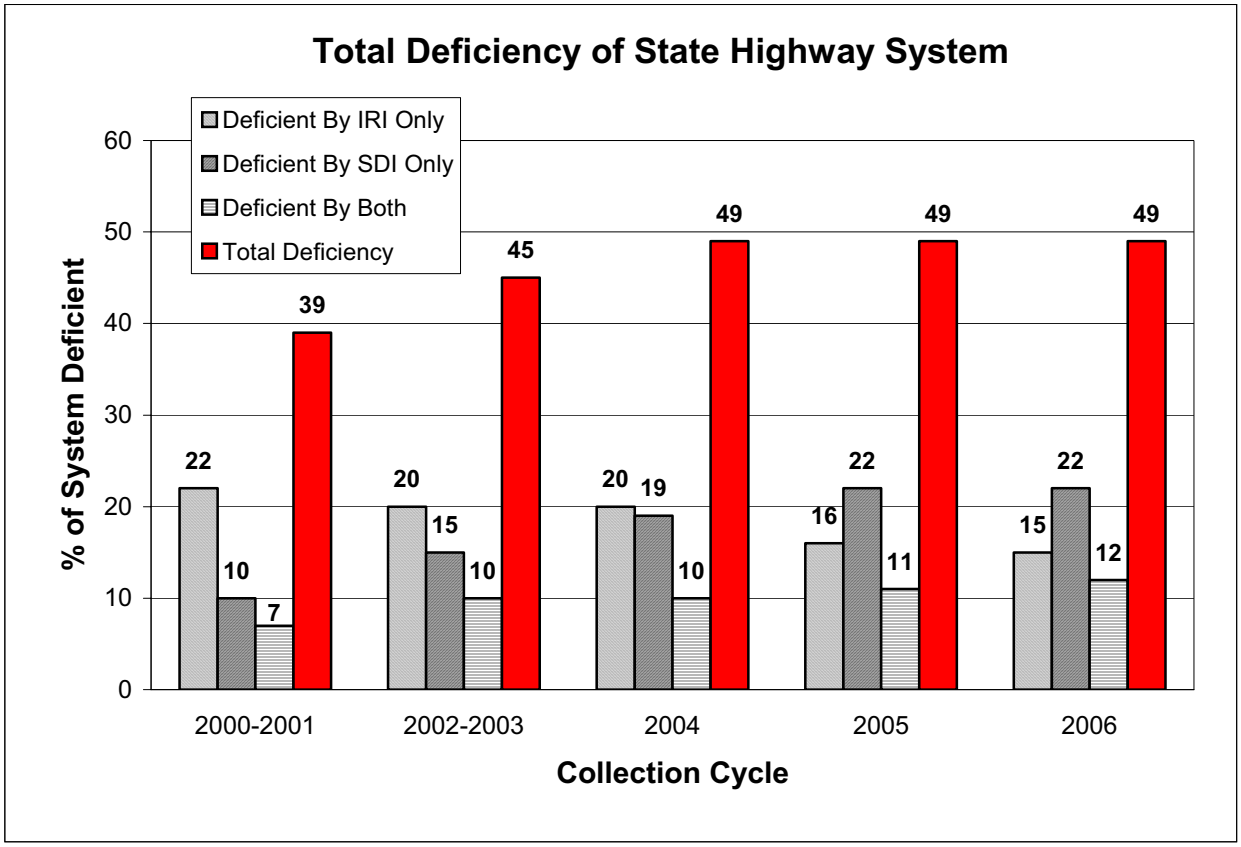
These results underscore the severity of the deficiency backlog (49% of the system).

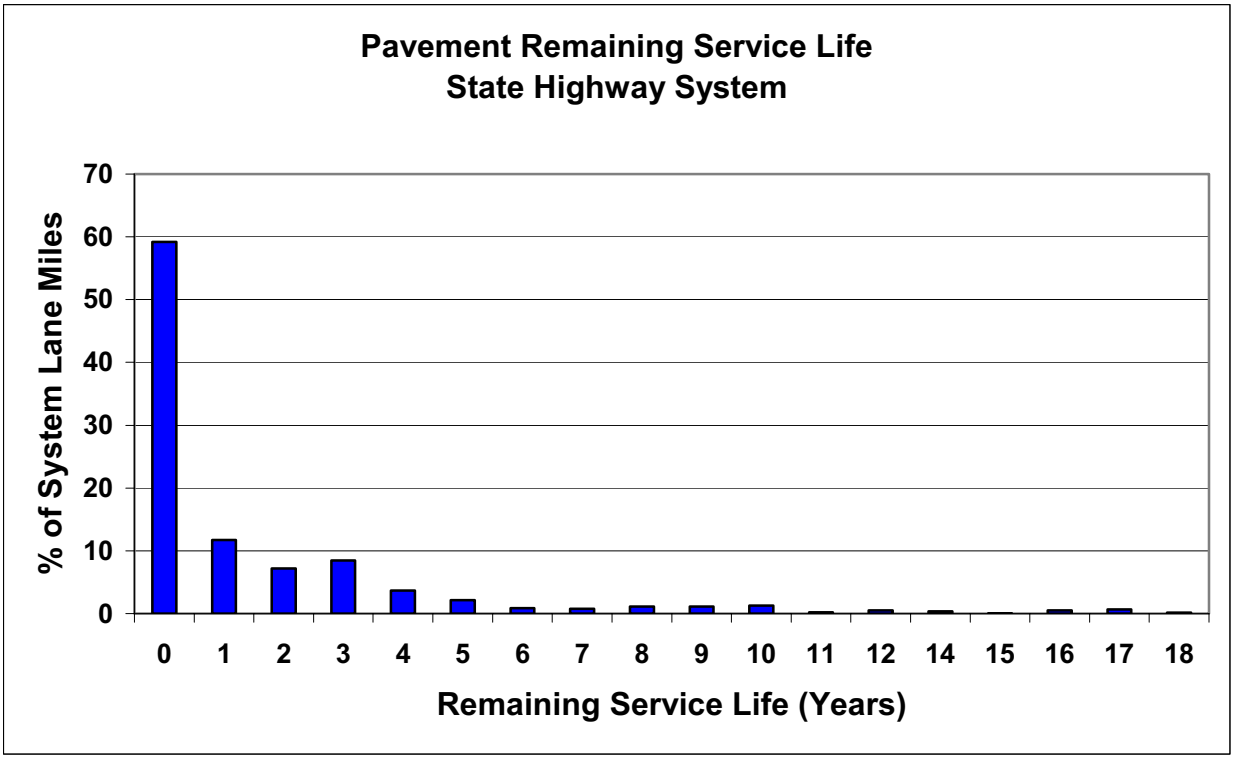
Current Functional Adequacy of NJ State Highway System
(Based on Roughness and Distress)



Further analysis using deficiency numbers over the last 6 years shows that the overall deficiency has risen over time and that increased efforts will be needed to reverse this situation (see the figure below).

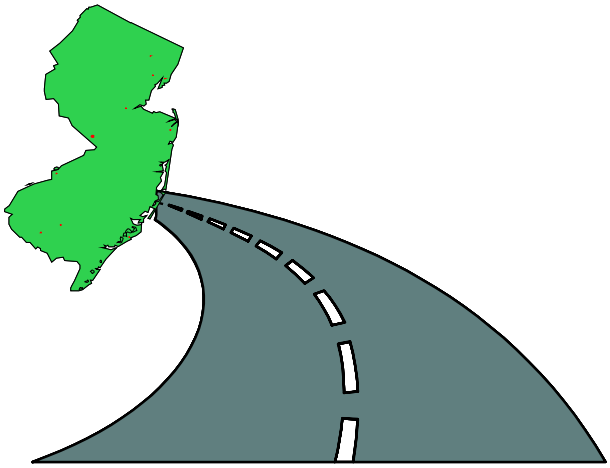
Another way to view this deficiency is to estimate the Remaining Service Life (RSL) of pavement sections in the system. RSL estimates the number of years before a particular pavement section becomes unserviceable. The figure below shows that the vast majority of the system is already in this condition (i.e. RSL is zero).


Total Deficiency of State Highway System
Deficient By IRI Only
Deficient By SDI Only
Deficient By Both
Total Deficiency
% of System Deficient
60
50
40
30
20
10
0
22
10
7
39
20
15
10
45
20
19
10
49
16
22
11
49
15
22
12
49
2000-2001
2002-2003
2004
2005
2006
Collection Cycle


Pavement Remaining Service Life
State Highway System
% of System Lane Miles
70
60
50
40
30
20
10
0
0 1 2 3 4 5 6 7 8 9 10 11 12 14 15 16 17 18
Remaining Service Life (Years)

Roadway Preservation

Pavement: Goals and Objectives



NJDOT's Long Range Transportation Plan goal and objective that relate to pavement condition are as follows:

Goal: Improve and maintain the transportation infrastructure.

Objective: Maintain the structural integrity and ride quality of the state highway system.

In an effort to achieve these endeavors, NJDOT's Capital Investment Strategy (CIS) links a "Fix It First" policy to the need for more significant investment in pavement preservation programs. The investment strategy includes pavement condition as one of its essential elements. Within its overall "Fix It First" goal, NJDOT is committed to a long-term program to shrink the backlog of deficient highway segments and to identify and implement state-of-the-art engineering techniques and management practices. However, lack of adequate funding is the key constraint to pavement improvement.

NJDOT's CIS calls for a bold obligation to re-invest in restoring and maintaining our infrastructure to achieve a high performance level. The intent of the CIS is to allocate resources to achieve this objective. In addition to safety, achieving a "state of good repair" for the New Jersey's highway system and maintaining that system to ensure maximum useful life is one of the Department's key objectives. Goals identify a starting point and a destination. The CIS will provide guidance in determining how the network is affected by our project selections, budget decisions and possible tradeoffs required to achieve our goals.

As an asset management tool, the CIS provides strategic direction to the capital program in implementing NJDOT's "Fix It First" policy. This exemplifies the high priority given to achieving and maintaining a state of good repair for New Jersey's transportation system. Therefore, the CIS for pavement preservation is simply based on a "commitment" to renew and sustain our transportation infrastructure. However, this financial plan will not be successful without increased funding allocations necessary to shrink the backlog of pavement deficiencies projected in the future.

Roadway Preservation

Pavement: Management System Performance Measures

NJDOT's Pavement Management System (PMS) assesses the condition of the pavement on the state highway system every year. Various types of data that evaluate the surface distress, roughness, and rutting (grooves in wheel paths) are collected.

Currently, the primary performance measures for pavement condition are International Roughness Index (IRI) and Surface Distress Index (SDI). The former estimates roughness using lasers to determine variations in the pavement surface from a perfectly flat condition and the latter assesses surface condition in terms of cracking, patching, shoulder deterioration, joint deterioration, etc. (see the figures below). Rutting and frictional skid data are also collected and are used primarily for safety considerations.

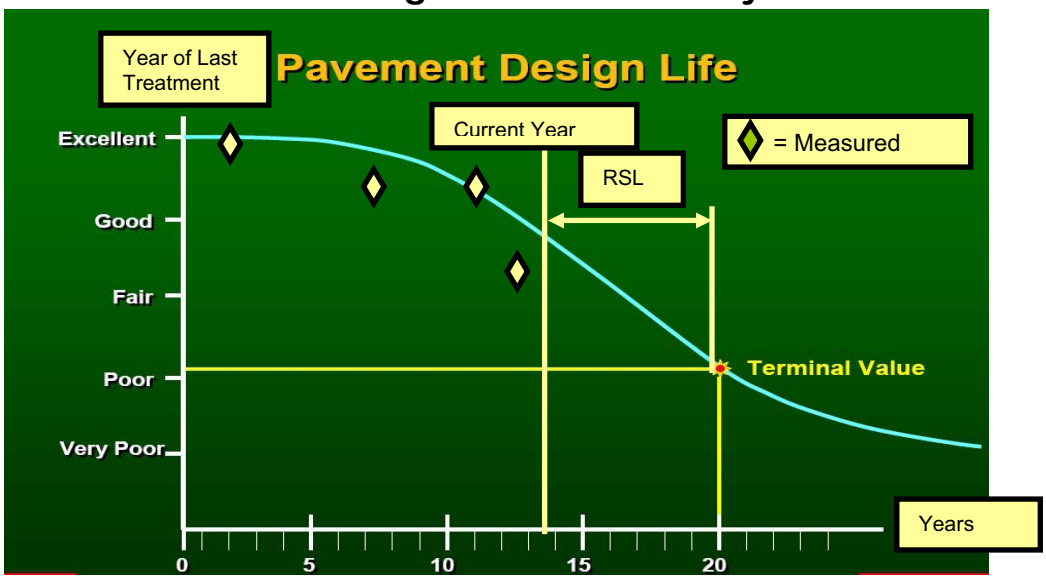
The condition of the pavement system is usually represented as the percentage of the system falling into predefined categories based on IRI and SDI. Criteria shown in the table below are used to perform these evaluations.

Supplementing existing pavement performance criteria, a new performance measure called Remaining Service Life (RSL) is currently under development (see the figure below). Using computer simulation models that estimate pavement deterioration over time, NJDOT engineers are estimating remaining serviceable years for pavement sections in the system. Use of RSL, supported by the Federal Highway Administration, will make it easier to progress with a pavement program which incorporates a proactive pavement preservation approach to preserve pavements and reduce costly rehabilitation and reconstruction projects.

Criteria Used to Assess Roadway Condition

Condition Status	IRI (International Roughness Index, in/mi)	SDI (Surface Distress Index)	Engineering Significance
Deficient (Poor)	**> 170**	**≥ 0 and ≤ 2.5**	**These roads are overdue for treatment.** Drivers on these roads are likely to notice that they are driving on a rough surface, which puts stress on their vehicles. These pavements may have deteriorated to such an extent that they affect the speed of free flow traffic. Flexible pavements may have large potholes and deep cracks. These roads often show significant signs of wear and deterioration, and may have significant distress in the underlying foundation. Roads in this condition will generally be most costly to rehabilitate.
Mediocre	**≥ 120 and ≤ 170**	**> 2.5 and ≤ 3.0**	**These roads exhibit minimally acceptable ride quality** that is noticeably inferior to those of new pavements and may be barely tolerable for high-speed traffic. These pavements may show some signs of deterioration such as rutting, map cracking and extensive patching. Most importantly, roads in this category are in jeopardy and should immediately be programmed for some cost-effective treatment that will restore them to a good condition and avoid costly rehabilitation in the near future.
Fair	**≥ 95 and < 120**	**> 3.0 and < 3.5**	
Good	**≥ 0 and < 95**	**≥ 3.5 and ≤ 5.0**	**These roads exhibit good ride quality** with little or no signs of deterioration. A proactive preventive maintenance strategy is necessary to keep roads in this category as long as possible.

Remaining Service Life Analysis



Roadway Preservation

Pavement: Program Categories

The current program categories under Roadway Preservation are:

- **Pavement Management System (X69).**
  This program provides for the continued operation, development and enhancement of NJDOT's Pavement Management System. The Pavement Management System is an analytical tool for evaluating and prioritizing pavement needs and selecting preservation and rehabilitation strategies to optimize network condition with available resources. Development, operation and maintenance of a Pavement Management System are necessary to meet FHWA requirements for the funding of pavement-related projects. Funding is also provided for the Rutgers Pavement Resource Center. The objective of the Rutgers Pavement Resource Center is to utilize the extensive existing laboratory, field and personnel capabilities of the Rutgers pavement engineering program to assist the Department in optimizing rehabilitation strategies for the significant backlog of pavement needs. The joint NJDOT/Rutgers pavement engineering program will be the primary research and technology arm of NJDOT's Pavement Technology Unit and will be organized to best respond to the New Jersey Department of Transportation's immediate needs for implementation of advanced pavement technologies. The services to be provided by the joint DOT/Rutgers pavement engineering program will include field and laboratory testing and evaluation, development of advanced pavement-related information systems and implementation of specialized training/educational programs for NJDOT and consulting pavement professionals.

- **Resurfacing, Interstate Fast Track Program (99327A)**
  This program will rehabilitate pavement surface on Interstate highways by milling and resurfacing.

- **Resurfacing Program (X03E)**

This is a system-wide program to improve state highways through the application of a new surface course and minor safety improvements to highway segments identified by NJDOT's Pavement Management System.

- **Interstate Pavement Preservation (X51)**

  This program will provide funding for eligible federal maintenance activities which help to keep New Jersey's interstate highway system in a state of good repair.

- **Highway Rehabilitation and Reconstruction**

I-295 Concrete Rubblization Project

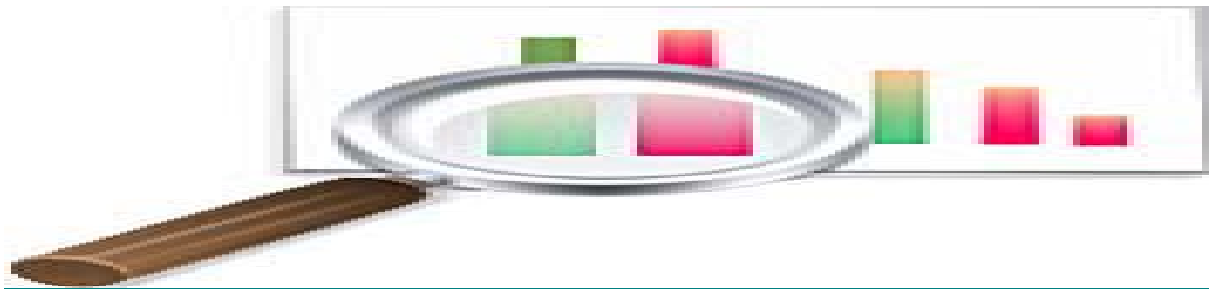
Included in this program category are individual highway rehabilitation and reconstruction projects that may include small or large portions of pavement rehabilitation/reconstruction work. This program category encompasses projects which have a pavement emphasis but which either (1) require substantial work beyond superficial pavement treatment or (2) include other elements of work (operational improvements, etc.) or both. These projects are programmed individually in the capital program and are funded from a variety of funding sources. These projects may or may not be on a priority project list in the pavement management system.

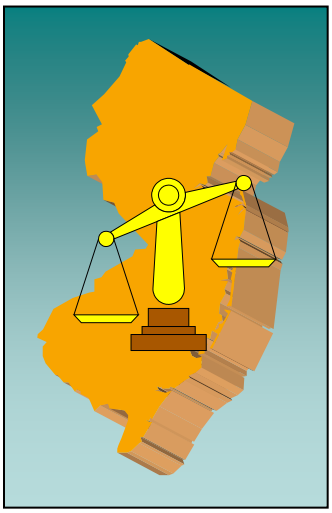
In order to gain more efficiency in implementing the Pavement Preservation Program, a recommendation to realign the above categories into those shown below is under consideration:

- Pavement Management System
- Pavement Rehabilitation and Reconstruction
- Pavement Resurfacing (Maintenance Resurfacing and Roadway Repair Contracts)
- Pavement Preventive Maintenance

Roadway Preservation

Pavement: Performance Analysis

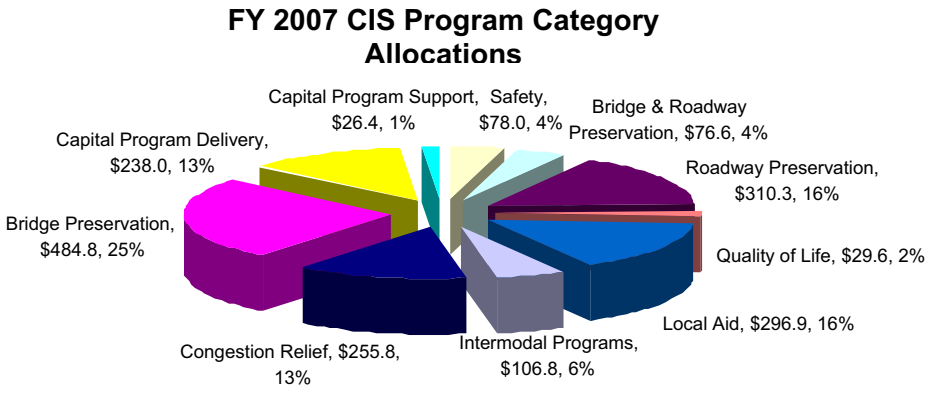




With regards to pavement preservation, the CIS is a decision-making, asset management methodology. It uses the latest thinking in performance measurement and the technological advances in the pavement management system to link the selection of projects for capital funding with broad program objectives. Based on the established pavement preservation goals and objectives, performance analyses are conducted in order to determine how well various alternative investment scenarios perform over time. This in turn explicitly identifies program trade-offs and the outcomes to be expected from the resulting project mix. The alternative investment scenarios include outputs (in terms of prospective project lists) and outcomes (in terms of system condition) for high, medium, and low investment levels. An investment benchmark is then set that is designed to pursue goal achievement. This technique is referred as "performance-based programming."

FY07 CIS Program Category Allocation and projected output:

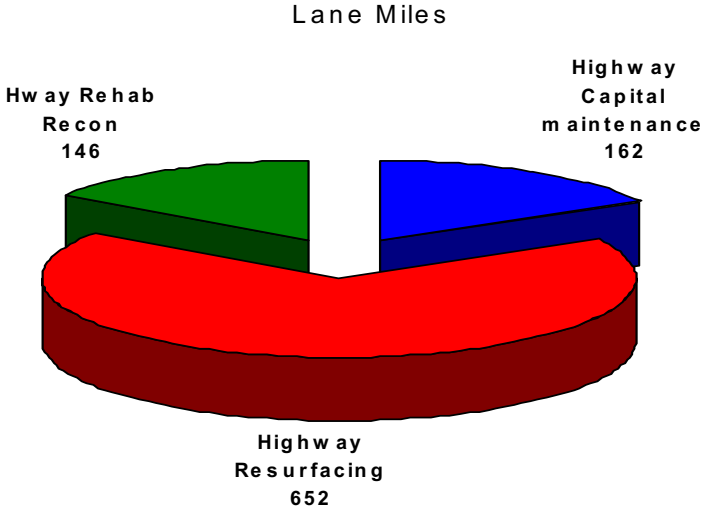
The funding allocations for the bridge preservation program by category are shown in the chart below. As illustrated, the roadway preservation allocation is at $310 million or 16% of the Capital Program.



The following pavement preservation budget is recommended in FY07 to reverse the current negative trend and move closer toward restoring the system to a state of good repair.

Highway Resurfacing	$181 M
Highway Rehabilitation and Reconstruction	$ 83 M
Highway Capital Maintenance	$ 15 M
Pavement Management System	$ 4 M
Total	**$283 M**

This represents an increase of about $130 million in funding for highway rehabilitation and resurfacing projects due to an enhanced program level, plus other economies (funding in FY06 was about $150 million). Approximately 960 lane miles of our state highway system will be rehabilitated, resurfaced, or treated by pavement preservation measures in FY07.



The investment allocations for the remainder of the roadway preservation program in FY07, the drainage and dam categories are as follows:

Drainage	$26.1 M
Dams	$ 1.3 M
Total	$27.4 M

Based on the current FY07-FY11 STIP, work activity involving the drainage and dam programs over the next five year period is expected to produce the following output:

FY 2007-FY 2011 - Projected Output Programmed	
Drainage	20 projects; in addition, general rehabilitation and maintenance is expected to be implemented statewide
Dams	2 projects; in addition, general maintenance and repairs are expected statewide

Project Prioritization and Alternative Budget Scenario Analysis

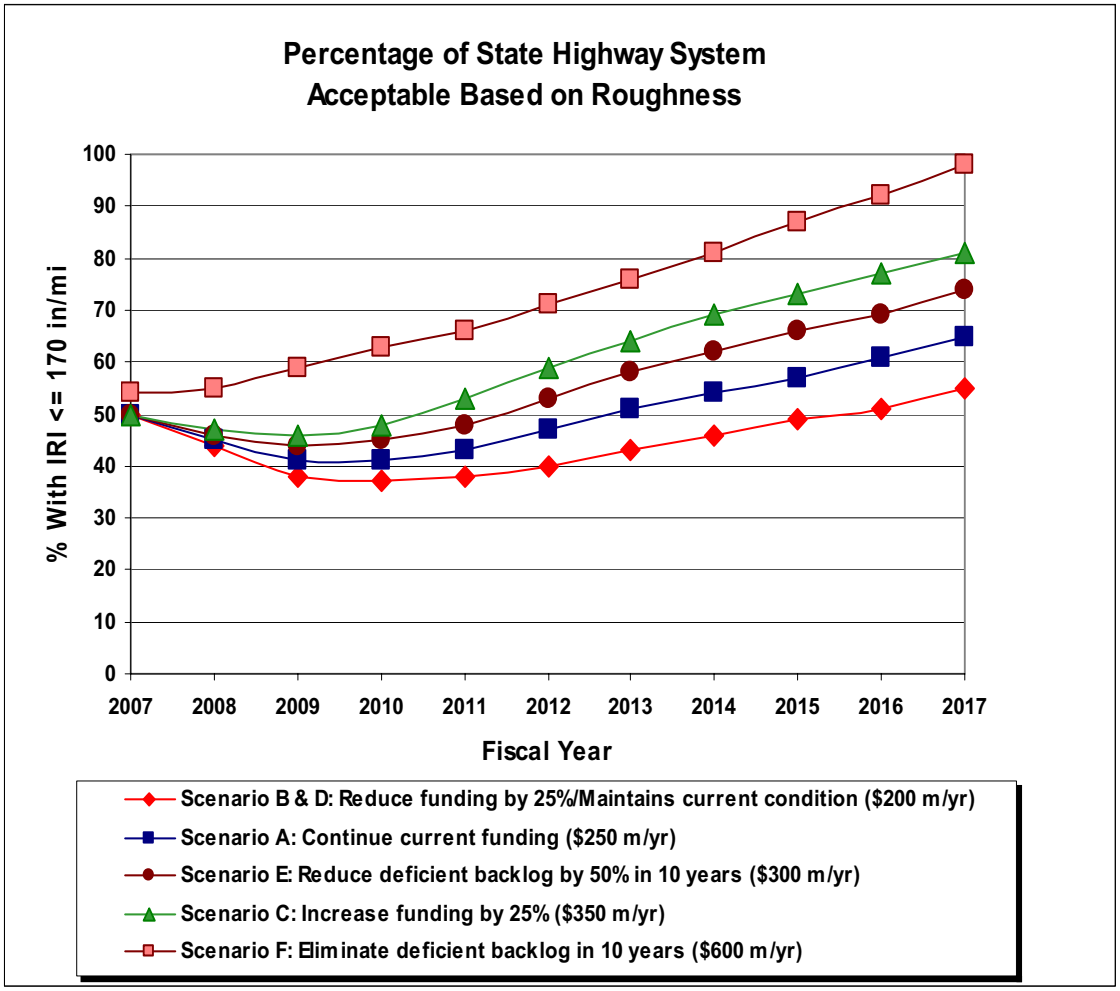
In order to evaluate pavement performance over time in response to different investment scenarios, performance analyses were conducted using the performance measures of pavement roughness measured by International Roughness Index (IRI) and surface distress measured by Surface Distress Index (SDI). The following investment scenarios were evaluated over a 10-year period from 2007 to 2017:

- **Scenario A:** Funding continued at current levels (approximately $250 million/year)
- **Scenario B:** Funding reduced by 25% compared to current levels (approximately $200 million/year)
- **Scenario C:** Funding increased by 25% over current levels (approximately $350 million/year)
- **Scenario D:** Funding required to maintain network conditions at current levels
- **Scenario E:** Funding required to reduce the backlog of deficient pavement sections over a ten year period to 50% of current levels
- **Scenario F:** Funding required to eliminate the backlog of deficient pavement sections over a ten year period

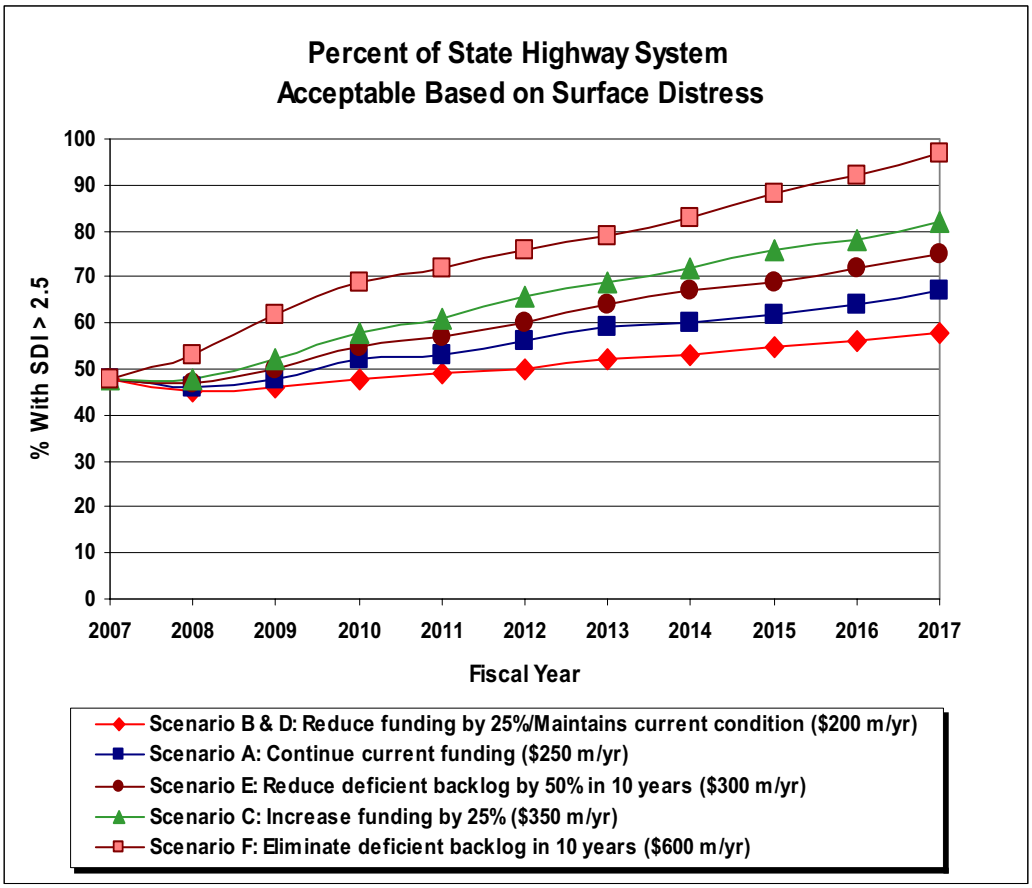
Results of the performance analysis based on pavement smoothness are shown in the figure below:

Figure 5: Multi-Year Performance Analysis
Percent of System Deficient Based on Roughness*

*The figure below demonstrates trends over time based on roughness only. Total system deficiency based on all performance indices would yield significantly greater percentages than those shown below.



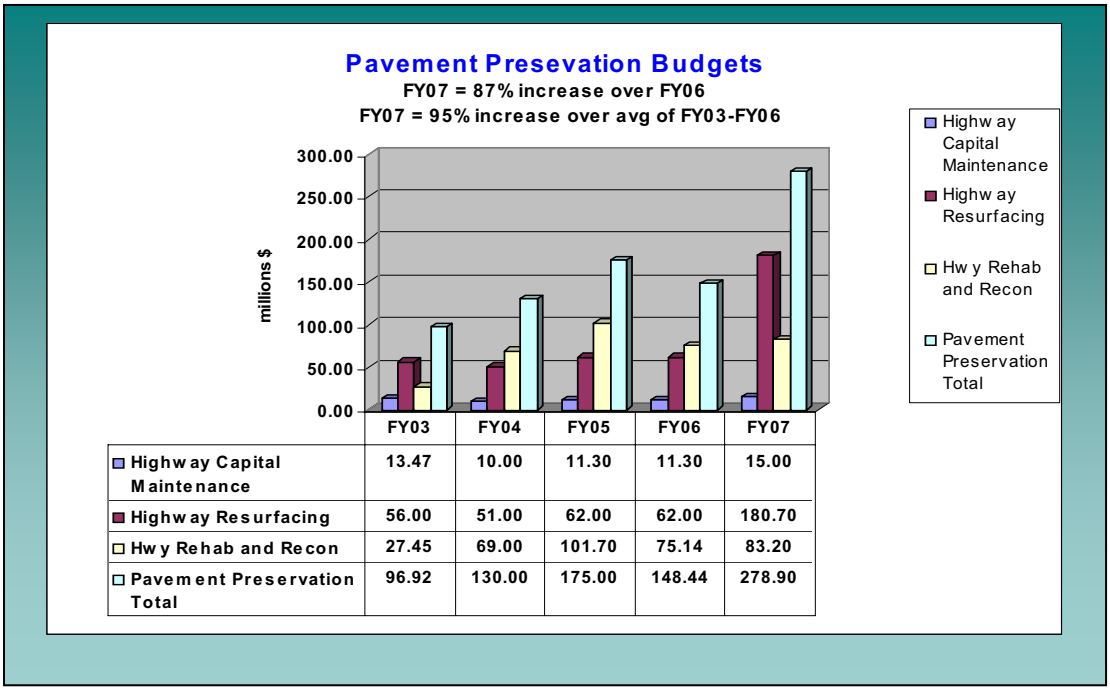
Results of a second performance analysis based on pavement surface distress are shown in the figure below:



It should be stressed that the performance analyses above assume that the funding amounts are applied to pavement priority projects. Roadway rehabilitation and reconstruction projects administered through Capital Program Management are large-scale projects often with many activities (e.g. bridge rehabilitation, widening, traffic signals, safety improvements, utilities, sidewalks and curbs, etc.) which do not directly improve the pavement network condition. Care must be taken in project selection to assure that an adequate percentage of existing lane miles are treated each year to achieve the desired performance level.

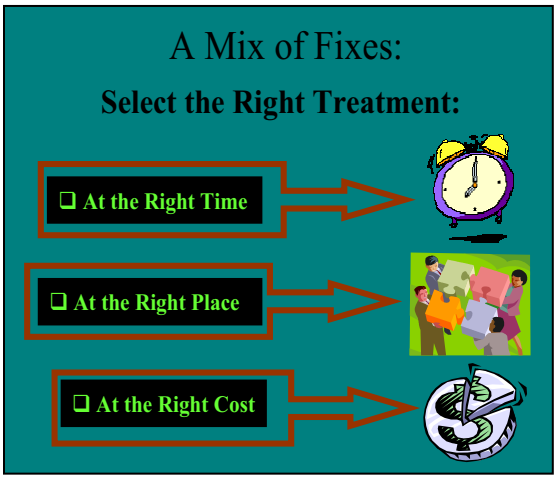
These analyses indicate that in order to eliminate one- half the backlog of deficient pavements over the next 10 years as specified in New Jersey's Transportation Trust Fund Act (NJSA 27:1B-22), a funding level of approximately $300 million per year for priority projects would be required. Furthermore, approximately $600 million per year would be needed to entirely eliminate the backlog of deficient pavements in ten years. Moreover, considering road roughness, surface cracking and structural strength, it was estimated that approximately $1 billion per year over the next ten years would be required to bring the entire state highway system to a good condition.

Based on these findings, recommendations were made for FY 2007 to increase funding levels for highway resurfacing, highway capital maintenance, and highway rehabilitation and reconstruction programs to achieve the backlog reduction objectives. For example, the FY 2007 Capital Program identified a funding level of approximately $279 million, an increase of about $130 million more than the previous year, re-directed to the pavement preservation program. As shown in the figure below, this represents an 87% increase in funding over FY 2006 and a 95% increase over the average investment level since FY 2003.



	FY03	FY04	FY05	FY06	FY07
Highway Capital Maintenance	13.47	10.00	11.30	11.30	15.00
Highway Resurfacing	56.00	51.00	62.00	62.00	180.70
Hwy Rehab and Recon	27.45	69.00	101.70	75.14	83.20
Pavement Preservation Total	96.92	130.00	175.00	148.44	278.90

The Capital Program funds a significantly increased comprehensive pavement program consisting of various treatments for highway problems in order to prevent the constant downward trend in condition level. These treatments include relatively expensive rehabilitation and reconstruction projects for significant problems, less expensive resurfacing projects that extend service life and improve smoothness, and a wide range of lower-cost and often innovative preventive maintenance repair techniques.



Due to the growth of competing transportation needs and limited state and federal funding, the Department's CIS is focusing on producing "better" system-wide pavement quality as opposed to the "best" pavement conditions. This means achieving acceptable condition levels in the most productive and manageable fashion. The incorporation of a "budget sensitive" shorter-term design-life policy allows for the implementation of more small-scale projects such as resurfacing and minor rehabilitation improvements statewide. In order to "fit within our means," NJDOT is budgeting for a diverse pavement preservation program that is balanced with a variety of projects designed to protect New Jersey's infrastructure investments. The implementation of the Pavement Preservation CIS pursues a more cost effective, practical approach to pavement management in New Jersey. Using a life cycle cost analysis, a strategy was developed that maps out a plan for implementing:

"The Right Treatment, At the Right Time, At the Right Place, At the Right Cost". This course of action promotes the most efficient use of available funding based on timing, treatment selection, and priority locations. For example, NJDOT recently employed a new, innovative Pavement Management Plan that emphasizes preventive maintenance. It moves the Department away from a "worst first" outlook and toward a "best first", multiyear prioritization mode of operation.

The plan contains a "mix of fixes," including diamond grinding, ultra thin overlays, longitudinal crack repair, and crack and joint sealing, as well as the more traditional resurfacing and rehabilitation projects. This approach is vital to addressing the backlog of deficient pavements. The ability to selectively fast track projects through a streamlined project development pipeline will play a significant role in implementing this investment strategy. The capability to optimize investments by reallocating, re-directing and increasing funding levels will optimistically have a greater impact on preserving New Jersey's pavement infrastructure.

Roadway Preservation

Drainage

The aging of existing drainage systems, inadequate resources to maintain them, and increased (and sometimes poorly planned) development along state highways have all contributed to an increasing incidence of flooding problems. This in turn means that key elements of the state transportation system are periodically failing to perform - often at times when they are needed the most.

More than ten years ago, NJDOT began developing a drainage management system (DMS) to identify, evaluate, and prioritize drainage problems on the state highway system. The drainage management system ranks identified problems based on the number of homes, businesses, and emergency facilities affected by flooding; traffic impacts; environmental impacts; safety hazards; frequency of flooding; and the estimated cost to mitigate the flooding. For example, the final ranking results were calculated using the formula below. Ranking Value is a mathematical value in years that represents the return on an investment when considering the cost of mitigating flooding on highways to the social and economic consequences (RISK) associated with it. The flood area with the highest score is given the number one ranking and so on down the list.

$$\text{Ranking Value} = \frac{\text{Solution + Environmental}}{\text{Traffic + Safety + Frequency (Structures + Emergency)}}$$

This ranking value is actually expressed in terms of costs/benefits as shown below:

$$\mathbf{RV} = \text{Cost/Benefit} = \frac{\text{Cost (Construction + Permits)}}{\text{Benefits (Safety + Facility Impacts + Traffic)}}$$

Construction = Cost of Remedial Solution
Permits = Cost of Permits
Safety = Annual cost Roadway Users from the safety hazard
Traffic = Annual incremental cost of time and vehicle operations

DMS analysis also recommends a proposed solution. This may lead to a full-scale project moving through NJDOT's project development system or to a "cleanout" of the drainage system using one of the drainage rehabilitation and maintenance programs. There are currently over 200 drainage problems identified and ranked statewide. While this prioritization methodology has been recently used to rank drainage problems, a re-evaluation of this system is expected in the near future.

Approximately 20 drainage projects are currently scheduled for work in NJDOT's Capital Program. About 21 more sites are being reviewed for possible future action identified in the Study and Development Program. At a funding level of about $20 million per year, it is estimated that we will reduce the total backlog of identified drainage needs by one-half over the next 10 years. The proposed capital program would invest in drainage needs at a slightly higher level.

Capital Investment Strategy Guidelines

Continue to invest in drainage improvement projects at a $20 million per year funding level over the next ten years. The ability to maintain this investment level is necessary to achieve the goal of eliminating the backlog of serious flood sites on state highways over the next decade. In order to implement this strategy, the drainage management system will serve as the tool to identify and prioritize flooding problems and provide data for recommendations to mitigate flooding conditions.

Roadway Preservation

Dams

NJDOT has responsibility for 26 dams on the state highway system. These structures—essentially roadways built on top of dams—have hydraulically inadequate spillway capacities, are generally old and in poor condition, and are located in areas of extreme environmental sensitivity. Spillway capacity is based on a minimum of a 100-year storm event or a higher design storm approved by NJDEP.

Dams are classified by a hazard rating system in which Class 1 represents a high hazard (potential loss of life in case of failure), Class 2 represents a moderate hazard, and Class 3 represents a low hazard. NJDOT's objective is to: Eliminate the backlog of hydraulically inadequate dams on the state highway system.

The Musconetcong Lake Dam, located in Netcong and Stanhope Boroughs, Morris and Sussex Counties has been identified as the most serious dam problem in the state since it is a Class 1, hydraulically inadequate dam. It has been given a Class 1 rating because residential and commercial properties are located in the vicinity of this dam. Including this dam, there are 4 dams statewide which have been given a Class 1 rating.

There are 4 Class 1 dams and 17 Class 2 dams under NJDOT jurisdiction statewide. NJDOT continues to invest funding to eliminate the backlog of inadequate dams under NJDOT jurisdiction that are classified as high and moderate-hazard. For example, in 2004 the Department completed the Route 40, Malaga Lake Dam project as shown below.

U.S. Route 40, Malaga Lake Dam Project
Franklin Township, Gloucester County, NJ

Pre-Construction

During Construction

Post Construction

Projects to improve the overall condition level and reduce this backlog of inadequate dams are included either in the FY 2007-10 Capital Program or in the FY 2007-08 Study and Development Program. The Department has active projects for the following dams:

FY 2007-10 Capital Program (STIP)

- Route 9, Pohatcong Lake Dam, Tuckerton Borough (Class 1 rating)

  The dam does not have the capacity to convey the required Spillway Design Flood (SDF). The initially preferred alternative would include reconstruction of the spillway, culvert and installation of sheeting along the downstream side of the roadway. The sheeting would protect the road and dam embankment in the event of overtopping.

- Route 206 Atsion Lake Dam, Shamong Township (Class 1 rating)

  This dam is classified as high hazard, Class 1 by NJDEP-DSS. This project will provide for rehabilitation of the dam to address the following deficiencies: (1) timber gates and structural members of the spillway need to be replaced with concrete fixed crest spillway and (2) construct embankment protection measures or purchase the downstream properties to downgrade the hazard class to a 100-year storm.

- Dam Betterments Program

  This program will provide funding for DEP mandated cyclic (2 year) inspections and the preparation and maintenance of Emergency Action Plans (EAP), Operations and Maintenance Manuals (O&M) and Hydrology and Hydraulics (H&H) engineering studies to Department-owned dams. If needed, minor improvements will be provided for hydraulically inadequate dams located on the state highway system.

FY 2007-08 Study and Development Program

- Route 30- Blue Anchor, Winslow Township (Class 2 rating)

  This project will address the proposed replacement of the spillway structure. The existing spillway structure is reported to be deteriorated and inadequate to pass 100-year, 24-hour storm without overtopping the crest of roadway at the current setting of the stop logs. Operation of the stop logs during an emergency may be difficult without any operating mechanism. The replacement of the dam is necessary in order to prevent roadway deterioration due to flooding.

- Route 56, Rainbow Lake Dam, Pittsgrove Township (Class 2 rating)

This project is developing a solution for this dam that will help the hazard classification rating. At present, the Route 322, Raccoon Creek Bridge/Mullica Pond Dam is being completed together with the Route 56 Rainbow Lake Dam. Both dams have class 2 ratings. This dam is owned and maintained by NJDOT.

- Route 130 Crystal Lake, Bordentown Township (Class 2 rating)

  This project will provide for the proposed improvements to the dam which is identified as a Class 2 rating. The dam is owned and maintained by NJDOT.

Capital Investment Strategy Guidelines

- Continue to implement work that is directed toward the improvement of all inadequate dams.
- Start projects for the remaining high-hazard inadequate dams.
- Provide continuous monitoring to ensure that the safety of the public is protected.

Safety Management

Safety on New Jersey Roadways

Route 80/287 Interchange, Morris County, Parsippany –Troy Hills Township

It is an unfortunate fact that on average 750 people will die on New Jersey's roadways each year, about 2 every day with over 75,000 people injured, as well. This takes a toll on not just the victims, but their families, friends, their places of work, and society as a whole. Injuries and deaths as a result of vehicle and pedestrian crashes have a significant impact on the economy of this state as well as the nation. According to the National Highway Traffic Safety Administration (NHTSA), the cost to New Jersey of crashes is $9.336 billion per year (2000) and $230.568 billion for the United States. This represents a cost of about $1100 for each person in New Jersey. These costs were in lost productivity, medical, legal, emergency services, insurance, property damage, and travel delay. Nationally, the most significant costs were in lost market productivity and property damage, at 26% each of the total costs. Medical and emergency services accounted for 15% of the costs, with travel delay at approximately 11%. If it were assumed that there is a similar breakdown of costs for New Jersey (numbers were not available specifically for NJ), the impact to New Jersey's economy is significant. The monies lost each year could be well spent on providing sustainable funding for safety, transportation, and travel improvements.

Governor Corzine recently released his Economic Growth Strategy for New Jersey which established six priorities to support economic growth in this state, with a statement that "encouraging economic growth must be a core mission of New Jersey state government." It is clear that the Department of Transportation (DOT) has a responsibility to ensure that its funds are spent on the right safety projects that will encourage and support the future growth of this state's economy. With the staggering costs noted above for crashes, it is incumbent that the DOT develop and implement safety programs and projects that will reduce crashes, injuries, and deaths on our roadways.

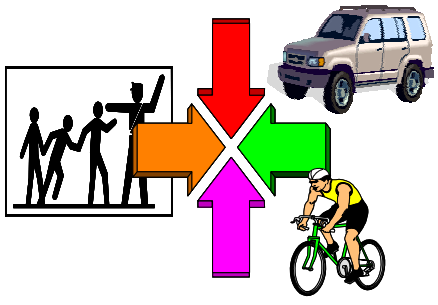
One of the major accomplishments this investment cycle was the completion of the New Jersey draft Comprehensive Strategic Highway Safety Plan (NJCSHSP), which outlines 135 strategies and actions, in eight Emphasis Areas as follows:

- Minimize Roadway Departure Crashes
- Improving Design/Operation of Intersections
- Curb Aggressive Driving
- Increase Driver Safety Awareness
- Reduce Young Driver Crashes
- Reduce Impaired Driving
- Reduce Pedestrian, Bicycle, Rail & Vehicular Conflicts
- Sustain Proficiency in Older Drivers

The Plan was developed with the assistance of 140 transportation and safety professionals, who provided input into the strategies and actions, which were in six categories (engineering, education, enforcement, leadership/planning, EMS, legislative). The Plan is meant to provide a framework for implementing those safety improvements that, based on the best available crash data, will derive the biggest benefit and will support the overall goal of saving lives.

This year, the formal adoption of the CSHSP and the beginning of implementation of the strategies and actions will take place. This document contains recommendations for future programs that will support and enhance the CSHSP.

The following report details efforts to evaluate several existing safety plans; examine the current state of safety work; predict where safety is headed in the future; estimate the amount of funding that would be necessary for implementation; and develop a set of performance indicators by which the safety programs can be evaluated. Ultimately, we will be judged by a reduction in crashes and injuries, and by how many lives are saved on New Jersey roadways.



Safety Management

CIS Guidelines and Recommendations

The following CIS guidelines are based on the evaluation of the current and predicted state of New Jersey's transportation system. This involved an analysis of alternative budget scenarios in order to identify the appropriate investment levels required to meet the states highway safety needs over the next ten years.

The investment scenarios outlined the monetary consequences of a reduced funding level, current condition level, and efforts to reduce current backlogs of work between FY 2008 and FY 2017.

The recommendations are as follows:

- If the Department wants to continue to be the leader in reducing deaths on our roadways, the overall resources should be increased for those areas related to safety, such as Safety Programs, Traffic Engineering and Investigations, Traffic Signal and Safety Engineering, Regional Operations, and Operations Support.
- Additional internal and/or external resources should be applied so that the integration of the various management systems becomes a top priority within the Department.
- The Department should add educational components to its safety program. This can be accomplished through the SAFETEA-LU 10% flex on safety funding.
- Programs should be established that reflect and complement the Emphasis Areas in the NJ Comprehensive Strategic Highway Safety Plan (NJCSHSP).
- The Department should embrace on-going marketing strategies for safety programs.

To reduce the backlog of safety assignments in 2008 by 50% would cost approximately $300 million.

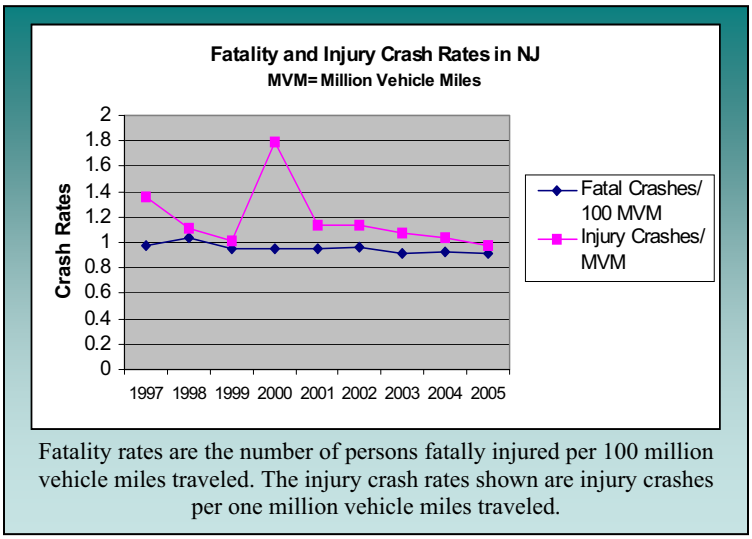
Safety Management

Current Conditions

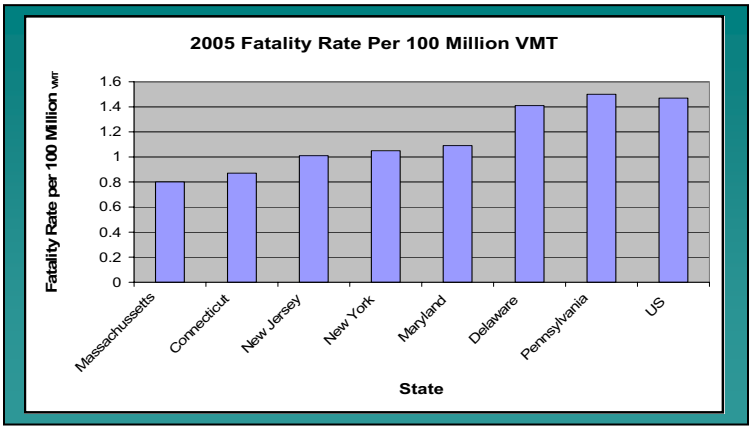
With so many motor vehicles traveling New Jersey's interstate freeways, toll roads, and state highways each day, vehicular crashes on our roads are not uncommon sights. However, in comparison to 2004, the total number of vehicular crashes in New Jersey in 2005 declined by about 3%. Although New Jersey is the most densely populated state in the nation, with approximately 36,000 miles of roadway that attracts many interstate travelers from New York and Pennsylvania, the fatality and injury crash rates have shown an overall declining trend since 1997.

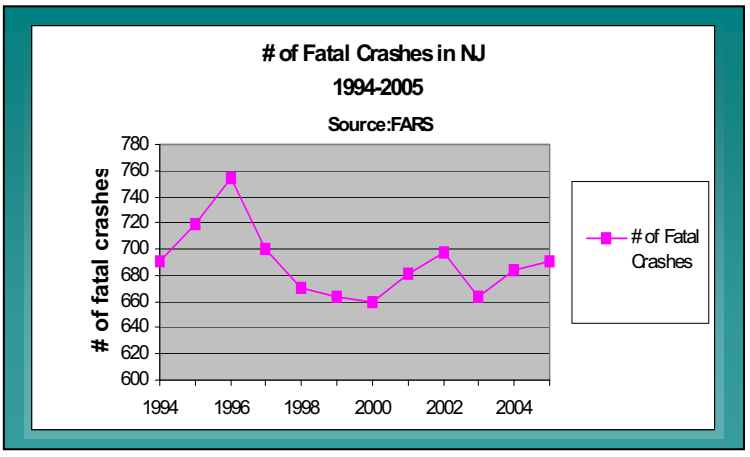
This declining yet favorable trend is the result of many factors, including safer driving behavior, safer cars, more seatbelt usage, less drunk driving, and safer roadways. Compared with other states in the Northeast, New Jersey has one of the lowest fatality rates.

While New Jersey's crash rate statistics have improved, this translates tragically, into many serious crashes that result in deaths, severe injuries, and unrecoverable economic losses. For example, in 2005, there were 72,028 crashes involving injuries. According to the federal Fatality Analysis Reporting System

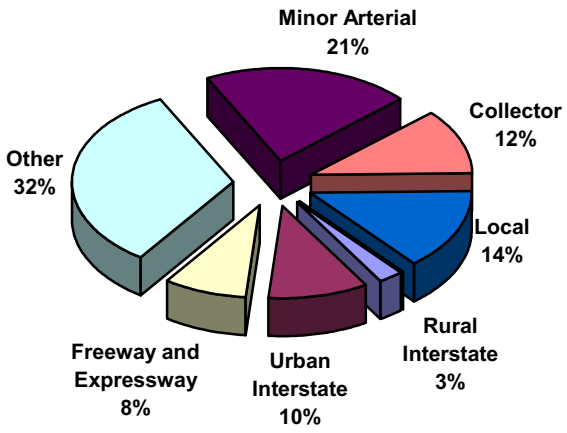


Fatality rates are the number of persons fatally injured per 100 million vehicle miles traveled. The injury crash rates shown are injury crashes per one million vehicle miles traveled.





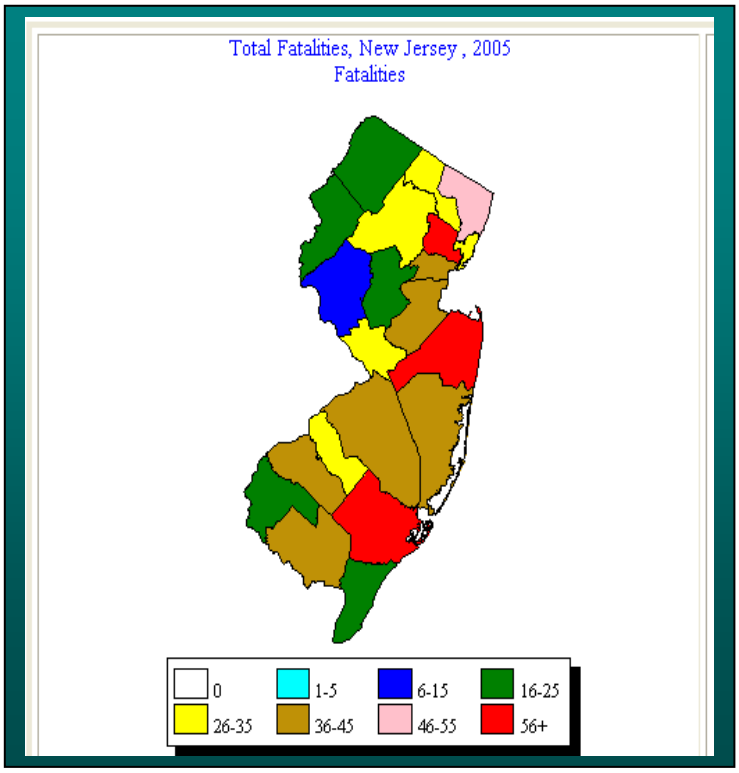
(FARS), of the almost 320,000 crashes reported on New Jersey roadways in 2005, there were 691 fatal crashes as illustrated in the chart above. These crashes resulted in 748 deaths (a 3% increase over 2004), of which 154 were pedestrian fatalities. Consequently, about 2 people were killed everyday. The chart below shows a breakdown of total fatal crashes by roadway functional classification.



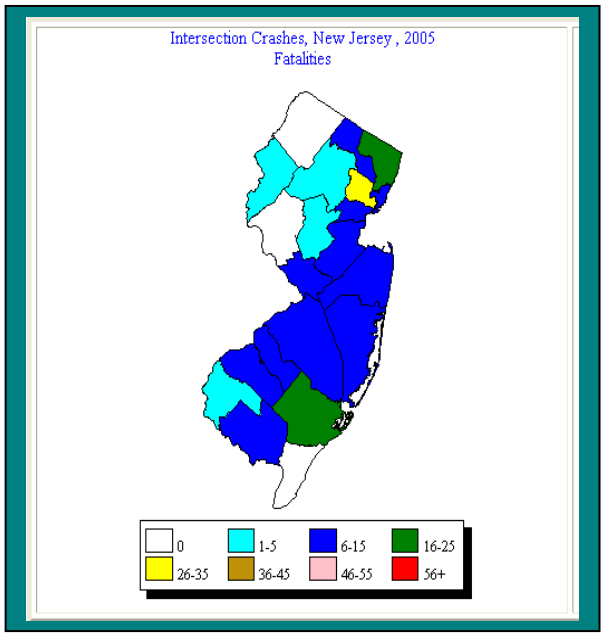
- ***Straight roads were involved in 60.9 % of all fatal accidents.***
- ***Of all fatal accidents, 85.2 % occurred during clear weather conditions.***

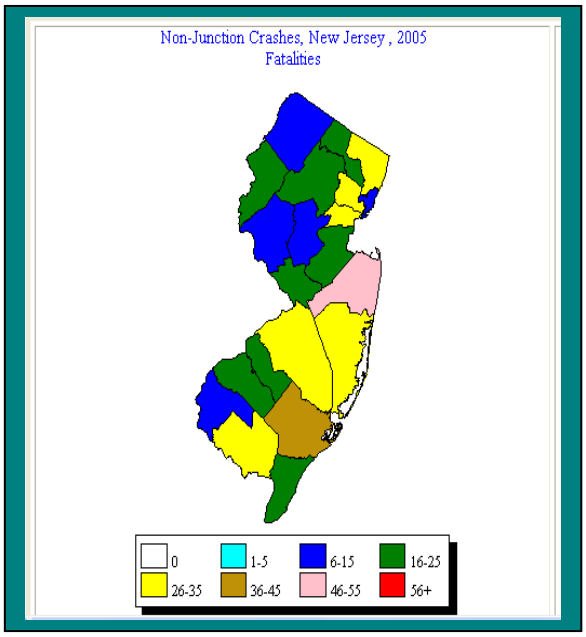
Source: Fatal Accident Investigation Unit of the Div of State Police for 2005

Using FARS fatality data for New Jersey, the National Center for Statistics and Analysis of the National Highway Traffic Safety Administration displayed the following fatalities by county for 2005:

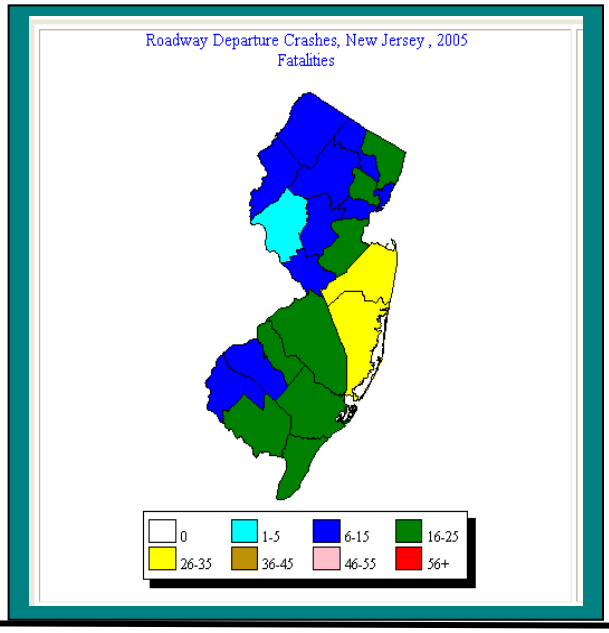


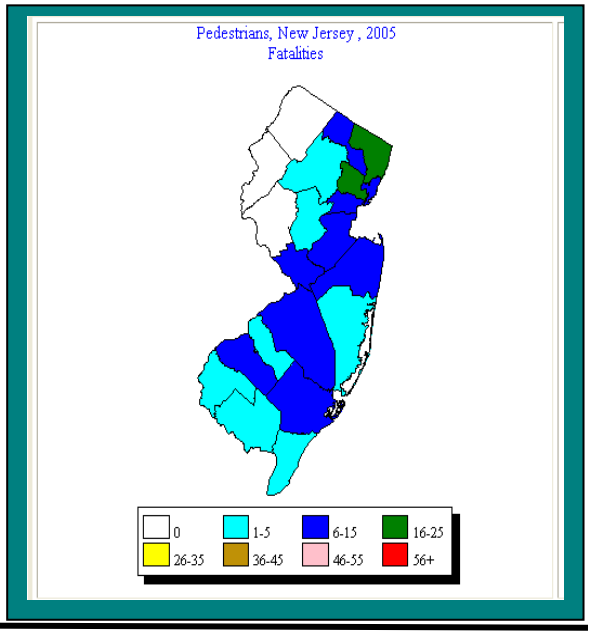
In 2005, the most intersection crashes resulting in fatalities occurred primarily in the more urbanized counties of the northeastern, central and southern regions of the state. The northwestern region experienced significantly smaller number of crashes causing fatalities at intersections. However, fatal crashes between intersections (non-junction crashes) were more widespread throughout the state.





The highest number of roadway departure crashes resulting in fatalities tended to occur more in the southern region of the state. Pedestrian fatalities occurred in more urbanized areas and less in the most rural counties.





In addition, it is interesting to note as shown in the chart below, 66% or 102 of the pedestrian fatalities involved improper crossing of the roadway or intersection.

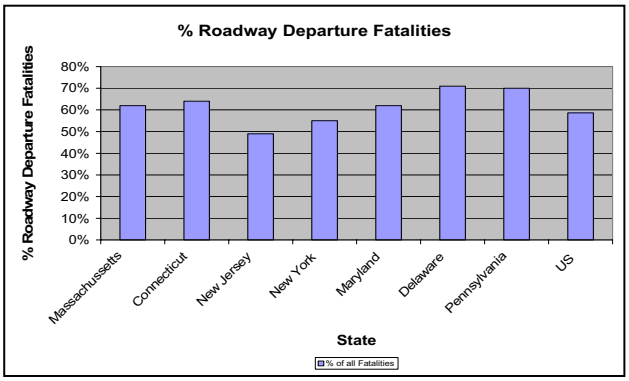
Pedestrians Killed, by Related Factors

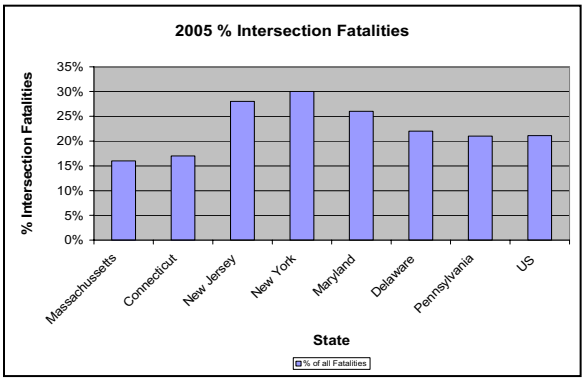
Factors	Number	Percent
Walking, playing, working, etc. in roadway	0	-
Improper crossing of roadway or intersection	102	66.23
Failure to yield right of way	0	-
Darting or running into road	2	1.30
Not Visible	2	1.30
Inattentive (Talking, Eating, etc.)	0	-
Physical impairment	0	-
Failure to obey traffic signs, signals, or officer	0	-
Emotional (e.g., Depression, Angry, Disturbed)	0	-
Getting on/off/in/out of transport vehicle	1	0.65
Ill, blackout	1	0.65
Non-Motorist pushing vehicle	0	-
Other factors	0	-
None Reported	47	30.52
Unknown	0	-
Total	154	100.00

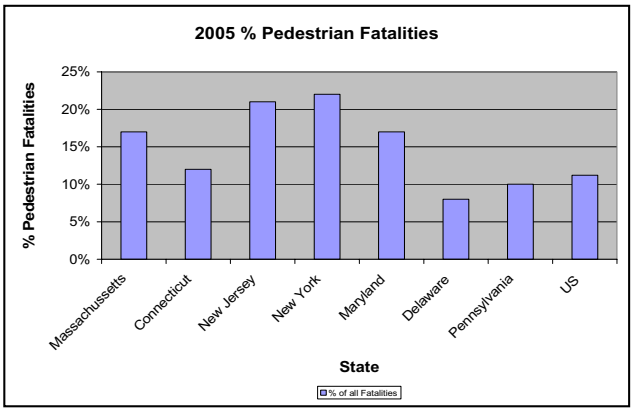
Source (FARS) 2005

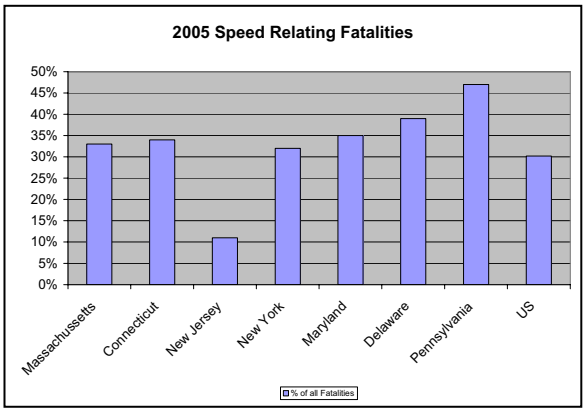
It is important to reiterate that injury and fatality rates are affected by many factors other than highway condition and performance. For instance, weather conditions, seat belt use, number of intoxicated drivers, extent of police exposure, law enforcement, vehicle speed variations and driver performance all contribute to the frequency of and rate of fatality and injury crashes.

The following charts show how New Jersey generally compares against other northeastern states with regard to several fatality indicators (Source: FARS):









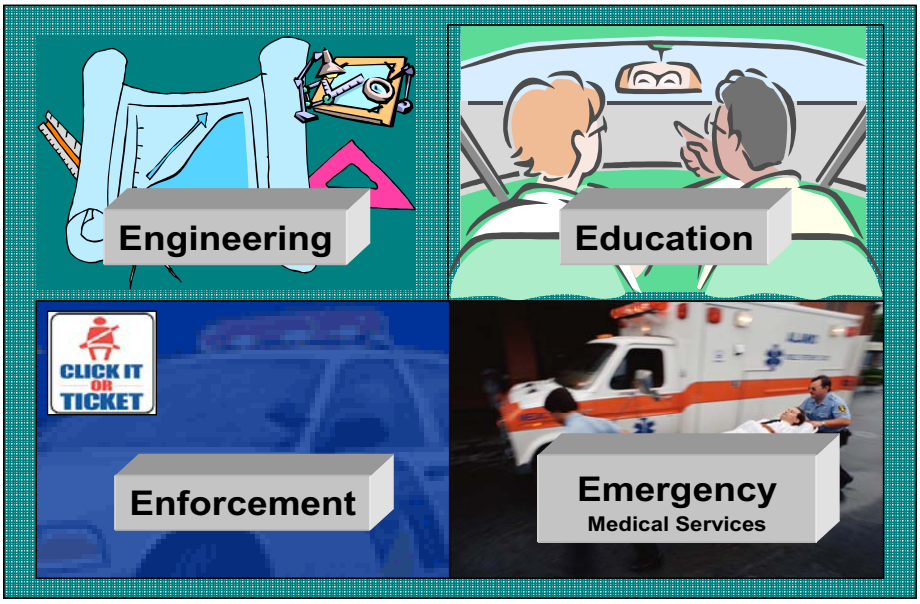
Benchmarking provides a general overview of where New Jersey stands when compared to other northeastern peer states, as well as the nation. Benchmarking, as a comparison with peer states is one method of validating whether the performance targets set for an agency make sense. Making these types of statistical comparisons provides an understanding that other states are using the same performance measures. This helps to set achievement goals. However, care must be given when attempting to make precise comparisons as it does not take into account a great many factors, some of which include road mileage and functional class, laws, demographics, etc. The most precise method to get an overview of safety in New Jersey is to track annual trends and use this information to make capital programming decisions to improve highway safety (Source: NJDOT CRD, unless otherwise noted).

Safety Management

Goals & Objectives: "Safety First"

NJDOT is continuing to pursue its Safety First Program as a top priority. New Jersey's comprehensive approach to improving highway safety is called Safety First. Safety First began in March 2003 with the convening of the Governor's Highway Safety Task Force, including representatives of NJDOT, the State Police, other state agencies, and a variety of public and private groups interested in promoting safety on the roads. The initiative pursues all aspects of the highway safety problem: The 4E's - Engineering (making roads safer), Education (encouraging better driving habits), Enforcement (stopping unsafe and illegal driving) and Emergency Medical Services.

.



NJDOT initiatives launched as part of the Safety First program include:

- Median crossover crash prevention program—Installation of guide rail or cable along grass highway medians to prevent out-of-control vehicles from crashing head on into opposing traffic.
- Safe corridors program—Implementation of improvements recommended by safety impact teams within designated safe corridors including doubling fines in high risk areas.
- Safe streets to school program—Support for municipal projects to improve

sidewalks and street crossings to provide safer access to schools for walking students.

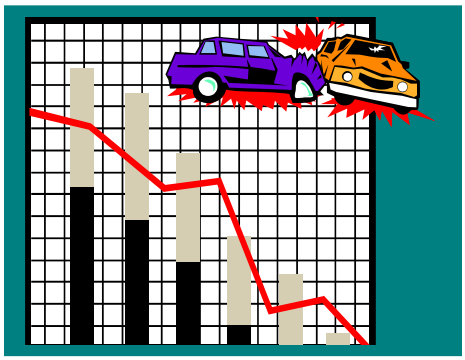
- Adoption of technologies to improve emergency response times for crashes
- Increased penalties for commercial vehicle violations
- Revision of the written driver's test.

NJDOT has recently worked with more than 20 agencies and organizations in the state's Safety Management Task Force to develop a NJ Draft Comprehensive Strategic Highway Safety Plan (NJCSHSP) for the future. The Vision, Mission, and Goal statements developed by the Task Force are:

- Vision
  We will strive to operate the safest surface transportation system that will ensure the health and well-being of all users.

- Mission
  To develop, promote, and implement education, enforcement, and engineering strategies for reducing the frequency and severity of vehicle and pedestrian crashes on New Jersey's transportation system.

- Goal
  Continually reduce the total number of crashes, emphasizing a reduction in the deaths and injuries, on New Jersey's transportation system as identified in the draft 2030 Long Range Plan.



- Objective

  To prioritize the resources that are allocated for those safety programs that will provide for the achievement of our goal of reducing crashes, injuries, and deaths on New Jersey's roadways.

The task force has identified emphasis areas for future efforts. The Eight Emphasis Areas are:

- Curb Aggressive Driving
- Improve Design/Operations of Intersections
- Increase Driver Safety Awareness
- Minimize Roadway Departure Crashes
- Reduce Crashes With Young Drivers
- Reduce Impaired Driving
- Reduce Pedestrian, Bicycle, Rail & Vehicular Conflicts
- Sustain Proficiency in Older Drivers

Safety Management

Safety Management System: Performance Indicators

The Safety Management System (SMS) identifies high-crash locations and patterns of crashes (right angle, left turn, wet weather, same direction, deer/animal, etc.). Based on these analyses, NJDOT, in cooperation with the Federal Highway Administration, develops a Highway Safety Improvement Program, which targets funding for those projects and programs likely to produce the best results in reducing the number and severity of crashes.

To track the long-term progress toward achieving the stated goal, NJDOT is proposing the use of the following performance indicators in both the Long Range Plan and Capital Investment Strategy.

- Total Number of Crashes
- Number of Deaths
- Number of Injuries

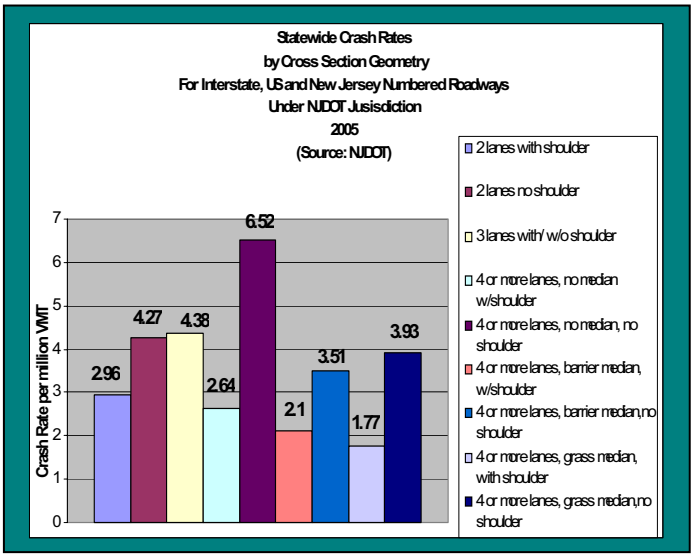
The performance indicators can be obtained from available data within New Jersey's Crash Records System. A primary data source for the evaluation of fatalities is the National Highway Traffic Safety Administration's (NHTSA) Fatal Accident Reporting System (FARS). The number of deaths can be benchmarked against other States using data obtained from this system. In addition, using the 2001-2005 crash data, it is possible to see the trends of several crash types within New Jersey. As shown in the Performance Analysis section of this report, this type of benchmark data provides an indication of what is happening in New Jersey and should be used as guide in developing how and where the safety investments should be made.

NJDOT plans to adopt a subset of goals and performance indicators be adopted for each program category to measure and track the progress of the investments made through the capital program. In essence, the Long Range Plan and CIS will track those things that are impacted by the programs implemented as part of the capital program. It is anticipated that each program category consist of multi-year performance indicators (i.e. number of crashes, deaths, injuries) that reflect back to the overall goal statement. These performance indicators will have to be tracked over time to tell us if our implemented programs actually attributed to the overall goal. In the interim, it is recommended that annual performance indicators including the number of projects implemented and funding spent within each program category, be tracked to determine progress and establish the cost-benefit of the programs in the future. As shown in the chart below, NJDOT will consider using the following multi-year and annual performance indicators associated with each program category.

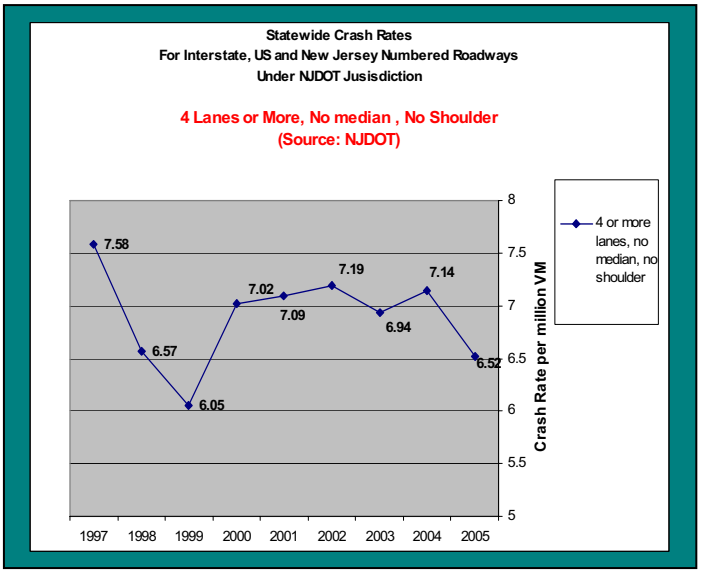
Program	Fund	Performance Indicators	
		LRP/CIS	CIS output measures
Pavement Safety Enhancements (RPM's, Skid Resistant Pavements, Rumble strips)	STP-SY	▪ Nighttime crashes, deaths, and injuries ▪ Wet weather crashes, deaths, and injuries ▪ Run off the road crashes, deaths, and injuries	▪ # RPM projects implemented ▪ $$$ Authorized/spent for RPM's ▪ # Skid Crash Reduction Program projects implemented ▪ $$$ Authorized/spent for Skid Crash Reduction Program ▪ # of rumble strips installed ▪ $$$ Authorized/spent
Betterments, Safety (beam guide rail, impact attenuators, safety fencing)	State	▪ Guide rail related crashes, deaths, and injuries	▪ Qty of guide rail installed ▪ $$$ Authorized/spent on guide rail
Bridge Safety Program (bridge railing, bridge safety fencing, etc.)	STP-SY	▪ Bridge related crashes, deaths, and injuries	▪ # of projects implemented ▪ $$$ Authorized/spent
Roadside Safety Program (Utility Pole Delineation, Removal of Fixed Objects, etc)	STP-STY	▪ Utility Pole crashes, deaths, and injuries ▪ Fixed object crashes, deaths, and injuries	▪ # Utility pole delineation projects implemented ▪ $$$ Authorized/spent for utility pole delineation ▪ # Fixed Object projects implemented ▪ $$$ Authorized/spent for fixed object projects
Cross Median Crash Prevention Program	STP-SY	▪ Cross median crashes, deaths, and injuries	▪ # Miles median barrier installed ▪ $$$ Authorized/spent
Intersection Improvement Program	State	▪ Intersection crashes, deaths, and injuries	▪ # Intersection improvement projects Constructed ▪ $$$ Authorized/spent for intersection improvements
Highway Lighting Program		▪ Nighttime crashes, deaths, and injuries	▪ # of projects implemented ▪ $$$ Authorized/spent
High Risk Rural Roads		▪ Rural road crashes, deaths, and injuries	▪ # of Projects implemented ▪ $$$ Authorized/spent
Motor Vehicle Crash Record Processing	STP	▪ None identified	▪ # of records processed
Rail Highway Grade Crossing Program, Cape May Seashore Lines	STP-SY	▪ Rail-Highway crashes, deaths and injuries	▪ # RR Projects ▪ $$$ Authorized/spent
Rail Highway Grade Crossing Program, Federal	STP-SY	▪ Rail-Highway crashes, deaths and injuries	▪ # RR Projects ▪ $$$Authorized/spent
Rail Highway Grade Crossing Program, State	State	▪ Rail-Highway crashes, deaths and injuries	▪ # RR Projects ▪ $$$ Authorized/spent
Restriping Program	STP/State	▪ Pavement marking related crashes, deaths, and injuries	▪ # of miles restriped ▪ $$$ Authorized/spent
Safe Corridor Program	STP-SY	▪ Crashes, deaths, and injuries along Safe Corridors	▪ # Safe Corridors w/countermeasures implemented ▪ $$$ Authorized/spent
Older Driver Safety Improvements		▪ Older driver related crashes, deaths, and injuries	▪ # of projects implemented ▪ $$$ Authorized/spent
Safety Management System	STP/STP-SY	▪ Reduction in crashes, deaths, and injuries	▪ # of safety related assignment completed ▪ $$$ Authorized/spent
State Police Enhanced Enforcement		▪ Crashes, deaths, injuries	▪ # of citations written ▪ $$$ Authorized/spent
Traffic Signal Replacement	State	▪ Signalized intersection crashes, deaths, and injuries	▪ # Projects Implemented ▪ $$$ Authorized/spent

An Example

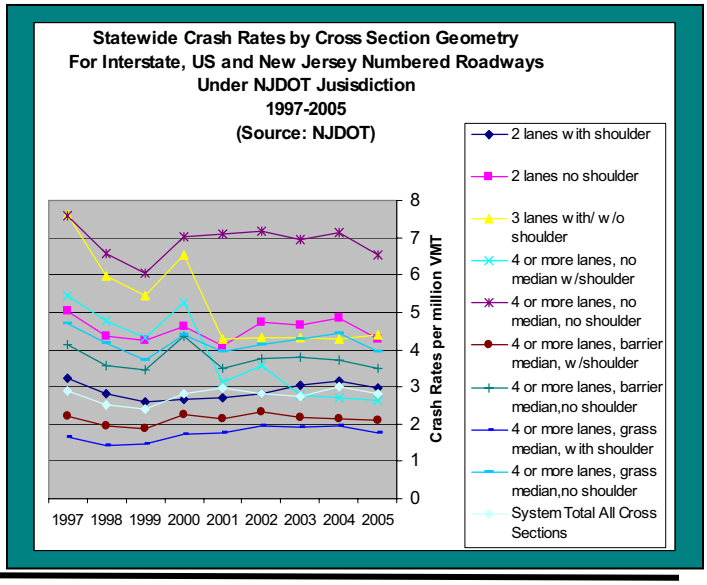
A SMS performance indicator that is used to evaluate the operation of the state highway system is the use of crash rates. As shown in the accompanying chart, statewide crash rates obtained from NJDOT's SMS can be used to compare cross section geometry. As illustrated in the bar chart, in 2005, the cross section with 4 or more lanes, no median and no shoulder had a crash rate (6.52) that was significantly higher than the other cross section types.



There is approximately 157 miles of roadway statewide where the cross section geometry is 4 lanes or more with no median and no shoulder. The crash rate in 2005 for this cross section type was the lowest since 1999 (6.05) as indicated in chart. As a performance indicator, this decline implies that there is a continuing trend in the direction of increasingly safer highway travel for this cross section type over the last five years.



However, 4 lanes with no median and no shoulder cross sections have had the highest crash rates since 1997 as indicated in the chart on the left. This type of SMS performance analysis can be useful in the development of investment strategies for targeting proactive safety improvements in the future for the identification of new problem statements.



The current status of the Safety Management System was reviewed and the following updates are provided:

1. The Safety Management System (SMS) will continue to provide the means for units within the Department to support the safety efforts not highlighted in the Capital Program and Investment Process.

2. The Safety Management System is being enhanced by the following efforts:

    2.1. Co-location of fatal crash units in the Bureau of Safety Programs to enhance the coordination efforts of each unit to better respond to fatal crashes statewide.

    2.2. Continued revisions to the Crash Records Database to reduce input errors; increase efficiency of crash data verification; development of decision support tools; and development of crash analysis tools for counties and locals to develop safety management systems.

    2.3. Full electronic transfer of crash reports.

Safety Management

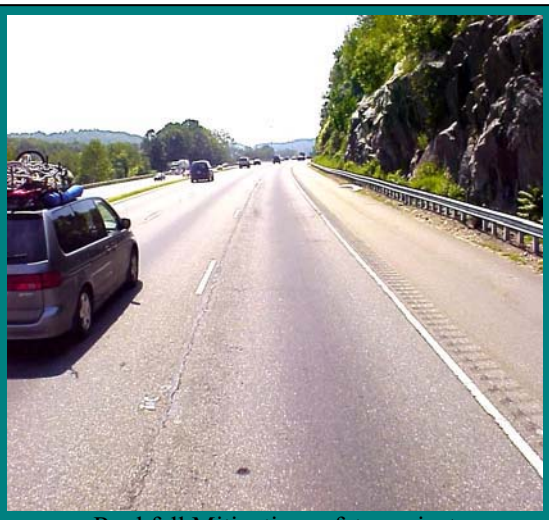
Program Categories

The impact of "Safety First" is further reflected in several other NJDOT supported projects that utilize the 4E's (Engineering, Education, Enforcement, and Emergency Medical Services) and other measures to enhance safety and reduce crashes.

New Jersey's NJDOT implements a broad spectrum of safety programs aimed at reducing the frequency and severity of crashes and promoting the all-round engineering, education, and enforcement approach of Safety First. The current safety management programs are:

Safety Improvements:

- Intersection Improvement Program
- Safe Corridors
- Accident Reduction
- Cross Median Crash Prevention
- State Police Safety Patrols
- Rail Highway Grade Crossing, Cape May
- Rail Highway Grade Crossing, State
- Rail Highway Grade Crossing, Federal
- Train Preemption for Traffic Signals North
- 12 Safety Projects



Rockfall Mitigation safety project

Route 80: Morris County, Roxbury Twp.

Safety Capital Maintenance:

- Betterments, Safety
- Restriping Program
- Traffic Signal Replacement

Safety Management:

- Safety Management System
- Motor Vehicle Crash Records
- Transportation Safety Resource Center

Rock fall Mitigation:

- Route 10, Summit Street
- Route 80 Allamuchy Twp
- Route 80 Roxbury Twp

The median crossover crash prevention

program and the safe streets to schools program were previously mentioned. The safe corridors and safety intersection improvements programs are discussed in detail on other pages. Following is a list of some of these programs and the 4E program they are associated with:

Statewide Engineering Programs

Safety Intersection Improvement Program:

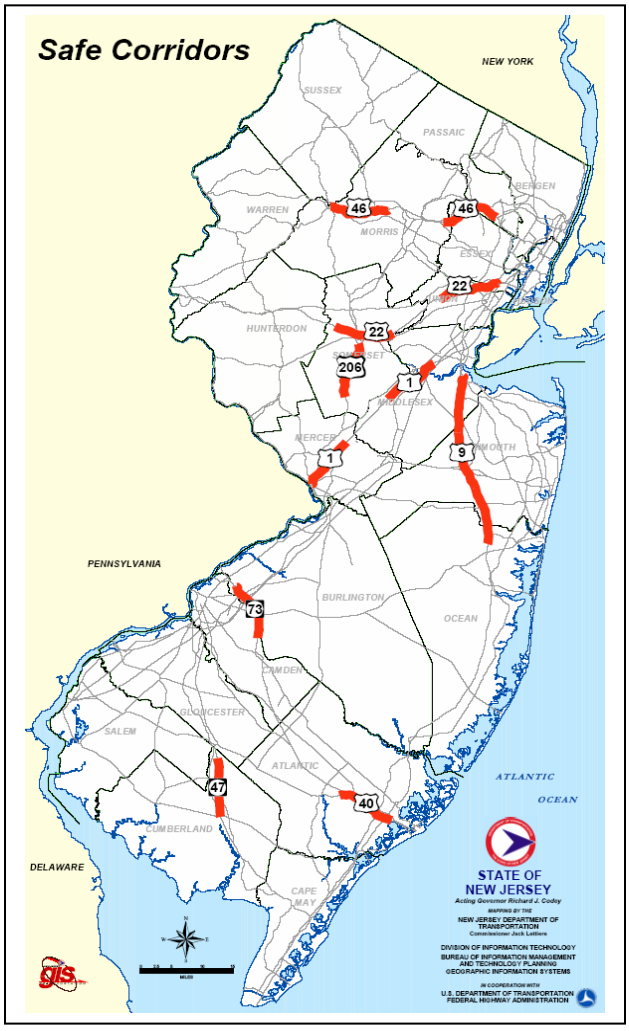
This program has proven to be an effective, inexpensive way to make relatively quick improvements at intersections showing a history of crash problems. The purpose of the program is to significantly reduce the frequency and severity of overall crashes and specific crash types occurring on the state, county, and municipal roadway systems and also to reduce the number of intersection crashes statewide. The program identifies intersections that appear to exhibit operational, geometric, and driver expectancy shortcomings.

Route 9: Bennett's Crossing, Intersection Improvements project, Cape May, Lower Twp.

Intersection locations are identified and ranked according to a calculated "severity index" based on crash data. The severity index is also based on the "equivalent property damage only" scale used by police officers reporting crashes. These data are summed and analyzed, yielding overall intersection rankings. All potential project locations are also screened for over-represented crash types as compared to the statewide averages for similar locations. NJDOT safety investigators use all of this information to analyze intersections identified through this process and to recommend countermeasures. In many cases, improvements to signs, striping, and traffic signals can reduce the occurrence of crashes. In other cases, more extensive improvements, such as redesigning intersections to add protected turning lanes, may be necessary.

Safe Corridor Program: At the recommendation of the New Jersey Highway Safety Task Force, the Legislature enacted a "Safe Corridors" act (NJSA 39:4-203.5) in July 2003 that increases fines for traffic violations on crash-prone highway segments. Under the act, "safe corridor" is defined as a segment of highway under NJDOT jurisdiction that is identified by the Commissioner as warranting that designation based on accident rates, fatalities, traffic volume, and other highway safety criteria.

The purpose of the safe corridor program is to significantly reduce the frequency and severity of overall crashes and specific crash types on these highways. Fines for certain traffic violations are doubled within the designated corridors and NJDOT has developed a methodology to reduce the number and severity of crashes through a variety of engineering, educational, and enforcement practices. Special "safety impact teams" analyze crash data and problem areas and make recommendations for safety countermeasures using a variety of programs.



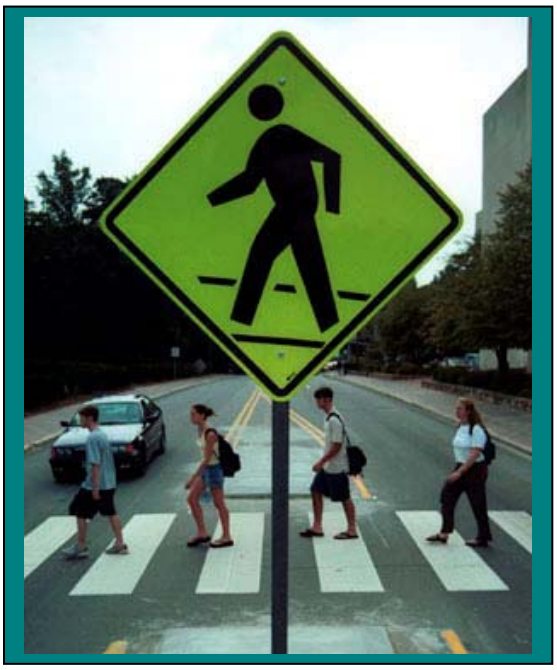
Safe corridor locations are identified and ranked according to an analysis of various factors, including total crashes, crash rates, fatalities, injury crashes, and property damage. The final list of 13 locations designated under the act met a minimum of 1,000 crashes over 3 years and a crash rate 50 percent higher than the statewide average. These locations total 129 miles along Routes 1, 9, 40, 46, 47, 73, and 206.

Statewide Median Cross Over Barrier Program: This program will identify locations throughout the state which have a history, or the potential, for accidents resulting from vehicles crossing the median. The Department will design and install preventive treatments at these locations in order to prevent such accidents. One project will protect the remaining sections of Route 287 and locations on Route 24 and Route 80 in Region North. Another project will protect about three miles of Route 42, about 4 miles of I-195 and about 9 miles of I-295 where cross-median accidents have occurred. Last year, several other highways with high vehicle and truck volumes (1-78, I-80, and I-287) were targeted for barriers.

Rail Highway Grade Crossing: This program will provide funding for the elimination of hazards at rail-highway grade crossings, the rehabilitation of grade crossing surfaces, and the installation of protective warning devices for roadways both on and off the federal-aid system. Funding will also be provided for the traffic control items required

during the construction work and the installation of advance warning signs and pavement markings at all highway-rail grade crossings.

Pedestrian Safety Initiative: In New Jersey, there are approximately 150 pedestrian deaths every year. Statistics indicate that for each pedestrian fatality, two or more are seriously injured. A new initiative was introduced in September 2006 which focuses on improving pedestrian safety throughout New Jersey. A $74 million Trust Fund investment over the next five years was committed to encourage motorists to safely share the roadway with pedestrians through a combination of engineering, education and enforcement strategies. NJDOT, the Department of Law and Public Safety and the Motor Vehicle Commission (MVC) together are partnering the implementation of this effort. Improving pedestrian safety is anticipated to be accomplished by addressing pedestrian awareness, driver behavior and potentially hazardous substandard highway conditions. For example, the types of projects targeted for this program include intersection and sidewalk safety improvement projects, traffic mitigation measures, educational programs, enforcement efforts and planning and technical guidance. More specifically, the $74 million Pedestrian Safety Initiative is allocated as follows:



- *Pedestrian Safety Corridor Program*: Pedestrian injuries and fatalities occur primarily in urban or dense suburban environments. As a result a key part of this program will designate Pedestrian Safe Corridors based on motor vehicle/pedestrian accident history and rates. NJDOT will deploy Safety Impact Teams to recommend engineering improvements at designated sites. These areas will also be targeted for enhanced education and enforcement measures. The stretch of roadway in Newark between the intersection of Market and Broad Street that continues onto Ferry and ends with the Ferry and Monroe intersection was recently named as a Pedestrian Safe Corridor.
- *Safe Routes to School Program*: The initiative will provide $15 million to local governments for the creation of safer walkways, bikeways and street crossings near schools. The program also increases pedestrian safety awareness among motorists and school children.

- *Safe Streets to Transit Program*: This $5 million program will provide mass transit riders safe pedestrian access to train and bus stations. NJDOT will identify risks based on crash history as well as develop and fund improvements.

- *Pedestrian Planning Improvements*: NJDOT will incorporate pedestrian safety improvements when considering access permits for state highways and planning NJDOT roadway projects.

- *Enforcement of Pedestrian Safety Laws*: The Attorney General will work with County Prosecutors to enhance prosecution of failure to yield laws. The Attorney General also will work with the Judiciary and the Administrative Office of the Courts to emphasize the importance of fully enforcing pedestrian safety laws.

- *Distribute Grants for Enforcement of Pedestrian Laws*: Through the Division of Highway Traffic Safety, the Attorney General will issue $1.5 million in grants to state and local law enforcement to vigorously address the issue of pedestrian safety.

- *Establish Statewide Traffic Safety Taskforce*: The Attorney General, through the New Jersey State Police and in collaboration with NJDOT, has created the Safe Passages Taskforce. This Taskforce will undertake a number of innovative statewide initiatives aimed at improving traffic safety.

- *Develop Statewide Drivers Education Curriculum*: MVC, the Attorney General's Office, NJDOT, and the Department of Education are currently developing a driver's education curriculum. The curriculum will focus on the rights and the responsibilities of a driver and laws protecting pedestrians who cross our roadways

- *Incorporation of Pedestrian Safety Laws into MVC Tests*: MVC will develop test criteria to evaluate drivers' knowledge of the state's pedestrian safety laws. MVC also will emphasize in its driver manual the responsibilities of both motorist and pedestrians.

Raised Pavement Markers: *Last year o*ver 500 miles of raised pavement reflectors are being installed to improve visibility on 100 miles of roadways in North Jersey, 112 miles in Central Jersey, and 29 miles of roadways in South Jersey.

Retro-reflective Striping Tape: All construction projects will include the requirement to use retro-reflective striping tape on every highway construction site in New Jersey in order to enhance safety and improve visibility during construction.

Expansion of Emergency Service Patrols (ESP) to Enhance Incident Management: Smart Moves will use a network of cameras to identify incidents and deploy emergency services (signs, fleets) to alert motorists of changes in the driving patterns.
Deer Program: Deer removal contractors have been working with NJDOT to plot the location of deer/vehicle collisions, using GIS palm pilot devices. This has enabled the department to further identify "hot spots" and offer solutions to address these conditions that include increased highway lighting and installation of appropriate fencing, etc.

Local Aid Safety Program: Funding has been allocated by NJDOT for local "quick fix" projects. This program is an integral part of the Safety Conscious Planning (SCP) program where criteria and protocols have been developed and linked to each of the Metropolitan Planning Organizations (MPO's) and incorporated into their SCP programs.

Wet Surface Program: Data tables and GIS mapping show pavement SKID data and wet weather crash data. The ARAN and SKID field inventory data is being compiled and incorporated into NJDOT's database for analysis and use in research studies.

Safety Projects: Several specialized safety engineering projects are sponsored by NJDOT that are designed to improve conditions of state roadways. They are primarily focused on crash reduction and prevention efforts for intersections, pedestrian crash reductions, right angle crash reductions, signalization programs, left turn crash reduction, median crossover crash prevention, and safe corridor projects.

Senior Safety Task Force: The task force features representatives from the County, AAA, AARP, DOT, DHSS, and MVC. A Safety Impact Team (SIT) conducts an on-site Audit and the results are presented to the public at health and wellness fairs. The focus of this group is to provide safety enhancements to improve senior mobility.

Statewide Educational Programs

Enhance Safety Materials on the Written Drivers Test and Manual: New drivers are now being educated on proper car-truck interaction, blind spot recognition, and safe stopping distances to ensure sharing the road safely. Eight new questions have been added to the (written) Drivers Test that deals with safe car-truck interaction.

Classroom Instruction on Safe Car-Truck Interaction: With the cooperation of the New Jersey Department of Education, all classroom instructors will be required to incorporate the importance of safe car-truck interaction into their programs.

Truck Drivers Training: Remedial safety programs have been developed for truck drivers with mandatory sessions required for Commercial Drivers' License (CDL) holders who have accumulated 12 or more points on their records.

Operation Safety Net: NJDOT has partnered with the Federal Motor Carrier Safety Administration on a program for new motor carriers to undergo extensive training, audits, and continued education in compliance with state regulations. Since the inception of this program, several thousand truckers have registered for the training and safety audits.

Safety Conscious Planning Program: In 2003, a committee of several state and metropolitan planning representatives met to schedule the statewide 2004 Safety

Conscious Planning Forum to further identify how safety can be incorporated by the MPOs into all stages of the planning process. In 2005, three regional forums were co-sponsored by FHWA-NJ Division, NJDOT, NJDHTS, NJSP, Rutgers University CAIT-LTAP, Delaware Valley Regional Planning Commission (DVRPC), North Jersey Transportation Planning Authority (NJTPA), and the South Jersey Transportation Planning Organization (SJTPO). A statewide Transportation Safety Seminar was held in October 2005 to provide background on available safety resources for municipal agencies. This program is being targeted for municipal officials, planners, and engineers with the intent of promoting Safety Conscious Planning (SCP) locally, where over 50% of the roadway fatalities occur.

Lead State Aggressive Driving Campaign: An Aggressive Driving Strategic Plan has been developed with support from the MVC, NJSP, municipal police departments, County Prosecutors' Office, and FHWA – NJ Division. The plan was submitted to the AASHTO Lead State group for review and acceptance.

Statewide Enforcement Programs

Inspections at Every Truck Point Entry into New Jersey: In 2003, the initiative began to improve safety by inspecting trucks for compliance with safe weights, equipment, and driving records of the operators. Within the next few years, a permanent or mobile truck inspection station will be available at entry points into the state. Electronic credential screening technology will become available for digital review of truck safety credentials. Also, NJDOT will work with the NJSP to increase the performance of comprehensive safety inspections throughout the state.

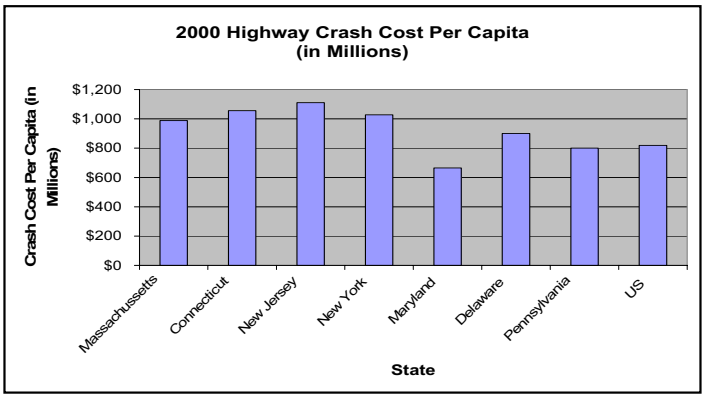
State Police Enhanced Enforcement at Strategic Locations and Along Safe Corridors. NJDOT and NJSP are tracking results of increased police enforcement in designated areas. Data collected from issued warnings and summonses will be analyzed for this effort.

In the future, NJDOT's safety program categories will be revised to better align the capital program with the New Jersey Comprehensive Highway Safety Plan Emphasis Areas. It is important to note that almost all projects advanced by NJDOT to improve the state highway system are designed to improve the safety of the traveling public in one way or another. The programs discussed here are "targeted" safety programs which address specific safety concerns. NJDOT is committed to advancing our safety goals by investing appropriate funding levels for these targeted programs.

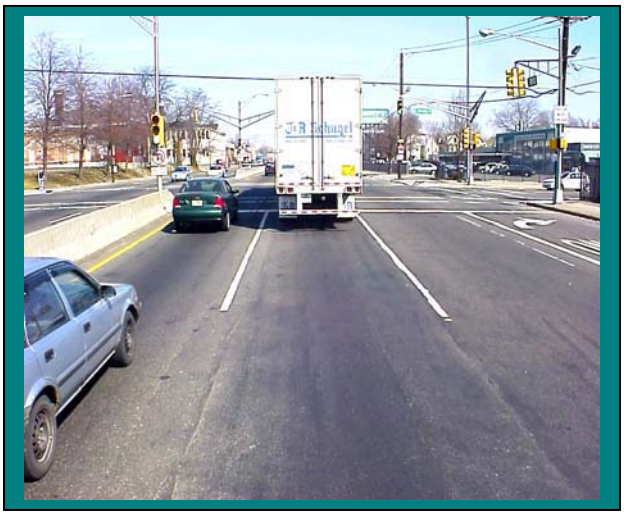
Safety Management

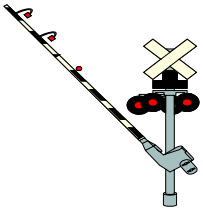
Meeting the Need: Management System Performance Analysis

Motor vehicle fatalities are the leading cause of death for Americans aged 4 to 34 years old. Over 700 people were killed on New Jersey's roads in 2005 and thousands of others were injured. Also, thousands of property damage occurred as well. In addition, to being a serious health issue, the economic losses that result from crashes are substantial. For example, the highway fatality crash cost per capita for New Jersey in 2000 was slightly over $1 million. As stated earlier, economic losses as a result of motor vehicle traffic crashes statewide were estimated at $9.3 billion in 2005. According to the National Highway Traffic Safety Administration, every $100 million invested in highway safety improvements results in approximately 145 fewer traffic fatalities over a 10-year period. "Meeting the need" to invest in programs to improve the safety of our highways is mandatory.



NJDOT is investing in a variety of safety programs designed to achieve our goal: to "continually reduce the total number of crashes, emphasizing a reduction in the deaths and injuries, on New Jersey's transportation system" as identified in the draft 2030 Long Range Plan. This goal is being pursued through the advancement of the 4Es (Engineering, Education, Enforcement and Emergency services) safety initiative. NJDOT is committed to a capital investment strategy that identifies evaluates and implements countermeasures needed to improve safety statewide. Almost all projects advanced by NJDOT to enhance the state highway system are designed to improve the safety of the traveling public in one way or another. There are

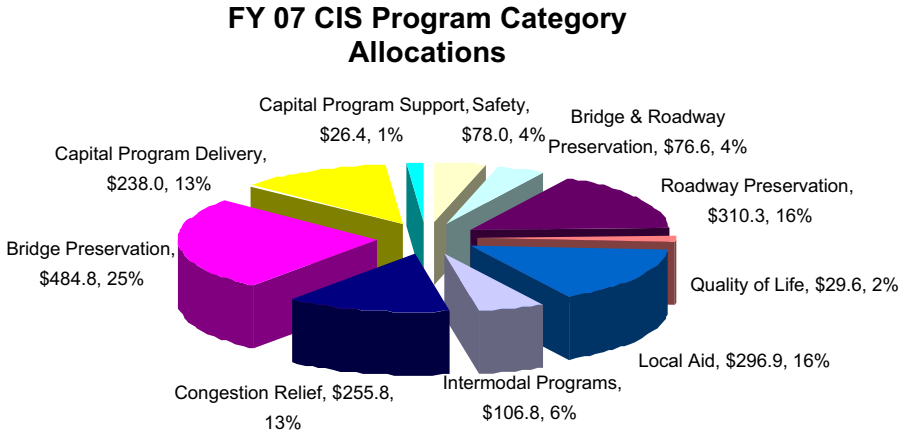




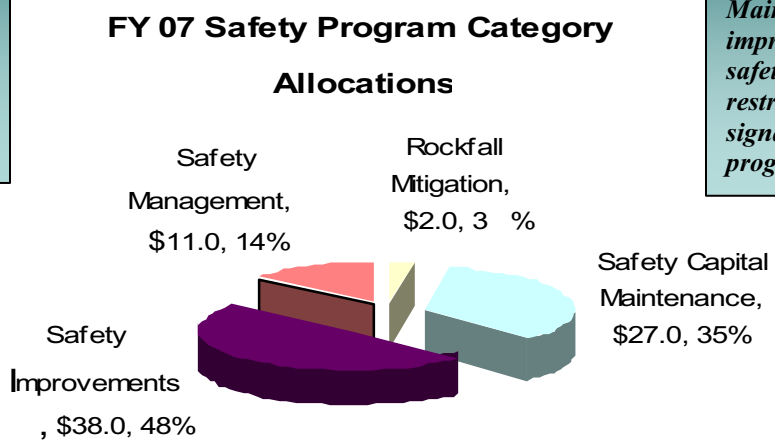
also a variety of "targeted" safety programs, which address specific safety concerns, such as designated intersection improvements, rail-highway grade crossings, installation of cross-over median barriers, installation of raised pavement markers, relocation of fixed objects near highways, and installation of rumble strips.

FY07 CIS Program Category Allocation

The funding allocations for the safety management program by category are shown in the chart below. As illustrated, the Safety Allocation is at $78 million or 4% of the Capital Program.



A breakdown of the $78 million allocated to safety programs indicates that about half of the FY 2007 safety funding was invested in "targeted" safety projects.



About one third of the FY 2007 safety funding was invested in Safety Capital Maintenance improvements such as safety betterments, restriping and traffic signal replacement programs.

Projected over a five year period, based on the current FY07-FY11 STIP, work activity involving the safety management program is expected to produce the following output

FY 2007-2011 - Projected Output Programmed	
Intersection Improvements	100
Raised Pavement Markers	300
Median Barrier (miles)	100
Safe Corridors (improvements)	120
Fixed Object (locations)	85
Wet Weather (locations)	40
Rail Grade Crossings (improvements)	200

Use of the Safety Management System

The Safety Management System (SMS) is used as the tool in targeting needed safety investments. Performance data was applied in targeting needed safety investments statewide. NJDOT, as part of the investment strategy, will continue to make decisions based on crash performance data that serve as the primary factors in identifying and prioritizing safety-related issues. NJDOT has used this information for problem statement initiation and assignment into the Study and Development Program in addition to project selection for advancement into the capital program.

Year	Injury Crashes	Injury Crashes/
1997	86,316	1.36
1998	71,669	1.11
1999	66,351	1.01
2000	79,169	1.79
2001	78,309	1.14
2002	79,020	1.13
2003	76,627	1.08
2004	75,851	1.04
2005	72,028	0.97

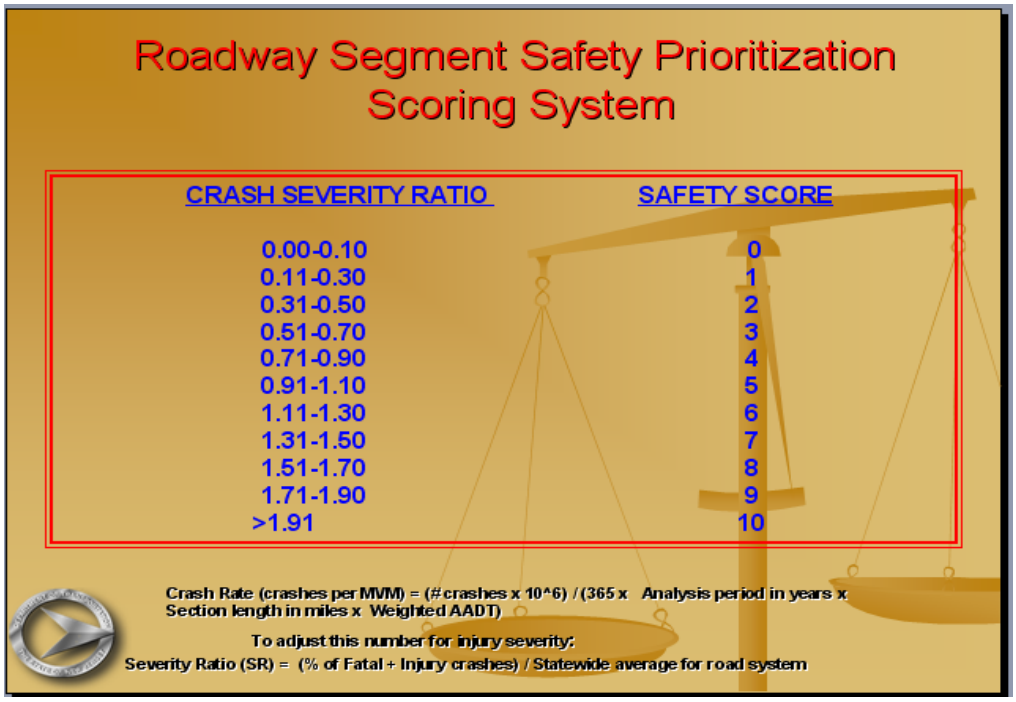
Crash Severity Data

Source: NJDOT

Project Prioritization: Currently, highway operational improvement projects and problem statements are prioritized using the Safety Management System Crash Records Database to list the high crash locations for a particular type of crash or demographic.

This analysis is based on the crash rates adjusted for accident severity that occur within the limits of each identified project. In order to determine the crash rate within each project, a three-year accident summary is obtained for the specific location. This crash rate is then compared to other roadways with the same cross section, access control level and location characteristics. A ratio is then calculated which represents the number of crashes per million vehicle miles of travel. The crash rate is compared to the average rash rate for similar sections and then adjusted for injury severity. Each project is arrayed and grouped into ranges using a 0 to 10 scale. Projects with potential high

benefits in this regard will receive increased priority and will be eligible for federal safety funding. An example of the Safety Management System's application for prioritizing roadway segments used as a factor in scoring projects and problem statements is illustrated below.

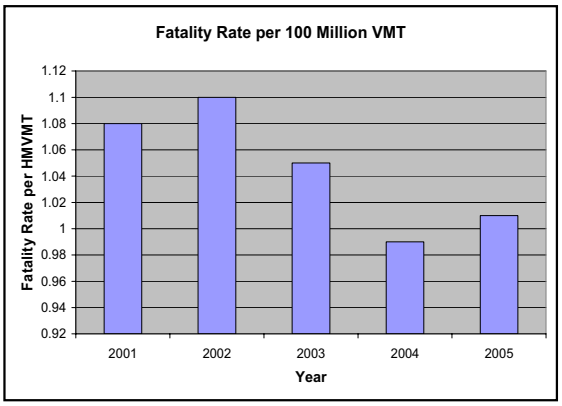


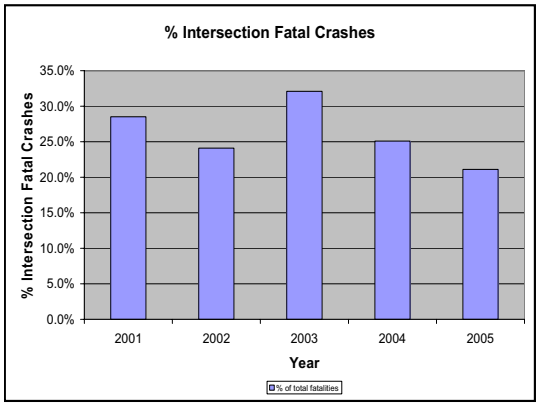
Once identified, these locations are field investigated and safety improvements recommended for implementation. The improvements are then evaluated when they have been in place for a minimum of one year. Some of the following programs have had locations with improvements implemented; others have yet to see any improvements made.

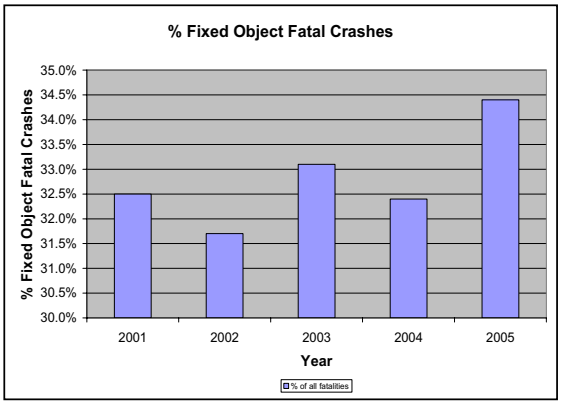
- Intersection Improvement Program
- Pedestrian Improvements
- Fixed Object
- Left Turn
- Right Angle
- Senior Safety Locations
- Safe Corridors
- Pedestrian Safe Corridors

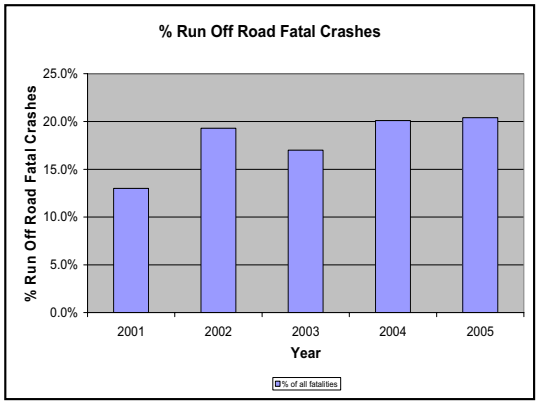
However, evaluation of how the current prioritization process functions and whether the current programs are the best ones that should be funded will be considered.

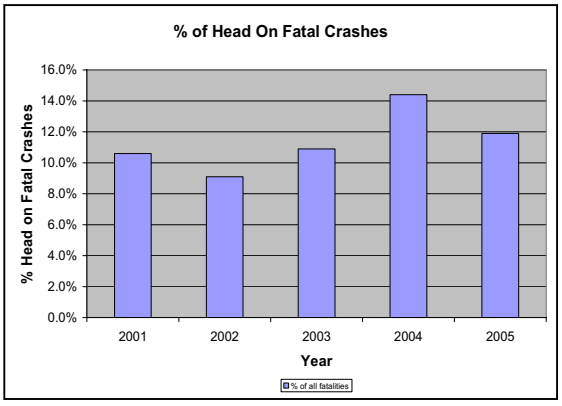
Benchmarking: As an indication of what is happening in New Jersey, benchmark performance data are used as a guide in developing how and where the safety investments should be made. The following are examples of some of the fatality performance indicator trends displayed over time that are taken into consideration when evaluating overall safety needs regarding intersection, fixed object, and run off the road crashes (Source: FARS):

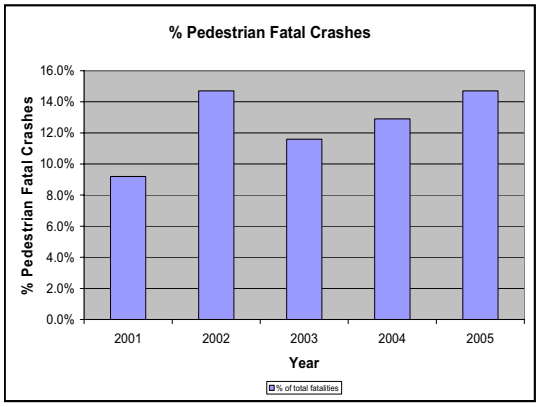












As of 2005 as indicated in the above charts, the overall fatality rate and the percentage of fatal crashes at intersections have generally decreased over the last five years . On the other hand, for the same time period, the percentage of fixed object, run off the road, head on, and pedestrian fatal crashes have trended upward.

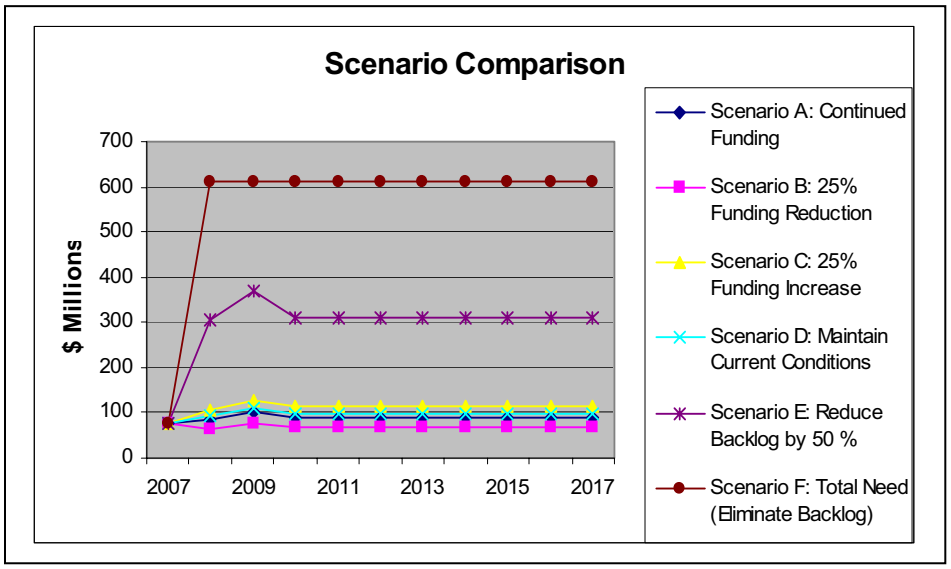
Alternative Investment Scenarios

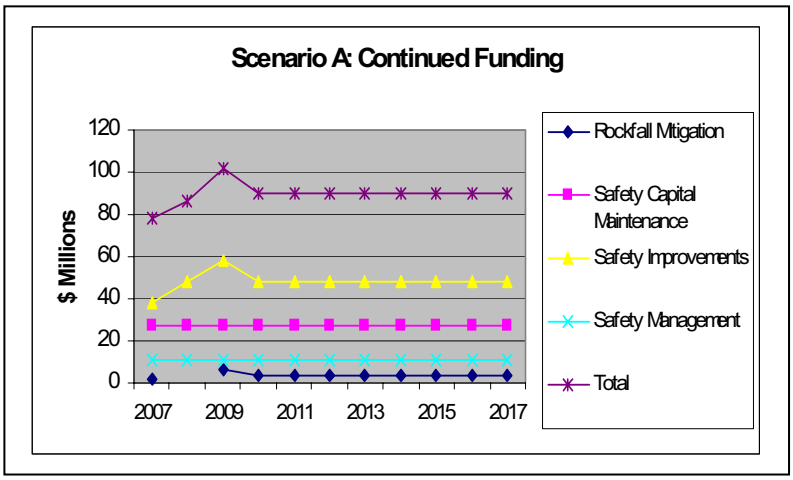
The following investment scenarios were analyzed for a 10-year period from FY 2008 to FY 2017 in order to project:

- Scenario A: Continued Funding
- Scenario B: 25% Reduction in Funding
- Scenario C: 25% Increase in Funding
- Scenario D: Maintain Current Condition
- Scenario E: Reduce Backlog by 50 %
- Scenario F: Total Need: Eliminate Backlog

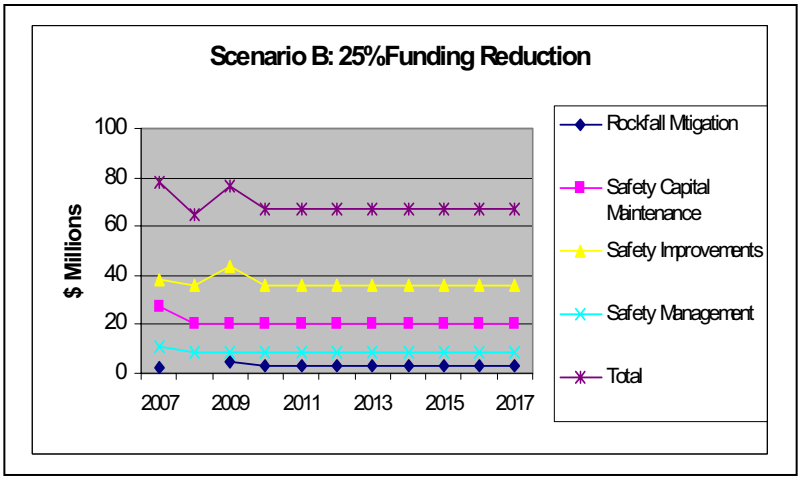
- The degree to which the system's safety condition level may be influenced by various investment levels
- What level of investment is required to achieve a desired system outcome?

It should be noted that many different scenarios could be developed to prioritize certain programs over others. However, the safety management program was evaluated as a whole, not making any recommendations that one safety program is any less important than the other. The results of an investment scenario performance analysis are provided in the charts shown below. First is a graph summarizing a comparison of the funding levels resulting from the six alternative investment scenarios listed above. Also provided are charts focusing on an analysis of each individual scenario. These graphs display the anticipated investment allocations needed to fund each scenario by program subcategory.

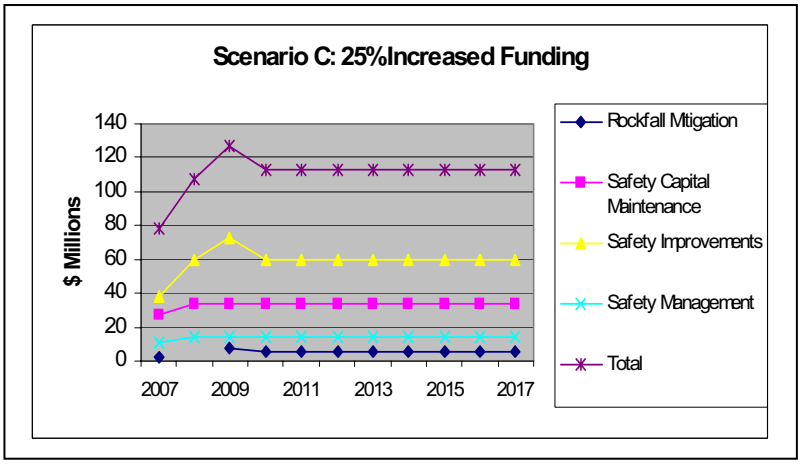




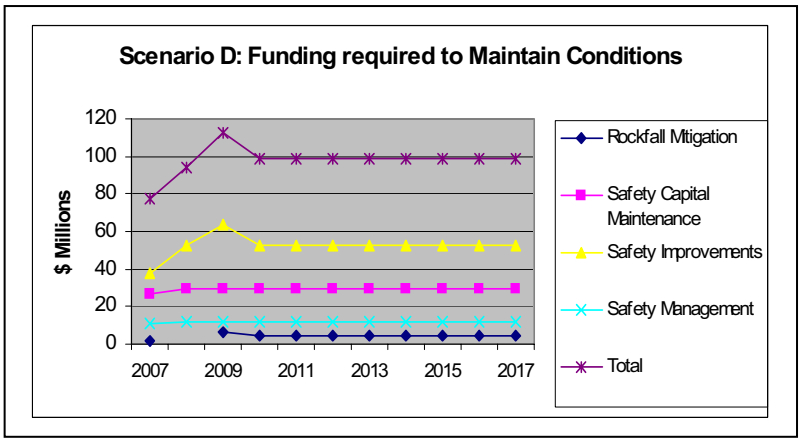
Based on the current FY07-FY11 STIP funding allocations, the average investment level over the next decade is expected to be about $90M per year.



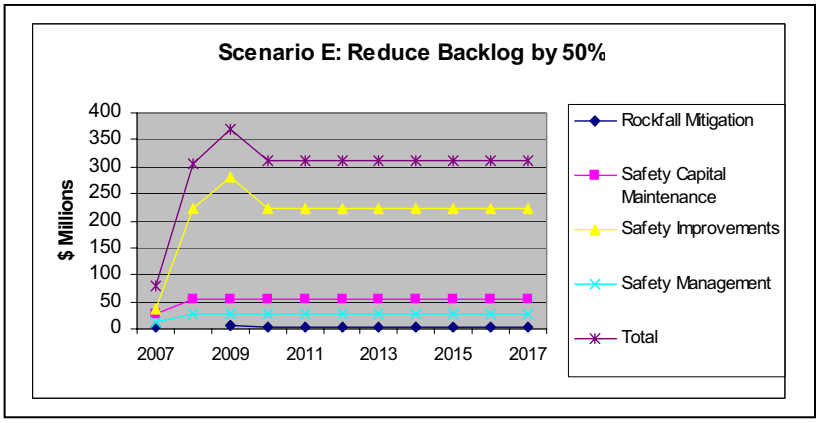
A 25% reduction in the current investment level would lower the average allocation for safety improvements by about $20M - $25M per year through 2017 .



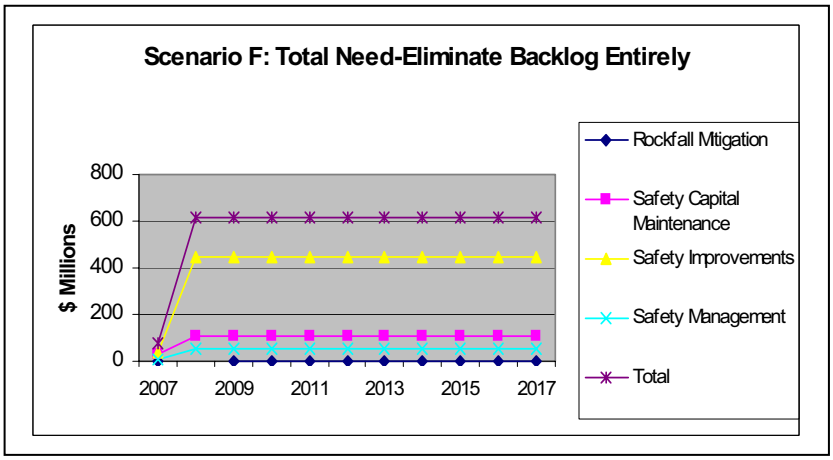
A 25% increase in the current investment level would increase the average allocation for safety improvements by slightly over $20M per year through 2017.



The projected total allocation needed to at least maintain current safety conditions is approximately $100M per year.



The projected annual allocation needed to reduce the backlog of potential safety deficiencies over the next ten years is approximately $300M per year!



The projected annual allocation needed to eliminate the backlog of potential safety deficiencies over the next decade is about $600M per year!

Based on this analysis, it appears that a 25% increase in funding, about $112 million per year (Scenario C), could adequately fund a scenario where current conditions are maintained (about $100 million per year, Scenario D), given no major unexpected safety needs. Although many safety countermeasures are anticipated over the next ten years, based on the current projected investment levels (Scenario A: $78M in 2007 and about $90M/yr averaged through 2017), the backlog of safety deficiencies is expected to slightly grow. This conclusion is drawn since Scenario D anticipates that at least $100 million per year would be required to maintain current conditions.

A 25% investment allocation reduction would obviously not be an adequate funding level since the backlog of safety deficiencies would be expected to further accrue over the next decade. Scenarios E and F, it would require tremendously much higher investment levels to reduce the backlog of safety needs over time. For example, to reduce the backlog of safety deficiencies by 50%, it is projected that a $300 million per year investment would be required. To eliminate the backlog of safety deficiencies, a projected investment of about $600 million per year would be needed.

This investment scenario analysis seems to indicate that maintaining the current safety condition level (projected to be about $100 million per year) would require a relatively manageable increase (about $20 million) in annual funding allocation over the current amount targeted for safety improvements. A 25% increase (Scenario C) would probably begin to reduce the backlog slightly. This would require just over approximately $10 million per year more than the funding level needed to maintain conditions (Scenario D).

Given financial constraints, in an effort to reallocate funding levels based on a CIS analysis, Scenarios C and D, in priority order, are the preferred alternatives. It appears that both of these investment scenarios are reachable objectives in comparison to the other scenarios. These scenarios are practical options since they accomplish acceptable outcomes closer to our goals and are not expected to require exorbitant investment levels. It should be noted that Scenario A, while not preferred, would be an acceptable option due to funding constraints, since it does provide for the projected output of safety improvements listed above. Reducing the backlog by 50% or eliminating the backlog in ten years are not practical alternatives given all of the other program investments that must be balanced in order to achieve our overall transportation goals.

Congestion Relief

Congestion, Mobility & Accessibility in New Jersey

"Transportation is the Lifeline of the Economy"

Route 139: Tonnele Circle and JFK Blvd, Jersey City

"New Jersey's transportation system provides mobility, supports and generates economic development and enhances the quality of life for the residents of this state and the region. Ensuring the viability of this system is critical for the health of the state's economy and for the welfare all New Jerseyans."[1]

In study of New Jersey's Business Climate commissioned by the NJ Chamber of Commerce, those interviewed cited the state's traffic congestion and its impact on distribution and employee commutes as a major concern.

Phil. Business Journal – 12/28/05

In terms of economic competitiveness, New Jersey ranks 44th in the Nation. One of the noted disadvantages relates to "average travel time to work", which ranks 48th.

Metro Area and State Competitiveness Report ~ Beacon Hill Institute ~ 2004

Highway congestion continues to be a major burden on the economy of New Jersey and on the quality of life of our citizens. Current highway congestion levels are a product of many factors beyond the control of transportation providers, including population growth, changes in household structure, suburban development patterns, and evolving styles of work and leisure. As a result, in

[1] Excerpt from the **Blue Ribbon Commission Report ~ Recommendations for Ensuring a Strong Transportation Network in the 21st Century** (November, 2003).

today's New Jersey, congested conditions on our highways, is an aggravating and costly fact of daily life. Significant congestion and delay that occurs on New Jersey's highway system each and every day results in increased driver stress, reduced quality of life, wasted fuel, increased air pollution and decreased productivity. In fact, New Jersey has the most densely traveled roads in the Northeast and experience over a million hours of delay every day. And the costs are staggering: within the NJ/NY/CT region, congestion and delay impacts translate to almost $7 billion in economic costs annually, second only to the Los Angeles-Long Beach-Santa Ana California area. These costs are currently climbing.

More specifically, according to the 2005 Texas Transportation Institute report, traffic delays cost peak travelers in northern New Jersey $824 per person per year. The 2003 report of the Blue Ribbon Commission on Transportation, reported that traffic delays cost New Jerseyans 261 million hours in lost time. The New Jersey motorist knows that traffic congestion is bad and – in most places – getting worse.

Cost of Congestion in Wasted Time and Fuel in the Largest Urban Areas

Metro Area	Total Cost ($ in Millions)	Cost Per Peak Traveler
Los Angeles-Long Beach-Santa Ana CA	$10,686	$1,598
San Francisco-Oakland CA	$2,604	$1,224
Washington DC-VA-MD	$2,465	$1,169
Atlanta GA	$1,754	$1,127
Houston TX	$2,283	$1,061
Dallas-Fort Worth-Arlington TX	$2,545	$1,012
Chicago IL-IN	$4,274	$976
Detroit MI	$2,019	$955
Miami FL	$2,485	$869
Boston MA-NH-RI	$1,692	$853
Phoenix AZ	$1,295	$931
New York-Newark NY-NJ-CT	$6,780	$824
Philadelphia PA-NJ-DE-MD	$1,885	$641

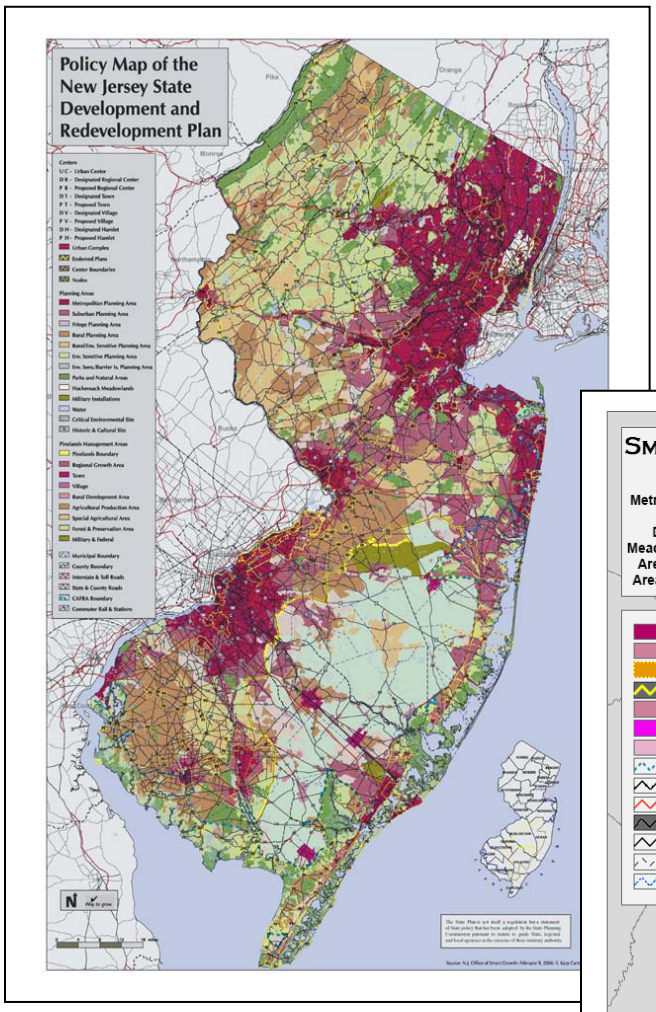
Source: Texas Transportation Institute, 2005 Urban Mobility Report

Based on present trends, congestion will continue to grow. NJDOT's congestion management system estimates that between 2001 and 2015 total traffic (measured in vehicle miles traveled) will grow by 18 percent on New Jersey's interstate highways and freeways and by 15 percent on other major roads.

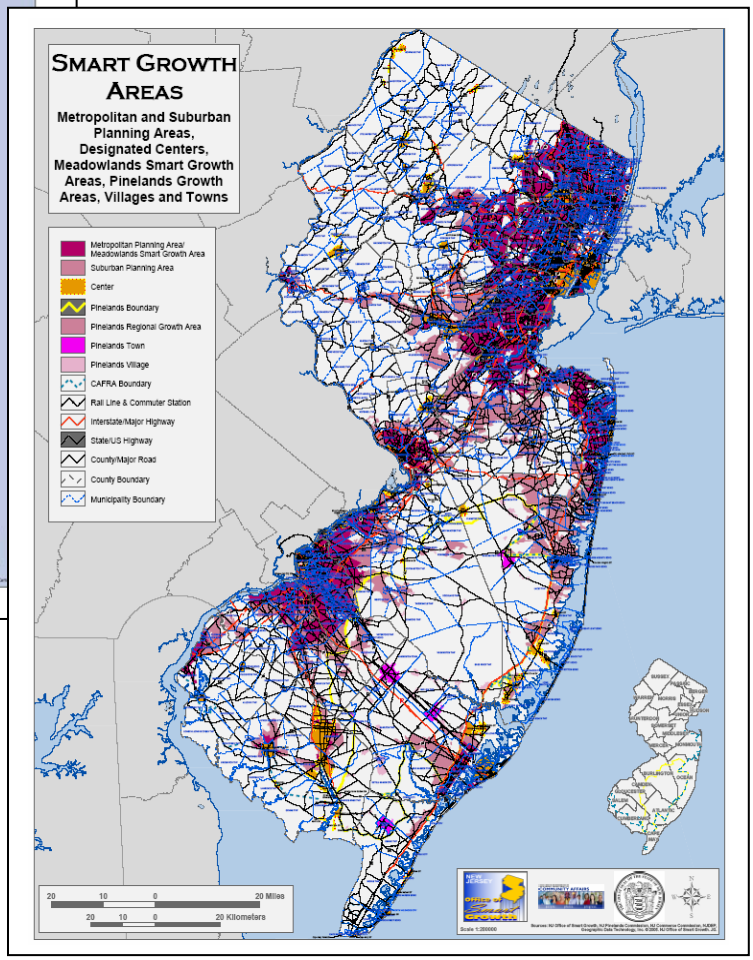
What can be done about the congestion problem? Building enough new roads to accommodate growing traffic is simply not possible in New Jersey. In a densely populated state where people value their quality of life, massive new road construction is simply too expensive, too disruptive, and too controversial to succeed. Relying on new highway construction does not promote a sustainable transportation system with improved mobility, accessibility and quality of life for New Jersey. In addition, under the fix-it-first philosophy, we continue to restrict major capacity increase projects. Relying on new highway construction does not promote a sustainable transportation system with improved mobility, accessibility and quality of life for New Jersey.

There are, however, steps that can be taken to tackle the congestion problem. While some expansion projects will always be necessary, we are seeking balanced solutions to meet the inescapable growth in travel demand. We will continue to advance the "NJFIT: Future in Transportation" initiative which is a comprehensive and cooperative approach to transportation and land-use planning.

By applying the State Development/Redevelopment Plan "smart growth" policies and working with community planners, we can keep the jobs, services, goods, and people that we all seek within reach of every New Jersey citizen. By reinvesting in our infrastructure and shaping transportation to fit into the context of our communities, we are building a better New Jersey for all of us. Applying these concepts to congested corridors in the state empowers towns to partner with NJDOT and other state agencies in creating the transportation/ land use balance.



One of the key provisions of the State Planning Act that mandates the approaches the Plan must use in achieving State Planning Goals is: ***"promote development and redevelopment in a manner consistent with sound planning and where infrastructure can be provided at private expense or with reasonable expenditures of public funds." (N.J.S.A. 52:18A-196, et seq.)***



Congestion Relief

CIS Guidelines & Recommendations

Based on the upcoming analysis presented in later sections of this report and guidance from recent studies on the strategic aspects of addressing congestion, the following recommendations are made:

Interstate Route 295 @ 561/Haddonfield Rd, Cherry Hill

1. Take a Strategic Corridor Approach in Developing Future Capital Investment Strategies

A defined network of strategic facilities should be the foundation for future Capital Plan development and prioritization within the CIS Capital Programming decision-making framework. With competing needs and so little resources, we must maximize our investments by taking a strategic approach to project development in discreet, critical corridors, to ensure continued mobility, accessibility and reliability of the overall system. This is turn will support continued economic vitality and competitiveness for the State of New Jersey.

Congestion relief projects should be planned, designed and implemented in conjunction with projects of other CIS categories in a comprehensive, integrated, strategic way.

2. Continue to Emphasize ITS, "Quick Fix" and Other Supporting Programs

Maximizing system efficiency is not a luxury or an afterthought, but *an absolute necessity*. The Department and other transportation organizations need to "Think ITS First" by institutionalizing ITS Planning and Project Development within their respective organizations. ITS also needs to be looked at in a systematic, multi-modal sense, building integration processes at a project, strategic corridor and overall statewide level.

The funding for the "Quick Fix" program should be immediately increased to provide for a more integrated approach to congestion relief, by targeting low cost, easy-to-do congestion relief projects. Dedicated funding for "Quick Fix", as well as an aggressive effort to address the demand side of the equation, through a comprehensive TDM program is strongly recommended.

All these above efforts will help to ensure a transportation system that maintains sufficient mobility and reliability in the future. Its good public policy and good public relations, and gets to the heart of many of the concerns of corporations about New Jersey as their place of business. It is firmly recommended that an elevated status and dedicated, adequate funding level for these cornerstone programs be pursued.

More detailed recommendations specific to the ITS program is presented in the "Congestion Relief: Intelligent Transportation Systems (ITS)" section of this report.

3. Continue to Integrate Land Use & Transportation via Smart Growth and NJFIT

It has long been recognized that land use decisions have a direct impact on the transportation infrastructure. Within the last few years, a concerted effort has been made to engage and educate the townships as to the value of breaking the land use/transportation cycle, and create a more integrated approach, through New Jersey's Future in Transportation, or NJFIT process. The philosophy of NJFIT and other smart growth techniques that *must* be employed to offset the disproportionate infrastructure cost the Department has incurred in the past, which will enable more targeted, focused spending of scarce resources is strongly supported. The NJFIT campaign will highlight and promote this new way of doing business.

Based on current trends, highway congestion is on its way toward becoming a problem in medium-sized cities within the next 10 years, while smaller cities, towns, and the suburban and rural fringe can expect to face similar challenges over the next 10 to 15 years.

National Strategy to Reduce Congestion on America's Transportation Network (USDOT ~ May, 2006)

4. Consider a Strategic Corridor Approach including additional or widened lanes where necessary on a selective basis.

As part of a strategic corridor approach, additional or widened lanes may be necessary on a selected basis, to achieve regional or system-wide mobility, accessibility and reliability. The Department should have the flexibility to develop and program capacity projects, if appropriate.

5. Take an Honest Look at Congestion-Pricing Strategies

Other major cities around the world, including London, England and Stockholm, Sweden most recently, have reduced congestion and improved throughput almost immediately through the

At its most fundamental level, highway congestion is caused by the lack of a mechanism to efficiently manage use of existing capacity. Economists have long advocated that pricing the costs of congestion directly is the most viable means to address this problem and reduce overall congestion costs.

National Strategy to Reduce Congestion on America's Transportation Network (USDOT ~ May, 2006)

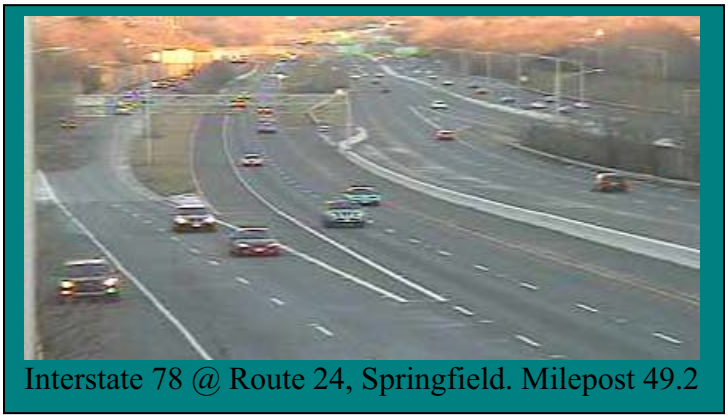
implementation of congestion-pricing strategies.[2] It's now time to take a good, hard look at this strategy as a way to really "move the needle" for congestion relief. There are certain locations (e.g.; major bridges) that lend themselves to this strategy, and coupled with off-the-shelf technology (e.g.; high-speed overhead EZ-PASS) could prove to be a very successful congestion mitigation technique.

Likewise, a major capacity increase (through a Strategic Corridor Approach) could be made into High Occupancy Toll (HOT) lanes, that combines HOV and pricing strategies by allowing single occupancy vehicles to gain access to HOV lanes by paying a toll. The lanes are "managed" through pricing to maintain free flow conditions even during the height of rush hours. Similarly, Truck Only Toll (TOT) lanes can be a viable solution in freight-heavy corridors.

A concerted focus on Congestion Pricing Strategies – along with maximizing system efficiency – is an absolute must in battling the congestion dilemma.

Other Recommendations:

The following are recommendations to restructure the congestion relief program category in two ways:


Interstate 78 @ Route 24, Springfield. Milepost 49.2

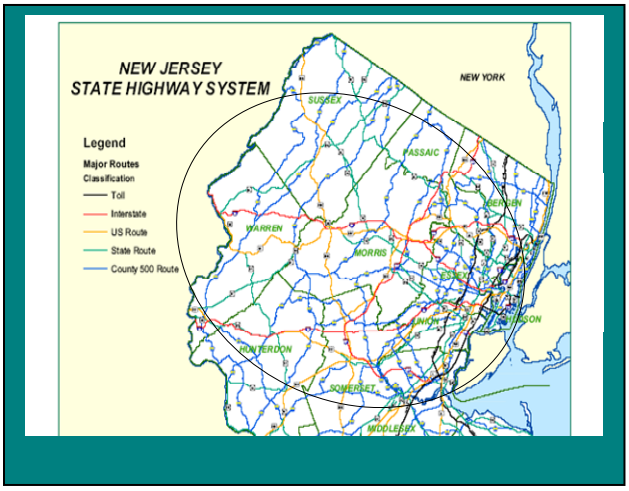
6. **Better match program categories to congestion-related categories.** The existing categories are project-related, making it difficult to meaningfully group congestion-related projects. Some suggested category changes that should be considered include recurring, non-recurring, land use/transportation ("Smart Growth"/NJFIT) and travel behavior.

7. **High Cost/Strategic Area.** This area would p rovide for recognition of those projects deemed regionally critical within strategic corridors (e.g.; I-78 corridor) that have substantial economic importance.

[2] Excerpt from the **National Strategy to reduce congestion on America transportation Network** (USDOT-May, 2006).

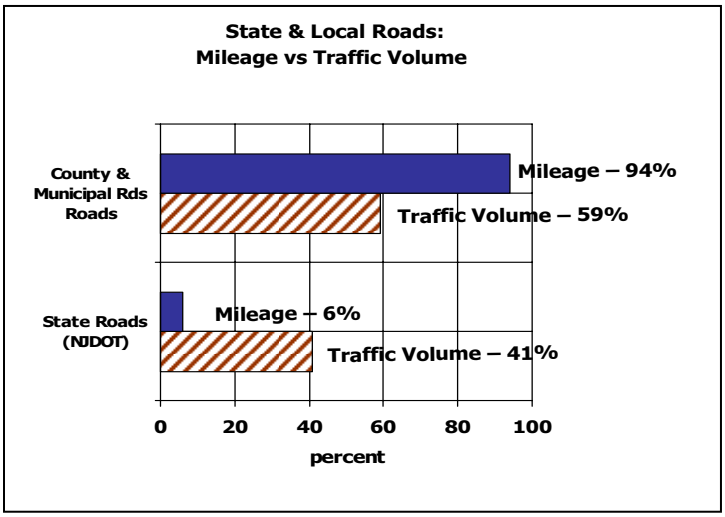
Congestion Relief

Current Conditions



Route 80 Parsippany Rd, Parsippany-Troy Hills

Although the state is responsible for only about 6% of the total road miles in New Jersey, state highways carry 41% of the traffic[3]. And given New Jersey's geographic location (within the Northeast Corridor and close proximity to New York City), rich diversity (shore, mountains, villages, cities) and key economic generators and industries (ports, airports, warehousing, pharmaceuticals) these roads carry significant commuter, recreational and freight traffic.



And as population and employment has grown, so has congestion. Some 14% of the state's roads are considered congested (at or over capacity), and another 28% are almost at capacity, leaving only 58% able to accommodate more traffic, a 9% decrease between 1998 and 2004[4].

Not only are more roadways more crowded, they are

[3] Excerpt from **2030 Transportation Choices ~ New Jersey's Long Range Plan** (Nov. 2006).
[4] Ibid.

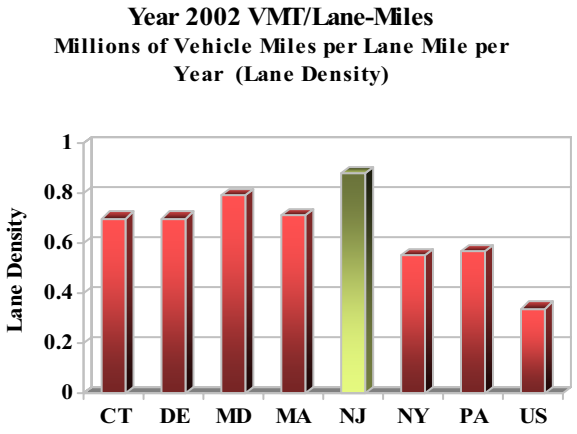
congested for longer periods of time. The concept of a single rush hour when highway traffic is greatest is fast disappearing. The percentage of roadways that experience daily congestion for more than one hour has increased from 15% to 27%.[5]

Along with increasing volumes comes increasing delays experienced at the state's 14,000 plus signalized intersections, bottlenecks and other locations.

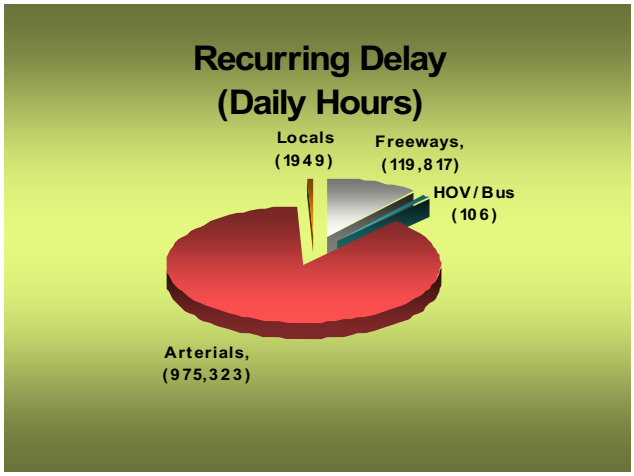

Route 70/73 Circle, Evesham, Milepost 24.1

Congestion conditions in New Jersey urban areas can be benchmarked against other states. The data provided by TTI indicated that amongst the 85 Urban Areas studied, Northern NJ ranks 7th amongst the Very Large Urban Areas in 2002, in terms of Annual Hours of Delay per Traveler.

More telling is the VMT to Lane-Mile ratio, indicating NJ has the most densely traveled lane-miles, when compared to other NE Corridor states, and the US as a whole.



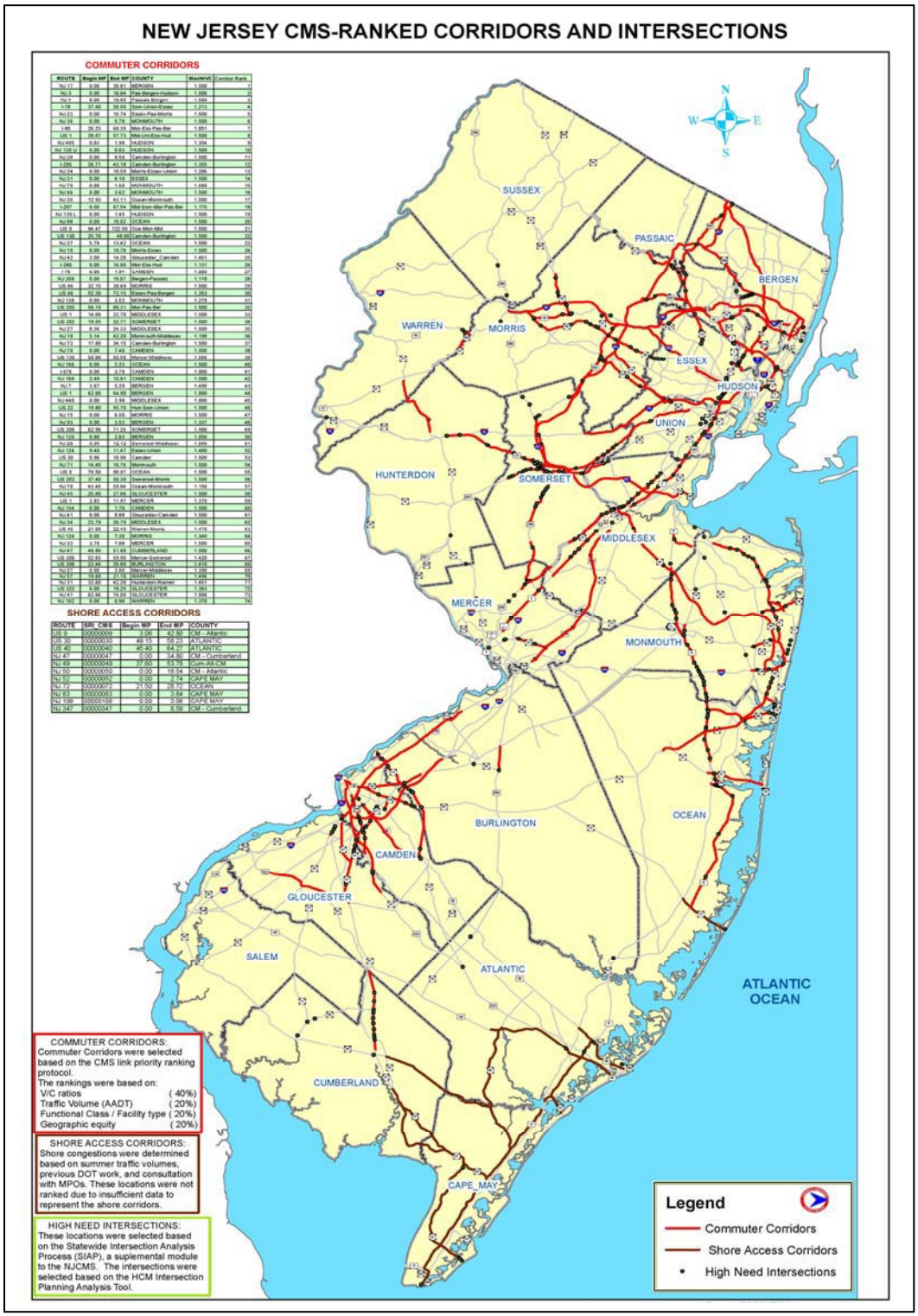
Other data, derived from the NJCMS, show the breakdown of recurring delay by facility type in the CMS System Network, with over 1 million hours of recurring delay every day, overwhelmingly on arterial facilities.




Route 1 @ Interstate 287 Edison

[5] Ibid.

Recently, for problem statement evaluation purposes, the following Statewide Map depicting "CMS ranked Corridors and Intersections" on the state's roadway system was developed. The map shown below helps illustrate the monumental congestion problems facing New Jersey today.



Anticipated Future Conditions

Population growth, economic development, and changes in social structure and land use have combined to produce steadily increasing levels of traffic congestion in New Jersey. This trend is expected to continue into the foreseeable future, resulting in increased congestion and delay on the state's roadway system which translates into increased costs, more air pollution, reduced productivity and an overall lessening of the quality of life.

It is estimated that by 2020, New Jersey will have 1.4 million additional residents, 21% more jobs, double the amount of freight moving into, out-of and through the State for a total of 34 billion additional vehicle miles traveled.

Blue Ribbon Commission Report (2003)

Congestion Relief

Goals, Objectives & Performance Measures

Goals & Objectives

With regard to congestion relief, the following are applicable goals and objective statements identified in the Draft 2030 Long-Range Transportation Plan, now under development:

- Goal II. Integrate Transportation and Land Use Planning
  Objectives:
  - ☑ Make transportation investments consistent with smart growth policies
  - ☑ Establish partnerships at all levels of government and with the private sector to coordinate transportation and land use decisions
  - ☑ Encourage development and redevelopment around transit stations and services

- Goal IV. Increase Mobility, Accessibility, and the Reliability of Travel
  Objectives:
  - ☑ Relieve congestion and delay for both highways and transit
  - ☑ Expand availability of public transit and increase level of service
  - ☑ Make walking and bicycling more practical
  - ☑ Enhance connections between and among modes, especially access to transit
  - ☑ Operate the transportation system efficiently
  - ☑ Provide customers with real-time travel information
  - ☑ Expedite incident management

- Goal VI. Optimize Freight Movement
  Objectives:
  - ☑ Relieve congestion on heavily traveled truck routes
  - ☑ Improve truck connections to the ports
  - ☑ Increase the amount of freight shipped by rail by at least the same rate that the volume of overall goods movement increases

- ☑ Support the development and reuse of under-utilized properties for freight purposes

- Goal VII. Continually Improve the Process of Providing Transportation Facilities and Services

  Objectives:
  - ☑ Involve customers in the decision-making process by providing clear information and a forum for discussion
  - ☑ Improve customer satisfaction with NJDOT and NJ TRANSIT
  - ☑ Deliver projects and services in a timely and cost-effective manner

- Goal: Operate the Transportation System Efficiently

  Objectives:
  - ☑ Promote smooth flow of traffic on major roadways and transit lines
  - ☑ Provide customers with real-time travel information
  - ☑ Expedite incident management

Performance Measures

Assessing mobility, accessibility and reliability of travel related to New Jersey's highway system is key in determining the investments required to meet NJ's congestion relief needs in the 21st Century. However, the tools and techniques currently available (e.g., NJ Congestion Management System) are not mature enough for the kind of analyses done in other management systems (i.e., bridge and pavement). Further complicating the matter is the fact that congestion is a multi-faceted problem directly and indirectly influenced by many factors – for example, the overall national economy; personal income level; the price of gas; parking costs; the availability of alternative modes of travel; land use; and so on.

In study of New Jersey's Business Climate commissioned by the NJ Chamber of Commerce, those interviewed cited the state's traffic congestion and its impact on distribution and employee commutes as a major concern.

Phil. Business Journal – 12/28/05

In terms of economic competitiveness, New Jersey ranks 44th in the Nation. One of the noted disadvantages relates to "average travel time to work", which ranks 48th.

Metro Area and State Competitiveness Report ~ Beacon Hill Institute ~ 2004

With regard to these issues, there are current and near-term capabilities and limitations associated with the use of the NJ Congestion Management System (NJCMS) tool. As a result, there is clearly a need to work within these constraints when selecting performance measures and assessing congestion. Additionally, the state's three MPOs have made progress within their respective Congestion Management Processes (CMP) of identifying performance measures and congestion evaluation techniques. Therefore, for the purposes of establishing baseline

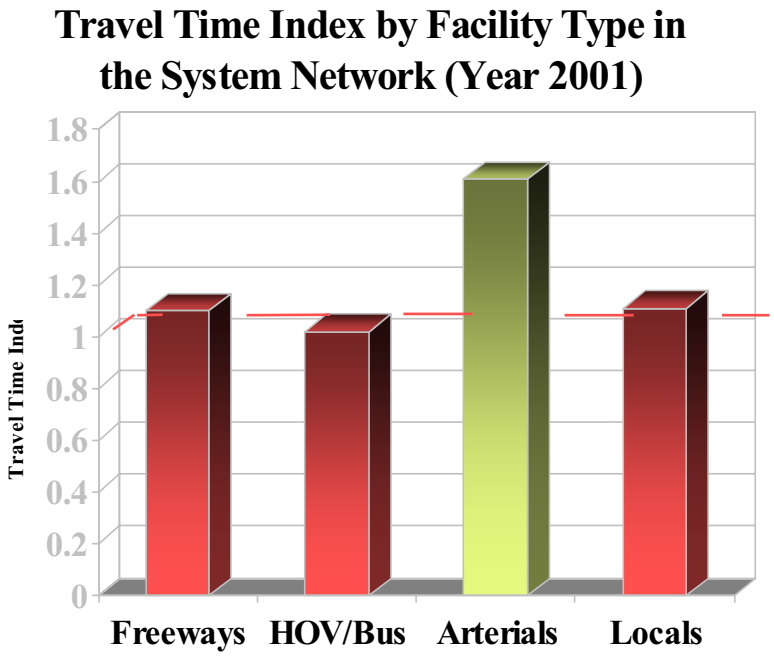
performance measures for evaluating alternative investment scenarios in future CIS analyses, it is anticipated that improvements will be made. Efforts will be made to enhance the CIS performance measure approach for congestion management to identify how the transportation system changes over time.

Within the context of the Draft 2030 New Jersey Long-Range Transportation Plan there are three measures important to evaluating system performance and could be applicable to future performance analysis efforts:

- Travel Time Index
- Delay
- Roadway Congestion Index

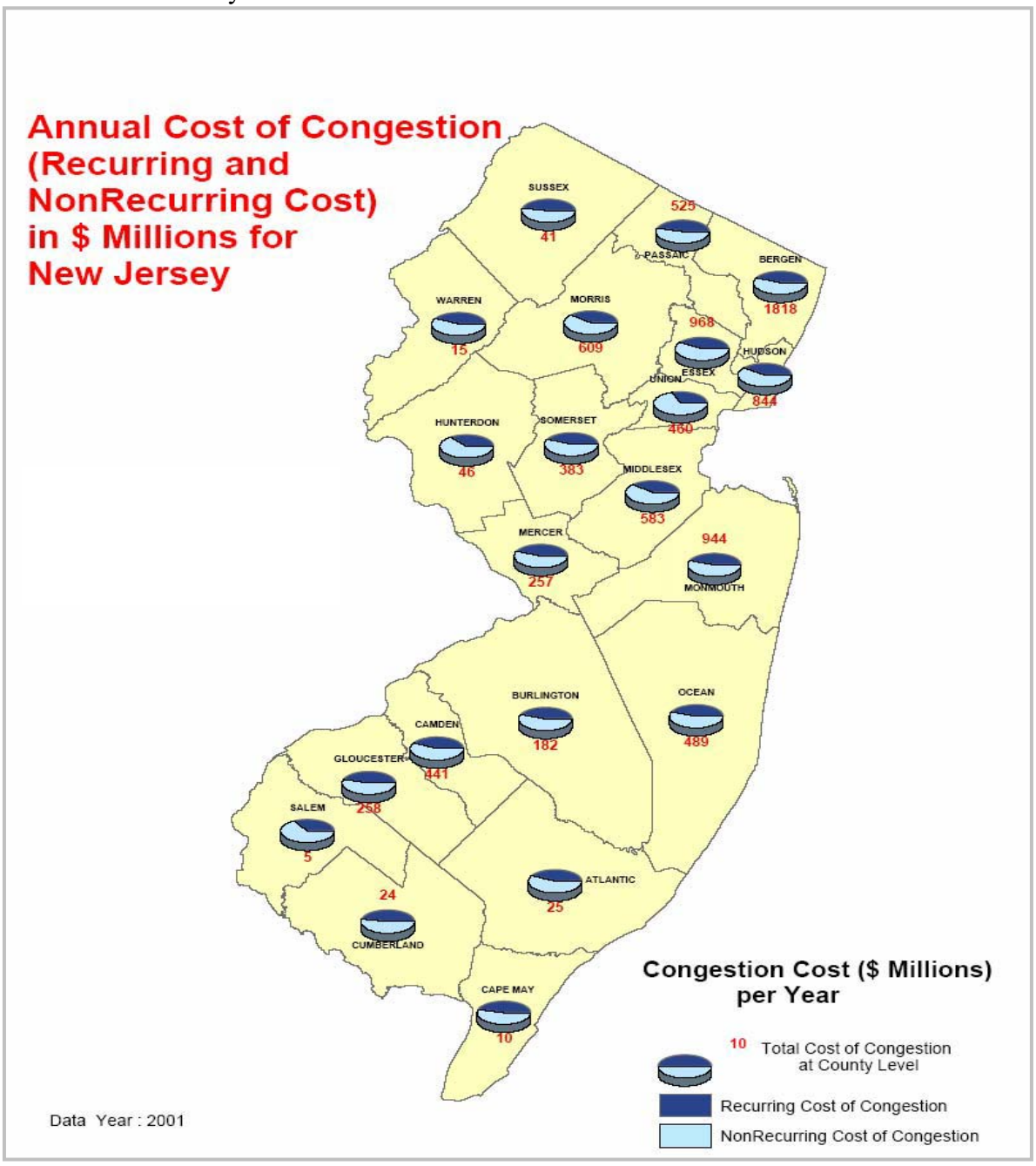
Each one of these measures can: be derived through current versions of existing congestion analysis tools; can be easily explained and understood, reflect important congestion-related aspects of the roadway system and directly address concerns of and impacts to the state's overall economic health and sustainability. These measures are briefly discussed below.

Travel Time Index (TTI) – Simply put, TTI is ratio of travel time in the peak period to the travel time at free-flow conditions. For example, a value of 1.0 indicates a trip in the peak would take the same amount of time as a trip off-peak. A value of 1.40 indicates a 40-minute free-flow trip takes 56 minutes in the peak (or a 40% increase). Holding the line or closing the gap between peak and off-peak travel times (as a result of the Congestion Relief Program) will help measure system performance in terms if mobility and reliability.

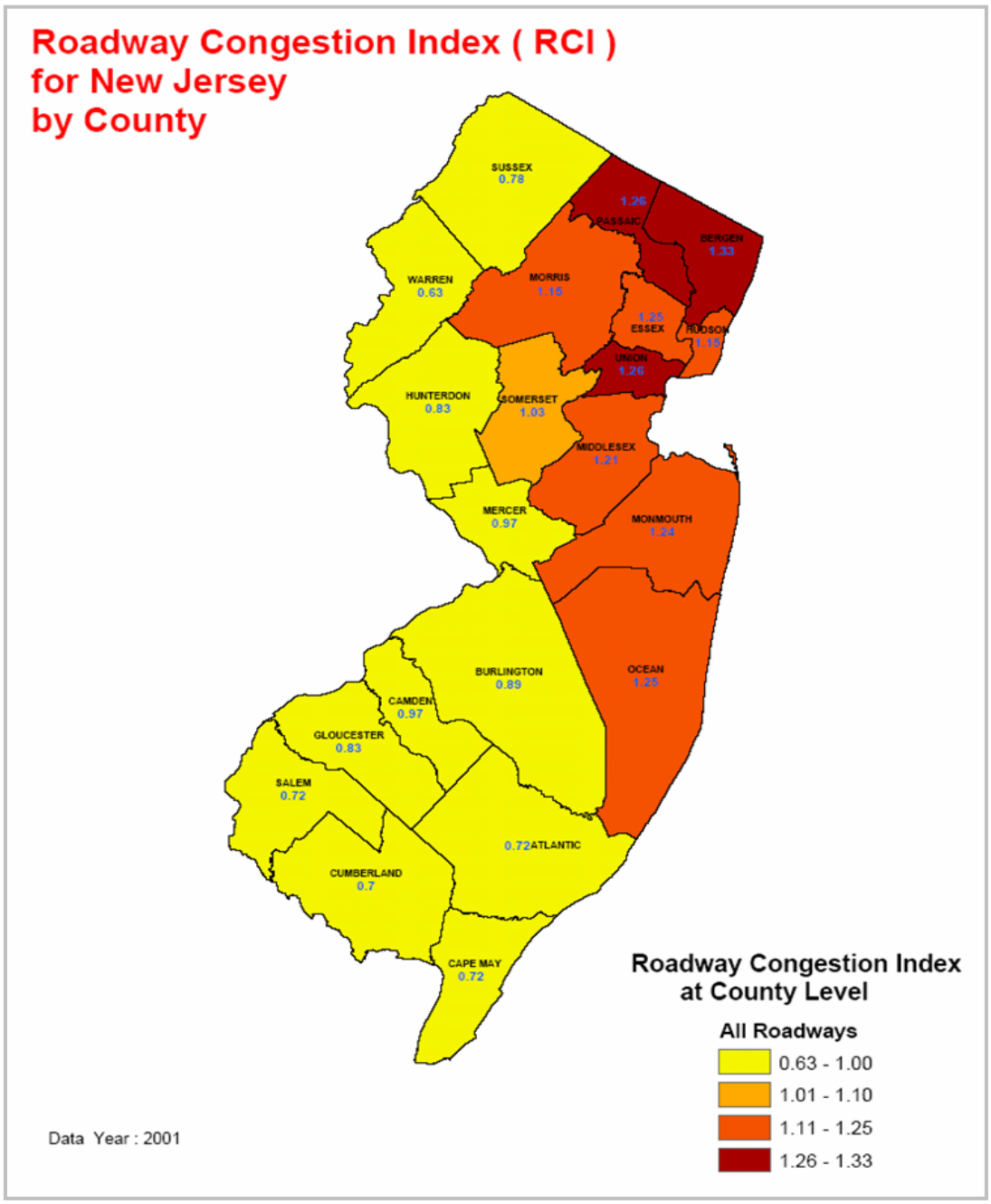


Provided here are the TTI's generated from the NJCMS, stratified by facility type. These data indicate travel times on the state's arterials are 60% longer in the peak than the off-peak, a significant difference.

Delay – Travel delay is the measure of time lost due to congestion. This delay is expressed in two ways: recurring, and non-recurring. Recurring delay is associated with typical morning and evening commuter peak periods, and can be generally predicted. Non-recurring delay is the additional travel time due to traffic incidents (vehicle breakdowns, police activity) or traffic accidents. As discussed previously in this report, delay has substantial cost implications to the traveling public, both in monetary and health terms (air pollution, stress). The annual cost of congestion in terms of recurring and non-recurring delay by county is shown below. Evaluating the impact of a Congestion Relief program against system delay will help quantify system performance in terms of reliability.



Roadway Congestion Index – The Roadway Congestion Index (RCI) is a measure of cars per road space; i.e. a measure of vehicle travel density on major roadways in an urban area. A RCI value exceeding 1.0 indicates an undesirable congestion level on the freeways and principal arterial street system during the peak period.[1] This measure can be used to understand the effect on mobility from capital improvement projects. Shown below in is an example of RCI at a county level.



[1] - Excerpt from **Mobility and the Cost of Congestion in New Jersey** ~ 2003 Update ~ Appendix II

Congestion Relief

Program Categories: Fighting Congestion

In today's New Jersey, highway congestion is a problem that can't be cured: it can only be ameliorated. Population growth, economic growth, changing family patterns, and continuing sprawl development push highway traffic volumes up. Until better land use planning, more transit availability, and – perhaps – technological innovations begin to take effect, more traffic is in our future.

There are, however, many things we can do to fight congestion and improve the quality of life of our citizens. The current program categories under Congestion Relief are:

Major Capacity Increases (MCI):

This category includes system expansion-type projects: bottleneck widening; major widenings and missing links.

Major highway capacity increases (defined for this purpose as the construction of new through lanes, either through new highway construction or the widening of an existing highway) **do** make sense as a tool in some settings. NJDOT will continue to build new lanes in locations where this tool seems the most appropriate and where any negative land use consequences are controlled. In fact, in some cases new highway construction is actually a key element of new "Smart Growth" development.

The most obvious solution to highway traffic congestion is to build new highways or to widen existing ones. In many

parts of the country, new freeways and toll roads are spreading over the landscape at a rapid rate and urban areas are being torn apart with wider rivers of asphalt. This is not New Jersey's answer to the congestion problem. Relying on new highway construction does not promote the development of a sustainable transportation system with improved mobility and accessibility and the quality of life that New Jerseyans want.

However, wwithin certain regionally strategic and significant corridors, all strategies, including added capacity should be considered. Additional or widened lanes may be necessary on a selected basis, to achieve true mobility, accessibility and economic vitality. These are NJFIT outcomes that are desirable among many communities where major capacity increase solutions can be practically implemented in a positive and efficient manner.

Current NJDOT policy is to limit investment in highway capacity increases to no more than 4 percent of the total annual capital program.

Highway Operational Improvements:

- **Large Highway Operational Improvements (L-HOI)**
  This category generally includes improvements to grade-separated interchanges
- **Medium Highway Operational Improvements (M-HOI)**
  This category generally includes major improvements to signalized intersections, such as turning lane additions, jug handles, etc.
- **Small Highway Operational Improvements (S-HOI)**
  This category includes minor improvements to intersections, such as signal re-timing, lane re-striping, etc.

Beyond the planning for congested corridors, there are other major capacity relief projects to address the constraints or "bottleneck" effect of intersections and interchanges that permeate the state's transportation system. Old, outdated or substandard geometries coupled with continually increasing traffic have overwhelmed many of these locations. More specifically, these pinch points where traffic is tied up, are often due to competing traffic movements at intersections, inadequate ramps at freeway interchanges, and outdated traffic patterns created by the now sub-standard design of traffic circles. NJDOT classifies as "highway operational improvements" those projects which provide relief to these bottleneck locations. Highway operational improvements include:

- Redesign of freeway interchanges to facilitate movements from one road to another.
- Replacement of older traffic circles with safer, more efficient arrangements.
- Reconstruction of at-grade intersections, usually including separating turning movements and through movements.

- Low-cost, quick-turnaround intersection improvements, funded under the Congestion Relief (Fast Move) program.

Intelligent Transportation Systems (ITS)

This category includes a variety of technologies to maximize system efficiency, from relatively "low-tech" (e.g.; Emergency Service Patrols) to "high-tech" (e.g.; provide real-time travel info to in-vehicle navigation systems), as well as the data infrastructure (e.g.; fiber optic cable) and management (e.g.; Traffic Operation Centers).

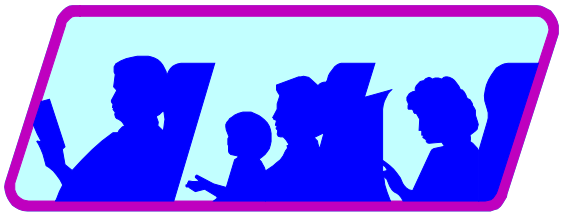
For a more detailed explanation of the ITS program, refer to the next section of this report entitled, "Congestion Relief: Intelligent Transportation Systems (ITS).

Transportation Demand Management (TDM)

This category includes programs and projects that serve to manage or reduce transportation demand by providing and promoting alternatives to the single occupant motor vehicle. It includes support for local Transportation Management Associations, the park and ride program, the access management program, and related activities.

- Park and Ride—NJDOT is investing about $9.5 million per year, in addition to NJ TRANSIT's program, to support existing and new park and ride locations. This program also implements other transportation demand management strategies, including commuter ridesharing assistance, marketing of alternatives to single-occupant vehicle use, and statewide voluntary employer programs. Funding will need to be increased as more park and ride locations are identified.

- Transportation Management Associations—Transportation management associations (TMAs) are locally run organizations that organize, support, and market a wide array of ridesharing and transit alternatives in their regions. NJDOT currently supports these organizations at a level of about $5.3 million per year, although more has been requested.



There are several other smaller programmatic approaches that are key components to our congestion fighting campaign that are not categorized under congestion relief in the capital program. These include:

Planning and Research, Federal Aid: Congestion Management System— First and foremost, NJDOT's Congestion Management System (NJCMS) is an essential front-line tool in fighting congestion. The NJCMS is designed to identify congested roads and hotspots and areas with high levels of recurring and non-recurring delay. Through system performance measures and cost impacts, it can help to formulate a comprehensive approach to congestion. For example, "the tool" was recently used to identify 19 roadway corridors that are prime candidates for ITS and Emergency Service Patrol (ESP) treatments. And through its Statewide Intersection Analysis Process (or SIAP) protocol, the NJCMS has located "high need" signalized intersections on the state system—potential candidates for the Department's "Quick Fix" program. Through these and other critical functions, such as project pool and program ranking, Tier II screening, and MPO support, the NJCMS allows us to achieve a more targeted, fiscally responsible program for Congestion Relief.

NJFIT (Future in Transportation) program—This program strikes at the heart of the problem by forming partnerships to link transportation planning and land-use planning in select areas. NJFIT will be discussed in a later section listed in this report under Congestion Relief.

Access Management—NJDOT has a responsibility to manage access to state highways under the State Highway Access Management Act. A small amount of capital funding is set aside to support this effort. NJDOT has also begun a comprehensive review of its regulations to determine how they might be updated to fit current ideas of improved land use planning (Smart Growth).

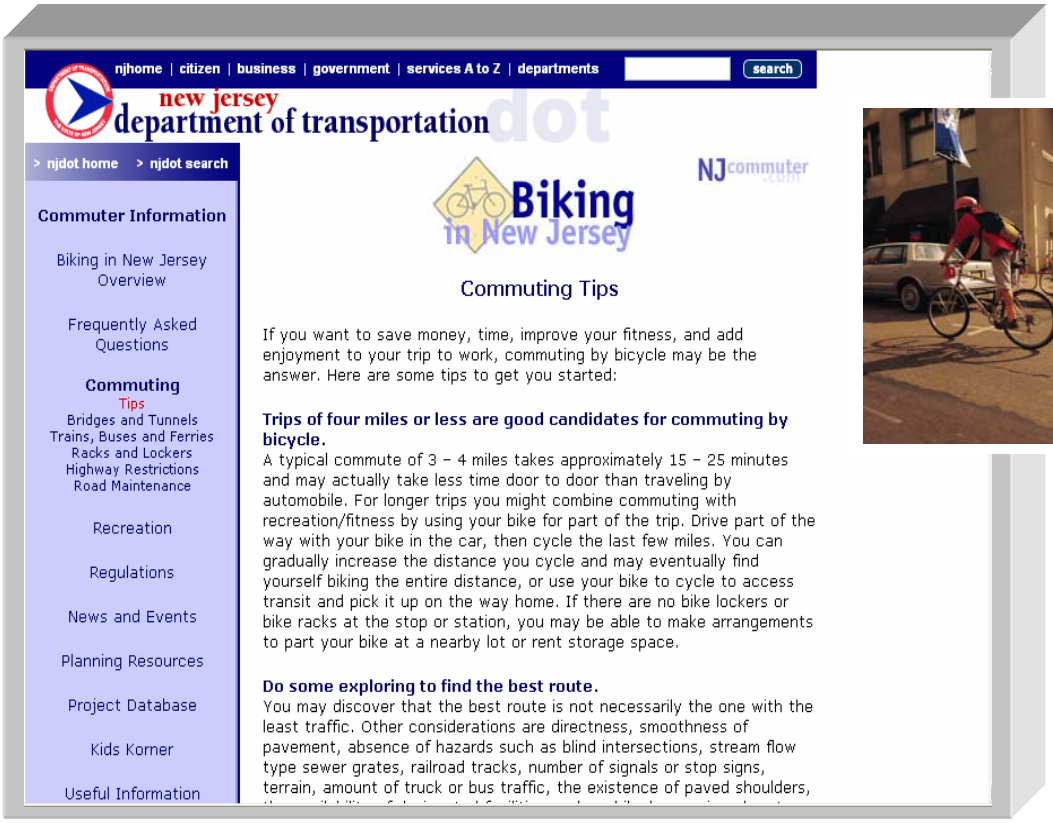
Signs—Traffic signs help motorists navigate the highway system. Good signage reduces delay by helping motorists move efficiently through the system. Bad signage causes confusion and can add unnecessary miles to a trip. NJDOT has embarked on a comprehensive program to review and upgrade its highway signs. The use of dynamic message signs provide the motorist with real time traffic information to make better decisions at any given time. Although not yet an expensive program, additional funds will be necessary in the future.

Traffic Signal Timing—Modern traffic signals can be programmed to operate in different patterns at different times of day or in different traffic patterns. NJDOT has begun a modest program of using contractor support to speed up the retiming of traffic signals on arterial highways to accommodate changing traffic patterns.

Bicycle and Pedestrian Facilities/Accommodations—One of New Jersey's improved bicycle and pedestrian facilities offer people a healthier, more environmentally friendly alternative to automobile travel. Opportunities for walking and biking will be a key

element of the mobility and accessibility strategies of the vibrant communities New Jerseyans are working to build for the future. NJDOT is committed to supporting better bicycle and pedestrian facilities throughout the state.

Commuting tips for bicyclists can be found on NJDOT's website at http://www.state.nj.us/transportation/commuter/bike/commtips.shtm



Congestion Relief

Intelligent Transportation Systems (ITS)

As stated on NJDOT's website, "Nothing is more frustrating to the traveler by automobile or bus than being delayed in traffic." A fully operable Intelligent Transportation System (ITS) can be a vital tool in the effective management of traffic, especially in a densely populated state like New Jersey. According to the Federal Highway Administration, metropolitan ITS systems on average have a cost benefit ratio of greater than 8 to 1. Freeway management systems can reduce accidents by 15 percent and increase capacity by 20 to 25 percent. By optimizing traffic flow, computerized traffic signal systems can also provide capacity improvements of 15 percent or more with a significant reduction in fuel usage and fumes generated, for an additional environmental benefit. A recent analysis of the Route 73 computerized traffic signal system in Camden County showed a reduction of up to 23 percent in the time needed to travel the entire 17-mile corridor during rush hour.

How can the use of technologies on highways help reduce congestion? Imagine a doctor trying to improve blood flow through a patient's clogged artery and compare it to an incident on the highway blocking traffic. One solution would be to perform coronary bypass surgery, or, in ITS terms, create a "diversion route." Another solution is to remove the obstruction, or, in ITS terms, "dispatch emergency service personnel as soon as possible in order to remove the stalled or damaged vehicles and clear the roadway so that traffic can flow safely again." The ability to quickly detect an incident, provide immediate information to the traveling public, and get the situation cleared rapidly substantially enhances NJDOT's ability to maximize system reliability.

ITS can also assist in "preventive maintenance care." For example, dynamic message signs (DMS) and highway advisory radio provide advance notice of pending trouble ahead, offering motorists opportunities to change their route and avoid unnecessary delays and hazardous conditions, or simply remind them to slow down and maintain safe distances so that crashes don't happen, similar to a doctor recommending exercise and a healthy diet. ITS provides NJDOT's traffic operations units with the tools they need to

manage traffic effectively by alerting motorists of adverse conditions and notifying emergency personnel of incidents for quick response, on a 24-hour real-time basis, all to keep a heavily congested transportation body alive and kicking.

Consistent with NJDOT's goals, the deployment of ITS technology helps reduce traffic congestion, improve public health and safety associated with transportation, increase opportunities for local and regional economic development by improving mobility, and enhance the quality of life for towns and communities.

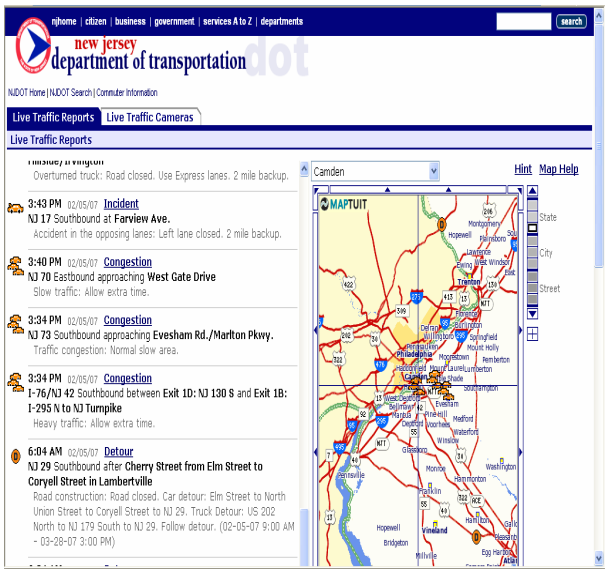
NJDOT began installing ITS elements in 1992 and we now have some level of ITS infrastructure on about 105 miles of interstates and freeways and 235 miles of other state highways. This includes 300 road miles of communication fiber, 208 cameras, 87 dynamic message signs, 172 travel time sensors, 211 computerized signals, and 14 highway advisory radio transmitters. In October of 2006 NJDOT deployed its first travel time system to cover the I-78 reconstruction project in Union County. This system provides the motorist current travel times through dynamic message signs and an interactive web site. There have been over 5000 hits to the web site:
http://www.state.nj.us/transportation/commuter/roads/I78/roadconditions.shtm

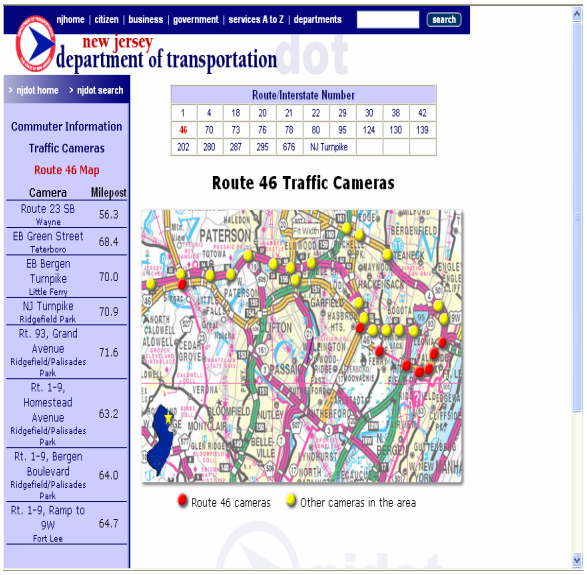
Two high-tech traffic operations centers (TOCs), originally established in 1996, are the central focus for all transportation operations in the state. They use ITS infrastructure to manage the flow of traffic on the highways and to coordinate responses for traffic incidents. There is also a central dispatch unit co-located with the State Police and Department of Environmental Protection communications centers to assist the TOCs in coordinating work assignments among various operational units in responding to incidents. Approximately 7,000 incidents are reported to the TOCs every year. NJDOT has completed a statewide fiber network with the New Jersey Turnpike Authority (NJTA) and together are developing a statewide traffic management center (STMC) in Woodbridge. The STMC is expected to open by late 2007 and will have staff from NJDOT, NJTA, and State Police to coordinate traffic information and incident management throughout the state. NJDOT is also working with TRANSCOM for traffic and incident coordination with the sixteen transportation agencies covering the New York Metropolitan area.

The Emergency Service Patrol Program (ESP) was launched in 1994 to help keep the highways clear, reduce congestion and increase safety for all motorists. ESP services include fixing a flat,

providing gas, other help to get a motorist moving again, or just clearing a vehicle from the highway. Since inception, ESP assists to motorists have steadily increased with over 84,000 in 2006. The ESP has a benefit to cost ratio of 19 to 1 based on the savings in time provided by clearing lane closing incidents. ESP units patrol from 4:00 a.m. – 8:30 p.m. Monday through Friday, with additional coverage on weekends in the vicinity of the Route 29 Tunnel and other locations. The ESP program currently covers over 385 miles of interstate and freeways.

NJDOT's website (www.state.nj.us/transportation/commuter/trafficinfo/) provides real-time traffic information, including live camera views of actual highway conditions. The number of "hits" on this website has increased significantly to over 950,000 in 2006.





A 511 phone service to provide real-time traffic information has been developed and is currently being tested and coordinated with the 30 phone companies in New Jersey for deployment by late 2007. The service will allow callers to receive the current status of traffic on any requested segment of highway.

NJDOT also programs a small amount of funding annually for the "Smart Move" program of low-cost ITS improvements. However, as part of the recent congestion investment scenario analysis, increases in funding levels for "Quick Fix" and ITS projects and programs were recommended to provide for a more integrated and cost-effective approach to congestion relief. Some examples of projects that have been done under this program are:

- Construction of 20 cameras at locations throughout the state, including I-287/I-78, I-78/Route 21, I-287/I-80, I-80/Route 15, I-78/Route 1&9, Route 50/GSP, and I-280/Stickels Bridge.

- Construction of 25 DMS at locations including I-295/Route 130, Route 3/Route 17, Route 3/Route 1&9, Route 9/Route 18, and Route 55/Route 47.
- Connection of the central dispatch unit into the fiber network to provide secure communications and provide for backup coverage between the TOCs.
- Retrofit the Route 18 controlled traffic signal system to provide for optimum traffic flow.

Based on recommendations from the Congestion Management System, the following priority corridors were selected as candidates to deploy ITS to address congestion. Noted in **bold** are those corridors already in Study or Concept Development.

Arterials:

- NJ 3, MP 0.0 to 10.84, Passaic, Bergen and Hudson Counties
- NJ 4, MP 0.0 to 10.89, Passaic and Bergen Counties
- US 9 MP 70 to 122.5, Ocean, Monmouth & Middlesex Counties
- NJ 17, MP 5.76 to 26.0,Bergen County
- NJ 21, MP 0.0 to 4.1, Essex County **(existing scoping MP 2-3.2)**
- US 22, MP 19 to 55, Somerset/Union/Essex Counties **(exist Scoping MP 37-40)**
- NJ 23 MP 5.0 to 16.7, Passaic & Morris Counties **(existing P&R scoping)**
- **US 46**, **MP 42.5 to 72.1,**Morris, Passaic & Bergen Counties
- **NJ 47, MP 0 to 17,** Cape May County - Shore Evacuation/Seasonal Congestion
- NJ 47, MP 40.8 to 51.8,Cumberland & Gloucester Counties**(existing scoping 17-35)**
- US 130, MP 61.5 to 74.5, Mercer & Middlesex Counties - Incident Diversion
- NJ 166, MP 0.0 to 3.73, Ocean County

Interstate/Freeway:

- **78, MP 40-59, Somerset/Union/Essex**
- **287, MP 0-21, Middlesex/Somerset**
- **295, MP 56-67, Burlington/Mercer**
- **80, MP 28-43, Morris**
- **78, MP 24-40, Hunterdon/Somerset**
- 295, MP 10-14, Gloucester
- **295, MP 14-25, Gloucester**
- **280, MP 10-17, Essex County**
- 280, MP 0-10, Essex County

NJDOT's capital investment strategy for ITS improvements calls for expanding and improving the technical base and services available:

1. Expand instrumentation on interstates and freeways—The goal for instrumentation is to locate traffic cameras at every interchange and at least every two miles for urban highways and every five miles for rural highways and to place DMS at all major approaches to interchanges with the ability to provide travel times. It is estimated that it will cost over $350 million over 10 years to complete this network.

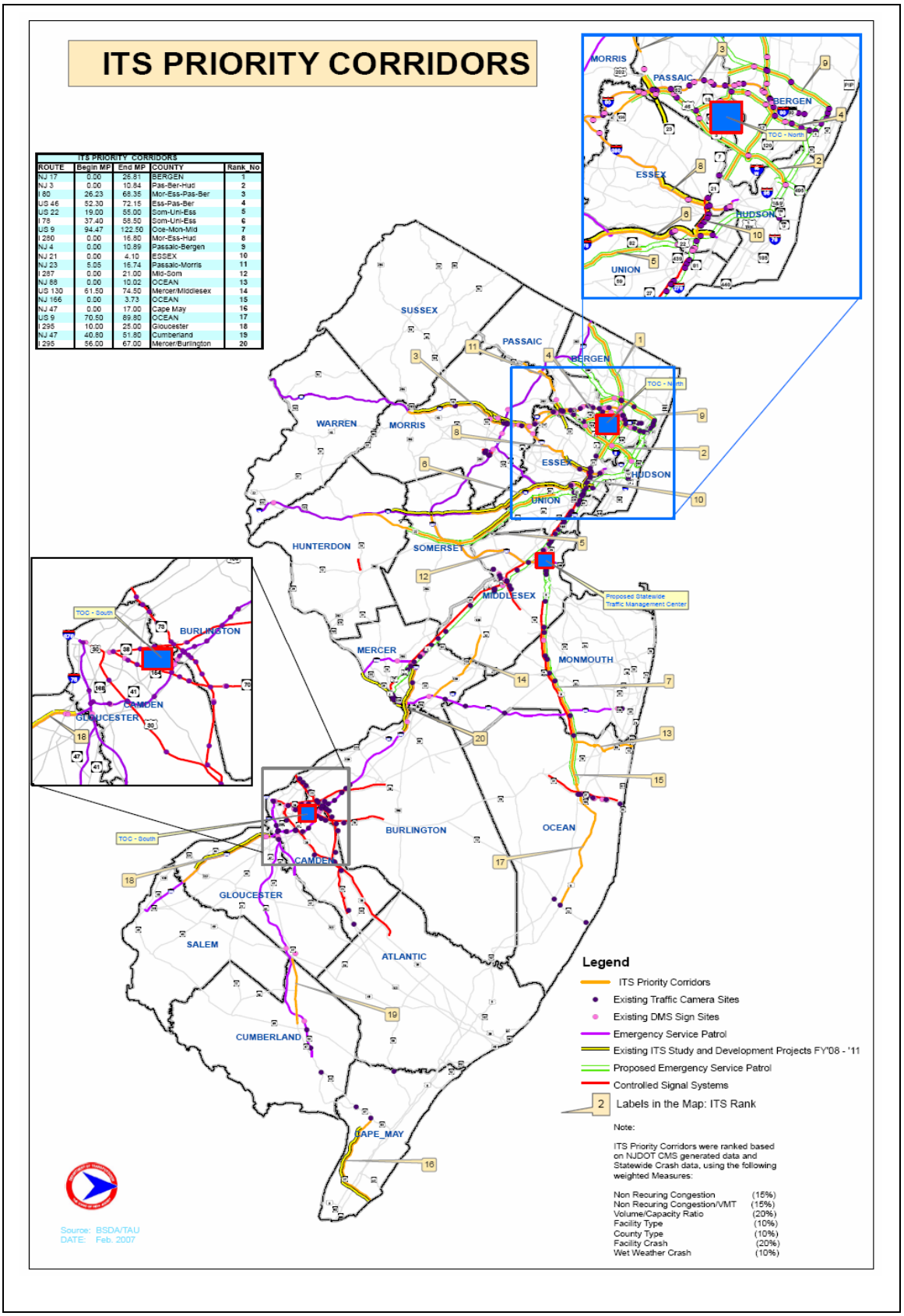
2. Expand instrumentation on selected high-priority arterial highways—For arterial highways—major roads with signalized intersections—the goal is to install computerized traffic signal control systems on selected major corridors. The identification of corridors for this treatment will take place over the next several years. Installation of these systems on an additional 125 miles of roadway over the next ten years would cost approximately $80 million.

3. Upgrade and operate traffic control centers—Providing for a complete network of traffic operation centers will cost about $8 million. The cost of operating these centers and associated programs, which is currently a capital expense, will increase as they become fully operational with expanded instrumentation and coverage for the emergency service patrols and incident management response teams. Replacement and upgrade of older equipment and computer software/systems will also require about $15 million over the next ten years.

Achieving these goals will require a total investment of over $950 million over the next ten years. Current and projected funding levels, within the limits of the resources currently available, are about $40 million a year, including ITS work that is incorporated with other improvement projects.

There is a school of thought that says, “You can’t build your way out of congestion.” And that’s basically true – a multi-faceted approach MUST be used in providing an efficient, cost-effective transportation system to New Jersey citizens. This necessarily requires every available tool on the toolbox, none of which may be more important now than Intelligent Transportation Systems.

In conclusion, ITS applications are high-tech transportation system management tools that can greatly increase the efficiency of roads and intersections. But there are significant costs associated with deployment of ITS, from building the fiber optic networks to instrument the roadways. However, this is a program that the state MUST maintain, not only to preserve and enhance the transportation infrastructure, but to preserve and enhance the state’s quality of life and economic vitality.


ITS PRIORITY CORRIDORS
ITS PRIORITY CORRIDORS
ROUTE | Begin MP | End MP | COUNTY | Rank_No
NJ 17 | 0.00 | 26.81 | BERGEN | 1
NJ 3 | 0.00 | 10.84 | Pas-Ber-Hud | 2
I 80 | 26.23 | 68.35 | Mor-Ess-Pas-Ber | 3
US 46 | 52.30 | 72.15 | Ess-Pas-Ber | 4
US 22 | 19.00 | 55.00 | Som-Uni-Ess | 5
I 78 | 37.40 | 58.50 | Som-Uni-Ess | 6
US 9 | 94.47 | 122.50 | Oce-Mon-Mid | 7
I 280 | 0.00 | 16.80 | Mor-Ess-Hud | 8
NJ 4 | 0.00 | 10.89 | Passaic-Bergen | 9
NJ 21 | 0.00 | 4.10 | ESSEX | 10
NJ 23 | 5.05 | 16.74 | Passaic-Morris | 11
I 287 | 0.00 | 21.00 | Mid-Som | 12
NJ 88 | 0.00 | 10.02 | OCEAN | 13
US 130 | 61.50 | 74.50 | Mercer/Middlesex | 14
NJ 166 | 0.00 | 3.73 | OCEAN | 15
NJ 47 | 0.00 | 17.00 | Cape May | 16
US 9 | 70.50 | 89.80 | OCEAN | 17
I 295 | 10.00 | 25.00 | Gloucester | 18
NJ 47 | 40.80 | 51.80 | Cumberland | 19
I 295 | 56.00 | 67.00 | Mercer/Burlington | 20
MORRIS
PASSAIC
BERGEN
ESSEX
HUDSON
UNION
TOC - North
SUSSEX
WARREN
HUNTERDON
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
OCEAN
BURLINGTON
CAMDEN
GLOUCESTER
ATLANTIC
SALEM
CUMBERLAND
CAPE_MAY
TOC - South
Proposed Statewide Traffic Management Center
Legend
ITS Priority Corridors
Existing Traffic Camera Sites
Existing DMS Sign Sites
Emergency Service Patrol
Existing ITS Study and Development Projects FY'08 - '11
Proposed Emergency Service Patrol
Controlled Signal Systems
2 Labels in the Map: ITS Rank
Note:
ITS Priority Corridors were ranked based on NJDOT CMS generated data and Statewide Crash data, using the following weighted Measures:
Non Recuring Congestion (15%)
Non Recuring Congestion/VMT (15%)
Volume/Capacity Ratio (20%)
Facility Type (10%)
County Type (10%)
Facility Crash (20%)
Wet Weather Crash (10%)
Source: BSDA/TAU
DATE: Feb. 2007

Congestion Relief

Meeting the Need: Management System Performance Analysis

How can we attack congestion? Or, to look at the problem another way, how can we improve the mobility of our citizens and the accessibility of the places that they want to go to? There are several things we can do:

- Build more highways—This was once considered the best tool for addressing congestion, but it is often not a very practical (or even effective) solution in today's New Jersey
- Build more transit—This is a better solution in many ways and will be discussed in the NJ TRANSIT portion of this report.
- Coordinate land use development and transportation— This is also a better solution and one in which New Jersey has taken a leadership role in the nation.
- Fix bottlenecks on the highway network—This is an answer that NJDOT continues to pursue vigorously.
- Use technology to better manage the system—NJDOT is still at the early stages of seeing the benefits of this approach.
- Promote walking and bicycling—Providing options for walking and bicycling not only fights congestions, but it also promotes healthier individuals and healthier communities.

Of course some methods for relieving congestion—especially highway capacity increase projects—can have significant effects on the built and natural environments. In an effort to meet the goals and objectives of the Draft 2030 Long-range Transportation Plan for congestion relief as previously stated, a "performance-based programming methodology" must be employed. Therefore, "meeting the need" to relieve congestion and expand mobility can be realized through carefully selected treatments that are evaluated based on congestion–related prioritization performance criteria. Protecting

the environment, respecting community values, and promoting the State Development and Redevelopment Plan are other factors that are considered simultaneously in the effort to fight congestion.

FY07 CIS Program Category Allocation & Projected Performance

Based on the current FY07-FY11 STIP, work activity involving the congestion relief program over the next five year period is expected to produce the following output:

Projected Output Programmed

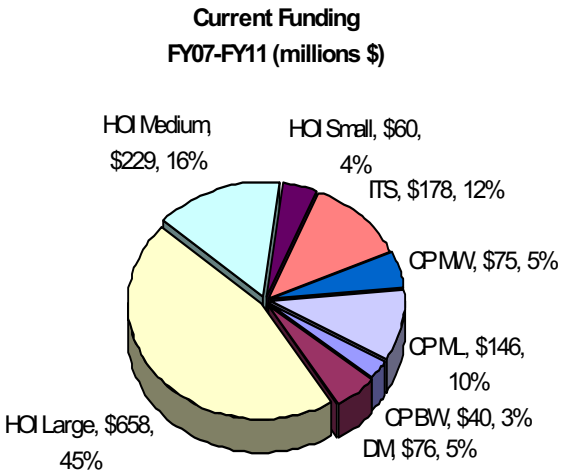
FY 2007-2011 Capital Program ~ Congestion Relief

Highway Operational Improvements	
- Highway Operational Improvements - Interchanges	17 Projects
- Highway Operational Improvements - Intersections	19 Projects
- Highway Operational Improvements - Other	12 Projects

System Expansion	
(Bottlenecks, Major Widenings, Missing Links)	35 lane-miles

Intelligent Transportation Systems (ITS) Expansion	
- Traffic Operations Centers	1 New Statewide Center
- Emergency Service Patrols (ESP's)	Additional 100 miles of coverage
- ITS Instrumentation - Interstates and Freeways	Additional 150 miles
- ITS Instrumentation - Arterials	Additional 150 miles

The funding allocations for the congestion relief program by category are:

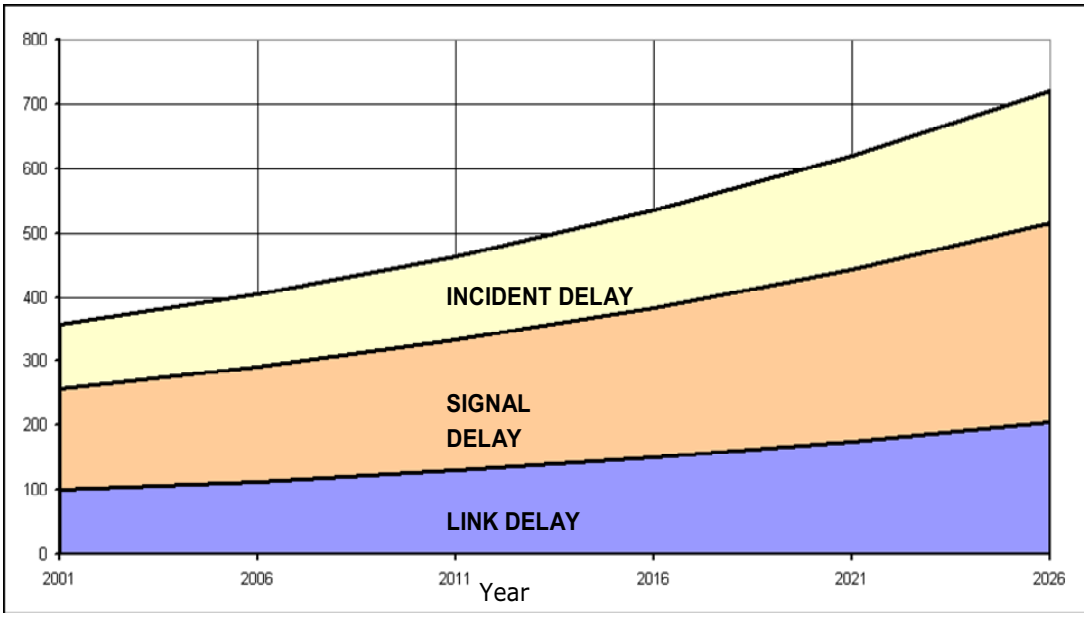


Congestion Program Categories	
Bottleneck Widening	CP BW
Demand Management	DM
Hwy Operational Improvements (LAR)	HOI Large
Hwy Operational Improvements (MED)	HOI Medium
Hwy Operational Improvements (SML)	HOI Small
Intelligent Transportation Systems	ITS
Major Widenings	CP MW
Missing Links	CP ML

- Within the context of overall expansion need identified in the 2025 Long-range Transportation Plan, there is insufficient funding allocated for major capacity increases (Bottleneck Widenings, Missing Links and Major Widenings).

- The Highway Operational Improvements-Medium and Small categories, which are primarily intersection-related projects, make up about 20% of the overall Congestion Relief funding. However, in terms of overall system delay, a significant portion can be attributed now and in the future to signal delay, as shown in the chart below. Similarly, ITS comprises12% of the overall spending, yet incident delay is shown to be the most significant source of delay on State facilities (see chart below). (Note: The ITS program does not include all ITS enhancements. Some are included as part of other roadway projects.)

SOURCE OF RECURRING AND NONRECURRING DELAY
(Annual Millions of Vehicle Hours)



Note: State Highways only
Source: NJCMS

Project Prioritization and Alternative Investment Scenario Analysis

In an effort to make programming decisions for the development of the FY08-FY12 capital program, a prioritization methodology using specific performance criteria was used for project selection purposes in response to meeting the previously stated goals and objectives subject to alternative investment scenarios.

Based upon current asset management techniques and already established NJCMS project pool ranking procedures, a ranking process was developed, using the following criteria and weighting:

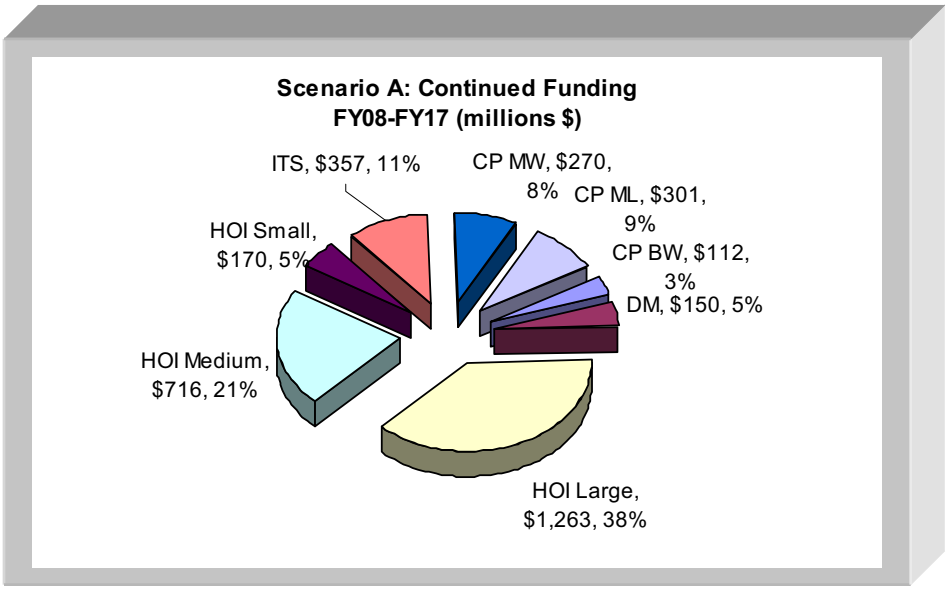
- **Degree of Problem (40%):**
  - highest volume-to-capacity (V/C) ratio
- **Magnitude of Problem (20%):**
  - highest average daily traffic (ADT) volume
- **Importance of Problem (20%):**
  - highest facility type
- **Geographic Location or "Equity" (20%):**
  - credit for Cost of Congestion, Travel Rate Index and Roadway Congestion Index

Capital Plan and Study and Development congestion relief projects were ranked within each category in accordance to the above criteria and weights. This information was used in evaluating each of the following alternative investment scenarios:

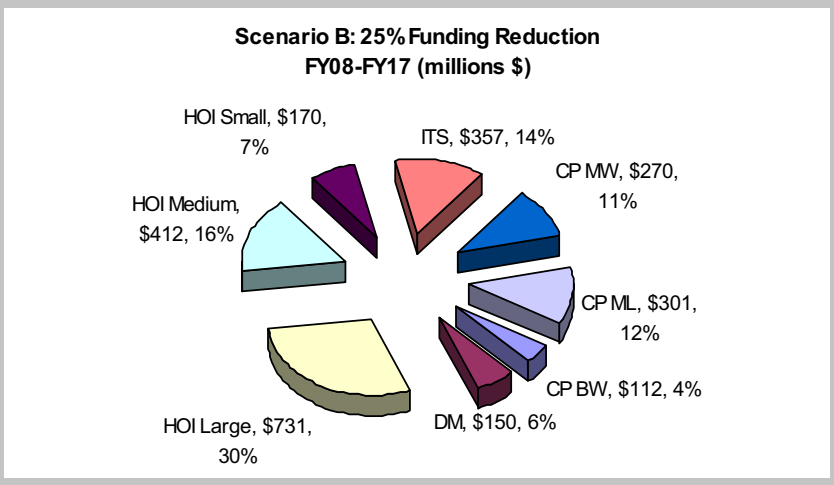
- **Scenario A**: Funding **continued at current levels** (from FY08-FY17, an average annual investment level of approximately $330M per year)
- **Scenario B**: Funding **reduced by 25 percent** under current levels (from FY08-FY17, an average annual investment level of approximately $250M per year)
- **Scenario C**: Funding **increased by 25 percent** over current levels (from FY08-FY17, an average annual investment level of approximately $415M per year)

The results of each scenario are:

- **<u>Scenario A (Continued Funding)</u>:** In terms of funding the FY08-12 Capital Plan, Scenario A will provide the dollars to build most of the Plan within the specified timeframes. Given the current projects in the pipeline, the analysis concluded that previous funding levels should be continued at about a $330M level over the next several years in order to complete the highest priority congestion relief projects. However, in addition, in order to acquire the "most bang for our bucks" more efficiency should be achieved to obtain a higher return on investment by "rightsizing" as many larger scale projects as possible. As a result, these projects will less expensive and quicker to construct, and less intrusive on communities and the environment. If current investment levels are continued, projected funding for congestion relief categories would be allocated as shown below over the next ten years:

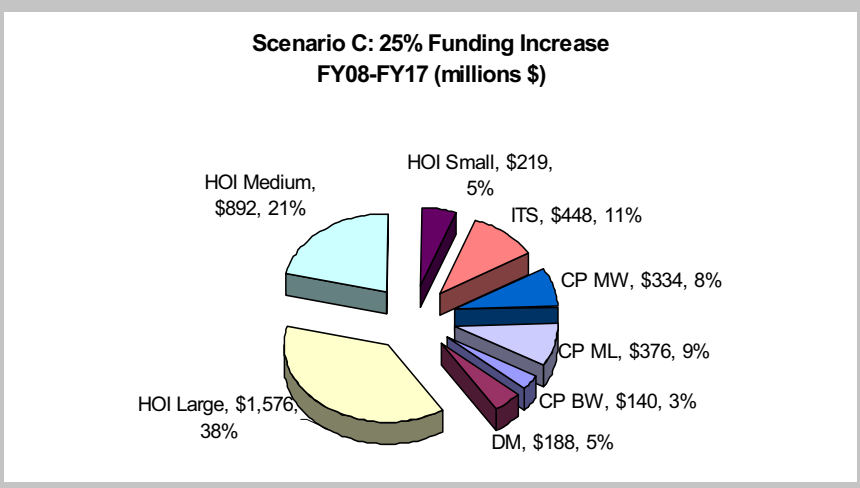


- **<u>Scenario B (25% Funding Reduction)</u>:** Significantly reducing funding levels under Scenario B *greatly affects project delivery*, delaying much of the large and medium highway operational improvement project pool two, three or more years. As a result, project delays lead to reduced system performance and increased project costs. This severely impacts the ability to seriously pursue an economic growth strategy. Highway operational improvements function to enhance traffic flow in an efficient and safe manner reducing delay and enhancing the public's quality of life. The ability to efficiently provide access and move commuters, goods, services and consumers to residential, commercial, industrial and recreational land uses is critical to the operation of a vibrant economy. Investment allocations for Scenario B are illustrated in the chart below:



If current investment levels are reduced by 25%, projected funding over the next ten year period for congestion relief categories would be allocated as shown above. This would result in smaller allocations directed towards the large and medium highway operational improvements unfortunately increasing the backlog of congestion relief unmet needs.

- **<u>Scenario C (25% Funding Increase)</u>:** the FY07-11 Capital Plan can not only be executed, but there would be some latitude to accelerate projects. However, it must be reiterated that there exists, and will continue to exist substantial "back pressure" on the Congestion Relief program, from the current Study & Development program ($5 to $10 Billion in unfunded projects) and the additional 146 problem statements currently under consideration. And as mentioned previously, these are only part of a larger overall system-wide need, estimated to be <u>$30-$40 Billion</u>! Investment allocations for Scenario C are:



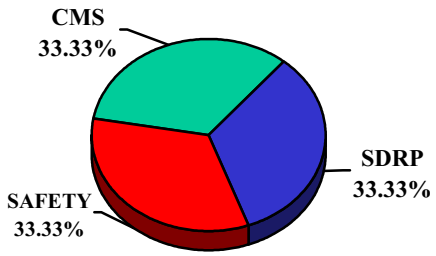
If current investment levels are increased by 25%, the elevated funding amounts over the next ten year period would enable the backlog of congestion relief projects to be reduced considerably. A capital investment strategy is needed that is supported by a dedicated funding commitment greater than the current.

There is a growing consensus among transportation policymakers and economists that existing financing mechanisms for highway and aviation infrastructure are unsustainable in the long term and will be unable to keep pace with projected demands on the transportation network.

National Strategy to Reduce Congestion on America's Transportation Network (USDOT ~ May, 2006)

As shown above, NJCMS prioritization scores were used to evaluate the effectiveness of each investment scenario from a performance output perspective. Using the CMS priority scores discussed above together with other numerical scores based on the safety management system and the State Development Redevelopment Plan produced an integrated management system approach for the prioritization of highway operational improvements as shown below. (The list of 216 highway operational improvements that were ranked included projects eligible for the project pool and study and development in addition to problem statements.)

- Congestion Management System (CMS)
- SDRP Compatibility (SDRP)
- Safety Management System (SMS)

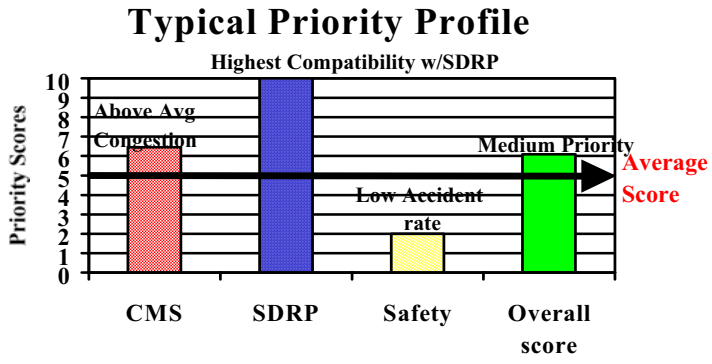


An overall composite priority score was calculated using the following formula:

(CMS)(.33) + (SDRP)(.33) + (SMS)(.33) = HOI weighted score

The chart below is a graphic representation of how these three criteria are used to produce a "priority profile" of a typical highway operational improvement project. The management system data are integrated simultaneously to generate an overall composite score for each project and then arrayed in rank order.

This integrated approach is used as a guide for project selection to further constrain the capital plan. This method is



used to ensure, in general, higher priorities are programmed based on merit while lower ranked projects are delayed. In other words, this decision-making tool focuses on prioritizing projects by program category and evaluates each project based on its technical merit without regard for funding, policy or scheduling. Then, a policy evaluation phase is implemented to ensure that numerical scoring alone is not substituted for managerial judgment or responsibility.

Balancing Costs and Need: What is the Solution?

The above scenarios provide "numbers" that can be used as a basis for the project selection decision-making process. However, there are other aspects to project development and future funding not captured above that are important in understanding the congestion "big picture", namely – the current Study and Development (S&D) Program, and the recently enacted *NJFIT*.

Right now there is tremendous financial "back pressure" in moving projects from Study & Development into the pipeline. As stated previously, NJDOT estimates that somewhere in the range of $5 to $10 billion will be needed to meet these demands over the next 10 years. These funds are not currently programmed or planned.

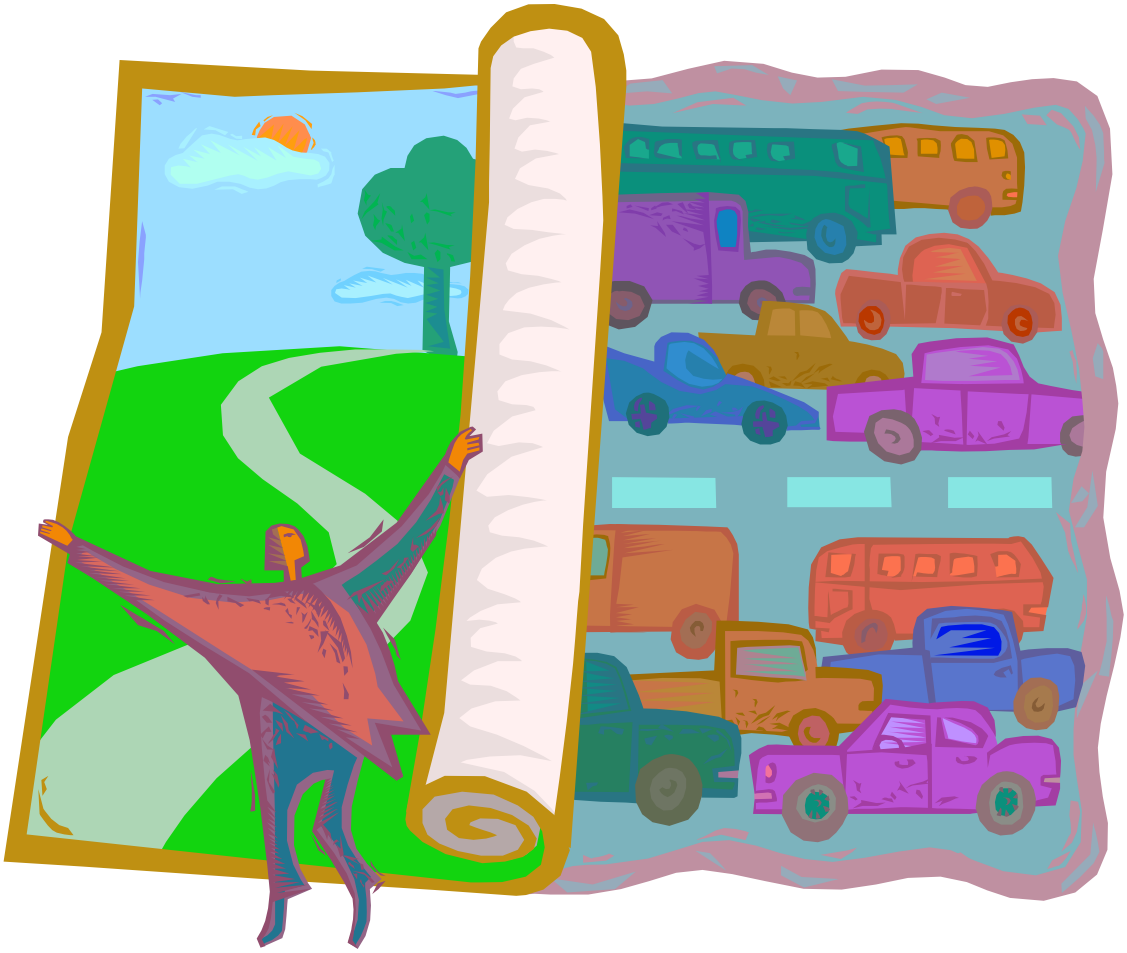
One way the Department is trying to cope with balancing cost and need is the *NJFIT* program. We are now seeking balanced solutions to meet the inescapable growth in demand for transportation infrastructure. Increasing capacity takes many forms but it must be approached in a spectrum of multi-modal and supply and demand-side solutions.

New Jersey can and must make smart, lasting investments in its communities and for its businesses. This is why NJDOT is changing the way we do the business of transportation in New Jersey by launching the *NJFIT: Future in Transportation* initiative. As described earlier in this report, *NJFIT* is a comprehensive and cooperative approach to transportation and land-use planning. By working with community planners, we can keep the jobs, services, goods, and people that we all seek within reach of every New Jersey traveler. To that end, NJDOT has been developing a series of Integrated Land-Use and Transportation Planning Studies to promote lively main streets, sensible land use, streets for the community, lasting investments, economic vitality, safe streets for all, more ways to travel, and healthy streets and communities.

South Orange has created an attractive Main Street for both vehicular and pedestrian traffic.

Although *NJFIT* solutions will normally be cheaper than the old-fashioned freeway solutions they are replacing, they will still be expensive – but will probably be ready for construction much sooner. However, even the S&D Program and *NJFIT* do not account for all system capacity need. To understand and gauge the implications of addressing these needs, information was gleaned from Transportation Choices 2025 – New Jersey Long-Range Transportation Plan Update (March 2001) document (An update to the Long Range Plan is under review; therefore, better data is not currently available).

Within "The Outlook for 2025 and Strategic Direction" section of this document, a scenario test was conducted that examined addressing all severely congested highways by adding capacity to achieve acceptable levels of service. The result was the need for an additional 1900 lane-miles of new capacity (a 2.4% increase of the statewide system capacity), which equates to 75 lane-miles per year over the next 25 years. This system capacity expansion would cost approximately $1.5 Billion per year over the next quarter century!



Intermodal Programs

Goods Movement: Each year, hundreds of millions of tons of freight move across New Jersey by air, rail, water, and highway with a value that exceeded 850 billion dollars. Freight is, in very real terms, the economy in motion. The paths the goods take, the modes they utilize, the locations of trip origins and destinations, and even the time of day the movements occur all have significant implications for New Jersey citizens and businesses. The movement of goods impacts not only our quality of life, but also our economic vitality on a local, regional, national, and international scale.

Aviation: The New Jersey Department of Transportation (NJDOT) fosters the development of an efficient air transportation system that responds to the needs of its users and the public. NJDOT, through its Division of Aeronautics, has general oversight of 46 public use airports and 361 heliports. The Department promotes aviation safety. It gives information about relevant forms and how to obtain them online, and explains regulations to 15,000 Federal Aviation Administration (FAA) licensed aviators and the general public.

Maritime: The Jersey Department of Transportation's Office of Maritime Resources advances public education on all maritime and marine issues and serves as the primary advisory body and lead agency for support of New Jersey's $50 billion maritime industry which includes ports and terminals, cargo movement, boat manufacturing and sales, ferry operations, government services, marine trades, recreational and commercial boating and maritime environmental resources.

Bicycle/Pedestrian: This program is discussed in the Congestion Relief section of this report.

Intermodal Programs

Goods Movement: Freight movements and New Jersey's economy

New Jersey is part of a vibrant global economy with goods sourced, produced and marketed throughout the world. As part of this enormous economic market driven by the demands of consumers and producers worldwide, New Jersey is a key player in the competition for international business.

New Jersey's multimodal goods movement network delivers the food we eat, the consumer products we buy, and is an essential underpinning to virtually every aspect of the state's economy. The network is characterized by extensive roadways, rail lines, major air and port complexes. The infrastructure itself developed over time and has had to adapt to changing freight transportation demands, distribution patterns, and equipment. Each year, numerous public and private sector entities work in unison to move over 600 million tons of freight valued at over $850 billion into, out of, and through the state. According to the Phase One Study portion of the Statewide Freight Plan (2003), "Developing a Framework To Access Goods Movement In New Jersey", the employment generated statewide by the goods movement industry is estimated at just over one-half million jobs as illustrated below:

Total Estimated Employment in Freight Movement in New Jersey (2003)	
Type of Freight Estimated	***Employment***
Trucking Operations	***57,100***
Water Transportation	***17,400***
Rail Freight Transportation	***1,700***
Air Cargo Transportation	***11,900***
Public and Private Warehousing	***421,700***
Freight Transportation Arrangement	***8,300***
TOTAL	***518,100***

Note: Courier and messengers not included
Source: Estimated based on industry information compiled by ASW

The critical role of the network is matched in scale by the challenges it now faces. Sustained and rapid growth in the number of imports under a more global economy coupled with rising expectations about reliability and on-time delivery have created heavy demands on our goods movement network. These demands will continue to grow at an increasing rate.

Intermodal Programs

Goods Movement: Capital Investment Strategy Guidelines & Recommendations

The guidelines of the Goods Movement Program are:

- Existing and forecast funding for goods movement infrastructure facilities falls below needs in all funding categories.

- Preservation of New Jersey's core rail and highway infrastructure systems is essential and will be a "onetime" opportunity to bring the systems to a state of good repair followed by on-going preventative maintenance.

- Increase the percentage of freight that is moved on non highway modes.

- Develop a Strategic Implementation Plan for Liberty Corridor. Under SAFETEA-LU, New Jersey received a $104 million in earmark funds for Liberty Corridor, a corridor of regional and national significance. NJDOT will be partnering with other transportation agencies to develop this Plan for the corridor.

- Continue efforts to educate the public about goods movement programs.

- Maritime --- Explore the use of dredged materials in state transportation projects. This helps create renewable capacity while potentially cutting the cost of the projects by reducing the cost of fill.

- Maritime --- Management of dredged material. The ability to dredge is currently hindered by the availability of dredged material management sites.

Based on these guidelines the following is recommended:

- The key capital investment challenges for NJDOT for the next 10 years are advancing the Liberty Corridor projects, Portway Program projects, working with Class 1 railroads to improve their infrastructure and capacity, providing support for short-line railroads, supporting maritime infrastructure needs, and advancing future projects identified through our on-going freight planning process.

- Implement the next steps identified by NJDOT to maximize the economic benefits of freight movements.

- Advance Liberty Corridor and develop a Strategic Implement Plan.

- Conduct a multi-modal study of the southern port area.

- Identify and advance capital projects in the key freight corridors.

- Increase public understanding of the goods movement and logistics issues.

- Collect additional freight data, and develop better tools and performance measures to evaluate freight issues and options.

- Strengthen partnerships and coordination with sister transportation agencies, other government organizations, private industry and the public.

- Increase funding for freight projects to $2.0 billion over the next ten years. Freight projects presently consist of intermodal, safety, congestion relief and bridge and roadway preservation. With funding for freight projects at the present amount the transportation system required for freight would fail in the future. To keep the system at the current level would require an additional $1.5 billion over the 10 year period. The cost associated with new additional freight related projects has not been estimated. Funding will need to be addressed for projects arising within the 10-year time horizon.

CONCLUSIONS AND RECOMMENDATIONS

- Future funding for goods movements projects must be increased. Existing and forecast funding for goods movement infrastructure facilities falls below needs in all funding scenarios.

- Preservation of New Jersey's core rail and highway infrastructure systems is essential and will be a "onetime" opportunity to bring the system to a state of good repair followed by on-going preventative maintenance.

Intermodal Programs

Goods Movement: Goals, Objectives & Performance Measures

NJDOT actively seeks to address goods movement network challenges from a systems perspective by engaging in a wide array of activities. These include the advancement of projects through the traditional pipeline process; direct funding of rail projects through the short line rail assistance program; working with innovative multi-agency and public/private funding partnerships; collaborating with other transportation agencies as well as other public and private sector entities; and providing information to the public.

The goal of these activities is to improve the safety and efficiency of the transportation system, facilitate the efficient movement of goods, promote economic development and redevelopment consistent with smart growth, balance freight needs with other users of the network, and enhance the quality of life for New Jersey residents.

- Project Advancement
    - Examine alternative freight distribution patterns and facilities that could improve the movement of freight statewide.
    - Select technologies and test their efficiency and economic viability to foster commercialization of successful, environmentally responsible technologies.
    - Evaluate goods movement opportunities at new locations and existing facilities
    - Identify and evaluate potential improvements to the statewide transportation infrastructure network.
    - Advance statewide goods movement development initiatives and technologies, planning for freight systems, enhancing New Jersey's goods movement environment, fostering goods movement education, and providing overall support to the industry.

- Short Line Rail Assistance

    - Fund, advocate and administer the State Rail Program to provide support for maintaining and improving essential infrastructure for non-Class 1 railroads.

- Funding Partnerships

    - Nurture partnerships with public agencies and private organizations to implement the program.

- Collaborating

    - Continue to partner with federal, state and local agencies to develop policies in support of New Jersey's freight industry.
    - Work with the state's port agencies and industry to identify system improvements as well as evaluate environmental and social enhancements key to maintaining the region as the pre-eminent port area on the Atlantic Coast.

- Public Information

    - Work with public and private partners to encourage, enlist and educate the public on the benefits for safe and efficient goods movement systems.

Intermodal Programs

Goods Movement: Program Categories

First and foremost, the nearly nine million people who live in the state alone consume a huge amount of goods. When another 114 million people are included as part of the consumer market within one day's drive for a total of 123 million people, the dimensions of the demand for freight grow exponentially.

Goods are also needed at every workplace and retail center, and raw materials and unfinished products are essential to the manufacturing sector of the state's economy. Last year, there were 4.8 million Twenty Foot Equivalents (TEUs) coming to the PANYNJ, a 7% increase over the previous year. This is expected to grow to over 8.0 million TEUs within 10-15 years.

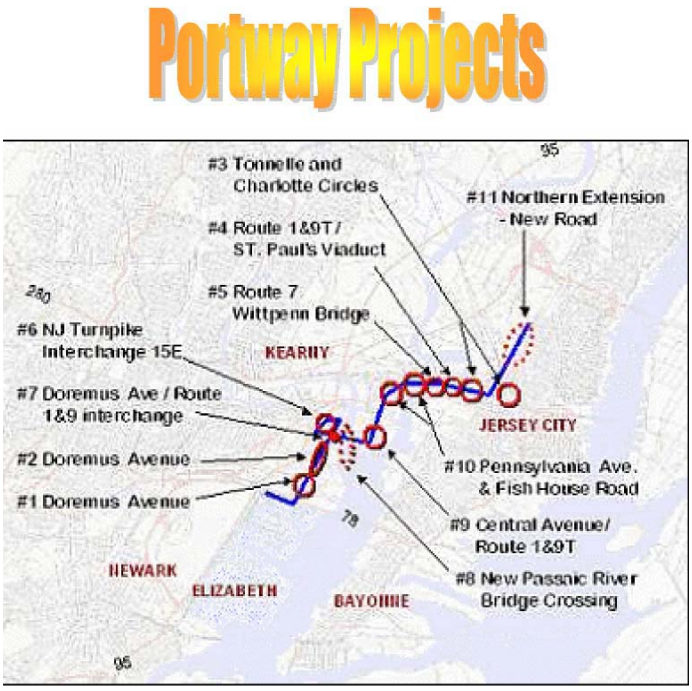
Investment in a goods movement program is essential to the economy of New Jersey. NJDOT invests in four major programs targeted at improving goods movement in New Jersey:

- The Liberty Corridor Plan
- The Portway initiative
- The Rail Freight program
- The North Jersey Development Plan in partnership with Class 1 railroads

Liberty Corridor is defined in the SAFETEA-LU final legislation as a High Priority Corridor of the National Highway System and as a corridor of National and Regional Significance. It combines road and rail improvements to help move freight throughout the NY/NJ harbor and terminal improvements to keep port Elizabeth and Port Newark as the top seaports on the east coast, new freight movement strategies to ease congestion on our roadways and improve the quality of our air, brownfields redevelopment to put abandoned industrial properties to more productive use, and incentives to spur the continued growth of New Jersey's redevelopment & development sector.

The initial goal of the Liberty Corridor is to develop a strategic implementation plan for financing the various projects in the Corridor. This plan will utilize the $100 million for the corridor and the other SAFETEA-LU allotments. These funds are to be used for multimodal critical and significant transportation infrastructure providing regional, national and international access in New Jersey including portways and connecting infrastructure. NJDOT needs are significantly higher than the Liberty Corridor $100 million authorization. A discussion of the Liberty Corridor is also provided under the Economic Development section of the report.

The **Portway** program seeks to improve access to and between the Newark-Elizabeth Air/Seaport Complex, intermodal rail facilities, trucking and warehousing/transfer facilities and the regional surface transportation system. These facilities and their access routes are the front door to global and domestic commerce for New Jersey. The program has two elements: Phase One projects and the Portway Extensions Study. Phase One consists of 11 specific projects along a 7-mile long corridor: three completed (Doremus Avenue bridge and Doremus Avenue rehabilitation in Newark and Charlotte and Tonnelle Circles in Jersey City), two in final design and/or ready for construction (Route 1&9T St. Paul's Avenue Bridge and Route 7 Wittpen Bridge), and six in preliminary design or feasibility assessment. Total cost of Phase One is approximately $1 billion, of which about half is made up of the St. Paul's and Wittpen bridges, two of our "high-cost" bridges. Current phases of work for the Portway projects are fully funded. Out year needs are not. The Portway Extensions Study has issued a report (available on NJDOT's website at www.state.nj.us/transportation/portway/) identifying needs beyond Phase One and recommending extensions that facilitate goods movement operations (especially for containers) from northern New Jersey ports to their next destination.

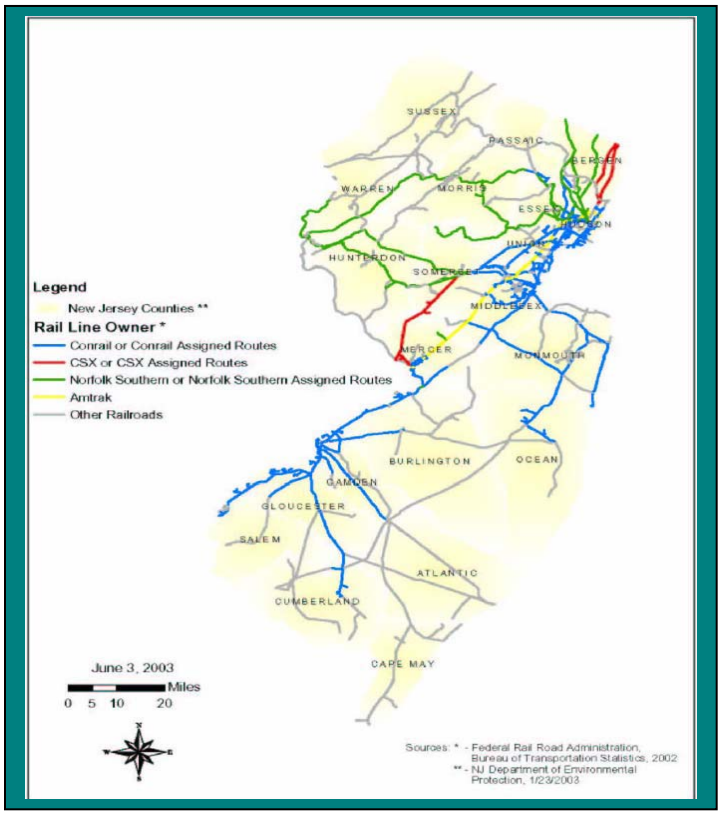


The **Rail Freight** program provides support for reconstruction and rehabilitation of the state's 14 short-line railroads. Following the reorganization of the Northeast railroads in the 1970s, Congress provided a modest program to assist the development of "short-line" railroads and the rehabilitation of branch lines, many of which had been neglected for years. New Jersey began its state-funded program to replace the federal program, which

was phased out in the 1980s. In recent years, this program has been funded at a level of approximately $10 million a year from the Transportation Trust Fund. Projects are primarily selected from the State Rail Plan, which prioritizes the needs of short-line operations. Given the condition of the regional and short-line railroad infrastructure currently in place, additional funding will be needed to meet growing reconstruction and rehabilitation requirements. NJDOT receives significantly higher total value of applications per year than the $10 million. The Commissioner can also select projects involving Class 1 railroads and projects which facilitate truck movements.

The **North Jersey Development Plan,** developed in collaboration with the Class 1 (major) railroads serving northern New Jersey, proposes a rail freight system improvement plan to eliminate bottlenecks in the regional rail system and serve the growing needs of the economy. A total of $ 250 million in funding is required for all the identified improvements. NJDOT, the Port Authority of New York and New Jersey, and Class 1 railroads have entered into an agreement to fund the first phase of projects at a total cost of $50 million. Phase I progress so far includes an upgrading to the double track that accesses Kearny Yard from the Lehigh Line and the mainline train control system there. Additionally, efforts to add second mainline tracks to segments of the Lehigh Line and Lehigh Line access to the Chemical Coast are underway as well as upgrades to the Train Control system on the Chemical Coast. A sixth planned project will become part of the Phase II effort due to complications and unanticipated cost increases.

Projects within Phase II have been identified, and the shared funding required has increased to approximately $200 million. NJDOT's contribution and funding source has not been determined. The success of these rail improvements will eliminate a portion of total truck trips and provide for additional statewide economic development.



Intermodal Programs

Maritime Resources

Maritime Resources is the single state agency charged with advancing statewide maritime development initiatives and technologies, planning for maritime systems, enhancing New Jersey's marine environment, fostering maritime education, and providing overall support functions to the maritime industry in close coordination with the Department of Environmental Protection and other state agencies.

New Jersey's maritime industry is a $50 billion industry supporting more than 300,000 New Jersey citizens. The industry is located along 127 miles of New Jersey shoreline, on 116 state navigation channels, 240 miles of navigable waterways in the New Jersey/New York Harbor, and along 106 miles of the Delaware River and Bay. New Jersey's bookend ports supply our region with fuel to heat homes and businesses, clothing, fruit, coffee and all of the goods used by citizens daily. The maritime industry also supports the commerce that makes New Jersey's quality of life desirable.

The infrastructure required to support New Jersey's commercial and recreational maritime industry is collectively designated as *New Jersey's Marine Transportation System*. It is a comprehensive system which includes navigable channels, waterborne commerce, dredging and dredged material management technologies, berth, terminal and related structures, intermodal transportation facilities and corridors, shipping, receiving and cargo-movement tracking systems, Vessel Traffic and Port Information Systems, Physical Oceanographic Real-Time Systems, and Geographical Information Systems. Navigation aides, boat building technologies, ocean habitat tracking systems, and other new technologies interact to create a seamless system linking all aspects of the maritime industry into a single transportation matrix.

Water transportation systems are a desirable, necessary and environmentally beneficial means of moving people and goods. Additionally, such systems promote the development and redevelopment of the state's urban centers. The Office of Maritime Resources participates on Area Maritime Security Committees in the Ports of New York and New Jersey and Philadelphia. The staff works closely with the US Coast Guard, Captains of the Port in New York and Philadelphia and other state and local agencies to ensure that the state's maritime interests are secure.

Intermodal Programs

Maritime: Goals, Objectives & Performance Measures

The goals and objectives for Maritime are:

- Continue to partner with federal, state and local agencies to develop policies to support New Jersey's maritime industry.

- Examine alternative distribution patterns and facilities that could improve the movement of freight within the region.

- Port Jersey Channel Container Terminal: Partner with the Cities of Bayonne and Jersey City, the Bayonne Local Redevelopment Authority, the Port Authority of New York and New Jersey, and Global Marine Terminal to plan future development options for the local service facilities located on the Port Jersey Channel

- Advance statewide maritime development initiatives and technologies, planning for maritime systems, enhancing New Jersey's marine environment, fostering maritime education, and providing overall support functions to the industry.

- Support federal legislation to reauthorize the National Boating Infrastructure Grant Program sponsored by the US Fish and Wildlife Service, Department of the Interior.

- Cooperatively work with the Corps of Engineers and the Port Authority of New York and New Jersey on the deepening of the Port Jersey Channel.

- Continue to develop and implement the I BOAT NJ Fund to promote, improve, and enhance the marine industry in the State of New Jersey for the benefit of the general boating public.

- Nurture partnership with the New Jersey Department of Environmental Protection, Division of Engineering and Construction/Bureau of Coastal Engineering (NJDEP/BCE) to implement the program. The Program endeavors to develop, implement and maintain a comprehensive dredging and dredged material management and disposal plan for the navigable waters of the state.

- Identify the port improvements necessary to maintain the status of the PONY/NJ as the preeminent port on the U.S. Atlantic Coast.

- Seek environmental and social enhancements of the port areas.

- Evaluate port improvement opportunities at new locations and existing port facilities.

- Identify and evaluate potential improvements to the transportation infrastructure serving the ports.

- Continue to serve as the implementing agency for the 1996 Joint Dredging Plan for the NY/NJ Harbor. Continue to provide leadership in the area of navigational infrastructure development, improvement and maintenance by managing efforts to:

    - Improve Harbor navigational access
    - Develop environmentally sensitive beneficial use opportunities for dredged material
    - Ensure that the region has sufficient cost effective and efficient dredged material management opportunities
    - Develop sediment decontamination technologies
    - Support efforts to understand and reduce sediment contamination
    - Focus and prioritize dredging projects

- Partner with the USEPA, USACE, PANYNJ, NJDEP, and private entities to investigate, encourage and foster the commercialization of the use of innovative technologies to utilize contaminated dredged materials for the manufacture of useful products for the construction industry.

- Explore use of dredged material in NJDOT transportation projects. Continue to support the beneficial use of dredged material statewide.

- Select technologies for the program and test their efficacy and economic viability through a two-tiered program resulting in commercialization of successful, environmentally responsible technologies.

Funding Sources

Joint Dredging Plan for the Port of New York and New Jersey – A $130 million fund created through the cooperation of the Governors of New Jersey and New York and the Port Authority of New York and New Jersey to address dredging and the management of

dredged material. Each state was authorized $65million. All projects requiring PANYNJ Board approval prior to commencing. To date, over $57 million has been obligated.

1996 Bond Act – $158 million in funds appropriated to the Office of Maritime Resources for various dredging and dredging related projects. Funds have been obligated or will be obligated to the following projects: $128 million for the Port Jersey Channel Deepening Project (ongoing), $20 million for Sediment Decontamination Technologies (ongoing), and $10 million for Pennsylvania Mines Reclamation (completed).

Capital Program Transportation Trust Fund - The Office of Maritime Resources receives funds on an annual basis. Projects include the State Channel Dredging Plan (working with NJDEP), research and technology projects and public outreach. Since 2002 the Office has received $21million (2002-04 - $4 million/yr and 2005-07 - $3 million/yr).

Maritime Industry Fund - This legislatively created fund is a depository for the increases in state boater registration fees. The funds, provided in the form of grants, are used to further marine trades and maritime related projects including education, environmental and research. Currently the fund has approximately $3.6 but this amount fluctuates depending on the number of grants awarded and the number of boat registrations processed. Pursuant to Section 12 of P.L. 1962, c. 73 (C. 12:7-34.47) the revenues derived from the fee increases were directed into the Maritime Industry Fund, I BOAT NJ Program line item, managed by the Office of Maritime Resources. Projects are specifically geared toward planning, developing, constructing, improving, advocating, or otherwise assisting the boating and marine trade industry in New Jersey as outlined in the I BOAT NJ Program Summary.

Ferry Boat Discretionary Fund – The Office of Maritime Resources (OMR) serves as focal point for ferry activities within NJDOT and provides overall direction, oversight and coordination among various NJDOT units. The New Jersey, Department of Transportation receives $5 million/yr from SAFETEA-LU and TEA-21 legislation through the FHWA Ferry Boat Discretionary Fund program. OMR works with NJDOT Local Aid, ferry operators, municipalities and bi-state agencies to insure that all projects that meet the guidelines of the FBD program are moved forward.

National Boating Infrastructure Grant Program - A program to further transient boating in the state is funded by the Department of the Interior. It provides up to $100,000 to each state under the Tier I program. Additionally, Tier II funds are available through a national competition. In FY 2003, the Borough of Belmar working through the Office of Maritime Resources was awarded the largest grant in the country, $1.5 million.

High Priority Programs and Projects

Port Jersey Channel Dredging – The State of New Jersey has executed a Project Cooperation Agreement with the US Army Corps of Engineers, New York District and

the Port Authority of New York and New Jersey and serves as the local sponsor for the Port Jersey Channel 41' Deepening Project. $128 million from the 1996 Bond Act is available to support the project. Amendments to the PCA to accommodate the full 50' deepening are currently in negotiation. The Port Jersey Channel dredging project coincides with the development of a terminal on the Port Jersey Channel. Negotiations are ongoing with the Port Authority of New York & New Jersey on this issue. The City of Bayonne is moving forward with the development of the Peninsula at Bayonne Harbor, a 440 acre site locate old Military Ocean Terminal Bayonne. The redevelopment schedule is not in sync with the deepening project at present.

Dredged Material Management – With the exception of the NY/NJ Harbor region, the State of New Jersey has no comprehensive management strategy for the dredging of New Jersey's state channels and waterways, and the associated management of the dredged material. The ability to effectively and efficiently manage dredged material in a sustainable manner is imperative to New Jersey's coastal and tourism economy, the marine trades industry, and the quality of life of New Jersey Citizens. Associated with the State Plan is the development of a regional dredged material management plan for the Delaware Estuary that would encourage increased beneficial use of dredged material. Such a program would include the appointment of an interagency Regional Dredging Team charged with implementing the dredged material management plan.

Ferries – The Ferry program serves as focal point for ferry activities within NJDOT and will provide overall direction, oversight and coordination among various NJDOT units. In past years, the State of New Jersey has received $5 million/yr under the FHWA Ferry Boat Discretionary Fund program. OMR will continue to work with NJDOT Local Aid, ferry operators, municipalities and bi-state agencies to insure that all projects that meet the guidelines of the FBD program are moved forward.

The I BOAT NJ Program provides dedicated grant funding to promote, improve, and enhance the marine industry in the State of New Jersey for the benefit of the general boating public. NJDOT/OMR receives funding based on a portion of vessel registration dollars. Over $3.0 million has been distributed to date and the Office is a partner in 22 public and private projects.

The State Channel Dredging Program is managed and funded by NJDOT/OMR in cooperation with the NJDEP/Bureau of Coastal Engineering. An annual allocation from the Transportation Trust Fund allows for the ability to dredge New Jersey's State Channels, provide for Aides to Navigation, and ensure the maintenance and safe navigation of waterways. Dredged material management strategies, beneficial use development, and regional planning efforts are developed as a part of this Program.

Port and Harbor Security: OMR works closely with the Domestic Security Preparedness Task Force, the New Jersey Office of Homeland Security and Domestic Preparedness, NJDOT Office of Transportation Security, and the US Coast Guard Captains of the Port in New York and Philadelphia to address security issues related to port operations in NJ.

Issues:

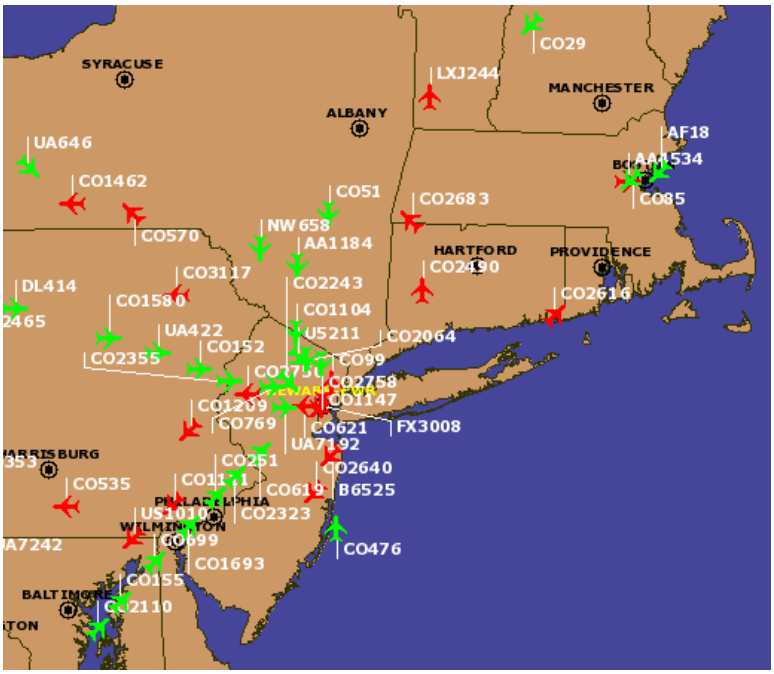
Explore use of dredged material in state transportation projects. This is a win-win situation, creating renewable capacity while potentially cutting the cost of the projects by reducing the cost of fill.

Management of dredged material. Ability to dredge is currently hindered by availability of dredged material management sites. Any cuts in the TTF severely hamper the State DMMS. OMR will not be able to dredge or purchase disposal sites.

Intermodal Programs

Aviation

General Aviation (GA) is a transportation mode with specific and unique capabilities within NJ's transportation network. GA is all non-airline civil (i.e. non-military) aviation. GA makes critical contributions to NJ's economy by serving the transportation needs of various high value, "just-in-time", on call air transportation needs that can not be effectively served by either surface transportation modes or the airlines. This is vital for a NJ whose economy is heavily invested in high end and high value corporate, intellectual, and high tech enterprises.



There are 4,200 GA aircraft permanently based in NJ. This number has been stable for twenty years. There has, however, been a continuous decline in the number of public use GA airports. The majority of NJ's public use GA airports are privately owned and subject to commercial development sale and "conversion" to non-transportation purposes. In 1950 NJ 82 public use airports; today there are 47. Intervention is required to preserve NJ's public use GA airport system. There has not been a new public use airport built in NJ for over 20-years, but in that time 14 have permanently closed. Realistically, current and future GA demand must be met by the system of existing public use GA airports.

The Transportation Trust Fund is currently providing a $7 million a year line item for NJDOT's Aviation program. These State funds are accompanied by (typically) an annual Federal investment and appropriation on the order of $6 million, with varying amounts of Federal earmarks and discretionary funds. The type, number and size of aviation projects vary widely from year to year and airport aid is allocated on an annual basis, in response to airport aid applications, following competitive screening of the project applications. The general approach is similar to that used by Local Aid.

For the next five years the priority for aviation investments is the preservation of core system airports. This has constrained our ability to commit to large/costly construction

projects. After preservation of the core airport system is achieved, more funding resources can be directed back to typical larger scale airport infrastructure improvement, rehabilitation, and replacement initiatives. The layout of most NJ GA airports has changed little in the past 30-years. To bring NJ's GA airports up to more contemporary standards will require substantial future investments in the out years. This will be done within existing airport property lines, wherever possible.

Intermodal Programs

Aviation: Capital Investment Strategy Guidelines & Recommendations

- Airport System Preservation: Preserve the core GA airport system. These 32 public use airports accommodate more than 90% of NJ's active GA aircraft. If not preserved, it will be lost forever.

- Aircraft Storage and Parking: System-wide, increase the permanent and transient groundside aircraft storage and parking capacity at GA airports.

- Rehabilitation and Replacement Projects: Advance needed GA airport rehabilitation and infrastructure replacement construction projects

- Safety: Advance GA airport operational safety and obstruction clearing projects.

- Repairs and Preventive Maintenance: Advance necessary GA airport infrastructure repairs and preventive maintenance, and do so earlier in the life cycle of the project.

- Funding Capture: Assure the capture of all available Federal funding.

RECOMMENDED DEVELOPMENT PLAN

- From Newark Liberty International Airport to the state's smallest public-use turf strips, New Jersey's airport system must support all aspects of the state's air transportation needs. To meet the challenge, the state must be served by a system of well-developed, strategically located, diversified airports. Recommendations that emerged from the New Jersey SASP meet each of these important criteria.
- For New Jersey's airport system to move toward the objectives established in the SASP, local actions will be needed. Responsibility for implementing the recommendations ultimately rests with each airport owner, whether public or private. As each owner considers the future of its airport facility,

recommendations stemming from the SASP should serve as a guide for future development.

- Significant investment on both the state and federal levels will be required to enable New Jersey's airport system to satisfy the facility and service objectives established in the SASP and to elevate the performance of the system to better satisfy identified system performance measures and their associated benchmarks. It has been estimated that over next 15 years, at a minimum, $168 million will be required to enhance the system to satisfy target performance and facility and service objectives. While the investment is significant, the potential return is far greater.

Intermodal Programs

Aviation: Goals, Objectives & Performance Measures

NJDOT's Aviation program goals and objectives are:

Goal: Preserve existing core public use GA airports.
Objective: Stop the permanent loss of significant GA airport infrastructure.

Goal: Maintain and improve public use GA airport infrastructure within existing airport property lines.
Objective: Make the best and fullest use of land already used for aviation transportation purposes.

Goal: Reduce/eliminate airport infrastructure related operational safety problems
Objective: Identify and correct operational safety problems.

Goal: Increase high quality aircraft storage capacity across the entire system of NJ's existing GA airports and within existing airport property lines.
Objective: Advance quantitative and qualitative aircraft storage and ground handling improvements at public use GA airports.

Goal: Capture all available GA airport Federal funding.
Objective: Identify and capture all available funding resources.

PERFORMANCE MEASURES

The Program Categories have been reviewed and the following actions and performance measures are recommended:

Airport System Preservation

The core airport system consists of 32 public use airports, 16 are publicly owned and already permanently preserved. The other 16 are privately owned and only 3 are permanently preserved; 3 more are temporarily preserved. At the remaining ten airports, preserve these facilities by purchasing their development rights over a programmed 5-year period by preserving two core airport system airports a year. This would complete preservation of the system.

Aircraft Storage and Ground Handling

There is a critical system wide shortfall of quality aircraft tie down, storage and ground handling space, especially in the northeast NJ. Many airports operate at or near 100% of their groundside aircraft storage capacity restricting user choice and the utility of the entire system. NJDOT needs to advance at least three ground side aircraft storage projects annually. This level of performance would typically draw down as much $2 million a year. Additionally, NJDOT should encourage airport operators to invest funds into hangars. NJ's airports need as many as 750 additional hangar spaces to meet current demand.

Rehabilitation and Replacement Projects

All 16 publicly owned core airports take Federal airport aid. Of the 16 privately owned core airports, more than half are not eligible for Federal funds or will not accept it due to grant "strings". State funds provide half or more of local match dollars required for federally funded projects. State funds are the primary resource for projects at privately owned core airports.

The state should continue to provide local share matching funds so as to assure capture of all available Federal funds. This will typically require less than $1 million a year. The state should continue to fund projects at privately owned airports, with core system airports having general priority. This would typically draw down $2 million a year or more.

Safety

NJDOT does safety projects at all public use airports ranging from emergent runway and taxiway lighting work, airport surface markings, to runway obstruction removal. The state should continue to undertake necessary safety, wherever they are necessary. This would typically draw down $1 million a year, or more.

Repairs and Preventive Maintenance

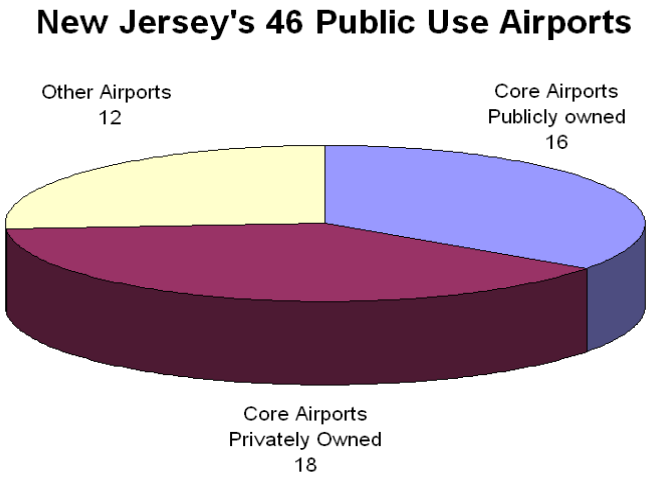
NJDOT does repair and preventive maintenance projects at all public use airports, particularly those not using Federal funds. This work is vital for keeping facilities open

and to maintain and extend the life of the existing airport infrastructure. This work includes repairs of all types and life extending pavement work such as crack sealing and pavement rejuvenation.

Intermodal Programs

Aviation: Current conditions

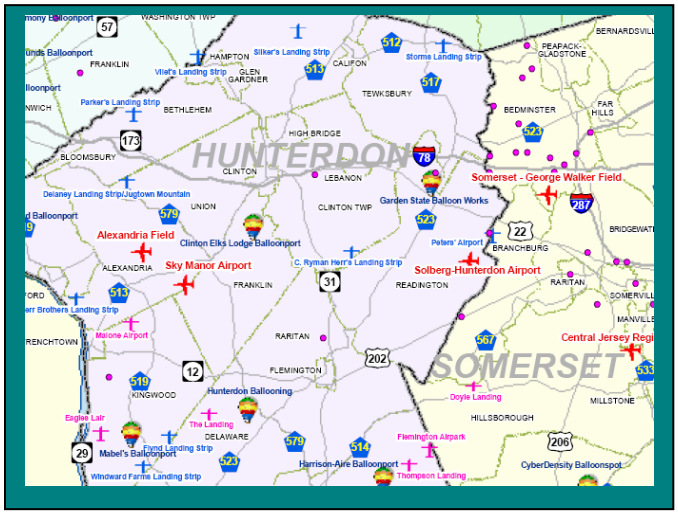
- New Jersey's 46 public use airports accommodate more than 2.5 million general aviation operations each year.
- Over 4,200 general aviation aircraft are permanently housed at New Jersey airports.
- More than 480,000 commercial airline operations (takeoffs and landings) take place at New Jersey's three commercial service airports annually.



- Over 17.1 million passengers board commercial passenger aircraft at New Jersey's three commercial service airports each year.
- New Jersey's system includes 45 fixed-wing airports, four heliports, and one seaplane base.
- 27 of the state's public-use airports are privately owned.
- Thirty-nine system airports have paved runways.
- Twelve airports have more than one runway.
- Eight airports have a runway length of 5,000 feet or greater.
- More than 55,000 New Jersey businesses (more than 25 percent of all state establishments) in the manufacturing, transportation, finance and insurance, and technical service sectors have a high propensity to use aviation services

Intermodal Programs

Aviation: Meeting the needs of New Jersey's airports



Developing general aviation activity projections for the New Jersey airport system was a critical step in assessing the need for and phasing in of future system improvements. Nationally, general aviation—especially corporate aviation—is growing. The FAA predicts that higher-performance jet aircraft will constitute an increasing percentage of the nation's general aviation fleet in the coming years. Security and convenience concerns since the events of September 11, 2001 have increased the popularity of corporate general aviation.

Demand projections provided a foundation for determining the future role of airports, for evaluating the ability of the system's capacity to accommodate long-term aviation demand, and for planning future airside and landside facilities for the system. Operational capacity was one of several performance measures used in the State Airport System Plan (SASP) to evaluate system adequacy and to identify potential system shortfall or coverage voids.

Several methodologies were used to develop projections of based aircraft and general aviation operations. The preferred based aircraft and operations projections relied on various demographic trends as forecast by the New Jersey Data Center. The State Aviation System Plan forecasts yielded the following:

- Due to expected population growth, based aircraft in New Jersey are predicted to increase from 4,218 in 2000 to 4,848 by 2020; this represents an average annual growth rate of 0.65 %.
- Based on anticipated changes in New Jersey's civilian labor force, statewide general- aviation operations are projected to reach 2.39 million in 2020, up from 1.99 million in 2000. This projected growth has an implied average annual growth rate of 0.94 %.
- These projected rates of growth for general aviation in New Jersey are consistent with those projected by the Federal Aviation Administration for the U.S. as a whole.

Intermodal Programs

Aviation: Management System Performance Analysis

Currently, the Transportation Trust Fund allocates about $7+ million annually to NJDOT's Aviation program. The estimated impacts of alternative investment scenarios are discussed below. In scenarios where funding reductions are taken, the reader should presume that all available project management tools will be used to help reduce negative consequences (i.e. project phasing, reducing project scopes and value engineering).

Scenario A: Continued Funding

- Airport System Preservation: The current level of effort (LOE) is on the order of $3 million. This LOE will preserve most of the core airport system within 5-years.
- Aircraft Storage and Ground Handling: The current level of effort is on the order of $1 million. This LOE will substantially improve the aircraft storage capacity of the state's airport system within 10-years.
- Rehabilitation and Replacement Projects: The current level of effort is on the order of $1 million. This LOE is the minimum LOE required to prevent the continuing buildup of major project backlogs.
- Safety: The current level of effort is on the order of $1 million. This LOE is the minimum recommended LOE.
- Repairs and Preventive Maintenance: The current level of effort is on the order of $1 million. This LOE is the minimum recommended LOE.
- Funding Capture: The current level of effort requires less than $1 million. There is no scenario where not capturing all available Federal funds would be acceptable.

Scenario B: Funding reduced by 25 percent over current levels (est. $5.25+ million)

- Airport System Preservation: The current level of effort is on the order of $3 million. Reducing this by 25% would reduce our preservation options and increase the time necessary to preserve most of the system to 7 or more years.
- Aircraft Storage and Ground Handling: The current level of effort is on the order of $1 million. Reducing this by 25% would necessitate substantial value engineering, and delay and phasing of project work.
- Rehabilitation and Replacement Projects: The current level of effort is on the order of $1 million. Reducing this by 25% would necessitate substantial value

engineering, and delay and phasing of project work. Larger projects would be particularly impacted and a backlog of projects would occur.

- Safety: The current level of effort is on the order of $1 million. This LOE is the minimum recommended LOE.
- Repairs and Preventive Maintenance: The current level of effort is on the order of $1 million. This LOE is the minimum recommended LOE.
- Funding Capture: The current level of effort requires less than $1 million. There is no scenario where not capturing all available Federal funds would be acceptable

Scenario C: Funding required to maintain conditions at current levels (est. 6+ million)

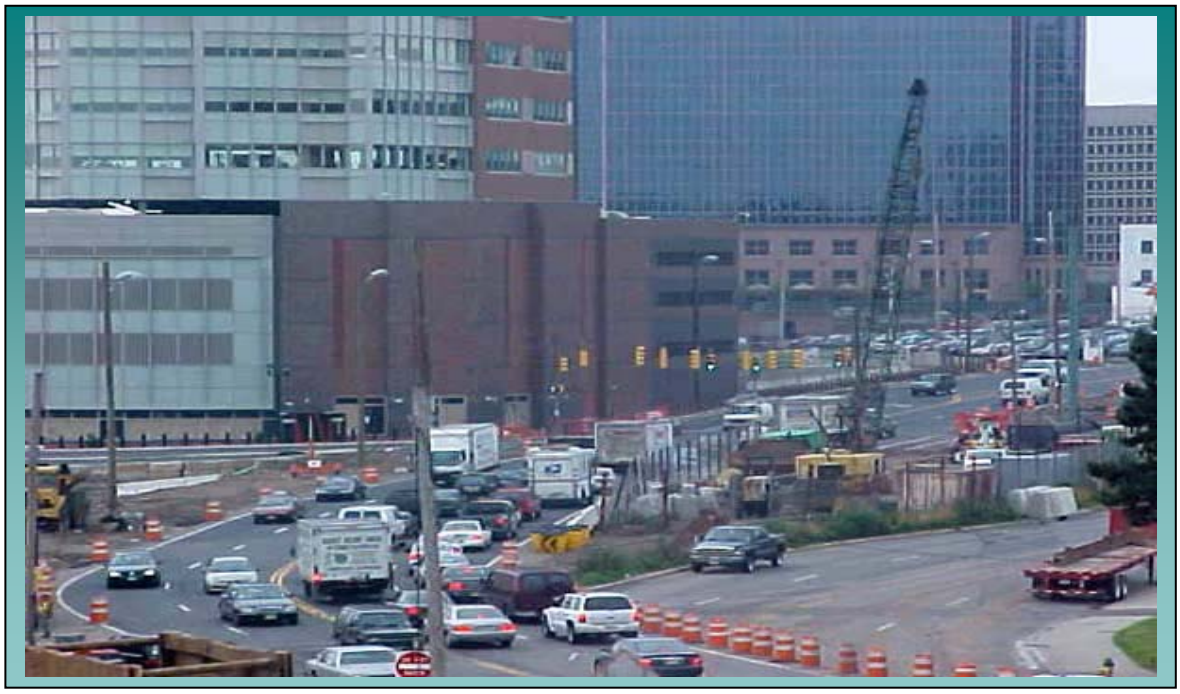
- Airport System Preservation: The minimum level of needed effort is on the order of $3 million.
- Aircraft Storage and Ground Handling: This funding category would be eliminated entirely and any necessary work would be done under the rehabilitation and replacement category.
- Rehabilitation and Replacement Projects: The minimum needed level of effort is on the order of $1 million
- Safety: The current level of effort is on the order of $1 million. This LOE is the minimum recommended LOE.
- Repairs and Preventive Maintenance: The current level of effort is on the order of $1 million. This LOE is the minimum recommended LOE.
- Funding Capture: The current level of effort requires less than $1 million. There is no scenario where not capturing all available federal funds would be acceptable

Scenario D: Funding required to reduce the backlog by 50% (est. 22 million)

- The layout of most all New Jersey public use airports has changed little in the past 30-years. To bring the state's public use airports up to more contemporary standards on a significantly accelerated basis, while conducting the current State Aviation program would easily require an additional estimated investment of $15 million on top of the current $7 million annual appropriation.

Economic Development

Targeting Projects to Support the Governor's Economic Growth Strategy



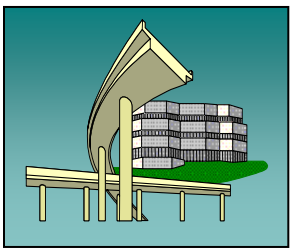
Transportation economists agree that the principal contribution transportation agencies can make to economic development is to minimize the cost of transporting people and goods by maintaining transportation systems that are efficient, well-planned, and in a state of good repair. However, targeted transportation improvements can be effective in selective circumstances for attracting or retaining major employment centers, for bolstering weak market forces in redevelopment areas, for creating construction and engineering jobs, and for leveraging private development funding.

The broad goal statement for economic development purports to underscore that the entire Capital Investment Strategy and transportation capital program should be supportive of the state's economic viability—that even highway maintenance over the long haul is essential to a healthy economy. Evaluating one or more overall investment strategies for their statewide economic benefits (e.g., job creation, increase in gross state product, etc.) would allow decision-makers to judge which strategy would work best for New Jersey. This affords the opportunity for NJDOT to give special attention to employ a Capital Investment Strategy as a business tool. In addition, by planning, investing and implementing targeted transportation projects that will support the economic

attractiveness of specific locales within the state, NJDOT can take a major role in enhancing the economic vitality of New Jersey.

Economic Development

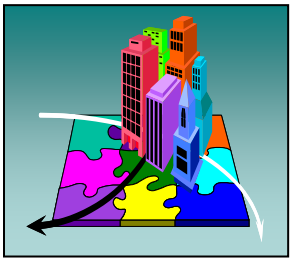
Capital Investment Strategy Guidelines & Recommendations



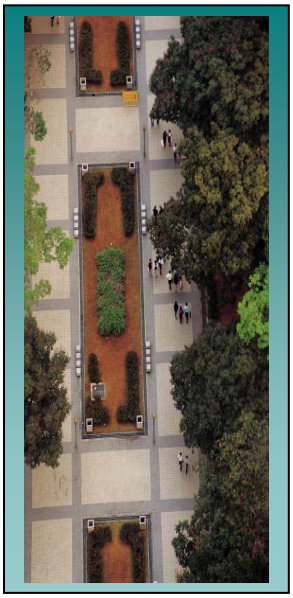
1. Implement the Governor's Economic Growth Strategy by targeting appropriate transportation projects identified to enhance economic development.

2. Complete project development of economic development projects already in the STIP according to the established schedule.

3. Continue to advance economic development projects now in Study and Development toward implementation with the understanding that they will need to compete for Economic Development funding under strict performance criteria to be established programmatically. Higher consideration should be given to new and existing projects that function to support economic development endeavors in major urban areas, consistent with the New Jersey's Economic Growth Strategy (proposed improvements located in four major urbanized areas: Camden, Newark, Trenton and Jersey City).



4. Establish a formal economic development program and realign economic development program categories into the following:



   - Economic Development, Local Aid
   - Economic Development, Urban Core Revitalization
   - Economic Development, Targeted Economic Sector
   - Economic Development, Inter-Departmental
   - Economic Development, Inter-Modal

5. Projects should be selected within these program categories via a competitive intake process that includes participation by other state departments, clear performance targets, and project schedules. NJDOT should expect to provide substantial technical assistance (design, permitting guidance, etc.) in the early stages of project development

(i.e., before projects are considered viable candidates for funding within these categories).

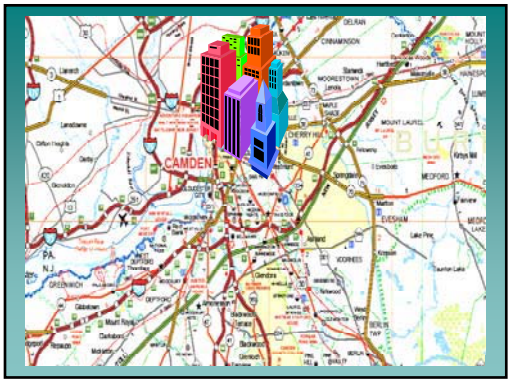
6. Establish clear project performance criteria for rating and tracking economic development projects. The criteria could be substantially different (or similar, but with different thresholds) across the program categories.

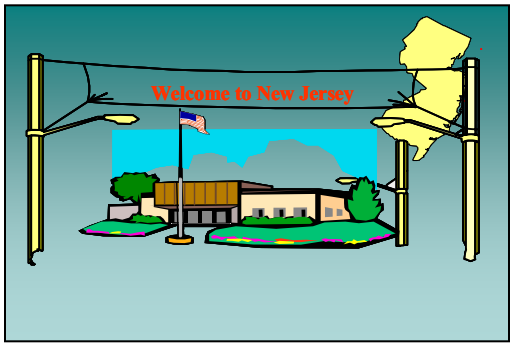
Economic Development

Goals, Objectives & Performance Measures

Policy guidance relating to economic development appears in two areas: the State Development and Redevelopment Plan (SDRP) and the department's Long Range Transportation Plan, Transportation Choices 2025 (LRTP). In the SDRP, Statewide Transportation Policy 20 says: "Employ transportation planning, facilities and services as development and redevelopment tools to shape growth and leverage economic development opportunities". There are a variety of other interlaced goals and objectives in the SDRP that closely link transportation and economic development (and land development and other community development activities).

Goal 5 of the LRTP states that NJDOT should promote economic development (by)





- Improving access to more job opportunities
- Providing for more cost-effective movement of goods
- Upgrading intermodal facilities and access to them
- Improving access to passenger and freight facilities to serve international markets
- Stimulating tourism
- Encouraging development and redevelopment around transit facilities.

These goal statements provide broad guidance that is useful in assessing all transportation projects. There are a number of other goals relating to prioritizing projects along both

system needs (e.g., "fix it first") and geographic criteria (e.g., reinvest in core areas before expanding to greenfields). But the reality of economic development projects is that they are fitted into goal niches retroactively, that is after they are proposed, rather than arising from any formal determination of need or a management system.

Prioritization

NJDOT is currently considering a prioritization methodology for economic development projects. The following observations were made.

- Performance guidance from related goal statements should be evaluated.
- The SDRP and LRTP indicate that inner city revitalization, jobs growth, and tourism are all targeted for strong programmatic support.
- Environmental justice appears to be a corollary goal area.
- Partnerships of various kinds are especially important to the success of economic development projects (i.e., they are typically advanced in support of some other non-transportation goal).

Accordingly, performance categories for both state department partners and non-state partners (local government, private enterprises, etc.) should also be included. Many general performance parameters can be identified and projects can be rated against those parameters as shown in the graphic below. The weighting of factors and the calculation of a total score for each project can prove to be beneficial in determining which proposed improvements best achieve our statewide goals and objectives.

It is important to keep in mind that a ranking as described above reacts to existing projects and is a rough empirical analysis based on collective knowledge. If converted to a competitive intake process, it would need to be supported by measurable standards based on established policy.

Project Name	SDRP Consistency Planning Area	SDRP Center	SDRP Endorsed Plan	Integration of Active Planning	Tourism (seasonal factor variation)	Small Project	New Jobs	Freight/Intermodal Support	Environmental Justice	Local Match	Total Score
Project A	2							+			2
Project B	1	Urban		+	+		+		+		6
Project C	1	Urban		~	+	+	+	+	+	+	8

Economic Development

Program Categories

Economic development projects are currently programmed under a variety of headings in the capital program, including:

- Local Aid, Economic Development
- Local Aid, Roadway Improvements
- Local Aid, Other
- Capital Program Delivery, Corridor study
- Capital Program, Planning & Research
- Bicycle and Pedestrian
- Intermodal, Ferries
- Intermodal, Goods Movement
- Intermodal, Maritime
- Intermodal, Bicycle & Pedestrian
- Bridge & Roadway Preservation: Rehabilitation
- Congestion Relief, Missing Links
- Congestion Relief, Highway Operational

Route 18 over Route 27

In a number of cases, projects listed in the capital program as Local Aid Economic Development appear to have only a small economic development component (i.e., they arose, albeit informally, from transportation system issues such as congestion), while most of the true economic development projects considered are listed under some other category. Accordingly, it is recommended that the above categories be realigned into the following:

- Economic Development, Local Aid
- Economic Development, Urban Core Revitalization
- Economic Development, Targeted Economic Sector
- Economic Development, Inter-Departmental
- Economic Development, Inter-Modal

Economic Development Local Aid simply renames the present Local Aid, Economic Development listing. This should be populated with off-state system projects arising from local needs and directly supporting SDRP and LRTP goals. In addition (and similarly for all of the categories), economic development projects should demonstrate strong linkage to resolving transportation system problems (congestion relief, system rehabilitation, etc.) that arise directly from NJDOT management and project intake systems. Economic Development Local Aid projects should enter the project pool through a formal competitive intake process.

Economic Development, Urban Core Revitalization is expected to target specific geographic areas identified in the SDRP (PA-1, PA-2) toward which a broad array of state policy goals direct state resources. This typically means the state's urban cores and the first ring suburbs around those cities. Projects in this category could be on or off-system and link to multiple transportation goals. Economic Development, Urban Core Revitalization should enter the project pool through a formal competitive intake process.

New Jersey's Existing and Potential Development

Economic Development, Targeted Economic Sector is intended to focus on specific industries or economic activities toward which state policy directs support. This would presently include goods movement, tourism, and ecotourism, for example. Projects in this category could range from traditional "bricks and mortar" construction to transportation enhancements, such as "best walks" guides. Economic Development, Targeted Economic Sector projects should enter the project pool through a formal competitive intake process.

Economic Development, Inter-Departmental is conceived as supporting multi-dimensional, often very large community development projects. These could arise from the Inter-Agency Smart Growth I-Team or from the programs of other state departments. They typically would require multiple interventions, such as brownfield or greyfield remediation, business start-up loans, etc. A formal competitive project selection process is not envisioned for this category of projects, but selection criteria and performance measures should be developed.

Economic Development, Inter-Modal is intended to directly support multi-modal projects, such as designated transit villages. It could also be used to leverage NJ TRANSIT and authority initiatives. A formal competitive project selection process is not envisioned for this category of projects, but selection criteria and performance measures should be developed.

The other current categories into which economic development projects are frequently categorized are possibly appropriate to be retained and used for projects more specifically meeting those parameters.

Economic Development

The "Liberty Corridor"

The Liberty Corridor is a new approach to economic development. Transportation infrastructure improvements and freight movement strategies will be integrated with research and development strategies. For example, the plan is to develop infrastructure that uses available industrial sites, existing educational institutions and transportation assets to create a region where a business can develop, manufacture and ship a product, all from one area. Educational institutions, such as Stevens Institute of Technology and the New Jersey Institute of Technology, can help with the development and design of new products; the area's numerous brownfields sites can provide space for new manufacturing facilities to produce the product; and the state's array of roads, Newark Liberty International Airport and the Ports of Newark and Elizabeth can provide the means for shipping the products.

The Liberty Corridor, a Corridor of National and Regional Significance, is a multifaceted economic development strategy. The initial planning effort, undertaken by the Liberty Corridor Policy Institute at NJIT, will serve to develop a foundation of information and analysis from which strategic infrastructure and land use investment decisions can be made. This effort shall include the development of a Management and Implementation Plan: a comprehensive, implement able, coordinated, economically driven, environmentally sensitive, port related development plan. The Liberty Corridor Management and Implementation Plan will guide public and private sector decisions; provide a corridor identity; lay out specific improvement approaches and themes; be consistent with other plans and programs; and have wide stakeholder involvement.

As stated earlier, the SAFETEA-LU highway earmarks included the following funding: $100,000,000 National and Regional Significance (Section 1301), $4,000,000 High Priority (Section 1701) and $400,000 High Priority (Section 1701).

Economic Development

Projects with Economic Development Components

Projects in Study and Development:

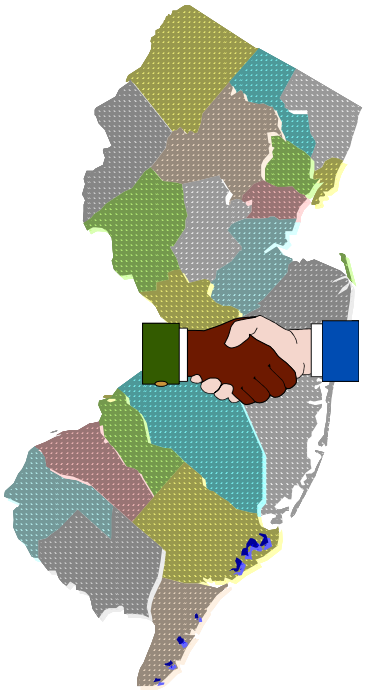
- Liberty Corridor, Newark City, Essex County and , Elizabeth City, Union County
- Campbell's Revitalization Area, Camden City, Camden County
- Cramer Hill Truck Management, Cramer Hill Waterfront Access, Cramer Hill/Von Neida Park Flood Control and Watershed Planning, Camden City, Camden County
- Portway, Passaic River Crossing; Portway/Fish House Road/Pennsylvania Avenue; Portway/New Road, St. Paul's Avenue to Secaucus Road, Newark City, Essex County; Kearny Town, Hudson County
- Route 1 Business, Brunswick Circle to Texas Avenue, Trenton City and Lawrence Township, Mercer County
- Route 1&9, Pulaski skyway, Deck Rehabilitation, Jersey City, Kearny Town, Hudson County and Newark City, Essex County.
- Route 21, Newark Needs Analysis, Murray Street to Edison Place, Newark City, Essex County
- Route 21, Newark Waterfront Community Access, Newark City, Essex County
- Route 22, Sustainable Corridor Long-Term Improvements, Bridgewater Township, Somerset County
- Route 29, Urban Boulevard, Trenton City, Mercer County
- Route 31, Flemington Area Congestion Mitigation, Flemington Borough and Raritan Township, Hunterdon County

- Route 33, Logan Avenue to Nottingham Way, Intermediate Improvements; Route 33, Nottingham Way to Hamilton Township Line, Intermediate Improvements, Hamilton Township, Mercer County
- Route 33, Washington Township Bypass, Washington Township and Hamilton Township, Mercer County
- Route 35, Rail Crossing Operational Improvements, Red Bank/Shrewsbury; Route 35, Red Bank Northern Gateway Operational Improvements, Red Bank Borough, Monmouth County
- Route 130, Chester Avenue/Haines Mill Road; Route 130, Cinnaminson Avenue/Church Road/Branch Pike; Route 130, Cooper Street and Charleston Road,

Intersection Improvements, Delran Township and Cinnaminson Township, Burlington County

Local Aid

Providing Support for Transportation Improvements on Local Systems



Counties and municipalities have jurisdiction over 25,000 miles of road and 2,472 bridges in New Jersey. Unlike many states, New Jersey's state highway system covers a relatively small fraction of total roadway miles. The secondary road system is mostly under county jurisdiction (mainly the "500" series roads) and carries very large amounts of traffic. Counties also have responsibility for most bridges off the state highway system. Municipalities are responsible for the local street networks.

Counties and municipalities meet many of their own needs out of their own resources. The Department of Transportation supports transportation improvements on local systems as well. Additional resources are provided through NJDOT's capital program to assist counties and municipalities with maintaining and reconstructing their roads and bridges as well as transportation related economic development endeavors. As a result, local aid funding supports New Jersey's Economic Growth Strategy designed to assist locally endorsed infrastructure investments that encourage economic growth. Local aid in a rebounding economy takes on new importance because it preserves property tax relief. Some of the key programs are:

- The Trust Fund local aid program— The proposed capital program for fiscal year 2007 provided funding at the level of **$78.8 million for counties and $78.8 million for municipalities.** Funding is allocated under the Trust Fund act to counties and municipalities to meet basic needs. The Trust Fund local aid programs are the largest single element. It includes (1) a municipal aid program, which provides funding for projects sponsored by municipalities and selected by screening committees representing NJDOT and local engineers, (2) a county aid program, which provide funding to counties for projects included within their annual capital transportation plans, (3) a smaller discretionary local aid program and (4) a variety of other programs such as county bus purchase program, grant management system program and a program called Local Aid for Centers of Place, which provides Trust Fund monies to assist New Jersey communities which have become "designated

centers of place" under the State Development and Redevelopment plan. These monies are used to develop and implement transportation improvements that support the planning and implementation agenda of the center.

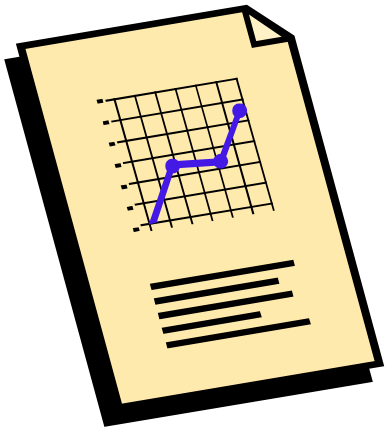
- Federal programs—Counties and municipalities also receive assistance from a variety of federal programs, including targeted funding under the Surface Transportation Program for local roadway improvements. The Transportation Enhancements program which provides federal funding for projects such as scenic enhancements, historic preservation and bicycle and pedestrian improvements is another example. In addition, other federal programs related to congestion management and air quality provide funding for bicycle and pedestrian facilities on the local systems as well. Federal funding is allocated by the state's metropolitan planning organizations (MPOs).

The Local Aid Program captures proposed improvements that are easily identified as local transportation investments and can be found under the program category "Local Aid" in the FY08-FY12 Statewide Transportation Improvement Program (STIP). However, there are many other local investments that are being pursued that goes well beyond what is typically considered "Local Aid". This section of the report will include these proposed improvements as part of the local aid investments strategy as well.

NJDOT will continue to work with local governments to develop and implement programs which give them the tools and resources to improve the transportation facilities and programs under their jurisdiction.

Local Aid

Capital Investment Strategy Guidelines & Recommendations



Capital Investment Strategy guidelines and recommendations are:

The guidelines of the Local Transportation System Investment Strategy are:

- Align investments with NJDOT's Business Plan and Long Range Plan goals.
- Invest in programs that demonstrate a reasonable rate of project delivery.
- Maximize investments through lower cost investments that foster preservation and maintenance to extend infrastructure life.
- Broaden the scope of traditional programs to encourage the use of these resources for economic development, safety and mobility improvements.

Based on these guidelines the following is recommended:

1. The flagship State Aid Program which includes Municipal Aid, County Aid and Discretionary Aid are working well in terms of expenditure. Municipal Aid performance has improved significantly; 83% of FY05 grants awarded within 18 months. We are hopeful that new regulations and stronger reporting requirements will help improve County Aid as well. No reduction in funds should be made to these programs.

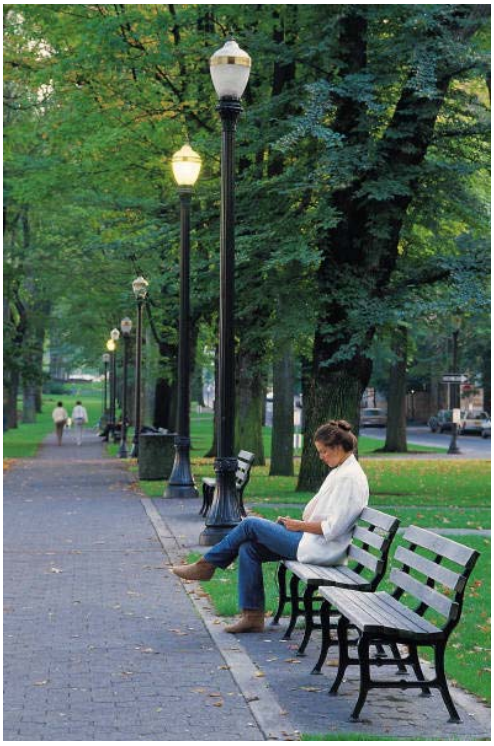
2. Because of the lag in delivery of Transportation Enhancement Projects, NJDOT is now facing a tremendous demand for funds. It is strongly recommended that this program be boosted to $20 million over the next year or two until the backlog of commitments that need to be funded can be reduced.

3. Do not oversubscribe commitments to federal grant programs such as Safe Routes to School and Transportation Enhancement Programs. Obligation/authorization of project funds lags 18 months to two years behind grant commitments.

4. In FY07, $77 million in federal funds was devoted to Local Bridges through the MPOs. Given that 86% are determined to be structurally sufficient and 81% are functionally sufficient, consider shifting local investment to pavement, safety, mobility or shifting funds to focus on preventive maintenance programs for bridges that are currently in good condition.

5. Due to the lack of current data on the condition of pavement on the county or municipal systems, re-establish the need to invest in data collection on the local system. Also, re-evaluate whether funding should be reallocated from other areas to support an inventory of local pavements.

6. Similarly, congestion, environment and quality of life measures are not readily apparent. NJDOT should consider investing in research studies in-house or through the MPOs, and universities to benchmark methodologies that other transportation agencies are implementing to inventory conditions on both the state and local systems.



7. Implement financial performance and tracking system improvements and reporting the information on a regular basis.

8. STIP program categories should be reassessed and aligned to better capture the allocation of investments on the local and state transportation system. Align the Program Categories with the Strategic Business Plan guiding principles to better measure investment and performance in terms of the department's guiding principles, goals and objectives. This may also provide opportunities for program consolidation.

Local Aid

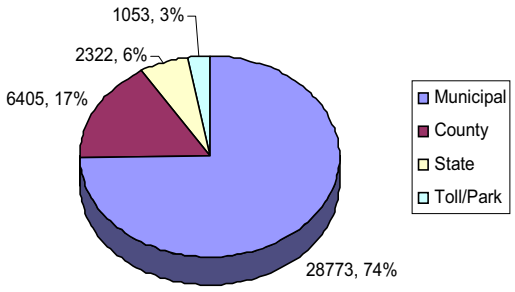
Current Conditions

Roads

In terms of transportation infrastructure over 90% of the state's road network belongs to either counties or municipalities. Over 25,000 miles are owned by municipalities and over 7,000 miles are owned by counties. It is estimated that approximately 500 centerline miles of the county road system needs to be resurfaced annually in order to keep it in a state of good repair. It is estimated that 1,300 centerline road miles of the municipal road network needs to be resurfaced annually in order to keep it in good repair.

Cenerline Road Mileage for Year Ending 2005

Source: Transportation Data Development

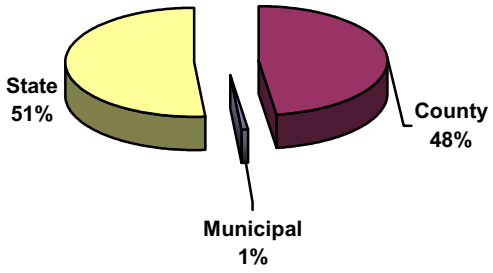


Bridges

The New Jersey Department of Transportation and the 21 counties own the majority of the major bridges in the state. Major Bridges are defined as having a span of 20 feet or more.

Major Bridges Statewide (2006)
Span > 20 ft.

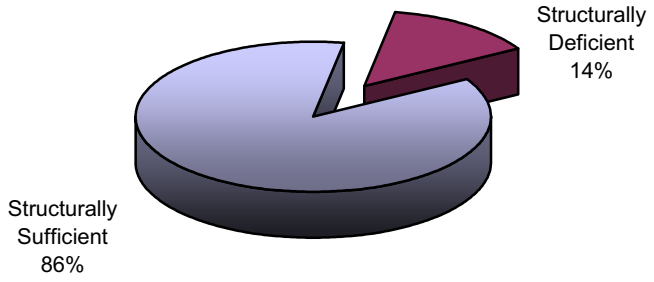
Source: Bridge Management System



Deficient bridges are categorized as either structurally deficient or functionally obsolete. 14% of the major bridges on the local network are considered structurally deficient.

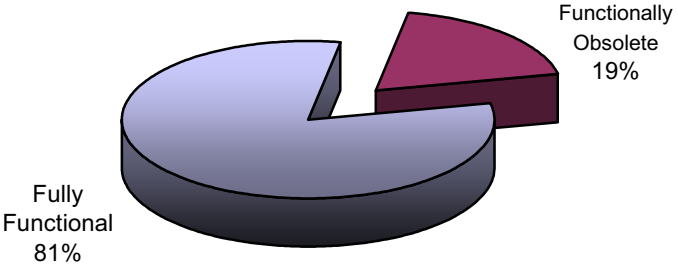
Structural deficiency does not necessarily mean that a bridge is unsafe. It mainly relates to the condition of a structure. It means that the condition of a bridge is such that it is unable to handle the vehicle loads for a given traffic volume that would normally be expected on the highway system where the bridge is located.

Structural Sufficiency
County Major Bridges (2006)
Source: Bridge Management System

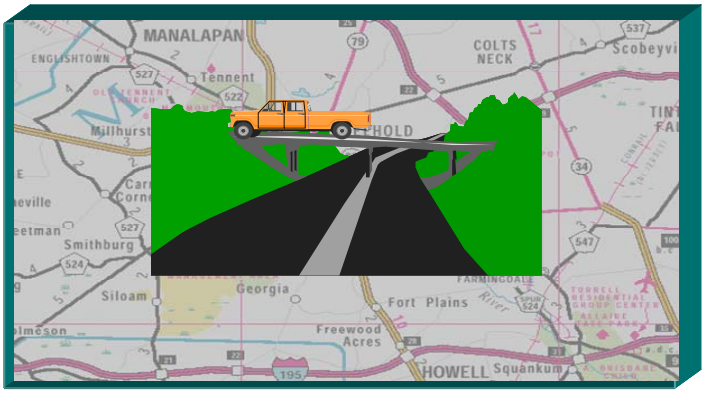


Functionally obsolete bridges on the county system account for about 19% of the entire major county bridge population. Functional obsolescence means that the bridge has inadequate width or vertical clearance for its associated highway system. In some cases, bridges are made functionally obsolete because of highway improvements on the approaches to the bridge; for example, lane additions or widening of approaching roads. In other cases, a bridge may be reevaluated as functionally obsolete through a redefinition of desired standards.

Functionally Obsolete
County Major Bridges (2006)
Source: Bridge Management System

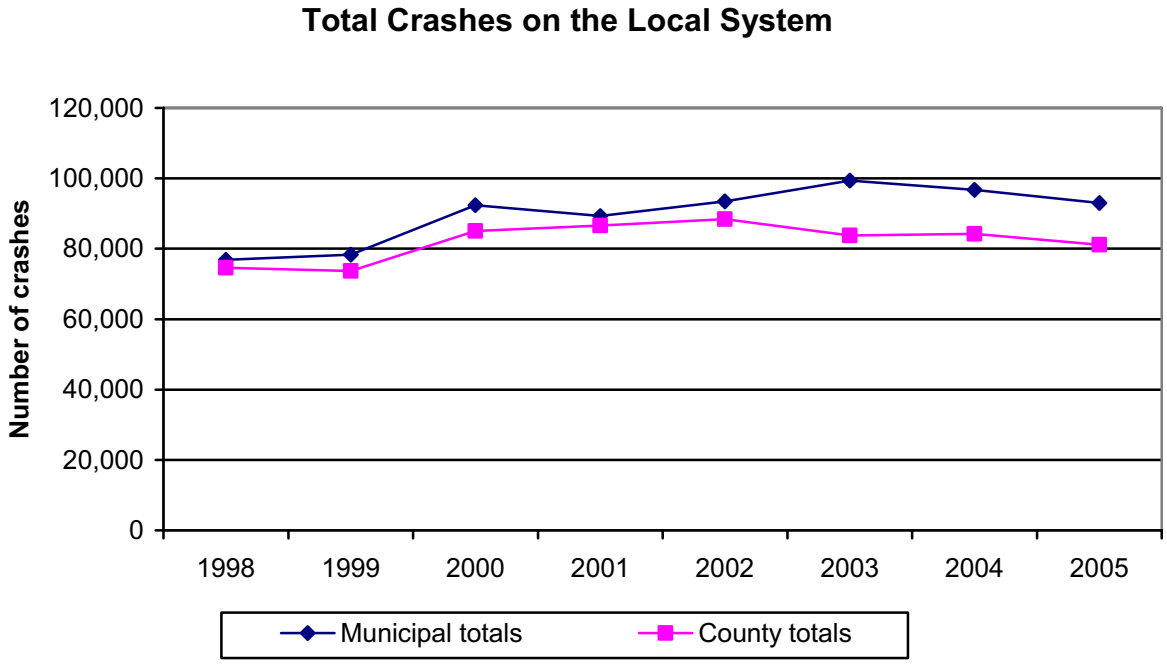


Beyond the major bridges, the 21 counties and 566 municipalities own over 4,500 minor bridges and culverts. Minor Bridges are defined as having a span less than 20 feet in length. Over 50% of these minor bridges are in need of repair or complete replacement.

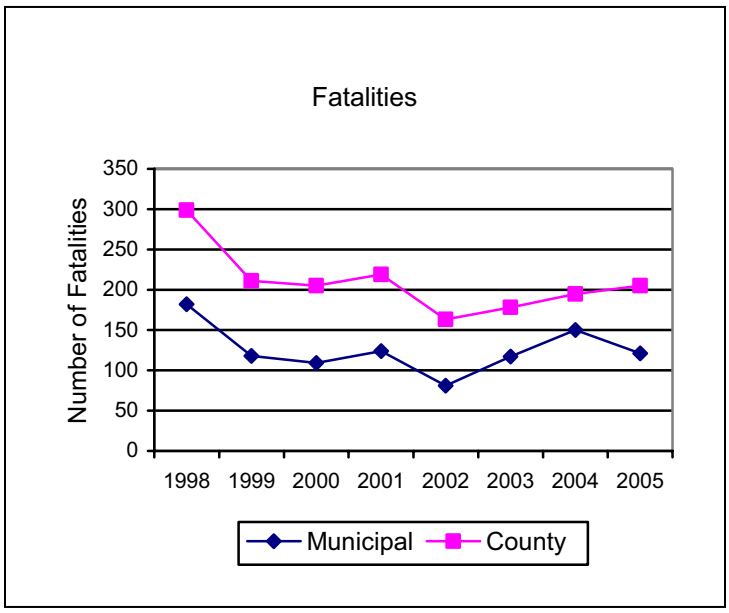


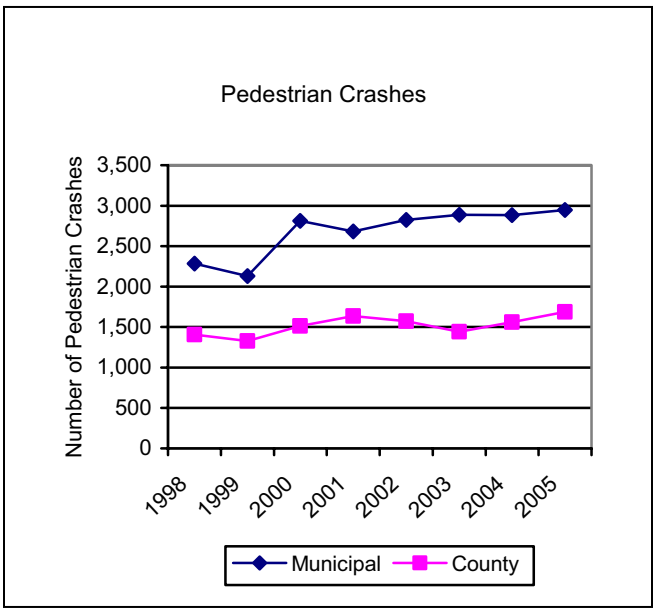
Safety

The charts below provide some indicators of safety on the local transportation system in terms of total crashes, fatalities and pedestrian crashes. On the municipal system since 1998, total crashes have trended upward over the last seven years. In 2005, there were 92,997 total crashes on the municipal system. This represents a 21% increase since 1998. On the county system, the trend in total crashes has slightly increased over the same period by 8 % with no significant change over the last three years.



Fatal crashes are trending up significantly on the municipal road system while moving up slightly on the county system. Pedestrian crashes are holding steady on both the municipal and county system.





Local Aid

Goals, Objectives & Performance Measures

NJDOT's Long Range Plan Goals and Local Aid Objectives

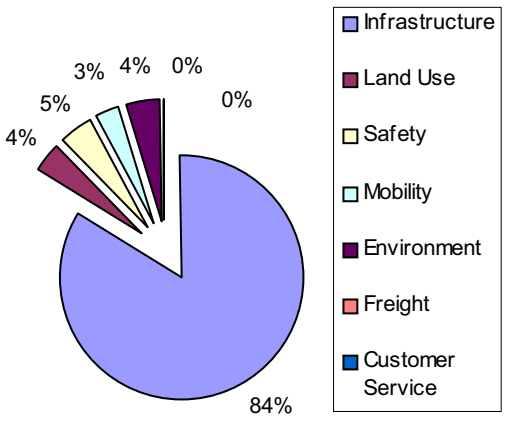
As the work of NJDOT is guided by the goals of the state's long range transportation plan, the work and programs of NJDOT's Division of Local Aid and Economic Development also fit the goals of the long range plan. Outlined below are the goals of the Long Range Plan and an accompanying description of the programs administered by the Division of Local Aid that relate to the goals. Local Aid programs may relate to more than one of the Long Range Plan goals.

1. Improve and maintain the transportation infrastructure

    - Local Aid Objective: To provide financing to counties and municipalities to fulfill needed infrastructure repairs to increase the performance of the local transportation system. Local Aid's core programs, Municipal Aid, County Aid and Discretionary Aid focus on meeting this objective.

2. Integrate transportation and land use planning

    - Local Aid Objective: To reward municipalities who have received special designations because of good land use planning practices. Local Aid administers two grant programs, the Centers of Place Grant Program and the Transit Village Grant Program that function to achieve this objective.



Investment Relation to Long Range Plan Goals

3. Increase safety

    - Local Aid Objective: To provide investments for projects that are specifically targeted for the safety of pedestrians, motorists and cyclists. The Safe Streets

to Schools Program, Local Safety Program and the Highway Safety Fund Program are specific programs designed to fulfill this objective. In addition, the core State Aid Program and Federal Local Lead projects, also serves to meet this objective.

4. Increase mobility

    - Local Aid's Objective: To reward counties and municipalities with Local Aid grant programs that propose to use alternate modes of transportation such as bicycles, rail or even foot. Those programs are the Bikeway Program, Transportation Enhancements Program, Transit Village Program and the Safe Streets to Schools Program.

5. Enhance the environment

    - Local Aid Objective: To provide grants that focus on non-traditional transportation improvements to enhance the quality of life of New Jerseyans, including upgrading the environment through the federal Transportation Enhancement Program and the Centers of Place Program, Local Aid.

6. Optimize freight movement

    - Local Aid Objective: To work with counties and municipalities to fund truck related improvements on county or local facilities to enhance freight movements. Many key freight links are county or municipal facilities.

7. Continually improve the process of providing transportation facilities

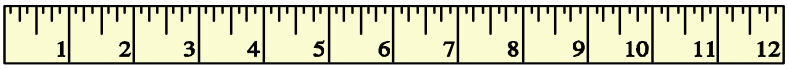
    - Local Aid Objective: To improve the local aid funding process and the delivery of local projects. This may take the form of regulation reform, contracting reform, dissemination of information on innovative practices or materials, or by acting as a broker to resolve programmatic issues with other NJDOT units, FHWA or other agencies. Local Aid works closely with the New Jersey Municipal Engineers Society and the New Jersey Association of County Engineers to enhance this process.

8. Improve Customer Service

    - Local Aid Objective: To advance a web-based grant management system as a key initiative to make the Local Aid process easier for our customers. This system will allow our primary customers; municipalities, counties and non-

profit agencies, to submit applications on line, track grant funding and foster better communication with NJDOT.

Performance Measures



Local transportation system assessment measures are available for major bridges and safety however no system assessment measures are available in the goal areas of pavement condition, mobility/congestion, and environment/quality of life. While all of the corresponding data are not available at the present time, the following types of performance measures/indicators can provide some evaluation of the health of the local transportation system:

County and Municipal System Performance Measures

- **Pavement**
  - Road mileage (centerline)
  - Pavement condition data not available
  - Miles of roadway improved by investments
- **Bridges**
  - Number of bridges, major and minor
  - Condition of major bridges (structural sufficiency, functional sufficiency)
  - Condition of minor bridges not available
  - Number of bridges improved by investments – not available
  - Bridge deck surface area improved – not available
- **Safety**
  - Total crashes
  - Fatal crashes
  - Pedestrian crashes
  - Level of improvements completed by investments – not available (pedestrian safety improvements such as crossings/sidewalks, traffic signals, pavement markers, guide rail)
- **Mobility/Congestion data**
  - No system data available
  - Number of projects completed that reduce congestion – not available (intersection improvements)
- **Environment/Quality of Life**
  - No data available
  - Number of projects completed that focus on environment and quality of life. (streetscapes, bikeways) – not available

As also shown in the list above, an alternative way to assess local aid investment performance is the use of product output measures. An example of such measures would be the number or miles of bicycle improvements completed on the local system in each year (environment) or the number of intersection improvements completed on the local system (mobility). Measuring outputs of various programs will tell us what was actually produced in terms of the number and value of projects in the areas of pavement, congestion, and environment.

Local Aid

Program Categories

Local transportation system improvement programs are included under various program categories. The following 13 program categories defined in NJDOT's Statewide Transportation Improvement Plan provide Local Transportation System Investment in full or in part. FY07 funding levels are shown for relevant programs within each Program Category.

- Local Aid to Counties
  - County Aid Program, $78.75 million
- Local Aid to Municipalities
  - Municipal Aid Program, $78.75 million
  - Local Aid Discretionary Funding $17.5 million
- Economic Development
  - Special agreements with local governments, $13.736 million
- Local Aid, Other Programs, $8.165 million
  - Centers of Place, 2.0 million
  - Transit Village Grants, $2.0 million
  - Local Safety Program, $2.5 million
  - Local Scoping Support, $0.5 million
  - Grant Management System, $1.0 million
- Local Roadway Improvements
  - Local Lead Projects, $74.983 million
- Other Programs
  - Smart Growth Initiatives, $1.0 million
- Regional Planning and Development, $8.597 million
  - MPO Project Development, $4.0 million
  - MPO Future Projects, $4.597 million
- Air Quality Program
  - Local CMAQ Initiatives, $2.680 million
- Local Bridge Program
  - Local Bridges, $76.985 million
- Bridge Management Program
  - Culvert Inspection, Local Structures, $2.60 million
  - Historic Bridge Preservation Program, $0.5 million
- Transportation Enhancements
  - Transportation Enhancement Program, $10.0 million
- Bicycle/Pedestrian Program
  - Safe Routes to School Program, $2.54 million
- Intermodal Connections Program, $15.343 million

Local Aid

Meeting the Need: Management System Performance Analysis

The Use of Management Systems

The "management systems" (e.g. bridge, pavement, safety, and congestion) which enable NJDOT to assess needs and predict trends in a quantifiable way on the state highway system are also used to the extent possible for the 91% of road miles which are under the jurisdiction of counties and municipalities. For example, the Bridge Management System maintained by NJDOT has been an extremely useful tool in identifying bridge needs on county and municipal systems.

Short of funding significant data gathering efforts in the areas of pavement, mobility and environment, there is no easy way to obtain system performance data on the local system. However, investing in the development of a Local Asset Management System would be an appropriate tool for obtaining this type of performance measurement data.

The Pavement Management System (PMS) is based on a "Multi-year prioritization" Life Cycle Cost Analysis. An economic-based system performance model is used that optimizes the network and selects projects based on the "Right treatment at the Right Time at the Right Place at the Right Cost".

Local investment opportunities can be made to support asset management and provide grant opportunities to those county and municipal governments who demonstrate utilization of an asset management approach to improving the local transportation system. For example, the implementation of a permanent pavement management system at the county level is a case in point. Pavement condition data has been inventoried on a sporadic basis at the county level. Investment in a long-term pavement management system can be pursued with the expectation that counties demonstrate the utilization of the system by channeling County Aid and federal funds to optimize the physical condition of their roadway network. By performing resurfacing and preventive maintenance activities to better implement projects at the "right time, at the right place and at the right cost" to keep good pavements in good condition would be a direct result of using a pavement management system as a planning tool. With regard to the use of a congestion management system, investment in

Another good indicator of need is the ratio of demand for various Local Aid programs to the amounts available to supply that demand.

Listed below are the FY07 STIP program categories with associated funding levels related to local transportation investment. $410 million is funded in FY07 Capital Program. It is estimated that 90% of the funds will be obligated or committed in FY07. Specific estimates are outlined in the table below.

FY07 CIS Program Category Allocation and Projected Performance

FY07 Program Category	Investment level (million $)	Performance Assessment	Expected Obligation/Commitment
Economic Development (Spec Agmts)	14	Most if not all funds will be committed or expended.	12
Local Aid to Counties	79	All funds will be obligated. Draw down of funds is expected to improve with new regulations.	79
Local Aid to Municipalities	79	All funds committed. Award delivery has improved substantially. Expect it to continue.	79
Local Aid, Discretionary	18	Expect all funds to be obligated/committed.	18
Local Aid, Other Programs (Centers of Place, Local Safety, Grant Management System, etc.)	8	Limited obligation or commitment of these funds to date; however expect that most if not all will be committed.	6
Local Roadway Improvements (Local Lead)	75	Projecting 65% obligation of these line items.	50
Other Programs (Smart Growth Init)	1	No funds have been obligated against this program at this point, but expect funding to be committed.	1
Reg Plng and Project Development (MPO Project Development and Future Projects)	26	Limited obligation of project development funds are expected because of the backlog of ongoing local scoping projects and the number of graduated local scoping projects that are ready for local lead funds with no funding available.	20
Air Quality (Local CMAQ)	3	Expect limited obligation of these funds. Difficult to advance.	0
Local Bridge	77	Being managed and administered by NJDOT, not a Local Aid Program. Expect all funds to be obligated.	77
Bridge Management (Local Culvert and Historic Bridge Preservation)	3	Expect to obligate $0.5M of Historic Bridge Funds. Local Culvert inspection is questionable. Scope needs to be defined.	1
Transportation Enhancements	10	All funds are obligated for FY07. Backlog of projects ready for funding.	10
Bicycle/Pedestrian	3	Expect all funds to be committed, but not obligated this year.	3
Intermodal Connections	15	Expect some portion of these funds to be obligated this year.	10
	$410		$366

Another good indicator of need is the ratio of demand for various Local Aid programs to the amounts available to supply that demand.

Listed below are the FY07 STIP program categories with associated funding levels related to local transportation investment. $410 million is funded in FY07 Capital Program. It is estimated that 90% of the funds will be obligated or committed in FY07. Specific estimates are outlined in the table below.

FY07 CIS Program Category Allocation and Projected Performance

FY07 Program Category	Investment level (million $)	Performance Assessment	Expected Obligation/Commitment
Economic Development (Spec Agmts)	14	Most if not all funds will be committed or expended.	12
Local Aid to Counties	79	All funds will be obligated. Draw down of funds is expected to improve with new regulations.	79
Local Aid to Municipalities	79	All funds committed. Award delivery has improved substantially. Expect it to continue.	79
Local Aid, Discretionary	18	Expect all funds to be obligated/committed.	18
Local Aid, Other Programs (Centers of Place, Local Safety, Grant Management System, etc.)	8	Limited obligation or commitment of these funds to date; however expect that most if not all will be committed.	6
Local Roadway Improvements (Local Lead)	75	Projecting 65% obligation of these line items.	50
Other Programs (Smart Growth Init)	1	No funds have been obligated against this program at this point, but expect funding to be committed.	1
Reg Plng and Project Development (MPO Project Development and Future Projects)	26	Limited obligation of project development funds are expected because of the backlog of ongoing local scoping projects and the number of graduated local scoping projects that are ready for local lead funds with no funding available.	20
Air Quality (Local CMAQ)	3	Expect limited obligation of these funds. Difficult to advance.	0
Local Bridge	77	Being managed and administered by NJDOT, not a Local Aid Program. Expect all funds to be obligated.	77
Bridge Management (Local Culvert and Historic Bridge Preservation)	3	Expect to obligate $0.5M of Historic Bridge Funds. Local Culvert inspection is questionable. Scope needs to be defined.	1
Transportation Enhancements	10	All funds are obligated for FY07. Backlog of projects ready for funding.	10
Bicycle/Pedestrian	3	Expect all funds to be committed, but not obligated this year.	3
Intermodal Connections	15	Expect some portion of these funds to be obligated this year.	10
	$410		$366

Return on NJDOT's Local Transportation Investment

The measurement of the public's return on state transportation investment in local transportation can be assessed from two perspectives. First, the efficiency of county and

Projected Output
FY 2007 – 2011 Capital Program

	Annual Local Aid Output	5 Year Output
Local Aid		
- County	21 TTF County Aid Program Payments resulting in approximately 60 construction projects	300
	50 federal construction authorizations	250
- Municipal	300 TTF transportation project construction awards	1,500
	10 federal construction authorizations	50
Non Profits	3 federal construction authorizations	3
Local Aid Total (5 yrs)	423 projects/year	2,103

municipal governments in expending the funds provided through the various grant programs can be examined. The second is concerned with the level of physical improvements made to the system utilizing state funding support. For example, the expected benefits to the local transportation system in terms of project output for the FY 2008 to FY 2012 period are shown below.

Beyond strict infrastructure investments, NJDOT has made numerous local investments to foster smart land use planning promoted by NJFIT as shown below. In FY05 Local Aid provided funding to support numerous downtown streetscapes, scenic preservation, way finding signage, etc. through the Centers of Place Program, Transportation Enhancement Program and the Transit Village Grant Program.

Shown below are Transportation Enhancement grants that were provided to various municipalities statewide:

NJDOT - Local Aid and Economic Development

FY05/06 Transportation Enhancement Grant Recipients

County	Municipality	Project Name	Requested $	Commissioner Approved $
Bergen	Teaneck Township	Ward Plaza at the Teaneck Armory - Streetscaping Improvements	$603,500.00	$250,000.00
Camden	Mount Ephraim Borough	Kings Highway Streetscape for Borough of Mount Ephraim	$384,300.00	$250,000.00
Cape May	Wildwood City	Streetscape Improvements: Pacific Avenue	$710,460.00	$150,000.00
Essex	Bloomfield Township	Bloomfield Station Redevelopment Plan - Phase III/Station Interior	$750,000.00	$100,000.00
Essex	Cedar Grove Township	Pompton Avenue Streetscape Improvement Project	$2,428,773.00	$150,000.00
Essex	South Orange Village Township	Rahway River Bike/Pedestrian Path	$780,000.00	$250,000.00
Gloucester	Glassboro Borough	Paving the Way to Glassboro's Downtown-Streetscapes Phase VI	$500,000.00	$150,000.00
Gloucester	Swedesboro Borough	Swedesboro Pedestrian Transportation Enhancement in Central Business District	$374,340.00	$200,000.00
Hudson	Harrison Town	North Fifth Street Pedestrian Bridge Reconstruction Project	$501,800.00	$200,000.00
Hunterdon	High Bridge Borough	Historic High Bridge Train Station & Central Business District Enhancements	$800,250.00	$200,000.00
Mercer	Hopewell Borough	Streetscape Improvements to the Intersection of Broad Street and Greenwood Avenue	$150,000.00	$150,000.00
Middlesex	Perth Amboy City	Perth Amboy Gateways and Historic Markers	$778,000.00	$200,000.00
Union	Fanwood Borough	Central Railroad of New Jersey Caboose Project	$129,410.00	$100,000.00
Union	Plainfield City	Downtown Plainfield Central Business District Streetscape Project - Phase II	$800,000.00	$100,000.00
Total Amount Granted :				**$2,450,000.00**

Quality of Life/Environmental

Inherent in the Department's mission, "*improving lives by improving transportation*" is a commitment to the quality of life for New Jersey's citizens and the traveling public. This commitment is further enhanced by the Department's commitment to the principles of environmental stewardship and context sensitive solutions which result in Department actions and programs developed with respect to stakeholder values and environmental considerations. Overall, quality of life and environmental issues are addressed in all we do and can be measured by the public's acceptance of our efforts.

Quality of Life/Environmental

CIS Guidelines and Recommendations

Many of the recommendations made in last years efforts are still considered critical needs and current funding scenarios do not truly capture the need that has been identified. These critical needs include:

- **Stormwater Facilities Management** – This is primarily a regulatory compliance issue, but also has the potential to affect the Department's reputation as environmental stewards. NJDOT currently has 140-150 Vortechs or other chambers and a myriad of other stormwater collection facilities within our ROW. Each year with the new Capital Program more facilities are being added tot he system which further complicates this problem. While USEPA established the general guidelines requiring maintenance of these facilities; NJDEP's current regulations cite specific annual maintenance schedules. Failure to maintain these facilities will not accomplish the needed water quality improvements, and will result in both citations by NJDEP and substantial fines. Regulations require full compliance by 2009

  Consequences: Environmental consequences, Substantial fines
  Recommended Funding: $10 million/yr FY07 – FY08; $15M/yr FY9-FY11; $20M/yr FY12 – 15 [This funding is probably inadequate for the six month maintenance cycle required by NJDEP based on the rapidly increasing number of stormwater management facilities.]

- **UST Removal in ROW** - This is also a regulatory compliance issue, which has the potential to affect the Department's reputation in the environmental area. The identification of the locations of tanks within our ROW, and adequate funding for tank removal and related remediation are key issues for this initiative. The potential environmental consequences of continuing to ignore this issue are great. The longer these tanks are left underground in our ROW, the more the tanks deteriorate, allowing contaminants to escape and spread over geographically larger areas and into the groundwater system.

  Consequences: Environmental consequences-soil and domestic water supply contamination; associated liability [health and safety] and fines
  Recommended Funding: $0.5 million/yr FY07-FY15

- **NJDOT Facility Truck Washing/Floor Drain Retrofit** –NJDOT currently has four NJPDES permits that describe acceptable practices for collecting and disposing of wastewater.
Compliance Issue [Stormwater Regs and NJPDES Permits]

Consequences: Environmental consequences; NJDEP citations and possibly substantial fines
Recommended Funding: $1 million/yr FY07-FY10
Source: New Operations Line Item

- **Environmental Database** – This initiative relates directly to the efficiency with which the Department does its environmental work. Better, more efficient Information management, streamlining of project scoping and development process; better tracking of environmental compliance and mitigation; and individual accountability for work are all benefits realized when such systems are installed.

Consequences/Advantages: Continued slow process; potential for considerable savings in data collection and time required to complete both technical work and interagency coordination; ability to eliminate duplicative work; maximize use of available data EARLY in the project scoping and development processes; Departmental focus on repairing roadway infrastructure makes this system even more desirable as it would reduce project development time and costs.
Recommended Funding: $0.5 million FY07; $2 million/yr FY08&09; $0.25 million/yr FY09-15 for maintenance and updates
Source: Add to Environmental Line Item

- **SPHO Survey/Mapping Initiative** – This initiative would include populating GIS based system initially with information about known sites, and secondarily conducting comprehensive surveys of all known resources.

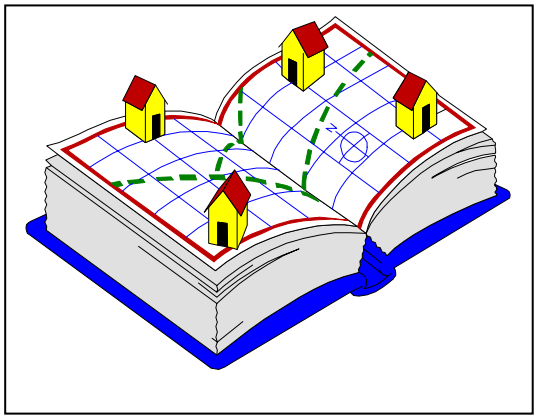
Consequences/Advantages: As data comes on line will have better information for screenings and project coordination; eventually will reduce work needed for Section 106 compliance
Recommended funding: $100,000/yr for FY07-11
Source: Environmental line item

- **Environmental Mitigation Revolving Fund** – This initiative would provide up-front funding for mitigation" which is eventually replenished from project specific accounts [federal or state]. Funds could be used for any type of environmental mitigation.

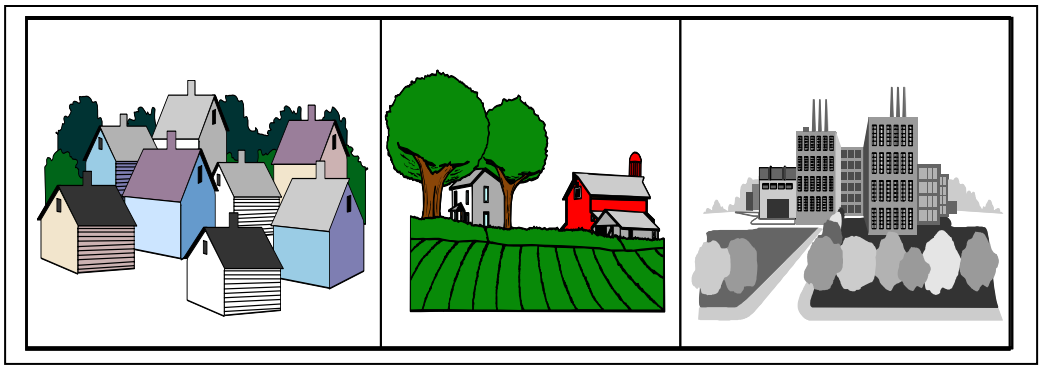
Consequences/Advantages: Non-traditional mitigation may be more easily accomplished
Recommended Funding: $0.25 million in FY07; $1 million in FY08-09; $2 million in FY10-15
Source: New addition to Environmental line item

Quality of Life/Environmental

Goals and Objectives



The committee felt that the goal statement previously developed remained valid as it voiced key principles Department actions need to reflect in fulfilling our mission of *improving lives by improving transportation.* The goal clearly states the Department's commitment to stewardship based on strong partnerships with those who care about environmental issues, and effectively meeting project needs thereby improving the quality of life of the citizens of New Jersey and the traveling public. The following statement continues to be the goal of the QL/E Committee:
Ensure all transportation improvements enhance quality of life, create lasting partnerships, and promote environmental stewardship and aesthetics consistent with community context and values.



Quality of Life/Environmental

Program Categories & Performance Measures

The funding categories attributed to Quality of Life in the TIP include: Environmental, Intermodal, Local Aid, and Capital Program. The funded programs in the Transportation Improvement Program (TIP) which can wholly be attributed to QL/E or have significant elements that can be attributed include:

- Air Quality
- Environmental Remediation
- Transportation Enhancements
- Economic Development
- Contractor Support
- Operational Support
- Bicycle/Pedestrian
- Landscape
- Maritime
- Local Aid

In addition to the quality of life benefits associated with projects in the Capital Program, there are many initiatives in various units of the Department that have traditionally been labeled as having quality of life benefits. Funding for these initiatives is primarily federal with many having used CMAQ funds. Programmed funding has fluctuated over the years with the attached matrix showing the funded programs based on the current assessment or our Program.

Bicycle Pedestrian
- Bicycle/Pedestrian Accommodations
- Rec/Trails

Local Aid
- Bicycle Projects, Local System Program
- Transportation Enhancement Program
- Centers of Place
- Transit Villages
- Local Safety Program
- Safe Streets to Schools
- Safe Routes to School
- High Risk Rural Roads

Planning
- Scenic Corridor Preservation

Landscape
- Good Neighbor Program
- Scenic Byways

Environmental Stewardship

Historic Bridge Preservation Program

Other Environmental
- Division of Environmental

Resources Funding
- Noise Walls
- Air Quality
- Signs
- Wetlands Mitigation

Research
- Water Quality Banking
- Stormwater System Monitoring and Evaluation
- Standard Allowable Lane Closure Web Interface
- TOD Benefits of he River Line
- Elimination of Barriers to TOD
- Variability of Travel times in NJ
- Title VI/Environmental Justice
- Youth Corps Urban Gateway Program
- Pre-Apprenticeship Training
- Smart Growth Initiatives

Operations
- Grassland Eco Mow Zone Program [GEMZ]
- UST Tank Removal in ROW

Facilities
- Stormwater Compliance

Above are the currently funded quality of life/environmental programs in the Department; however a few new initiatives have been added in some units that are listed below:

Local Aid
- Safe Routes to Transit

Landscape
- Landscape Safety Program

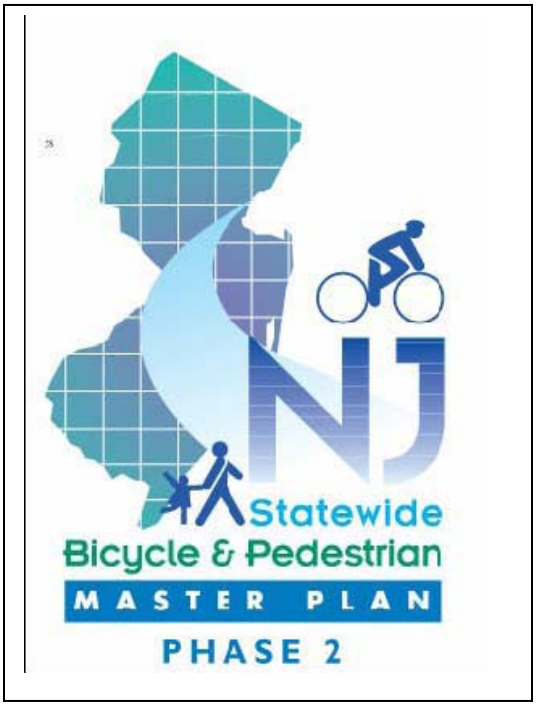
Environmental
- Historic Resource GIS mapping
- Mitigation Revolving fund

Operations
- Stormwater Facilities Management
- Facility Truck Washing

In total these programs present an aggressive, comprehensive quality of life commitment, however success can not be solely measured by the amount of funding expended in each category but in the number of projects completed in each category and the subsequent public acceptance.

Quality of Life/Environmental

Bicycle and pedestrian programs



Academic studies – and common sense –tell us that people who walk or ride bicycles frequently are healthier than those who do not. Children who walk or bike to school are much less likely to suffer from obesity and other problems. Communities where people walk and bike as part of their daily lives are vibrant, healthy communities. Walking and biking also provide people with an alternative to motorized travel—helping to relieve traffic congestion and improve air quality. NJDOT is committed to improving pedestrian and bicycle opportunities as part of its core mission. The Statewide Bicycle and Pedestrian Master Plan have established a vision for the future:

• New Jersey is a state where people choose to walk and bicycle.

• Residents and visitors are able to conveniently walk and bicycle with confidence and a sense of security in every community.

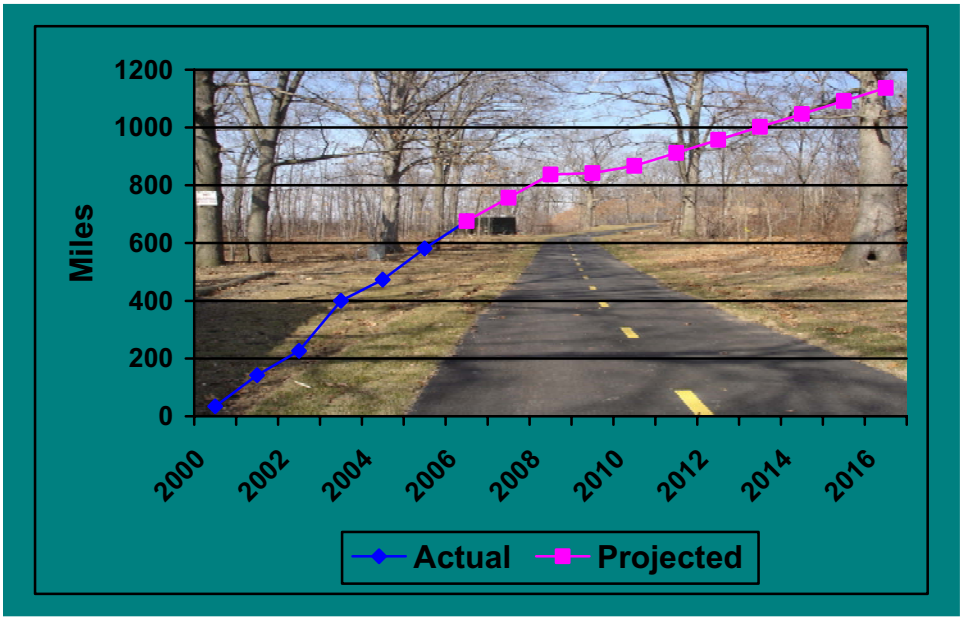
• Both activities are routine part of the transportation and recreation systems and support active, healthy lifestyles. The Master Plan also adopts 5 goals: Build the infrastructure; Improve access; Update policies, ordinances, and procedures; Educate and enforce; and Foster a pro-bicycling and walking ethic.

New Jersey continues its commitment to support bicycling and walking as a viable means of transportation. In September, 2006 Governor Corzine announced a $74 million dollar investment in

pedestrian safety. The effort is a multi-agency partnership which focuses on improvements in Engineering, Education and Enforcement.
In an effort to promote and support New Jersey's Bicycle and Pedestrian Master Plan, NJDOT develops and pursues programs that provide funding for bicycle projects. Funding for these improvements is provided through the following capital program items:

- Bicycle & Pedestrian Facilities/Accommodations
- Bicycle Projects, Local System
- Transportation Enhancements
- National Recreation Trails Program

As one of the centerpieces to the Congestion Relief Transportation Trust Fund Renewal Act of 2000, NJDOT implemented a program that would ensure that 1,000 miles of bike paths would be built. This target is strictly directed towards the implementation of independent "bike paths" as opposed to bike routes, bike lanes, or bike compatible roadways. A bike path is defined as being physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right of way or within an independent right of way.
The objective of building 1000 miles of bike path is being achieved through projects established or being planned by various levels of government statewide. Investments toward this goal have yielded on average about 100 miles per year since 2000. As a result, slightly over 650 bike path miles will be completed through 2006. It is projected that we will meet our 1000 mile goal in 2013.



Support Services

Introduction

The Division of Support Services provides facilities management and operations services for NJDOT's Headquarters Complex as well as statewide engineering support and technical assistance to the 3 Regional Headquarters Complexes and the 85 satellite maintenance facilities located throughout the state. This Division is also responsible for prioritizing and funding all capital improvements that are necessary at these facilities in support of the Department's Annual Transportation Capital Program. Our main goal is to provide a healthy, safe, efficient, and effective work environment for all NJDOT employees.

Many of the existing facilities have been neglected over the years and are deteriorating beyond repair. In the past, deteriorating structures were demolished and replaced with brand new structures. Today, with limited capital resources, building new maintenance facilities is a thing of the past. We currently continue to rehabilitate our facilities within budgetary constraints rather than build new structures. In order to accomplish this new way of doing business, this unit needed to evaluate capital improvements that were necessary at each facility within the state. This allows us to address critical needs, and safety issues, so that we may provide employees with access to a comfortable, safe, effective, and efficient work environment.

In the past, Energy Management was not significant; however, with the increasing cost of gas and electric service, it has become a critical issue. Support Services must develop an Energy Master Plan (EMP), a Facilities Management System. Both of these will help us become more energy efficient. We also hope to utilize an Automated Bill Paying System that will allow us to generate reports concerning utility usage, past and present, for all of our facilities.

Energy Management projects would include: Cherry Hill Disaster Recovery Project (CHDRP estimated total cost of $2.4M), a Co-generation Plant in the Central Steam Plant located in Ewing.

Equipment and Emergency Operation needs include: calcium dispensers, brine units, emergency generators, yard lighting, salt storage facilities, fixed roadway anti-icing systems, Automated Vehicle Locators (AVLs), communication utilizing Voice Over IP.

Support Services

Guidelines and Recommendations

The Division of Support Services provides facilities management and operations services for NJDOT Headquarters Complex as well as statewide engineering support and technical assistance to the 3 Regional Headquarters Complexes and the 85 satellite maintenance facilities located throughout the state.

This Division has evaluated capital improvements that were necessary at each facility within the state. This process allows us to address critical needs and safety issues so that we may provide employees with access to a comfortable, energy efficient, safe, secure, and reliable work environment.

The current Physical Plant budget allows us to maintain our existing facilities at or below an acceptable standard level. Many maintenance facilities are rated poorly, particularly in the categories that pertain to Transportation Security. Several of these facilities are more than 30 years old and in need of major repair or total rehabilitation. These facilities have the potential to be closed if funding levels are reduced.

Without ensuring that our maintenance facilities are safe and secure, we run the risk of compromising security for our employees and our transportation infrastructure. Failure to provide adequate funding will allow this Division to be reactive to facility related issues, rather than taking a proactive approach.

There are 25 locations that do not have a public water supply, as well as 36 locations needing public sewer systems. Converting these locations will require a significant funding increase upward of $10 million. We currently supply bottled water to these locations.

A key item to more effectively and efficiently operating NJDOT's Headquarters Complex is to incorporate Energy Management initiatives. Obtaining funding for a cogeneration plant will save the Department several million dollars in utility costs over the next decade. Energy Management initiatives need to be incorporated at all NJDOT Facilities. We must consider alternate forms of energy, interior/exterior lighting, insulation of windows/roofs/walls, and HVAC computerized controls.

Adequate funding will allow us to respond to our stakeholders needs and improve their quality of life. Insuring better working conditions will improve the morale of our employees, allowing them to perform their jobs more efficiently and effectively for the citizens of New Jersey.

Support Services

Goals and Objectives

Goal: Maintain a safe work environment for all employees.

Objective:

- Resolve all fire code violations, NJDOT Employee Safety Audit violations and PEOSHA violations.
- Provide each facility with an active fire alarm monitoring system (Note: this will require a substantial increase in Operating $ on an annual basis to pay for the monitoring fees).
- Reduce equipment failure and improve operating efficiency of all elevator systems.
- Install emergency lighting in all occupied facilities. Install emergency exit lighting in all occupied facilities.

Goal: Ensure environmentally compliant facilities throughout the state.

Objective:

- Test all existing vapor recovery systems at fuel facilities for compliance with DEP permitting regulations; and establish and implement a preventative maintenance program via the Facilities Management System.
- Evaluate all salt storage facilities for compliance with DEP stormwater runoff regulations.
- Evaluate all facilities to determine the need for truck washing bays.
- Evaluate all facilities to determine the need for oil water separators.
- Evaluate all repair garages to determine the need for waste oil tanks.
- Evaluate all repair garages to determine the need to repair/rehabilitate/replace in-ground lifts.
- Ensure DEP compliance with all regulations pertaining to mechanical street sweeping of all paved areas in all maintenance facilities.

Goal: Improve operating efficiency and energy consumption at all facilities statewide Energy Management of all NJDOT facilities.

Objective:

- Reduce energy consumption at all facilities (utilize the Energy Master Plan and the Automated Bill Paying System).

Goal: Determine the level of security for each NJDOT facility throughout the state.

Objective:

- Ensure each facility meets its standard security requirement.

Goal: Maintain the Department's Physical Plant and major system components.

Objective:

- Update and maintain Facility Rating System.
- Develop a Facilities Management System.
- Ensure all maintenance yards are equipped with public water and sewer connections.
- Ensure preventative maintenance to increase the useable life of operating systems of the facilities.

Goal: To ensure all facilities have the ability to respond to emergency situations efficiently and effectively.

Objective:

- Provide all facilities with emergency response equipment (generators, lighting, brine, calcium dispensers, and roadway anti-icing sensors).
- Ensure critical facility related documents are properly secured.
- Provide adequate communication (Voice over IP) and vehicle tracking (AVL) for all mobile units assigned to the Division of Operations Support.

Support Services

Program Categories and Performance Measures

Employee Safety

- Resolve all fire code violations within 15 business days.
- Resolve NJDOT Employee Safety Audit violations within 30 days.
- Resolve PEOSHA violations within 30 days.
- 100% of all facilities equipped with a fire protection system.
- To ensure elevators are operational 95% of running time per month
- To install emergency lighting in all facilities within 2 years.
- To install emergency exit lighting in all facilities within 2 years.

Environmental Issues

- 100% compliance with DEP regulations.
- Install overhead garage doors on all Domars over the next 5 years

Energy Management

- Develop an Energy Master Plan to include the installation of innovative and energy efficient lighting, steam flow meters, and a utility monitoring system (Automated Bill Paying).
- Install electric metering and chiller load monitoring system for NJDOT headquarters complex.
- Incorporate Green Building technology and LEED certified techniques in new construction/renovation projects.
- Obtain LEED certification for 4 employees.

Security

- Provide adequate lighting to 80% of all facilities within 1 year; the remaining 20% within 2 years.
- Install Knox box units in all facilities within 3 years.
- Install burglar alarm systems in all facilities within 3 years.
- Install lock boxes in all facilities within 3 years.
- Install security fencing in all unsecured facilities with 3 years
- Evaluate and install CCTV (video surveillance) in urban-based facilities throughout the state

Physical Plant

- Utilize the rating system to prioritize projects at all facilities.
- Update Facility Rating system bi-annually.
- Provide public water hook to 25 locations.
- Provide sewer hookup to 36 locations.
- Provide preventative maintenance measures for the following: HVAC, roofs, windows, interior/exterior lighting, entry and exit doors, overhead doors, electric upgrades, paving, curbing, alterations, office space renovations, furniture, systems furniture, floor treatments.

Emergency Preparedness

- Provide all facilities with emergency generators, fuel facilities and snow fighting facilities. All facility plans will be scanned electronically and stored off site.
- Install Voice over IP in 100% of the vehicles in Operations.
- Install AVLs in 100% of the vehicles in Operations.
- Complete a scope of work, design, and construct, the Cherry Hill Disaster Recovery Project

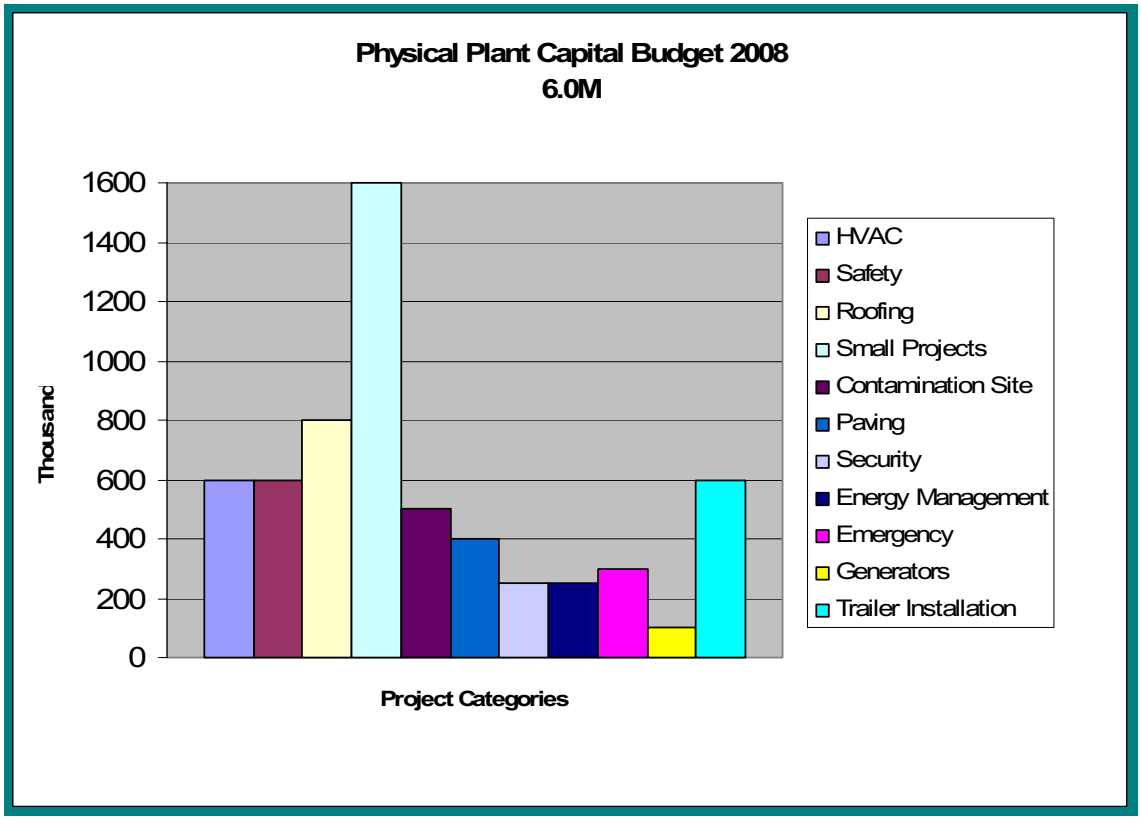
Support Services

Meeting the Need: Management System Performance Analysis

Alternative Investment Scenarios

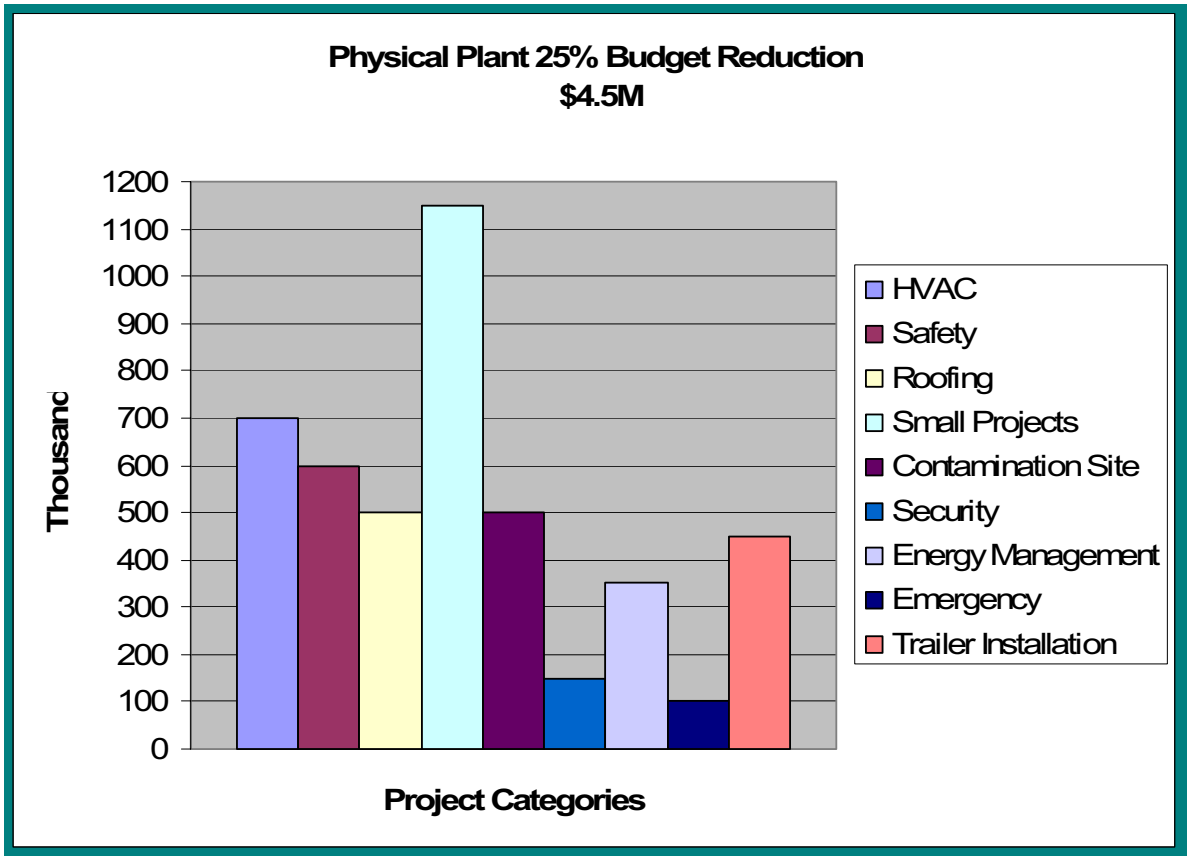
- Scenario A: Continued Funding
- Scenario B: 25% Reduction in Funding
- Scenario C: 25% Increase in Funding
- Scenario D: Maintain Current Condition
- Scenario E: Reduce Backlog by 50 %
- Scenario F: Total Need: Eliminate Backlog

Scenario A: Continued Funding



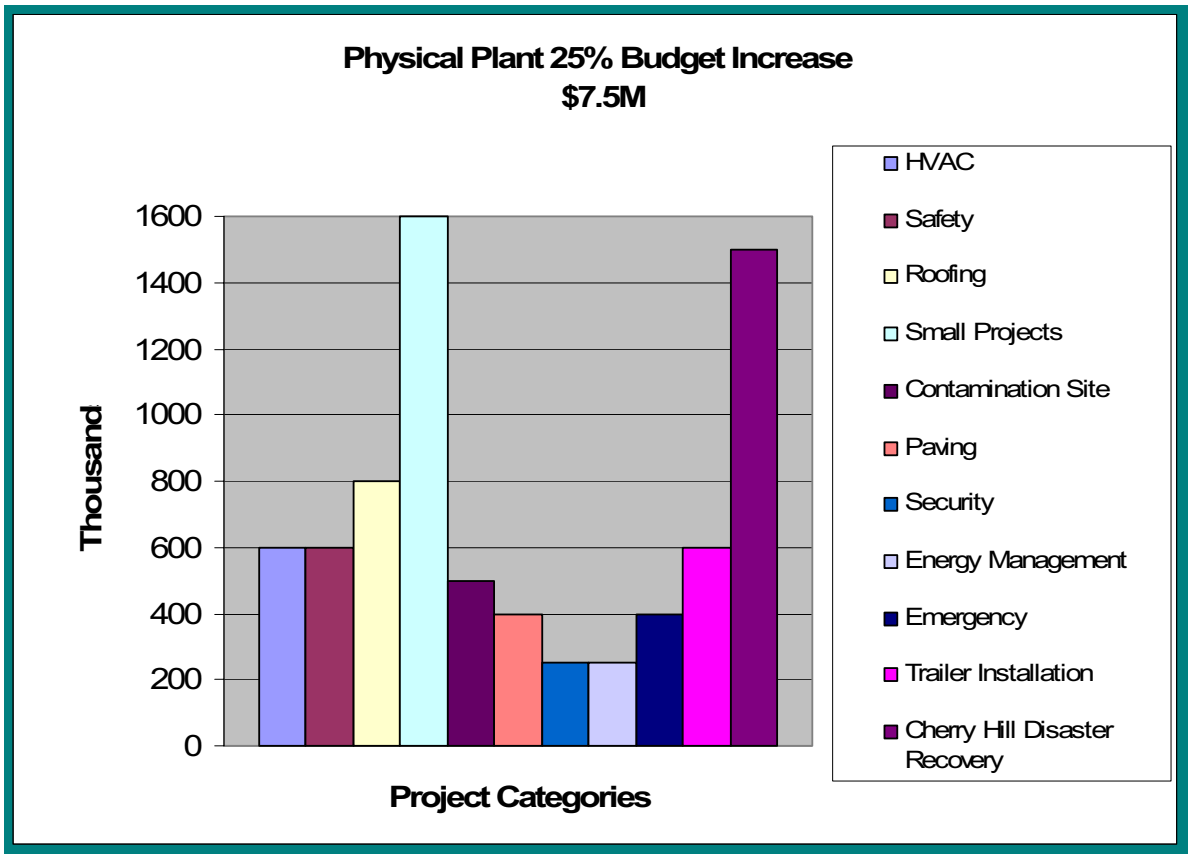
- Funding continued at the current level will not allow an increase of services to all NJDOT Facilities Statewide and may cause the closure of one or more facilities.
- The Emergency category includes Voice Over IP, AVLs, Fixed Anti-Icing units (very limited in our ability to supply a satisfactory quantities)
- The CHDR project could NOT be started (total cost estimated at 2.4 million)
- No Salt Storage buildings could be constructed at this level

Scenario B: 25 % Reduction



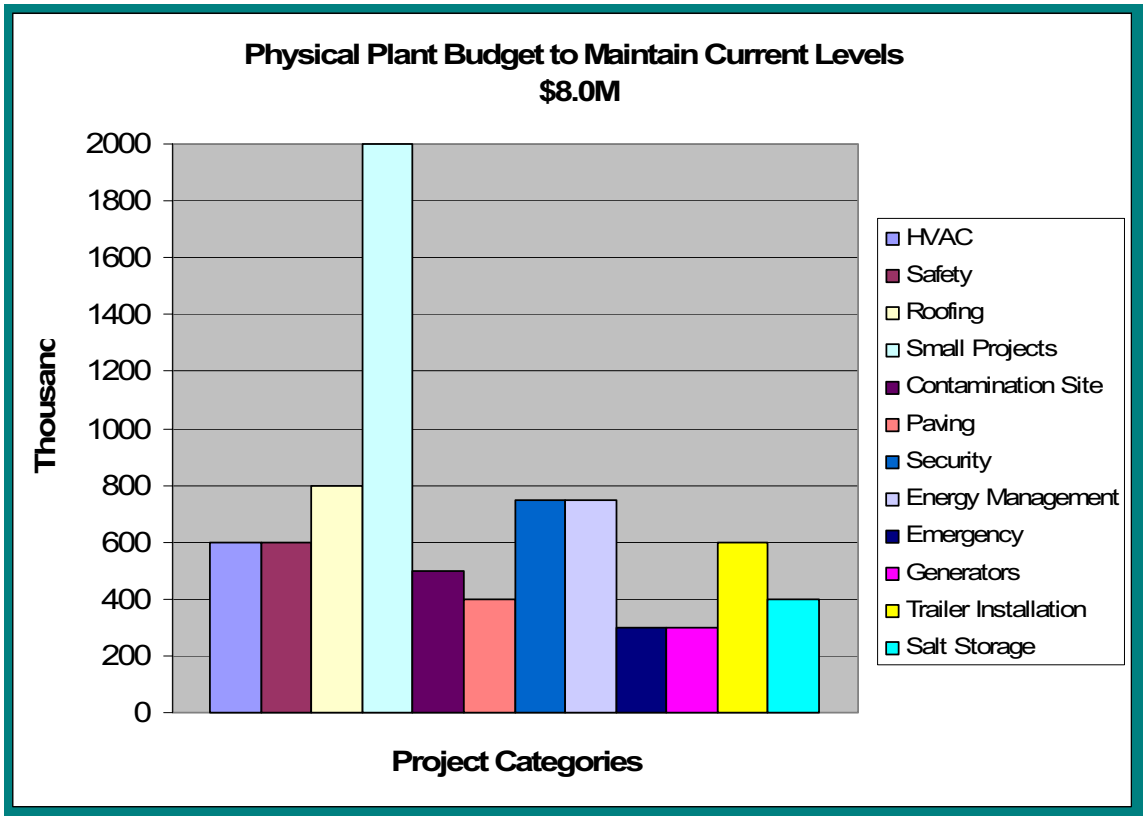
- Funding reductions will result in a decrease of services to all NJDOT Facilities Statewide and will cause the closure of two or more facilities.
- The Emergency category includes Voice Over IP, AVLs, Fixed Anti-Icing units (very limited in our ability to supply a satisfactory quantities)
- The CHDR project could NOT be started (total cost estimated at 2.4 million)
- No Salt Storage buildings could be constructed at this level

Scenario C: 25% Increase



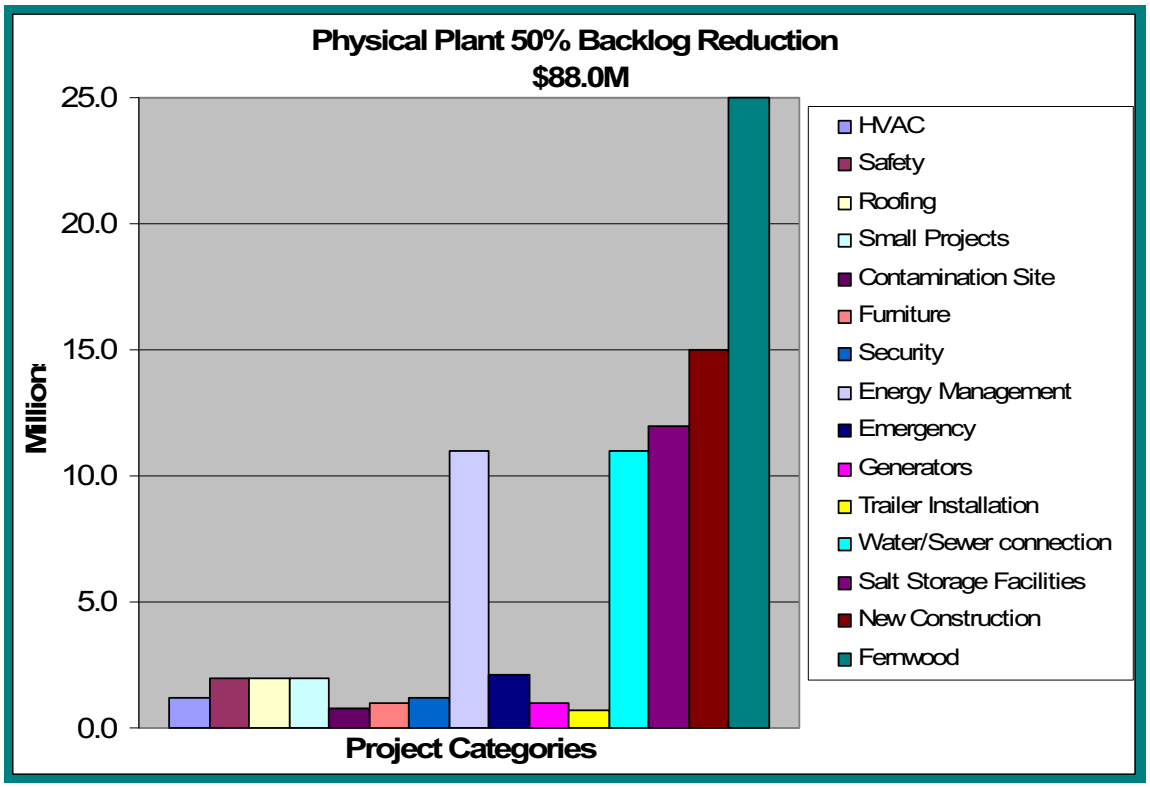
- A 25% funding increase will not allow for an increase of services to all NJDOT Facilities Statewide.
- CHDR Project is estimated to cost 2.4 million – Support Services would apply 1.5 million towards Scope of Work, Design, and Construction. 0.7 million will come from IT and 0.2 million will come from Traffic Operations.
- The Emergency category includes Voice Over IP, AVLs, Fixed Anti-Icing units, and Emergency Generators (very limited in our ability to supply a satisfactory quantities)
- No Salt Storage buildings could be constructed at this level

Scenario D: Funding required to maintain conditions at current levels



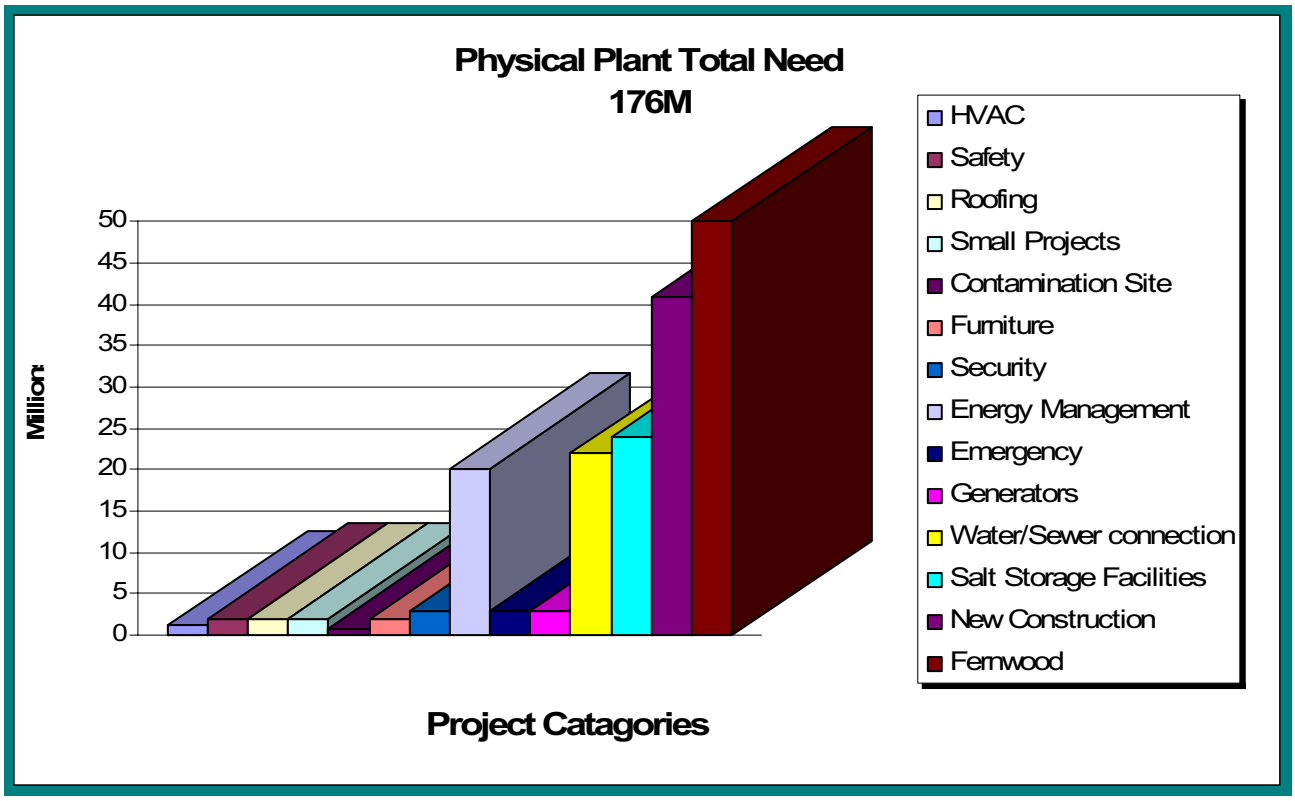
- In order to maintain our current facilities statewide it is necessary to increase funding, to a *minimum* level of $8 million, to allow for rehabilitation of our facilities rated at or below acceptable standard levels.
- $8 million will allow for 3 of 6 Trailer Installation projects

Scenario E: Funding required to reduce the backlog by 50%



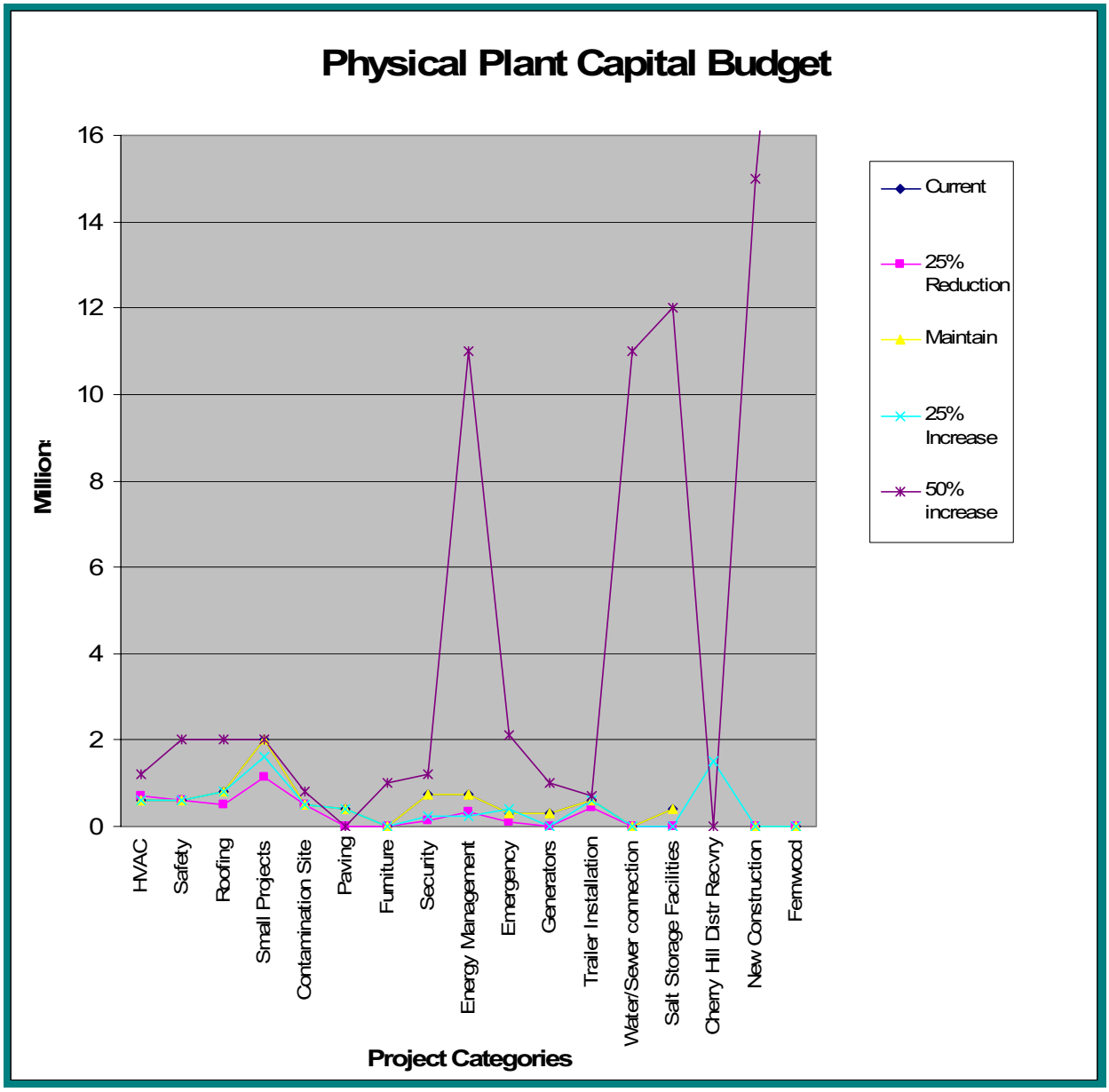
- We estimate the current backlog of projects for NJDOT facilities statewide to be $150 million, including funding for the construction of new office and salt storage facilities, and Energy Management initiatives.
- This level will allow for the construction of the Co-generation Plant at the HQ Central Steam Plant
- This will allow for 12 (50%) of all facilities, currently on well water, to be connected to a public water supply
- This will allow for 18 (50%) of all facilities, currently on septic, to be connected to a public sewer system
- This will allow for 12 new salt storage facilities
- This will allow for the construction of three new facilities
- This will allow for 50% reconstruction of the Fernwood complex (windows, doors, insulate roofs, lighting, HVAC)

Scenario F. Total Need



- We estimate the current backlog of projects for NJDOT facilities statewide to be $176 million, including funding for the construction of new offices and salt storage facilities, and Energy Management initiatives.
  This would allow for the construction of new salt storage facilities where well water is utilized by surrounding residents and business.

Summary of Funding Scenarios for the Physical Plant Activity in the Transportation Capital Program



Conclusion

The Capital Investment Strategy (CIS) will serve as a guide and reference for NJDOT as it grapples with investment choices over the coming year. As evidenced in the CIS, transportation providers face significant challenges in financing the needs that are identified, especially those of infrastructure needs and improving mobility (whether through building new rail lines, improving intersections, making highways "smarter", or other options), building high-cost bridges, and rebuilding the interstate highway system. In a time of limited resources, it will not be possible to meet all of NJDOT's objectives for these areas and for all the other pressing demands and needs of transportation customers as quickly as NJDOT would like. It is the purpose of this Capital Investment Strategy to make NJDOT's decision making better informed and its choices more effective as it faces the transportation investment challenges of the future.

NJ TRANSIT
CAPITAL INVESTMENT STRATEGY (CIS)
MARCH 2007

Contents

EXECUTIVE SUMMARY

When it was established twenty-eight years ago, NJ TRANSIT inherited a collection of bankrupt railroads and bus companies. The Corporation's initial capital programs focused on melding these disparate services into one system and improving reliability, after years of disinvestment by private enterprise.

The opening of Secaucus Junction in 2003 marked a key milestone in NJ TRANSIT's efforts to integrate the private sector services it inherited into a single, intermodal network.

The goal of NJ TRANSIT's Capital Investment Strategy (CIS) is to improve the reliability, frequency and geographic reach of this network to increase transit ridership, promote smart growth and drive the state's economy.

- First, the Ten-Year Capital Investment Strategy calls for continued investment in the state's transit infrastructure to achieve and maintain a state-of-good-repair. This improves reliability of the transit network and ensures continued satisfaction of existing customers. The CIS targets infrastructure rehabilitation, bus and rail equipment replacements and technology improvements to modernize customer information and fare collection systems.

- Second, there is a tremendous need to grow core transit system capacity to serve ambient market growth and new customers. As NJ TRANSIT approaches the end of an era characterized by investments to integrate its predecessor railroads into one rail system, capacity improvements are becoming more critical.

  Increasing rail capacity along the Northeast Corridor into Midtown Manhattan is the keystone of future capacity. This corridor, as no other, exemplifies the success of transit and its future potential. The Northeast Corridor necks down from four or more tracks to two tracks as it approaches Penn Station in Midtown Manhattan. This portion of track must be improved to accommodate more train service to Manhattan and throughout New Jersey, and to allow the number of rail lines providing direct service to Manhattan to increase above the current five lines.

  In addition to increased capacity of rail and bus right of way, the Capital Investment Strategy calls for expanded commuter parking and the creation of new regional inter-modal park & rides.

- Finally, the CIS also calls for selective service expansions that work with and fully complement prior investments.

NJ TRANSIT's Capital Investment Strategy will guide transit investments in New Jersey for the next ten years. Implementing the CIS will deliver an improved transit system to the state, one of greater reach, reliability and level of service.

INTRODUCTION

Created by the Public Transportation Act of 1979, NJ TRANSIT was established to acquire, operate and contract for transportation service in the public interest. In 1980, NJ TRANSIT purchased Transport of New Jersey, the State's largest private bus company at that time. Between 1981-85, the services of several other bus companies were incorporated into NJ TRANSIT Bus Operations, Inc. On January 1, 1983, a second subsidiary, NJ TRANSIT Rail Operations, Inc. was launched to assume operations of commuter rail in the State after Congress ordered Consolidated Rail Corporation (Conrail) to cease its passenger operations. A third subsidiary, NJ TRANSIT Mercer, Inc., was established in 1984 when the agency assumed operation of bus service in the Trenton/Mercer County area. In 1992, following a full reorganization, all three subsidiaries were unified and operations were significantly streamlined.

NJ TRANSIT is the nation's third largest provider of bus, rail and light rail transit, providing services to major points in New Jersey, New York and Philadelphia. The agency operates a fleet of 2,115 buses, 1,082 trains and 90 light rail vehicles. NJ TRANSIT provides nearly 240 million passenger trips each year on 238 bus routes, 3 light rail lines and 11 commuter rail lines statewide.

NJ TRANSIT also administers several publicly funded transit programs for individuals with disabilities, senior citizens and those living in the state's rural areas who have no other means of transportation.

NJ TRANSIT is committed to provide safe, reliable, convenient, cost-effective transit services to the people who live and work in New Jersey.

In accordance with Executive Order No. 37, NJ TRANSIT continues to evaluate areas within the organization to reduce cost, while providing the same level of service to our customers. Contracts are awarded based on merit and value, and are publicly advertised. NJ TRANSIT ensures that public participation is conducted through public hearings geared to inform the public as well as receive feedback concerning transportation issues affecting our community.

THE ROLE AND BENEFITS OF TRANSIT IN NEW JERSEY

Funding of public transportation is unique among public investments for its wide range of social and economic benefits. Perhaps first among these benefits is the integral role that public transportation plays in supporting the state's economy.

One of New Jersey's most important competitive advantages is its considerable transportation infrastructure. If goods and people cannot flow smoothly throughout the state, New Jersey's long-term economic prospects are considerably diminished. Public transportation is an important component of New Jersey's transportation system because it targets one of its greatest enemies: congestion.

Transit's role in the overall transportation network primarily has been one of demand-side management for highway trip growth. Transit provides the necessary additional peak period capacity to get people to work in the region's dense employment concentrations. Without transit, many of the region's jobs would be virtually inaccessible due to what would be intolerable levels of highway congestion.

Given the high cost of building new roads in densely populated New Jersey, it is less expensive to improve transit in select corridors. For example, if all of New Jersey's New York-bound commuters were to be accommodated on roads, eight more tunnels and two more bridges would need to be constructed across the Hudson. If all of the state's transit riders occupied cars on the Garden State Parkway instead of buses and trains, all lanes of the Parkway would be filled end to end.

Transit has been successful in fulfilling its role of reducing demands on the highway system. According to the 2000 Census, one out of every ten New Jersey workers uses public transportation to get to work, double the national average. In select corridors, like New Jersey crossings to Manhattan, transit's market share is over 80% (including commuter rail, bus, PATH and ferry). New Jersey has the second highest transit use of any state except New York, and is home to five of the top twenty transit cities in the country.

Looking forward, transit's role in accommodating trip growth in New Jersey is increasing. According to the 2000 Census, the percentage of New Jersey workers using transit is increasing for the first time in 40 years. As population increases result in greater trip growth, the transportation network must respond. If highway capacity expansion is constrained, public transportation systems become one of the few viable options for accommodating future trip growth.

In addition to accommodating commuters, public transportation is playing an increasingly important role in carrying off-peak and weekend trips. New Jersey's congestion problem is extending beyond the morning and evening weekday rush hours. Shore traffic, mall traffic and overall population density have resulted in a state where no time is safe from congestion. Yet congestion in these times threatens industries that are key to the state's economy, such as tourism and retailing.

Public transportation also plays an important role in promoting specific economic development. By their very nature, train stations and other transit hubs concentrate people into a limited area, creating localized markets for retailers and commercial enterprise. This concentration also allows for greater densities in economic development. The economics of large commercial buildings require access by transit to alleviate the real estate costs otherwise associated with parking. In Jersey City, for example, the number of parking spaces required for commercial development can be less than half that for suburban development, due to the city's access to transit. Also, in congested areas, transit provides access to a larger labor market, since workers can commute from greater distances.

Transit also increases local property values. In heavily congested New Jersey, easy access to public transportation results in high demand for area housing. For example, as NJ TRANSIT extended Midtown Direct service to Montclair in 2002, the town had the highest increase in property values of any municipality in the country. Transit can also benefit the local economy of a community, as Midtown Direct service demonstrated, by adding $60 million in disposable income to the towns served from new people moving in as a result of the new service to New York.

Beyond the benefits to the state's economy, transit investment also has social benefits. Public transportation provides an important safety net for those who cannot drive, whether due to age (both young and old), disability or for economic reasons. Almost 10% of New Jersey's households do not have access to a car. As New Jersey's population ages, more and more people in the state become transit-dependent. NJ TRANSIT provides an important transit service for those who cannot access the highway network.

Transit also promotes smart growth and improves the general quality of life in the communities it touches. Studies have shown that people prefer to live in dense, walkable communities with easy access to public transportation. People use transit because it's faster, more convenient and more pleasurable to use than other means of transportation. Transit builds neighborhoods, reduces urban blight and fosters economic development.

NJ TRANSIT TODAY

New Jersey's present rail and commuter bus systems primarily serve New York markets. There is an extensive local bus route network serving the state, focused more on areas where development is concentrated and areas with proportionately more transit dependent population. Over the past ten years, NJ TRANSIT's ridership grew by 30%, mirroring the growth in the State's economy over the same period.

The condition of the transit infrastructure and equipment is much improved from the days of private control, but significant deficiencies still remain. Increases in congestion on the state's highways have shifted auto users to the rails and express bus system, giving rise to severe crowding on the rail network, particularly into Manhattan, and negatively impacting the competitiveness of the bus network as well.

Past investments have focused on integration of what was a hodgepodge of privately controlled railroad and bus lines into a more modern and integrated transit network. As these investments come to fruition, the potential exists for a significant change in the makeup of transit riders in New Jersey.

PRESENT AND FUTURE DEMAND

Demographers predict that New Jersey's population will increase by 1.4 million between 2000 and 2020, or 16% according to the New Jersey Department of Labor. New Jersey's labor force is also forecast to grow by 0.9 million, or 21%. Since the majority of NJ TRANSIT's ridership is work related, it is possible that travel demand would grow by about 20% over this period.

However, the amount of transit ridership growth over the next 20 years will depend on the pattern and location of future household and employment growth, and the amount of congestion in the state. Implementation of smart growth principles, increased congestion and the aging of the population could significantly boost transit ridership.

A VISION FOR A DIFFERENT KIND OF TRANSIT SYSTEM

NJ TRANSIT's vision for the future of transit in the state is a transit network that provides integrated transit service across modes for commuters as well as travelers on business and recreational trips.

Increases in trip demand resulting from demographic trends indicate that NJ TRANSIT must change its services to better accommodate trips within New Jersey and to encourage more auto users to switch to transit. While the New York markets represent a strong and growing foundation of the state's transit ridership, there is an increased need to serve existing and new markets within the state for commutation, recreational and other purposes, especially to communities and major employment concentrations consistent with smart growth policies.

In order to make the vision a reality, the existing network must first be brought to a state-of-good-repair. Service reliability is paramount and is dependent on the condition of the infrastructure. If the backbone of a state-of-the-art, customer-friendly transit system is the existing railroad infrastructure, that infrastructure must be well maintained. Similarly, the condition of the highway and road network must also be well maintained to accommodate bus trips.

Investments must also be made to expand the core capacity of the existing transit system to allow for more frequent service. More parking and improved access are key elements of the makeover, as is better use of technology to produce a fare collection system that is faster and easier to use. Crowded stations and terminals must be expanded and modernized and rail and bus equipment must be overhauled or replaced. Most importantly, key bottlenecks, such as the area under the Hudson River, must be eliminated to allow more frequent service statewide. Finally, the geographic reach of the system must be expanded to make transit more accessible by a wider cross-section of customers.

TEN-YEAR CAPITAL INVESTMENT STRATEGY OVERVIEW

The Ten-Year Capital Investment Strategy calls for continued investment in the state's transit infrastructure to achieve a state-of-good-repair and provide safe and reliable statewide transit service. The CIS allocates $9.03 billion dollars, or 36% of the total requested funding, to bring the system to a state-of-good-repair and maintain it at that level. It includes the funding necessary to improve NJ TRANSIT's infrastructure, customer service and new technology, and debt on equipment replacement.

There is a tremendous need to grow core transit system capacity to serve ambient market growth. As NJ TRANSIT approaches the end of an era characterized by investments to integrate its predecessor railroads into one rail system, capacity improvements are becoming more critical. $9.456 billion, or 38% of the Capital Investment Strategy will be used to increase core transit capacity frequency.

There is also a need for selective service expansions that work with and fully complement prior investments. $2.89 billion, or 12% of the Capital Investment Strategy will be used to expand off the existing core system. It includes the funding debt on light rail and system expansion program.

In addition, another $3.56 billion, or 14%, will be required to fund operating expenses.

NJ TRANSIT Capital Investment Strategy

STATE OF GOOD REPAIR
- Rehabilitate Railroad Infrastructure
- Modernize Bus and Rail Fleet
- Rehabilitate Stations and Terminals
- Improve Customer Service Technology

EXPAND CAPACITY, INCREASE FREQUENCY
- Construct a new Trans-Hudson Rail Tunnel
- Expand Park & Ride Capacity
- Expand Rail Fleet
- Coordinate Highway Investments with Bus

EXPAND REACH OF THE TRANSIT SYSTEM
- Expand the existing system

GOAL:
A more attractive, reliable and frequent transit system with greater reach that attracts more customers and combats congestion

NJ TRANSIT TEN-YEAR CAPITAL INVESTMENT STRATEGY (billions)

STATE-OF-GOOD-REPAIR		
Infrastructure SOGR	*$ 6.554*	
Customer Service and New Technology	*$ 0.300*	
Debt on Equipment Replacement	*$ 2.176*	
Subtotal	**$ 9.03**	36%
CAPACITY/FREQUENCY		
Increase Core System Capacity	*$ 9.456*	
Subtotal	**$ 9.456**	38%
EXPAND OFF THE EXISTING CORE SYSTEM		
Debt on Light Rail Expansion Projects	*$ 0.81*	
System Expansion Program	*$ 2.09*	
Subtotal	**$ 2.89**	12%
OPERATING SUPPORT	**$ 3.56**	14%
TOTAL:	**$24.940**	

STATE-OF-GOOD-REPAIR

The primary goal of the Capital Investment Strategy is to bring the system to a state-of-good-repair. The importance of system expansion projects pales in comparison with the need to maintain the existing system. NJ TRANSIT's existing transit riders rely on the transit system for a consistent level of service. NJ TRANSIT's surveys have shown that riders rank service reliability as one of their top concerns. State-of-good-repair correlates directly with reliable service, which, in turn, correlates directly with customers' decisions to use transit.

Much progress has been made in bringing the transit system to a state-of-good-repair. With such a large system, however, there is still much more work needed to achieve this state system wide. Once state-of-good-repair is reached, there is an ongoing need to maintain the system at that level.

Rehabilitate Railroad Infrastructure

NJ TRANSIT replaces components of the rail system regularly, based on each component's respective life cycle. "State-of-Good-Repair" is achieved when the infrastructure components are replaced on a schedule consistent with their life expectancy.

- Track – To ensure that it lasts 35 to 50 years, upgrading and replacement of rail, ties, switches and grade crossings must occur as part of a continuous program. Given NJ TRANSIT's 535.6 miles of main line track, 10 miles of track must be replaced every year.
- Structures – With more than 600 bridges, as well as various retaining walls, catenary and signal structures, a regular inspection program is followed to determine those bridges and structures in need of repair or replacement. Because NJ TRANSIT inherited an aged rail infrastructure from several bankrupt railroads, it has a backlog of bridges and other structures overdue for replacement.
- Electric Traction – With many electrified rail lines, overhead catenary wire and power substations must be maintained. Except for certain areas such as auxiliary wire, electric traction systems are at "state-of-good-repair."
- Signaling – Regular programmed maintenance and replacement of grade crossing warning systems, train operation signals as well as switching and interlocking signal devices is needed. NJ TRANSIT is also improving rail safety by installing Automatic Train Control (ATC) and Positive Train Stop (PTS) systems throughout the rail network. ATC systems continuously enforce speed limits for the locomotive engineer, while the PTS systems automatically stop a train before it travels through a stop signal
- Work Equipment – A continuous program of repair and replacement of this equipment is needed to properly maintain the rail system.

NJ TRANSIT Rail State of Good Repair Annual Capital Needs

BRIDGE INSPECTION PROGRAM

Component	System Quantity	Life Expectancy	Annual Inspections
Undergrade Bridge Inspection	612	NA	122

BRIDGE PAINTING PROGRAM

Component	System Quantity	Life Expectancy	Annual Replacement
Bridge Painting	278 Steel Bridges carrying 66,000 Track feet	15 years	4400 track feet

BRIDGE REHABILITATION PROGRAM - OVERHEAD

Component	System Quantity	Life Expectancy	Annual Replacement
Overhead Bridges	107	50	2 -3

BRIDGE REHABILITATION PROGRAM - TIE DECK

Component	System Quantity	Life Expectancy	Annual Replacement
Tie Decks	131 Open Deck Bridges carrying 46,000 Track Feet	30 years	1550 track feet

BRIDGE REHABILITATION PROGRAM - UNDERGRADE

Component	System Quantity	Life Expectancy	Annual Replacement
Undergrade Bridge Rehab/Replacement	533 in service	100 YEAR	6

ELECTRIC TRACTION IMPROVEMENTS SYSTEMWIDE

Component	System Quantity	Life Expectancy	Annual Replacement
Catenary (structure/hardware trolley/Aux./main messenger wire)	240 miles	40 years	6 miles
Signal Power Lines	175 miles	40 years	5 miles
Substations	35 each	50 years	0.5 each
Controls & Navigation lights For Movable Bridge	10 each	20 years	0.5 each
Wayside Power	7 yards	20 years	0.5 yards
Switch Heaters at Interlocking & Yards	183 locations	20 years	9 locations
Station Lighting	150 each	20 years	7 each

M of W EQUIPMENT REPLACEMENT PURCHASE PROGRAM

Component	System Quantity	Life Expectancy	Annual Replacement
Rail Gang	25 pcs.	7 years	3.5 pcs.
Tie Gang	40 pcs.	7 years	5.7 pcs.
Surfacing Gang	21 pcs.	7 years	3 pcs.
Cranes	9 pcs.	15 years	0.6 pcs.
Backhoes, Excavators	24 pcs.	7 years	3.4 pcs.
Smaller Equipment	600 pcs.	5 years	120 pcs.

RAIL SIGNAL INFRASTRUCTURE

Component	System Quantity	Life Expectancy	Annual Replacement
Interlocking	92	40 years	2.3
Grade Crossing Warning System	315	25 years	12.6
Signals	1,222	40 years	30.6
Locked Switch	666	40 years	16.7
Cable Plant	500	40 years	12.5
Hot Box Detectors	8	15 years	0.53

RAIL COMMUNICATIONS INFRASTRUCTURE

Component	System Quantity	Life Expectancy	Annual Replacement
Cable Plant route miles	300	40 years	7.5
Microwave sites and towers	4	15	0.3
Carrier Equipment	25	15	1.7
Portable Radios	2200	5	440
Base Stations (xmit or rcv)	154	10	15.4
Mobile & train radios	1095	10	109.5
Station Public Address Systems	158	10	15.8
SCADA/SMP Network Equipment	70	15	4.7
PBX Telephone Systems	11	15	0.7
Office/FOC/ICS/Rec./Netwrk/equip	L.S.	15	0.1
Video monitoring/rem ctrl systems	40	10	4
Total Annual Rail Communications			
Excludes revenue vehicle PA systems	Note: Communications is not currently at State of Good Repair (projected completion 2009)		

RIGHT OF WAY FENCING SYSTEMWIDE

Component	System Quantity	Life Expectancy	Annual Replacement
Fencing	50 Miles	30 Years	8,800 LF

RIGHT OF WAY IMPROVEMENTS SYSTEM WIDE

Component	System Quantity	Life Expectancy	Annual Replacement
ROW Projects	500 Culverts	100	3-4 projects
Misc. Structures	Retaining walls, (19 miles) catenary and signal structures	100	2-3 projects

TRACK PROGRAM

Component	System Quantity	Life Expectancy	Annual Replacement
Rail- main line	535.6 miles	50 years	10
Rail- yards	61.4 miles	60 years	1
Ties- main line	1,500,000 each	30-35 years	45,000
Ties-yard	160,000 each	50 years	3,200
Turnouts	1,267 each	35 years	20
Switch Timbers	85,000 each	30 years	2500
Slip Switches	35 each	10-15 years	1
Road Crossings	328 each	17-20 years	15
Mitre Rails	17 sets	17 years	1
Right-of-Way	System surfacing, Undercutting, Ballast Cleaning, Drainage		
Ties--concrete--Main Line	141,000 each	50 years	2,800

Modernize Bus and Rail Fleet

NJ TRANSIT must maintain its fleet of railcars, locomotives, buses and light rail vehicles in good operating condition. In the past three years, the agency has made great strides in replacing what was an aging bus fleet and in expanding its rail fleet. The Capital Investment Strategy provides for lease payments for these past procurements, the purchase of additional multilevel railcars, railcar overhaul and the replacement of older equipment.

New Equipment – In order to retire equipment that has exceeded its useful live, NJ TRANSIT purchased 200 Comet V single level rail cars and 1,371 cruiser buses, 85 articulated buses, 289 Millennium buses (now in production), 33 new diesel locomotives and will be purchasing 1,145 transit-style buses (approximately 200 buses per year on a pay-as-you-go basis) to replace 174 NOVA A, and 650 NOVA B buses, and 319 Metro D buses. NJ TRANSIT will purchase dual power locomotives, electric locomotives, multilevel coaches, diesel locomotives and self-propelled electric railcars within the next ten years.

- **Equipment Overhaul –** Useful life of rail equipment can exceed 25 years, and buses 12 years, if properly maintained and overhauled. Overhauls will be required on 850 cruiser buses, 76 CNG cruiser buses, electric locomotives, Comet IV and Comet V coaches. NJ TRANSIT is currently rehabilitating its fleet of 325 Nova B transit buses.

- **New Minibus Equipment –** The Capital Investment Strategy provides for the purchase of smaller buses to replace those that have exceeded their useful lives.

- **Private Carrier Improvement Program –** The Capital Investment Strategy calls for continued investment in private carrier buses. NJ TRANSIT replaces private carrier rolling stock as part of its regular equipment replacement program.

Private carriers received over 500 cruiser buses as part of NJ TRANSIT's recent cruiser bus procurement. In addition to rolling stock, private carrier also receive funding for rehabilitation of carrier owner revenue vehicles, facility improvements, capital equipment purchases, revenue vehicle purchases, and support vehicle purchases.

- **Environmental Friendly Bus Purchases –** NJ TRANSIT continues to invest in new buses that have reduced emissions of air pollutants. All NJ TRANSIT transit, suburban, articulated and cruiser buses use either compressed natural gas or ultra-low sulfur fuel or are powered by hybrid-electric powerplants. In addition, NJ TRANSIT's recent procurement of articulated buses included soot filters as will all new NJ TRANSIT bus procurements.

Rehabilitate Bus Infrastructure

In order to ensure that our bus infrastructure is in a state-of-good-repair, NJ TRANSIT is committed to rehabilitating our bus facilities in a timely manner. The Capital Investment Strategy calls for rehabilitating approximately 10 of our 15 bus garages and the construction of a new garage in northern, N.J.

Rehabilitate Stations and Terminals

A key ingredient to attracting more riders to transit is improving the agency's "front door," its train stations and bus terminals. A number of NJ TRANSIT's train stations and bus terminals need improvement. Some of these improvements will make train stations more accessible to people with disabilities, parents with children in strollers, and the growing population of senior citizens (65+), which is expected to increase by 39%, compared to a population growth of 16% through 2020.

The Capital Investment Strategy calls for significant funding to bring these facilities to a state-of-good-repair. In addition to attracting more people to transit, making train stations into showcases for the community improves quality of life in the towns and cities that host transit facilities.

Rehabilitation of the Trenton Station is a prime example of NJ TRANSIT's commitment to provide residents and commuters with state-of-the art facilities. Once completed, the station will be expanded from a 19,000 square foot complex to an approximately 45,000 square foot complex. This two-story facility will provide additional retail and office space, exterior and interior architectural improvements, upgrades of various building systems, landscaping improvements, and provide the City of Trenton with a landmark building representative of the State Capital.

Renew Technology

NJ TRANSIT will invest in advanced technology in order to improve customer service, enhance security and operate more cost-effectively. One of the critical systems that help advance these three goals is a smart card program. Although NJ TRANSIT has made great strides in improving interconnectivity of rail, bus and light rail services, ticket collection has not changed in over 100 years. If NJ TRANSIT is to become a system that serves more than commuters, it must have a fare collection medium that is more flexible, quicker and easier to use.

A smart card program will be implemented for the state's transit system. Riders will be able to board any bus, train or light rail vehicle using a common fare card and use it to transfer easily from bus to train and train to light rail. Fares could be deducted from the stored value on the card and the card's value could be replenished automatically from a credit card, like the EZ Pass system.

Smart card technology also makes back office operations more efficient, saving NJ TRANSIT administrative costs. The Capital Investment Strategy anticipates implementation of a smart card system along with other technology improvements designed to improve efficiency and reduce administrative overhead.

EXPAND CAPACITY, INCREASE FREQUENCY

Construct a new Trans-Hudson Passenger Rail Tunnel

The greatest bottleneck on NJ TRANSIT's rail network is the section of track between Newark and New York. Trains from five feeder lines converge on this section which constricts to two tracks, one inbound and one outbound through the nearly 100 year old tunnels beneath the Hudson River. Over half of all NJ TRANSIT rail riders pass through the existing tunnels, making the lines that serve New York Penn Station among the agency's highest performers. Demand for rail service to Midtown Manhattan has tripled during peak periods since 1983. As demand continues to increase, some time between 2010 and 2020, there will be insufficient capacity to provide for the trans-Hudson commute. The constraint on rail service to Midtown is also restricting intra-state rail service as well since the various lines converge before and after Newark on the approach to the Hudson River Tunnel.

NJ TRANSIT is taking steps to address capacity concerns in the trans-Hudson tunnels. It implemented a new signaling system to increase the throughput of the tunnel and is purchasing multilevel railcars and extending platforms at PSNY. These efforts can only go so far, however. Once all of these interim efforts are exhausted, the only remaining option is to construct new trans-Hudson rail tunnels.

THE Tunnel, a $7.38 billion project, is proposing to construct a new 9.3-mile commuter rail line along the existing Northeast (Rail) Corridor (NEC) between Secaucus, New Jersey and Manhattan by 2016. The Trans Hudson Express Tunnel, also known as Access to the Region's Core (ARC), includes the construction of two new tunnels under the Hudson River; new rail tracks between Secaucus Junction and New York Penn Station (NYPS); a new six-track rail station underneath 34th Street in midtown Manhattan (with pedestrian linkages to NYPS); a storage yard in Kearny, New Jersey; and the purchase of 20 rail locomotives and 200 bi-level coaches.

The Northeast Corridor (NEC) is the only Hudson River commuter rail crossing into midtown Manhattan. Already near capacity, the NEC currently experiences significant travel-time delays whenever there is a train malfunction incident; one train disruption of 15 minutes, for example, can delay as many as 15 other NJ Transit and Amtrak trains. As passenger demand increases – trips between midtown Manhattan and areas west of the Hudson River are forecast to grow by 27 percent by 2030 – congestion and service reliability are expected to worsen. In addition, commuter rail passengers on NJ TRANSIT's Bergen County, Main, Pascack Valley, Port Jervis, and Raritan Valley commuter rail lines today must transfer at either Secaucus Junction or in Hoboken to reach New York City. The purpose of the ARC project is to double rail capacity between New Jersey and New York City, thereby relieving congestion and transit delays, while providing for more direct, one-seat service to midtown Manhattan.

By doubling train throughput into midtown Manhattan, the Access to the Region's Core project would result not only in expanded one-seat service, but improved reliability of, and significantly reduced congestion on, NJ TRANSIT's commuter rail system. This added capacity – and use of dual-mode locomotives on existing diesel lines to eliminate forced transfers at Secaucus Junction and Newark – will also improve transit travel times. Over 25 percent of the project's travel time benefits accrue to Manhattan-bound passengers on NJ TRANSIT's Bergen County rail lines and MetroNorth's Port Jervis Line who, in the absence of ARC, would need to transfer trains at Secaucus. The outlying non-electrified portions of the Morris & Essex Line, the Montclair-Boonton Line, and the North Jersey Coast Line also benefit from additional one-seat ride service; Manhattan-bound passengers on these lines account for over one-third of the project's travel time benefits. As a result of less congestion and increased train frequency, Manhattan-bound Northeast Corridor Line passengers account for just under 20 percent of the project's travel time benefits. Approximately 10 percent of the project's benefits accrue to Manhattan-bound passengers on NJ TRANSITS's Raritan Valley line, which is extended beyond its current terminus at Newark Penn Station to NYPS. Finally, another 10 percent of the project's travel time benefits accrue to reverse commuters and New Jersey intra-state riders who take advantage of increased frequency of train service throughout NJ TRANSIT's commuter rail network.

Key economic and transit supportive benefits occurring with the project:

Existing Land Use:

- The terminus station area has a total population of approximately 44,000. Almost 409,000 employees worked in proposed station areas in 2000. Thus, the number of residents and workers within walking distance of the stations is supportive of very high rates of transit usage.
- Employment density is very high in the station area with over 340,000 jobs per square mile and population density exceeds 36,000 persons per square mile.
- Development throughout the station area is pedestrian-oriented with multi-story and mixed-use buildings and minimal or no setbacks.
- Numerous commercial uses, both retail and office, are major trip generators within the station area.
- Parking policies discourage parking in the area and parking costs are high, which serve as an effective disincentive to automobile use.

Transit-Supportive Plans and Policies:

- New York City policies and market conditions continue to encourage dense office development, which is among the highest densities in the world.
- The State of New Jersey emphasizes in-fill development near transit and several communities with NJ TRANSIT stations participate in the state's Transit Village Initiative that provides technical and financial assistance to those communities which demonstrate that their zoning codes and redevelopment plans support the density to maximize transit usage.

- NJ TRANSIT has devoted significant resources to improving pedestrian access to the commuter rail system, rehabilitating aging stations, and building new facilities.

Performance and Impacts of Policies:

- The intensive development, pedestrian-friendly character, and high rates of transit usage in the corridor reflect the impact of land use policies and the application of such tools as zoning, floor area bonuses, and tax incentives. These measures have worked collectively with market forces to create existing, highly transit-supportive development patterns in the corridor.
- New York City's zoning regulations have achieved improvements to the pedestrian environment in dense areas and resulted in street-level retail, as well as clustered street-level commercial uses near transit stations.

Economic:
The tunnel is vital to the economic competitiveness of New York City and the entire region. The tunnel will add:

- *6,000 new construction jobs*
- *$10 billion in gross regional product*
- *$4 billion in real personal income*

Security:

- The tunnel will provide necessary redundancy to and from Manhattan, boosting regional security.

Environment:

- The Tunnel will remove 35,000 vehicles from our roads and channel growth in and around existing public transit. It will improve our regional quality of life.

Project Development History and Current Status
NJ TRANSIT completed a major investment study on the ARC corridor in 2003. A new Hudson River rail tunnel and expanded Penn Station capacity alternative was selected as the locally preferred alternative (LPA) in early 2006. FTA approved the LPA into preliminary engineering in August 2006. Federal environmental review of the project is underway and a Draft Environmental Impact Statement was published in January, 2007 with public hearings being held in March , 2007**.** It is anticipated the project will receive FTA approval to enter into Final Design in early 2008.

Finally, THE Tunnel will increase the number of trains into Manhattan, doubling trans-Hudson capacity and providing for a richer rail service in New Jersey. This added capacity will also improve the commuter bus system into Manhattan, by shifting some of the growth in bus riders to rail, thereby providing relief to the Express Bus Lane (XBL) and the Port Authority Bus Terminal (PABT) system. Forecasts for 2020 show that this shift is needed to keep bus travel times the same or better than today.

The Port Authority of NY&NJ is primarily responsible for the XBL and PABT. NJ TRANSIT is working with the Port Authority to provide the necessary trans-Hudson bus capacity on the Route 495 approach to the Lincoln Tunnel, the tunnel itself and the Bus Terminal. Among the issues to be addressed are: where to stage buses for outbound moves, their storage, and movement into the Bus Terminal in the evening.

The Capital Investment Strategy calls for other core capacity investments in the rail system. On the Northeast Corridor, new station capacity will have to be constructed in proximity to the Penn Station New York complex, along with new yard capacity to accommodate a larger rail fleet as mentioned earlier.

Expand Park & Ride Capacity

Access is an essential element of any transit system, particularly one constrained by insufficient parking capacity. Parking expansion improvements are targeted toward facilities with the greatest unmet demand.

Use of feeder shuttle buses will also reduce demand for parking and extend the geographic reach of transit.

NJ TRANSIT expanded parking at Clifton Rail Station (228 spaces), 300 commuter spaces at the Rahway Train Station, expanded the Allwood Bus Park/Ride by 285 spaces and Plauderville Park/Ride by 230 spaces, the new Tonnelle Avenue Park/Ride on the Hudson Bergen Light Rail line (730 spaces), and the Hamilton Train Station parking deck (2,200 spaces).

The Capital Investment Strategy calls for park and ride improvements at Edison Station (700 spaces), Route 23 Park/Ride (1,000 spaces), Morristown Station Deck (120 spaces), North Hackensack (150 spaces), and the South Amboy Parking Deck (600 spaces). Joint development of parking at the Bay Street Deck in Montclair will provde an additional 110 parking spaces. Park and ride improvements at the soon to open Mount Arlington Station (50 spaces) are also included in the CIS.

Expand Rail Fleet and Rail Yard Capacity

In order to improve frequency of service, additional equipment must be procured. NJ TRANSIT has taken delivery of 29 new electric locomotives and has ordered 103 Port Authority-funded multilevel railcars. On December 11, 2006, 6 multilevel railcars went into revenue service on NJ TRANSIT's Northeast Corridor, with the remaining multilevel railcars targeted for revenue service in late 2007. Each multilevel car has up to 18% more seating than conventional single level coaches. 131 additional multilevel railcars will be needed to expand trans-Hudson rail capacity to meet demand in this decade. With the recent order of the additional multilevel cars, NJ TRANSIT will have sufficient rail equipment on hand to meet its needs for the next five years.

With the increase of rail fleet, NJ TRANSIT is faced with having to provide additional facilities to store and maintain rail equipment. In March 2004, NJ TRANSIT opened a new facility located in Falls Township, PA to accommodate rail equipment on the Northeast Corridor. When the second phase of the facility is completed, NJ TRANSIT will have the capacity to store and maintain up to 250 rail cars.

The Capital Investment Strategy calls for additional rail crew quarters, pedestal tracks/yard improvements, and the construction of S&I facility.

Coordinate Bus and Highway Investments to Improve Bus Service

Bus operations are severely impacted by highway congestion. NJ TRANSIT and NJDOT are working to ensure that highway improvements make bus service quicker and more reliable.

EXPAND REACH OF THE TRANSIT SYSTEM

Expand off the Existing System

The Capital Investment Strategy also provides for a limited number of system expansions. These expansions build off the current rail and light rail system in ways that improve efficiency of the network and expand the number of destinations for both existing riders and new riders.

Several projects are currently being advanced through the federally prescribed planning process for possible future investment. They are:

- Northern Branch Passenger Rail
- Hudson Bergen Light Rail Extensions
- Bergen-Passaic Rail Line
- Lackawanna Cut-Off
- Monmouth-Ocean-Middlesex (MOM)
- West Shore Line
- West Trenton Line
- Union County LRT
- New York, Susquehanna and Western (Hawthorne west)

It is expected that they will be through that planning process and able to be implemented within this ten-year period. These projects to varying degrees will increase ridership, geographic coverage and address other needs. The CIS anticipates the advancement of some of these projects.

Planning efforts are also underway for other projects, such as a bus rapid transit system for the Greater Princeton Area and rail service to the NJ Sports Complex and surrounding area.

Critical to advancing the projects listed above are how well they complement NJ Transit's core system and their ability to attract new riders. A few of these projects, such as the West Shore Line, West Trenton Line, Lackawanna Cut-Off and Monmouth-Ocean-Middlesex, fulfill their full potential only if capacity is added to the Northeast Corridor, a new tunnel is built under the Hudson River, and station capacity is added in New York City.

NJ TRANSIT is prepared to advance portions of these projects that meet these general criteria:

- Meet FTA requirements – necessary to be eligible for federal funding
- Generates sufficient ridership – new riders, not just transfers from other transit services which significantly reduces air pollution, congestion and improves accessibility
- Generates sufficient revenue – the combination of farebox and any other possible revenue sources covers enough of the operating costs
- Physically feasible – project can be constructed in accordance with applicable codes and design standards
- Operationally feasible – operating plan makes practical sense and can be implemented
- Benefit/Cost ratio – the projected public benefits exceed the capital and operating cost
- Scalability
- One seat ride to NY/build off of tunnel – one seat ride to NY have high demand
- High farebox recovery

Because transit requires concentrations of activity, it almost always is consistent with Smart Growth. However, attention must be paid to whether proposed expansion of transit services will promote development that is inconsistent with the state's policies concerning Smart Growth.

CONCLUSION

The investments outlined in The Capital Investment Strategy will deliver a substantially enhanced transit system, one with greater reach and richer and more reliable service.

- Continued investment in transit promotes economic development by bringing more of the state's residents to their places of employment and by making it more attractive for businesses to locate in the Garden State.

- It promotes the principles of smart growth by connecting train stations and transit hubs to the communities and businesses that they are a part of – such that transit can serve as an anchor for commercial development in an attractive and livable environment.

- It ensures that the existing transit system achieves a state of good repair.

- It combats congestion by targeting sound and attractive transit alternatives in highway corridors with chronic traffic conditions.

As NJ TRANSIT implements its Capital Investment Strategy, it will attract more people to use transit and encourage those who already use the system to use it more frequently and for more purposes. When transit service becomes more frequent and reliable, and offers more destinations that people want to go to, people will begin to think of using transit for more than simply commuting to work. Implementing the Capital Investment Strategy will make New Jersey's communities more livable, its roads more tolerable and its businesses more profitable. The Capital Investment Strategy will deliver the kind of transit system that New Jersey needs to prosper in the 21st Century.

2007
Strategic Plan Update
and
Capital Investment Plan Report

New Jersey Turnpike Authority

Office of Strategic Transportation Policy and Planning
December 2006

Table of Contents

New Jersey Turnpike Authority
2007 Strategic Plan Update

Introduction

"What entrance?"

The Garden State Parkway collects its first northbound toll

The oft-repeated joke is that any point in New Jersey can be found by asking "What exit?" Yet New Jerseyans recognize that the Turnpike and the Parkway are truly the entrances to our state – the entrance for commuters to their jobs, for college students to their classrooms, and for tourists to beachside bungalows and high-rise casinos. The roadways are also the entrance to freight from around the world that brings goods to stores and food to the family dinner table.

Most importantly, these roadways are the entrance to economic development. For decades, they have enabled us to take advantage of the strategic location of our state, build our businesses and raise our quality of life. New Jersey is the entrance to robust domestic and international trade, and we are seeking new ways to move shipments more efficiently to ensure our state's continued vitality in commerce. We are the link from some of the nation's biggest seaports and airports to some of our nation's largest markets; the Turnpike and Parkway sustain this critical connection.

At the New Jersey Turnpike Authority (NJTA), we embrace the vision of Governor Jon S. Corzine who has identified six priorities to ensure continued economic growth in our state. His emphasis on global competitiveness, innovation and investment in infrastructure are more than key components to our future – they are guiding principles for NJTA's strategic planning efforts.

We also understand that driving in the 21st Century means moving into the 21st Century. Through advances in communication, we are investing in cutting-edge technology to get travelers to their destinations more quickly and safely.

Most importantly, we recognize that it is not simply vehicles that are traveling on our roadways, but people. New Jerseyans have long cherished the low cost and high quality of the Turnpike and Parkway, and we are continuing to maintain these roadways to the high standards expected of us.

Just a few years ago, the Turnpike and Parkway were run by separate authorities in separate locations. Now through our consolidation, we manage the backbones of our state's infrastructure

as one system with shared work and shared goals. The mandate to unite has been a true example of government reform. In our new administrative headquarters in Woodbridge, we overlook both roadways and partner with other agencies to oversee the future of travel in New Jersey. With a leaner and more efficient team, we continue to keep our roadways safe and affordable for our customers.

We also recognize that movement is continual, and that maintaining a free flow of traffic means round-the-clock attention to every roadway region. We are excited about the upcoming completion of our new Traffic Management Center (TMC) – a state-of-the-art communications facility that will enable quick-time responses to real-time situations. This strategically situated facility is a joint partnership of NJTA, New Jersey Department of Transportation (NJDOT) and the State Police. Located at the heart of the state at the crossroads of the Turnpike and Parkway, it will provide all agencies with a full up-to-the-minute view of movement in the state and will improve how we all keep traffic running smoothly.

Located near NJTA headquarters, the two-story TMC will feature an 18'x 50' video wall for transportation officials to fully grasp the flow of traffic along all 321 miles of the Turnpike and Parkway as well as adjoining roads. Fiber-optic technology linked to cameras throughout the state will enable NJTA to partner with other state agencies to keep the roadways clear and safe. Staffed round-the-clock – every day and every night – the TMC will be a breakthrough in effective service to the public.

However, it is important to not just see what vehicles are on the roads, but to truly understand the patterns of travel in New Jersey. Our state is home to high volumes of truck activity, and each truck carries goods for which businesses and families depend. NJTA is committed to encouraging the smart growth of this commerce and to safeguard the quality of life in the communities affected by it. We can do so by providing this commercial activity with more dedicated lanes and facilities apart from commuters and neighborhoods. Because our facilities are growing more burdened by commercial activity, NJTA is looking into innovative solutions to meet the needs of truck drivers and the companies who employ them. In fact, this is enshrined in our mission:

"We are a transportation organization dedicated to the safe, efficient movement of people, goods and information. In serving all our customers – commuters, truckers, recreational travelers – we fuel New Jersey's economic engine all day, every day."

Most importantly, we value each individual driver, regardless of the purpose of the trip. That is why NJTA continues to reduce travel times by expanding Express E-ZPass and one-way tolling sites. In addition, NJTA has been seeking out new ways to enable commuters and vacationers to spend less time on the road so they can spend more time with their loved ones.

For example, we recognize that communication is the key to enabling our customers to make the most effective use of their time. We are working to harness the power of the Internet and the reach of radio to better inform our drivers of current road conditions. We are always seeking out

ways to improve the amenities at our service areas, enhancing the quality of the travel experience for our drivers. Most importantly, we recognize that communication is a two-way street, and we are widening our efforts to seek the opinions of all who use our roadways so we can improve our services.

NJTA is pleased with the many successes of the past years and looks forward to another exciting year of progress.

Fulfilling the Goals of Governor Jon S. Corzine's Economic Growth Strategy

Gov. Jon S. Corzine is joined by NJTA Exec. Dir. Michael Lapolla and NJDOT Commissioner Kris Kolluri in preparing the state for an upcoming snowstorm.

NJTA recognizes that the future of New Jersey's economy is inexorably linked to the movement of people as well as goods. Governor Jon S. Corzine has set forth six bold priorities for economic growth, empowering the Office of Economic Growth (OEG) to exercise its skillful direction for the creation of jobs and prosperity. OEG's implementation of the Governor's fiscal blueprint has catalyzed NJTA's enduring success at protecting the vitality of the Turnpike and Parkway as New Jersey's main thoroughfares for the critical flow of commerce.

Our success at maintaining safe and uninterrupted transport of domestic and international goods in our state means that economic gains will continue to be realized at our ports, airports and distribution centers.

NJTA's strong tradition of reinvesting toll and other revenue into the improvement of this critical roadway system has provided the foundation for statewide economic growth since the roadways were constructed more than 50 years ago. Our substantial widening projects for the Turnpike between Interchanges 6 and 9 and for the Parkway between Interchanges 63 to 80 will support the ongoing economic growth currently underway in these areas while keeping the bulk of commercial traffic separate from local roads. Our building of the Traffic Management Center (TMC) will better ensure the safe passage of trucks and cars, and our investment in fiber-optic technology will greatly aid their safety.

NJTA understands the essential relationship between environmental protection and economic growth. That is why we are partnering with local officials in the brownfields revitalization efforts in Linden's Tremley Point, bringing needed jobs in an economically distressed area of our state.

Governor Corzine has lit a beacon on the path toward continued opportunities in New Jersey. We enthusiastically follow his leadership and will execute OEG's mandate to focus on the economic growth of our state.

Strategic Plan Update 2007

Where have we been? Where are we going?

A summary of projects advanced in 2006 and goals for 2007 and beyond

Driscoll's Dream and the Driscoll Bridge

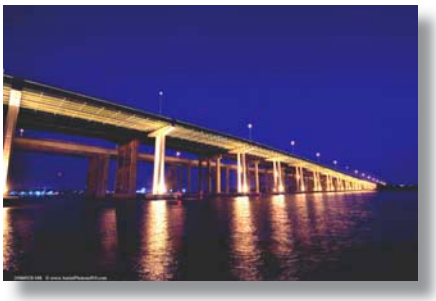
Building a new span and refurbishing the two existing spans on the Driscoll Bridge

Governor Alfred E. Driscoll
Courtesy of NJ State Archives; Department of State

At the beginning of the 20th Century, Alfred Driscoll grew up in a rural, quaint New Jersey in Haddonfield, and would go on to represent Camden County in the New Jersey Senate. He understood the importance to the state's future of linking towns and people through safe transportation. That is why, as Governor in the late 1940s and early 1950s, Driscoll championed the construction of the Turnpike and Parkway. He recognized that the growth of jobs and communities in New Jersey would come by way of the automobile. It is fitting that the Parkway's bridge that crosses the Raritan River – linking the northern and southern parts of the state – is named after him. Spanning Woodbridge to Sayreville in Middlesex County, the Driscoll Bridge has served as a strategic transportation hub in close proximity to other major roadways.

Countless families going for a week of summertime fun at the Jersey Shore would leave the bustling environs of northern New Jersey by way of the Driscoll Bridge, sometimes being the first sight of water on what would be a memorable beachside vacation. Originally one span of two lanes in each direction, the Driscoll Bridge would eventually grow to two spans of six lanes in each direction. Yet decades of use would wear it down, and NJTA realized that a new, expanded bridge would be necessary to serve the needs of drivers in the 21st Century.

The Driscoll Bridge



The Driscoll Bridge illuminated at night
Courtesy of AerialPhotosofNJ.com

The announcement of a multi-year plan for a new and revitalized Driscoll Bridge would take place in 2002. A bridge that was servicing the needs of 240,000 cars on a weekday would be modernized to handle 300,000. Yet the most exciting part of the $230 million project happened in 2006 when a new set of seven southbound lanes opened ahead of schedule and under budget.

Work continues on the older two spans of the Driscoll Bridge, a retrofitting project that will eventually provide a total of eight northbound lanes and an open entrance to the commerce in the northern part of the state. When the full project is completed in 2009, it will have more lanes than the famed George Washington Bridge that spans the Hudson River between New Jersey and New York. NJTA recognizes the strong commitment of all who continue to work to ensure the vitality of this important crossing for decades. We will continue to advance Governor Driscoll's dream of safer roadways connecting our state, and will use the successful Driscoll Bridge project as a model for future ventures that modernize the Turnpike and Parkway for generations to come.

Keeping Traffic Moving with Modern Technology

The construction of the Traffic Management Center (TMC) in Woodbridge

Visualize a vast room filled with high-tech computers and modular desks. Everyone is busy, but all are keeping an eye on an expansive video screen featuring maps, lights and constant movement. This scenario is what we are used to seeing in the movies – perhaps NASA scientists in Houston watching the Space Shuttle return to Earth or Air Force personnel at their posts at NORAD. Next year, New Jersey will be home to this same type of technology at the new Traffic Management Center (TMC).

All of the state's transportation officials will gather under one roof at what will be a round-the-clock operations center for the Turnpike and Parkway, as well as our state's other major roadways which are managed by the New Jersey Department of Transportation (NJDOT). NJTA is excited to be working closely with NJDOT and the New Jersey State Police in building this new 26,000 square foot facility – the hub of the state's fiber optic network.

Traffic Management Center
Rendering courtesy of HNTB

Through hundreds of cameras along New Jersey roadways, the TMC's 18'x 50' video wall in the building's main attraction – a 7,500 square foot, two-story operations room – will give officials a real-time look at the flow of traffic in the state. Through inter-agency cooperation and 24/7 staffing, first responders will be dispatched quickly to any problem on the roadways – meeting

as quickly as possible the needs of all who travel through New Jersey. NJTA is proud that groundbreaking on the TMC in Woodbridge occurred in 2006 and is enthusiastic about its planned opening in late 2007.

Our state-of-the-art TMC will also be able to instantaneously flash messages to drivers on message signs placed throughout our roadways. That is why NJTA is determining how best to upgrade our roadway system with the most efficient technology in message signs and where best to place them. In addition, because various types of software are used throughout our roadways for monitoring video feed, changing the messages on the signs, etc., we will be implementing new software technology that unifies all of the existing software programs.

Easy Riding on the Parkway

Expansion of one-way tolling and Express E-ZPass

Since the Parkway was completed in the 1950s, it has been the gateway to countless hours of seashore fun for families from the Northeast and elsewhere. Yet these families would unnecessarily face the same number of tolling sites on their trips to and from the shore, and most recently were charged 35 cents for traveling in either direction.

One of our most successful reforms to keep traffic flowing, one-way tolling eliminates the tolling site on one side of the road, and simply charges the dual amount at the other. That means no net increase in cost to the driver, and less time spent waiting on line at a toll plaza.

In January 2006, NJTA opened one-way tolling at the Cape May, Great Egg, Somers Point and New Gretna tolling sites – all along the southern portion of the Parkway. For Cape May (Milepost 19.4) and New Gretna (Milepost 53.5), only the northbound traffic pays the toll. For Great Egg (Milepost 28.8) and Somers Point (Milepost 30), only the southbound traffic does.

Family Fun in Atlantic City
Courtesy of Atlantic City Convention & Visitors Authority

These four tolling sites join seven other sites – Bergen, Essex, Union, Union Ramp, Raritan South, Asbury Park and Eatontown – in providing one-way tolling on the Parkway. NJTA is committed to continued strategic placement of one-way tolling to keep improving the flow of traffic. Current plans call for one-way tolling at the Barnegat toll plaza (Milepost 68.9) in 2007.

In addition to one-way tolling, NJTA increased the use of Express E-ZPass on our roadways. Express E-ZPass allows drivers to pay a toll while maintaining their speed. The electronic transaction is captured by the car's transponder as it is driven at highway speed under an overhead structure.

Express E-ZPass was also implemented at the Parkway's Cape May tolling site – joining Parkway Express E-ZPass service at the Pascack Valley, Raritan South, Asbury Park North and Toms River tolling sites. Express E-ZPass is also featured at Turnpike interchanges at the Delaware Memorial Bridge (#1), the northernmost site on the western spur (#18W) and the Pennsylvania Turnpike (#6). Future plans for the Barnegat toll plaza on the Parkway also include Express E-ZPass.

In addition, NJTA recognizes that many more drivers are equipping their cars with E-ZPass, which is why we will be converting twenty existing staffed exit lanes to E-ZPass lanes at toll plazas throughout the Turnpike by the end of 2006 and an additional twenty staffed exit lanes by the end of 2007. Currently on the Turnpike are 53 E-ZPass entry lanes, 80 E-ZPass exit lanes, and five each Express E-ZPass entrance and exit lanes. NJTA is also looking carefully at other opportunities to broaden the use of E-ZPass at our toll facilities to help reduce the commute times of our customers.

Express E-ZPass Gantry

NJTA is also keeping up with necessary improvements to our electronic toll technology. For example, while Express E-ZPass was first installed in 2000 on our Pennsylvania Turnpike Extension, six years later the technology in place at Interchange 6 is considered outmoded. NJTA has since installed more up-to-date electronic toll technology at all the Express E-ZPass sites on the Turnpike and Parkway, and is working to replace the older equipment at Interchange 6 with improved technology to make our electronic toll collection even more efficient.

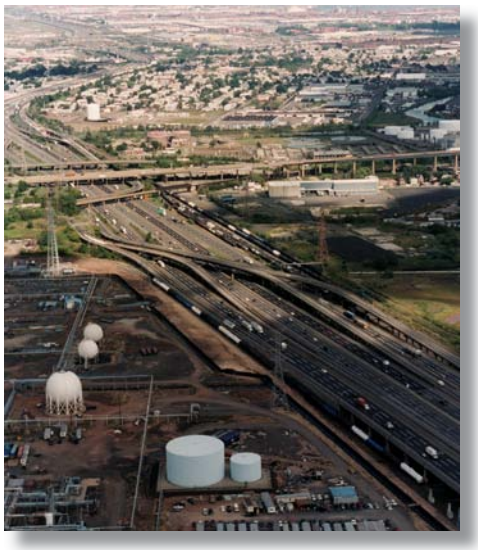
In addition, our modernization effort includes placing new signs over all tolling site lanes that can each display a variety of three different messages. This will enable us to alter the type of toll collection at any particular lane. Controlled by the plaza supervisor or at a central location, NJTA will be able to better manage traffic and drivers will appreciate the improved readability of the new signs.

Widening the Turnpike for Trucks, Keeping it Open for Business

The lane expansion project between Interchanges 6 and 9 on the Turnpike

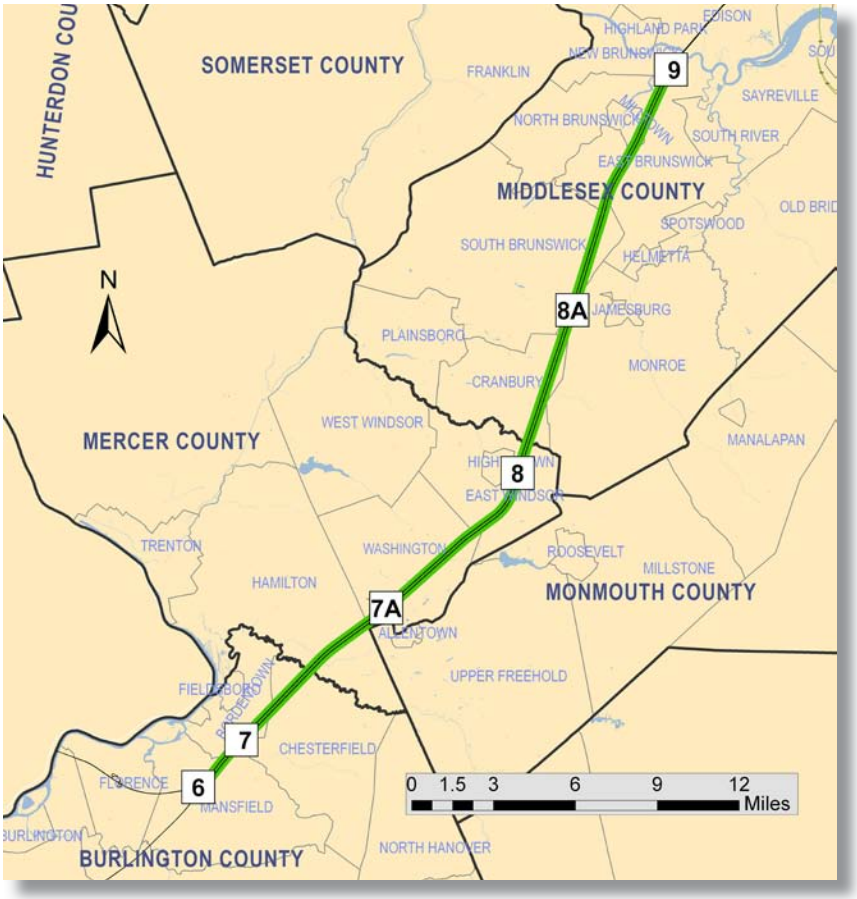
The New York / New Jersey region continues to serve as one of our nation's most prominent sites for commerce. With increased trade through our region's seaports and airports, the Turnpike continues to grow as a lifeline for domestic and international goods to reach marketplaces across the United States. This economic activity is vital for New Jersey's job growth, and NJTA understands the need to keep our roadways open for freight movement.

Yet increased commercial traffic as well as the growth of communities further away from the New York City metropolitan area have placed a heavy burden on the Turnpike, and we recognize the pressing need for more lanes within its middle portion. From Exit 14 to Exit 9, the Turnpike currently features a "dual-dual" set of 12 lanes. That means it has six lanes in each direction – inner sets of three lanes just for cars and outer sets of three lanes for cars and trucks. From Exit 9 to 8A, the Turnpike features a similar configuration of 10 lanes, with the outer sets of lanes for cars and trucks having just two lanes each. In 2005, NJTA began an ambitious project to build a 12-lane dual-dual system of lanes on the Turnpike for approximately 35 more miles from Exit 9 south to Exit 6.



Dual-Dual 12-Lane System on the Turnpike

In 2006, a milestone on the widening project was reached when preliminary design work was completed. With the final design to be available in 2007, construction is slated to begin in late 2008 / early 2009; the project is scheduled to be completed in 2013.



New Jersey Turnpike Interchanges 6 through 9

Did You Know How Fast You Were Going?

Installation of electronic speed notification signs at toll plazas

Thousands of NJTA employees – many of them at our toll plazas – work diligently to keep traffic flowing. While E-ZPass has been superb at keeping traffic moving at tolling sites, sometimes traffic is moving too swiftly through the traditional E-ZPass lanes.

That is why in 2006, NJTA placed 31 "Your speed is" signs at various toll plazas throughout the Turnpike. These signs detect the speed of an oncoming car and will flash the result to the driver as he or she arrives at the tolling site. By warning E-ZPass users that they may be driving too fast through the plaza, they are encouraged to slow down – and that keeps our NJTA employees in the field much safer. NJTA is looking forward to placing more of these signs at tolling sites throughout the Turnpike in the coming years.

Putting our Roadways on the Information Superhighway

Installing a fiber-optic network on the Turnpike and Parkway

The Internet can be an incredible source of help for first responders, providing them with the information they need quickly and efficiently. NJTA has recognized that the security of our roadways – and more importantly, those who travel on them – can be enhanced through communication over a fiber optic network. That is why a few years ago, NJTA began working expeditiously to install such a network running the entire lengths of the Turnpike and Parkway.

In 2006, NJTA was pleased to have increased by about 50 percent the network's fiber access points. When completed, police officers will be able to stop at a service area, tolling site or other strategically located area, open a laptop computer, and link up to the cameras that are placed along the roadways and throughout NJTA facilities.

As we work to expand the network and its infrastructure in the upcoming years, the potential exists to provide wireless Internet access to the public. We envision that tourists and business people a long way from home will be able to stop at a service area and easily send an e-mail. NJTA will continue to look at improvements such as this which improves the quality of life of our customers and better protects them on their trips.

Making Maintenance More Efficient

Implementing a computerized tracking system for our maintenance department

Preserving the integrity of the Turnpike and Parkway is the priority of our maintenance workers, and NJTA is always looking at innovative ways to improve how we maintain our roadways,

facilities, vehicle fleet and environmental surroundings. For each project, our maintenance divisions have to make sure they have the personnel and equipment for each job they undertake – and sometimes this includes an additional permit process that requires significant attention. Our divisions needed a computer system upgrade to track projects, manage work orders, and maintain assets because we recognized that this is a more efficient way to do our work.

In May 2006, NJTA began to put in place a new computer system that consolidates all of the maintenance division processes on the Turnpike and Parkway. Slated to be completed in 2007, the computerized maintenance management system (CMMS) will streamline the process by which NJTA maintains all of our assets and preserves our roadways.

Bringing Toll Plazas up to Speed

Completing the new 15X Interchange, Expanding the 16E/18E Interchange and One-Way Tolling at Interchange 17

Northern New Jersey is home to some of the most dynamic neighborhoods in the country. With media outlets and outlet malls, local ballfields and national sporting sites, Secaucus and the small towns clustered around it are home to many commuters who seek a quick and safe ride to their jobs in nearby New York City and elsewhere. With major public transit and freight facilities nearby, NJTA has worked to provide an effective interchange system on the Turnpike for this area.

Turnpike Interchange 15X in Secaucus

Just before the beginning of 2006, NJTA opened the Secaucus interchange (15X) on the eastern spur of the Turnpike. Cars accessing the Turnpike can now travel on a 1.8 mile stretch of road featuring two lanes in each direction and a nine-lane toll plaza. Located near New Jersey Transit's Secaucus Rail Station, both commuter and interstate rail lines near the road showcase a vibrant display of active transportation facilities.

We recently completed the expansion of Interchange 16E/18E on the eastern spur of the Turnpike. The addition of two toll lanes in August 2006 has allowed us to expand E-ZPass capabilities for commuters, who now have use of 11 entry lanes and 15 exit lanes for travel to and from the Lincoln Tunnel and the George Washington Bridge.

We are also bringing our successful Parkway one-way tolling to the Turnpike. In February 2007, our northbound toll plaza at Interchange 17 will be dismantled, making the evening commutes of New Jersey workers coming home from New York City through the Lincoln Tunnel much quicker.

NJTA is committed to increasing the effectiveness of entrances and exits to the Turnpike and Parkway, and looks forward to improving other such sites throughout the system.

Standing Strong with Smart Growth Efforts

Proposing the Tremley Point Connector Road (TPCR)

Domestic and international trade continues to grow in our state, and NJTA is endeavoring to make sure that these goods can be transported efficiently. We also understand that well-placed roads can bring with them increased opportunities for jobs and that those New Jersey residents who live in economically distressed areas should have better opportunities to be a part of this increased trade activity.

New Jersey has been wise to implement a Smart Growth Initiative in which priority for economic development is given to locations which already have some existing infrastructure. This is especially important for brownfields sites, environmentally affected lands identified as most needing redevelopment. NJTA is a committed partner to this initiative and we recognize that Tremley Point on the southeastern tip of Union County is a wonderful example where all of these priorities converge.

NJTA is proud to put forward the Tremley Point Connector Road (TPCR), a proposed 1.2 mile roadway/bridge connecting Tremley Point in Linden to Carteret in Middlesex County by traversing the Rahway River. Close to the Turnpike and facilities of the Port Authority of New York and New Jersey, TPCR would better open up Tremley Point's underutilized and vacant areas for trade activity. In addition, for other roads in the area already overburdened by traffic, TPCR will relieve much of the congestion.

Keeping in line with the state's master plan for this area, the TPCR project is a great example of NJTA enabling smart growth for the benefit of New Jersey.

Communicating in the 21st Century

Providing the State Police with new communications equipment

New Jersey State Troopers

To provide our customers with top-notch service, it is crucial that law enforcement and NJTA employees be able to communicate quickly and efficiently. NJTA has made significant investments in this field, such as providing the State Police who patrol the Turnpike and Parkway with new mobile radio systems for their cars and portable radios to carry with them. The modern digital technology in these new systems

is a significant improvement over the old analog systems and better ensures that law enforcement can converse in an emergency.

In addition, 290 State Police vehicles were outfitted with new mobile data computers to provide quick access to information for troopers on patrol. Also, with a new communications router, first responders will be able to review criminal and other records instantaneously and be even more effective at protecting the public. NJTA understands that in a catastrophic event, the Turnpike and Parkway will be major routes for evacuation. That is why it is critical that we invest in our communications infrastructure to make sure that it will hold strong in any situation.

Working Together for New Jersey's Entire Road System

Improvements to the I-78, I-280, Cape May, Waretown and Barnegat interchanges on the Parkway

NJTA understands that we accomplish some of our best work when we work in concert with other state and local officials. We are committed to full partnership with all levels of government to continue providing New Jerseyans with a modern road system.

Many commuters in New Jersey use a variety of roads to get to their jobs and back home, and that is why that NJTA feels it is critical to enable drivers to go to and from the Turnpike and Parkway with ease. With our current roads, those traveling northbound on the Parkway cannot access westbound I-78 and those traveling southbound on the Parkway cannot access eastbound I-78 – and that is inconvenient for those living in northwest New Jersey and working in Bergen and Hudson counties. NJTA has partnered with NJDOT to build these ramps at the Parkway's Interchange 142. In 2006, the majority of roadway plans were set and the needed right-of-way was purchased. Plans should be completed by next year and construction will soon follow.

Just a few miles to the north, commuters on the Parkway have been stymied as they travel onto westbound I-280. At Interchange 145, a narrow bridge of only one lane handles cars from both northbound and southbound Parkway traffic. With NJTA providing the engineering and NJDOT providing the construction, a wider bridge with two lanes is in the works. Construction began in September 2006 and we are on target for the project to be completed in early 2008.

While most of the Parkway is a full expressway, it features three stoplights in Cape May County at Interchanges 9, 10 and 11. Over the years, these have been the sites of accidents and congestion, which is why NJTA is working with county officials to reconstruct this section of the Parkway to complete the protected free flow nature on its entire length. In 2006, feasibility assessments were completed and NJTA looks forward to continuing work on this important project.

For many years, those who live in the Ocean County towns of Waretown and Barnegat have been hindered by Interchanges 67 and 69 on the Parkway, which did not allow complete access to

local roads. For Waretown, no southbound exit or northbound entrance to the Parkway existed. For Barnegat, it was just the opposite; no southbound entrance or northbound exit existed. NJTA is working expeditiously to build these needed ramps. For Interchange 67, much of the design work was completed in 2006 and construction will begin in the spring of next year. For Interchange 69, NJTA completed most construction work in 2006; the new ramp will be open in the early part of 2007.

Keeping All of Our Bridges in Good Shape

Construction work on the Delaware River, Mullica River, Passaic River and Rancocas bridges

While the Driscoll Bridge on the Parkway is one of the most commonly identified bridges on our roadway system, there are actually 489 bridges on the Parkway and 499 on the Turnpike. These bridges allow for the uninterrupted flow of people and goods on our major roadways, keeping many commercial trucks off our local roads. Yet many of these bridges are decades old, and the materials used to build them, primarily the concrete bridge decks, are showing signs of wear.

For example, the Passaic River Bridge has connected Newark in Essex County with Kearny in Hudson County for more than fifty years. It is located on the northern section of the Turnpike on its eastern spur between Exits 15E & 15X. Beginning in the fall of 2005, NJTA began a comprehensive redecking project to replace the old deck slabs on this mile-long bridge with a high-performance concrete bridge deck that is expected to last 75 to 100 years. A significant amount of work was accomplished in 2006 and the redecking should be completed in the spring of 2008.

Similar work is taking place on the Delaware River Bridge, which is jointly owned and operated by NJTA and Pennsylvania Turnpike Commission, and connects our Turnpike's Pearl Harbor extension in Burlington County with the Pennsylvania Turnpike in Bucks County. To be completed in June 2007, the redecking of the New Jersey spans – over 2,500-feet in length – will enable the continued flow of traffic between our two road systems and our two states.

The Delaware River Bridge

A completely new Mullica River bridge on the Parkway in Burlington County is also in the works. With the design ready in March 2007, NJTA expects to begin construction in May 2007 on a new 1,200 foot bridge – much longer than the existing bridge at more than 900 feet. Upon completion of the new bridge in the fall of 2008, traffic will be diverted onto the new bridge and the existing bridge will be redecked and seismically retrofitted. The Rancocas Bridge on the Turnpike, which spans more than 700 feet over Rancocas Creek in Burlington County, is also undergoing redecking work to be completed in September 2007.

NJTA is committed to keeping these and other bridge projects on schedule as well as ensuring that all of our bridges will continue to meet the needs of our customers now and in the future.

Keeping the Garden State Green

Preventing soil and groundwater contamination by retrofitting underground facilities

NJTA recognizes that we must all be proactive in protecting our environment, and that is why we join with other agencies in a strong effort to preserve our land, water and air for generations to come. For example, NJTA is undergoing a comprehensive effort to minimize the potential for contamination that could be caused by deteriorating underground storage tanks (USTs) that are throughout our roadway system at our service areas, maintenance sites and State Police locations. We are upgrading our facilities with double walled USTs and underground piping.

It is not only good stewardship to prevent petroleum products from seeping into the ground; it will also save New Jersey from the high costs of a clean-up effort. In 2006, we replaced USTs at the Joyce Kilmer and Thomas Edison service areas on the Turnpike, and plans call for additional replacements in the next few years.

Understanding our Roads, Helping our Customers

Studying how to improve the northern interchanges on the Turnpike and Parkway; improvements to gas stations at the Turnpike's service areas

As traffic patterns evolve, and more and more cars enter our roadway systems, our interchanges need to change as well. NJTA is working diligently to better understand how reforming our ramps and toll plazas can improve the flow of traffic.

With many New Jerseyans depending on a quick commute on the northern sections of the Turnpike and Parkway, it is especially critical that we determine how best to keep our interchanges clear and take sufficient action. NJTA completed a comprehensive study of all of the northern interchanges on the Turnpike (from Interchange 8A in Middlesex County up to the George Washington Bridge) in 2006 and is undertaking a study of the northern interchanges on the Parkway (from Interchange 127 in Middlesex County up to Interchange 172 in Bergen County). NJTA is looking at a wealth of data, such as pavement conditions, lighting and signing, to determine what sort of renovation or expansion – such as additional E-ZPass and/or toll lanes – will help lessen congestion. Our wide-ranging study will also enable us to prioritize which plazas are in most need of modifying so we can be as efficient as possible in our efforts.

NJTA also understands that commuters and truckers have limited time to travel, so to reduce their time on the road, we can shorten their stay at one of our service area's gas stations. In 2005,

almost 113 million gallons of gasoline were sold on the Turnpike, and NJTA recognizes that less time spent refueling means an earlier time arriving at a destination.

In 2006, NJTA finished a comprehensive overhaul of these stations at the Turnpike's service areas. The $10 million project, mostly funded by the Sunoco Company, was finished this year with eight of the twelve stations completely renovated; the other four were done in 2005. New environmentally friendly, high-speed pumps are able to refuel trucks at a rate of 20 gallons a minute, and with an increased number of pumps, both passenger vehicle and truck drivers will get back on the road much more quickly. The new high canopies cover a larger area, better sheltering travelers and service area employees from inclement weather, and their brighter lighting will be welcoming to drivers at night. New fuel pump islands are better protected by stainless steel "bull noses," which will reduce the risk of a gas spill. The repair bays and convenience stores connected to the gas stations were also renovated, which includes the construction of two new convenience stores.

Opening Wider the Door to the Shore

Adding lanes and wider shoulders on the Parkway from Interchanges 63 to 80

Many families throughout the state and elsewhere vacation at the Jersey Shore – some on the weekends and some longer. NJTA recognizes the travel demand on the Parkway – especially on Friday evenings and Sunday afternoons – and we are working to help New Jerseyans and others get to their destinations quickly and safely.

Long recognized as needing widening, NJTA is undergoing a substantial project to open up the section of the Parkway from Interchanges 63 to 80. Running through six municipalities in Ocean County, upon completion, it will have 116 feet of pavement – both the northbound and southbound sides each featuring three 12-foot wide lanes with 12-foot right shoulders and 10-foot left shoulders. Part of the project includes the one-way tolling of the Barnegat Toll Plaza to be completed by Memorial Day 2007. With no toll charged for traffic going northbound, families will get home even more quickly.

Wildwood, NJ
Courtesy of NJCommerce

A significant amount of the design work on the entire widening project was completed in 2006, and with construction commencing in 2007, the project is slated for completion by Memorial Day, 2009 – just in time for that summer's beach season.

Better Housing our Police and Toll Takers

Upgrading State Police and Interchange facilities

New Jersey's finest put their lives on the line every day to protect our state, and NJTA is especially proud of the bravery and professionalism of the State Police who patrol our roadways. Yet many of our facilities are becoming outmoded, such as the Holmdel State Police barracks, and we need to make sure that we provide our police with whatever they need to effectively do their job.

One of three barracks that house the New Jersey State Police along the Parkway, the troopers at the Holmdel site are responsible for patrolling the roadway between Mileposts 89 in Lakewood in Ocean County up to Milepost 131 in Woodbridge in Middlesex County as well as the PNC Bank Arts Center. It is also the administrative headquarters for Troop E, the branch of the State Police responsible for security on the Parkway. The current structure was built in the 1950s and is only around 1,000 square feet. Plans call for a two-story, 33,600 square foot facility with space for operational staff, holding cells and processing functions on the first floor, and the command offices for the entire roadway on the second floor. A finished basement will provide amenities for off-duty officers as well as storage and mechanical infrastructure. With the design finished in 2006, groundbreaking is slated for March 2007 with the project completed the following year.

Also running 24-hours-a-day are our toll facilities, many of which were built in the 1950s and 1960s. They are also showing their age and we see the great need for an upgrade. For example, some lack basic amenities such as locker rooms for both men and women, and with the increased need to facilitate better technology, their functionality has lessened. NJTA will be undergoing a comprehensive building evaluation program in the spring of 2007 to determine how best to modernize our facilities. In the meantime, NJTA is moving ahead with renovation work on certain sites, such as the expansion of the toll facilities at Interchange 15E in Newark in Essex County.

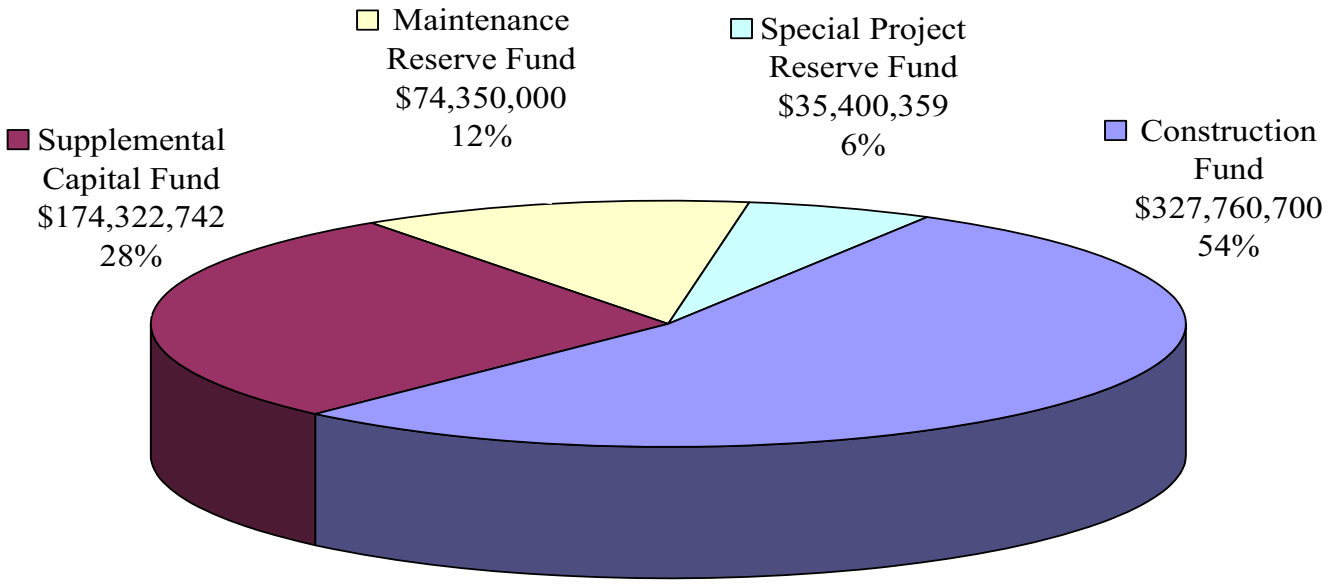
NJTA looks forward to making needed facility improvements throughout our roadway system, so all who work on behalf of our mission can ably conduct their duties.

Capital Investment Plan

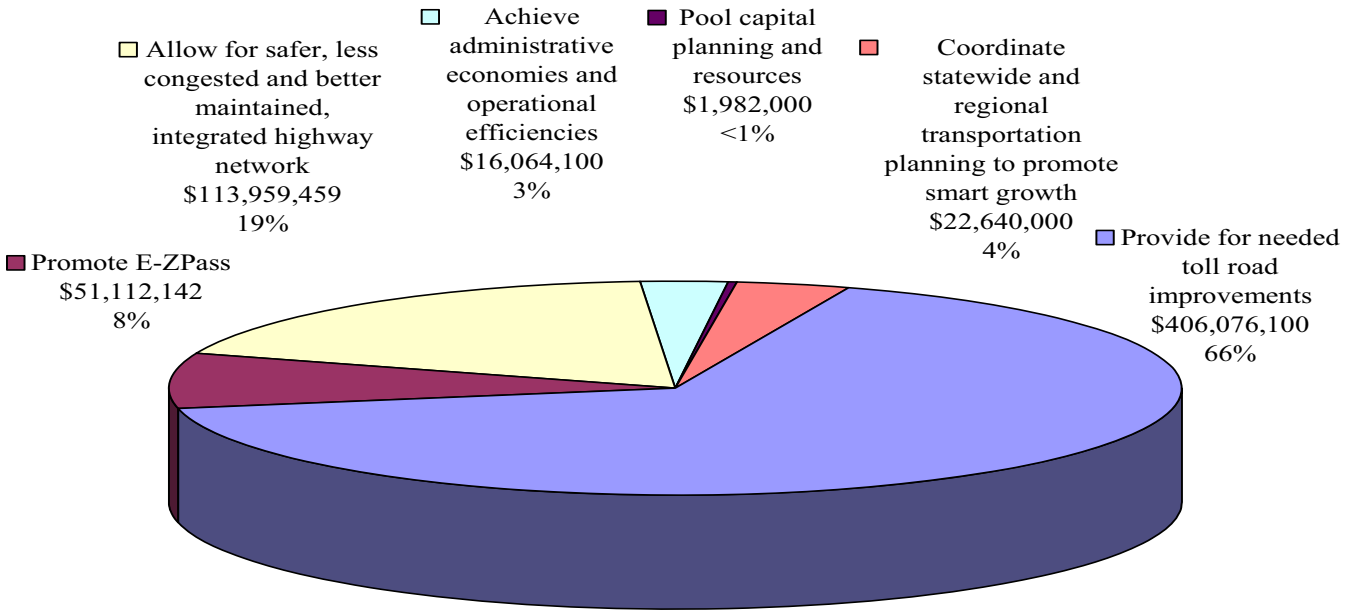
The three charts below illustrate the proposed 2007 Capital Investment Plan distributed by funding source, by strategic goal and by general program category. This spending plan is subject to available funding.

The overall capital investment plan for the Authority includes all sources of funds, the majority of which are major capital projects that are financed through bonds, and the basic maintenance requirements that are financed primarily through revenues. Operations and some special projects are also funded through revenues received from the traveling public. Implemented in 2005, OSPP issues the 'Call for Projects' to identify all needs and projects. The level of funding requested greatly exceeds availability of funds. In reviewing the entire set of needs from all departments, the Authority's strategic goals are used to refine and focus the annual requests to the available resources and capacity constraints.

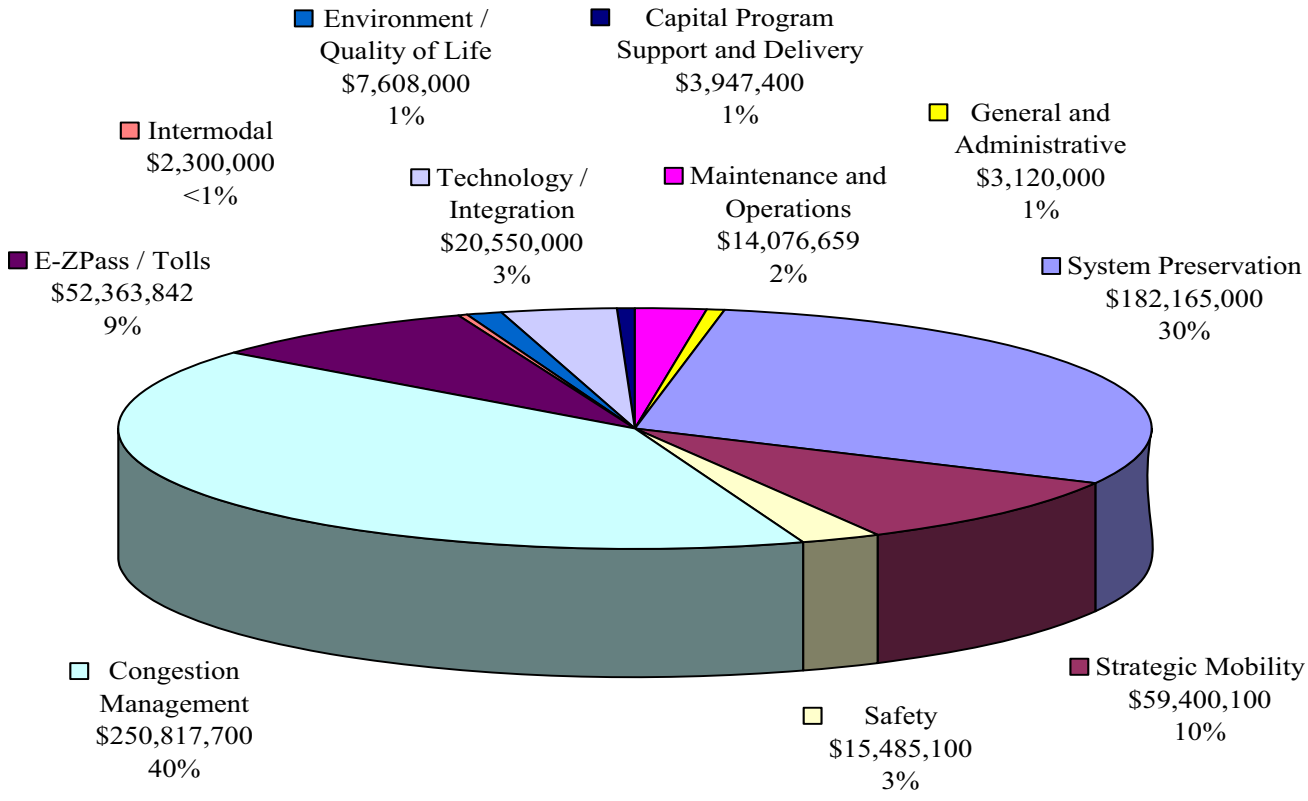
NJTA 2007 Capital Investment Plan – Distribution of Spending Plan by Fund



NJTA 2007 Capital Investment Plan – Distribution of Spending Plan by Strategic Goal



NJTA 2007 Capital Investment Plan – Distribution of Spending Plan by Program Category



Overview of the Authority Capital Investment Program's Funds

Construction Fund (CF) – bond issue for large capital construction projects (Turnpike Revenue Bonds). These projects include major reconstruction and maintenance of roads, bridges and facilities. Construction Fund projects improve operations, expand capacity, and in some cases, create economic development opportunities. Projects funded through the Construction Fund are defined at the time the bonds are issued (life-to-date budget).

Supplemental Capital Fund (SCF) - amounts in this fund, which is part of the annual General Reserve Fund, is an alternate source for capital projects, not funded by bonds, and are used to make required state payments, to make up deficiencies in other funds and for any other corporate purpose determined by the Executive Director (life-to-date budget).

Maintenance Reserve Fund (MRF) – annual reserved funds to preserve the toll network system's roadways and bridges to certain level of standards - extraordinary maintenance - including pavement resurfacing and restoration, and bridge replacement, repairs, or reconstruction. Projects to be funded through the Maintenance Reserve Fund are recommended, on an annual basis, by the Chief Engineer and approved by the Executive Director and Board of Commissioners (annual budget).

Special Project Reserve Fund (SPRF) – annual reserved funds to be applied to the cost of all types of special projects that are not considered as ordinary or routine maintenance and operational items, including preliminary planning and studies; safety improvements; repairs and replacement of buildings and other facilities; maintaining equipment and vehicle fleet; and improvements in administrative, tolls and communication systems. Projects to be considered for funding through the Special Project Reserve Fund are submitted by the department directors on an annual basis through the Call for Projects. Funding availability is confirmed by Finance 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 is presented to the Board of Commissioners for approval (annual budget).

Overview of the Authority's Strategic Goals

Goals	Key Objectives	Desired Outcomes	Strategic Performance Indicators
Provide for needed toll road capital improvements	Award and execute design and construction contracts in accordance with the annual capital program, on time and on budget Continue bridge improvement program at the Authority Construct all committed strategic mobility projects	Maintain toll road transportation network in a state of good repair Improve mobility of people and goods	Monitor pavement and bridge condition measures Calculate share of capital program designated for system preservation, strategic mobility and capacity improvement projects
Promote Use of E-ZPass	Expand one-way tolling Improve E-ZPass collection processes Expand E-ZPass 'On-the-Go' Program	Reduce traffic congestion and improve traffic flow through the plazas and ramps Increase access to E-ZPass at commercial outlets	Maintain or improve toll collection transaction rocessing rates Continue to increase E-ZPass market share
Allow for a Safer, Less Congested and Better Maintained, Integrated Highway Network	Implement traffic safety and worker safety policies identified in the Safety Manual Continue toll plaza security and collector distress system Complete installation of statewide radio upgrade Complete implementation of computerized maintenance management program, central application to include standards for costs and maintenance level of effort Advance and deploy the Traffic Management Center (to open early 2008) Complete ITS core software , taking the 'best of breed' approach, using information and input from agencies existing sources and linking all agencies Deploy unified incident management program, completing Diversions Mapping Continue environmental remediation projects Implement Stormwater regulations (due '09) collecting data on outfalls and wash water facilities Improve customer communications Identify and target congested segments for improvements	Improve employee health and safety Upgrade personal safety equipment Alleviate traffic congestion Provide a transportation network that promotes high quality of life and conforms to environmental regulations Enhance customer satisfaction Improve signage	Reduce accident numbers/rates Improve/maintain current incident response and clearance times Monitor traffic volumes and vehicle miles traveled Report Level of Service (volume-to-capacity ratio) on key segments/interchanges Provide/improve intermodal and commercial vehicle services Maintain regulatory compliance Customer feedback

Goals	Key Objectives	Desired Outcomes	Strategic Performance Indicators
Achieve administrative economies and operational efficiencies	Continuing enhanced workforce development plan - train a significant number of workers and managers in 2007 Link Enterprise Resource Planning System '2B1' to maintenance management system Expand PeopleSoft applications, implement Treasury management system, banking automation and inventory management Develop a wireless developer proposal	Streamlined internal business transactions Achieving realtime information to motorist vehicles	Reduce maintenance and operating costs Customer service and public safety
Pool capital planning and resources	Streamline capital investment planning process through quarterly Project Status Review meetings Draft update to Strategic Plan, which includes the annual Capital Project and Investment Plan, by December each year Produce Annual Conditions Summary - unified standards for a pavement preservation Implement a unified bridge maintenance program, including bridge priorities Establish centralized building and toll facilities improvement programs Compile and document a Technology Master Plan Implement phase 2 Geographic Information System (GIS)	Improve effectiveness and efficiency of capital planning process Achieve economies and efficiencies in capital project planning, budgeting and tracking processes Improve integration of and access to infrastructure asset management systems and project planning databases	Monitor fund spending, and assure more than 50% SPRF funds expended by end of year Shared and integrated web-based database systems for project planning (including infrastructure asset management systems) with performance measure data tracking/reporting functionality
Coordinate statewide and regional transportation planning to promote smart growth	Develop capital project list of regionally significant projects for inclusion into the S.T.I.P. Report, to submit to NJDOT by June 30 of each year Link strategic plan with statewide and regional economic growth, environmental protection, growth management, and quality of life goals Deploy 'on-call planning consultants' to deliver data and plans for freight, passenger and other customer improvements	Address smart growth in New Jersey Develop leadership role managing State's major transportation assets Enhance intermodal transportation services Increase focus on freight mobility and commercial vehicle regulatory programs Integrate data with Statewide and University research	Identify projects consistent with NJ's State Development and Redevelopment Plan Projects coordinated with other agencies Understand development impacts throughout the State

Conclusion

Mighty Channels of Commerce

Protecting the quality of the Turnpike and Parkway for New Jersey's future

The employees of NJTA take enormous pride in working all day, every day to sustain the premier nature of New Jersey's flagship roads. With our constant vigilance toward improving services and opportunities for our customers on two of our nation's most prominent roadways, we delight in our successes and look forward to more.

We best understand that the Turnpike and Parkway – these mighty channels of commerce – drive the future of New Jersey's economic health. The Parkway has the highest total vehicle count of any toll road in the nation – and the third highest in the world. The Turnpike has the fifth highest amount in the nation and the ninth worldwide. That makes NJTA the thriving steward of one of the busiest toll road systems to ever exist.

We also realize that while the Turnpike and Parkway are physically separated from local neighborhood streets, we are aptly bound as partners to all our cities and counties which depend on the efficient movement of goods and people. Throughout the state, the Turnpike and Parkway link major ports to small businesses, manufacturers to markets, and families to their loved ones. Each of the millions of trips made on our roadways adds to the enduring vision of New Jersey as a desirable location for living, working and trading. We carry on our quiet work with satisfaction, knowing that the quality of life enjoyed by New Jerseyans is evermore bolstered by our providing the best road system possible today and in the future. We are pleased to report that the Turnpike and Parkway continue to be managed efficiently, and NJTA will continue to provide critical improvements through the strategic investment of toll revenue that add to the quality of our roadways and our state.

South Jersey
Transportation Authority

Strategic Plan

and

Capital Investment Strategy

SJTA's Strategic Vision and Mission

Mission Statement

The Mission of the South Jersey Transportation Authority is to provide the traveling public with safe and efficient transportation through the acquisition, construction, maintenance, operation and support of expressway, airport, transit, parking, other transportation projects and services that support the economies of Atlantic, Camden, Cape May, Cumberland, Gloucester and Salem Counties.

Vision

The southern New Jersey transportation system should enhance the quality of life for residents and travelers through improved access and mobility, reduced congestion, improved environmental conditions, and support of the regional economy. This vision is aligned with Governor Corzine's Economic Growth Strategy. It is our vision to provide Customer Service Delivery in a manner that exceeds patron expectations. The South Jersey Transportation Authority will continue to develop its transportation and communication technologies, increase internal efficiencies, and invest in the resources needed to expand air service and continue support of the regional tourism industry.

Focus Areas

- Air service development
- Terminal Expansion
- Journey to Work Assistance
- Coordinated traveler Information
- Safety and security
- Transportation Technologies
- Increased capacity and traffic flow improvements
- Parking
- Increase non-toll revenues
- Casino bus regulation

Objectives

The South Jersey Transportation Authority's Vision, Mission, and Values have remained consistent with the intent of its enabling legislation. The SJTA has been a leader in developing communities surrounding its existing facilities and services and provided expertise in the coordination of the region's transportation system, including the highway system and aviation facilities.

The SJTA's four (4) core functions consist of the following:

- Operating and improving the Atlantic City Expressway,
- Operating, improving, and expanding the Atlantic City International Airport,
- Providing bus management and transportation support services, and
- Delivering transportation projects and services that support the growth of the regional economy.

These core functions all remain in focus as critical areas to the success of the Authority and its ability to serve the public. In an effort to further support all six counties within the Authority's jurisdiction, it is necessary to identify specific objectives that will be focused on in the coming years. These strategies shall not diminish the importance of the existing functions of the Authority, but rather, lend support to the growth of continuity in South Jersey's transportation system and the economic development of its surrounding areas.

This Strategic Plan outlines four (4) distinct objectives that are intended to shape the future of the Authority and focus its resources to the task of serving the traveling public. These objectives are critical to the ability of this Authority to execute its responsibilities in an effective manner and generate the public support essential to achieving our Vision. These objectives include the following:

- Elevate Customer Service Delivery
- Maintain Safety and Security
- Diversify Revenue Sources
- Support the Regional Economy

The successful implementation of these objectives will ensure that transportation in southern New Jersey's six counties plays an integral role in the economic development and prosperity of the region. Our ambition is to plan, build, manage and maintain an efficient and safe transportation system that effectively supports the traveling public in a manner that enhances the quality of life of southern New Jersey residents. These objectives can be achieved with the efforts of all members of the SJTA in a collective and unified manner.

Objectives

CUSTOMER SERVICE DELIVERY

The SJTA should be viewed as a public agency that provides superior customer service. To that end, the SJTA is committed to providing the residents of South Jersey real transportation choices and services that enhance their quality of life. Success can be achieved through such varied sources as technological innovations and enhanced operational efficiencies.

- Transportation choices for the residents and visitors to Southern New Jersey will be expanded through a concerted effort to increase the air service to the Atlantic City International Airport and the delivery of transportation services to areas currently underserved by transit.
- Technology enhancements will be made to ensure the accurate and timely delivery of transportation information to patrons of SJTA services.
- Patron focused services such as shuttle services, curb management, and the Emergency Service Patrol will be increased.
- A unified SJTA team will improve internal efficiencies through formalized internal communication strategies, training programs and independent audits.

SAFETY AND SECURITY

The SJTA operates all of its business in a safe and secure manner. The safety and security of both the public and its employees will remain a top priority of the SJTA, as it is critical to the overall ability of the Authority to provide superior service to the public.

- Safety initiatives will remain a priority for the Authority and be implemented for the well being of both our employees and our patrons
- Physical security upgrades at the airport and other SJTA facilities along with procedural upgrades in all lines of business will be implemented.

REVENUE DIVERSITY

The SJTA has the ability to provide diverse transportation choices to the residents of South Jersey. The Atlantic City International Airport and services such as the Journey to Work Program help deliver these choices to the public and stimulate the region's economic growth. In order to keep delivering these projects, the SJTA must find alternative sources of revenue so that tolls remain dedicated to operating the Atlantic City Expressway.

- A strategic approach to decreasing the SJTA's reliance on toll revenues will provide additional revenues for increased service to the region. New approaches to the Authority's revenue stream will include areas such as advertising, asset valuation, permit fees, and E-Zpass plus.

- The continued movement towards the independence of ACY will be supported with further air service development, capacity increases at the airport, and an analysis of the current fee structure.
- The application and use of transportation grants will be a formalized process to maximize the benefits and leverage all available funding.

SUPPORT OF REGIONAL ECONOMY

The SJTA provides transportation projects that help stimulate the Southern New Jersey economy. In this capacity the SJTA provides transportation services and tourism support through the delivery of capital projects. The SJTA will assume a greater role in regional planning activities and assist in project development and coordinated operations.

- A concerted effort will be made by the SJTA to expand the Transportation Services currently offered in SJ to others regions as needed.
- The SJTA will participate in tourism planning and growth activities
- The SJTA will provide leadership and expertise in partnerships with regional transportation planning groups.
- The SJTA will continue to make capital investments in projects that support the growth of the local economy.

Actions

A. CUSTOMER SERVICE DELIVERY

1. **Expand transportation choices for residents and visitors to Southern New Jersey**
   a. Increase Air Service
      i. Push for additional destination cities with existing carriers
      ii. Actively pursue new carriers
      iii. Work with PHL Airport to develop Regional Service Demand data.
      iv. Actively promote ACY as solution in FAA regional capacity study
      v. Raise awareness of ACY to New Jersey Leadership at PANY/NJ
      vi. Build the facilities and improvements needed to attract new carriers
   b. Provide transportation services to South Jersey employment centers currently underserved by transit.
      i. Identify employment centers not currently served by transit
      ii. Solicit employers or groups of employers to participate in programs
      iii. Actively pursue grants
      iv. Work with government, welfare, job training organizations to identify potential employees
2. **Employ state-of-the-art transportation technology for patron information**
   a. Highway Systems
      i. Connect to Statewide DWDM
      ii. Complete SJTA WAN and conversion to CWDM
      iii. Instrument the Expressway and access roadways for surveillance including cameras, weather stations, speed monitors and traffic counters.
      iv. Integrate existing ITS with toll plaza surveillance equipment.
      v. Develop GIS database for physical features and asset inventory.
      vi. Provide travelers with real time information via dynamic message signing.
      vii. Utilize historic and real-time date to predict travel conditions for key weekends.
      viii. Participate in notification system for traffic services.
      ix. Provide traffic information via web based distribution systems
   b. Airport Systems
      i. Automated curb management system
      ii. Parking management system
      iii. High -speed baggage handling and screening system
      iv. Instrument Landing System Upgrade
      v. Centralized Aircraft De-icing system
      vi. Upgraded security checkpoints
      vii. Integrate real time flight information with FIDS
   c. Transit Systems
      i. Real-time demand scheduling system
      ii. Computer aided dispatching
      iii. Automatic vehicle location

iv. Transit Management center
v. Emergency call system for operators

3. **Elevate Patron Services**
   a. Shuttle Services at ACY
   b. "Greeter" service at the airport
   c. Improved rest area facilities
   d. Toll Collector Customer Service training
   e. Emergency Service Patrol
   f. Deliver "511" traveler information
   g. Curb Management at the Convention Center
4. **Improve Internal Efficiencies**
   a. Encourage employee education and training
   b. Participate in educational and information-sharing forums
   c. Leverage resources with other transportation agencies
   d. Reorganization of SJTA departments and personnel
   e. Departmental performance standards
      i. Establish benchmarks to promote accountability
      ii. Scheduled annual performance evaluation
   f. Perform Management Audit
   g. Foster positive employee relationships (unified Organization)
   h. Implement internal communication plan to promote inclusion of employees in SJTA success.
   i. Develop performance measurement systems for facilities and equipment maintenance

B. SAFETY AND SECURITY

1. **Safety**
   a. Safety training for personnel
      i. Workers compensation safety program
      ii. Work zone safety
      iii. Toll Plaza safety
      iv. Toolbox lessons
   b. Improve lighting at ramps
   c. Safety drills
      i. Airport
      ii. Expressway
      iii. Tunnel
2. **Security**
   a. Facility improvements
      i. Upgrade baggage screen facility
      ii. Add third passenger screening lane
   b. Money handling procedures

c. Property Surveillance
d. Security protocol for Consultants and contractors
e. Building access security
f. Vulnerability assessment study
g. Emergency operation plan
h. Airport security operations
   i. Employees
   ii. Passengers
   iii. Law enforcement

C. REVENUE DIVERSITY

1. **Decrease Reliance on Toll Revenue**
   a. Maximize Advertising Revenue
      i. Increase capacity for advertising opportunities
      ii. Develop new advertising locations
      iii. Retain services of industry expert for market analysis
   b. E-ZPass Plus
      i. SJTA parking facilities
      ii. Casino Parking facilities
      iii. Work with outside agencies/groups to determine other retail opportunities
   c. Asset Valuation
      i. Cell Towers
      ii. Excess property
      iii. Land lease/rental property
      iv. Fiber network
   d. Review SJTA Permit Fees and Policies
      i. Establish procedure for Bus Violation funds
      ii. Bus management fees
      iii. Roadway access fees
2. **Independence of ACY**
   a. Air Service Development
      i. Increase number of carriers
      ii. Expand service to additional cities
   b. Capacity Increase
      i. Parking capacity to meet increase in demand
      ii. Baggage handling capabilities
      iii. Pedestrian flow improvements (down escalator)
      iv. Airside improvements on taxiway and apron
      v. Phased terminal expansion
   c. Fees
      i. Rates and charges
      ii. Rents

iii. PFC
iv. Rental opportunity
v. Parking

d. Branding Strategies

3. **Grants**
   i. Continue to seek out transportation grants
   ii. Search for opportunities to partner on Economic Development grants with local municipalities
   iii. Retain services of Grant experts

D. SUPPORT OF REGIONAL ECONOMY

1. **Transportation Services**
   a. Welfare to Work
   b. Parking lot shuttles
   c. TransIT Link
   d. Breeze
   e. Pure Land Shuttle
   f. Park & Ride BurLink Shuttle
2. **Tourism**
   a. Advocate for tourism issues in Statewide planning arena
   b. Participate in activities of tourism organizations
   c. Undertake surveys to identify tourism trends
   d. Tourism trend analysis
3. **Transportation Planning**
   a. Participate in regional transportation planning.
   b. Project travel demand based on tourism
   c. Represent regional issues in development of NJ's long range transportation plan
   d. Identify regional employment growth areas
   e. Analyze transportation needs in corridors underserved by transit.
   f. Influence distribution of Federal and State transportation funds.
   g. Coordinate traffic flow during events that present significant traffic congestion.
   h. Collect and analyze traffic data.
   i. Identify capacity and operational constraints and develop possible solutions
4. **Economic development projects**
   a. Establish a formalized economic development strategy
   b. Interchange 17
   c. Parking garage development
   d. HOT lane investigations

Actions

SJTA CAPITAL INVESTMENTS CONSISTENT WITH GOVERNOR CORZINE'S SIX PRIORITY AREAS FOR ECONOMIC GROWTH

Priority 1: Market New Jersey for Economic Growth by partnering with the state's businesses and helping them to grow and prosper.

The South Jersey Transportation Authority directly supports this priority in several ways. We partner with the Casino Industry on projects to improve travel by auto, bus and rail. We also provide journey to work assistance to bring the casinos and other New Jersey businesses the employees they need to help them grow and prosper.

Priority 2: Develop a world class workforce by assisting the state's students and job seekers to obtain the skills and education needed in a competitive global economy.

The SJTA Transportation Services program provides transportation allows underserved populations to reach and be trained for jobs. In addition the SJTA is participating in the multi-agency effort to develop an aviation research and technology center adjacent to Atlantic City International Airport to capture for the region the educational and research opportunities of the next generation of aviation technology.

Priority 3: Promote sustainable growth with particular emphasis on the State's cities and make strategic infrastructure investments to support economic growth while protecting the environment.

Atlantic City and Camden Cities are the focus of major initiatives of the SJTA. The location of most of the Atlantic City Expressway and all of the Atlantic City International Airport in the Pinelands Preservation area of New Jersey necessitates the marriage of these two goals. Access improvements to the allow growth of support business and residences. The completion of Interchange 17 at Route 50 will particularly assist in the economic growth of Egg Harbor City. Additionally the SJTA maintains a grassland preservation area to support the populations of several endangered species and allow the growth of the Atlantic City International Airport and the Economic benefits it brings to the area. Again, SJTA the job access transit initiatives connect residents of the major cities to jobs in the Atlantic City area as well as the suburbs of western New Jersey.

Priority 4: Nurture the development of new technologies, and ensure that the state continues to be a leader in innovation.

Participation in the Aviation Technology and Research Park (ATRP) adjacent to Atlantic City International Airport is aimed at making New Jersey the leader in developing next generation of aviation technology.

SJTA CAPITAL INVESTMENTS CONSISTENT WITH GOVERNOR CORZINE'S SIX PRIORITY AREAS FOR ECONOMIC GROWTH

Continued

Priority 5: Encourage entrepreneurship and the growth of small, minority-owned, and women-owned businesses.

The SJTA is fully participating in the efforts of the Governor's newly formed Division of Minority and Woman Business Development. In addition, of its own initiative SJTA has scheduled two vendor diversity workshops for May 2007 (in Atlantic and Camden Counties) to specifically reach and provide assistance to southern New Jersey minority and woman businesses.

Priority 6: Enhance the global competitiveness of New Jersey's businesses.

*Continuing g*rowth of the Atlantic City International Airport contributes to the competitiveness of the gaming industry in New Jersey. Development of the next generation of aviation technology will contribute to the competitiveness of the US Aviation industry, and contribute to the development of the world-class workforce needed for global competitiveness.

SOUTH JERSEY TRANSPORTATION AUTHORITY
2007-2011 Capital Program
(Not Fiscally Constrained)

	DESCRIPTION	2007	2008	2009	2010	2011	5 Year Total
	ROADWAY						
	SYSTEM PRESERVATION						
1	Bridge Repair	$350,000.00	$350,000.00	$450,000.00	$450,000.00	$450,000.00	$2,050,000.00
2	Bridge Inspection		$300,000.00		$300,000.00		$600,000.00
3	Culvert Inspection & Repairs (video)	$50,000.00		$50,000.00		$50,000.00	$150,000.00
4	Sign Structure Inspection		$75,000.00		$75,000.00		$150,000.00
5	Concrete Toll Slabs		$30,000.00		$30,000.00		$60,000.00
6	Toll Lane Rep.-lighting, booths,			$35,000.00		$50,000.00	$85,000.00
7	Roadway Repairs	$5,000.00	$25,000.00		$25,000.00		$55,000.00
8	Canopies at 41 & 9		$250,000.00	$250,000.00			$500,000.00
9	Camera's Park & Bridges		$30,000.00	$50,000.00		$50,000.00	$130,000.00
10	Electrical/Generator Upgrades & replacements			$40,000.00		$50,000.00	$90,000.00
11	Ramp Lighting Improvements	$50,000.00	$100,000.00	$100,000.00			$250,000.00
12	Wetlands Monitoring & Reporting		$30,000.00		$30,000.00	$30,000.00	$90,000.00
13	Roof Repairs	$200,000.00	$150,000.00	$150,000.00		$150,000.00	$650,000.00
14	HVAC		$25,000.00	$30,000.00			$55,000.00
15	Facility Improvements	$25,000.00	$15,000.00	$15,000.00	$20,000.00	$25,000.00	$100,000.00
16	Upgrade to Farley Building		$250,000.00	$200,000.00			$450,000.00
17	Salt Domes			$150,000.00	$150,000.00		$300,000.00
18	Well Replacement/Restoration				$35,000.00	$35,000.00	$70,000.00
19	Well Monitoring @ Central		$25,000.00		$25,000.00		$50,000.00
20	Tunnel Equipment	$30,000.00	$45,000.00	$45,000.00	$75,000.00	$75,000.00	$270,000.00
21	Upgrade to Open Series Plus			$500,000.00			$500,000.00
22	EZ Pass Reconciliation			$100,000.00			$100,000.00
23	Business Continuity/Disaster Recovery		$60,000.00				$60,000.00
24	Toll Plaza Servers Migration to Linux	$120,000.00					$120,000.00
25	Toll Plaza Camera Upgrade	$60,000.00					$60,000.00
26	VES Upgrade	$100,000.00					$100,000.00
27	EZ Pass Tag Replacement	$475,200.00	$400,000.00	$475,000.00			$1,350,200.00
28	NY Ave Garage Repairs	$39,248.00		$75,000.00		$100,000.00	$214,248.00
	ROAD SAFETY						
29	Safety Improvements:	$106,700.00	$150,000.00	$150,000.00	$150,000.00	$150,000.00	$706,700.00
30	Farley Lot Improvements		$1,250,000.00				$1,250,000.00
31	Line Striping Project		$100,000.00	$100,000.00	$150,000.00	$15,000.00	$365,000.00
32	Overhead VMS	$135,000.00					$135,000.00
33	Weatherstations		$150,000.00	$150,000.00	$150,000.00		$450,000.00

SOUTH JERSEY TRANSPORTATION AUTHORITY
2007-2011 Capital Program
(Not Fiscally Constrained)

	DESCRIPTION	2007	2008	2009	2010	2011	5 Year Total
	SYSTEM MANAGEMENT						
34	Pavement Management Overlay	$1,500,000.00	$2,000,000.00	$3,000,000.00	$3,000,000.00	$2,000,000.00	$11,500,000.00
35	ITS-Traffic Management			$50,000.00		$50,000.00	$100,000.00
36	Network Implementation CWDM Network	$130,000.00	$75,000.00				$205,000.00
37	CWDM Sonet Migration		$180,000.00				$180,000.00
38	Equipment Upgrade Ops Ctr			$25,000.00		$25,000.00	$50,000.00
39	Pleasantville Plaza Upgrade Phase III	$903,439.00	$4,821,561.00				$5,725,000.00
40	SJTA Radio Equipment Update				$750,000.00		$750,000.00
41	Security Access		$25,000.00		$25,000.00		$50,000.00
42	GIS System			$25,000.00		$25,000.00	$50,000.00
43	Pedestrian Walkway Rt. 30	$1,400,000.00					$1,400,000.00
44	Parking Rev. Control System		$50,000.00			$50,000.00	$100,000.00
45	EZ Pass Plus Development		$25,000.00	$25,000.00			$50,000.00
46	Voice Over IP Migration	$220,000.00					$220,000.00
47	AC Parking Facilities			$25,000.00		$25,000.00	$50,000.00
	NEW CAPACITY						
48	Exit 17	$7,000,000.00					$7,000,000.00
49	Third Lane Widening	$8,046,561.00		$111,980,000.00			$120,026,561.00
50	EH Toll Plaza Express EZ-Pass	$2,200,000.00		$24,970,000.00			$27,170,000.00
51	Huron Avenue	$450,000.00					$450,000.00
52	Widening ITS Equipment		$150,000.00				$150,000.00
53	Berlin Cross Keys Widening	$450,000.00	$5,000,000.00				$5,450,000.00
	CAPITAL EQUIPMENT						
54	Executive & Finance		$15,000.00	$15,000.00	$15,000.00	$15,000.00	$60,000.00
55	Roadway Maintenance	$668,300.00	$1,100,000.00	$1,100,000.00	$1,250,000.00	$1,250,000.00	$5,368,300.00
56	Tourist Services	$44,000.00	$45,000.00	$45,000.00	$60,000.00	$60,000.00	$254,000.00
57	Engineering	$55,000.00	$25,000.00	$35,000.00	$35,000.00	$40,000.00	$190,000.00
58	Transportation Services	$206,000.00	$100,000.00	$100,000.00	$150,000.00	$150,000.00	$706,000.00
59	Fleet Replacement- St. Police	$621,000.00	$765,000.00	$765,000.00	$800,000.00	$800,000.00	$3,751,000.00
60	Technology Workstation Upgrades	$25,000.00	$75,000.00	$75,000.00	$75,000.00	$90,000.00	$340,000.00
61	Technology- Low-End Servers	$15,000.00	$15,000.00	$15,000.00	$15,000.00	$20,000.00	$80,000.00
	TOTAL ROADWAY	$25,680,448.00	$18,276,561.00	$145,365,000.00	$7,840,000.00	$5,830,000.00	$202,992,009.00

SOUTH JERSEY TRANSPORTATION AUTHORITY
2007-2011 Capital Program
(Not Fiscally Constrained)

	DESCRIPTION	2007	2008	2009	2010	2011	5 Year Total
	AIRPORT						
	AIRFIELD						
62	Terminal Apron-Design			$750,000.00			$750,000.00
63	Terminal Apron Construction		$12,631,579.00	$8,768,421.00	$15,000,000.00		$36,400,000.00
64	Taxiway Overlay (D&H)		$300,000.00				$300,000.00
65	Airfield Pavement Repairs		$30,000.00		$50,000.00		$80,000.00
66	Runway Lighting	$15,750.00		$25,000.00		$25,000.00	$65,750.00
67	Cargo Maint. Apron				$1,640,000.00	$18,000,000.00	$19,640,000.00
68	CAT ILS		$2,331,472.00				$2,331,472.00
69	Airfield Beacon Tower Replacement	$60,000.00					$60,000.00
70	Arm/Disarm Pads	$3,000,000.00					$3,000,000.00
71	Vault Fire Alarm			$150,000.00			$150,000.00
72	Fiber Optic Tie In		$185,000.00				$185,000.00
73	Generator Tank Rehab	$50,000.00					$50,000.00
74	Airfield Signage	$30,000.00	$30,000.00	$30,000.00	$30,000.00	$30,000.00	$150,000.00
75	Replacement Gates/Fence	$1,700,000.00					$1,700,000.00
76	Fuel Farm Fencing & Security		$50,000.00				$50,000.00
	TERMINAL						
77	Terminal Expansion Design/const	$1,533,737.00	$3,445,736.00	$53,445,036.00	$3,445,936.00	$8,000,000.00	$69,870,445.00
78	Terminal Roof Repair	$50,000.00	$50,000.00				$100,000.00
80	PA System Upgrades	$25,000.00		$75,000.00		$75,000.00	$175,000.00
81	Security System Upgrade		$30,000.00		$30,000.00		$60,000.00
82	HVAC Upgrades	$84,000.00					$84,000.00
83	Facility Improvements		$100,000.00	$100,000.00	$75,000.00	$75,000.00	$350,000.00
84	Interior Terminal Improvements	$1,164,950.31	$700,000.00				$1,864,950.31
85	Escalator hand rail replacement		$45,000.00				$45,000.00
86	CCTV Upgrades				$175,000.00	$25,000.00	$200,000.00
87	Camera Conversion		$80,000.00				$80,000.00
88	Capital Rehab	$20,000.00			$20,000.00		$40,000.00
89	Jet Bridge Retrofit	$75,000.00	$75,000.00	$75,000.00			$225,000.00
90	Secondary Electrical Service	$300,000.00					$300,000.00
91	Inbound Baggage Building Expansion		$2,000,000.00				$2,000,000.00
92	Common Use	$3,000,000.00					$3,000,000.00

SOUTH JERSEY TRANSPORTATION AUTHORITY
2007-2011 Capital Program
(Not Fiscally Constrained)

	DESCRIPTION	2007	2008	2009	2010	2011	5 Year Total
	ACCESS ROADWAYS						
93	Street Lighting-Terminal Road		$70,000.00				$70,000.00
94	Signage		$25,000.00		$50,000.00		$75,000.00
95	Entrance Sign			$150,000.00			$150,000.00
	OTHER						
96	Fire Department Fleet Replacement		$450,000.00		$475,000.00		$925,000.00
97	Grassland Mitigation	$150,000.00	$150,000.00	$150,000.00	$150,000.00	$150,000.00	$750,000.00
98	Noise Abatement		$25,000.00	$25,000.00			$50,000.00
99	Acquire Equip- Snow Thrower		$465,000.00				$465,000.00
100	SEB Cameras				$75,000.00		$75,000.00
101	Potassium Spray Unit/Tank			$45,000.00			$45,000.00
102	Acquire Snow Plow			$316,000.00			$316,000.00
103	ARFF Building			$800,000.00	$6,500,000.00		$7,300,000.00
104	Digital Readers / Biometric(Security)				$45,000.00		$45,000.00
105	Structural Fire Fighting Vehicle	$350,000.00					$350,000.00
	PARKING						
106	Parking Revenue Control System	$1,000,000.00					$1,000,000.00
107	AIRPORT CAPITAL EQUIP.	$44,679.15	$100,000.00	$100,000.00	$100,000.00	$100,000.00	$444,679.15
	TOTAL AIRPORT	$12,653,116.46	$23,368,787.00	$65,004,457.00	$27,860,936.00	$26,480,000.00	$155,367,296.46
	GRAND TOTALS	**$38,333,564.46**	**$41,645,348.00**	**$210,369,457.00**	**$35,700,936.00**	**$32,310,000.00**	**$358,359,305.46**
	FUNDING SOURCES						
	NEW GRF TOTALS	$4,997,064.15	$10,500,000.00	$9,340,000.00	$8,965,000.00	$6,160,000.00	$39,962,064.15
	2006 GRF CARRY-OVER	$1,204,341.12					$1,204,341.12
	2006 ERF CARRY -OVER	$200,676.17					$200,676.17
	2004 BOND CARRY-OVER	$809,933.02					$809,933.02
	AIR NATIONAL GUARD	$3,000,000.00					$3,000,000.00
	2006 REVENUE BOND	$1,000,000.00					$1,000,000.00
	DOT	$1,400,000.00					$1,400,000.00
	ANTICIPATED BONDS	$19,100,000.00	$9,821,561.00	$136,950,000.00			$165,871,561.00
	PFC(Passenger Facility Charge)	$3,017,500.00	$3,000,000.00	$3,000,000.00	$3,000,000.00	$3,000,000.00	$15,017,500.00
	FAA-AIP Entitlement	$3,271,550.00	$3,895,736.00	$3,445,936.00	$3,595,936.00	$3,595,936.00	$17,805,094.00
	FAA-AIP Discretionary	$332,500.00	$14,428,051.00	$57,633,521.00	$20,140,000.00	$19,554,064.00	$112,088,136.00
	Total	$38,333,564.46	$41,645,348.00	$210,369,457.00	$35,700,936.00	$32,310,000.00	$358,359,305.46