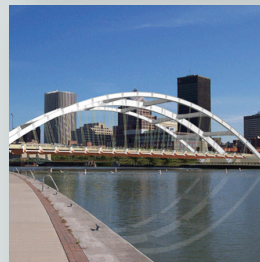




CAPITAL PROGRAM PROPOSAL

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

2010 – 2015



October 2009



David A. Paterson | Governor
Stanley Gee | Acting Commissioner

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THE TRANSPORTATION SYSTEM

Transportation is essential to our everyday lives and to the functioning of every aspect of our economy, providing a means to get to school, to work or to family and friends, delivering goods to neighborhood stores and supporting travel by tourists. Over many decades, New York State has developed one of the largest and most diversified multimodal transportation systems in the nation, a network of highways, rail lines, transit systems, seaports and airports providing essential mobility for people and goods to move throughout the State. New York State's transportation system moves:

- About 137 billion vehicles miles of travel on more than 245,000 miles of highways and 17,400 bridges statewide;
- Approximately 2.6 billion passenger trips provided by more than 130 public transportation operators (including the Metropolitan Transportation Authority - MTA) throughout the State, accounting for one out of every three public transportation riders in the nation;
- Approximately 88 million passengers who travel through more than 500 public and private aviation facilities within the State;
- Approximately 1.5 million riders each year who use Amtrak's Empire and Adirondack services, and more than 8 million rail passengers who pass through Penn Station using Amtrak's Northeast Corridor;
- More than 150 million tons of freight that pass through four port authorities (the Port Authority of New York and New Jersey, Albany Port District Commission, Port of Oswego Authority and Ogdensburg Bridge & Port Authority), the Port of Buffalo and numerous private ports handling; and
- More than 75 million tons of freight that move across 3,500 miles of rail.

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As a result of New York's extensive support for public transportation, the State has the lowest per-capita use of motor fuel of any state in the nation. New York's motor fuel consumption per capita for is approximately two-thirds of the national average.

Like a home or personal auto, the transportation system is an asset that requires maintenance, rehabilitation and replacement over time to remain safe and to perform as intended. The cost to maintain the State's transportation system in a safe and usable condition will grow. As the economy recovers, population and vehicle miles of travel are expected to increase; the demand for freight transportation to support economic growth is also expected to expand significantly. In addition, as the population continues to age, it will place new demands on the transportation system and a need to ensure adequate mobility for this growing population. Accommodating this growth and changing needs must be accomplished in a manner that supports a sustainable environment.

The NYSDOT 2010-2015 Capital Program describes the future needs and challenges facing the State's transportation system, the objectives and performance measures recommended to be used to determine the State's investments and outlines a proposed \$25.8 billion multimodal infrastructure investment program to achieve those objectives.

EXECUTIVE SUMMARY

Chapter 25 of the Laws of 2009 requires the New York State Department of Transportation (NYSDOT) to provide the Legislature with an outline of the objectives of the program and the performance measures that will be used to determine investment in transportation in the State for the next multiyear capital program by Oct. 1, 2009. This legislation describes the NYSDOT program as including highways and bridges; non-Metropolitan Transportation Authority (MTA) transit; passenger and freight rail; and aviation and port facilities. This 2010-2015 Capital Program proposal is intended to fulfill this legislative requirement.

Section 10 of the State Transportation Law charges NYSDOT with planning a balanced statewide transportation system. The Department's capital program traditionally includes financing to support the State highway system; State and local bridges; capital needs of public transportation systems other than the MTA; and passenger and freight rail, port and aviation capital projects. In addition to capital projects, the NYSDOT program includes funding to support the Department's operations (including preventive maintenance, safety and traffic management and mobility) and engineering and program administration to successfully deliver and to manage the various components of the capital program.

This NYSDOT capital program is developed as the first phase of a longer-term effort to improve the transportation infrastructure over the next 20 years. In 2007, NYSDOT prepared a comprehensive study of the future capital needs of all modes of transportation (excluding those of the Metropolitan Transportation Authority, the New York State Thruway Authority and the New York State Bridge Authority). This study estimated that it would require about \$175 billion (in uninflated 2007 dollars) in infrastructure investments over the next 20 years to bring the State's multimodal system into a State Of Good Repair and to begin strategic transportation improvements to support economic development. Additional needs to address local transportation infrastructure and other projects beyond NYSDOT's program were identified through an outreach effort conducted this past summer.

In developing this new capital program, NYSDOT must address a number of challenges, including the State's aging transportation infrastructure, growing congestion on parts of the network and the impact of construction inflation that reduced buying power. Beyond these challenges, the next program must address emerging transportation needs and issues, including:

- Implementation of the new high-speed rail initiative, including funding the operating and maintenance costs related to the new service.
- Annual subsidy requirements under Federal law for the existing Adirondack and Empire Corridor passenger services.
- Infrastructure needs of local roadways and bridges.

- Improved technologies and management techniques for increased system efficiency, including electronic credentialing, automatic vehicle location and weigh-in-motion for the commercial sector and real-time dynamic routing for all modes.
- Support for State and national climate change mitigation and energy independence goals, and strategic investments and technical assistance to assist local governments in integrating transportation decisions and land-use decisions to improve livability.

Consideration of this new NYSDOT program will occur during a period of extreme financial uncertainty at both the Federal and State level. The Federal Highway Trust Fund (HTF) is no longer solvent and requires annual general fund transfers to maintain current spending. In addition, the current Federal surface transportation program, the Safe Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), expired on Sept. 30, 2009. Congress is currently deliberating an extension and a successor to SAFETEA-LU that may not be reauthorized until 2011. At the State level, the current Transportation Bond Act is ending, the State Dedicated Highway and Bridge Trust Fund cannot afford to pay existing commitments without substantial general fund support and additional revenue is needed to fund any new capital program.

The Department's 20-Year Needs Study outlined the infrastructure investments needed to improve the transportation system to a State Of Good Repair over the next 20 years. The objectives described in this document will be used to determine NYSDOT's investments in transportation that will begin moving the State's transportation system toward that long-term goal. For the highway system, the objectives would seek, in the near term, to stabilize State and local bridge conditions at current levels and to stabilize pavement condition on higher-volume roads essential to mobility and commerce through an "asset management" strategy that balances preventive maintenance with capital repairs. Other modal investment programs have similar near-term objectives. Future capital programs would allow additional progress toward improving conditions and enhancing all modes.

The NYSDOT 2010-2015 Capital Program proposes a \$25.8 billion investment in the State's multimodal transportation system over the next five years to make progress toward the 20-year goal of reaching a State Of Good Repair. Highlights of the program include:

- \$12.0 billion in State highway construction
- \$2.2 billion in federal aid for local transportation
- \$2.4 billion for CHIPS and Marchiselli programs
- \$340 million for upstate and suburban transit
- \$340 million for freight rail and ports
- \$300 million to implement the State's high-speed rail initiative
- \$300 million to address critical local road and bridge needs
- \$101 million for airports
- \$25 million for an initiative to support local Smart Growth and land-use planning

The program also contains the necessary funding for engineering, program administration and other costs related to implementing this new program.

The recommended investment levels are primarily targeted toward maintaining and improving the existing core State and local infrastructure assets. The program also proposes some enhancements to the transportation system that support Smart Growth and livability goals, as well as strategic expansion of capacity to support economic development. A major capacity expansion included in this program is the implementation of the State's passenger rail initiative to expand high-speed rail service west of Albany to Buffalo and Niagara Falls. If implemented, the core program investment would reverse the decline in system conditions and allow significant progress on all modes toward the longer-term goal of a State Of Good Repair. It would allow improvements to local roads and bridges, freight rail lines, public transportation systems and smaller airports across the State.

Implementation of the passenger rail initiative will require funding in the future to operate new passenger rail service and to maintain the new tracks and related infrastructure. In addition to this operating assistance need, recent federal rail legislation will require New York to begin to pay Amtrak for the operating loss of the existing Empire Corridor service from New York City to Niagara Falls. Further, the future operating subsidy needs of all public transportation systems other than the MTA have not been addressed. These operating subsidies will require annual funding (similar to operating subsidies for MTA services) and should be funded from sources outside the capital program.

A preliminary list of candidate State and local transportation projects that could be included in the 2010-2015 Capital Program is included as an appendix to this document. This list includes projects recommended by NYSDOT, and suggestions from others obtained during our local outreach effort this past summer. The project estimates contained in this list reflect current assumptions regarding scope, schedule and cost that will be refined as the Capital Program is developed. In addition, while we have developed this program using current assumptions regarding inflation and cost escalation, more adjustments to the program may be needed as the actual inflation rates become known. It should be noted that a large part of the program of projects described in these lists will be financed from Federal funds in urbanized areas and must be developed in partnership with and subject to approval by local Metropolitan Planning Organizations (MPOs). Therefore, many of the projects included in this plan should be considered as candidates and must proceed through the Federally required metropolitan planning process.

NYSDOT's investment priorities and objectives provide the framework for implementing transportation investments. The Department's capital program will strive to attain the objectives and outcomes presented in this report through a long-term commitment to infrastructure investment. The Department will monitor the performance of our investment programs through measures that are designed to provide transparency and accountability for our investments by capturing the impact of our investments on the transportation system. The initial set of performance measures will be refined over time and are subject to change as the Federal government determines its requirements for performance measurement for transportation programs. In addition, the type of public information now available on NYSDOT's Web site to meet the reporting requirements of the American Recovery and Reinvestment Act (ARRA) (www.nysdot.gov/recovery/goals) will be expanded to cover the entire NYSDOT capital program.

Achieving the objectives described in this document depends on adequate financial resources at the Federal and State level and, in some cases, investment from local government and the private infrastructure owners. Amid the current recession and great uncertainty in Federal and State financial resources, this five-year capital program begins to address the current transportation challenges to improve the system over the long term. The current fiscal constraints mentioned above will affect the pace at which these objectives can be achieved. If the overall level of transportation investment can be sustained in the future, then progress will continue on the longer-term goal of achieving a State Of Good Repair. Without this sustained level of investment, it will not be possible to maintain the condition of many parts of the transportation system nor allow expansion or enhancements to the system to meet economic or other emerging needs.

A sound transportation system is the underpinning of a thriving economy and livable communities that will make New York State a desirable place to live and to do business.

A sound transportation system is the underpinning of a thriving economy and livable communities that will make New York State a desirable place to live and to do business. Maintaining and improving the condition of the transportation system and balancing modal choice will be crucial to economic recovery and future growth. The transportation system developed over many decades made New York “The Empire State.” If our State is to continue as a leader in the 21st century, we must have a transportation system that will allow for the efficient movement of people, goods and services in a sustainable manner. The legacy transportation system built by “The Greatest Generation” is at the end of its designed service life. Our generation must now decide to preserve this legacy system or to let the next generation cope with the certainty of rising costs to address a deteriorating infrastructure.

INTRODUCTION

Chapter 25 of the Laws of 2009 requires the New York State Department of Transportation (NYSDOT) to provide the Legislature with an outline of the objectives of the program and the performance measures that will be used to determine investment in transportation in the State for the next multiyear capital program by Oct. 1, 2009. This legislation describes the NYSDOT program as including highways and bridges; non-Metropolitan Transportation Authority (MTA) transit; passenger and freight rail; and aviation and port facilities. This 2010-2015 Capital Program proposal is intended to fulfill this legislative requirement.

The current NYSDOT 2005-2010 multiyear capital program expires on March 31, 2010. The program, originally approved at \$17.9 billion over the five-year period, implements highway and bridge projects across the State that address critical system preservation and infrastructure needs as well as strategic investments for public transportation systems other than the MTA, passenger and freight rail, port, aviation and canal projects consistent with the 2005 Transportation Program Memorandum of Understanding (MOU).

NYSDOT is responsible under Section 10 of the State Transportation Law for planning of a balanced statewide transportation system. The Department's capital program traditionally includes financing to support the State highway system; State and local bridges; capital needs of public transportation systems other than the MTA; and passenger and freight rail, port and aviation capital projects. In addition to capital projects, the NYSDOT program includes funding to support the Department's operations (including preventive maintenance, safety and traffic management and mobility), as well as engineering and program administration to successfully deliver and to manage the various components of the capital program. The NYSDOT program, however, does not include the capital needs of the MTA, New York State Thruway Authority or New York State Bridge Authority.

A sound transportation system is the underpinning of a thriving economy and livable communities that will make New York State a desirable place to live and to do business. Maintaining and improving system conditions and balancing modal choice will be crucial to economic recovery and future growth. In addition to addressing the capital needs of the State's aging transportation infrastructure, the next NYSDOT program must address a number of emerging transportation needs. These include, but are not limited to:

- Implementation of the new high-speed rail initiative, including funding the operating and maintenance costs related to the new service.
- Annual subsidy requirements under Federal law for the existing Adirondack and Empire Corridor passenger services.
- Infrastructure needs of local roadways and bridges.
- Improved technologies and management techniques for increased system efficiency including electronic credentialing, automatic vehicle location (AVL), and weigh-in-motion (WIM) for the commercial sector and real-time dynamic routing for all modes.
- Support for State and national climate change mitigation and energy independence goals, and strategic investments and technical assistance to assist local governments in integrating transportation decisions and land use decisions to improve livability.

A multiyear program for transportation infrastructure investments is necessary to ensure predictability for planning, design and uninterrupted implementation of projects. Transportation projects, particularly infrastructure replacement and repair projects, can take years to develop, due to the need to meet Federally required processes, and to appropriately plan and to design projects with input from the local communities. The capital program must include appropriate engineering and administrative support to develop and to deliver the program during and beyond this capital plan period.

Many recent infrastructure needs-related actions and analyses have been conducted over the last several years that contribute to the development of NYSDOT's capital program and priorities, including:

- In September 2007, NYSDOT prepared and distributed a 20-year multimodal needs study.
- In March 2008, NYSDOT prepared a five-year capital program in response to the State congestion pricing legislation (www.nysdot.gov/programs/5yearcapitalplan).
- In October 2008, NYSDOT hosted a conference on transportation funding issues, titled "Beyond the Gas Tax" (www.nysdot.gov/conferences/gastax).
- In March 2009, NYSDOT published a new State Rail Plan and outlined a high-speed rail initiative (www.nysdot.gov/divisions/policy-and-strategy/planning-bureau/state-rail-plan).
- The American Recovery and Reinvestment Act (ARRA) provided additional funding for transportation investments (www.nysdot.gov/recovery).
- Implementation of the federal ARRA funding has heightened awareness of a large need for additional local transportation investments across the State.
- NYSDOT's outreach to State and local elected officials and transportation stakeholders in support of the next capital program has also elicited a clear understanding of significant unmet local needs.

The NYSDOT 2010-2015 Capital Program proposes a \$25.8 billion investment in the State's multimodal transportation system over the next five years. This capital program also recommends objectives and performance measures to determine investments in transportation for NYSDOT's multiyear transportation program. These objectives are long-term goals for the improvement of the State's multimodal transportation system and will take many years of sustained investment from all levels of government to realize. NYSDOT's transportation investments support the Department's mission to provide those who live, work and travel in New York State with a safe, efficient, balanced and environmentally sound transportation system.

Achievement of the objectives described in this report depends on adequate financial resources at the Federal and State levels and, in some cases, investment from local government and the private infrastructure owners. The current fiscal constraints for both the Federal and State governments will affect the pace at which these objectives can be achieved. While these constraints will affect the timing of investments, NYSDOT's investment priorities and objectives will provide the framework for moving forward. The Department's capital program will strive to

attain the objectives and outcomes presented in this report through a long-term commitment to infrastructure investment.

CONTEXT FOR THE 2010-2015 CAPITAL PROGRAM

Challenging Times

The New York State Department of Transportation is committed to maintaining a safe transportation system that supports today's mobility needs and adjusts and adapts to meet the economic and mobility needs of its citizens into the future. The 2005-2010 Capital Program provided the greatest level of transportation investment in the State's history, approximately \$18 billion in multimodal capital improvements during this period. Yet, clearly, transportation needs continue to grow.

20-Year Needs Study

In 2007, NYSDOT prepared a comprehensive study of the future capital needs of all modes of transportation (other than the Metropolitan Transportation Authority, the New York State Thruway Authority or the New York State Bridge Authority). This study estimated that it would require about \$175 billion (in uninflated 2007 dollars) in infrastructure investments over the next 20 years to bring the State's multimodal system into a State Of Good Repair and to begin making strategic transportation improvements to support economic development. This need included \$125 billion for the maintenance and capital repair/replacement in the existing core transportation infrastructure components to achieve a State Of Good Repair, including roads, bridges, public transportation systems, rail lines and smaller airports that are under the jurisdiction of NYSDOT's various transportation programs. On top of this need to address existing infrastructure, the study identified \$50 billion in "illustrative" major capital projects that had been identified by state or local studies as required to address capacity deficiencies or to support economic growth. These major projects described in the 20-year needs included projects such as the Tappan Zee Bridge/I-287 Corridor, expansion of the Peace Bridge and implementing a high-speed rail program.

The NYSDOT 20-year needs study did not include an assessment of the infrastructure condition or investment requirements for roads owned by local jurisdiction across the State. To address this, a similar study of local road needs was prepared for the New York State Association of Town Superintendents of Highways. This study estimated a need for more than \$1 billion in additional investments annually to maintain and to repair local roads.

NYSDOT remains committed to the goals for improvement identified in the 20-year needs study and the objectives presented in this report will allow the State to make progress toward these goals. Investments in the transportation infrastructure beyond the system owned and controlled by the State are also necessary to serve the traveling public and to support the State's economy. A safe and efficient transportation system requires critical investments, regardless of system ownership. However, we are facing enormous challenges that will affect the rate of achieving these goals.

The State's transportation system is safe, but the condition of much of the infrastructure is no longer in a State of Good Repair and is worsening.

A Transportation System Under Stress

The State's transportation system is safe, but the condition of much of the infrastructure is no longer in a State Of Good Repair and is worsening. While these conditions may fluctuate from year to year based on rates of infrastructure deterioration and investment levels, the long-term trend cannot be reversed in a year or two. The following is a brief overview of the condition of several major components.

While some progress was made in the 2005-2010 capital program to reverse declines in highway and bridge conditions, New York State ranks among the bottom 10 states in the nation for both highway and bridge conditions. The primary reasons are the system's age, heavy usage and the harsh northeastern climate. Figure 1 shows the age distribution of State and local highway bridges. Of the State's bridges, 6,625 – more than a third - are 50 years old, the expected useful life of a bridge. The bridges built during the Federal Interstate Highway construction era of the 1960s now fall into this category. Some, like the Brooklyn Bridge, are more than 100 years old yet still remain key components of our transportation system. Highways and bridges require continuing investment, as critical components of the system are reaching the end of their useful life. Without significant investment, NYSDOT expects 1,526 additional bridges to become deficient over the next five years, (what we refer to as *the bridge wave*, shown in Figure 2) and we expect another 1,472 bridges, for a total of nearly 3,000 *additional* bridges, (17 percent of the State total) to reach a deficient state over the next 10 years.

Figure 1: New York State Bridges by Age

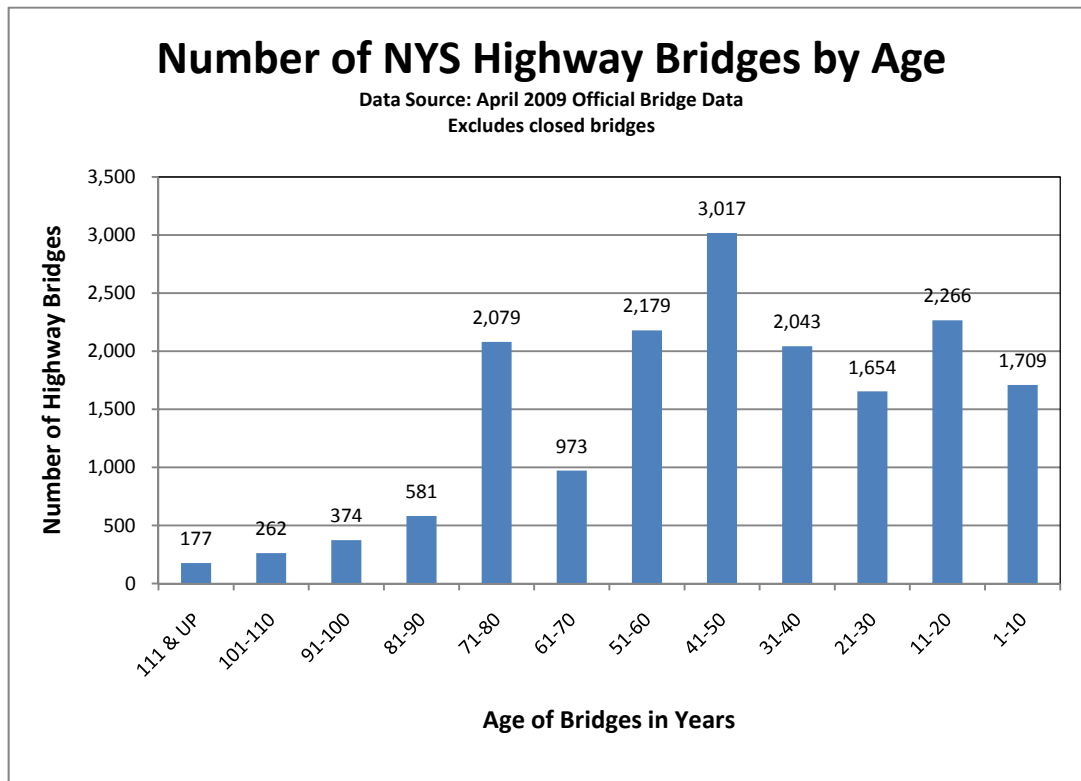
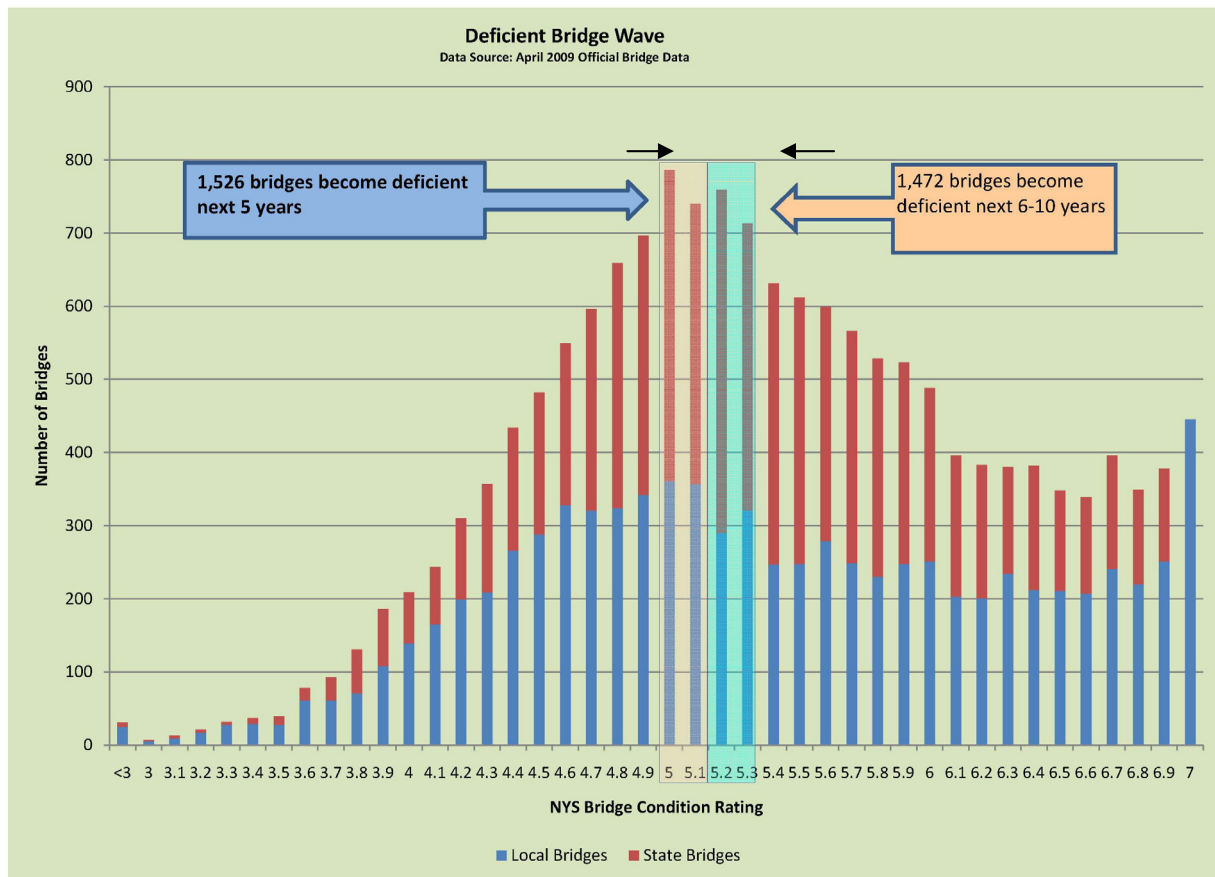
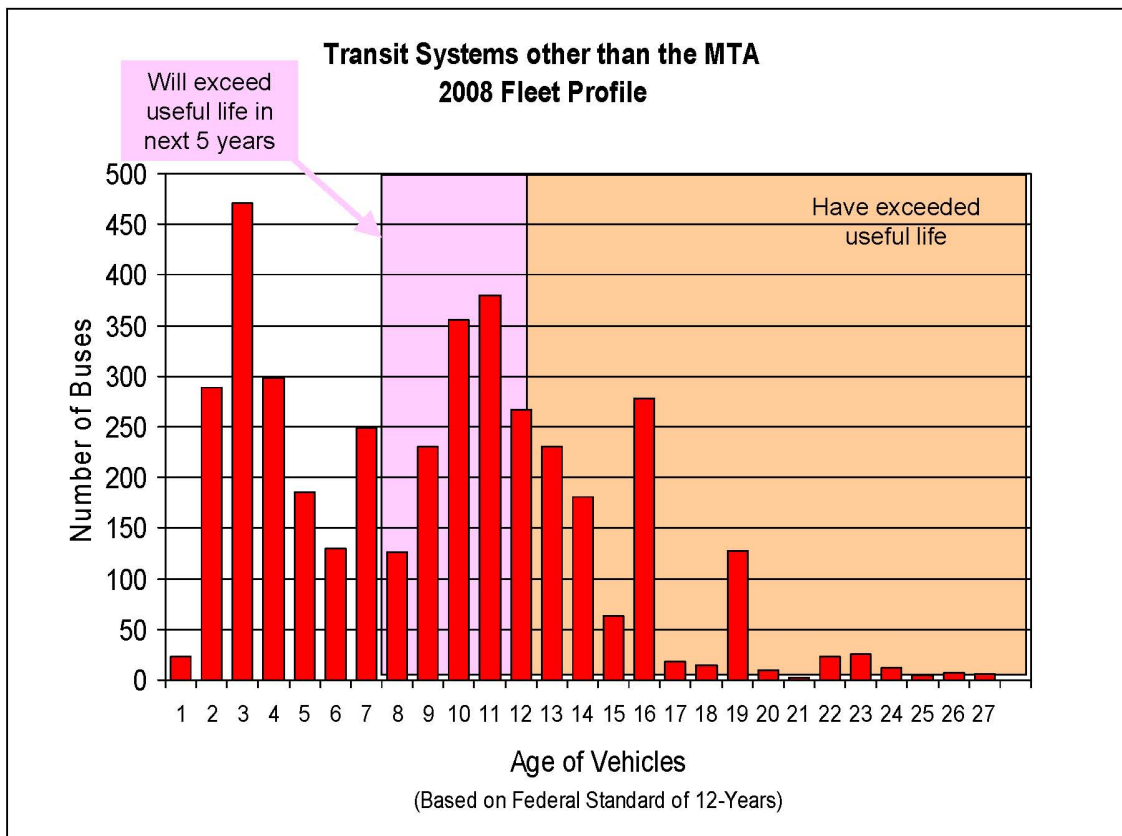


Figure 2: Deficient Bridge Wave



We must also replace the aging bus fleets for the State’s suburban and upstate public transportation systems and expand service to meet growing demand, similar to the MTA’s need for replacement and strategic growth. Figure 3 shows the number of buses that already exceed the Federally recommended service life of 12 years. Currently, 1,006 buses (25 percent of the total fleet) are beyond their useful lives, and another large group of 771 buses (19 percent of the entire suburban and upstate bus fleet) will need to be replaced in the next five years.

Figure 3: Non-MTA Vehicle Fleet Age



Freight Movement

The demands on the State's infrastructure will grow as a result of the increase in freight movement from the globalization of the economy. According to the Commodity Flow Survey, more than \$555 billion in goods were transported to, from or within New York State in 2002. Although the recent economic downturn has slowed freight growth in the short-term, longer-term forecasts indicate a tremendous future growth in freight shipments. For example, Federal Highway Administration forecasts that freight tonnage will nearly double from 2002 figures by 2035. According to this forecast, trucks will see a 98 percent increase in freight tonnage, while freight rail tonnage is expected to grow by 88 percent by 2035. To transport freight in the most efficient manner will require a sound, reliable and efficient transportation network that uses each mode effectively based on its attributes, including highways, freight rail lines, airports, ports, intermodal terminals and intermodal connectors. Despite the funding limitations, NYSDOT's proposed capital program supports investments in all these modes, to accommodate State Of Good Repair needs and to support, where possible and essential, strategic sustainable system enhancements that are consistent with energy and emissions reduction goals.

Congestion

Increased use of the transportation system by passengers and freight is creating more congestion in many areas of the State. Rising populations and suburban travel are causing more traffic on roadways not built to accommodate this growth. As discussed above, until the recent recession, the rapid growth in freight movement from the global economy added truck traffic to highways and rail freight to several strained mainlines. High gasoline prices have enticed more riders to upstate and downstate public transportation systems. These congestion trends are expected to continue as the recession ends and the economy rebounds.

Addressing the expected future growth in congestion with strategic capacity expansion in the transportation network will be a challenge given the large and growing financial need described earlier to maintain and to improve the existing aging infrastructure. We must squeeze the most capacity from our existing infrastructure assets by improving the management and operation of these facilities first (for example, by using improved technologies for accident clearance and dynamic traffic routing), before constructing costlier capacity expansion projects. But we must also recognize that there will be a need for strategic increases in capacity to address congestion and to support economic development. In these cases, implementation of new capacity should explore the full range of transportation options available and be supported with appropriate system management, investment and land-use policies.

Past Construction Inflation

During the past five years, inflation in key transportation commodities, including steel and asphalt, combined with the rapid increase in fuel prices in 2008, significantly reduced the purchasing power of the dollars invested in transportation. NYSDOT estimates that since the beginning of the 2005-2010 capital program, nearly one-fifth of the purchasing power of its

investments has been consumed by inflation. As a result, many of the projects originally anticipated to be completed during this period have had to be deferred to future years. While this rapid construction inflation has abated, future increases in the cost of construction could directly affect the number of projects to be advanced in future programs.

State and Federal Financial Challenges

While the State's fiscal situation challenges our ability to adequately fund transportation infrastructure investment, the American Recovery and Reinvestment Act (ARRA) provided a significant and needed short-term increase in funding. Transportation economic recovery funding allowed the State to greatly increase investment this year, delivering ready-to-go capital projects that would supplement the State program, improve infrastructure conditions and create and sustain jobs. More than half of these ready-to-go capital projects addressed local road and bridge conditions. The \$1.1 billion in ARRA highway and bridge funding, however, only addressed about half of the purchasing power lost to inflation during the 2005-2009 capital plan period and represents less than one percent of the capital needs identified in the 20-year needs study. In addition, ARRA resources are nonrecurring. The State needs continued and sustained investments in infrastructure to maintain the momentum and the important gains begun with Federal ARRA funding.

The ability to increase State investment in transportation will clearly be a challenge. The State Highway and Bridge Dedicated Trust Fund (State Dedicated Fund) is reaching a critical phase. Currently, nearly half of the revenue flowing into the Dedicated Fund is used to pay debt service on previous investments. It is estimated that by 2013, debt service payments will consume three-quarters of the Dedicated Fund's annual revenues. Perhaps less well known, however, is transportation's dependence on general fund transfers to support the State Dedicated Fund. The 2005-2010 capital program included from its inception a transfer of State general funds to supplement the State Dedicated Fund in the final two years of the program. The faltering economy, however, resulted in slower than anticipated growth in dedicated State revenues into the transportation fund, which has increased the amount of the general fund transfers required to sustain planned program levels.

The Federal outlook is no better. As we approach the last months of the current State five-year transportation program, we are also at the end of the current Federal surface transportation funding bill (SAFETEA-LU). Federal funding programs for highways and transit expired on Sept. 30, 2009, and will be extended for at least some months if not much longer at approximately current funding levels. This extension of current Federal programs could last for 18 months or more. Congress is faced with crafting the next transportation bill with uncertain and insufficient revenues. The Federal Highway Trust Fund (HTF) cannot finance even current funding levels without a major infusion of revenue. In fact, just this past August, Congress transferred \$7 billion from the general treasury into the HTF to keep paying for current Federal commitments. Last year, \$8 billion in additional revenues were required. The next Federal transportation bill cannot sustain, much less grow, existing funding levels without significant new and diversified revenues into the HTF. Traditionally, about 40 percent of the NYSDOT program is funded from Federal aid and approximately 80 percent of the non-MTA transit capital program.

Policy Changes/Emerging Issues

Federal and State funding are not the only challenges we face in developing a plan for future transportation investment. The need to invest in our existing infrastructure is occurring at a time of major policy changes at both the national and State level. As mentioned above, the Federal transportation legislation, SAFETEA-LU, expired on Sept. 30, 2009. Federal authorizing legislation not only provides investment levels for highways and transit, it also sets the direction of transportation policy for the period of the next authorization and lays the foundation for policy into the future.

Accountability and Transparency through Performance Management

The next Federal surface transportation program authorization is expected to address several emerging issues. One is the need to provide a clear demonstration of the results of transportation investment to both policy-makers and the public. Just as the Federal government has required strict accounting of the use of the economic recovery funding provided through ARRA, this next authorization bill is expected to place a new focus on the use of performance measures and performance management to show the benefits of transportation investment. The performance measures that NYSDOT will use to monitor the next State capital program, described later in this document, will be consistent with and, perhaps, help shape what may be implemented at the Federal level. In addition, the type of public information now available on NYSDOT's Web site to meet the reporting requirements of the American Recovery and Reinvestment Act (ARRA) (www.nysdot.gov/recovery/goals) will be expanded to cover the entire NYSDOT capital program.

Livable Communities

In addition, the transportation community will be asked to place a new focus on the development of livable communities, those that support more compact development and are more oriented to walking, bicycling and transit use. To further these efforts, at the Federal level, the United States Department of Transportation (USDOT), the United States Environmental Protection Agency (EPA) and the United States Department of Housing and Urban Development (HUD) have undertaken an initiative to improve community livability through integration of programs and investments that deliver safer, more economical and efficient choices in transportation and housing (<http://www.epa.gov/livability/2009-0616-epahuddot.htm>). On the State level, the Governor's Smart Growth Cabinet, of which NYSDOT is an active member, has been working on ways to use State agency plans and programs to support coordinated land-use development.

Climate Change and Energy Efficiency

The transportation community will also likely be required to take solid steps towards addressing the impact of transportation on climate change. Transportation agencies must also consider and develop strategies to adapt to the impact of climate change on transportation (e.g., there may be a need to raise bridges clearances to adapt to the effects of rising sea levels; infrastructure may need to be built to withstand more severe weather conditions). Congress is currently deliberating

comprehensive climate change legislation that has the potential to make the most sweeping changes to transportation planning in decades, requiring, for the first time, direct consideration of greenhouse gas emissions in transportation planning (New York has been considering greenhouse gas emissions as part of transportation planning since 2003). On the State side, an interagency Climate Action Council has been established to recommend ways to reduce greenhouse gas emissions by 80 percent from 1990 levels by 2050. As transportation accounts for about one-third of the greenhouse emissions, it will clearly be a significant part of any recommendations for future reductions.

Transportation is also an important focus area of the State Energy Plan, due to be released later this year. NYSDOT has been an active participant in this effort, and has committed to a number of concrete actions, including supporting use and deployment of alternative fuel vehicles, supporting “green” transportation choices (including support for public transportation and transit oriented development strategies), and collaborating with Metropolitan Planning Organizations, regional planning councils, and municipal governments to promote and incentivize land use choices that reduce reliance on vehicle trips and establish consistency between transportation planning and land use planning. In addition, the *Transportation Issue Brief* that will be released as part of the Energy Plan, lays out the importance of an energy-efficient transportation system, which must, as its foundation, be in a State of Good Repair. The *Transportation Issue Brief* reinforces the Department’s need to preserve its existing assets, to “fix it first,” as supportive of the State’s energy goals. The objectives and funding priorities put forth in this plan are consistent with these commitments.

These and other State and Federal policies will have a direct impact on the transportation system and will affect the balance and types of future State investments in transportation. The objectives proposed in this report for NYSDOT’s capital program will address some of these emerging policy issues.

Local Transportation Needs

NYSDOT’s capital program traditionally provides funding to address a portion of local infrastructure investment needs. This past summer, NYSDOT undertook extensive outreach to better understand the needs of local transportation stakeholders, industry interests and local elected officials. NYSDOT staff heard loud and clear that we are not alone in our struggle to address critical infrastructure needs with limited resources. NYSDOT understands and supports the nearly universal call for additional investment in the local highways and bridges through the Consolidated Highway Improvement Program (CHIPS). Local officials also recommended additional funding to increase the State’s Marchiselli program, which provides three-quarters of the required local match to Federally funded projects. A number of officials recommended the re-establishment of a program to address local bridge needs. While the condition of local bridges statewide has been improving for a number of years, these bridges are still generally in worse condition than State bridges. Several officials cited the unique needs of cities to invest their resources in State touring routes that pass through cities and in other high-volume arterial highways. Touring routes (numbered routes that guide intercity travelers through the State) pass through many cities, towns, and local jurisdictions, but sometimes, these facilities are not under State jurisdiction. Though these facilities serve a State purpose, often times touring routes are

the “Main Streets” of the local communities and, may be under the jurisdiction of cities and localities, which are then responsible for their maintenance and operation. Due to the statewide function of these routes, it is desirable to bring these facilities to a State Of Good Repair comparable to that of the State-owned touring route system. Although NYSDOT’s investment program will not be able to meet all local highway needs, it does propose increased State investment in important local transportation infrastructure.

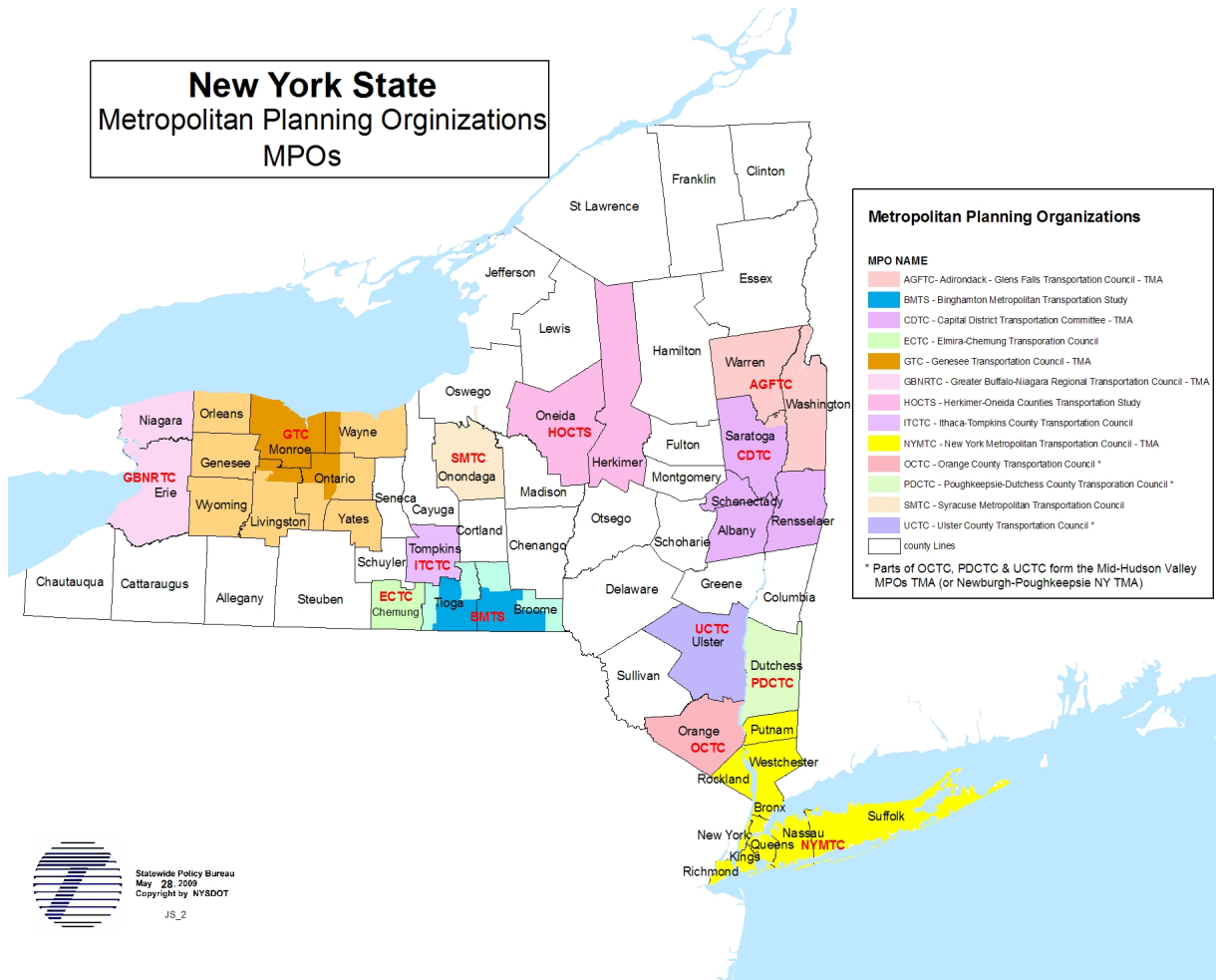
Our outreach also identified strong local support for increased investment in public transportation systems and intercity passenger rail service. In addition, we heard about the importance of freight rail, local airports and ports to our State’s economy.

FEDERAL FUNDING AND THE ROLE OF MPOs

While this report describes the goals, objectives, investment needs and direction for capital funding, it must be emphasized that NYSDOT does not have sole authority to determine the projects to be funded with Federal funding within metropolitan areas of the State. Federal Transportation Law requires that Federally funded highway and public transportation investments in urbanized areas (defined as 50,000 population or more) be programmed through the Metropolitan Planning Organizations (MPOs). These Federally required entities are responsible for planning and programming transportation improvements in metropolitan areas. A metropolitan area’s programs of projects are identified in a metropolitan Transportation Improvement Program (TIP). There are 13 MPOs in New York State (see Figure 4), made up of local government officials and transportation agencies, including NYSDOT. Most of the State’s MPOs operate by consensus, which requires all parties to agree on the program of projects before it is approved by the MPO.

Outside of MPO areas, NYSDOT, in consultation with local elected officials, programs Federally funded transportation projects. NYSDOT is responsible for preparing a Statewide Transportation Improvement Program (STIP) that includes all the metropolitan area TIPs and all other Federally funded projects outside metropolitan areas.

Figure 4



LEVERAGING INVESTMENTS/IMPROVING EFFICIENCY

NYSDOT places a priority on leveraging and matching Federal aid. NYSDOT will also continue to identify resources to increase the funding and assistance available to local governments and to downstate suburban and upstate public transportation systems.

NYSDOT will pursue opportunities to deliver transportation infrastructure projects in the most efficient and cost-effective way possible. To this end, NYSDOT will continue to seek the ability to use a design-build delivery technique for appropriate capital projects. This project delivery mechanism allows a quicker delivery of projects and can provide innovative advantages by allowing a single contract for both design and construction. Currently, 21 states have design-build authority.

NYSDOT will also consider possible opportunities to engage in public-private partnerships. In June 2009, the State Asset Maximization (SAM) Commission produced a final report that proposed establishing a State Asset Maximization Board to review proposals from state agencies for public private partnerships (<http://nysamcommission.org>). The Board would be a transparent oversight vehicle, enabling a consistent framework through which to assess the merits of proposed projects with the private sector. The SAM report included numerous possible pilot projects, including several possibilities for transportation. Especially during this time of constrained financial resources at all levels of government, NYSDOT will seek to take advantage of all opportunities to deliver needed transportation investments faster and more cost-effectively.

In addition to pursuing financial strategies that leverage transportation investments faster and more cost-effectively, NYSDOT is also developing strategies for integrating the benefits of different types of service and infrastructure projects through coordinated investment programs in urban areas. Integration of investments in pedestrian, bicycle and public transportation infrastructure with highway-oriented projects, such as repaving and traffic signal upgrades, as well as housing and utility upgrade programs, is the basis for promoting Transit-Oriented Development and other “livability” concepts.

NYSDOT recognizes that these are difficult financial times. Yet even during these times of great challenges, we cannot stop planning for the future.

INVESTING FOR THE FUTURE

NYSDOT recognizes that these are difficult financial times. Yet even during these times of great challenges, we cannot stop planning for the future. While we must emphasize maintaining our core infrastructure and preserving safety and mobility, we also continue to plan transportation improvements that address emerging economic and climate change needs.

The Passenger Rail Investment and Improvement Act (PRIAA), passed into law in October 2008, was Amtrak's first authorizing legislation in more than 10 years. The PRIAA legislation established new funding opportunities for rail corridor planning and capital investment in rail infrastructure. It also required states to pay for a portion of operating costs associated with all intercity passenger rail service (described later in this document). Congress supported the newly established rail funding programs by providing \$8 billion in ARRA funds that will be applied to these programs and begin to establish a national high-speed rail network. The President's budget and congressional appropriations are continuing the nation's commitment to fund these programs and to develop high-speed rail across the nation. New York is prepared to take advantage of this historic opportunity to seek Federal investment in passenger rail.

In February 2009, NYSDOT completed the *New York State Rail Plan 2009: Strategies for a New Age*, where the State defined its vision and strategies for both passenger and freight rail service. Specifically, New York State envisions that its passenger rail system will:

- Transport double the total intercity passenger rail ridership as it does today;
- Provide high-speed intercity passenger service (defined as speeds up to 110 miles per hour) connecting to the Northeast Corridor, Chicago, Montreal and Toronto;
- Improve efficiency and lower overall service costs for commuter, intercity passenger and freight rail operations;
- Include new or additional passenger services where viable; these could include, for example, commuter services connecting Saratoga Springs with Albany and intercity services connecting Binghamton and New York City.

Building on New York's prior investments, the vision is to establish 110-mph service on the entire Empire Corridor between New York City and Albany, and Albany west to Buffalo and Niagara Falls. The "Empire Corridor Mainline Third Track Initiative" is described in the 2009 New York State Rail Plan (www.nysdot.gov/divisions/policy-and-strategy/planning-bureau/state-rail-plan). This initiative will improve rail service throughout upstate New York. It will expand, enhance and support capacity growth for intercity passenger and freight rail service in the Albany-Buffalo portion of the Empire Corridor. This initiative will create the Empire State Passenger Rail System, reaching across the State and to the national network. There will be better transportation options for all travelers, building on the National Vision for a robust, green economy; more energy independence; solutions to global climate change; and more livable connected communities.

New York State's passenger rail vision is far-reaching and ambitious, but the Department is prepared to move forward to make it a reality. NYSDOT is actively supporting this rail vision and has taken the first steps forward by submitting applications to take advantage of newly available Federal rail funding. To continue advancing this passenger rail vision, the Department has identified an investment need of \$300 million in State capital funding to match and to leverage the Federal capital dollars the State expects to receive over the next five years. These

funds will also support the development and operation of new passenger rail service and provide strategic capital enhancements to the system in support of the state's high speed rail initiative. In addition to this capital investment, there will be a need to address the operating and maintenance costs associated with the high-speed rail initiative. This includes not only any subsidy requirement to operate new passenger service, but also the maintenance costs for new tracks, signals and equipment.

DBE AND M/WBE INITIATIVES

The Department of Transportation is a significant purchaser of goods and services. As such, NYSDOT's activities need to advance broader economic goals, including increased opportunities for minority and women-owned businesses. NYSDOT is committed to the success of its Disadvantaged Business Enterprise (DBE) and Minority and Women-Owned Business Enterprise (M/WBE) programs and related activities, and to meeting all State and Federal requirements for these programs.

The following actions are among several recently taken or planned to strengthen these programs and to increase opportunities for DBEs and M/WBEs. Measuring the success of these actions will be part of measuring the success of the Department's programs. NYSDOT will work closely with our industry partners to advance these goals:

- Ensuring that all qualified firms are DBE-certified, with particular emphasis on M/WBE. NYSDOT has been conducting one-on-one certification events and sending letters that provide information on DBE certification as well as contracting opportunities with NYSDOT to M/WBEs involved in construction and construction services.
- Maintaining a statewide outreach program for DBEs and M/WBEs to inform the disadvantaged, minority and women-owned business community of upcoming opportunities in highway construction, civil engineering and transportation-related contracts. This outreach includes networking events, increased advertising in targeted publications and enhancing the Office of Civil Rights Web site.
- Increasing the number of M/WBEs by expediting the M/WBE application process for firms already certified as a DBE.
- Increasing internal M/WBE utilization through staff training and communication. Training for NYSDOT staff with purchasing responsibilities will feature a special instructional segment on the use of the Department of Economic Development's Web site Directory of M/WBEs.
- Increasing opportunities for DBEs and M/WBEs through the Consultant Base Preservation Effort. This is designed to enhance and to broaden participation by qualified small firms in its engineering consultant program.

- Making certain potential opportunities for DBE participation are considered in individual contract goal-setting by requiring a review by the Office of Civil Rights of all NYSDOT let contract goals prior to contract advertisement as well as approval of the Office of Civil Rights prior to granting a waiver to lower or to eliminate a goal on NYSDOT-let contracts.
- Planning a mentor-protégé program for DBEs and M/WBEs. NYSDOT is currently developing a pilot mentor-protégé program.

NYSDOT will continue to be proactive in administering these programs.

GUIDING PRINCIPLES FOR TRANSPORTATION INVESTMENT

The need to increase infrastructure investment for all parts of our transportation system is well documented and will not subside despite the fiscal challenges we face today. The following guiding principles will serve as the foundation for the investment priorities of NYSDOT's capital program.

- **Safety for the Traveling Public:** All transportation facilities and services must be safe. Investments will support efforts to reduce fatalities and serious injuries and should improve management of risks across all modes.
- **Preservation of Transportation Assets:** The preservation of existing infrastructure for all modes of transportation is essential to the economic competitiveness and livability of New York State. Proven asset management principles that balance preventive maintenance and capital investments are critical to preserve the system and to avoid the expense and service dislocations of premature reconstructions and replacement. Priorities will be determined by the importance of an asset to the system, regardless of ownership.
- **Support for the State's Economic Vitality:** A sound transportation system that supports the efficient movement of people and goods is the underpinning of a thriving economy. Investments should improve the State's economy and the quality of life for all New Yorkers.
- **Enhanced Mobility for People and Goods:** Investments that increase system reliability, modal options, connectivity and access are fundamental strategies for improving economic competitiveness and community livability and are essential purposes beyond asset preservation.
- **Sustainable Investment for the Future:** Transportation investments should leverage the value of investments being made in all infrastructure categories, regardless of ownership, to cost-effectively support economic and community needs in an environmentally sensitive and energy efficient manner. Sustainable investments should minimize the use of nonrenewable energy resources; support reduced emissions and modal choice; and ensure sound environmental stewardship by enhancing and protecting the natural and built environment and minimizing costs over the life of the investments.

MULTIMODAL TRANSPORTATION GOALS AND OBJECTIVES

Chapter 25 of the Laws of 2009 requires NYSDOT to present the objectives of a program to address the capital needs of the Department of Transportation and the performance measures that will be used to determine investment priorities in the State for the next multiyear capital program. This section describes these objectives and performance measures.

The Department's 20-Year Needs Study outlined the infrastructure investments needed to improve the transportation system to a State Of Good Repair over the next 20 years. The objectives described in this report for the 2010-2015 Capital Program will begin moving the State's transportation system toward that goal. For the highway system, NYSDOT seeks, in the near term, to stabilize State and local bridge conditions at about current levels and to stabilize pavement conditions on higher volume roads essential to mobility and commerce. Other modal investment programs have similar near-term objectives. Future capital programs would allow additional progress toward improving conditions and enhancing all modes.

The pace of progress in meeting these objectives and improving infrastructure conditions will depend on the level of investment by all levels of government and, for some modes, the private sector. If the overall level of investment can be sustained in the future, then progress will continue on the longer-term goal of achieving a State Of Good Repair. Without this sustained level of investment, it will not be possible to maintain the condition of many parts of the transportation system nor allow expansion nor enhancements to the system to meet economic or other emerging needs.

The Department will continue to invest in ways that support our principles and objectives and will measure and monitor performance through measures designed to provide transparency and accountability for our investments by capturing the impact of our investments on the transportation system. The initial set of performance measures will be further refined over time and are subject to change as USDOT and Congress determine Federal requirements for performance management for transportation. In addition, the work that has been done to meet the reporting requirements of the American Recovery and Reinvestment Act (ARRA) (see www.nysdot.gov/recovery/goals) will be expanded to the entire capital program.

The following is a description of NYSDOT's program goals and objective for the 2010-2015 Capital Program. Proposed performance measures are presented later in this document.

Highway and Bridge Infrastructure

Goal Statement

Extend the service life of all highway and bridge-related assets, with priority given to the facilities that are the most critical links in the transportation system serving economic and community needs, through the application of both maintenance and capital investments.

Objectives

- Establish a hierarchy of investments that gives priority to bridges and pavements on critical corridors, necessary for both people and goods movement.
- Prioritize investments in critical corridors that leverage the value of investments by other modal agencies and local governments.
- Ensure timely application of appropriate preventive and corrective maintenance strategies to slow the rate of asset deterioration and the need for costlier future capital investments.
- Repair critically deficient highway bridges and large culverts, regardless of ownership, through appropriate capital investments.
- Reduce the overall number and deck area of deficient bridges, regardless of ownership, throughout the State.
- Reduce the number of bridges with load postings that limit a bridge's ability to carry its designed loads.
- Improve pavement surface conditions, particularly targeting Interstates and other National Highway System (NHS) roads.
- Improve pavement smoothness consistent with the Federal Highway Administration (FHWA) roughness goal, which will provide safer, more fuel-efficient roads for the public.
- Preserve and improve, as appropriate, essential highway-related assets, including, but not limited to, guiderail, drainage, traffic signs and signals.
- Preserve lower-volume highways and bridges that provide essential connections in rural areas.
- Support future projected economic growth through strategic, coordinated enhancements to the system, consistent with sustainable investment principles.

Public Transportation System

Goal Statement

Ensure the efficient, safe and reliable movement of public transportation users through investments in core public transportation infrastructure, equipment and services which improve connectivity, accessibility, livability, sustainability and modal choice.

Objectives

- Deliver reliable public transportation service through continued investment in the core system by replacing buses, facilities and related equipment as they reach their Federally rated useful life.
- Extend the service life of public transportation assets through adherence to industry standard/manufacturers-recommended preventive maintenance activities.
- Establish energy efficiency and emissions reductions as key criteria for vehicle replacements.
- Coordinate resources with other transportation providers, such as human-services agencies, to assure maximum utility from all asset investments.

- Support “greener,” more energy-efficient transit facilities.
- Promote the use of public transportation through multimodal traveler information systems.
- Coordinate public transportation investments with investments and strategies in other modes to maximize utilization and the connectivity of the overall transportation system.
- Expand transit services where necessary to meet growing demand.

Statewide Rail System

Goal Statement

The 2009 New York State Rail Plan establishes the goals, objectives and strategies to implement the State’s proposed vision for improved and expanded freight rail and intercity service – encompassing both intercity and commuter rail. The plan envisions an increase in market share for passenger and freight rail, enhancing the State’s competitive position, decreasing congestion in other modes to reduce energy consumption and improve environmental conditions, and improving safety conditions to reduce rail’s already low accident rate. The State’s Rail Plan is a long-range planning document that presents the State’s rail infrastructure needs for the next 20 years.

The State Rail Plan sets forth goals, objectives and strategies that are aligned with existing plans and programs. This capital plan update will address the infrastructure-related goals of the State Rail Plan that include:

- System Preservation: Preserve the existing rail system as a long-term transportation asset.
- Safety and Security: Increase safety and infrastructure security. Ensure that track, equipment and signals are properly maintained and encourage the incorporation of advanced safety technologies wherever practical to enhance safety where modal conflicts may exist.
- System Capacity, Reliability and Travel Time: Develop a rail network capable of supporting the future travel needs of New York State residents and businesses and manage it for optimum efficiency.
- Intermodalism, Accessibility and Mobility: Promote an integrated rail system that facilitates the efficient movement of people and goods, expands choices and improves access to and interconnectivity of all transportation system modes.
- Energy Efficiency, Environmental Sustainability and Economic Competitiveness: Provide a rail system that is energy efficient and environmentally sustainable and that promotes the integration of transportation, land use and economic development to support New York’s economic competitiveness and quality of life.

Accomplishing the long-term vision set forth by the State Rail Plan will require implementation of the High-Speed Intercity Passenger Rail and Freight Rail and Port strategies as follows:

High-Speed Intercity Passenger Rail Service

Goal Statement

Maintain and improve safe, efficient and reliable intercity passenger rail service through strategic investments in core system infrastructure, including track, train control signals and passenger stations. Facilitate increased service, frequency, reliability and expanded High-Speed Passenger Rail Service.

Objectives

- Begin implementation of the State's High-Speed Rail vision by leveraging Federal funding opportunities, including those provided under the American Recovery and Reinvestment Act (ARRA), Federal Railroad Administration (FRA) State Matching Grant programs, Federal tax exempt/credit bonds, Federal loan guarantees, carbon credits, public-private partnerships and other innovative finance mechanisms.
 - Implement the Empire State Intercity Passenger Rail System initiative with focused efforts to achieve improved service reliability and travel time savings between Albany and Buffalo.
- Promote infrastructure investments to:
 - Increase ridership in the entire Empire Corridor from Niagara Falls to New York City and in the Adirondack segments of the State's passenger rail network.
 - Improve reliability and trip times of passenger services to eventually achieve:
 - At least 95 percent On-Time Performance (OTP) in the Albany-NYC segment.
 - Reliable, faster and frequent travel in the Buffalo-Albany segment.
 - Six-and-½ hour train travel between Albany and Montreal.
- Pursue expansion of passenger services in areas outside the Empire Corridor and the Adirondacks where there is market demand.
- Provide passengers with a fully functioning Moynihan Station in New York City.
- Maintain rail infrastructure in a State Of Good Repair.

Freight Rail and Upstate Ports System

Goal Statement

Extend the service life of essential rail and port facilities through public investments that promote asset preservation and the attainment of a State Of Good Repair infrastructure condition. Promote intermodalism, accessibility and mobility and support initiatives to improve service reliability. Improve rail and ports systems' energy efficiency, environmental sustainability and economic competitiveness.

Objectives

- Implement freight rail improvement strategies as established in the State Rail Plan.
- Give priority to establishing and preserving “last mile” connections to rail-served industries and ports.
- Pursue programs to reduce the risk of accidents through use of technologies, such as positive train control.
- Support minimum clearances, consistent with the State Rail Plan for critical rail corridors.
- Support increased weight carrying capacity for critical rail corridors to attain line capacity for 286,000-pound rail cars.
- Extend and improve essential port facilities necessary for ongoing operations to promote intermodalism and to promote the economic competitiveness of such facilities.
- Expand rail and port terminals, inland port distribution centers and related assets to meet increased service demand.

Aviation System

Goal Statement

Extend the service life of essential aviation facilities through public investments that promote asset preservation and the attainment of State Of Good Repair infrastructure condition and ensure secure facilities. Promote economic development of commercial and general aviation airports and improve the connectivity of the overall transportation network.

Objectives

- Leverage all available Federal aid to address infrastructure improvement and asset maintenance needs of airports.
- Promote implementation of highway and transit projects that alleviate ground access problems at major commercial airports.
- Give priority to removing or lowering airport runway approach obstructions to increase safety factors and to allow greater use of existing airport runways.
- Provide transient aircraft hangars, a priority requirement for business use of airports.
- Support aviation facilities that provide the only reliable air service for a given region.
- Encourage point-to-point air transportation through enhancements of both commercial and general aviation facilities.

Multimodal Transportation Mobility

Goal Statement

Enhance the movement of people and goods through improvements in system reliability, cost-effective congestion mitigation, network connectivity, accessibility and modal choice.

Objectives

- Develop and implement strategies that focus investment where opportunities exist to increase the market share of modes that promote energy efficiencies and reductions in emissions.
- Implement strategies to reduce growth in anticipated system congestion and growth in VMT, consistent with sound local transportation and land-use planning.
- Enhance mobility on existing systems, through the application of proven technologies, before expanding the system.
- Improve travel reliability for both people and goods through incident management strategies and commitments to on-time performance and reliable travel times.
- Integrate walking/bicycling as viable modes for modal connectivity, Smart Growth and transit-oriented development.
- Address pedestrian (including persons with disabilities) and bicycle traffic as part of a strategic planning, construction, and maintenance programs – to create a transportation system that is accessible and able to safely and conveniently accommodate the needs of bicyclists and pedestrians.
- Continue the strategic elimination of highway and rail bridge clearance restrictions with the greatest impact on personal mobility and goods movement.
- Facilitate improved rural public transportation service.
- Strengthen regional connections between population centers through commuter rail, intercity bus and intercity passenger rail.
- Support economic development with strategic investments.

Environmental Sustainability

Goal Statement

Support a sustainable environment through improved energy efficiency in the transportation system and the protection and improvement of air and water quality.

Objectives

- Lower the transportation sector's contribution to greenhouse gases and global climate change.
- Develop and adopt sustainability standards for construction and maintenance activities.
- Reduce the growth in the State's transportation's consumption of nonrenewable petroleum resources.
- Working with local governments and MPOs, focus investments in corridors that support transit-oriented development, smart growth or other coordinated sustainable investment approaches.
- Expand modal choice in the most congested urbanized corridors and regions to promote energy conservation and improved air quality.
- Consistent with National Ambient Air Quality Standards, lower emission of pollutants and support air quality conformity goals in both nonattainment and maintenance areas.

- Reduce non-storm water discharges within Designated Urbanized Areas to ensure clean drinking water and biodiversity.
- Ensure that transportation-related investments appropriately protect wetlands and biodiversity.
- Achieve environmental remediation and enhancement goals as specified in the Department's GreenLITES program.

Multimodal Transportation Safety

Goal Statement

Improve safety in all transportation modes, regardless of jurisdiction, to save lives, to reduce the number and severity of personal injuries and to prevent crashes.

Objectives

- Reduce the number of fatalities and the fatal crash rate per 100 million vehicle miles traveled (VMT).
- Reduce work zone intrusions.
- Reduce number and severity of truck, bus and rail accidents.
- Reduce rail-grade crossing accidents.
- Encourage improved system designs that meet the transportation needs of elderly individuals and those with disabilities.
- Improve safety margins at airports for aircraft landing and taking off.

2010-2015 CAPITAL PROGRAM STRUCTURE

The NYSDOT capital program is being developed in a time of fiscal uncertainty, increasing needs and demands on the system and new policy challenges. Our investment principles recognize a need for transportation to support a number of important new priorities, but the current fiscal challenges require us to efficiently and effectively balance our investments. As a result, NYSDOT's capital program will focus on an asset management strategy – balancing the need to repair and to replace critical assets that have exceeded their service life, while extending the life of the remaining infrastructure by applying maintenance strategies at appropriate times during the life of the asset. In addition to the physical performance of an asset, the program will address the functional performance by investing in system operations improvements, including traffic management centers, quick response services, such as HELP trucks, and supporting efforts, such as travel demand management, to make better use of the existing system. Lastly, to ensure that the State is well positioned to leverage new future Federal investments in transportation when Congress reauthorizes SAFETEA-LU, the program will highlight the need for significant investments in engineering and program management necessary to develop, manage and implement construction projects for the coming years. The combination of these activities is referred to as our “Core” program.

There will also be a need to invest resources strategically in projects and activities that enhance or expand the existing transportation system. Enhancements are projects and programs beyond those core program investments needed for the infrastructure to reach a State Of Good Repair. Enhancements consist of investments that expand the utility or extent of current facilities, services and programs or expand capacity.

Finally, NYSDOT recognizes that many high-cost infrastructure rehabilitation, replacement or expansion needs will not be met within existing or potential resources. These projects are recognized as “major projects” because they are beyond current means to finance. These projects may be either core infrastructure investments or capacity expansions. NYSDOT will support investments in these important projects to the extent possible through existing and foreseeable resources, but to deliver such major investments will require identification of new funding sources.

PROPOSED 2010-2015 CAPITAL PROGRAM INVESTMENTS

The proposed \$25.8 billion NYSDOT Capital Program for State Fiscal Years (SFY) 2010-11 through 2014-15 reflects the investment priorities and objectives necessary to begin the process to maximize the useful life of our existing transportation infrastructure, to manage and operate assets in the most cost-effective manner, to protect public safety, to maintain critical components of our system at about current conditions and to implement critical enhancements to our transportation network.

Achievement of the objectives described in this plan is dependent on adequate financial resources at the federal and State level, and, in some cases, investment from local government and the private infrastructure owners. The current fiscal constraints at both the federal and State government will affect the pace at which these objectives can be achieved. While these constraints will affect the timing of investments, NYSDOT's investment priorities and objectives will provide the framework for moving forward. The Department's capital program will strive to attain the objectives and outcomes presented in this program through a long-term commitment to infrastructure investment.

The program and project cost estimates included herein were developed from existing data sources to frame the total value of a five-year transportation program that begins on April 1, 2010. There is still much work to do to refine the list of preliminary projects and to produce a final mix of projects and cost estimates that will achieve the intended goals of this program. Since NYSDOT shares in a planning and project selection process with local MPOs, the Department will be working with our MPO partners to develop consensus on specific projects and investment levels.

Project cost estimates in the preliminary project lists are presented in "year of expenditure" dollars. The inflationary assumptions that underlie the proposed investment levels are based on long-term inflation forecasts from Global Insight. To the extent that actual inflation varies from projections, NYSDOT – consistent with Federal requirements - will need to reassess our year-of-expenditure cost estimates and adjust the program or funding accordingly.

The investment summary table below displays the proposed funding for major program components.

**Proposed NYSDOT Capital Program
2010-11 through 2014-15
Investment Summary Tables
(\$ in millions)**

TOTAL PROGRAM	
Investment Element	Proposed Funding
State Highway/Bridge Projects	\$11,952
Federal Funds for Local Projects	\$2,234
Engineering/Program Support and Management	\$4,707
Preventive Maintenance	\$1,672
Right-of-Way	\$415
Maintenance Facilities, Equipment & Materials	\$410
CHIPS/Marchiselli	\$2,375
Local Initiative (Bridges/Touring Routes)	\$300
High-Speed Rail Initiative	\$300
Freight Rail and Ports	\$340
Aviation	\$101
Non-MTA Transit	\$340
Special Federal ⁽¹⁾	\$674
Community and Corridor Land-Use Planning Initiative	\$25
Program Total	\$25,845

⁽¹⁾ Includes special federal funding categories that are allocated for specific projects based on limited program applicability, including Appalachian Development, Recreational Trails, Coordinated Border Infrastructure Program, Safe Routes to School and the Transportation Enhancement Program.

Core Program

The Core Program reflects the investments necessary to maximize the useful life of the existing transportation infrastructure, to manage transportation assets in the most cost-effective manner, to protect public safety and to maintain the system in the best condition possible. These investments are intended to improve the infrastructure toward a State Of Good Repair. The Core program includes investments in pavement and bridges and other highway assets, such as culverts, guiderail, traffic signals and traffic control signs. In addition to highway related assets, core program investments include investments in existing rail, public transportation and aviation infrastructure.

CORE PROGRAM	
Investment Element	Proposed Funding
State Highway/Bridge Projects	\$10,352
Federal Funds for Local Projects	\$2,234
Engineering/Program Support and Management	\$4,707
Preventive Maintenance	\$1,672
Right of Way	\$415
Maintenance Facilities, Equipment & Materials	\$410
CHIPS/Marchiselli	\$2,375
Local Initiative (Bridges/Touring Routes)	\$300
Freight Rail and Ports	\$340
Aviation	\$101
Non-MTA Transit	\$340
Special Federal ⁽¹⁾	\$459
Program Total	\$23,705

⁽¹⁾ Includes special federal funding categories that are allocated for specific projects based on limited program applicability. Core Special Federal funding includes the amounts for the Appalachian Development, Coordinated Border Infrastructure and Safe Routes to School programs.

Enhancements

Although the vast majority of NYSDOT’s program (about 90 percent) is focused on investments that preserve the core transportation infrastructure, to the extent resources allow, the Department will also support strategic capacity enhancements and expansions as well as additional investments and initiatives that support the State’s economic vitality and livable communities. Enhancements to the Core Program consist of investments that improve the utility or extent of the current facilities, services and program. While Core program investments maximize the useful life and service of the existing transportation system, Enhancements provide funding for new activities and projects that improve the system above existing levels. These investments can include new projects, such as some that were identified during NYSDOT’s outreach but that are not included in the current capital program; and expansion of initiatives, such the Department’s Community and Corridor Land Use Planning Initiative that supports Smart Growth efforts and the high-speed rail initiative.

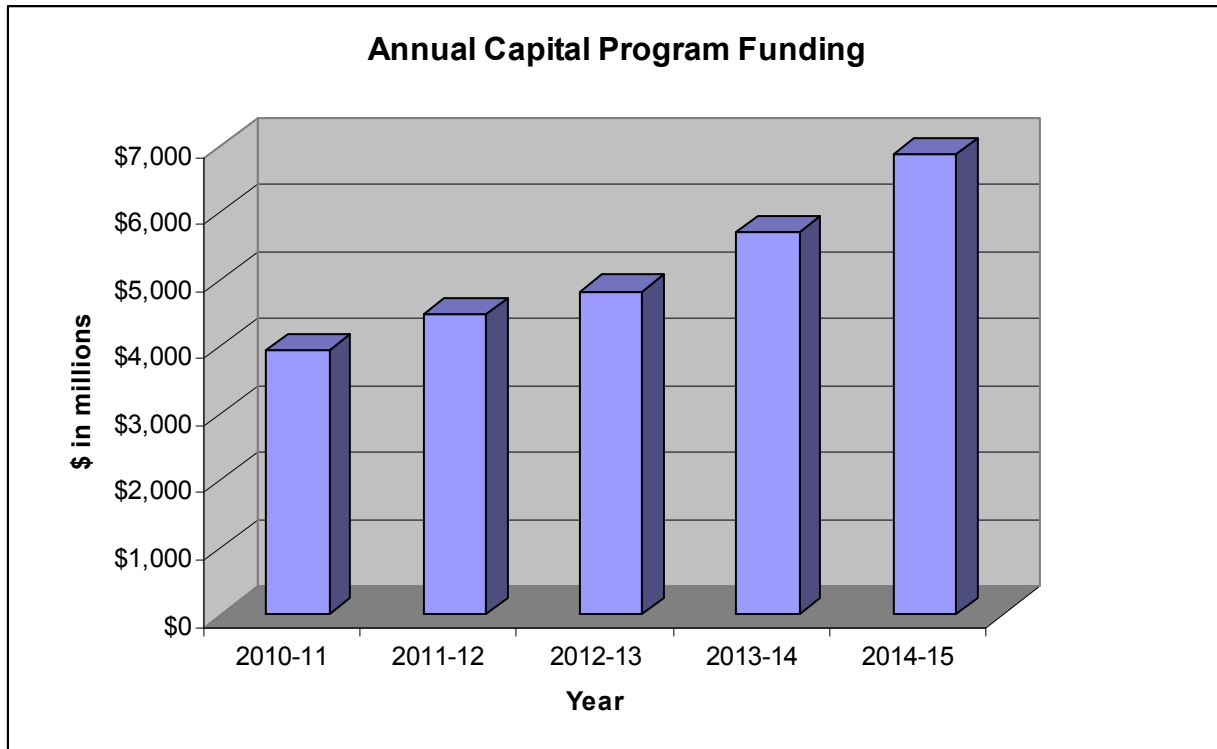
ENHANCEMENTS	
Investment Element	Proposed Funding
State Highway/Bridge	\$1,600
High-Speed Rail Initiative	\$300
Special Federal ⁽¹⁾	\$215
Smart Growth/Sustainable Land Use	\$25
Program Total	\$2,140

⁽¹⁾ Includes special Federal funding categories that are allocated for specific projects based on limited program applicability. Enhancement Special Federal funding includes the amounts for the Recreational Trail and TEP programs.

Annual Funding

Projected annual funding that would be required for the proposed program is displayed in the table below.

Annual Capital Funding (\$ in millions)						
Annual Funding	2010-11	2011-12	2012-13	2013-14	2014-15	Total
	\$3,951	\$4,481	\$4,827	\$5,719	\$6,867	\$25,845



Federal Funds

Our transportation system is part of a national network that is integral to the economic vitality and security of the nation. We cooperate and coordinate with neighboring states on transportation planning and investments to create regional benefits and improvements that stretch far beyond the boundaries of New York State. Clearly, the federal government should bear a greater share of the cost of building, maintaining and operating our systems.

Consideration of this new NYSDOT program will occur during a period of extreme financial uncertainty at the Federal level. The Federal Highway Trust Fund (HTF) is no longer solvent and requires annual general fund transfers to maintain current spending. In addition, the current Federal surface transportation program, the Safe Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), expired on Sept. 30, 2009. Congress is currently deliberating an extension and a successor to SAFETEA-LU that may not be reauthorized until 2011.

As referenced above, Federal funding and its application to specific programs and projects are dependent on obtaining approval from Federally authorized local MPOs.

Carryover Bond Act Funds

The current 2005-2010 Capital Program includes \$1.45 billion of funding from the Rebuild and Renew New York Transportation Bond Act of 2005 that was planned for obligation through 2009-10. The funding sources for the proposed 2010-2015 Capital Program include the carryover of \$300 million in Bond Act funds to support projects that are expected to experience schedule delays beyond SFY 2009-10.

State Funds

The Dedicated Highway and Bridge Trust Fund (DHBTF) is reaching a critical phase. Currently, nearly half of the revenues flowing into the Dedicated Fund are used to pay debt service on previous investments. It is estimated that by 2013, debt service payments will consume three-quarters of the Dedicated Fund's annual revenues.

PROJECTED ACCOMPLISHMENTS FROM THE CAPITAL PROGRAM

The proposed \$25.8 billion capital program significantly grows the funding available for transportation. This includes highway and bridge construction; and other investments to support highways and bridges construction, including the engineering and management resources needed to develop and to deliver the construction projects, right-of-way acquisition, preventive maintenance and funding to support NYSDOT's facilities and equipment. This program also provides significant growth in modal investments and investments in locally owned infrastructure. Overall, to stabilize and to begin improvements to the infrastructure, this program calls for a 44 percent increase in funding from the previous 2005-2010 capital program. The discussion below describes the proposed investments and expected accomplishments that could be achieved with this level of funding.

PAVEMENT AND BRIDGE CONSTRUCTION

\$11,952 million

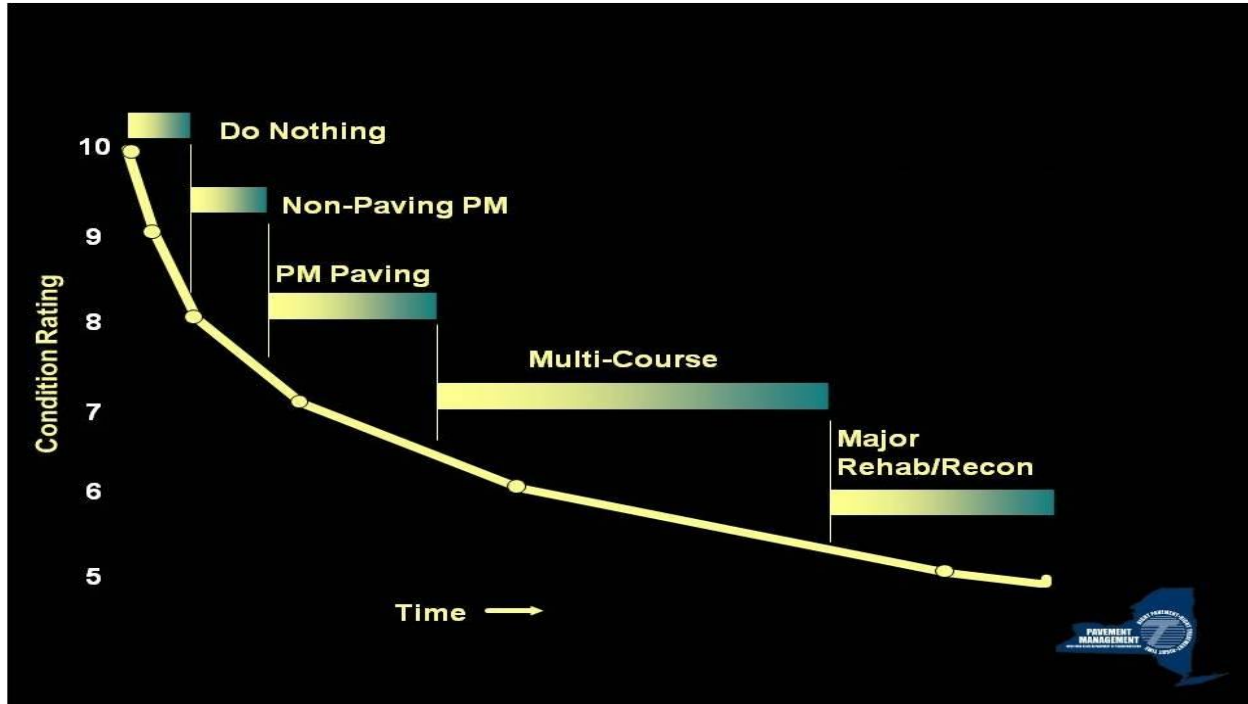
PAVEMENTS

Good pavements are cheaper to maintain and they provide better service to the public than poor pavements. NYSDOT annually conducts a highway condition survey to determine the surface condition for each section of highway on the New York State Touring Route System. The Touring Route System consists of 41,084 lane miles, of which 38,435 lane miles are under State (NYSDOT) jurisdiction. Pavement surface conditions on State highways are determined annually using a "10 point" scoring methodology. Pavements rated 5 or less are considered to be in "poor" condition, while pavements rated 6 are considered "fair." Pavements rated poor or fair are generally candidates for major rehabilitation and reconstruction projects.

The statewide long-term goal is to keep New York State highway pavements in a State Of Good Repair with higher priority given to high-volume roads, such as the Interstate Highway System, National Highway System (NHS) and other trade corridors. Since 2000, New York State has experienced a general reduction in the overall amount of pavement in good and excellent condition. The Department has seen some improvement over the last four years, based on a 30 percent increase in paving during this period, but the general trend, including preliminary data for 2009, suggests that the conditions will continue to deteriorate, even with the addition of economic recovery funding.

Pavement rehabilitation and reconstruction projects, while often necessary, are expensive solutions that are very disruptive to travelers and the adjacent community during construction and, because of competing program needs, may require the public to endure less than desired pavement conditions for extended periods of time. To minimize the need for such projects, NYSDOT has adopted a pavement management strategy that is designed to maintain pavements in "good condition," and thus significantly postpone the need for pavement rehabilitation and reconstruction. NYSDOT's asset management strategy focuses on applying the right preventive maintenance treatment at the right time to maximize the life of the transportation asset and to minimize the life cycle cost to maintain the asset. This strategy is depicted in Figure 5.

Figure 5: NYSDOT Asset Management Strategy: Life-Cycle Pavement Preventive Maintenance



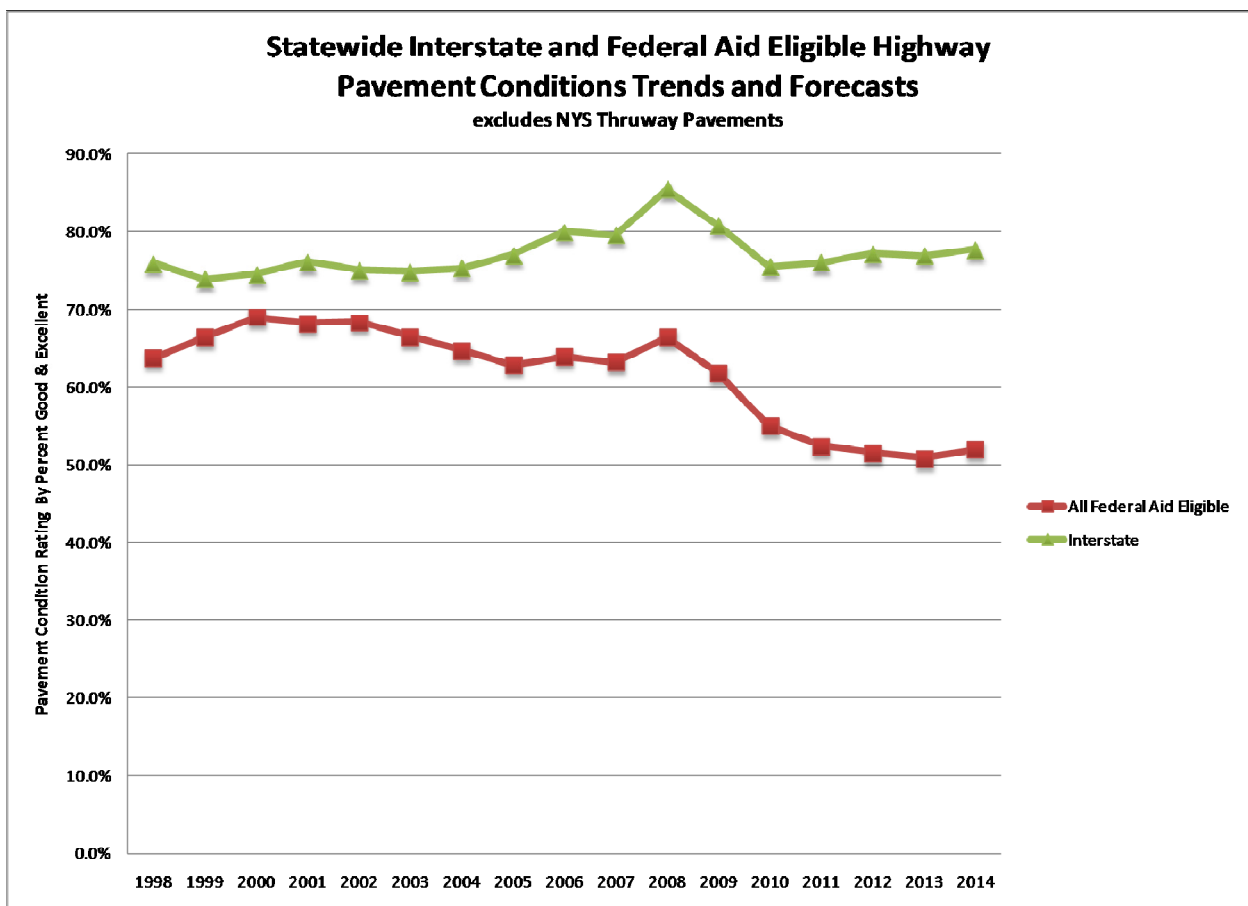
The figure above indicates the types of preventive maintenance techniques that would be applied at various stages in the life of the pavement. At the beginning of a new pavement’s life, it is rated “10” or new. As the pavement ages, it slowly deteriorates along the condition rating scale. No preventive maintenance is needed while pavement is in excellent condition. Once a pavement approaches a condition rating of “8,” it is best to apply non-paving preventive maintenance techniques, such as crack sealing, for a cost of about \$5,000 per lane mile. Once a pavement falls below about 7.5, preventive maintenance (PM) paving is required. Depending on the level of treatment needed, these simple single-course overlays typically cost between \$65,000 to \$100,000 per lane mile. Once a pavement approaches a rating of “6” (a “fair” condition), a more capital intensive pavement rehabilitation (or multicourse rehabilitation) is required, costing about \$500,000 per lane mile. Once a pavement approaches a rating of “5” (poor), it requires major rehabilitation and/or reconstruction, costing about \$1,500,000 per lane mile. If proper preventive maintenance strategies are applied early and at regular intervals, pavement stays “good” and “excellent” longer, extending pavement life and avoiding premature and costly reconstruction.

The Core Program will emphasize the use of appropriate, timely preventive maintenance treatments, including single-course pavement overlays and other effective, industry-accepted practices to prolong pavement life and to reduce the cost to maintain pavements over their useful life.

Pavement Conditions

With the levels of investment envisioned in this plan and the priority given to addressing the heavily used pavements, NYSDOT expects some improvement in pavement conditions on higher level roadways, but the improvement will not be seen on all classification levels (such as non-National Highway System (NHS) and local Federally eligible roads). (See Figure 6, below) A large amount of pavement is aging and will require resurfacing over the next five years. The proposed investment levels will maintain Interstate Highway system pavement at current conditions, with about 80 percent in good or excellent condition. Non-interstate NHS roads will end the period slightly below current condition levels. Overall, the Federal-aid eligible pavements will decline slightly from about 60 percent good or excellent to about 50 percent good or excellent. The Department will work with MPOs and local governments to ensure that the higher-volume roads, important travel routes and trade corridors are maintained in the best condition possible with expected resources.

Figure 6



Pavement Accomplishments

As shown in the table below, this program of investments will provide the funding needed to reconstruct nearly 1,300 lane miles of pavement (3.5 percent of State lane miles) and provide for nearly 1,600 lane miles of repaving (more than four percent of system pavement).

PAVEMENT ACCOMPLISHMENTS	QUANTITY
HIGHWAY RECONSTRUCTION AND REHABILITATION	
LANE-MILES RECONSTRUCTED	1,297
LANE-MILES REPAVED	1,589
HIGHWAY REPAIR	
LANE-MILES RESURFACED	6,460
LANE-MILES SURFACE TREATED	865
LANE-MILES CRACKS & JOINTS SEALED	17,970

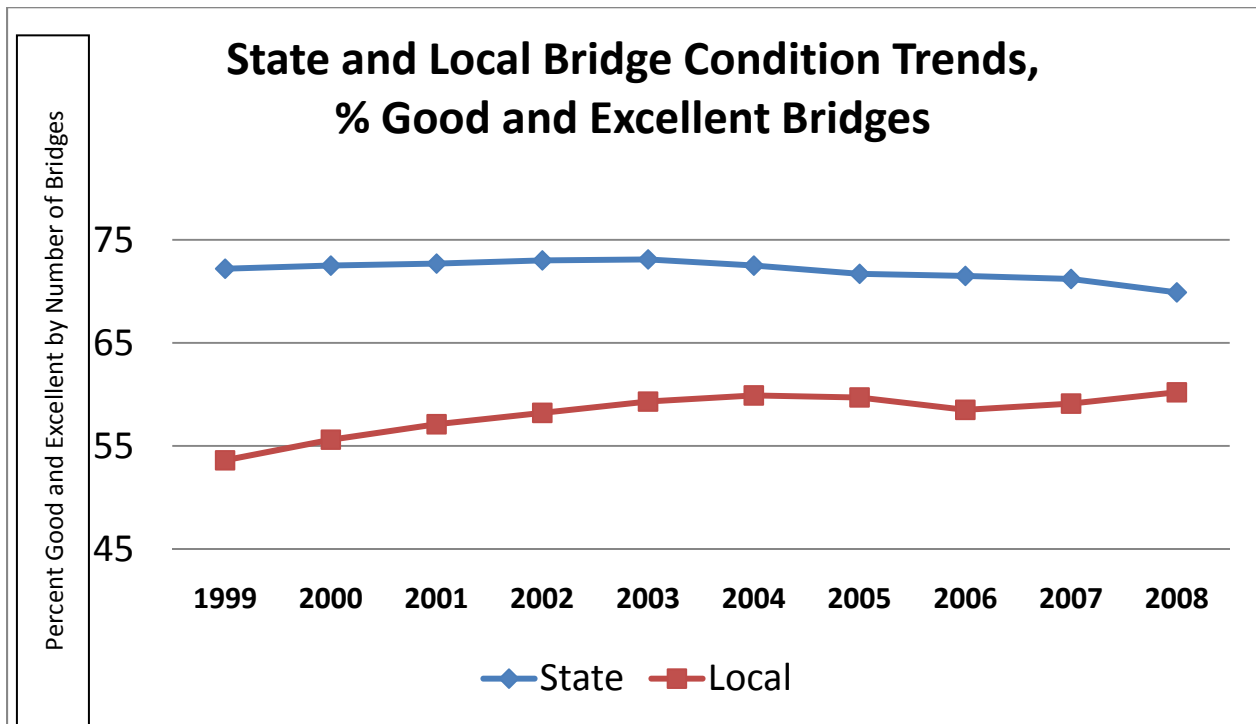
BRIDGES

The bridge population in New York State includes 7,632 State highway bridges and 8,587 highway bridges maintained by local governments. (Another 1,187 bridges are owned by Public Authorities). By statute, each element of every bridge span is inspected at least biennially and rated on a “1” (completely deteriorated) to “7” (new condition) scale. Individual element ratings are combined by formula to compute an “average” condition rating for each bridge. Bridges with an average condition rating less than 5 are considered “deficient,” while bridges with an average condition rating less than 3 are considered “critically deficient.” Although the term “deficient” is used to describe the condition of these bridges, it should be emphasized that these bridges are considered safe and would be closed if bridge inspectors considered them otherwise.

Bridge Conditions

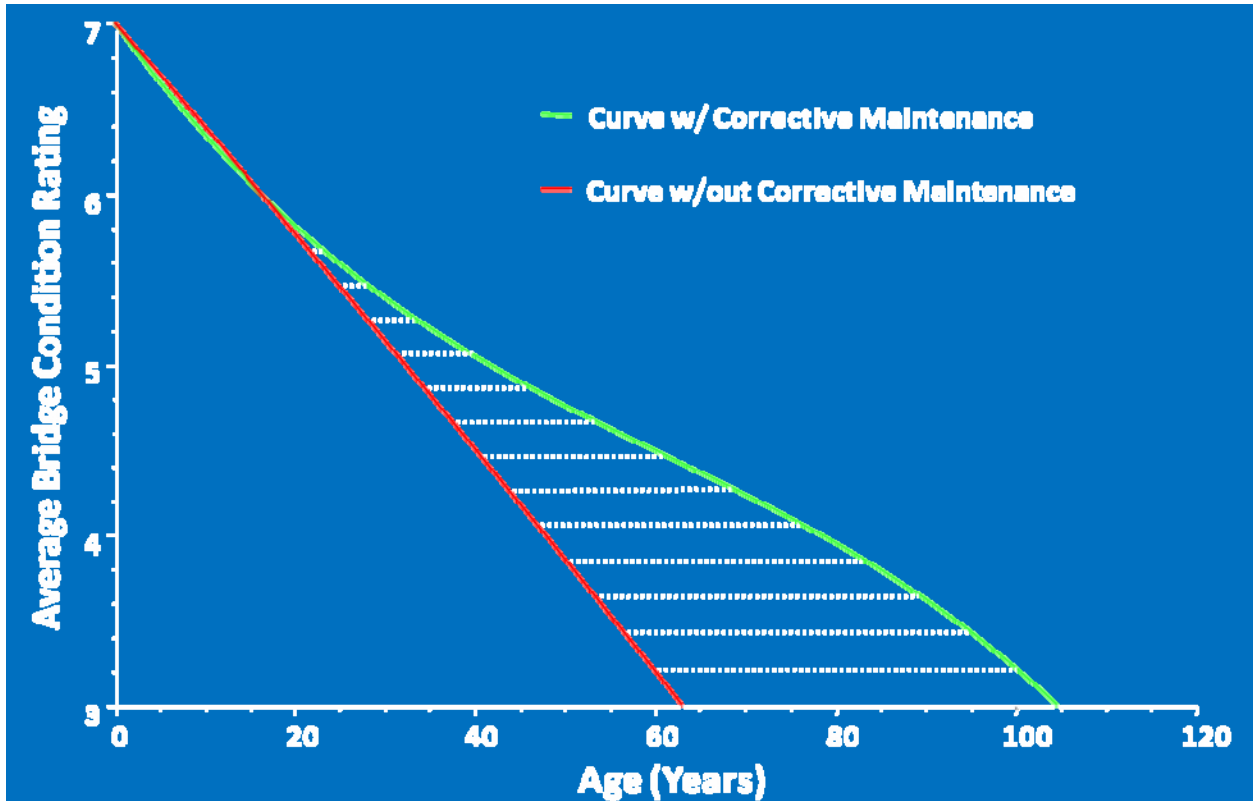
Figure 7 shows the trend of good and excellent bridges (those with a rating above 5 that are not considered deficient) over the past several years for bridges on the Federal-aid highway system. While bridge conditions have steadily improved since the early 1990s, more recent data suggest that this trend has been reversing for several years. This recent decline in bridge conditions is supported by the recent increase in the need for emergency repairs.

Figure 7: State and Local Bridge Condition Trends



As with pavements, asset management principles can also be applied to bridges. Known as Preventive Maintenance (PM), this maintenance strategy focuses on cost-effective and low-cost treatments that are applied at the correct time for bridge structures to reach their design life. Typical PM activities include cyclical washing and painting to protect the steel from damaging materials such as road salt; lubrication of bridge bearings to assure proper expansion and contraction; and deck sealing to prevent corrosive materials from entering the sub-structure. Failure to perform appropriate cyclical PM treatments reduces the useful life of a bridge structure and increases the need for far costlier bridge replacement and rehabilitation projects to keep the structure safe and functional with attendant disruption of traffic flow. Figure 8 depicts the impact of performing corrective maintenance during the lifespan of a typical bridge. Corrective maintenance can prevent premature bridge deterioration and increase the useful life of a bridge from 60 years to its original 100 years.

Figure 8: Impact of Bridge Corrective Maintenance



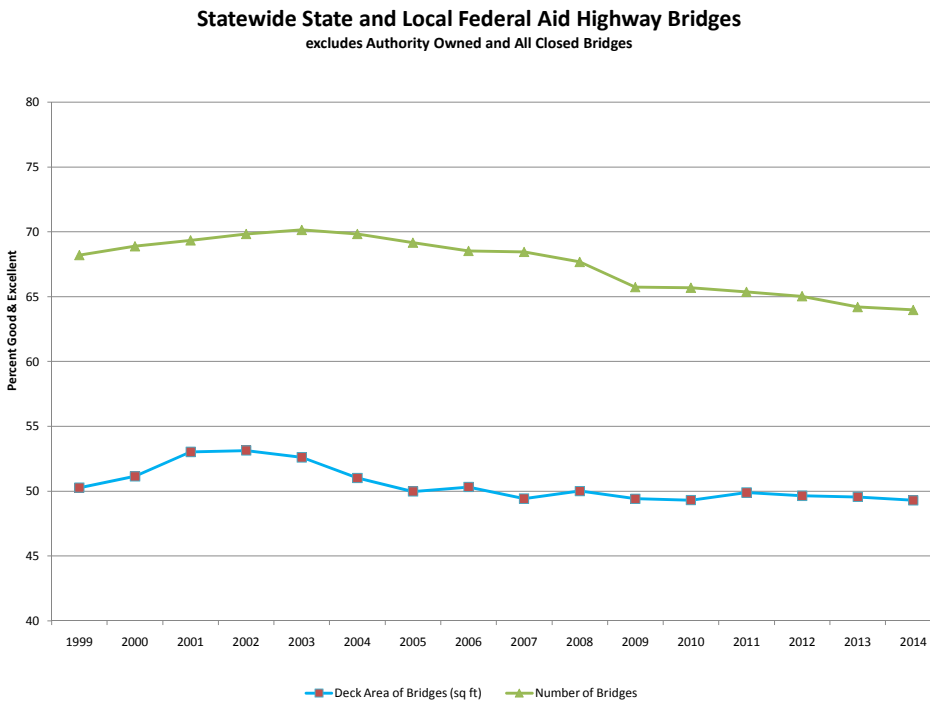
The Core program will emphasize preventive and corrective maintenance to slow the deterioration process and to keep bridges from entering the deficient category. This strategy will include the rehabilitation or replacement of critically deficient bridges and will focus on structures where weight or height restrictions interrupt seamless travel and waste time and fuel. Priority will be given to the Interstate System and other structures that are the most highly traveled and essential to commerce and economic development.

Bridge Accomplishments

Bridge investments recommended in the proposed capital program will make a significant impact on the growing infrastructure needs. As described elsewhere in this report, many of New York's State and local bridges are old and will become deficient over time if not properly maintained and repaired. Bridge preventive maintenance investments recommended in this program will improve many of the State and local bridges on the Federal-aid Highway System that would otherwise become deficient over the next five years. In addition, cost-effective bridge rehabilitation and replacement projects will address many existing bridge deficiencies. The result of this level of investment will be to stop the overall decline in bridge conditions as measured by

deck area and to maintain current bridge conditions through the end of the period (see Figure 9). While the bridge investment level is expected to result in a slight decline in the number of bridges in good and excellent condition, the proposed local bridge initiative would improve many smaller bridges and help hold conditions as measured by number of bridges.

Figure 9



NOTE: The graph excludes local bridges that are not on the Federal-aid highway system.

As shown in the table below, to reach the above conditions, the Department estimates that the proposed \$25.8 billion investment levels will provide for the replacement of 486 fully depreciated bridges and the rehabilitation of another 425, about 5 percent of the total number of bridges in the State.

Keeping good bridges from deteriorating to fair condition by correcting element-specific deficiencies and preserving the condition of all bridge elements is critical to the Department’s asset management strategy. The funding from this plan will allow for repairing more than 3,600 bridges, painting 865 bridges and cleaning more than 11,000 bridges.

BRIDGE ACCOMPLISHMENTS	QUANTITY
BRIDGE REHABILITATION AND REPLACEMENT	
BRIDGES REPLACED	486
BRIDGES REHABILITATED	425
BRIDGE REPAIR	
BRIDGES REPAIRED	3,609
BRIDGES PAINTED	865
BRIDGES CLEANED	11,014

Engineering Support and Program Management

\$4,707 million

To ensure that NYSDOT is well positioned to leverage new future Federal and State investments in transportation, the next program must include appropriately sized investments in engineering and program administration resources, especially in the early years of the program, to develop, manage and implement construction projects for the coming years. Project development is a multi-year process. Although transportation agencies nationwide, including NYSDOT, are trying to streamline this process, project development often is extremely complicated, resulting in some complex projects taking a decade or more to plan, design and construct. (National Surface Transportation Policy and Revenue Study Commission Report, Volume I, Recommendations, p. 12. http://transportationfortomorrow.org/final_report/pdf/volume_1.pdf.)

A very critical component of the core capital program is the adequate funding of engineering services to develop projects for future delivery. Adequate support for the design, construction inspection, real estate, contract, legal and administrative services, program and project management and environmental analysis will be necessary to implement the core capital program and to develop future projects. The engineering support for the capital program is achieved through both State forces and consultants.

Right of Way

\$415 million

This investment provides funds for acquisition of property or easements necessary to implement the Core capital program. For new projects and highway improvements to be advanced, property may need to be acquired, either permanently or temporarily, for construction easements, environmental compliance or right of way. This element provides the funds needed to make the necessary acquisitions that support the highway construction program.

State Forces Preventive Maintenance

\$1,672 million

This element includes the essential capital preventive maintenance activities that are currently performed by NYSDOT forces throughout the State to maintain core infrastructure assets as

discussed in the pavement and bridge sections. It includes other preventive maintenance activities, such as ditching and culvert maintenance to prevent washouts; signal maintenance to prevent traffic signal failure; and slope stabilization to prevent landslides. In addition to preventive maintenance, State forces perform time-critical “demand maintenance” activities, such as emergency response; traffic signal repair; guiderail repair; sign replacement; bridge repair; pothole patching; and culvert replacement.

NYSDOT Facilities and Equipment

\$410 million

NYSDOT requires funding for its facilities and equipment to maintain and to operate the highway system. NYSDOT owns and operates various types of facilities and equipment to operate, maintain and perform capital improvements on the State’s transportation assets. The Department owns more than 900 individual buildings, of which 500 are used for the traditional maintenance operation alone. About half of the maintenance facilities are used for personnel and equipment and the other half are used as storage buildings and garages. Almost 50 percent of NYSDOT’s facilities were built during the 1950s and few have had even cursory maintenance. Repairs of these NYSDOT-owned maintenance facilities and garages are necessary for public and employee safety and for continued operation of the buildings. These facilities are essential to support continuing preventive maintenance, winter snow and ice operations and emergency response. Continued investment is also required to reduce the backlog of noncompliant petroleum bulk storage facilities and to maintain 200 petroleum fuel storage and compressed natural gas fueling sites located throughout the State.

There is also a need for NYSDOT to replace aged equipment and to retrofit existing NYSDOT trucks and equipment with after-market air-quality emissions reduction equipment. NYSDOT’s equipment needs range from hydraulic excavators for ditching to replacement of snow-plowing equipment.

Other Highway Assets and Programs

The following investment categories are critical to the safety, reliability, longevity and customer satisfaction of the State’s highway infrastructure. These assets and investments are fundamental to the operation of the highway system and provide a variety of critical benefits to the motoring public. They are funded from several portions of the NYSDOT program and thus individual program costs are not provided.

These assets and programs have historically been neglected and underfunded but provide crucial support to the highway system. Continuing this underinvestment would be comparable to rehabilitating an older home without repairing deteriorated and dangerous electrical wiring. The investment strategy for these assets includes capital rehabilitation, cyclical maintenance treatments and corrective repairs. These “Other” assets and programs include:

- Drainage structures – These include large and small culverts. Engineering and design-wise, large culverts are very similar to bridges, with the difference involving the size of the span. Culverts are inspected, evaluated and perform in a manner similar to bridges.

A culvert's primary purpose is to carry water and prevent highway washout or flooding. Many aging culverts, however, have deteriorated beyond the point where they can withstand maximum water flow. These culverts should be inexpensively relined before failure or replacement would be needed. Like bridges, culverts require cleaning, repair, replacement and rehabilitation. Additionally, drainage along highways is critical to the structural integrity of the highway subbase. Pavements with saturated subbases lose their load carrying capacity. This can lead to premature pavement failure and a need for complete reconstruction of the roadway embankment. Inadequate drainage can also result in highway flooding and roadway icing in the winter. This capital program supports increased preventive maintenance on these facilities. In addition, the program supports major repairs on about 650 large culverts and replacement of 320 additional large culverts.

- Guiderail: This safety asset is used to return errant vehicles to the highways and away from fixed objects or dangerous slopes. Properly maintained guiderail significantly reduces the severity of highway accidents. Approximately 23 million linear feet of guide rail are in place along State highways. There is a growing amount of rail that is not functioning as it should, due to damage from vehicle hits, inadequate height, loss of tension or outmoded end treatments. The proposed Core Program provides the investment needed to reduce the current replacement cycle for guiderail from 60 to 30 years.
- Traffic Signal: This includes system maintenance and retiming, maintenance of pavement loop detection systems and upgrade of signal controllers. NYSDOT maintains some 6,040 traffic signals statewide. Traffic signals must be regularly maintained to identify and to prevent potential malfunctions with their attendant safety concerns. Needs include periodic retiming of signal systems to conserve energy and to minimize traveler stops and delays; maintenance for pavement loop detection systems; the upgrade of signal controllers to modern technology (many controllers are so antiquated that replacement parts are no longer manufactured); installation of audible and visual pedestrian countdown indicators (an important enhancement for pedestrian safety); and installation of backup energy systems at the State's most important intersections. In the event of a power failure, these backup systems will prevent breakdown of the transportation network. The Core Program provides funding for these activities at 3,000 of the State's most important intersections. An additional 500 traffic signals will be replaced as part of proposed capital program.
- Traffic Control Signs: There are approximately 3,000 overhead sign structures and 675,000 ground-mounted signs on State highways. Timely maintenance and replacement of overhead signs are critical for highway safety. Most of the overhead signs were constructed along with the Interstate highway system in the 1960s and are reaching the end of service life. Regular inspections are showing that these signs are beginning to fail at critical connections. In some cases, failures of these connections have resulted in collapse of the sign structure. The Department must also meet Federal guidelines for signs. The Federal Highway Administration recently issued more stringent sign standards as well as new requirements for nighttime visibility that will require

replacement of some signs regardless of overall physical condition. The ideal replacement cycle for overhead and ground-mounted signs is every 12 years, resulting in an average of 8.3 percent replaced every year. A fully funded Core Program will provide sufficient funding to achieve this cycle for overhead signs by 2015.

- Roadside Maintenance: This includes equipment and materials to assist State forces and contractors in managing the State's "green assets," such as trees, brush and grass. Vegetation management (typically, 30-foot clear zone from pavement's edge) is required to maintain motorist safety and sight distances and to reduce the number of hazardous trees along the highway network. Vegetation management and environmental stewardship assist in protecting the safety of travelers, protecting pavements, improving sign and guiderail visibility, protecting water quality of storm water runoff and generally managing the State's "green assets." NYSDOT achieves these objectives with an integrated vegetation management program, including initiatives, such as mowing limits, elimination of hazardous trees, minimizing the use of herbicides, invasive species control, protection of endangered species habitats and environmental enhancements, such as the Department's nationally recognized Green & Blue Highways program.
- System Management: This includes statewide traveler information provided by 511 New York; congestion management and mitigation provided by Traffic Management Centers (TMCs); freeway management systems, such as the Inform system on Long Island; incident management systems, such as variable message signs and video surveillance cameras; and road weather management systems, such as sensors in the pavement to detect ice or other hazardous conditions. These systems not only improve day-to-day operational efficiency, they are critically important to manage traffic diversions in times of emergency or for system maintenance and repair.
- Environmental Stewardship: Recognizing that more than one percent of the green space in New York State is highway right of way, the Department's Green & Blue Highway Program, which has been recognized by the Federal Highway Administration as an Exemplary Environmental Initiative, seeks to improve this habitat for plants and animals. Under this program, Department resources are combined with resources of local environmental groups to expand opportunities for environmental enhancements. Examples of projects include creating wildlife and aquatic life passages, providing fishing access, creating viewsapes, constructing bluebird boxes and creating habitat for ground-nesting birds. Other environmental improvement programs include Adopt-a-Highway, Sponsor-an-Interchange and GreenLITES for Operations. These are important activities that better integrate the highway system with the local environment and are funded within the Core Program.
- Rest Areas: The Department owns and is responsible for the operation of 39 rest areas throughout the State. Rest areas offer safety and convenience, providing a needed resting opportunity for car and truck drivers. Parking for truckers is particularly important; a shortage of truck parking spaces is a growing concern at many of the rest areas on the NYSDOT Interstates. NYSDOT performs commercial vehicle enforcement and weight compliance at most rest areas. Rest areas also boost New York State tourism

by disseminating information on attractions and services. While the Department has several gateway rest areas, many of the Department's rest areas are cinderblock buildings without insulation that were built in the 1960s and are inadequate for current needs. Many do not meet the current standards of the Americans with Disabilities Act (ADA). As these facilities age, the risk of mechanical systems failure increases. Failure of septic systems is occurring at some rest areas with attendant cost and environmental concerns. The funding levels proposed in this plan would allow for upgrades to bring existing septic systems to a State Of Good Repair (connecting to local sewer systems where possible), and would provide for the construction or complete reconstruction of up to five new rest area facilities.

Safety

NYSDOT operates a comprehensive safety program for the transportation system, which encompasses highway, passenger carrier, motor carrier and rail. The goal of New York's highway safety program is to collaborate with education, enforcement, engineering and emergency medical services organizations to save lives by preventing crashes and by reducing the severity of accidents when they do occur. Safety activities are funded from several portions of the NYSDOT program and, thus, individual program costs are not provided.

NYSDOT is responsible for developing and implementing the New York State Strategic Highway Safety Plan, the Highway Safety Improvement Program (HSIP) and other related safety programs and for maintaining and improving data for the Safety Information Management System that is the basis for determining High-Accident Locations (HALs) and treating these locations in the most cost-effective manner.

The Department's safety activities encompass much more than highway engineering. Although funded outside of the Department's capital program, NYSDOT is charged with inspecting all school buses and buses that are not operated by public authorities (142,000 inspections are done annually). Within the capital program, NYSDOT funds its responsibility for railroad track and equipment safety inspections and rail-grade crossing safety. The Core Program also funds NYSDOT's truck inspection program, which provides more than 55,000 annual truck inspections, safety compliance reviews of carriers, and training for all new entrant carriers on vehicle and driver safety compliance. The Core Program funds the staff that support the Public Transportation Safety Board (PTSB). The Core Program also funds the following highway safety activities:

- Reducing accidents and their severity by addressing HALs with countermeasures, ranging from major construction projects to low-cost maintenance activities and installing signing or warning devices to influence driver behavior.
- Providing infrastructure and operational improvements, support to public education and support to enforcement initiatives to prevent transportation systems-related fatalities and injuries.

- Integrating cost-effective safety improvements into other capital and maintenance projects.

NYSDOT evaluates intersection safety, including the use of roundabouts, modern signal controllers and pedestrian countdown timers. The Department's safety program includes administering programs such as Safe Routes to School, NYSDOT's Safe Seniors program and work zone safety initiatives.

The Core Program would provide the funding necessary to annually investigate 430 HALs; to annually inspect one third of all public at-grade rail crossings; and to fund 55,000 annual truck inspections. In addition, many of the core highway and bridge projects may have safety components that address safety deficiencies.

Mobility -- System Efficiency, Reliability and Traveler Choice

The mobility portion of NYSDOT's program supports the Department's actions to improve the efficiency and performance of the transportation system to meet the State's economic and personal travel needs and to support livable communities. This includes investment in system management (including intelligent transportation systems, incident management, motorist assistance and other traffic management initiatives) that improves the reliability of travel and the strategic expansion of transportation capacity. This category also supports a range of convenient travel options, such as transit and ride-share, along with park-and-ride and bicycle-pedestrian connectivity; and provides multimodal traveler information and assistance (such as the 511 New York travel information system) to maximize traveler choice. These activities are funded from several portions of the NYSDOT program and, thus, an overall mobility program cost is not provided.

While some strategic capacity enhancements will be needed, funding for highway capacity alone will never be sufficient to meet economic and personal mobility needs. The Department must manage the existing multimodal infrastructure and leverage it to provide the most convenient and efficient travel options for individuals and commerce. Efficient, reliable travel that includes modal choice for people and goods carries direct and long-term benefits to the State's economic competitiveness and quality of life.

Through mobility investments, the Department also manages the operational capacity of the highway system, including support for a network of Traffic Management Centers (TMCs); manages the extensive signal systems to optimize the flow of traffic; and increasingly, uses sophisticated tools for managing travel lanes to more efficiently move people and goods. TMCs are critical to first response and effective clearance of traffic incidents that account for about half all nonrecurring traffic delay. TMCs are the primary source for the Department to communicate and to advise the public, via variable message signs and www.511ny.org, of traffic conditions that may affect travel.

Other mobility improvements will come from investments in emerging technologies that provide real-time, two-way communications between commercial vehicles and traffic management systems. These technologies promise to enhance the safety and effectiveness of commercial

transport (and, therefore, will provide a benefit to all motorists) through improved permitting, electronic credentialing, weigh-in-motion stations, automatic vehicle location and provision of important information to drivers. By improving compliance with truck weight restrictions and by providing bridge overhead clearance information directly to drivers, these technologies will help protect the infrastructure from excessive wear and tear, will reduce bridge hits by trucks and will facilitate commercial transportation. Investment in these technologies is a low-cost means of advancing safer, more secure, sustainable commercial transport.

In addition, the Department invests considerable mobility funding to improve the range, convenience and effectiveness of travel choices available to the public. The Department supports efforts to increase carpooling, vanpooling and ride-sharing. NYSDOT also, as noted elsewhere in this document, invests substantial funding to support public transportation, rail, aviation, bicycle and pedestrian facilities and to provide technical support to communities on effectively integrating land use and transportation.

The Department will seek to invest in a way that integrates mobility strategies and investments in travel corridors and communities where opportunities exist to increase modal choices and to maximize the reliability of the system. The abundance of communities where travel options are plentiful and affordable is a unique asset throughout New York State. The Department seeks to leverage this advantage through integrated investments in core and enhanced infrastructure that improve mobility, reliability and choice.

Bicycle/Pedestrian/ADA

New York State ranks first among all states in the number of pedestrian work trips taken each day. The costs to improve pedestrian facilities are significant and include costs for maintaining crosswalk markings, replacing pedestrian indicators with countdown signals, reconstructing existing sidewalks, constructing new sidewalks and building ramps that are compliant with the Americans with Disabilities Act (ADA).

The Core Program has funding for capital projects that include sidewalk construction and reconstruction; audible and visual pedestrian “countdown” indicators; restriping existing crosswalks at the end of their useful lives; and incorporating four-foot shoulder widths, where appropriate, to accommodate bicycle lanes. These bicycle and pedestrian facilities and programs, such as NYSDOT’s Safe Seniors program, are important transportation actions that can improve livability and the quality of life in our communities.

At the proposed levels of investment, NYSDOT expects to construct or to improve about 3,850 street crossings; to reconstruct or to replace 216 miles of sidewalk; and to construct or to replace 150 miles of bike lanes.

Special Federal

\$674 million

This investment level reflects the estimate of Federal aid through special Federal programs that will be available largely for pass-through to local governments and other non-State project sponsors.

This funding category consists of funding for both Core and Enhancement activities, including the Transportation Enhancements Program that has been a component of recent Federal transportation programs. Other programs under this category include: Appalachian Development Highways, Recreational Trails, Coordinated Border Infrastructure Program and Safe Routes to School. Any Federal matching requirements are met by the project recipient. No State funds are included in these programs.

Note that since Federal funding under SAFETEA-LU has expired (though funds for existing programs are continuing to flow until a new bill is enacted), the specific uses of these funds may change. The actual investments in this category will reflect programs that are included in the new Federal program.

LOCAL TRANSPORTATION

Federal Funds for Local Projects

\$2,234 million

The NYSDOT capital program identifies Federal funds for projects sponsored by local governments and other non-State entities throughout the State. The current 2005-2010 program contained \$1,745 million for this purpose. The proposed 2010-2015 program grows this level of investment to \$2,234 over the next five years, which reflects the level of growth assumed for overall federal aid. The actual level of Federal funding for local projects will ultimately be determined through the Federally required cooperative planning process implemented through the MPOs.

CHIPS/Marchiselli Programs

\$2,375 million

Consistent with what the Department heard throughout its outreach efforts this summer, the proposed capital program provides a significant growth in the CHIPS and Marchiselli programs. Over the five years, this funding grows by over 40 percent. When combined with new local funding initiatives proposed in this capital program for local bridges and local touring routes, local assistance grows by nearly 60 percent over the previous five-year capital plan.

Consolidated Local Street and Highway Improvement Program (CHIPS) \$2,094 million

The Consolidated Local Street and Highway Improvement Program (CHIPS) assists localities in financing the construction, reconstruction or improvement of local highways, bridges, highway-railroad crossings and/or other local facilities. Counties, cities, towns and villages that report local road mileage under their local jurisdictions are eligible for the CHIPS program. Annual apportionments are calculated according to the allocation formula specified in Section 10-c of the Highway Law. Projects that are considered eligible for CHIPS capital reimbursement include highway resurfacing or reconstruction, traffic control devices and bridge/culvert rehabilitation or replacement. The capital project must be undertaken by a municipality, must be for highway-related purposes and have a service life of 10 years or more with normal maintenance.

Marchiselli Program**\$281 million**

The Municipal Street and Highway Program (“Marchiselli”) supports local governments in funding highway and bridge projects. The Marchiselli program funds 75 percent of the non-Federal share of a local project. For projects that meet the eligibility requirements, localities are therefore responsible for only five percent of the project cost, rather than the typical 20 percent non-Federal share.

Support for Local Bridges**\$150 million**

The Department’s outreach revealed a strong desire to establish a program for local bridges. The Department supports investment in bridge infrastructure and capital funding to local governments for bridge rehabilitation and replacement on bridges owned by counties, cities, towns and villages. Engineering, design, construction and construction inspection costs would all be eligible. Funding for local bridges would result in greater improvement in bridge conditions than cited earlier in this document.

Local Touring Route Investments**\$150 million**

Touring routes are the numbered routes that guide intercity travelers through the State. Although these facilities serve a statewide function, the roads that make up this system are not always under State jurisdiction. As they pass through cities, towns, counties and villages, these facilities are sometimes under the jurisdiction of (and therefore the responsibility of) the localities. Because these facilities serve a statewide function, it is important that the condition of these facilities be comparable to that of the State-owned portion of the touring route system.

This new program proposes to add additional resources for capital investments in locally owned touring routes, to support bringing all touring route miles into a State Of Good Repair comparable to that of the State-owned touring route miles. Currently, 74 percent of the State touring route system is in good or excellent condition, while only about 55 percent of the locally owned mileage is in good or excellent condition. With the proposed level of investment, NYSDOT estimates that the locally owned touring routes could average 66 percent good and excellent condition by 2015.

Community and Corridor Land-Use Planning Initiative**\$25 million**

This initiative would fund planning and technical assistance to local governments to integrate their land-use management plans and policies with their transportation and other infrastructure investments. This assistance will support regional Smart Growth analyses and community and corridor planning to ensure that transportation investments effectively contribute to the sustainability, livability and economic competitiveness of New York State’s Communities.

The Initiative provides support to regions and communities to comprehensively plan for sustainable transportation investments. It will provide the technical assistance needed to help communities, large and small, integrate transportation investment with land-use planning and development strategies, leading to sustainable development and better environmental, economic

and quality-of-life outcomes for communities. Over the life of the program, these funds will support the completion of three to five sustainable corridor investment plans as well as 50 smaller livable community planning grants. This initiative supports the policies of the State's Smart Growth Cabinet goals and policies and the Department's Multimodal Program investment principles. It will provide the critical underpinning of the Department's Guiding Principle to make sustainable investments that lead to communities that are environmentally sustainable, more livable and economically competitive.

MODAL INVESTMENTS

High-Speed Rail

\$300 million

The 2009 State Rail Plan proposes a vision for improving the State's passenger and freight rail network and the policies and strategies needed to achieve this vision. Implementation of the Rail Plan would spur immediate and long-term economic growth, conserve energy, improve overall environmental quality and promote Smart Growth and livable communities.

Federal and State investment is needed to support existing rail infrastructure. As demands on existing rail infrastructure have increased, its deficiencies have become increasingly apparent. Limited capacity, obsolescence and other obstacles render the existing system unreliable, inconvenient and underutilized by the traveling public. As a result, growth in both freight and passenger transportation demands have shifted to other modes, particularly the State's roadways.

With the new promise of long-term Federal funding for intercity passenger rail, the State is poised to maximize its investment in existing rail infrastructure. However, participation in most Federal funding programs beyond the initial funding provided through ARRA will require State matching funds of 20 percent.

In accordance with the State Rail Plan, the State's high-speed rail initiative would first implement a package of improvements that will eliminate obvious obstacles to realizing the true capacity of the existing infrastructure within the Adirondack Corridor (between Albany and Montreal) and the Empire Corridor (between New York City and Niagara Falls). These improvements will provide the necessary foundation for the State's longer-term goal for intercity and high-speed passenger rail operations throughout the State: increased capacity, reliability and speed to accommodate long-term growth.

Rail transportation on the Empire Corridor West ("ECW") between Schenectady and Niagara Falls presents the most substantial challenge to realizing the State's long-term goals. ECW serves as a primary freight rail route between New York City, Boston and Chicago and is one of the most intensely used freight corridors in the nation. At the same time, ECW serves as a vital passenger rail route, connecting the State's largest upstate cities (Buffalo, Rochester, Syracuse and Albany, with further connections to New York City), as well as destinations in other states and Canada. Yet, passenger service on ECW is both slow and unreliable and cannot presently compete with other modes. Its poor performance negatively affects the balance of the Empire

Corridor south of Schenectady (which already operates passenger rail at a maximum allowable speed of 110 mph) and other connecting routes throughout the State and national rail network.

The State proposes to remedy these conditions by implementing a corridor-wide program, “The Third Track Initiative,” that will significantly increase capacity and improve reliability and ridership and will introduce 110 mph maximum allowable speed for passenger rail on ECW. This program will require steady, long-term financial support from both the State and the Federal governments. While Federal funding will support capital improvements, it will not support operations and maintenance expenses, including support payments to Amtrak for any new intercity service or expenses associated with new infrastructure.

The \$300 million in capital funding will provide a significant first step in moving forward on the Department’s vision for high-speed rail, as articulated in the *New York State Rail Plan*. The actual accomplishments from this funding will depend on the outcome of funding applications that the State has submitted to the USDOT and that are under evaluation. Priority for this funding will be given to provide any necessary match to leverage Federal aid. Funding will then be used to invest in capital projects that will provide the foundation for high-speed rail service by increasing the capacity and reliability of the rail infrastructure along the Empire Corridor (between New York City and Niagara Falls) and along the Adirondack Corridor (between Albany and Montreal).

Beyond the capital investment to implement the high-speed rail initiative, there will be a need for funding to cover operating and maintenance costs associated with this new service. Furthermore, the Passenger Rail Investment and Improvement Act (PRIAA) will require states to provide subsidies for all Amtrak services beginning in FFY 2010-2011. Funding of these two new operating requirements is assumed to be outside the \$28.8 billion capital program.

Freight Rail and Ports

\$340 million

New York State has a long history of investing in essential freight rail infrastructure. Freight rail is not only essential to the State’s economy by moving certain commodities within New York State and nationally but reduces congestion on the highway network by providing an alternative to trucking; it also contributes to energy savings and improved air quality. Freight rail improvements help preserve existing assets to maintain the State's rail network in a State Of Good Repair. Beyond maintenance of the existing facilities, there is a need to support elimination of 286,000-pound weight restrictions, to raise clearances to support freight shipment and to add rail capacity at select locations throughout the State to promote the efficient movement of freight. The investments will produce air quality benefits in the State's urban areas, through the replacement of older locomotives, and will support economic growth through investment in “last mile” connections and providing rail access to shippers across the State.

Port improvements will provide for additional material handling and storage capabilities that will increase the competitiveness of New York's upstate ports in the worldwide economy.

The funding provided for this program will support capital projects to move rail infrastructure toward a State Of Good Repair. Funding will also be used to support increased freight movement

through the elimination of 286,000-pound weight restrictions on older tracks, raised clearances, and, in some cases, added rail capacity, primarily “last mile” connections along the State’s rail infrastructure. Funding may also be used to replace older locomotives with new, cleaner-emitting equipment.

Port funding will be used to increase material handling and storage capability, supporting the economic competitiveness of New York State’s upstate ports.

Aviation

\$101 million

This level of investment will fund the first phase of a long-term investment plan aimed at leveraging important Federal aid to New York airports and supporting those business-access projects not eligible for federal funding or not likely to be funded in a timely period through Federal Aviation Administration (FAA) grant programs. Such projects include runway and taxiway improvements, aircraft corporate and non-corporate hangars, aircraft parking space (e.g. aprons and tie-downs), aircraft maintenance facilities, airport maintenance equipment, access roads and auto parking. These types of projects keep and make New York State airport business competitive in an increasingly competitive marketplace.

The proposed level of funding for aviation provides for growth in the business and general aviation programs. New York is one of the few states to have funded general aviation security. The \$30 million for security grants that will have been invested by the end of the current Bond Act program (March 31, 2010) made significant gains in security at 48 general aviation (GA) airports. Security investments included, among other things, fencing, lighting and security camera systems. New York State’s risk reduction program has been very effective in reducing the risk of terrorism at New York’s GA airports. In his report of May 27, 2009, titled [TSA's Role in General Aviation Security](#), the Inspector General of the US Department of Homeland Security stated that, "We determined that general aviation presents only limited and mostly hypothetical threats to security." As a result, and in light of the recent finding of the Inspector General of the US Department of Homeland Security, a setaside of safety funding is no longer needed. Security projects will be eligible within the Department's proposed new aviation programs.

NYSDOT’s Aviation Program will continue to provide funds for half of the non-Federal share of FAA Airport Improvement Grants to New York airports in the National Airport System in order to leverage important Federal aid.

Consistent with the Department’s recently released State Airport System Plan (SASP) www.nysdot.gov/divisions/operating/opdm/aviation/documents, the grant program will solicit and award grants to airports in the “Strategic Business Airport System” and the Small Multipurpose General Aviation (GA) System.

The Strategic Business Airport System is comprised of airports which accommodate larger aircraft, often flown for business use, and provide communities with the best opportunities to attract corporate and business activity for economic growth. The Small GA Multipurpose

System airports fulfill the needs of smaller aircraft used for personal and recreational travel, and also house flight schools, provide employment for aircraft mechanics and enhance safety by providing landing areas in cases of emergency.

A two-tier approach recognizes and supports the needs of different clientele and different facility requirements at Business class airports and Small GA Multipurpose airports. Business class airports account for more than 98 percent of the economic contributions of aviation to the State, yet they also require longer runways and additional high-level services. Small GA Multipurpose airports, on the other hand, can operate with smaller runways and fewer high-level services. The proposed two-tier approach allows airports to compete for grants against airports with similar needs, that is, those in the same class (Business or GA).

State investment in asset preservation and facility enhancement will be available through this program for both safety-related infrastructure and for economic viability infrastructure. The former improves the safety of aviation by rehabilitating, rebuilding or expanding “air side” facilities, such as runways, taxiways, aprons; and navigation aids, such as lighting systems and Automated Weather Observation Systems. The latter category invests in revenue-producing facilities, such as fuel facilities, hangars, terminals and utility improvements; these projects not only enhance business aviation for economic development but improve the ability of airports to be fully self-supporting, thus creating additional employment and removing a burden on local taxpayers

The Aviation Program will invest in the preservation of existing airport assets, support the State’s Economic Vitality through job creation and retention, enhance mobility through maintaining air network connectivity and will better assure the safety of the flying public.

Downstate Suburban and Upstate Public Transportation \$340 million

Downstate suburban and upstate public transportation systems (those other than the Metropolitan Transportation Authority) require additional investment to continue to make strategic infrastructure improvements necessary to maintain, modernize and assist in achieving a State Of Good Repair.

To address the critical infrastructure needs of these public transportation systems will require investments in bus replacement, facility rehabilitation and modernization and related transit equipment. The State has addressed the SOGR needs of public transportation systems through the following programs:

- The Transit Omnibus program: This program provides 50 percent of the non-Federal share for Federally aided capital projects.
- The Transit State Dedicated Fund program: This program provides 100 percent State funding to address capital needs that exceed available Federal and local resources.
- Transit Clean Fuel Vehicle Initiative: This program provides 100 percent of the incremental cost associated with mainstreaming alternative-fuel vehicles into public fleets.

Continuation and growth of these funding categories supports investments in existing infrastructure that has exceeded the Federally rated service life. Combined, these capital appropriations will be used to acquire cleaner-fueled, ADA-accessible transit buses; related support equipment; paratransit vehicles; passenger shelters; and improved pedestrian-transit access. Funds would also be used to construct and to rehabilitate bus maintenance facilities and for other eligible transit projects.

Leveraging these capital investments and providing safe and reliable service will also be contingent upon the availability of sufficient operating assistance from all levels of government.

The 2010-15 capital program for systems other than the Metropolitan Transportation Authority (Non-MTA) will improve the average age of the non-MTA bus from fleet from nine to approximately seven years (buses have a 12-year life so an ideal average fleet age is six years).

Leveraging these capital investments and providing safe and reliable service will also be contingent upon the availability of sufficient operating assistance from all levels of government.

Proposed investments in the core system (combined with federal and local funding) include:

- Replacing approximately 4,200 accessible buses statewide, including approximately 1,800 large urban transit buses and 2,400 accessible buses that provide a variety of paratransit and demand responsive services in rural and urban communities.
- Replacing large urban transit buses with accessible clean-diesel buses; *The EPA 2010 bus emission standards are significantly more efficient but are also 20 percent more expensive than previous engine models.*
- Continuing to fund the Transit Clean Fuel Vehicle Initiative to address the incremental costs of procuring more than 500 Hybrid-Electric or Compressed Natural Gas (CNG). *Under the planned investments in the core program, the percentage of the non-MTA bus fleet powered by Hybrid-Electric propulsion or Compressed Natural Gas (CNG) systems will increase from 17 percent to 31 percent.*
- Replacing at least 50 percent of bus, and light rail facility components as they exceed their federally rated useful life and other facility maintenance activities; *Under the planned investments in the core program, upgrades will be made at the 87 different transit storage and maintenance facilities and 13 Intermodal centers.*
- State Of Good Repair investments in technology, including but not limited to scheduling and customer information; revenue and communications systems, and security. *Systems that provide more efficient scheduling, billing and trip analysis are central to agencies' mission to improve ridership and to divert consumers from the more congested highways.*

NEEDS OUTSIDE THE NYSDOT CAPITAL PROGRAM

NYSDOT's capital program traditionally includes funding for the capital components of the transportation system and the resources needed to deliver that program – including significant engineering and administration funding. It does not, however, address the operating assistance needed to support critical components of the transportation system, such as downstate suburban and upstate public transportation systems and intercity passenger rail operations. These operational components are identified here because of their relationship to the NYSDOT capital program, but they are assumed to be addressed through separate programs and/or State budgetary processes outside of this \$25.8 billion 2010-2015 capital program.

Operating/Maintenance for High-Speed Rail Initiative

In addition to the capital investment to implement the State's high-speed rail initiative, proposed earlier in the capital program, there will be a need to address the operating and maintenance costs associated with this new service. This includes not only the subsidy requirement to cover any shortfall between operating costs and passenger revenues but also the maintenance cost for new tracks, signals and equipment.

Federal Mandates for Passenger Rail Service Operations

The Passenger Rail Investment and Improvement Act (PRIAA), discussed above, provided the foundation for intercity passenger rail funding, but it also required states, beginning in October 2010, to begin paying for a portion of the operating losses on all Amtrak routes. This requirement previously only applied on state-supported routes. For New York, this means that the State, beginning in October 2010, will be required to pay operating subsidies to Amtrak to continue service on its Empire Corridor (New York City to Albany to Niagara Falls). The Empire Service supports more than 1.3 million passenger trips annually; these trips are 85 percent of the State's rail ridership, including about one million trips between Albany and New York City. Until now, the subsidy requirement only applied to the Adirondack service that operates from New York City to Montreal. New York will need to identify additional resources for this new and growing operating subsidy or face the loss of existing service.

Operating Needs for Downstate Suburban and Upstate Transit Systems

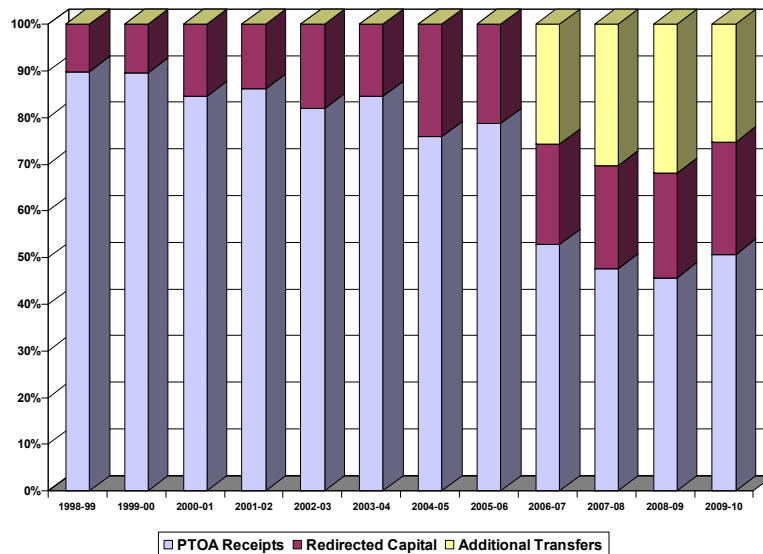
In March 2009, the Legislature approved new revenues and increases to existing fees to address the Metropolitan Transportation Authority's (MTA) operating assistance needs and to fund the first two years of the Authority's 2010-2014 Capital Plan. These new and enhanced revenues, however, did not address the ongoing operating assistance requirements of the downstate suburban or upstate public transportation systems. Combined, these public transportation systems represent the seventh-largest public transportation provider in the nation. While one objective of the NYSDOT capital program is to address the capital needs of the downstate suburban and upstate transit systems (sometimes referred to as Non-MTA), these systems also require a steady and predictable level of operating assistance if capital investments are to be used effectively.

In recent years, there has been a significant disparity in the availability of State operating revenues to support non-MTA public transportation systems. The 12-county Metropolitan Commuter Transportation District (MCTD) receives funding through a number of economically sensitive dedicated taxes. These include the Petroleum Business Tax (PBT); Transmission Tax; Corporate Surcharge Taxes on Banks and Insurance Companies; and a portion of the Sales Tax. These diversified downstate dedicated taxes, until the recent economic downturn, have historically provided for necessary program growth. Notwithstanding, the newly enacted revenues and fee increases are dedicated 100 percent to the MTA, requiring additional actions to address the needs of downstate suburban public transportation systems.

In contrast, the upstate public transportation systems' sole dedicated funding source is a portion of the PBT. This upstate dedicated revenue source supports only half of the annual upstate public transportation appropriations (Figure 10). The balance of the upstate public transportation assistance is supported by general funds, including "one-time" revenue actions and redirected capital funding from the Dedicated Mass Transportation Trust Fund (DMTTF). The disparity in revenue supporting non-MTA public transportation undermines the ability of the State to construct a balanced transit-aid budget and to institute performance-based appropriations.

Figure 10

Upstate Public Transportation Funding Issue



The DMTTF was originally intended to provide capital assistance for non-MTA systems to match Federal capital grants (thus maximizing Federal aid to the State) and to establish a State

Dedicated Fund (SDF) for transit capital investments. However, as the need for Statewide Mass Transportation Operating Assistance (STOA) increased and upstate dedicated revenues grew slowly, more of these capital funds are being redirected to support upstate public transportation appropriations, thereby constraining the amount of State funding available to meet transit capital needs.

MAJOR PROJECTS

As discussed throughout this document, NYSDOT places a strong emphasis on supporting the State's economy and communities by maximizing the safety, conditions and mobility of its assets and by leveraging funding opportunities within its constrained resources. NYSDOT recognizes, however, that within realistic funding assumptions there will not be sufficient resources to address a number of important infrastructure needs. Many high-cost projects across the State present an extreme challenge to finance within a regular capital program that is focused on maintaining assets throughout the State.

The Department has identified a set of projects termed "major projects" that need special assistance outside the routine core program to implement (shown in the Appendix). These major projects include both very large projects, such as the Kosciuszko Bridge replacement in New York City, and other projects that require significant resources within a NYSDOT region's allocation of capital funding to complete. Examples of these projects include the I-81 Viaduct in Syracuse; the I-90/I-290 Interchange in Buffalo; and the Interstate 390/15/15A/Kendrick Road Interchange Project in the Rochester region. The USDOT has defined major projects requiring additional financial analysis as projects costing more than \$100 million. NYSDOT will begin the financial review of these projects through the Federally required major project investment category and develop future recommendations for additional resources to address all of these projects' funding needs. An initial list of potential NYSDOT major projects for which full project funding is not available is included in the Appendix to this report.

PRELIMINARY LIST OF CANDIDATE PROJECTS

The attached Appendix provides four lists of projects that are candidates for the next capital program. Appendix A is a preliminary list of candidate projects for State fiscal years 2010-2015 identified by NYSDOT regions that will help achieve the goals and objectives of the capital program as defined in this report. Appendix B is a list of high-cost projects, termed "major projects," identified by NYSDOT's regions for which resources are not currently available. A third list (Appendix C) includes projects identified by stakeholders and elected officials who participated in NYSDOT's outreach over the summer. Appendix D includes remaining SFY 2009-10 projects some of which may need to be added to the 2010-15 program. Projects included in Appendix B and C do not include project costs or time frames but are presented to provide a sense of the need for additional transportation investments. Since NYSDOT's outreach was limited by time, this outreach list should not be considered complete, as it does not include input from all the State's local officials. Finding the resources to deliver these projects

will be difficult while balancing the need to maintain many other core infrastructure assets throughout the State.

It should be noted that a large part of program described in Appendix A, specifically that portion that will be financed from Federal funds in urbanized areas, must be developed in partnership with and is subject to approval by local Metropolitan Planning Organizations (MPOs). Therefore, many of the projects included in this list should be considered as candidates and must proceed through the Federally required metropolitan planning process. In addition, while we have developed this program using current assumptions regarding inflation and cost escalation, further adjustments to the program may be needed as the actual inflation rates become known. Further, this list of projects is “a point in time” analysis that may not accurately reflect the results of project lettings that will occur before the end of the current State fiscal year (March 31, 2010). This list of projects will need to be updated to reflect actual lettings. Finally, this program of projects may need to be adjusted to reflect changes to projects as a result of funding made available through the American Recovery and Reinvestment Act (ARRA).

INITIAL PROGRAM PERFORMANCE MEASURES

Policy-makers and the public deserve to know what is being achieved through the investment of public funds in transportation. At all levels of government, there is a need to monitor the impacts of investment and to provide accountability and transparency to the public. NYSDOT recognizes the importance of measuring the performance of its various programs and reporting the results.

NYSDOT has developed an initial set of performance measures to gauge the impact of the investments that will be made as a result of the 2010-2015 Capital Program. These capital program measures focus on outputs (what is produced) and outcomes (the impact of what is produced) that will be affected by the State's programs and investments. The capital program performance measures include those that have been used in previous programs to monitor the condition of bridges and pavements and new bridge and pavement measures that seek to monitor the impact of bridge and pavement conditions on travelers. This program includes measures to monitor NYSDOT's achievements of its Disadvantaged Business Enterprise and Minority and Women-Owned Business Enterprise goals, as well as safety and maintenance measures and modal measures to monitor investment impacts of downstate suburban and upstate transit, and rail programs. Finally, NYSDOT will be building its capacity to measure performance in new areas, including sustainable investment, as described below, aviation and ports.

It should be noted that NYSDOT investments alone cannot change the outcome of most of these transportation measures. The Department's funding seeks to improve system conditions, safety and performance, but they are part of a broader set of forces that affect the performance of the transportation system.

Bridge Performance Measures

As in previous capital programs, NYSDOT will be monitoring the impact of its investments on State and local bridge conditions. Measures include:

- Percent of bridges in good and excellent condition by "bridge deck area" and "number of bridges" for State and local government bridges that carry Interstate highways, non-Interstate National Highway System (NHS) and Federal-aid eligible highways other than NHS. Bridges are measured in these categories to focus on system conditions for varying levels of system usage from highest (interstates) to key connecting facilities (the rest of the NHS) to the more locally used facilities (other Federal-aid eligible).
- Percent of customer travel on good and excellent bridges. These measures will look at the percent of vehicle miles of travel that are occurring on bridges rated "good" or "excellent."

"Good" and "excellent" bridges are defined as those with a rating of 5 or greater on the New York State Bridge Element Condition Rating Scale, with 7 as new condition and 1 as completely deteriorated.

Pavement Performance Measures

A similar set of measures will be used to monitor the impact of NYSDOT's investments on pavement conditions. The following specific measures will be monitored:

- Percent of lane miles with "Good and Excellent" surface condition ratings on Interstate highways, non-Interstate NHS and other highways not on the NHS that are eligible to receive Federal aid.
- Percent of customer travel on interstate highways and non-Interstate national highway system (NHS) routes occurring on "rough" pavement and percentage on Federal-aid eligible highways other than NHS that occurs on "very rough" pavement.

The NYS Pavement Surface Rating Scale measures lane miles of pavement on a scale of 1-10. Pavements in "Good and Excellent" condition are those with a rating of 7-10, while pavements with a rating of 5 or below are considered to be in poor condition. A pavement ride quality measurement known as the International Roughness Index (IRI) is a standard measure of the ride quality of a pavement. The IRI value is obtained by measuring the profile of a road surface and calculating how the suspension of a mid-sized auto would respond at highway speeds (or cumulative inches a traveler would bounce due to roughness of the road). Rough pavement is defined as pavement with an IRI value between 170 and 220. Very rough pavement is defined as greater than 220. Mileage on the New York State Thruway and the New York State Bridge Authority facilities is excluded from these measures.

Disadvantaged Business Enterprise (DBE) and Minority and Women-Owned Business Enterprise (M/WBE) Performance Measures

NYSDOT is committed to the success of its Disadvantaged Business Enterprise (DBE) and Minority and Women-Owned Business Enterprise (M/WBE) programs, and to meeting all State and Federal requirements for these programs. The requirements for the DBE program are found in Federal regulations 49 CFR Part 26. The program applies to all Federally funded transportation projects, regardless of project size, and applies to small business concerns where socially and economically disadvantaged individuals own at least 51 percent interest and control management and daily operations. The M/WBE program is governed by New York State Executive Law 15-A. The program applies to all types of contracts that are 100 percent State-funded and applies to firms owned by socially disadvantaged individuals who own at least 51 percent interest and control management and daily operations.

The Department is committed to increasing opportunities for DBE and M/WBE firms (D/MWBE) and has established performance measures to evaluate the success of its programs. The capital plan D/MWBE performance measures are as follows:

- DBE goal attainment compared to DBE established goal.
- M/WBE goal attainment compared to M/WBE established goal.

Goals are established based on a consideration of ready, willing and able D/MWBEs versus available firms. Goals are adjusted by a number of factors, including a firm's capacity to take on work, evidence from disparity studies and availability of firms.

Safety Performance Measures

The Department is particularly concerned with the impact of its investments on safety. NYSDOT will be monitoring the following safety measures on an annual basis:

- Total number of fatalities and serious injuries on State highways.
- Severe roadway accident rates, measured as severe accidents per 100 million vehicle miles traveled.
- Total number of accidents, to include highway, truck and bus accidents.
- Accident reductions resulting from projects undertaken as part of the Department's highway safety program. Accident reductions and project effectiveness will be measured using the Department's post-implementation evaluation system (PIES).
- Number of Public Transportation Safety Board (PTSB) Reportable Incidents. PTSB accident information covers all serious bus, subway and commuter rail accidents.

Preventive Maintenance Measures

NYSDOT has also developed a series of measures to track progress on preventive maintenance investments. Maintenance cycle times are compared to industry-accepted standards for numerous maintenance activities. Examples of reporting include: monitoring bridge and pavement preventive maintenance cycle times (e.g., bridge cleaning, single-course overlay paving) against accepted industry standards; monitoring cycle times for other assets, including, for example, cleaning of culverts; and monitoring preventive maintenance actions on traffic signals. These cycles provide indicators of progress in implementing an asset management strategy.

Modal Performance Measures

The Department has identified several indicators that will be used to measure the performance of State investments in several modal programs. These initial measures include:

- **Percent of Bus Fleet that Has Exceeded the FTA Recommended Service Life.** NYSDOT's transit investment will focus on replacing buses that have exceeded the Federal Transit Administration (FTA) recommended service life. Investments will seek to increase the reliability and safety of the bus fleet.
- **Percent of Bus Fleet Using Clean Energy Propulsion Systems.** Department investments will be used to purchase buses that run on clean energy. Increased use of buses with lower emissions will support the plan's environmental sustainability goals.
- **Passenger Rail On-Time Performance (Adirondack and Empire Corridors).** The Department will be working with Amtrak to monitor the on-time performance of

passenger rail service in the Adirondack and Empire corridors. Infrastructure investments that support service improvements were outlined in the State Rail Plan.

- **Percent Increase in Passenger Rail Ridership (Statewide).** A key measurement of the success of passenger rail service is the level of ridership it attracts. Investments that support consistent ridership increases in the Adirondack and Empire corridors have the added benefit of a resultant reduction in trips and emissions by other modes.
- **“Last Mile” Connections Preserved.** Improving direct rail service to ports and industrial sites helps reduce the need for high-cost truck trips for the “last mile” of commodity delivery. Investments in “last-mile” connectors are needed to keep existing shippers or attract new ones.
- **Railroad Lines with Improved Minimum Clearances.** While the primary mainline railroad corridors are either cleared for double-stack traffic or have ongoing capital projects to address this issue, the downstate region faces outdated overhead clearances that hinder the ability to use today’s larger freight cars.
- **Railroad Lines Supporting 286,000-pound Rail Cars.** A goal of the State Rail Plan is to expand the number of railroad lines able to handle rail cars with gross weights of 286,000 pounds. With the exception of the Major Class I railroads, most of the rail lines in New York are not currently able to carry these heavier loads.

Summary of Initial Program Performance Measures

Program Area	Measure(s)
Bridges	<ul style="list-style-type: none"> • % bridges in Good or Excellent condition by bridge deck area on (1) Interstate highways, (2) non-Interstate NHS and (3) Federal-aid eligible highways other than NHS • % bridges in Good or Excellent condition by number of bridges on (1) Interstate highways, (2) non-Interstate NHS and (3) Federal-aid eligible highways other than NHS • % customer travel on bridges in Good and Excellent condition
Pavements	<ul style="list-style-type: none"> • % lane miles, with Good and Excellent surface conditions ratings, of (1) Interstate highways, (2) non-Interstate NHS and (3) Federal-aid eligible highways other than NHS • % customer travel on Interstate highways and non-Interstate NHS highways occurring on rough pavement • % of customer travel on Federal-aid eligible highways other than NHS occurring on very rough pavement
Disadvantaged Business Enterprise (DBE) and Minority and Women-Owned Business Enterprise (M/WBE) Performance Measures	<ul style="list-style-type: none"> • DBE goal attainment compared to DBE established goal. • M/WBE goal attainment compared to M/WBE established goal.
Safety	<ul style="list-style-type: none"> • Total number of fatalities and serious injuries occurring on roadways • Severe roadway accident rates, measured as severe accidents per 100 million vehicle miles traveled; • Total number of accidents, to include roadway, truck and bus accidents • Accident reductions resulting from projects undertaken as part of the Department's highway safety program • Number of Public Transportation Safety Board (PTSB) Reportable Incidents
Preventive Maintenance	<ul style="list-style-type: none"> • Comparison of actual to target maintenance activities for bridges, pavements, and other highway-related assets

Program Area	Measure(s)
Modal Measures	<ul style="list-style-type: none"> • % of Bus Fleet that Has Exceeded the FTA Recommended Service Life • % of Bus Fleet Using Clean Energy Propulsion Systems • Passenger Rail On-Time Performance (Adirondack and Empire Corridor) • Percent Increase in Ridership (Statewide) • “Last Mile” Connections Preserved • Railroad lines with Improved Minimum Clearances • Lines supporting 286,000-pound Rail Cars

Emerging Sustainability Imperatives – Expanded Performance Measures

This Capital Program recognizes that limited programmatic resources need to be thoughtfully leveraged to achieve multiple performance objectives simultaneously. Where investments are made and how those investments produce efficiencies and synergies is at the core of sustainability objectives for environmental stewardship, community livability and economic competitiveness.

Traditional infrastructure measures of condition, as described above, remain central to measuring sustainable investment. The Department is committed to the improvement and expansion of these types of measures to better reflect how various infrastructure investments are leveraged to achieve objectives, such as:

- Reducing growth in highway Vehicle Miles Traveled and reducing energy consumption and greenhouse gas emissions.
- Reducing congestion where it affects the economic competitiveness of New York businesses and the livability of New York communities.
- Reducing the combined impact of transportation and housing costs on New Yorkers household income.
- Increasing travel choices available to New Yorkers for commuting and non-commuting travel by improving the safety and convenience of modes other than single-occupant vehicle (such as transit, walking, bicycling and rail).
- Ensuring that critical links in the transportation infrastructure are maintained in a fiscally sustainable manner and ensuring that sound preventative maintenance practices reduce the need for premature repair and replacement expenses.

Each objective requires integrated investments across categories of infrastructure, modes and often agencies. As NYSDOT pursues a performance measurement strategy that delineates its role in supporting these integrated investments, four significant strategies will frame the effort:

- Building on existing management tools to identify and to understand the relationship among highway, bridge, modal, operations and local transportation investments in supporting sustainability principles. Location of investments and combined benefit will be established via improvements to the Department's program management systems and related tools for planning and tracking projects.
- Investigating the use of public and private-sector data that can improve transportation planning, investment and operating decisions. One example might include using privately collected highway travel time data to support congestion monitoring, operational response and investment prioritization.
- Partnering with local government and other modal organizations to integrate operational data regarding availability and performance of transit service, pedestrian and bicycle facilities and land-use plans.
- Partnering with other states to adopt best practices and analytical tools.

Building on these strategies and applied toward these objectives, the Department will pursue development of the organizational capacity and data to track and to evaluate sustainability performance for the following types of measures:

- Congestion: Travel time by mode in economically critical corridors and travel markets.
- Transit Availability: Population within one-half mile of frequent transit service.
- Walkability score: Percent of establishments within one-half mile of population concentrations that are connected via pedestrian and bicycle infrastructure.
- Mode share by critical corridor or priority growth area: Percent of travel by transit, ride-share or non-motorized mode.
- Livability Household Expense: Percent of household income spent on housing and transportation combined, focusing on households below the median percentage.

Development of program performance measures should be considered a work in progress. Further definition and development of these types of measures, or other similar ones, will allow the Department to better understand and to explain the benefits of its investments and the outcomes of these investments on the public.