Proposed
MTA Capital Program
2010-2014




September 23, 2009

Metropolitan Transportation Authority

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THE 2010-2014 CAPITAL PROGRAM: Preserving the Transportation System's Rich Heritage for Future Generations

Introduction

The MTA's network of subways, buses and railroads move 2.6 billion New Yorkers a year, about one in every three users of mass transit in the United States and two thirds of the nation's rail riders. MTA bridges and tunnels carry nearly 300 million vehicles annually—more than any bridge and tunnel authority in the nation. This vast transportation network –North America's largest— serves a population of 14.5 million people in the 5,000 square–mile area fanning out from New York City through Long Island, southeastern New York State and Connecticut.

Today's network reflects the rich heritage of the region's original transportation systems. When the **New York City Transit subway** opened in 1904, it launched an unprecedented era of growth and prosperity for the newly unified New York City. Over 100 years later, the City continues to rely on its rapid transit system. NYC Transit keeps New York moving 24 hours a day, seven days a week as over 6,000 subway cars travel over nearly 700 track miles in underground tunnels and elevated structures throughout the boroughs of New York City.

Bus service on the streets of Manhattan began in 1907. Today, NYC Transit operates nearly 4,600 buses in all five boroughs on more than 200 local and 30 express routes. Long Island Bus, formed in 1973 by the combination of ten private bus carriers into a unified transportation system, runs over 300 buses on 53 routes linking 96 communities, 47 Long Island Rail Road stations, five subway stations and seven major shopping malls. MTA Bus Company, the newest member of the MTA family, was formed in 2004 to merge seven private operations. With more than 1,300 buses, it provides service on 80 local and express bus routes serving the Bronx, Brooklyn, and Queens.

The **Long Island Rail Road**, the largest commuter railroad in the country, was chartered in 1834, making it the oldest railroad in America operating under its original name. With over 700 miles of track on eleven rail lines extending from three major New York City terminals — Penn Station, Flatbush Avenue and Hunterspoint Avenue — through a major transfer hub at Jamaica to the easternmost tip of Long Island, the Long Island Rail Road transformed Long Island from farmland to economically vibrant communities with easy access to Manhattan jobs.

Proud old names in the history of railroading—New York Central and New York, New Haven & Hartford among them—are the lineage of **Metro-North**, the second largest commuter railroad in the nation. Metro-North's main lines—the Hudson, Harlem and New Haven—run northward out of Grand Central Terminal, a ninety-six year old Beaux-Arts Manhattan landmark, on nearly 800 miles of track into suburban New York and Connecticut. West of the Hudson River, Metro-

North's Port Jervis and Pascack Valley lines run northward out of Hoboken, N.J. serving Orange and Rockland Counties in the State of New York.

Created in 1933 by master builder Robert Moses, MTA **Bridges and Tunnels** carries more traffic than any other bridge and tunnel authority in the nation over its seven bridges and through its two tunnels. These spans of concrete and cabling are critical links in New York City's transportation infrastructure.

This remarkable transportation legacy, which underlies the economic success of the region and promises to do so for generations to come, depends on an ongoing commitment to protect this infrastructure and its thousands of visible and invisible components. This responsibility has been well recognized by the State, with its continuing choice to invest in public transportation, beginning with the State Legislature's historic investment program in 1982 through to the current 2005-2009 Capital Program, comprising the largest public investment program in the country's history. These investments - over $78 billion as of 2008 - have brought the MTA back from the brink of collapse. The most critical elements of MTA's core system, its rolling stock and tracks, have been rebuilt or replaced. As a result of these unprecedented improvements in the transit system, subway delays have fallen almost 60 percent and reliability has reached new heights with the distance between breakdowns increasing 1,800 percent on subways and 670 percent on the bus systems. As MTA has continued to rebuild, now completing its 6th capital program, the public has returned to the system in record numbers. In 2008, ridership on the subway, bus and commuter rail system reached an all time high with 2.6 billion trips using the MTA system daily compared to 1.6 billion in 1991.

Infrastructure of the MTA Network

Track Length:	*1,960 miles—enough to reach from New York to Santa Fe, NM*
Mainline Switches:	*3,259—supporting the complex network of rail service branches and express and local transit service*
Signal Blocks:	*14,850—controlling over 9,000 trains a day with nearly 5 million passengers*
Fiber Optic Cable:	*Over 975 miles—enough to reach from New York to St. Louis, MO*
Power Substations:	*524—using more than enough power annually to light the city of Buffalo for a year*
Third Rail:	*1,271 miles—enough to reach from New York to Lincoln, NE*
Pump Rooms:	*301—pumping 17 million gallons of water each day*
Ventilation (Fan) Plants:	*197—clearing air in tunnels during emergencies*
B&T Structures:	*368,940 tons of steel and 3.9 million cubic yards of concrete*
B&T Bridge Cables:	*49,368 feet, containing 181,900 miles of wire—enough to circle the Earth over 3½ times*

Recognizing that continuous investment is essential to insure the viability of the transit system for generations to come, the New York State Legislature mandated in 1982 that the MTA prepare five-year capital programs to rebuild and expand the New York Region's transit network. These two goals underlie this five-year program:

- **Rebuilding the System**. The proposed 2010-2014 Capital Program identifies an investment level of $28.080 billion, with 64 percent targeted to the repair and

replacement of system assets.

- **Expanding the System**. This capital program funds the completion of East Side Access and phase one of the Second Avenue Subway as well as funding planning studies to identify future capital initiatives that address currently unmet and emerging transportation needs.

These two goals, and the investments proposed to achieve them, are described in the sections that follow.

Rebuilding the System

As the largest regional transit provider in the Western Hemisphere, the MTA's network of commuter railroads, subways and buses handles 8.5 million trips each weekday, while our seven bridges and two tunnels serve more than 800,000 vehicles each day. Twenty-four hours a day, seven days a week, over 6,100 buses navigate the city streets and our 8,500 rail cars travel over 2,000 miles of track and service over 700 stations. Delivering this reliable service is the heritage of this massive transportation infrastructure. Preserving this vast and rich heritage depends on constant investment in the core system to ensure that every component of that system works. These visible components of service are supported behind the scenes and beneath the streets by the tens of thousands of components that make up the "invisible" infrastructure. This infrastructure, both visible and invisible, must work well in order to meet the needs of customers for generations to come.

The rebuilding investments in this capital program, which are premised on the needs identified in the twenty-year needs assessment, include replacing assets and maintaining those assets already repaired. While past investments have restored many of the system's assets, there is a significant backlog of assets that still require repair. And many assets that have been repaired in past programs will reach the end of their useful lives and require replacement. The agencies' needs are even greater than what is included in this capital program since more backlogged State of Good Repair needs exist than can be addressed. The "Rail Modernization Study," an April 2009 Report to Congress by the Federal Transit Administration (FTA), found that more than one-third of the assets of the Nation's seven largest transit agencies, including MTA, are near or have already exceeded their useful lives. These backlogged State of Good Repair needs total roughly $50 billion for these seven agencies. Recognizing the extraordinary needs inherent in the vast infrastructure of these large systems and their extraordinary value to the economic health of the nation, the report recommends that Congress and the FTA consider implementation of a temporary funding source over two or three federal reauthorization periods to eliminate this existing SGR backlog, which is similar to the catch-up investment suggested by the City in "PlaNYC A Greener, Greater New York."

The significant investments identified in this program are prioritized according to their condition and performance in order to provide the greatest service benefits and maintenance savings to the operating budget. For those assets not proposed for repair or replacement, additional maintenance investment will ensure their ongoing safety and acceptable performance.

To maximize the value of investments proposed, this program makes smart investments in repairing obsolete assets and restoring assets at the end of their useful lives. This means that assets are not replaced in kind where opportunities exist to introduce new technologies that enhance capacity and increase safety, such as Centralized Train Control, or to develop innovative ways to enhance transit services, such as Bus Rapid Transit. These "smart

investments" described below are a key element of this program.

- ***Replacing Obsolete Signals with New Technology***

As the agencies replace their signal systems, smart investments will ensure that obsolete hand thrown switches made up of elements no longer available on the open market are replaced by micro-processors with central control capabilities that offer greater system safety and enhance system capacity by providing more control over train movements. As shown in the MTA's Twenty Year Needs Assessment, over the next twenty years much of NYC Transit's signal system will be rebuilt with communications-based train control (CBTC)— an advanced signal system that enables real-time centralized train supervision and monitoring— permitting trains to operate at higher speeds and with shorter headways, thus increasing capacity. It also provides for automated train operation, and information regarding the exact location of trains, enhancing normal operations and emergency response. NYC Transit recently completed a CBTC installation on the Canarsie line (L train). Initial investments for CBTC on the Flushing line were funded in the 2005-2009 Capital Program; the remaining work is proposed in this program, including conversion of existing R142 cars to CBTC operations. In addition, a test track will be developed on a non-revenue segment of the Culver line for integration testing of new CBTC technology.

The proposed 2010-2014 signals program features one of the LIRR's most crucial efforts – Centralized Train Control, a multi-phased effort which will relocate the management of train dispatching, train supervision, and tower operations to the Jamaica Central Control Center Building (JCCB). Metro-North continues the multi-program replacement of the aging signal system from North White Plains to Brewster with the latest technology to accommodate current operations and ensure compatibility with future service needs.

This program will also see the implementation of Positive Train Control on LIRR and MNR as required by a new Federal mandate in response to accidents experienced on other rail properties. This technology will provide additional safety to rail operations by automatically shutting down any train that proceeds past a stop signal.

- ***Providing Innovative and Enhanced Bus Service***

Long standing problems, including slow speeds, poor reliability and long travel times have plagued bus services and limited the appeal, and therefore the efficiency, of surface transit. Future investments in surface service will incorporate smart approaches to addressing these problems. This program continues investments in Bus Rapid Transit (BRT), a new way to deliver bus services to areas of long-standing need.

Bus Rapid Transit is a modern approach offering a new type of bus service with innovative features, including street pavement treatments, signalized intersection strategies to speed buses through traffic choke points and fare payment innovations which speed boarding. This initiative integrates with Intelligent Transportation System elements to further their regional benefits.

Such components include:

- Off-board fare collection;
- Traffic signal priority;
- Bus priority signals at key locations;
- Real time bus information at bus stops on select routes; and
- Cameras on buses for incident recording and to help enforce bus lane regulations.

NYC Transit and New York City are advancing Phase I of the BRT effort to implement six BRT routes; three routes were funded in the 2005-2009 Capital Program and three routes will be funded in this program. (This initiative is discussed in more detail in the introduction to the NYC Transit section of the plan book.) The MTA and NYC are also working together on a BRT Phase II Study which will identify additional BRT services that could be implemented once the initial five routes are operating. Further, because BRT can provide increased capacity and connectivity to areas of need at less cost and in a shorter development period, it is being integrated into the standard MTA planning process in all corridor studies seeking to expand capacity. MTA's Twenty Year Needs Assessment incorporates these future BRT needs.

This new approach to core surface service investments promises to increase capacity, reduce travel times, improve reliability and attract new riders.

On a more regional scale, customers of bus services delivered throughout the MTA service territory may benefit from a more systematic delivery of service and coordination with MTA bus and rail networks. A study to learn about the opportunities and challenges of a more unified regional bus system will be undertaken in the Plan period.

- ***Communicating Real Time Information***

Many of the communications investments in the core plans will replace the system's aged communication assets with their garbled audio messages and largely static signage with smart communications. These will provide the information backbone to allow customers to make smart travel decisions, providing customers "real-time" information while they are planning a trip or en-route.

Investments proposed from the Twenty Year Needs Assessment for implementation over this plan period include:

- Expansion of real-time transit information in transit and rail stations.
- Begin implementation of systemwide rollout of real-time

information at bus stops.

These investments will deliver targeted "just in time" information on transit services (arrival time, track number, etc) to customers, enhancing their use of the system.

- ***Implementing New Fare and Toll Payment Options***

Over the next ten years, the fare payment infrastructure currently in use at all MTA agencies— ticket machines, turnstiles, fare processing equipment— will all reach the end of their useful life. Just as this infrastructure was transformative with its introduction in the 1990s, enabling elimination of two fare zones and implementation of fare discounts, the replacement of these assets with the next generation of fare payment technology promises a similar transformation.

The proposed 2010-2014 Capital Program includes investments to begin migration to more advanced fare and toll payment systems throughout the MTA family. MTA is completing an evaluation of new fare and toll payment methods for transit, commuter rail and MTA bridges and tunnels, including the use of contactless "smart chip" payment systems, such as standard bank and credit cards, pre-paid transit payment cards, key-tags and smart phones. The future promises the ability to use a single smart card or a cell phone with a smart chip --cell phones being nearly ubiquitous in the New York region-- to ride any and all of the region's transportation systems, from NYC Transit's subways and buses, to the commuter railroads, to Bridges and Tunnels. This new approach could offer many benefits to the MTA, including increasing capacity on bus services by speeding the boarding process, reducing labor and cash handling expenses, supporting inter-modal fare payments options and improving customer service through simplified and expanded fare policy.

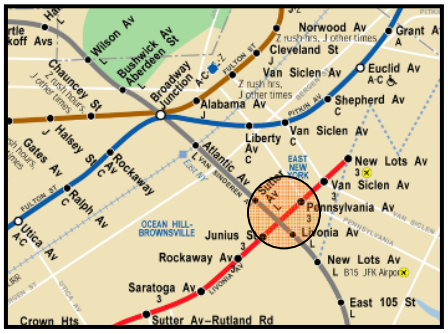
- ***Improving Access for the Elderly and Physically Challenged***

As assets are repaired and replaced, opportunities will continue to be identified to increase access for the disabled as we make those investments. Surveys continue to show that people expect to remain in the workforce longer than previous estimates so that older people are expected to account for 20 percent of the work force by 2020, up from 13 percent in 2000. Many of these individuals are or will become MTA customers, and investments will have to accommodate a wide range of new needs, from larger message text to innovative ways to site and maintain elevators and escalators throughout the transit system. To this end, the proposed 2010-2014 Capital Program advances investments identified in the Twenty Year Needs Assessment in audio/visual screens, low-floor buses, elevators and paratransit vehicles among other core investments to serve an aging customer base.

- ***Optimizing System Links***

As investments are made in stations and track on the rail system and enhancements to the bus system, opportunities exist to optimize service by improving or adding transfer points between

intersecting subway or lines and between bus and subway or bus and rail connections through intermodal terminals. These investments promise to expand travel choices and better exploit network capacity, especially when also informed by the real-time information improvements described above. Past examples of these smart investments have provided new connections between MTA and NYCT Bus services and adjacent subway lines with new intermodal terminals in Jackson Heights and Ridgewood.



LIRR will undertake infrastructure investments in the vicinity of Jamaica, to increase station capacity and throughput in conjunction with service expansion, including the new Cross-Borough Scoot service between Jamaica and Brooklyn. This critical link in LIRR's system will be modernized, through a new track layout, new signals, and new higher speed crossover switches. Metro-North's Strategic Intermodal Facilities and Parking Expansion project includes monies to implement strategic station and parking investments to construct key intermodal transportation hubs in the Metro-North region.

Studies in the proposed 2010-2014 Capital Program will consider other locations to better link existing transit lines based on high-transfer volumes between bus and subways. Additional opportunities to better link existing transit lines could include a transfer between the **3** and the **L** trains at Livonia Ave. and improvements to the intermodal terminal at Rockaway Parkway (L). In addition, this program will advance an investigation of what is required to eliminate a major subway service bottleneck at Eastern Parkway and Nostrand Ave. in Brooklyn. These future opportunities are recognized in MTA's Twenty Year Needs Assessment.

Smart investments such as these will allow customers to optimize travel by minimizing travel paths and seamlessly switching from one service to another.

- ***Maximizing Investments in Commuter Rail Stations in New York City***

While Metro-North and LIRR services are primarily used by customers traveling to and from the suburban counties, the rail lines pass through parts of Manhattan and the outer boroughs and provide a number of city station locations. As part of investments in these stations, this capital program progresses some of the opportunities identified in the Twenty Year Needs Assessment for pocket tracks and signal enhancements to create incremental throughput capacity to enable additional trains to stop at these stations to provide both CBD-bound and reverse-commuter travel to the suburbs.

For example, LIRR's proposed 2010-2014 Capital Program includes the Kew Gardens station platform extension, allowing more cars to platform at this station, overcoming infrastructure limitations at the Kew Gardens station, which can only platform 4 car lengths due to platform dimensions. Lengthening these station platforms will allow additional LIRR customers to utilize this station without having to pass between train cars to access the platform. Through the construction of extended platforms, station dwell times will decrease, making for more efficient LIRR operations between Jamaica and Penn Station, while improving service to this Queens

community. This smart investment is particularly beneficial after East Side Access service opens, as LIRR service expands to two Manhattan terminals—providing increased travel capacity in the vicinity of the overcrowded Queens Blvd.subway line.

- ***Implementing Strategic Corridor Improvements to Improve Service***

As the railroads invest in track, signals and power, additional targeted investments in strategic corridors promise significant opportunities to increase capacity and enhance service even more.

For LIRR, these investments in its core program complement the East Side Access network expansion project currently underway, putting in place the infrastructure necessary to maximize the increase in capacity that Long Islanders will receive. In addition to the work in the vicinity of Jamaica discussed above, other strategic corridor investments in LIRR's 2010-2014 program include: Phase I of double track from Farmingdale to Ronkonkoma, pocket track initiatives at Massapequa and Great Neck and increasing electric train storage capacity in Nassau and Suffolk counties. Subsequent phases of these strategic corridor investments are reflected in the Twenty Year Needs Assessment.

For Metro-North, similar improvements to strategic track segments, such as in the Woodlawn area of the Bronx, will facilitate additional service and improve reliability on the Lower Harlem and New Haven Lines.

Additionally, Bridges & Tunnels is assessing the possibility of implementing video tolls in some of its lanes to increase capacity and enhance customer service to strategic regional corridors served by its crossings.

These smart investments in strategic corridor improvements promise to improve service and customer satisfaction.

- ***Making Investments Sustainable***

The MTA has made a concerted effort in its Twenty Year Needs Assessment and the proposed 2010-2014 Capital Program to incorporate smart "sustainability" into the planning and construction of proposed infrastructure investments. Building sustainable features into core investments will further enhance transit's role in the overall sustainability of the region, which already has one of the lowest carbon footprints in the nation largely due to transit use. Through programs like Transit Oriented Development (TOD), the MTA will continue to work collaboratively with communities, developers, and stakeholders throughout the region to promote new commercial and residential development and enhance existing communities near transit. Through the coordination of accessibility improvements and land use policies that

encourage compact development and transit use, the MTA can provide greater convenience and improved mode choice for existing and potential customers, as well as a higher level of customer amenity in station areas, to contribute to sustainable long-term growth throughout the region.

These core agency investments focus on repairing and replacing obsolete assets in these smart ways to ensure the legacy of the system for generations to come.

Expanding the System

The ongoing commitment to maintain and rebuild core assets has enabled the MTA to begin to expand the existing system, with the LIRR East Side Access (ESA) and Phase 1 Second Avenue Subway (SAS) expansion initiatives. The proposed 2010-2014 Capital Program proposes to allocate all remaining funds needed to complete these two expansion initiatives. These projects represent the first major system expansions since the 1940s. East Side Access will bring LIRR trains into Grand Central Terminal, saving as much as 40 minutes a day on the round-trip commute of more than 76,000 daily customers. It will also ease congestion at Penn Station, paving the way for Metro-North service to Penn Station in future years. The first phase of the Second Avenue Subway will provide service from 96th St. to 63rd St., where it will connect with the Broadway (N/R/Q/W) line. This project will provide new service to Manhattan's East Side and reduce overcrowding on the already overburdened Lexington Ave. (4/5/6) line, significantly improving travel time and conditions for hundreds of thousands of New Yorkers each day.

The new subway terminal at South Ferry -- the first new station opened since 1989 -- was completed in the 2005-2009 Capital Program. Newly available American Recovery and Reinvestment Act funds will allow completion of the Fulton St. Transit Center during this 2010-2014 plan period, expanding linkages among 12 subway lines and supporting the ongoing redevelopment of Lower Manhattan. (Funding for the extension of the #7 subway line to support development of Manhattan's Far West Side, a project funded by New York City, is included in the previous 2005-2009 program; during this program period all contracts needed to complete the extension of the #7 subway line to 11th Ave. and 34th St. will be awarded.)

The New York City population, currently estimated at 8.2 million, which in itself represents historic growth since the 1980s, is expected to continue on this trajectory, growing by another one million people over the next 20 years. And transit investments, widely recognized as fundamental to economic prosperity, must keep pace. Despite the recent downturn, with recovery forecast to begin in 2010, the success of the New York Region's economy continues to rely heavily on the MTA network to provide critical connectivity between jobs and labor force. All portions of the region are expected to experience robust growth and

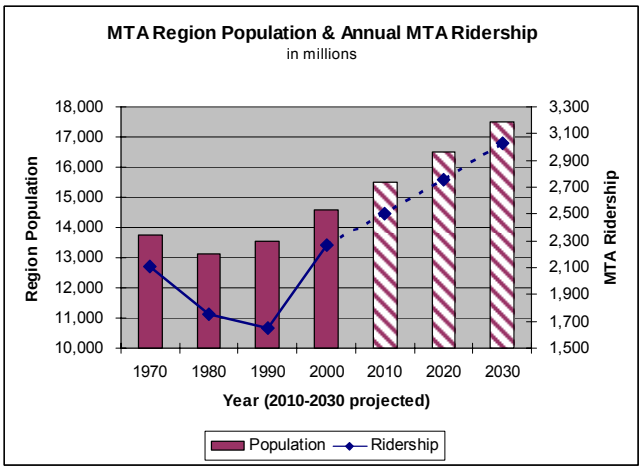

Coming Soon, 9 Million Stories in the Crowded City

New York Times, Feb. 19, 2006

MTA must plan to meet that growth with the implementation of new transit services that promise to best meet these needs.

- ***New Network Expansion Initiatives***

In 2006-2007, the MTA conducted a region-wide review of forecasted growth and trends and concluded that despite a continuation of its rebuilding program and the completion of the ESA, full-length SAS and #7 Extension projects, significant gaps between demand for transit services, opportunities for redevelopment, and transit system capacity will remain.



Economists from throughout the region confirm the region's continued growth potential despite the recent downturn, but caution that these forecasts are estimates of "potential" that are very much dependent on the Region's ability to continue to overcome obstacles to growth – such as achieving greater accessibility between jobs and labor force. An MTA system that continues to achieve a greater state of repair while improving capacity and connectivity is essential to the long-term economic health of the region.

Since virtually all portions of the region and travel markets are expected to experience growth over the next 20 years, the MTA's response must concentrate both on enhancing the existing network's ability to accommodate more customers as discussed in the core investment section above and expanding the network. This response will, of necessity, span many capital programs as reflected in the MTA's Twenty Year Needs Assessment. To determine those transit investments that will best serve the growing region's needs in select corridors, this program proposes to fund studies that set the foundation for priority investments for future capital programs.

- MTA, with New York City Transit, forecasts that the Queens Blvd.Corridor requires new strategies to meet today's high demand and serve projected population and employment growth as well. A "Queens Blvd.Corridor" study is proposed for the 2010-2014 Capital plan to define the transit needs and strategies that could range from technological enhancements to the existing network, such as subway signalling innovations and train and platfrom length enhancements, to the addition of new surface strategies such as BRT, to longer term additions/changes to the rail network.

- Staten Island is the fastest growing borough in the city; its population has increased by 24 percent since 1990 and is expected to grow by an additional 34 percent by 2035. The MTA and New York City Transit in cooperation with the Staten Island Borough President have begun a "Staten Island North Shore Alternatives Analysis." This analysis will identify ways to improve travel in this corridor (both intra-island and to other Boroughs and New Jersey) using a variety of modal alternatives to support faster and more reliable transit service

within the corridor, to the St. George Ferry Terminal and to destinations outside Staten Island. The next study step leading to project development is proposed.

Staten Island's West Shore travel corridor (extending from the Bayonne Bridge on the North to the Staten Island Railway line at Richmond Valley, between the Arthur Kill waterway and Richmond Ave on the South) also experiences significant obstacles to accessibility for travel on and off the island, such as very long travel times and incomplete geographic coverage to areas of potential development. A foundation study to set the direction for future improvements is proposed.

- The population of Rockland County has more than tripled in the past 50 years; population in Rockland and Orange Counties is forecasted to grow by 22.9 percent by 2035, increasing travel demand in the already strained Tappan Zee Bridge travel corridor. In addition to the capacity constraints in the corridor, the Tappan Zee Bridge, a critical link between Rockland and Westchester Counties and the overall regional transportation network, is aging and requires extensive ongoing maintenance. Metro-North is partnering with the NYS Department of Transportation and the New York State Thruway Authority to conduct an Environmental Impact Statement (EIS) to evaluate alternatives for the Bridge, including transit, to reduce congestion and improve mobility. A "Tier 2" transit EIS process will be initiated in 2010 to develop the details of the transit element of the corridor overall.

The investment priorities that are identified by these upcoming planning studies will likely be reflected in future capital programs and Twenty Year Needs Assessments; these will combine with the investment priorities identified by planning studies already underway with funding from the previous and current capital plans. Some of these initiatives are approaching the stage where funding for project design and construction will be needed. It is expected that these resources will be included in programs that follow the 2010-2014 Program, as described in the MTA's Twenty Year Needs Assessment.

For example, phase one of the Second Avenue Subway is expected to be followed in later capital programs by the remaining three phases, to extend its reach from Harlem to lower Manhattan. In addition, Metro-North Penn Station Access, currently in planning, will require funding in future programs to provide new access from the northern suburbs east of the Hudson

to the Westside of Manhattan as well as new stations in the City, such as at Co-op City, for greater access by City residents. Future programs can also be expected to include investments to allow greater connectivity through the Penn Station Hub for MTA railroads. The redevelopment of the Farley Post Office building will create an exciting new venue for intercity rail customers and magnify the surface presence of Penn Station in the midst of the new Hudson Yards, the 38 million square foot westward extension of the nation's largest Central Business District.

Other mobility issues and opportunities also exist that will require study in future capital programs, such as further support for Metro-North West of Hudson strategies to boost capacity and connectivity with new destinations such as Stewart Airport and new services to take advantage of the completion of the new New Jersey Transit "ARC" Hudson crossing to Penn Station. Also as capacity issues become clearer for the NYC Transit 7th Ave. corridor, planning funds will be needed to identify prioritized solutions.

Conclusion

Protecting and enhancing this region's remarkable transportation legacy depends on an ongoing commitment to rebuild its infrastructure with its thousands of visible and invisible components and to expand the system to meet the future growth needs of the region. The investment needed to accomplish this task includes addressing backlogged State of Good Repair, ongoing repair and replacement, and future system expansion needs. While this investment is massive, its importance is one that has long been recognized by federal, state and local funding partners in their ongoing choice to invest in public transportation, beginning with the MTA's first five-year capital program in 1982. And there is a new recognition at the Federal Transit Administration and among regional funding partners of the need to address the backlogged State of Good Repair of the major urban transit systems so critical to the economic wellbeing of the nation. As solutions for this need are sought, one thing is certain: this region will continue to invest in its transportation system. It is this commitment that brought the MTA back from the brink of collapse; the continuation of this commitment promises to ensure a well run system that secures the economic health of the region for generations to come.

THE MTA 2010-2014 CAPITAL PROGRAM

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THE MTA 2010-2014 CAPITAL PROGRAM

INVESTMENT SUMMARY

On May 7, 2009, Governor Paterson signed historic legislation to provide additional sources of revenue to address the enormous operating deficit facing the MTA as a result of the collapsing real estate market and an economy in world-wide recession. As part of this legislation, the Governor and the legislature also recognized that, with the MTA in the last year of its current five-year capital program, the legislation also needed to support the $28 billion proposed 2010-2014 Capital Program. To this end, the legislation includes revenues anticipated to be adequate to support the first two years of this five-year program. Since this proposed program is a full five-year program as required by law, the MTA will work with legislative leaders to develop a funding package for the remaining three years of the program.

Funding the entire five-year program is fundamental to rebuilding and expanding the system. This program keeps pace with past programs and ensures that the most critical investment needs can be met. It does not, however, address the full backlog of needs identified in the first five years of the Twenty Year Needs Assessment. As recognized by FTA in its "Rail Modernization Study" and New York City in its "PlaNYC A Greener, Greater New York," these extraordinary needs require implementation of a targeted funding source over two or three federal reauthorization periods or capital programs to eliminate this existing SGR backlog.

The proposed MTA 2010-2014 Capital Program to rebuild and enhance the existing core network, maintain security and expand the system totals $28.080 billion (Table 1).

Table 1
MTA Proposed 2010-2014 Capital Program
All Agency Summary
($ in millions)

Program Elements	Proposed
Core Capital Programs	
New York City Transit	$13,861
Long Island Rail Road	2,758
Metro-North Railroad	1,839
MTA Bus	325
Core Subtotal	**$18,783**
MTA Wide Security and Safety Program	650
Interagency	400
Network Expansion Projects	5,739
Total 2010-2014 CPRB Program	**$25,572**
Bridges and Tunnels	2,508
Total 2010-2014 Capital Program	**$28,080**

Numbers may not total due to rounding

PROGRAM FUNDING

Funds currently projected to be available for the 2010-2014 MTA Capital Program are shown in Table 2 below and described in the following narrative. During its 2009 session, the New York State legislature approved new funding for the MTA's financial plan that includes recurring revenues adequate to support debt service on six billion dollars of new bonds that, in combination with the other funding sources on Table 2, would allow two years of capital work to progress (exclusive of Bridges and Tunnels, which self funds its capital program). Based on these funding assumptions, the MTA faces a $9.9 billion gap in funding the full 2010-2014 period. Additional funding from the MTA's traditional funding partners will be needed to progress the MTA's five-year capital program as identified in this plan.

Table 2
MTA Proposed 2010-2014 Capital Program
Funding Sources
($ in millions)

Program Funding Plan	Proposed
Total 2010-2014 Program Costs	$28,080
Funding Currently Projected:	
Federal Formula	8,175
Federal Security	225
City Capital Funds	500
MTA Bus Federal and City Match	160
Bridges & Tunnels Dedicated Funds	2,508
MTA Bonds	6,000
Asset Sales/Pay-As-You-Go Capital/ or Other Internal Sources	600
Total 2010-2014 Funds Available	**$18,168**
Funding Gap	**$9,912**

Numbers may not total due to rounding

Federal Formula Funds: The MTA's proposed 2010-2014 Capital Program will coincide with the anticipated six-year 2010-2015 federal transportation funding reauthorization. The MTA and its sister transit agencies across the country will be seeking significant increases in federal transit subsidies consistent with the Federal Transit Administration's recognition of the substantial backlog in investments needed for state-of-good repairs across the country. The funding projection above assumes a 25 percent increase in base funding levels above the $1.1 billion annually the MTA currently receives plus inflation over the reauthorization period. Also included is the MTA's share of Congestion Mitigation & Air Quality (CMAQ) funding available to the region.

Federal Security Funding: In support of the MTA's ongoing capital security program the MTA is assuming 2010-2014 Department of Homeland Security (DHS) funding in amounts consistent with current grant funding receipts. Additional grants will be sought to allow the program to expand.

City of New York Capital Funds: The plan assumes increased contributions from the City of New York from the current approved level of $80 million per year to $100 million per year.

MTA Bus Funding: Federal and City Match: With the MTA takeover of the City private bus lines in 2004, federal funds previously allocated to the City for these properties are now transferred annually to the MTA. As part of the transfer, New York City has agreed to provide the match for the required grant funding.

Bridges and Tunnels Program Funding: The MTA Bridges and Tunnels is self-funded through toll revenues.

MTA Bonds: During its 2009 session, the New York State legislature approved new revenue sources adequate to support debt service on $6 billion of new bonds.

Asset Sales/Pay-As-You-Go Capital/or Other Internal Sources: The MTA anticipates $600 million in asset sales, pay-as-you-go capital or other non-bond sources. This funding will provide support for the first two years of the proposed capital program.

Funding Gap: Even with this $6 billion of new bonding capacity, a funding gap of $9.9 billion still remains to be filled to meet all the needs identified in the proposed MTA 2010-2014 Capital Program. In the absence of additional support from the MTA's funding partners, the MTA's ability to maintain its network in good repair and address assets past due for replacement will be severely compromised.

2010-2014 CAPITAL PROGRAM PLANNING AND PROGRAM CONTROLS

The primary planning vehicle for this five-year capital program is the Twenty Year Needs Assessment that establishes the long-term context for selecting the projects included in each five-year program. The Twenty Year Needs Assessment involves updating asset inventories/condition ratings to determine replacement cycles for all of the system's assets. This information is then used to develop four five-year investment envelopes that reflect priorities for restoring assets and expanding the system; the first of these envelopes then informs the five-year capital program.

Once the five-year program of investments is developed, all projects within the plan go through a review and approval process before proceeding to award. This approval process has been strengthened for this program in response to three forces: the recent legislation, which establishes new expectations of strong oversight control; the review of the mega projects with FTA, which established a process for prioritizing risks and implementing mitigations; and the overheated New York construction market, which caused MTA to reevaluate how risk factors are incorporated into project budgets and schedules. The controls described below were influenced by these factors.

Capital Project Approval Process

In order to ensure adequate levels of documentation for projects before they proceed into award (as required by the revised capital program policy instruction), all projects will go through a post-plan review and approval process in order to better manage the costs, schedules and outcomes of individual projects. This review process will focus on project selection rationale (justification of need, alternatives analysis and cost-benefit reviews); adequacy of scope, schedule and budget; and thoroughness of risk identification. Projects will be expected to meet the threshold requirements described below before funding will be released for award of contracts for the design and construction stages of work.

- For all projects, project proposals at the scope stage prior to entry into design will be reviewed by MTA Capital Program staff and the Independent Engineering Consultant (IEC) to document that the project is the best choice among alternatives, to provide a baseline for evaluating the project during design, and to confirm the sufficiency of allowances for indeterminates (AFI) and contingencies in budgets.

- Prior to entry into construction, all projects will be reviewed to ensure budgets and scopes have not changed during the design phase; selected large or complex projects will undergo a risk assessment, with IEC participation, to ensure that assumptions for budgets and schedules are properly sized and will hold during the course of project implementation

- For large, complex or new technology projects, the IEC will also conduct periodic reviews at key milestones to ensure that these traditionally challenging projects are still on track. This includes:

    - Expanding the risk reviews conducted by the MTA Office of Construction Oversight (OCO) and the IEC to cover every significant contract for these projects, with a focus on identifying and then monitoring all available risk mitigation opportunities in order to ensure that the budget does not move higher up in the range.

    - Immediately implementing the risk identification, rating and prioritization analyses as recommended by FTA in the areas of:

        - requirements;
        - design and pre-construction;
        - project delivery;
        - early construction with a focus on geotechnical/utility/environmental risks;
        - mid-range construction; and
        - start-up/substantial completion of construction.

    - Expediting the mitigation strategy for each project, including implementation of integrated decision-making processes and monitoring management conformance with mitigation strategies and processes to evaluate the timeliness and effectiveness of their implementation.

- For all rolling stock investments, including proposals associated with the mega projects, complete and up-to-date multi-year fleet plans will be required including the appropriate data necessary to document fleet growth assumptions. For mega projects involving a significant expansion of current fleet size, full service plans and simulations will be required.

These milestone reviews will be a key to the success of the next capital program. With these strengthened procedures in place, projects can be awarded with greater confidence that the project can deliver the promised benefits within the approved budgets and schedules. These efforts will ensure that each component of the large, complex projects are tracked more closely to allow quick response before cost increases and delays are incurred, so as to better adhere to project budgets and schedules.

Dashboard Report on Project Milestones

The major milestones for projects in this capital program--budget, schedule and scope--will be tracked and available on the MTA website as information to the public. The dashboard will be integrated with existing agency management systems to provide current and updated information on these key milestones for all projects listed in the blue pages of this document on a quarterly basis. This web-based report will allow easy reference to a project's status as

compared to the original budget, scope and schedule as work progresses in the plan period; it will allow users to drill down to access information on changes that are reflected in these milestones. As an introduction to the functionality of this dashboard, the projects contained in this proposed program are expected to be available on www.mta.info this fall.

2010-2014 CAPITAL PROGRAM SUPPORT FOR MINORITY AND DISADVANTAGED BUSINESS ENTERPRISES

New Mentoring Program

For the 2010-2014 Capital Program the MTA will implement a mentoring program for small businesses, which will address some of the key barriers that have blocked small businesses and MWDBE participation in the MTA's large and complex capital projects. MTA capital program managers will select smaller stand-alone capital projects from within larger initiatives to be candidates for this program. The mentoring program will offer construction training, technical assistance, and small business loan and surety bond assistance to program participants so they can establish the eligibility and qualifications to bid independently on MTA projects in the future. The goal of MTA's proposed Mentor Program is to create a larger pool of qualified contractors who can complete for MTA projects safely, timely and within budget. The program will be open to all small businesses. The program requires legislative approval.

Ongoing MBE Support: For its entire capital program, the MTA establishes annual MWDBE goals on both its Federal and New York State Contracts. During Fiscal Year 2010, the MTA established a 17 percent DBE goal for federally funded projects, and ten percent Minority- and five percent Women-Owned goals for non-federally funded projects. The MTA's Office of Civil Rights (OCR) is responsible for both the MWDBE goal setting process and MWDBE contract monitoring and compliance process. Once goal(s) have been established for a given contract, OCR staff monitors each contract to promote achievement of these MWDBE goals.

THE MTA 2010-2014 CORE CAPITAL PROGRAM

The proposed MTA 2010-2014 Capital Program to rebuild the existing core network totals $21.291 billion (Table 3). This level of investment is consistent with the level invested in the core 2005-2009 Capital Program, adjusted for inflation. A great deal has been accomplished since 1982 to restore many of the assets in the MTA network to a State of Good Repair; this effort continues in this program, addressing more of the backlog of assets in need of repair. Ongoing Normal Replacement is also the focus of the core program; the need to maintain assets previously restored for a system this vast is substantial and continues forever. The investments proposed in this program for the repair and replacement of existing assets will be smart investments that will not only improve the asset but will also, wherever possible, enhance the service delivery quality and capacity of the existing network. Highlights for each of the agency programs are noted below.

Table 3
MTA Proposed 2010-2014 Capital Program
All Agency Summary
($ in millions)

Program Elements	Proposed
Core Capital Programs	
New York City Transit	$13,861
Long Island Rail Road	2,758
Metro-North Railroad	1,839
MTA Bus	325
CPRB Core Subtotal	**$18,783**
Bridges and Tunnels	2,508
Total Core Program	**$21,291**

Numbers may not total due to rounding

INVESTMENT EMPHASIS 2010-2014

HIGHLIGHTS

New York City Transit (NYCT) - $13.861 billion

The largest investment areas for New York City Transit are rolling stock, stations, track, and signals. Nearly 550 new rail cars will be purchased for NYC Transit and Staten Island Railway. Also, nearly 2,500 new buses will be purchased to meet replacement cycle needs, expand the fleet and support the further deployment of Bus Rapid Transit (BRT). Track and switch investments will continue the timely replacement of this safety-critical system. Fourteen traditional station rehabilitations (reprogrammed from the 2005-2009 program) are included, such as Smith-9th St. on the Culver line, nine stations on the Sea Beach line in Brooklyn and four stations on the Pelham line in the Bronx. The proposed program also introduces a new Station Renewal strategy, which targets stations with a preponderance of component investment needs with a renewal investment to address these components. NYC Transit will continue with its program to modernize existing signal systems with a number of interlocking upgrade projects, the first step in upgrading signals to Communication Based Train Control (CBTC). Significant investments are proposed for replacement of subway and bus communications systems to support reliable operations and other investments enhancing the safety of the system, including vent plants and fire safety systems.

Long Island Rail Road (LIRR) - $2.758 billion

A significant portion of Long Island Rail Road's program for 2010-2014 is a set of investments to expand the capacity to accommodate its growing fleet and to prepare for the start-up of the East Side Access service to Grand Central Terminal. The core investments in this package focus on strategic system enhancements including: the first phase of a Double Track Main Line effort beginning with the segment from Central Islip to Ronkonkoma; Jamaica investments to implement new configurations for the interlockings both east and west of Jamaica station to increase throughput associated with service expansion, including new Cross-Borough Scoot service between Jamaica and Brooklyn; the construction/extension of pocket tracks to provide for mid-branch train storage at Massapequa and Great Neck; reconfiguration of the yard at Port Washington; and construction of new yards on the Main Line and Port Jefferson Branches. In addition to these capacity investments, this program will continue investments in bridges and viaducts and the East River Tunnels.

Metro-North Railroad (MNR) - $1.839 billion

Metro-North focuses the largest share of its program on rolling stock, stations, track, and shops. Metro-North's M-8 purchases (MNR's share) supporting the New Haven line will be completed in this program, replacing the 35-year old M-2 fleet and providing for growth on the New Haven Line. All East of Hudson stations will receive communications improvements or rehabilitation work in the next program and the Strategic Intermodal Facilities program also continues, with MNR partnering with the local community for parking expansion and land development. Phase IV of the Croton-Harmon Shop and Yard replacement will be progressed, constructing a Support Shop which will be the Mechanical Department's primary component repair and rebuild facility.

MTA Bus (MTAB) - $325 million

Building on the significant purchases made in the 2000-2004 and 2005-2009 Capital Program to restore the fleet, the Bus Company will order a total of 290 new buses, including: 253 for local service and 37 for express service. The new buses are primarily for Normal Replacement, but will also expand the fleet to meet ridership demands. Facility investments include: upgrading bus washers and HVAC systems, installing a new elevator at College Point, providing a new

green roof at Far Rockaway, improving security, and modifying depots to support articulated buses.

Bridges and Tunnels (B&T) - $2.508 billion
The seven toll bridges and two tunnels originally built by the Triborough Bridge and Tunnel Authority between 45 and 75 years ago spanning New York City's waterways are now in the peak of their replacement cycle. The proposed program continues the heavy deck, structural and cable rehabilitation work begun in the last capital program with particular emphasis on rehabilitation of the Bronx-Whitestone, Throgs Neck, Robert F. Kennedy, and Verrazano-Narrows Bridges. Ninety-five percent of the agency's program is dedicated to cyclical Normal Replacement of its assets. B&T's capital program, which is not subject to Capital Program Review Board (CPRB) review and approval, is not included in the CPRB Program submission.

PLAN ORGANIZATION

Following this introduction are detailed discussions of the agencies' proposed core program, the security program, the interagency program and the network expansion program. These program discussions are followed by detailed project listings in the same order.

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MTA NEW YORK CITY TRANSIT

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MTA NEW YORK CITY TRANSIT
2010-2014 CAPITAL PROGRAM
OVERVIEW

New York City is a place unlike any other in the U.S., where a majority of workers commute from home to work via public transportation, and a majority of households do not own a car. New York City Transit is the core of the MTA's regional network and is the overwhelming source of transit mobility within the city. Providing 2.4 billion trips annually, NYC Transit is the largest public transportation system in the United States. Indeed, NYC Transit subways supply nearly two-thirds of all heavy rail transit trips in the U.S. NYC Transit buses carry twice as many daily riders as the bus system of Los Angeles, the second largest bus fleet in the U.S. NYC Transit assets include about 6,300 subway passenger rail cars, about 4,600 buses, 659 miles of mainline track, and 468 passenger stations. The NYC Transit system operates 24 hours a day, seven days a week, 365 days a year. Intensely used, the rolling stock, infrastructure, and other assets of this extensive 100-year-old network require substantial and sustained investments to deliver the level and quality of services expected by our customers.

Before the capital program was established in 1982, the NYC Transit system was reeling from years of deferred maintenance and severe underinvestment. Service was hampered by derailments, bus and subway car mechanical failures, crime, and deteriorated stations. Today, after more than 25 years of sustained capital investment, a large portion of NYC Transit assets have been restored to a State of Good Repair. While further substantial investment is still required for the rehabilitation of core assets, it has also been possible in recent capital programs for NYC Transit to make investments that enhance the system and improve customer service. Overall, improvements in service reliability and the customer environment have been dramatic, and have attracted new customers to the transit system. NYC Transit ridership has increased steadily -- about 50 percent since the introduction of MetroCard fare incentives in 1997 -- and has reached near-record levels. Annual NYC Transit system ridership in 2008 (prior to the effects of the economic downturn) was the highest since 1965. Subway ridership was the highest since 1950. Booming transit ridership is beneficial to the region – helping to reduce automobile traffic and air pollution – but it also necessitates a robust transit infrastructure, capable of handling increased demand.

THE PROPOSED 2010-2014 CAPITAL PROGRAM

The proposed 2010-2014 Capital Program totaling $13.861 billion provides the resources to build upon the achievements of prior capital programs to sustain the system's legacy for future generations and to avoid a repeat of the disinvestment and resulting crises of the past. In this program, NYC Transit continues Normal Replacement of key assets like rolling stock and mainline track/switches while emphasizing the critical overdue investments to be made in signal systems. Stations continue as an important focus of investment given the importance of the station environment to NYC Transit's customers and their communities. Select system improvements --smart investments-- are also introduced to enhance operational capabilities and/or improve customer service. Table 4 identifies these investments by asset category.

Table 4
MTA NYCT Proposed 2010-2014 Capital Program
by Investment Category
($ in millions)

Category	Proposed 2010-2014	Percent
Subway Cars	$1,333	10%
Buses	2,073	15%
Passenger Stations	2,439	18%
Track	1,429	10%
Line Equipment	528	4%
Line Structures	521	4%
Signals and Communications	2,833	20%
Power	265	2%
Shops	328	2%
Yards	305	2%
Depots	673	5%
Service Vehicles	124	1%
Miscellaneous	677	5%
Staten Island Railway	331	2%
Total	**$13,861**	**100%**

Numbers may not total due to rounding

Priorities for this investment program stem from the agency's recently completed Twenty Year Needs Assessment. Built on the foundation of a comprehensive asset condition inventory, the assessment identified a significant need to modernize signal systems as well as the traditional investment areas of rolling stock (cars and buses), track and switches and passenger stations.

Signals and Communications have become the single largest category, both in terms of identified needs as well as proposed investment. This is a reflection of the safety and operational importance of the signal system coupled with the age profile and conditions of existing installations. The cost of modernization has recently increased significantly, as experienced in project costs during the 2005-2009 program, and reflected in the estimates here.

Primary elements of this investment program include investments to maintain core infrastructure and smart investments that will enhance mobility, customer satisfaction and safety and security. Within these elements, the following priorities shaped the development of the proposed 2010-2014 Capital Program:

- Primary operating assets (Fleets and Track)
- Signal investments to address overdue investment needs
- Stations and other infrastructure, especially work rescheduled from 2005-2009 Program and
- System Improvement investments

The discussion below, which elaborates on these investment priorities, provides a capsule of the twenty-year perspective as well as the proposed investments included in the 2010-2014 period.

Investments to Maintain Core Infrastructure

Investments in Primary Operating Assets (Fleets and Track)
Investments in NYC Transit's primary service delivery assets – trains and the tracks they run on, as well as buses – are the core of the proposed 2010-2014 Capital Program. Prior capital programs had brought all NYC Transit subway cars, buses, and track to a State of Good Repair – and the resultant improvements in service reliability are one of the great success stories of the capital program. Capital investments in cars, in concert with the Scheduled Maintenance System (SMS), have increased reliability from approximately 7,000 miles between breakdowns in 1982 to more than 130,000 today. Likewise, bus fleet reliability has improved from below 1,000 miles between breakdowns to nearly 4,000 miles today. Derailments, which were once common, now occur only rarely.

To maintain these gains in reliability, sustained investment is required. The proposed 2010-2014 Capital Program includes nearly $5 billion for subway cars, buses, and track replacement. This represents nearly 35 percent of the overall capital program, comparable to levels in past programs. Most of this funding is for the Normal Replacement of assets at the end of their useful lives. The subway cars to be replaced will be 40 years old and have been kept in a State of Good Repair with a comprehensive maintenance regimen. The fleet is being expanded, mainly to accommodate additional service for the Flushing line, which is being extended. Longer term subway fleet growth is a component of the CBTC investments included in MTA's Capacity Expansion Initiatives. Bus replacements are larger than a steady-state replacement rate might require; the substantial ridership and fleet growth that occurred in the late 1990s as a result of the MetroCard fare incentives resulted in the purchase of a larger share of buses which are now at or will soon reach replacement age. In addition the plan also provides for a modest increase in the size of the bus fleet to allow for increased service and the expansion of Bus Rapid Transit as described below.

Bus Rapid Transit
NYC Transit and the New York City Department of Transportation (NYCDOT) have worked together to create a Phase I Bus Rapid Transit (BRT) program with six planned routes. This program was developed based on public input and technical evaluation (see Figure 1 - Phase I BRT Program Map. The location of the sixth route has not yet been identified). In June 2008 NYC Transit and NYCDOT together launched New York's first BRT project, branded Select Bus Service (SBS), replacing the Bx12 limited-stop service from Inwood in Manhattan along Fordham Road and Pelham Parkway in the Bronx.

The Bx12 SBS features a number of BRT elements, including red-painted bus lanes with overhead highway-type signs indicating the lane is reserved for buses; Traffic Signal Priority (TSP) at 20 intersections during peak hours on weekdays and all day on weekends; a leading

bus interval at the University Heights Bridge, a major point of bus delay, which allows buses to process ahead of general traffic; branded buses, with distinctive interior fabric, LED lights to add to visibility, and on-board cameras for incident recording; new shelters at every stop; and Off-Board Fare Collection featuring fare machines at stops, all-door boarding, and a dedicated force of fare inspectors. Together, the implementation of these BRT elements has led to more than a 10 percent increased ridership, an approximately 20 percent reduction in travel times, and very high (over 90 percent) customer satisfaction.

The Bx12 SBS, along with the forthcoming BRT services on First/Second Avenues in Manhattan (M15 SBS, planned for summer 2010 implementation) and Nostrand/Rogers Avenues in Brooklyn (B44 SBS, planned for December 2011 implementation), have been funded in the 2005-2009 Capital Program. This funding consists of $13.7 million for new buses and $21.9 million for other equipment, such as fare collection equipment, on-board cameras, and TSP equipment.

This successful partnership between NYC Transit and NYCDOT, which features transit improvements from NYC Transit and street and traffic improvements from NYCDOT, will continue as the agencies implement the remaining Phase I BRT corridors. In the proposed 2010-2014 Capital Program, $135 million in funding is programmed to implement the three remaining Phase I BRT corridors – 34th St. in Manhattan, Hylan Blvd. in Staten Island, and a third corridor that is not yet determined.

To support this implementation, the proposed 2010-2014 Capital Program includes funding for 118 new buses ($110 million) that will be used for BRT; these purchases are included within the articulated bus purchase projects shown in the bus category of the NYC Transit program. These include 73 buses that will be reprogrammed from limited stop service to BRT ($62.7 million) and 45 additional new buses ($47.3 million). These buses are expected to be new three-door, low-floor articulated buses, which are specifically designed to provide faster service on BRT routes. Future bus purchases are expected to be either the same articulated bus model or a similar model.

In addition to buses themselves, the proposed 2010-2014 Capital Program includes $25 million to support other BRT elements; this project is included in the depots category of the NYC Transit program. The primary BRT element funded in this category is new fare collection equipment that will reduce the time it takes for customers to pay fares and board buses. These new technologies will enable customers to board quickly through all doors, which significantly reduces dwell times at stops and leads to an overall reduction in travel time (which benefits both customers and bus operations). Funding is also provided for other existing BRT elements such as on-board cameras and transmitters to enable Traffic Signal Priority as well as the exploration of additional BRT features like real-time customer information (both on-board buses and at bus stops) and physically-separated transitways.

The BRT program and the NYC Transit/NYCDOT partnership will continue beyond BRT Phase I and the proposed 2010-2014 Capital Program. Building on the success of the Bx12 SBS, NYCT and NYCDOT have begun to create a plan for the continued development of BRT in New York City. The goal of this Phase II effort is to identify additional corridors where BRT can have an impact and where it may be possible to implement more aggressive treatments, including physically-separated transitway treatments. To date, an initial long list featuring 31 unmet transit service needs has been developed, and NYC Transit and NYCDOT have jointly conducted intensive public workshops and an online survey. Ultimately, eight to ten future Phase II BRT corridors are expected to be identified that will rely on funding in future capital

programs.

Figure 1
Phase I BRT Program Map

Investments in Signals

About 30 percent of the line signal system (excluding interlockings) dates to the original construction of the subway and has never been rehabilitated. As a result, signal failures are a leading cause of subway service delays. In response to these conditions, NYC Transit is ramping up signal investments in the 2010-2014 program, with projections for increases continuing into subsequent capital programs. As soon as the overdue work is addressed, early modernization work pre-dating the capital plan will come due for renewal. The proposed 2010-2014 Capital Program is a significant first step in a rehabilitation effort that will span multiple five-year programs. It includes $2.2 billion for mainline signal system rehabilitation – a major funding increase compared to previous capital programs.

Stations and Other Infrastructure

Station rehabilitation work is programmed for the locations that were rescheduled from the 2005-2009 Capital Program. Additional work is proposed in response to new condition information. In 2008, the final results of a detailed station condition assessment became available. The inspection evaluated every major structural and architectural component of every station and delivered a comprehensive set of results from which to plan an accelerated capital reinvestment program for stations. Based on this assessment, renewal work is proposed at 25

locations to provide a coordinated comprehensive treatment of each location and restore each station to good repair (the determination of the locations is still in process, based on efficiency of accomplishing the work in conjunction with other type of work already programmed among other factors.). By focusing on the components in need of repair at these stations, these renewal investments will allow NYC Transit to address stations on an accelerated basis and achieve a more timely reinvestment cycle of 20 years. On top of these rehabilitation and renewal investments, the proposed program continues a campaign approach to address critical components like platform edges and stairs. This overall strategy enables NYC Transit to more quickly address prioritized needs, and reinvest at a sustainable pace that also recognizes the varying useful lives of station subcomponents. Improvements are also planned for the Church St. corridor in Lower Manhattan.

A vast array of infrastructure along the right-of-way is required to make the subway system work. This includes line structures, pumps, ventilation plants, tunnel lighting, the signal system, the communication system, and the traction power system. Most of these components are hidden from public view and rarely considered by customers, but this infrastructure ensures safe and reliable operations, and failures can lead to service disruptions. Investment in this infrastructure has been a key component of prior programs, but work is far from complete. Several assets, such as pumps, have made progress toward a State of Good Repair, and in these areas there is a growing need for Normal Replacement investment.

Ventilation plants are another area of emphasis in the proposed 2010-2014 Capital Program. The NYC Transit vent plant system dates back to when the subway was built, and does not meet contemporary standards. To minimize fire safety risks, NYC Transit proposes to construct three vent plants at priority locations within the subway system and perform upgrade work at existing locations.

Smart Infrastructure Investments

Investments today promise more than just reliable service and a clean, safe customer environment. Customers today have greater expectations of their transit system – expectations that the system should be able to keep pace with modern advances. Current investments, which are no longer made in kind, do just that, enhancing their original purpose by providing opportunities for ridership growth, incorporating modern technology, and providing accessibility to all riders. The proposed 2010-2014 Capital Program includes many of these smart investments which enhance service capacity and create new system capabilities to increase customer satisfaction. Projects include:

- ***Capacity enhancements*** – The capital program core signal investments will reconfigure signals on the Lexington Ave. line to increase train throughput, and will advance planning for the elimination of a major subway service bottleneck at Eastern Parkway and Nostrand Ave. in Brooklyn. To alleviate crowding, the program includes a project that will add stairs to improve access at the Grand Central subway station. The program also includes the purchase of new railcars and buses—including an expansion of the articulated bus fleet and the ongoing investment in Bus Rapid Transit—to support expanded service.

- ***Customer communications enhancements*** – The capital program will install public address systems and customer information screens (PA/CIS) at the last 43 stations that currently have no type of public address, bringing all stations to at least a basic level of functionality. The program also continues progress on Automatic Train Supervision (ATS) for rail service, which ultimately will be used to expand real-time travel information

to subway customers. In a joint effort with MTA Bus, NYC Transit will pursue development of a system to provide real-time information to bus customers

- **Fare Payment Enhancements –** This program includes investments to migrate to more advanced fare systems including the use of contactless "smart chip" payment systems, such as standard bank and credit cards, pre-paid transit payment cards, key-tags and smart phones. This system will support inter-modal fare payments options and improve customer service through simplified and expanded fare payment options.

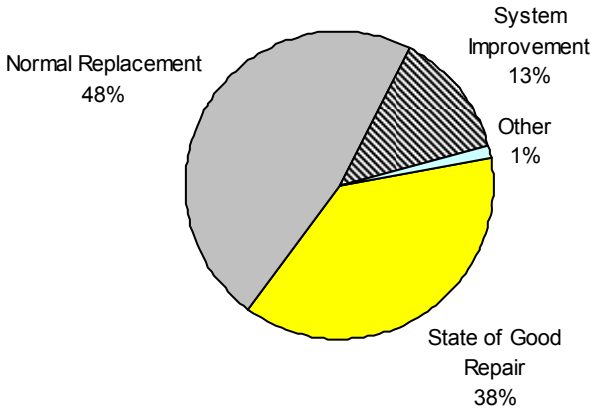
- ***Accessibility enhancements*** – The proposed 2010-2014 Capital Program continues progress toward compliance with the Americans with Disabilities Act by making eight additional stations accessible.

Note that some of these projects are long-term initiatives and will be completed over the course of successive capital programs.

SYSTEM CONDITION

Figure 2 illustrates the mix of investments by needs category in the proposed 2010-2014 Capital Program. The program continues NYC Transit's emphasis on achieving and maintaining good repair. Nearly 50 percent is dedicated to the ongoing replacement of assets previously restored.

Figure 2
NYCT Proposed 2010-2014 Capital Program
by Needs Category



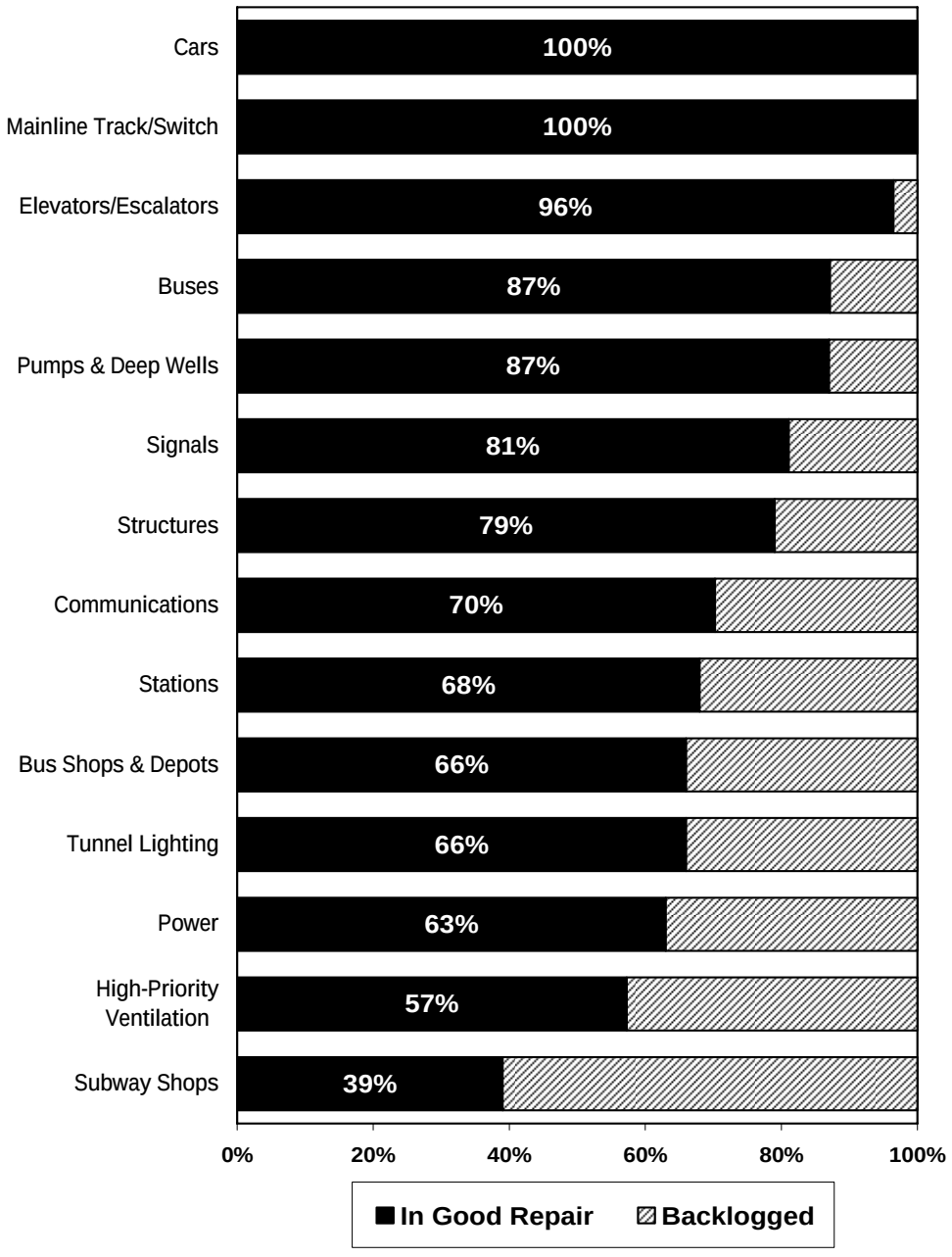
The System Investment Status (Chart 1) presents by investment category the measure of whether an asset is considered in good repair or whether it has backlogged components in need of repair.

NYC Transit has evaluated the assets that make up its vast infrastructure based on one or more of three asset attributes as appropriate for a particular asset category:

- asset condition
- asset age vs. useful life
- asset performance vs. an identifiable performance standard it must meet

This approach is different than what was used in the past. Previously all assets that achieved good repair within any capital program were classified from then on as in a State of Good Repair, even as subcomponents aged and did not receive timely reinvestment. This new approach moves beyond these labels and identifies investment need based on actual current asset attributes.

Chart 1
System Investment Status
NYCT Major Investment Categories



MTA NEW YORK CITY TRANSIT
PROGRAM PLAN

NEW YORK CITY TRANSIT
NEW CARS
CATEGORY T-601

As the largest subway and rail network in the country NYC Transit currently operates a fleet of about 6,300 rail cars serving 468 stations and approximately five million customers daily. Due to differences in tunnel geometry, NYC Transit maintains two internal subway divisions: A and B, respectively corresponding to the numbered and lettered lines. There are approximately 2,800 A division cars and 3,500 B division cars.

The subway car fleet reached a State of Good Repair as of 1991 through a combination of new car purchases and comprehensive overhauls. Since that time, a program has been in place with a goal to replace cars as they reach the end of their useful lives (currently 40 years). This Normal Replacement program also has introduced advanced technologies and improved customer accessibility features, automated public address systems and signage, improved lighting, customer emergency intercoms, and electronic route maps.

The PROPOSED 2010-2014 Capital Program - $1.333 billion

New York City Transit proposes to invest $1.333 billion for 463 new rail cars as part of the 2010-2014 Capital Program. This allows for the purchase of 340 replacement railcars for the B Division and the purchase of 123 fleet expansion railcars for the A Division. These cars are needed to accommodate service growth on the Flushing and Broadway/7th Ave. lines. In addition, budgeted elsewhere is the purchase of 80 replacement cars for the Staten Island Railway (which operates with B Division equipment).

The B Division replacement project and the SIR replacement project are to replace the R44 car fleet, which has been in service since 1973/4. These cars will be in excess of 40 years old when ultimately retired. While this fleet operates reliably today, the projected maintenance costs going forward --as well as the opportunity to further extend the operating efficiencies and customer benefits enjoyed by new technology cars-- argue for replacement.

Fleet expansion on the Flushing #7 line of the A Division is in conjunction with the new technology signal upgrade and an extension to the west side of Manhattan now underway on that line; additionally, the expansion is slated to allow service increases for the Broadway/7th Ave. 1/2/3 line services. This expansion fleet will address ridership increases projected in these corridors by providing additional off-peak and longer periods of peak service.

NEW YORK CITY TRANSIT
BUSES
CATEGORY T-603

NYC Transit's bus fleet - the largest in the country – as of Spring of 2009 contained a total of 4,604 buses comprised of 3,376 (73 percent) standard 40 foot buses, 628 (14 percent) 60 foot articulated buses, and 600 (13 percent) 45 foot express coaches. Furthermore, NYC Transit has emerged as a national leader in deployment of a low emissions technology in its bus fleet. Since 1996, NYC Transit has diversified its fleet to more effectively meet its dynamic service requirements.

NYC Transit's long term fleet strategy will continue Normal Replacement based on a 12-year useful life for buses and a 7-year useful life for paratransit vehicles. NYC Transit will continue to invest in new buses and clean fuel technologies to reduce emissions.

The average age of the bus fleet as of Spring 2009 is approximately 8.8 years. The average age fluctuates above and below the exact midpoint of six years because of peaks and valleys in bus procurement cycles. For example, a high volume of buses are now reaching their 12th year. These buses were purchased in the late 1990s due to increased ridership after MetroCard fare incentives were introduced. Maintaining a normal cycle of bus replacement is critical for service reliability and the ongoing infusion of new technologies. It also allows for improved environmental standards.

Through preceding capital programs, NYC Transit has worked to make its bus fleet the cleanest major fleet in the world and has introduced many emissions-reducing technologies. Through 2008 NYC Transit placed in service more than 1,000 compressed natural gas (CNG) and hybrid electric buses. With new regulation in place and new higher standards expected, manufacturers are standardizing into their fleets the emission reduction improvements that NYC Transit pioneered, promising greater availability and lower costs for these advancements.

This program also includes the investment in buses to continue the implementation in partnership with the NYC DOT of Select Bus Service and Bus Rapid Transit services. These services combine bus technology with street improvements to provide faster and more reliable service on routes at capacity.

NYC Transit also has 1,675 active paratransit vans. This growing fleet of minibuses is in addition to NYC Transit's fleet of 598 sedans used in MTA's Access-a-Ride program to meet obligations under the Americans with Disabilities Act (ADA). All buses and paratransit vans are air-conditioned and fully ADA compliant. Due to recent purchases intended to increase the fleet to meet growing demand for lift-equipped vehicles, the average age of the fleet is 3.7 years.

The Proposed 2010-2014 Capital Program - $2.073 billion

The proposed 2010-2014 Capital Program includes $2.073 billion in this category. A total of 2,480 new buses will be ordered, which includes 1,405 standard buses, 694 articulated buses, and 381 express buses. These purchases include 118 buses (73 reprogrammed from limited stop to BRT service and 45 additional buses) for four routes in Manhattan, Brooklyn and Staten Island that are the next to implement Bus Rapid Transit. The proposed program also includes the purchase of 1,317 new paratransit vans.

NEW YORK CITY TRANSIT
PASSENGER STATIONS
CATEGORY T-604

NYC Transit's 468 passenger stations are used by millions of customers each day. At 16 million square feet, the total floor space contained within stations is greater than the commercial office space in many U.S. cities. The system has 277 underground stations, 142 on elevated structures, and 49 on viaduct, embankment, or open-cut structures. Almost all the stations reached their current configuration before 1940.

In 2008, NYC Transit completed a comprehensive condition survey of all stations. The survey rated over 11,000 station components such as stairs, platforms, windscreens, and canopies; of these, approximately 32 percent have backlogged repair needs. Only 82 stations have no significant backlogs.

Based on these findings, NYC Transit has developed a strategic station investment plan that combines more targeted approaches with rehabilitations. In addition to a select number of full rehabilitations, station renewal work is planned on a 20-year basis and selected station element campaigns will accelerate the repair of high priority items especially those impacting passenger safety. This approach is flexible by design, encompassing both campaign repairs to fix selected high-priority station elements plus more targeted projects that simultaneously address all major elements in need of repair within the same station. This strategy enables NYC Transit to quickly address prioritized needs while traditional rehabilitations occur elsewhere in the system. This combined strategy will eliminate all defects in a shorter timeframe and at a lower cost than simply relying on full rehabilitations.

As part of the long-range investment program to provide system accessibility under ADA, NYC Transit is on schedule to complete full accessibility at all 100 of the "Key Stations" by 2020. Additionally, all rehabilitated stations receive accessibility enhancements such as compliant platform edge warning strips and Braille signage. The stations program will continue the Normal Replacement and strategic growth in the use of passenger elevators and escalators along with a reduction in its reliance on gap fillers.

Along with the Normal Replacement of fare equipment, NYC Transit will begin the implementation of the next generation of fare payment equipment, promising to transform travel in the region much like the MetroCard system did when first implemented.

The Proposed 2010-2014 Capital Program - $2.439 billion
NYC Transit proposes $2.439 billion for station rehabilitations, renewal work, accessibility investments, and improvements in fare collection, signage, escalators, and elevators.

Station Rehabilitation and Renewal Investments - $1.290 billion
The proposed 2010-2014 Capital Program includes the full rehabilitation of 14 stations for $632 million. Nearly all proposed rehabilitation work will be implemented on a line basis at outdoor stations in Brooklyn and the Bronx. Nine of these stations (Smith-9th St. on the Culver line, four stations on the Pelham line, and four stations on the Sea Beach line,) were rescheduled from the 2005-2009 program. An additional five stations from the Sea Beach line have also been added.

The $658 million planned for renewal work represents the diversification in NYC Transit's station investment strategy. Twenty-five stations will receive renewal work over the course of the program, which will bring the station into good repair. Such reinvestments are planned to occur on a 20-year cycle. In support of rehabilitation work, separate campaigns are planned to address backlogged repair of ventilators, platform edges, and station stairs at several locations, which will bring those specific elements into good repair on a faster pace. All together, these methods will eliminate backlogged elements in need of repair at a faster pace as compared to a program that relies solely on full rehabilitations.

Accessibility for the Disabled - $498 million

NYC Transit is on pace to make 100 stations fully accessible in accordance with ADA standards by 2020. With investments made through 2009, full ADA accessibility at 81 Key Stations will be complete or in progress. The proposed 2010-2014 Capital Program includes ADA investments at eight additional Key Stations. These are: 68th St.-Hunter College, 23rd St./Lexington, and 57th St./Broadway in Manhattan; Kingsbridge Road/Concourse and Hunts Point in the Bronx; Forest Hills-71st Ave. and Ozone Park-Lefferts Blvd. in Queens; and Utica Ave./Fulton in Brooklyn. As an enhancement to full accessibility, NYC Transit will include redundant elevator installations when feasible to further improve the reliability and availability of elevators. NYC Transit also proposes platform edge improvements at Herald Square and boarding area improvements at various stations. The remaining 11 Key Stations will be proposed in the period beyond 2014 but in time to allow for construction and completion before 2020.

Fare Collection - $277 million

While the current MetroCard system is still performing well, the time has come for the Normal Replacement of the electronic components in the High Entry/Exit Turnstiles (HEETs) and MetroCard Vending Machines (MVMs). The useful life of the electronic components is significantly shorter (7-10 years) than the metal turnstiles themselves. Along with the Normal Replacement of fare equipment, NYC Transit will begin the implementation of the next generation of fare payment equipment, including the use of contactless "smart chip" payment systems, such as standard bank and credit cards, pre-paid transit payment cards, key-tags and smart phones. This new approach will offer many benefits to the MTA, including increasing bus speeds by shortening the boarding process, reducing labor and cash handling expenses, supporting inter-modal fare payments options and improving customer service through simplified and expanded fare payment options. In addition, 83 new HEETs will be purchased and installed.

Other Station Improvements - $374 million

The proposed program includes replacement of other element in stations such as 15 escalators and 21 elevators, fare collection systems and equipment, signage, and other items. The elevator work begins Normal Replacement investments for units initially installed for the purpose of wheelchair access. Other proposed work includes Improvements for the Church St. corridor in Lower Manhattan, new stairs on the north side of the Times Square complex, replacement of station signage throughout the system, improved access at the Grand Central Station complex, and improved scrubber room drainage at four locations.

NEW YORK CITY TRANSIT
TRACK
CATEGORY T-605

The NYC Transit rail network consists of 659 miles of mainline track and 1,754 switches. Mainline track has been in good repair since 1991 and mainline switches since 1997. To maintain that condition, NYC Transit has a regular program of Normal Replacement. The useful life of track and switches varies considerably – from 25 to 65 years – depending on factors such as traffic, track type, geometry, and exposure to weather. Generally, the useful life of track is significantly lower on grades and/or sharply curved sections of track than it is on tangent track.

The importance of track and switches to safe train operations is difficult to understate. NYC Transit track is traversed every weekday by hundreds of trains carrying the subway's five million daily passengers. This heavy usage causes daily wear of the track, which is countered by frequent inspection and maintenance. NYC Transit uses multiple levels of inspection. All mainline tracks are inspected visually by trackwalkers twice weekly. Mainline switches are inspected, tested, and maintained by two-member teams monthly. All aspects of track geometry are measured and recorded four times a year. Rails are scanned for internal defects using either a Sperry rail car or the Track Geometry Cars at least three times per year. In addition, to support the capital replacement program, all track sections are surveyed every four years by an engineering team that estimates the number of years of useful life remaining for the section. The mainline track and switch investment strategy is based on the most recent track and switch condition surveys.

The Proposed 2010-2014 Capital Program - $1.429 billion

The proposed 2010-2014 Capital Program includes $1.429 billion for Normal Replacement of over 50 miles of mainline track, 145 mainline switches, and other initiatives detailed below. The work includes the replacement of concreted subway track and prefabricated panel track on elevated and open-cut/at-grade structures. The remaining track work will be in the subway where a concrete invert is poured with embedded ties. This investment pace will keep NYC Transit track and switches in good repair.

The programs include installation of 13 track miles of welded rail, which has significantly lowered occurrences of rail breaks and cracks. This represents the balance of the campaign; the 2014 project concludes NYC Transit's program of capitally-funded welded rail installation.

Track force account is a series of annual projects funded by dedicated New York City funds for enhancement of the track. This program addresses the obsolete rubber rail seats and container plate assemblies installed in subways between the late 1960s and early 1980s. Other components of the track are also addressed, such as tie blocks, walkways, and jointed rail.

NEW YORK CITY TRANSIT
LINE EQUIPMENT
CATEGORY T-606

The subway contains a diversity of electrical and mechanical equipment and support infrastructure along the right-of-way, including 432 track miles of tunnel lighting, 194 ventilation (fan) plants, 230 pump rooms, and deep wells at five locations.

Lighting in subway tunnels enhances safety and aids rescue workers in emergencies. All NYC Transit subway tunnels have lighting, but many rely on incandescent light systems put in when the tunnels were built. Modern systems feature compact fluorescent lamps on both sides of trackways; redundant power sources assure they will function during emergencies. Also, they provide more ambient light than old systems and are more reliable and energy-efficient.

Fan plants enhance passenger safety by directing heat and fumes away from passengers and providing sufficient ventilation to enable safe evacuations. Though newer subways include adequate emergency ventilation systems, much of NYC Transit's system lacks fans meeting contemporary standards. Most existing fans are undersized and unable to attain the "critical velocity" of air required of new subway systems. Also, many tunnel segments were originally built without fans.

Currently, 57 percent of identified high priority tunnel segments meet new ventilation standards. New or expanded fan plants will be built at the highest priority locations. Work includes building a large enclosure, and installing multi-directional turbine-type fans, mechanical damper systems along the right-of-way, and control systems for remote operation. Additional smaller-scale investments ensure the continued operability of existing fan plants, such as replacement of control systems.

Pumps remove water that collects in tunnels from seepage, storm runoff, and water main breaks. Pump rooms serve all subway tunnels and under-river tubes; 86 percent of pumps are in a State of Good Repair. A pump room typically has two small pumps for regular use and one large pump on standby for flooding situations. Pump room projects may include substantial drain and discharge line repair and structural, electrical and control work, as well as replacing the pumps and motors. NYC Transit also has deep wells in areas with high water tables to extract groundwater and lower the water table below the subway structure, reducing infiltration and protecting its integrity.

The Proposed 2010-2014 Capital Program - $528 million

NYC Transit proposes $528 million for line equipment investments, including:

- 18 track miles of tunnel lighting on the Culver and Queens Blvd. lines and the 60th St. Connection.
- Three fan plants on the Queens Blvd. and 8th Ave. lines. One will replace existing undersized fan plants, and two will protect locations that now have no plants. All of these plants were rescheduled from the 2005-2009 program.
- A feasibility study of a new fan plant on the Lexington Ave. line.
- Rehabilitation of six pump rooms.
- Repair of deep wells on the Crosstown and Nostrand lines.

NEW YORK CITY TRANSIT
LINE STRUCTURES
CATEGORY T-607

NYC Transit's network has 228 miles of line structures, including 136 miles of subway, 70 miles of elevated structures and viaducts, and 22 miles of at-grade alignments. All line structures require periodic investment to preserve their integrity against water damage, corrosion, and normal wear-and-tear.

All types of line structures (subway, elevated, viaduct and at-grade alignments) are primarily threatened by water infiltration and/or corrosion. In addition, vibration and exposure to salt water (viaduct by the ocean) reduce the useful life of line structures. Rehabilitation of structures generally entails waterproofing, grouting, replacing corroded steel work, replacing spalled concrete, and reconstructing drains. Subway tunnels also feature emergency exits, which require comprehensive rehabilitation (there are 543 emergency exits systemwide).

Structural Painting: *Steel elevated structures require regular painting to protect against corrosion, extend the life of the structure, and improve neighborhood aesthetics. Two types of painting projects are used to address this requirement: strip-and-repaint and overcoat. Strip-and-repaint work entails shot-blasting old degraded paint completely off the structure to bare steel before applying paint. Overcoat projects entail scraping loose paint and applying paint on top of the existing paint layers. In both cases, the debris from old coatings is collected and disposed of properly.*

Structural Enhancements: *In response to severe flooding that occurred in August 2007, NYC Transit is undertaking a new initiative to alleviate flooding, such as raising gratings above street level, permanently closing gratings, and installing devices to block gratings in the event of street flooding. In addition, to alleviate bottlenecks and improve throughput at Nostrand Junction and Flatbush Terminal, NYC Transit will commence a detailed study of these locations to determine if major structural modifications are required.*

The Proposed 2010-2014 Capital Program - $521 million

NYC Transit proposes $521 million for line structure rehabilitation, painting, and enhancements, including:

- Phase 1 of subway structural repairs on the 4th Ave. line in Brooklyn
- Repairs on 7.3 route miles of elevated structure on the Jamaica line and the Far Rockaway and Rockaway Park viaducts.
- Retaining wall and overpass repairs along 6.8 miles of the at-grade Dyre Ave. and Sea Beach lines.
- Overcoat painting of 18.5 miles of elevated structures on the Brighton, Broadway-7th Ave., Canarsie, Culver, Jamaica, Rockaway, and White Plains Road lines.
- Rehabilitation of 125 emergency exits throughout the subway system
- Flooding alleviation at remaining locations in Manhattan.
- Study, design, and preparatory work related to potential Nostrand Junction and Flatbush Terminal capacity enhancements.

NEW YORK CITY TRANSIT
SIGNALS AND COMMUNICATIONS
CATEGORY T-608

NYC Transit's signals and communications systems include 728 track miles of mainline signal equipment, an automatic train supervision (ATS) system on the A Division, a rail control center (RCC), a carrier-grade communications network, subway and bus radio systems, and in-station communications applications such as the public address/customer information screen (PA/CIS) and closed circuit television (CCTV) systems.

Signals

Signals ensure the safe and efficient movement of trains. There are 242 track miles of signals on the A Division and 486 miles on the B Division. Currently, 71 percent of the signal system is within its 50-year useful life, and the balance is in need of modernization. . A number of interlockings have been modernized in advance of full modernization of signals along a line, so only 13 percent of interlockings are not in a State of Good Repair.

In addition to signals, the other primary NYC Transit signal assets include ATS and the RCC. With continued investment, NYC Transit's signals have become increasingly automated. Train control has moved from local towers to master towers and now to the RCC, a state of the art facility. The ATS overlay technology provides the critical information on train movements to enable centralized control and provides real-time train arrival information to customers.

Communications

To meet the communication needs of a transit system serving more than seven million passengers a day, NYC Transit has an extensive carrier-grade communications network. The network is supported by 475 miles of fiber optic cable, extensive copper telephone cable installations, eight major PBX sites, wireless radio systems for both subways and bus operations, and more than 190 miles of subway antenna cable. Collectively, these assets are critical to providing service, responding to emergencies, enabling state-of-the-art customer communications, as well as administrative operations.

Communication assets also include in-station communications applications such as public address and CCTV systems. With investments through the 2005-2009 Capital Program, 425 stations will have functioning PA systems. There are currently 103 stations with CCTV cameras at turnstile entry points and a variety of other types of CCTV are distributed throughout the system.

Continued upgrades to the data network infrastructure are needed to reduce reliance on third-party carriers and to take full advantage of service operations, customer support, and safety communications applications such as ATS, PA/CIS, and CCTV. Furthermore, components of the network, such as segments of fiber optic cable and copper cable, are reaching the end of their useful life.

The present subway radio system is nearing the end of its useful life, and due to Federal Communications Commission requirements, the system must migrate from wide-band to narrow-band transmission standards. Moreover, inadequate and deteriorating subway antenna cable must be replaced. These replacement projects will have important operational, security, and safety benefits. These upgrades will be coordinated with the replacement of the bus radio system.

The Proposed 2010-2014 Capital Program - $2.833 billion

NYC Transit proposes $2.268 billion for mainline signal modernization investments and $565 million for communication system improvements, for a total of $2.833 billion.

Signal Modernization

The proposed 2010-2014 signals program features complete modernization of the Dyre Ave. line including interlockings. The Dyre Ave. project will modernize 9.8 miles of signal equipment and bring the entire A Division signal system into SGR. Seven B Division interlockings are proposed for modernization, including three on the Queens Blvd. line, one on the Culver line, and three on the 6th Ave. line. The replacement of degraded signal cable and various similar projects to address signal deficiencies system-wide are planned. Initial investments for CBTC on the Flushing line were funded in the 2005-2009 Capital Program; the remaining work is proposed in this program, including project support, removal of unneeded conventional signal equipment and conversion of existing R142 cars to CBTC operations. Additionally, the first phase of CBTC installation is planned for the Queens Blvd. line. Lastly, a test track will be developed on a non-revenue segment of the Culver line for integration testing of new technology CBTC signal equipment.

Communications Systems

The proposed program features upgrades to the network backbone cable infrastructure, including copper cable, fiber optic cable, and antenna cable. Improvements to communication rooms are proposed; these assets protect and consolidate communications equipment. In addition, with the upcoming completion of the new fiber optic network, a project has been added to begin the cutover of existing phone and data lines onto the new network. Replacement of the subway's VHF radio system and portable radio units, begun with initial funding in the 2005-2009 Capital Program, will be completed with final investments in this program. In addition, funding is proposed to solve interference issues with the above- and below-ground areas of the Police radio system. Public address systems with connections to the RCC and customer information screens at the last 43 stations in the system will be advanced. Lastly, initial investments are proposed in Supervisory Control and Data Acquisition (SCADA) to monitor power, pump, and other critical support systems.

NEW YORK CITY TRANSIT
TRACTION POWER
CATEGORY T-609

NYC Transit consumes 2.2 billion kilowatt-hours of electricity annually, including 1.8 billion kilowatt-hours for train propulsion. The energy is supplied by the local electric utility but is delivered to the subway third rail via NYC Transit substations and power distribution infrastructure.

NYC Transit operates 216 substations, located throughout the subway system. Substations receive high-voltage alternating-current (AC) power from the external electric utility grid and convert it to 600-volt direct current (DC) power for use in train propulsion. To accomplish this conversion, each substation includes one or more transformers (to reduce voltage), rectifiers (to convert from AC to DC), and switchgear (to control the connection to the external power). Power is then transmitted to the third rail by means of the power distribution system, which includes positive and negative cables and circuit breaker houses (CBHs). CBHs are small trackside enclosures, which feed power to the third rail and include remotely-actuated circuit breakers to disconnect power when necessary. There are currently 299 CBHs in service throughout the subway system.

For emergency removal of power from the wayside, alarm units and telephones are placed throughout the NYC Transit system. These Emergency Alarm Units (EAUs) allow NYC Transit personnel to shut off third rail power to a section of track, and also include telephones for emergency communication. There is a total of 2,663 EAUs systemwide.

The power network has received periodic reinvestment for modernization since the 1950s. In prior capital programs, some substations have received comprehensive modernizations, including replacement of all antiquated equipment and rehabilitation of the substation enclosure. Many other substations, however, only received component-based investment to replace selected equipment (particularly, to replace obsolete rectifiers). Many of these substations require Normal Replacement investment to address other components, including some equipment that dates back to the original construction of the subway.

The Proposed 2010-2014 Capital Program - $265 million

NYC Transit proposes $265 million for traction power investments, including:

- Full modernization of one IND substation in Brooklyn, and initial cable work at another substation in midtown Manhattan.
- Repair or replacement of backlogged substation components at various locations, including roofs, enclosures, and hatchways.
- Rehabilitation of seven circuit breaker houses at various locations.
- Replacement of traction power cables and ducts on the 4th Ave. and Lenox Ave. lines.
- Replacement of emergency alarm units.

NEW YORK CITY TRANSIT
SHOPS
CATEGORY T-610

Shops are critical to ensure the proper condition, integrity, and safety of the NYC Transit rail car fleet and infrastructure. Modernized shops are especially important for the Scheduled Maintenance System (SMS) and work on high-tech rail cars entering the fleet. NYC Transit has a large number of shops to support the system, including two rail car overhaul shops, 14 maintenance shops, 25 support shops, eight car washers, 45 car-cleaning facilities, and various types of shop equipment. The major overhaul and maintenance shops are used for the inspection, repair, and overhaul of rail cars. The specialty support shops, which include track, signal, infrastructure, and electrical facilities, allow NYC Transit to repair and maintain specific, non-fleet assets by performing a wide variety of functions, including ironwork, signal maintenance, power cable, and track fabrication.

Approximately 39 percent of the shops are in good repair. NYC Transit's long-term strategy is to provide an adequate and safe work environment at these facilities and improve rail car maintenance capabilities. Investments are required in shops to handle new technology rail cars. Wider work aisles, improved shop equipment, and space for new diagnostic equipment are necessary to address improved safety standards and handle the increasingly complex computer and information systems that are included on the new cars.

The Proposed 2010-2014 Capital Program - $328 million

NYC Transit's proposed 2010-2014 Capital Program includes $328 million to address multiple system-wide shop facilities. Key shop projects include the initial phases of the rehabilitation of the 207th St. Overhaul Shop. The overall rehabilitation project scope was originally intended to be done as a single project in the last program; however, as a cost mitigation strategy, the work has been divided into smaller packages. Creation of a new sub-shop for the overhaul and repair of unitized rooftop railcar air-conditioning (A/C) modules and improvements to the electrical and heating systems are proposed for 207th St. in this program. Work on other elements of 207th St. will continue in the next capital program.

Some of NYC Transit's maintenance shops will receive select repairs and upgrades. Projects to upgrade the DC power system at the 207th St. maintenance shop and to upgrade the ventilation system at the East New York maintenance shop are proposed. Also, several maintenance shops with backlogged repair needs will receive targeted upgrade work directed at priority needs. A project will survey and address component repairs that cannot wait for more comprehensive investments. The plan also provides for the replacement of certain outdated heavy shop equipment critical to ongoing shop operations.

NEW YORK CITY TRANSIT
YARDS
CATEGORY T-611

NYC Transit operates 23 yards located in four boroughs to provide secure storage for both revenue and non-revenue trains and reduce the number of trains stored on the mainline.

This category includes 118 miles of yard track and 41 miles of non-revenue track (with both figures including the distance occupied by 876 yard switches), along with signals, lighting and hydrants at each yard. Approximately 89 percent of yard track, 92 percent of non-revenue track, and 92 percent of yard switches are now in good repair. Approximately 74 percent of the yard signal systems and 61 percent of the yard lighting are in good repair.

The Proposed 2010-2014 Capital Program - $305 million

NYC Transit proposes $305 million in yard investments in the 2010-2014 Capital Program. The principal investments in this category are for the replacement of yard track and switches at a total of $83.4 million. Yard track and switch replacement has historically been a lesser priority than mainline work; consequently, a backlog of work exists. This deferred replacement can have repercussions on revenue service by causing delays. To address this, the proposed program will replace approximately 12 miles of yard and non-revenue track at a pace of 2.4 miles per year. This represents an accelerated pace of investment that will eliminate all overdue yard track by 2015, one year outside the program. Additionally, 80 yard switches will be replaced at a pace of 16 per year. At that rate, all overdue switches will be replaced by 2014.

Other work includes the rehabilitation of the relieving platform at the 148 St. yard and stabilization of the relieving platform at the 207th St. yard. Yard security is another area of investment, with projects to replace and/or upgrade fencing at four locations, rehabilitate the lighting at two locations, and install closed circuit television systems at various yards. Lastly, preliminary work is planned to lessen the need to store trains on the mainline during non-peak hours.

NEW YORK CITY TRANSIT
DEPOTS
CATEGORY T-612

NYC Transit currently operates 19 depots and two major base shops located throughout New York City to support more than 4,600 buses. In addition, one depot is being rebuilt on the existing site (Clara Hale) and another is being built at a new site (Charleston). Depots are necessary in order to collect revenue from buses, clean and fuel buses in preparation for service, perform routine maintenance and light repairs, and store buses when not in operation. The service capability and design configuration of a depot affect the efficiency of bus operations. Depots should be sized and configured appropriately to provide optimal support to the associated bus fleet. Base shops provide an extension to the maintenance capabilities of depots and perform scheduled bus overhaul/service, remanufacture components, and address other major repairs. All but seven of the facilities are considered to be in good repair. In addition to the shops, the bus system has 46 bus washers, 20 paint booths, and one non-revenue fleet facility.

To support recent and projected future bus fleet growth, NYC Transit's long-term plan is to construct multiple new bus depots. A new depot is being built at Charleston in Staten Island and a new depot is planned at Jamaica. As existing depots reach the end of their useful lives, NYC Transit will make needed Normal Replacement investments as well. Another significant long-term depot investment need is the cyclical replacement of the bus radio system.

The Proposed 2010-2014 Capital Program – $673 million

A total of $673 million is proposed for depot projects. Work to build new or reconstruct existing depots is being progressed in stages; initial phases for several projects totaling $138 million are proposed in this program. Projects include the first phase for the new depot at Jamaica, converting the decommissioned paint shop at the East New York Depot to other depot uses, minor rehabilitation work at three sites, and the demolition of the 126th St Depot and design of a replacement facility (construction of a replacement depot at 126th St. would be funded in the next capital program).

Additional investments of $536 million are planned for projects beyond depot rehabilitation and reconstruction. A project being coordinated with the MTA Bus Company to replace the bus radio system for $343 million is included in this proposed program. This significant investment will provide greater communication capacity for the combined fleet as the radio system is critical to daily bus operations and addressing emergency response capabilities; the project will also replace the Bus Command Center facility. Other projects include the replacement of bus lifts, washers, and heavy depot equipment along with the upgrade of HVAC systems, storage tanks and paint booths. Also, funding is provided in the program for the implementation of three new Bus Rapid Transit routes for roadside AFC equipment and real-time information displays. The purchases of buses that will be used for BRT are located in the Buses category of NYC Transit's proposed plan. Lastly, NYC Transit (in concert with MTA Bus) proposes to fund development of a system to provide automated real-time bus location and arrival information to bus customers. NYC Transit's proposed program includes $42 million, which is in addition to $30.6 million in the 2005-2009 program. (The MTA Bus proposed program includes eight million dollars, for a combined total proposed investment of $50 million in 2010-2014.) The initial rollout of this technology would be along existing and planned BRT routes and then begins its implementation to all bus lines.

NEW YORK CITY TRANSIT
SERVICE VEHICLES
CATEGORY T-613

NYC Transit owns and operates specialized fleets of non-revenue rubber-tire vehicles and work trains. Work trains are used system-wide and are the backbone of NYC Transits track maintenance program. These vehicles support major construction (capital) and maintenance (operating) work, help to repair assets, and perform other critical services vital to supporting the successful and efficient operations.

The fleets consist of a total of approximately 670 specialized rubber-tire vehicles which are replaced through the capital program. Vehicles include armored trucks, tow trucks, mobile station washer trucks, and other miscellaneous vehicles. NYC Transit's approximately 460 work trains include diesel locomotives, refuse cars, hopper cars, snow throwers, flat cars, track geometry cars, and other vehicles. Locomotives transport non-propulsion work cars for various track, signal, and electrical projects. These fleets have been in good repair since 1987. It is essential that service vehicles be maintained at a high-level of reliability and availability. Delays or cancellations in the services provided by these vehicles may result in significant customer impacts, project delays, and operational inefficiencies.

The Proposed 2010-2014 Capital Program - $124 million
The proposed 2010-2014 Capital Program includes $124 million to purchase new work trains and new non-revenue rubber tire vehicles.

$86 million is allocated for various work trains. Ten locomotives are being purchased to replace the R47s, plus 54 flatcars to replace R72 and R101 flatcars built in the 1980s and scheduled for retirement. Eight snow removal cars built in the 1980s and scheduled for retirement are also being purchased in order to ensure that tracks are kept clear and service is not compromised during winter storms.

$39 million is allocated for the purchase 329 non-revenue rubber tire vehicles to replace vehicles at the end of their useful lives.

NEW YORK CITY TRANSIT
MISCELLANEOUS
CATEGORY T-616

This category includes various investments to support the work of the capital program. They include contingency and insurance, management information systems, engineering services, environmental and safety, and non-station facilities.

The Proposed 2010-2014 Capital Program - $677 million
The proposed 2010-2014 Capital Program includes $677 million for miscellaneous investments. The program support components included in this category are in scale with previous capital programs. This investment includes insurance, engineering services, scope-development, and the MTA independent engineer to support miscellaneous technical needs of the program.

Other investments include improvements and repairs at assorted facilities including the consolidated revenue facility, the Maspeth warehouse, Livingston Plaza, and many employee facility rooms located in various stations. Certain management information systems such as network infrastructure and WAN/LAN equipment will be addressed. NYC Transit will address various environmental and safety needs, such as asbestos monitoring and removal, installation of fire alarms/sprinklers at various facilities, and environmental soil remediation.

STATEN ISLAND RAILWAY
CATEGORY SIR

Staten Island Railway was created in 1971 when the City of New York purchased the railroad from the Baltimore and Ohio Railroad Company. SIR serves an average of 23,000 weekday riders and includes 23 stations, 64 rail cars, 30 miles of mainline track, 5.1 track miles of yard track, 33 mainline switches, 42 yard switches, three support and maintenance shops, 23 work trains, 29 bridge structures, and five power substations. The overall SIR system is in good repair except for employee facilities, yard infrastructure, and a small number of work trains.

The Proposed 2010-2014 Capital Program - $331 million

The proposed 2010-2014 Capital Program includes $331 million for SIR. This proposal includes significant investments in railcars, St. George terminal, and the power system. The headline project is for the replacement of the entire R44 railcar fleet, which has reached the end of its useful life, at an estimated cost of $217 million. At St. George, the first phase of the terminal's modernization is set to begin with work on the track and signals along with improvements to drainage at the site. The last major project is the initial phase of a staged plan that will address the railway's aging power infrastructure. The construction of a new substation at Huguenot, the installation of low-resistance composite contact rail, and the rehabilitation of the five existing circuit breaker houses will all occur in this first phase.

Other SIR work includes structural repairs at various stations to keep those locations in good condition and the repair of eight bridges and one culvert along the SIR right-of-way.

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MTA LONG ISLAND RAIL ROAD

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MTA LONG ISLAND RAIL ROAD
2010-2014 CAPITAL PROGRAM
OVERVIEW

The Long Island Rail Road is the largest and busiest commuter railroad in North America, carrying 87.4 million passengers in 2008. LIRR infrastructure includes 594 miles of main line track, 293 at-grade-crossings and 124 stations on 11 branch lines. On an average weekday, the LIRR carries 302,583 passengers on 732 trains.

In 2008, the LIRR experienced record setting ridership of 87.4 million passengers – the railroad's highest annual ridership since 1949. It was also a record-setting year for LIRR's on-time performance (OTP), with 95.14 percent of trains on time, making it the railroad's highest OTP since modern record keeping began 30 years ago. This same year marked superior fleet performance as well. The Mean Distance Between Failures of the fleet, the distance a rail car travels between breakdowns, has improved from 23,609 miles in 1990 to 132,203 miles in 2008.

Continued capital investment through a quarter-century of fully-funded five-year programs has allowed the LIRR to eliminate deferred maintenance in all asset categories except for Line Structures. Asset inventory databases allow for the tracking and classification of all critical components and form the basis for developing the Normal Replacement portion of the LIRR's proposed 2010-2014 Capital Program. In addition to these investments - which maintain Long Island Rail Road's ability to reliably run the current level of service, protecting the legacy of the oldest commuter railroad in the country - a significant portion of the 2010-2014 program is focused on the new LIRR service into Grand Central Terminal (GCT) via the East Side Access project to maximize readiness for its forecasted ridership growth.

THE PROPOSED 2010-2014 CAPITAL PROGRAM

The MTA LIRR's proposed 2010-2014 Capital Program demonstrates the agency's ongoing commitment to maintaining and enhancing mobility, economic health, and quality of life in the region. The proposed 2010-2014 Capital Program includes investments of $2.758 billion over the course of the program (Table 5). These investments will maintain LIRR assets in a State of Good Repair through funding of its most essential components - rolling stock, stations, track, communications/signals, power, and shops and yards. In addition, strategic corridor improvements that will support new service to GCT and expand capacity are also included, along with continued investment in bridges/viaducts.

Table 5
MTA LIRR Proposed 2010-2014 Capital Program
by Investment Category
($ in millions)

Category	Proposed 2010-2014	Percent
Rolling Stock	$382	14%
Stations	167	6%
Track	1,021	37%
Line Structures	197	7%
Communications and Signals	315	11%
Shops and Yards	315	11%
Power	190	7%
Miscellaneous	173	6%
Total	**$2,758**	**100%**

Numbers may not total due to rounding

Primary elements of this investment program include investments to maintain core infrastructure and smart investments that will enhance mobility, customer satisfaction and safety and security.

Investments to Maintain the Core Infrastructure

The Long Island Rail Road continues the progress made since the inception of the first Capital Program in 1982, with significant infrastructure investments in the proposed 2010-2014 Capital Program. Investments to maintain the core infrastructure account for almost 60 percent of the proposed 2010-2014 Capital Program, across all asset categories. This intensive level of investment assures that all system components are replaced at the end of their useful life, avoiding the service disruptions and added maintenance expenses that occur when components unexpectedly fail. All LIRR asset categories, with the exception of Bridges and Viaducts, are currently under a Normal Replacement cycle. Maintaining this classification is the goal of projects identified in the Stations, Track, Communications and Signals, Shops and Yards, and Power investment categories. Key projects include:

- Advancing Life Cycle Maintenance (LCM) investments at the Hillside Maintenance Complex (HMC) and the Morris Park Complex to enable more a reliable maintenance program, reducing unscheduled repairs and increasing fleet reliability for all EMU and Diesel fleets.

- Replacing the aging air conditioning system in the LIRR area of Penn Station, in order to ensure comfortable ambient air temperature for customers and employees

- Continuing multiple infrastructure improvement programs such as the Annual Track Program, the continued build out of the Fiber Optic Network and the Normal Replacement of nine substations and one breaker house.

Smart Infrastructure Investments

The MTA Long Island Rail Road has a long history of contributing to the quality of life of area residents. From its founding in 1834, the Long Island Rail Road has been a vital lifeline for Long Island and New York City, leading to the growth and development of the communities it serves and providing a gateway for the economic growth of the region. Today, as an essential component of the region's transportation infrastructure, the LIRR is looking to provide opportunities for further ridership growth, incorporate modern technology, and improve accessibility for all riders. The proposed 2010-2014 Capital Program includes a variety of such smart investments to enhance service capacity, create new system capabilities and increase customer satisfaction.

Smart Investments in Mobility

Close to 75 percent of Nassau and Suffolk County residents who commute to Manhattan for work use the LIRR, and that reliance on public transportation leads to cleaner air, improved mobility, and an all-around better quality of life for residents of this populous region. To remain the vital force in transportation that Long Islanders rely on and to continue contributing to the region's future growth and well-being, LIRR must prepare for the future. At present, capacity issues at key locations impact LIRR's ability to respond to market demand. Penn Station, LIRR's Manhattan terminal, is currently at capacity during many periods of the day. The station's 21 tracks – shared by the LIRR, Amtrak and New Jersey Transit – carry over 1,000 trains each day, and service growth is simply impossible. The East Side Access project, which will provide the LIRR with a second Manhattan terminal (Grand Central Terminal), will allow direct Long Island Rail Road service to the east side of Manhattan for the first time ever. This enhanced train service will bring Long Island residents closer to their final destination, thus reducing travel time and congestion at Penn Station and the subway lines serving it.

Building upon this, proposed investments in this program support the growing role Long Island Rail Road plays in the transportation of intra-Island riders and commuters working non-traditional hours, as well as leisure travelers taking advantage of the region's wealth of cultural attractions. This program takes the first steps toward realizing a vision of the 1980s Main Line electrification project – a full second track on the Main Line between Farmingdale and Ronkonkoma which will greatly improve reliability and allow for expanded service in this very busy suburban travel corridor.

Smart Investments in Customer Satisfaction

21st Century Electric Fleet

Between 2002 and 2007, the LIRR completed a major fleet replacement effort, retiring the almost 40 year old M-1 electric cars and replacing them with 836 M-7 cars. The state-of-the-art M-7 fleet has proven to be extremely reliable, as demonstrated by the increase in the number of miles traveled prior to unscheduled maintenance. The M-7 car sets the standard for a comfortable 21st century LIRR experience, reflecting feedback received from customer focus groups and incorporating improvements in seating, enhanced lighting, window design, public address systems and restrooms. Auxiliary power units and climate control units were also doubled for greater reliability and comfort and the cars meet all requirements of the Americans with Disabilities Act. Building on these successes, the LIRR will initiate the next phase of its fleet modernization effort in this program to begin replacement of the M-3 electric fleet, which faces a number of service reliability challenges and dated system technology.

Station and Parking Improvements

The last 15 years have seen numerous investments in LIRR stations throughout the system, including installation of elevators and other improvements to make stations wheelchair accessible; renewal of public restrooms, waiting areas, and ticket offices; station plaza areas; platforms; and targeted parking renewal and expansion to maximize availability for LIRR customers.

Among these investments, two of the LIRR's busiest stations, Jamaica and Flatbush Avenue underwent tremendous transformation during the past five years. As the LIRR's hub station, Jamaica has long served as the connecting point between 10 LIRR branches and the three Western Terminals (Penn Station, Flatbush Av, and Hunterspoint Av). Since the Port Authority of New York and New Jersey's JFK AirTrain service began in December 2003, Jamaica Station has also become a busy transfer point for travelers to and from JFK Airport. With recently completed capital investments, Jamaica Station ushers in the 21st century, with a vaulted glass and steel structure, passenger bridges, and new elevators and escalators. The re-imagined Jamaica Station also has new platforms, canopies, lighting, and passenger waiting rooms.

With the renovation of Flatbush Avenue Terminal for LIRR customers to Downtown Brooklyn and Lower Manhattan, customers will enjoy a brighter and more comfortable platform area as a result of new platform tiles, PA system, lighting, staircases, platform seating, and a new tempered air system. The most dramatic change to the station will be the new multi-story glass entry pavilion at the corner of Flatbush Avenue and Hanson Place, providing a much greater community presence for customers entering and exiting the underground complex.

In the last few years, parking investments have been made at a number of key stations, including Mineola, Valley Stream and Ronkonkoma. The Mineola Intermodal Center, located in the heart of Nassau County, opened in October 2006 offering 700 commuter spaces in an attractive new facility immediately south of the station. This new facility, which also houses MTA Long Island Bus bays serving seven bus routes, provides for seamless intermodal travel on MTA trains and buses. Since 1986, over 14,000 parking spaces have been newly built or restored at LIRR stations throughout the system.

With this capital program, LIRR continues to maximize the customer experience with such smart investments as the Kew Gardens station platform extension to allow additional train cars to platform at the station, which reduces dwell times and makes for more efficient LIRR operations between Jamaica and Penn Station, while improving service to this Queens community.

During the 2010-2014 plan period, LIRR will participate in the MTA-wide migration to more advanced fare and toll payment including the use of contactless "smart chip" payment systems, such as standard bank and credit cards, pre-paid transit payment cards, key-tags and smart phones. LIRR will conduct a pilot study and other analyses aimed at allowing customers to use a single smart card, or cell phone with a smart chip to ride the entire MTA network.

This program also features $65 million for the development and expansion of commuter parking. The current parking needs for LIRR customers will grow in the future, particularly once East Side Access service opens. Site selection for the new parking facility will target the busiest LIRR electric branches, prioritizing stations also served by multiple bus routes to provide multi-modal transit opportunities. Where possible, consideration will also be given to Transit Oriented Development to partner with the community so that MTA investments can be coordinated with land use policies that encourage compact development and convenient access to the system for its customers.

Smart Investment in Safety and Security

The Long Island Rail Road continues to embrace customer and employee safety as its highest corporate priority. Along with customer awareness and employee safety programs, safety is maintained and enhanced through the timely replacement of aging capital assets to maintain their structural and functional integrity. The proposed 2010-2014 Capital Program demonstrates this commitment through investments to enhance customer and employee safety on trains, in stations and terminals, in yards and employee facilities, and along LIRR's right-of-way. Most notable is the ongoing renewal work on the Atlantic Avenue Viaduct, with this proposed program funding the final phase which includes the rebuilding of Nostrand Avenue station and the installation of two new ADA elevators. Railroad bridges systemwide will also be restored or replaced, along with continuing Fire and Life Safety improvements for the East River Tunnels.

Security in LIRR terminals and stations and along the right-of-way is closely coordinated with the MTA as well as with other local, state and federal agencies. Continued emphasis is placed on structural hardening, surveillance, and physical barriers - such as fencing - to secure the LIRR system and its assets.

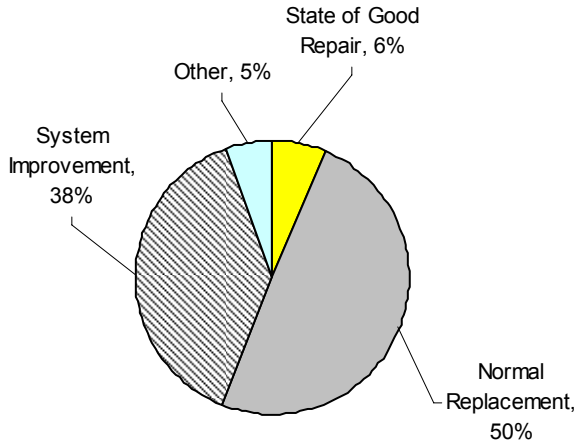
These investments maintain service levels and on time performance. All system components must work reliably in order to continue to deliver the high quality of transportation so vital to the region and its economy for another 175 years.

SYSTEM CONDITION

Investments in its capital assets since 1982 have allowed the Long Island Rail Road to improve its operations, thus providing an invaluable service to the region by ensuring the legacy of the railroad. The MTA's proposed 2010-2014 Capital Program continues this legacy and looks to the future with smart strategic corridor improvements that will expand capacity, increase levels of service, and support new LIRR service to Grand Central Terminal.

The proposed 2010 – 2014 Capital Program allocates 56 percent of its funding to State of Good Repair and Normal Replacement projects, and 38 percent to smart investments that will also improve the system (System Improvements). Much of this system improvement funding is devoted to preparing for expanded LIRR service to Grand Central Terminal when East Side Access opens. (Figure 3).

Figure 3
MTA LIRR Proposed 2010-2014 Capital Program
by Needs Category



The MTA is now re-evaluating the program's characterization of State of Good Repair to more accurately describe the condition of the asset base. Assets are comprised of many components, which have varying normal replacement requirements. These components must be regularly replaced for the total asset to remain in good repair. Future asset inventory updates will evaluate the repair needs of the components in establishing the asset's overall state of good repair. This approach was recently introduced in the New York City Transit Stations Program, and is applied in certain areas of the LIRR stations program and will be applied to the other agencies as they update their asset inventories.

Previously, LIRR's Line Structures category was the only asset category identified as not in a state of good repair. This plan will make significant progress on this category with the completion of the work on the Atlantic Viaduct. Regular inspections and maintenance also ensure the safety and operation of these assets. In addition, other assets have components with replacement needs that will be reflected in future asset inventory updates.

MTA LONG ISLAND RAIL ROAD
PROGRAM PLAN

MTA LONG ISLAND RAIL ROAD
ROLLING STOCK
CATEGORY L-601

MTA Long Island Rail Road currently has a fleet of 836 M-7 EMU cars, 170 M-3 EMU cars, 45 locomotives (including 22 DM and 23 DE), 134 bi-level coaches, and a fleet of work locomotives and other maintenance rolling stock.

From 2002 to 2007, LIRR rolling stock underwent its most dramatic transformation in over 30 years. The M-1 cars, which entered service in 1968-1972, were decommissioned and 836 new M-7 cars were put into service. The M-7 cars incorporate improvements in lighting, HVAC, and on-board announcements. The reliability of this new fleet has greatly exceeded contract goals, being able to travel hundreds of thousands of miles before unscheduled maintenance.

Another asset vital to service performance is work / protect locomotives. These locomotives are used to transport material, fight icing and fall leaf conditions, and haul disabled trains.

The Proposed 2010-2014 Capital Program - $382 million

M-9 Purchase for M-3 Replacement
This project will begin the replacement of up to 84 cars of the LIRR's aging M-3 electric fleet, which faces a number of service reliability challenges and dated system technology. This earlier generation of electric multiple-unit cars will be replaced with modern M-9 cars, with the worst performing cars replaced first.

DMU Specification Development
In addition, LIRR plans to develop a scope and specification for Diesel Multiple Units (DMUs) for selected "scoot-type" service on diesel branches, to address service needs of customers in the LIRR's non-electrified territory.

Work Locomotive Procurement
Finally, this program will purchase as much as 11 of the 30 locomotives needed to replace aging work locomotives that are past their useful lives. The work locomotives are used to apply a de-icing agent to the rails during winter weather conditions, apply sandite during autumn leaf season, and transport materials as part of LIRR infrastructure maintenance.

MTA LONG ISLAND RAIL ROAD
STATIONS
CATEGORY L-602

The Long Island Rail Road operates 11 rail branch lines and serves customers at 124 stations in Nassau and Suffolk Counties and New York City. The Stations and Parking Program works to maintain and modernize LIRR stations, focusing on replacing station components like staircases, elevators / escalators, platforms and canopies, as well as restoring station buildings. These projects ensure a safe and comfortable customer environment. As the gateway to the LIRR system, stations play an important role in the LIRR customer experience and an integral role in community identity.

The Long Island Rail Road, currently responsible for 60 percent of the train service into and out of Penn Station, contributes towards capital investment in Penn Station to ensure that this crucial part of the LIRR system continues to function smoothly and serves its role as Long Island's entry to Manhattan. Because Penn Station is LIRR's most important and busiest terminal, it is essential that this facility be maintained and improved.

The Proposed 2010-2014 Capital Program – $167 million
This proposed program includes $167 million to increase customer satisfaction by providing a comfortable and safe station environment. These projects invest in many station components, including platforms, staircases, shelters, waiting rooms, escalators, elevators, and station parking.

Massapequa and Wantagh Station Platform Replacement
Both projects include design, demolition and reconstruction of the station platform and platform waiting room, replacement of the canopy roofing system, along with platform lighting, stairways and escalator. At Massapequa, the existing elevator will be replaced, while at Wantagh, a new elevator will be constructed, making that station wheelchair accessible. The cost for these two projects is $42 million.

Mets / Willets Point Station Renovation
This $6 million project will complement planned work in existing programs to provide a station renovation and operational improvements for the LIRR Mets / Willets Point station. Work includes installation of new passenger elevators to connect the north and center platform with the passerelle, infrastructure improvements to allow for train operation from the center platform, installation of tactile warning strips, canopy and stair improvements, along with other station upgrades.

Station Component Replacement Work
The LIRR proposes a number of station component replacement projects, including $5 million for the replacement of passenger elevators at Rockville Centre and Woodside stations. Elevators at Woodside have experienced high levels of utilization because they serve both LIRR and NYC Transit customers at this busy station complex. The Woodside elevator selected for replacement connects the street level with the station and thus serves a crucial role in the station's function and in customer satisfaction. The LIRR will also advance a $16 million East Side Access (ESA) readiness support project to address elevators and infrastructure to support station operations in the LIRR's future station in Grand Central Terminal. LIRR Penn Station component work includes an $11

million project intended to replace the air conditioning units which serve the LIRR's area of Penn Station. Installed as part of the 1994 Penn Station Improvements, the air conditioning units have reached the end of their useful lives and have shown increasing failures. This investment is vital to ensure customer comfort and satisfaction.

Other Station Improvements
Also proposed for the 2010-2014 Capital Program is the Kew Gardens station platform extension, allowing more cars to platform at this station, platform and other structural repairs at Hunterspoint Avenue station to maintain a safe environment, and the designs for the replacement of the 1960s platform at Babylon station, including elevators and escalators, as well as a new Republic Station on the Main Line in Suffolk County, to be constructed in a future Capital Program. The total cost for these projects is $13 million.

Smart Card Improvements
In the proposed 2010-2014 program, LIRR will advance a pilot program and associated studies for new fare media technology – utilizing smart chip technology as part of an MTA-wide fare technology initiative. The total cost for this project is $10 million.

Parking
The proposed 2010-2014 Capital Program includes a $65 million dollar project for the development and expansion of commuter parking through the construction of a multi-story parking garage in order to increase the availability of commuter parking. The LIRR currently has a commuter parking space deficit at its busiest stations, and the need for commuter parking will grow in the future, particularly after direct LIRR service to Manhattan's East Side becomes available. While parking deck locations have not been determined yet, candidates are Level 1 stations (having more than 6,000 passenger trips per weekday) and Level 2 stations (having between 2,000 and 6,000 passenger trips per weekday) on the busiest electric branches. Priority consideration will be given to stations which are also served by multiple bus routes and other transit connections, in order to provide multi-modal transit opportunities.

In addition, in conjunction with MTA's Transit Oriented Development (TOD) initiative, the LIRR will, in collaboration with communities and stakeholders, identify feasible development opportunities near stations meeting the above criteria. Properly scaled and designed retail and residential uses near transit can enhance existing communities, providing many benefits including reduced auto-dependency and improved transit convenience. In determining investment priorities, LIRR will evaluate where structured parking could facilitate redevelopment of surface parking lots or other undeveloped sites near transit. This review would be undertaken in the context of station area planning to improve station access including intermodal connections, "kiss and ride" and pedestrian/cycling improvements. In addition, LIRR will identify partnership opportunities such as joint parking, and will evaluate where its investments can best coordinate with local land use initiatives that support TOD and where they can provide the greatest leverage of other public and private sources. LIRR will support the efforts of municipalities in competitive planning grants and undertaking comprehensive station area/downtown planning and zoning studies as part of coordinating local land use with LIRR parking and intermodal investments.

MTA LONG ISLAND RAIL ROAD
TRACK
CATEGORY L-603

MTA Long Island Rail Road has 594 miles of main line track and 107 miles of yard track. The track program is focused on economically supporting the safe operation of trains at maximum allowable speed with full Federal Railroad Administration (FRA) compliance, while minimizing the impact of track outages on customers. Track assets are currently maintained through on-going annual track renewal programs, which replace components on a life-cycle basis. The cyclical replacement of track rail components is based on age, condition and physical inspection.

System enhancement initiatives include a project to expand track capacity on the Main Line in Suffolk County, as well as projects to increase train lay-up capacity on some of the railroad's busiest branches.

Right-of-way (ROW) projects consist of drainage control, track stability/retaining walls, demolitions and fencing, which are intended to improve the physical condition of the ROW, ensuring safe and efficient operation of trains system-wide.

The Proposed 2010-2014 Capital Program - $1,021 million
Track investments build upon significant investments in previous programs in full support of LIRR long-term goals, based on a Track Strategy to maintain and upgrade the track system.

Track Program
The track program consists of the Normal Replacement of track components, based upon component age and condition. Elements of the Track Program include installation of wood ties (mechanized), rail, wood switches, concrete switches, field welds, surfacing, drainage, rail profiling and track stability along the right of way, grade crossing investments and new construction equipment to support track projects. Total cost in the proposed 2010-2014 Capital Program is $336 million.

Atlantic Branch Half-Ties
The track structure in the Atlantic Avenue Tunnel between East New York and Jamaica consists of wood half-ties embedded in a concrete track bed. This project will replace the existing track structure, which has reached the end of its useful life. The current track structure dates to 1940-41, when the tunnel between East New York and Jamaica was constructed. The cost for this project is $40 million.

Merrick / Bellmore Direct Fixation
This $37 million project will design and construct for the replacement of the direct fixation track on the viaduct along portions of the Babylon Branch. This type of track system involves track infrastructure fastened directly onto the viaduct structure, which was constructed in the early 1970s and is in need of replacement.

Right-of-Way Improvements

LIRR will also make various right-of-way improvements, including work to address drainage and culvert deficiencies along the ROW, such as replacing concrete sluiceways, installation of leaching basins and some drainpipe replacement. In addition, approximately fifteen miles of high security fencing will be installed at sites which have been identified as priority, based upon site risk assessments and history of trespassers. Finally, a demolition project will remove abandoned structures along the ROW that pose a potential danger to employees and customers and are eyesores in the communities where they are located. These ROW improvement projects total $17 million.

LIRR Strategic Track Enhancements - $584 million

Population forecasts for the New York region project increased population for Nassau, Suffolk and Queens Counties, creating a demand for additional LIRR service. In addition to growth in the LIRR's core market of commuters traveling between Long Island and Manhattan, the LIRR also anticipates growth in the intra-island and reverse commute markets, reflecting forecasted job growth in Nassau and Suffolk Counties.

There are a number of infrastructure investments which are required to prepare the LIRR for future East Side Access service to Grand Central Terminal. This includes expanding track and yard capacity along the LIRR's busiest rail corridors: the Main Line, Babylon and Port Washington Branches. Also critical is reconfiguration of track level infrastructure in Jamaica along with the construction of a new platform at Jamaica Station to serve the new Cross-Borough Scoot service between Jamaica and Flatbush Avenue Brooklyn.

Due to operational and fiscal constraints, the proposed 2010 – 2014 Capital Program cannot address all of the railroad's future infrastructure requirements necessary for reaching the full potential of ESA service to Grand Central Terminal and expanding reverse commute and intra-island train service. In light of this, the LIRR has prioritized investments of the highest importance – infrastructure which is required for East Side Access opening day. These improvements require an investment of approximately $808 million and are included in the 2010-2014 Capital Program. The LIRR remains committed to additional East Side Access related investments including the third track, in future capital programs, corresponding with future increases in service.

Currently, the LIRR does not have the Main Line corridor capacity to accommodate future ridership demands. Insufficient line capacity in strategic locations and other choke points inhibit the operation of additional westbound trains or reverse-peak service to meet current and forecasted travel demand during rush hour periods. The absence of a third track on the Main Line prevents the LIRR from offering robust reverse commute and intra-island service, which would provide regional mobility and strengthen Long Island's economic competitiveness. The East Side Access project (ESA) provides the foundation to address these shortfalls. However, issues regarding peak direction line haul capacity, simultaneous reverse commutation capacity, and train storage, remain.

Investments in the proposed 2010-2014 Capital Program, combined with those that are funded in the 2005-2009 Capital Program, will accommodate greater train capacity and reliability along the Main Line. Smart investments at critical locations on the Main Line will improve service reliability and operational flexibility along the Main Line in Nassau County, providing near term improvements prior to East Side Access opening day.

Utilizing Main Line Corridor funds already approved in the 2005-2009 Capital Program, the LIRR will advance initiatives in Nassau County that offer additional capacity and reliability benefits, while also being consistent with future Third Track infrastructure requirements. These near-term improvements, projected in Hicksville, Mineola and Westbury, will reduce congestion in the corridor, speed recovery time following service disruptions, and improve train service reliability.

Under the LIRR's strategic plan, Main Line Corridor Improvements will incorporate future third track infrastructure elements. The LIRR anticipates undertaking a revised Main Line Corridor environmental review process in the soonest possible timeframe, but no later than the 2015-2019 Capital Program.

Some of the 2010-2014 Capital Program system enhancements for ESA opening day readiness include:

Double Track Farmingdale to Ronkonkoma - Phase 1
To address current and future travel demand which cannot be accommodated because of infrastructure constraints, the LIRR will expand track capacity on the Main Line. The $138 million Double Track Farmingdale to Ronkonkoma project – Phase 1, would complete design for the entire second track initiative and construct the first segment of a full second track from Ronkonkoma to Central Islip. This will be the first phase in the effort to provide full two track infrastructure between Farmingdale and Ronkonkoma – an area that today is single track (with selected railroad passing sidings).

Jamaica Capacity Improvements
Due to the critical location and vital role it plays in the LIRR's operations, infrastructure investments need to be made in the vicinity of Jamaica Station to increase station throughput in conjunction with service expansion. Current constraints in track and station capacity limit the number of trains which Jamaica station can accommodate during peak periods. By implementing new configurations for the interlockings both east and west of Jamaica station, this complex will be modernized, through a new track layout, new signals, and new higher speed crossover switches. The $400 million Jamaica Capacity infrastructure investments proposed in this capital program will begin to address the operational requirements associated with train service to two Manhattan terminals, while also operating dedicated Brooklyn to Jamaica service, as well as diesel fleet operations between Long Island City Yard and Long Island.

Pocket Track Initiatives
LIRR will also advance two pocket track projects in the proposed 2010-2014 Capital Program, totaling $46 million. The Massapequa Pocket Track project will design and construct a new lay-up track east of the Massapequa station on the Babylon Branch to accommodate a 12-car consist to facilitate additional mid-branch train starts, which will improve service and seating availability for customers at central Babylon Branch stations, including future service to Grand Central Terminal. The Great Neck Pocket Track Extension project extends the existing Great Neck Pocket to accommodate a second 12-car train consist, providing additional train storage capacity east of Great Neck Station and increasing service to Great Neck and stations west, including future service to Grand Central Terminal.

These investments will supplement core infrastructure investments in track and signals, preserving the LIRR's ability to serve as a stimulus to the Long Island and regional economy.

MTA LONG ISLAND RAIL ROAD
LINE STRUCTURES
CATEGORY L-604

MTA Long Island Rail Road maintains 30 viaducts and 640 bridges system-wide (including pedestrian, overgrade and undergrade bridges), along with the Atlantic and Bay Ridge Branch Tunnels. In conjunction with Amtrak, the LIRR advances Fire and Life Safety and other improvements within the four East River Tunnels. The long-term Bridge and Viaduct program aims to address backlogged capital renewal and asset investment needs. Currently, the Line Structures asset category is the only LIRR capital program category not currently in a Normal Replacement cycle. This however, does not mean that the asset is in an unsafe condition. It characterizes the level of cost and effort to maintain the asset through the operating budget.

The Proposed 2010-2014 Capital Program - $197 million
This program consists of the renewal / replacement of bridges and viaducts, as well as improvements to the East River Tunnels. These investments will allow LIRR to continue its move towards addressing backlogged capital investment in this category.

Atlantic Avenue Viaduct – Phase 2
This $67 million project will complete the viaduct investments initiated during the 2005-2009 Capital Program. In addition to completing the replacement of steel superstructure components along the length of the viaduct, this project will also restore the elevated Nostrand Avenue passenger station, at the viaduct's far western end, including the installation of two new elevators to facilitate wheelchair access.

Renewal of Railroad Bridges
A number of bridges in Queens, Nassau and Suffolk Counties have been identified for investment. Repairs to these bridges will address elements from damaged retaining walls and undermined bearings, to timber and bracing deterioration. Efforts may include, but are not be limited to: strengthening of the primary bridge members, removal and replacement of bearings, reconstruction of bearing seats, restoration of deck systems, removal of unsound concrete and repair of concrete cracks and spalls. The total investment proposed for these efforts is $39 million.

In addition, construction work will be advanced for two bridge renewal projects totaling $51 million for which design was completed in the 2005-2009 Capital Program. The Shinnecock Canal/North Highway/Montauk Highway Bridge project will renew the Shinnecock Canal Bridge (built in 1931), the Montauk Highway bridge (built in 1929) and the North Highway Bridge (built in 1907). These bridges are located on the Montauk Branch in Hampton Bays, Suffolk County. The Broadway (Port Washington Branch) & 150th St. (Jamaica) project will renew the 150th St. Bridge on the Main Line and Atlantic Branch in Jamaica, which was constructed in 1913, along with the Broadway Bridge on the Port Washington Branch in Elmhurst, Queens, which was constructed in 1915. Finally, the $10 million Colonial Road highway bridge replacement project will replace the Colonial Road overgrade bridge, located in Great Neck on the Port Washington branch. Originally built in 1897, this obsolete structure was not designed to accommodate modern levels of vehicular traffic, and is in deteriorated condition requiring total replacement.

Bridge and Viaduct Painting
In order to continue to address capital investment needs on bridges and viaducts, the railroad will continue the bridge and viaduct painting program established in the 2005-2009 Capital Program. By addressing past deferred painting, these line structures will be protected from the elements, as painting provides a protective covering in addition to improving the structure's aesthetics. The cost of this project is $10 million.

East River Tunnels (ERT)
As part of the ongoing Fire & Life Safety efforts for the East River Tunnels, the LIRR allocated $20 million in the proposed 2010-2014 Capital Program to replace/restore various systems within the tunnels to address safety and prolong the life of the structures.

MTA LONG ISLAND RAIL ROAD
COMMUNICATIONS AND SIGNALS
CATEGORY L-605

The various systems which make up the Communications asset serve three main purposes: communication between LIRR employees, communication with LIRR customers, and security-related assets. These systems are supported by the Communications Backbone. The fiber optic network supports all communication system applications, including Security, Radio, Telephone, etc., in addition to the corporate network.

The Communications Backbone system is the system-wide infrastructure, including fiber optic and copper cable, communication poles, and hardware, which supports various vital communications systems and allows transmission of voice, radio and data between locations within the LIRR service area. Communication between LIRR employees includes the vital voice hardware and telephone systems utilized by the Transportation Department. Communication with LIRR customers includes station public address systems / digital displays. The Communications Asset also includes systems which monitor safety and security of LIRR stations, facilities, and structures, including fire alarms and the Atlantic Avenue Tunnel intrusion detection system.

Communication investments focus on the continued fiber optic network build-out, improvements to radio communications, and security-related investments.

The Long Island Rail Road's signal infrastructure ensures the safe routing of 732 scheduled trains each weekday. Because of the LIRR's age and size, the railroad has a very diverse collection of signal types and technologies, ranging from antiquated relay-based systems to modernized microprocessor technology. The LIRR's signal system includes the track circuit-based automatic speed control system as well as the crossing gate protection infrastructure at highway crossings over railroad tracks.

Signal investments are determined by the Signal Strategy, which considers the age, condition, reliability, and suitability of the equipment. One of the major focuses of the LIRR is to advance the migration towards a centralized train control system, whereby the dispatching and movement of trains would be facilitated from a central location in Jamaica, instead of through a network of locally-controlled towers spread across the LIRR service territory.

The Proposed 2010-2014 Capital Program - $315 million
The proposed program advances the efforts of the LIRR's Communications and Signals Strategies, addressing current and future needs, progressing component replacements and system improvements.

Communications - $64 million
The Long Island Rail Road's proposed 2010-2014 Capital Program includes a $20 million project to continue the multi-program build out of the fiber optic network, installing fiber and fiber optic hardware throughout the LIRR network to facilitate the transmission of data, voice and video data from stations, signal and communication huts, substations, employee facilities, and other key locations.

This program also includes the first phase of replacement of the private branch exchange (PBX) and wayside phone systems used by LIRR Transportation employees to allow train crew members to communicate with train control towers and the Movement Bureau in Jamaica, as well as continued replacement of communications poles and hardware and deteriorated copper cable infrastructure at various locations along LIRR right-of-way. In addition, the Federal Communication Commission (FCC) – Project 25 Compliance project will continue system migration to a narrow-band radio frequency by constructing new radio towers to increase radio coverage in areas which have been identified as deficient and replacing radios and other infrastructure and equipment to be compatible with the narrow-band frequency. These projects total $28 million.

Finally, this proposed program includes three projects totaling $16 million to: replace the existing radio system head-end, which facilitates radio communication between the Movement Bureau, Towers, and train crews in the field, which has reached the end of its useful life; a Penn Station Radio retrofit project that includes the replacement of deteriorated radiax cable in the East River Tunnels and; a radio cable replacement project to address deteriorating cable in the Atlantic Avenue Tunnel, improving radio communications on the Atlantic Branch.

Signals - $251 million

The Long Island Rail Road's proposed 2010-2014 Capital Program includes funds to advance LIRR's long-term signal strategy. As part of its ongoing efforts to maintain signal assets, the LIRR has included a $25 million Signal Normal Replacement project to renew and upgrade existing signal component equipment at locations throughout the LIRR system.

Also, targeting one of the most critical needs for signal investment, the $77 million Babylon Interlocking Renewal project will replace aging signal equipment in the vicinity of Babylon Station, including switches, signals, cables and other signal system components.

In order to increase safety and comply with federal mandates, a $100 million project is included to advance Positive Train Control (PTC) readiness investments, which will include wayside and on-board train control elements. This represents only a portion of the investment need. An investment of $400 million for PTC is also established in the MTA Interagency section for both LIRR and MNR, to be defined upon completion in 2010 of the implementation plan, which is funded in the 2005-2009 Capital Program.

One of the LIRR's most crucial efforts is Centralized Train Control. This proposed program advances the next phase of investments, $40 million, which includes the construction of a new control theater in the Jamaica Central Control (JCC) building. A key focus of this project will be the relocation of the Movement Bureau, which manages train dispatching and train supervision, into the theater. In addition, efforts to advance the migration of towers into the JCC theater will be undertaken. Related to this effort, a $9 million project will upgrade and renew supervisory control hardware at Divide tower in Hicksville.

MTA LONG ISLAND RAIL ROAD
SHOPS AND YARDS
CATEGORY L-606

Currently, the Long Island Rail Road operates 25 shops and yards for fleet storage, maintenance and inspection services. With the purchase of M-9 cars to support East Side Access service, it is necessary to construct new train yards to store and maintain the expanded fleet, ensuring that train consists are housed in locations that allow for full rush hour service.

Another key element of the LIRR's Shops and Yards Strategy is the replacement of Rolling Stock Support Equipment and continued implementation of the Life Cycle Maintenance Program. These investments will allow the LIRR to improve the reliability and productivity of this equipment, enabling the shop personnel to not only maintain the fleet, but also conduct maintenance in the most cost efficient manner possible. This will reduce rolling stock service outages and increase fleet Mean Distance Between Failures. By developing and maintaining a programmed plan for equipment life-cycle management, the LIRR will be able to manage the equipment and required major investments more efficiently, thus reducing downtime, maintenance costs, and increasing service life and reliability.

Employee facilities are an important part of LIRR capital investments. These facilities are multi-functional, encompassing shops and material storage, traditional lockers, lunchroom and office space. The renewal of these facilities will improve the LIRR employee work environment, storage and inventory control, thus maintaining this asset.

The Proposed 2010-2014 Capital Program - $315 million
Program highlights include the proposed construction of two new storage yards for the electric fleet, upgrades to the Morris Park facility to support diesel locomotive maintenance, fueling capacity increases at Port Jefferson Yard, renewal of Employee Facilities, and an increase in train storage capacity at Port Washington Yard.

Yard Improvements - $194 million
The LIRR proposes to construct a new $86 million electric fleet storage yard on the Huntington / Port Jefferson Branch in order to address current and future shortages of train storage capacity on this branch. Currently, westbound electric trains at Huntington Station begin at a linear track and not a full storage yard. By increasing train capacity, the LIRR would be able to provide more reliable service on the Port Jefferson Branch and prepare for service to Grand Central Terminal.

The $79 million construction of a new Mid-Suffolk Yard would address electric train storage needs east of Ronkonkoma Station, allowing the LIRR to increase service on this heavily traveled branch. This new electric fleet yard is considered a critical component in the LIRR's preparation for East Side Access service and builds off of anticipated track capacity enhancements along the Main Line, to increase service frequency and reliability.

In addition, to address train storage needs on the Port Washington Branch, a $12 million project will reconfigure the tracks at the Port Washington yard in order to increase the number of cars that can be accommodated. Improvements to this yard would allow the LIRR to meet service demands on this heavily traveled branch, including preparation for

East Side Access service.

Proposed Yard investments also include an $8 million project to make improvements to the Montauk Diesel Yard to allow for the installation of a timber wall for sound protection, electrical upgrades, wayside power, security fencing and lighting; and a $9 million project to increase diesel fueling capacity in Port Jefferson Yard to improve fleet operations on this diesel branch.

Shop Improvements - $121 million

Life Cycle Maintenance Shop and Diesel Locomotive Shop Upgrade efforts, costing $91 million, continue work begun in the 2005-2009 capital program to improve shop facilities to accommodate maintenance and repair of new M-7 EMU's, M-3 EMU's and Diesel fleets. The majority of the work effort will be in the support shops at the Hillside Maintenance Complex (HMC) and the Morris Park Complex for diesel locomotives. The Life Cycle Maintenance (LCM) program will allow the LIRR to replace vital components at the end of their useful lives before component failure. In the long term, LCM will result in a more predictable, reliable and stable maintenance program, will reduce unscheduled repairs and increase fleet reliability.

Improvements totaling $15 million are also planned for the facilities at Hillside, including roof repairs and upgrades to the Hillside Maintenance Complex (HMC) Car Shop coil doors. Finally, the proposed program includes a $15 million capital project for restoration and improvement of select employee facilities to address various building systems, including windows, HVAC, plumbing, roofing, doors, alarm systems, and other components.

MTA LONG ISLAND RAIL ROAD
POWER
CATEGORY L-607

The majority of the LIRR's service is in electric territory; electric multiple-unit cars utilize 750 volts of electric traction power that is delivered via the third rail. To provide this traction power, the Long Island Rail Road operates and maintains 108 substations/breaker houses and 328 miles of third rail system-wide. In addition to the traction power system, the Power department also operates and maintains lighting on LIRR station platforms as well as yard and tunnel lighting and emergency generator systems.

The long-term goal of Power-related investments is to continue component replacements necessary to maintain the system and strengthen its reliability and safety. Of particular note, as part of this proposed Capital Program, the Long Island Rail Road will invest substantially in the replacement of traction power substations which have reached the end of their useful lives. Maintaining these assets ensures the safe operation of trains and contains the growth of operating costs.

Relying on industry standards as the basis for component life cycles, Long Island Rail Road has performed asset condition surveys to establish priorities for cyclical Normal Replacement investments. The need to invest in substation replacement became evident following the conclusion of the traction power load study, which utilized a computer simulation model and incorporated physical characteristics, train schedules and train power consumption. This study considered the power needs (focusing on the increased power requirements of the new M-7 electric fleet) of the current system as well as requirements to support projected system growth and expansion. Numerous aging substations need to be replaced and new substations constructed in critical high traffic locations, in order for the LIRR to reliably operate increased train service in the future.

The Proposed 2010-2014 Capital Program - $190 million

The proposed 2010-2014 Capital Program will replace traction power substations in Queens and Nassau County that have reached the end of their useful lives. A number of these substations were built in the late 1940s and have been identified as priority replacement. As part of its substation replacement effort, the LIRR will advance the replacement of substations which were originally constructed to accommodate the power needs of the M-1 fleet. One new substation will also be constructed, as identified in the traction power load study. This substation, located in Queens, follows the recommendations of the traction power load study by addressing an area of critical power demand that will accompany the expansion of service with LIRR operations to Grand Central Terminal. The total cost for these substation replacement and new substation construction investments is $142 million.

The proposal also calls for $30 million in traction power investments for the replacement and/or upgrade of sections of third rail protection board and replacement of conventional third rail with aluminum rail, as well as upgrades to third rail cable feeders, third rail disconnect switches, 2000 MCM cable, and negative reactors. Other projects within the power asset category totaling $18 million include replacement of substation batteries, signal power motor generators, substation pilot wires and relays, tunnel lighting, and signal and power pole line replacement.

MTA LONG ISLAND RAIL ROAD
MISCELLANEOUS
CATEGORY L-609

Projects in this area provide for costs associated with the support and management of the Capital Program and projects with program-wide applicability such as system-wide environmental remediation, protective liability coverage, independent engineer services, value engineering services, and scope development.

The Proposed 2010-2014 Capital Program - $173 million
This allocation is planned to fund miscellaneous projects. Included are: program administration, insurance, scope development and system-wide environmental remediation.

Environmental Remediation - $23 million
Environmental remediation efforts include the Yaphank Landfill; chlordane investigation of twenty substations; Smithtown Viaduct remediation of existing soil contamination and replacement of all excavated material with clean-fill; and remediation of contaminated soil and removal of a fuel tank in the Port Jefferson Yard.

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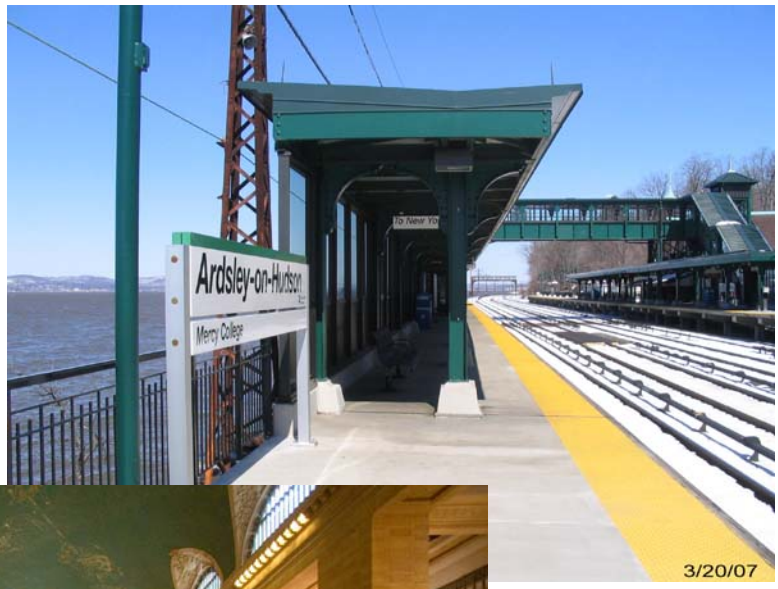
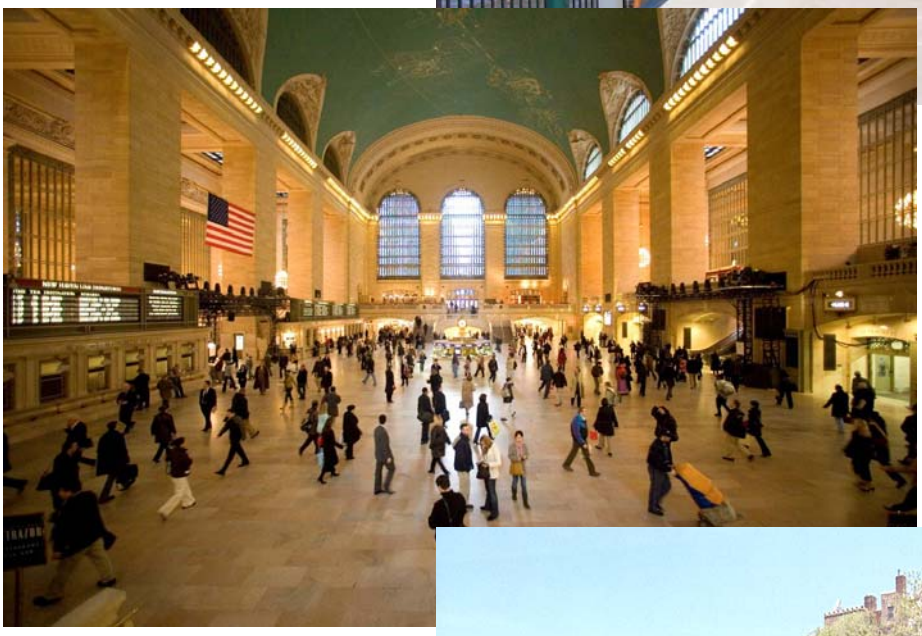
MTA METRO-NORTH RAILROAD





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MTA METRO-NORTH RAILROAD
2010 - 2014 CAPITAL PROGRAM
OVERVIEW

MTA Metro-North Railroad celebrated its 25th anniversary in 2008 – 25 years of history-making accomplishments and performance. As one of the largest commuter railroads in the country, Metro-North carried an unprecedented 84.2 million riders in 2008 on the Hudson, Harlem and New Haven Lines east of the Hudson River, and on the Pascack Valley and Port Jervis Lines west of the Hudson River. From an annual ridership of 41 million in 1983, this is an increase of 105 percent. In the last 25 years Metro-North has carried over 1.6 billion customers.

Over this same period, the number of trains Metro-North operates has increased by more than 35 percent, the number of revenue passenger miles is up 76 percent and the fleet size has increased by over 36 percent. On-Time Performance has improved dramatically from 80.5 percent to 97.5 percent. The Mean Distance Between Failures of the fleet, the distance a rail car travels between breakdowns, has improved from 13,341 miles in 1988 to 104,865 miles in 2008. Finally, in this time frame, the railroad improved its Fare to Operating Ratio from 36.9 percent to 59.9 percent by maintaining a critical focus on improving financial performance and operating efficiencies.

Metro-North's market share of weekday train commuter trips to Manhattan – those that choose to ride the train instead of driving their automobiles - has increased from 70 percent in 1991 to 79 percent in 2007. The increase is even more pronounced for the discretionary travelers (non-commuters). Only 39 percent of these weekday travelers took the train in 1991, while in 2007 the market share was 53 percent.

To enable this transformation, the past 25 years have seen major investments in rolling stock and infrastructure of the railroad with the dedicated funding of the MTA Capital Program. This funding has allowed Metro-North to fulfill its primary mission to provide a safe, clean, comfortable ride to every customer – reliably and on-time nearly 98 percent of the time.

Metro-North's early focus was on large-scale reinvestment in a system in disrepair, restoring basic infrastructure to reliable condition. Much progress has been made, while protecting past investments and providing targeted improvements that resulted in increased ridership. However, significant repair work remains, particularly in Grand Central Terminal, select line structures, West of Hudson and in Shops and Yards.

THE PROPOSED 2010-2014 CAPITAL PROGRAM

Planned Metro-North investments as defined in the 2010-2029 Twenty Year Needs Assessment total nearly $12 billion through 2029. This level of investment will ensure that the majority of the system is brought into a State of Good Repair by 2029. The proposed 2010-2014 Capital Program prioritizes the first set of these investments and demonstrates the agency's ongoing commitment to maintaining and enhancing mobility, economic health and quality of life in the region. The proposed 2010-2014 Capital Program includes investments of $1.839 billion over the course of the program (Table 6). These investments will fund its most essential components - rolling stock, stations, track, signals, power, shops and yards, and communications.

Table 6 details the proposed 2010-2014 Capital Program by asset category and percentage of overall program.

Table 6
MTA MNR Proposed 2010-2014 Capital Program
by Investment Category
($ in millions)

Category	Proposed 2010-2014	Percent
Rolling Stock	$384	21%
GCT, Stations and Parking	293	16%
Track and Structures	346	19%
Communications and Signals	140	8%
Power	127	7%
Shops and Yards	449	24%
Miscellaneous	100	5%
Total	**$1,839**	**100%**

Numbers may not total due to rounding

Primary elements of this investment program include investments to maintain core infrastructure and smart investments that will enhance mobility, customer satisfaction and safety and security as described below (more detailed summaries of the projects are discussed in later sections).

Investments to Maintain the Core Infrastructure
Achieving core infrastructure State of Good Repair and protecting past core infrastructure investment remains one of the most critical elements of the proposed 2010-2014 Capital Program. Metro-North must progress critical infrastructure State of Good Repair work while ensuring that all the improvements resulting from the last 25 years of Capital Program work are maintained for future generations. Key projects include:

- Advancing the multi-program replacement of the Croton-Harmon Shop, the cornerstone of Metro-North's long-term shops and yards strategy to upgrade and adequately size shops and yards for storage, maintenance and inspection services.

- Continuing multiple infrastructure improvement programs such as the Cyclical Track Program, Mainline/High Speed Turnouts, and Grand Central Terminal Trainshed Structural Repairs.

Smart Infrastructure Investments
As a critical element to the region's transportation infrastructure, the Metro-North system must build on early successes in restoring the basic infrastructure to reliable condition by not only protecting these past investments, but also targeting smart improvements. These smart investments will allow the railroad to continue to provide opportunities for further ridership growth, incorporate modern technology, and improve accessibility for its customers. The proposed 2010-2014 Capital Program includes a variety of such smart investments to enhance service capacity, create new system capabilities, and increase customer satisfaction.

Investments in Mobility
Smart core investments will enhance regional mobility through projects that reduce travel times and increase reliability and dependability throughout all aspects of the railroad. Key Metro-North projects planned to accommodate increasing ridership and expanded service include:

- Continuing implementation of Metro-North's Rolling Stock strategy using rolling stock replacement and maintenance programs to modernize and expand the fleet to meet projected ridership demand. Vital fleet modernization efforts include the ongoing M-8 and proposed EMU Replacement procurements to complete replacement the 35-year-old New Haven Line M-2 fleet and begin retiring other older fleets using new high-performance fleets utilizing the lessons of the highly-successful M-7 procurement, while also providing additional capacity for ridership growth on the New Haven Line. Critical Systems Replacement programs will be performed on the New Haven Line's M-4 and M-6 fleets to modernize select components and ensure reliability through their remaining useful life.

- Expanding station facilities, parking and development of key Strategic Intermodal Facilities. These projects will promote increased rail ridership and revenue as well as meet current and projected customer demands for station and parking access. Stations and parking investments are coordinated with local governments and promote economic development. Where possible, Transit Oriented Development will be considered to partner with the community so that MTA investments can be coordinated with land use policies that encourage compact development and convenient access to the system for its customers.

- Continuing extensive traction power improvements. These investments are, essential to meeting the increased power demand on the Hudson and Harlem Lines, maintaining reliable and dependable service and supporting the service growth strategy encompassed in Metro-North's Service Plan. Substation Bridge 23, an aging AC traction power substation and the only substation that feeds the New York State section of the New Haven Line and is therefore critical to maintaining service reliability, will be replaced with a new substation.

- Continuing the multi-program project to replace the aging signal system. These smart investments will equip Metro-North with the latest technology to accommodate current operations which have continued to expand and enable compatibility with future service needs. The next signal system segment to be replaced will be from North White Plains to Brewster.

Investments in Customer Satisfaction
Smart core investments are designed to enhance customer satisfaction, improving trip quality, the station environment, customer information and ease of fare payment. Key projects to enhance the customer experience include:

- Continuing investment in station facilities, renewing station elements to extend their useful life and maintain these elements in good repair.

- Improving customer communications in Grand Central Terminal and at outlying stations by deploying the latest customer information technology to provide real-time performance information including departure time and destination, status, and track to customers and employees at all East of Hudson stations.

- Continuing the investment necessary to bring the Port Jervis Line infrastructure to a State of Good Repair following Metro-North's lease of the Line from Norfolk Southern in 2002. Track, viaduct and bridge work will continue to be advanced.

- MNR will participate in the MTA-wide migration to more advanced fare and toll payment including the use of contactless "smart chip" payment systems, such as standard bank and credit cards, pre-paid transit payment cards, key-tags and smart phones. Metro-North will conduct pilot studies and other analyses during the 2010-2014 plan period aimed at allowing customers to use a single smart card, or cell phone with a smart chip to ride the entire MTA network.

Investments in Safety and Security
Smart core investments will enhance safety and security, with projects that focus on both customer and employee safety and security. Key projects include:

- Continuing the Undergrade Bridge Program – east and west of the Hudson River – as well as the east of Hudson Overhead Bridge Program to progress these bridges to a State of Good Repair.

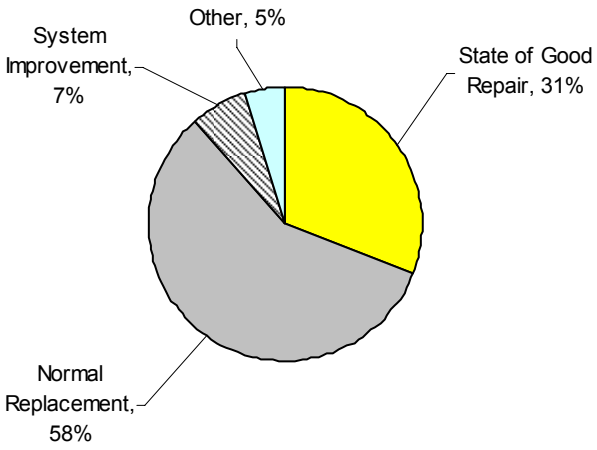
- Continuing investments in emergency preparedness such as CCTV improvements at priority locations under this program.

SYSTEM CONDITION

Since 1982, when the first Capital Program began, Metro-North has committed a total of $6 billion to replace rail car equipment and restore a majority of its infrastructure to a State of Good Repair, establishing a Normal Replacement cycle for its assets and making select system improvements. All obsolete track was replaced by 1986 (with the exception of the more recently acquired Port Jervis Line). The work to bring the Communications and Signals assets to a State of Good Repair was completed by 2000. The Power assets reached a State of Good Repair by the end of the 2000-2004 Capital Program. These assets are in a cycle of Normal Replacement and need continued investment in order to maintain a State of Good Repair and support safe, comfortable and reliable service for Metro-North customers.

In the proposed 2010–2014 Capital Program, due to continued significant need, the majority of the Metro-North investments are dedicated to State of Good Repair and Normal Replacement projects, 89 percent, with seven percent to smart investments which will also improve the system (System Improvements). Much of the system improvement funding is devoted to parking expansion and strategic intermodal facilities. Additional system improvement funds are included for the expansion of Wassaic and Port Jervis Yards. (Figure 4).

Figure 4
MTA MNR Proposed 2010-2014 Capital Program
by Needs Category



The MTA is now re-evaluating the program's characterization of State of Good Repair to more accurately describe the condition of the asset base. Assets are comprised of many components, which have varying normal replacement requirements. These components must be regularly replaced for the total asset to remain in good repair. Future asset inventory updates will evaluate the repair needs of the components in establishing the asset's overall state of good repair. This approach was recently introduced in the New York City Transit Stations Program and will be applied to the other agencies as they update their asset inventories.

Previously, Metro-North had four asset categories identified as not in a state of good repair:

- Shops and Yards, which will largely be addressed by completion of the Harmon Shop complex investments in the next two programs; this program funds Phase IV of the rehabilitation,
- Stations (including Grand Central Terminal), which include investments in this program; all stations will be maintained to ensure safety,
- Structures, which in addition to investments in this plan, are inspected regularly with maintenance performed to keep the assets in service safely, and
- Port Jervis Line Infrastructure, for which Metro-North assumed responsibility under a lease agreement with Norfolk Southern in 2003, thus requiring substantial additional investment; some of those needs are covered in this program.

However, other assets have components with replacement needs as well; these will be reflected in future asset inventory updates.

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MTA METRO-NORTH RAILROAD
PROGRAM PLAN

MTA METRO-NORTH RAILROAD
ROLLING STOCK
CATEGORY M-601

The goal for the proposed 2010-2014 Capital Program's $384 million investment in rolling stock is to continue modernization and expansion of the fleet. Upon completion of the delivery of purchases made under the 2005-2009 Capital Program, the revenue fleet available for service will total 1,229 units. This includes 213 push-pull coaches, 870 electric cars, 52 locomotives, and 14 buses for East of Hudson service; and 15 locomotives and 65 coaches available for service on the Port Jervis and Pascack Valley Lines, operated by New Jersey Transit per an agreement among the parties. Through the 2010-2014 investments, Metro-North will continue fleet modernization and expansion efforts to meet ridership growth and enhance the quality of service for railroad customers.

The Proposed 2010-2014 Capital Program

Metro-North's purchase of rolling stock is needed to replace equipment that has reached the end of its useful life and to provide additional seating as ridership continues to grow. Rolling Stock projects total $384 million and represents approximately 21 percent of the program for the 2010-2014 period.

M-8 Procurement

Metro-North will complete the purchase of 342 M-8 cars in a joint procurement with CDOT to begin the modernization of the New Haven Line electric multiple unit fleet, two-thirds of which is comprised of M-2 cars originally built in the early 1970s and to accommodate projected New Haven Line ridership growth. This is the second phase of a project begun in the 2005-2009 Capital Program to provide a total of 342 new cars to replace the M-2 fleet and provide seats for ridership growth. Metro-North provided $100 million for this project in the currently approved 2005-2009 Capital Program, which began with an advance of $166 million from CDOT to facilitate the order of the first 300 cars. The total cost in the proposed 2010-2014 Capital Program is $225 million, which includes Metro-North's repayment of that advance and its share of the final 42 cars to be ordered for New Haven Line service.

EMU Replacement – 30 Cars

Funding is allocated in this project to purchase 30 EMU cars for service on the Hudson, Harlem, or New Haven Line. The exact procurement will be based on a rolling stock strategy currently under development jointly with Long Island Rail Road. Total cost for this proposed 2010-2014 Capital Program project is $100 million.

M-4 and M-6 Critical Systems Replacements (CSR)

These projects are needed to complete the M-4 CSR which received initial funding in the 2005-2009 Capital Program, and continue a similar program for the M-6 fleet to ensure the reliable performance of this equipment through the end of its useful life. The 54-car M-4 fleet was purchased in 1987, and the 48-car M-6 fleet in 1993. Neither fleet has ever had a significant overhaul program, and key components of these fleets have either reached the end of their useful life, are obsolete, or have become difficult to replace in a cost-effective manner, which significantly degrades current and future reliability. These

programs will take advantage of technological upgrades now available to significantly improve reliability for the fleet's remaining life. Metro-North's total cost in the proposed 2010-2014 Capital Program is $14 million for the M-4 fleet and $22 million for the M-6 fleet.

Purchase of Switcher and Shuttle Locomotives

This project provides for the acquisition of five additional 2,000 horsepower diesel locomotives suitable for road and switching service and equipped with head end power (HEP) for shuttle service. The project will complete the program begun in the 2005-2009 Capital Program (with the purchase of eleven similar locomotives) and create a uniform fleet of sixteen diesel locomotives universally suitable for all duties outside Grand Central Terminal. These locomotives will complete the replacement of nineteen unreliable 40-year old to 60-year old units. The uniformity of the new fleet will provide operational flexibility, improve reliability, and standardize maintenance procedures. Total cost in the proposed 2010-2014 Capital Program is $13 million.

MTA METRO-NORTH RAILROAD
STATIONS
CATEGORY M-602

There are 86 Metro-North passenger stations in New York State, 74 east of the Hudson River and 12 more west of the Hudson. The long-term objective of Grand Central Terminal, outlying station and parking investments is to achieve a State of Good Repair, improve operations, increase customer satisfaction, and conserve the historic stations along the system. In addition, Metro-North will make progress toward constructing new facilities to accommodate increased ridership and increase access and parking opportunities. These initiatives support local development opportunities as well.

The Proposed 2010-2014 Capital Program

Included in Metro-North's proposed 2010-2014 Capital Program is the continuing renewal of the historic Grand Central Terminal complex, as well as stations on the Hudson, Harlem, and New Haven Lines, and parking and strategic facilities. These projects total $293 million, approximately 16 percent of the total Metro-North Capital Program.

Grand Central Terminal Renewal Projects

Renewal of Grand Central Terminal will continue in the proposed 2010-2014 Capital Program with $104 million allocated for Normal Replacement and State of Good Repair projects. Major work continuing from the 2005-2009 Capital Program includes the ongoing structural work on the GCT trainshed and the elevator renewal program. Additional funding is reserved for the Normal Replacement of the terminal's infrastructure, including GCT/Park Avenue expansion joints, trainshed track structure improvements, leaks remediation (under an Agreement with the City of New York), platform improvements and water conveyance utility improvements.

Harlem Line Stations Improvements

The purpose of this project is to invest in key station elements to ensure the stations remain in a State of Good Repair. Work includes repair of platforms, canopies and stairs along with miscellaneous amenities. When completed, this project will improve customer comfort and convenience. Total cost in the proposed 2010-2014 Capital Program is $34 million.

New Haven line Stations improvements – Phase II

This $35 million project continues platform and canopy repairs and assorted stair and ramp repairs to meet ADA standards to stations along the New York State portion of the New Haven Line. Work will be completed at Mount Vernon East, Pelham, New Rochelle, Larchmont, Mamaroneck and Harrison.

Station Building Renewal
Funding is allocated to address station building needs throughout the system. Many of Metro-North's station buildings are historic, built in the late 1800s/early 1900s, and in varied condition. Costs to renovate these structures can often be high because of building age and condition. Under the proposed 2010-2014 Capital Program, Metro-North will implement the following station building projects:

- **Poughkeepsie Station Building - Phase II** This project will continue the phased approach to improving the historic Poughkeepsie Station building. Repairs began in the 2005-2009 Capital Program. This Phase II project will address prioritized remaining work, including brick repointing, interior wall repairs, fire protection, plumbing, HVAC, and electrical systems. Total cost is $8 million.

- **Fordham Station** This project will continue the improvements to the Fordham Station begun under the currently approved 2005-2009 Capital Program. The project will allow for the widening of the crowded outbound platform by utilizing land Metro-North seeks to acquire from Fordham University. In addition to a wider platform, the project will also include new canopies and new customer communication systems. The total cost for this project is $13 million.

- **Station Building Renewal** The purpose of this project is to provide critical improvements to station building elements at various Metro-North station buildings. Work at Hartsdale Station includes: replace existing building roofing system, restore existing windows and doors, and repoint exterior brick façade and repair cracks and spalls. Funding is also included for other outlying stations such as Port Chester and may supplement ongoing work at Poughkeepsie Station and other buildings as well. Funding is also allocated to progress net lease opportunities with private commercial entities if opportunities arise. Total cost is estimated at $10 million.

Customer Communications in Grand Central Terminal
This project will improve communications in GCT for customers through the replacement of the current Visual Information system (VIS) with a system that will provide for expansion and allow Metro-North to introduce future technologies that will benefit its customers. Metro-North will pursue advertising opportunities in concert with the improved communications. The proposed 2010-2014 Capital Program includes $5 million for the first phase of the project which will advance design and data room build-out to an industry standard. Ethernet-based fiber plant that will provide increased reliability and support use of multiple display formats for an enhanced customer service will also be advanced. Connecticut Department of Transportation (CDOT) participation will supplement this funding.

Station Communications Infrastructure
This project will improve communications at outlying stations by supporting the roll-out of the latest customer information technology to provide real-time performance information including departure time and destination, status, and track to customers and employees at all East of Hudson stations. Stations improvements will include the installation of new Visual Information System (VIS) displays, upgrade of existing VIS display controllers to Ethernet-based technology that can be used to display enhanced train information and schedules to customers. The proposed 2010-2014 Capital Program includes $24 million for the project, as well as Communications and Signal funding totaling $31 million. Connecticut Department of Transportation (CDOT) participation will supplement this funding.

Smart Card Improvements
The $10 million allocated to Smart Card improvements will provide for pilot studies and other analyses during the 2010-2014 plan period aimed at allowing customers to use a single smart card, or cell phone with a smart chip to ride the entire MTA network.

Strategic Intermodal Facilities
The $45 million Strategic Intermodal Facilities and Parking Expansion project includes monies to implement strategic station and parking investments to construct key intermodal transportation hubs in Metro-North territory. Key candidate locations initially identified for the program include North White Plains, Southeast, Purdy's and Poughkeepsie. In some cases, Transit Oriented Development (TOD) is the focus of the project, such as Beacon, where Metro-North is working with the City of Beacon to revise zoning rules to allow for TOD. TOD initiatives, joint use of parking facilities and access provided in partnership with developers can enhance Metro-North's opportunities to expand rail access, grow ridership, reduce capital costs, increase revenues and establish a more sustainable, mixed-use (housing, commercial, etc) station area. Metro-North partners and coordinates with many third party groups to progress these projects such as counties, local towns, communities and private organizations as well as New York State agencies such as the New York State Department of Transportation.

Parking Renewal
This $3 million Parking Renewal project invests in select parking facilities to restore them to a State of Good Repair. Work includes: resurfacing; restriping; bringing facilities up to current ADA standards; implementing drainage improvements; improving and replacing lighting, fencing and guard rails; upgrading and adding revenue collection devices, shelters, signage, emergency communications, landscaping and security enhancements.

This project will support continued efforts to attract new riders and increase parking revenues to the Railroad.

MTA METRO-NORTH RAILROAD
TRACK AND STRUCTURES
CATEGORY M-603

There are 387 route miles and 795 track miles that constitute the Metro-North system in New York State and Connecticut. Of that amount, 545 miles are electrified. The long-term objective of investments in this area is to maintain the condition of the majority of the existing assets that are in a State of Good Repair and achieve a State of Good Repair for undergrade bridges after 2020. The ongoing renewal of the trackage is essential to providing customers with a safe, reliable, and comfortable ride. To accomplish this, Metro-North has developed a cyclical program of track and turnout renewal and replacement that maintains track structure components and switch facilities in proper operating condition. Similarly, the continued integrity of line structures along the railroad right-of-way is vital to its smooth and safe operation. This includes overhead and undergrade bridges, viaducts, tunnels and retaining walls.

The Proposed 2010-2014 Capital Program

A total of $346 million is allocated for track and structures projects, representing approximately 19 percent of the proposed 2010-2014 Capital Program.

Cyclical Track Program – Wood Ties and Surfacing

This project provides for the replacement of ties and rail along with cyclical surfacing on the Hudson, Harlem and New York portion of the New Haven Line. The project maintains Metro-North's track in a constant State of Good Repair ensuring that the track structure does not deteriorate, and ensures conformance to Federal Railroad Administration track standards. This program protects the capital investment already made that brought the track infrastructure up to a State of Good Repair, continuing the program undertaken between 1982 and 2009. The scope of work for this project includes the purchase of rail, ties, track ballast and other track materials associated with installation. Total cost in the proposed 2010-2014 Capital Program is $67 million.

Turnout Replacement – Mainline High Speed

This project provides for the replacement of interlocking switches at select locations throughout the Metro-North territory in New York State as they reach the end of their useful life. The scope of work for this project includes, for some locations, turnout replacement in kind; and for other locations, improving existing standard turnouts with high-speed turnouts. By installing high-speed turnouts, that territory can accommodate increased speeds. This improvement will result in reduced travel time for Metro-North customers and greater flexibility for the railroad. The project includes a new interlocking at CP109 on the Harlem Line in the Bronx and potential new turnouts at select locations. Total cost in the proposed 2010-2014 Capital Program is $71 million.

Grand Central Terminal Switch Renewal
This project is a continuation to replace the switches located in Grand Central Terminal along with the stick/jointed rail that currently exists at the platform areas. In the upper and lower level of GCT, the high volume of traffic and tight configuration accelerates the wear of the switches. This project provides for the removal of existing switches and the annual renewal of switches within the terminal and tracks in the platform areas. These investments maintain a constant State of Good Repair ensuring that the terminal operation can operate reliably. Total cost in the proposed 2010-2014 Capital Program is $14 million.

Turnout Replacement – Yards and Sidings
This project provides for the Normal Replacement of turnouts as they reach the end of their useful life, and for the construction of track improvements at various yard and siding locations in New York State. The turnouts and track replacements are scheduled for the following locations: Mount Vernon West Yard, Mott Haven Yard and Brewster Yard. Total cost in the proposed 2010-2014 Capital Program is $5 million.

West of Hudson Track Improvements
This project will replace rail and ties, as well as perform surfacing on selected track areas on the Port Jervis Line. The proposed 2010-2014 Capital Program includes the replacement of 75,000 ties, 100 miles of resurfacing and 6 turnouts; all are at the end of their useful life. Total cost in the proposed 2010-2014 Capital Program is $21 million.

Undergrade and Overhead Bridge Program
The focus of these projects is the repair and replacement of bridges over or supporting the railroad's right-of-way, which are approaching the end of their useful lives, or do not meet current loading standards. The proposed 2010-2014 Capital Program provides new funding for the superstructure replacement of the bridge carrying Track 4 in Croton-on-Hudson, superstructure replacement in Port Chester, and the renewal of approximately eight additional undergrade bridges - three on the Hudson Line, three on the Harlem Line and two on the New Haven Line. The project also includes the consultant inspection, load rating and underwater inspection of all bridges located East of Hudson. Total project cost is $38 million. The Overhead Bridge program includes the Metro-North share of the replacement of the 14th Avenue and 10th Avenue Bridges located in Mount Vernon, N.Y., as well as the repair of multiple bridges. The project also includes design of five overhead bridge projects that will be performed during the following Capital Program. Total project cost is $17 million. Metro-North coordinates and funds the bridge programs with New York State Department of Transportation.

Remove Obsolete Facilities
This safety initiative includes demolition and removal of old facilities. This project includes the removal of structures, small and large buildings, abandoned station buildings, signal cases and bungalows, switch machines, and track and signal field equipment and materials. Total cost in the proposed 2010-2014 Capital Program is $3 million.

Employee Welfare and Storage Facilities
This project provides for the upgrade of employee welfare facilities with suitable and adequate conditions and resources. The areas targeted for improvement in this program include locker rooms, bathroom facilities, meal and rest areas, and storage/work spaces in GCT and outlying field locations. Total cost in the proposed 2010-2014 Capital Program is $10 million.

Harlem River Lift Bridge Cable Replacement
This project replaces all 128 lift cables connecting the Harlem River Lift Bridge lift spans to the counterweight located at each end of the bridge. The cables have exceeded their useful life but the bridge must be maintained in operable condition as the Harlem River is a navigable waterway subject to the requirements of the U.S. Coast Guard. Total cost for project is $11 million.

Moodna and Woodbury Viaducts – West of Hudson
This project continues the State of Good Repair work that began on the Moodna and Woodbury viaducts on the Port Jervis Line under the 2005-2009 Capital Program. On both viaducts, components such as girders, floor beams, connectors, rivets, columns, cover plates and bearings are deteriorated to varying degrees, which require either repair or total component replacement. Total cost in the proposed 2010-2014 Capital Program is $10 million.

Undergrade Bridge Program – West of Hudson
This project provides for the continuing design and repair of the undergrade bridges on the Port Jervis Line. There are approximately 80 undergrade bridges on the Port Jervis Line; this project provides for the continuing renewal of structures determined as top priorities based on condition surveys. Total cost in the proposed 2010-2014 Capital Program is $12 million.

Other Track and Structures Projects
Additional projects in the proposed 2010-2014 Capital Program include improvements to drainage and undercutting, remediation of rock slopes, rail top culvert work, and inspection and design for improvements to the Otisville Tunnel (West of Hudson). Normal Replacement projects include rebuilding retaining walls, purchase of maintenance of way equipment and rolling stock, replacement of DC substation and signal house roofs, and replacement of undergrade bridge timbers. Safety projects include security fencing along the right-of-way, and replacement of bridge walkways. System improvement projects include the purchase of specialized structures equipment. Approximate cost of all remaining track and structures projects: $51 million.

MTA METRO-NORTH RAILROAD
COMMUNICATIONS AND SIGNALS
CATEGORY M-604

There are 387 route miles and 795 track miles that constitute the Metro-North system in New York State and Connecticut. Of that amount, 579 track miles are signaled. The signal system includes 471 miles of cable transmission systems, 59 centralized control systems, and a 223 route-mile signal network. The long-term objective of investments in this area is to replace the aging signal system (wayside and operations control center) with the latest technology to accommodate current operations and provide compatibility for future needs. Over the previous capital programs, Metro-North has invested in a centralized control system and the right-of-way infrastructure to operate it. To protect the past investment and keep the system up to current standards, Metro-North has established a cyclical program to replace and upgrade the elements of the overall signal system. In addition, Metro-North looks to optimize train capacity to accommodate the railroad's current needs, future service plans and future ridership projections. Metro-North will also make investments in Positive Train Control as required under the Rail Safety Act of 2008.

The Proposed 2010-2014 Capital Program

The communications and signals projects total approximately $140 million. This represents 8 percent of the total proposed 2010-2014 Capital Program budget.

Signal System Improvements

This project is provided to support Positive Train Control (PTC) readiness throughout Metro-North territory in New York State. An Implementation Plan is being prepared for review and approval by the Federal Railway Administration (FRA). Total cost in the proposed MNR 2010-2014 Capital Program for signal system improvements is $50 million. However, this represents only a portion of the investment need. An investment of $400 million for PTC is also established in the MTA Interagency section for both LIRR and MNR, to be defined upon completion in 2010 of the implementation plan, which is funded in the 2005-2009 Capital Program.

Replace Field PA/Station Connectivity

This project will provide real-time customer information to new and existing Visual Information System (VIS) displays at all East of Hudson stations through the installation of new train information/ public address system field equipment, which will connect to a new central Public Address system currently being implemented and funded under the 2005-2009 Capital Program.

Ethernet-based network connectivity will be provided at each station which will support the new system, provide ticket selling machine data communication upgrades, provide new ticket office workstations at key stations, and allow capability for remote CCTV and elevator monitoring/control. The proposed 2010-2014 Capital Program includes $31 million for the project as well as $24 million included in the station elements. Connecticut Department of Transportation (CDOT) participation will supplement this funding.

Train Indication Infrastructure

A new train wheel counter detection system will be installed at each station for accurate

train tracking in support of the rollout of the latest customer information technology that will provide real-time performance information at all East of Hudson stations. The proposed 2010-2014 Capital Program includes $19 million for the project. Connecticut Department of Transportation (CDOT) participation will supplement this funding.

Other Communications and Signals projects

The remainder of the communications and signals projects include replacement of: MNR's share of federal program to improve signal capacity from Croton-Harmon to Poughkeepsie; fiber/communication and signal cables; the field code system at Mott Haven; track relays on the Harlem and Hudson lines; electric switch machines; high cycle relays; the PBX; mobile/portable radios, rolling stock radios and public address equipment; and radio base station equipment. Total cost of the remaining projects in the proposed 2010-2014 Capital Program is $40 million.

MTA METRO-NORTH RAILROAD
POWER
CATEGORY M-605

There are 387 route miles and 795 track miles that constitute the Metro-North system in New York State and Connecticut. Of that amount, 545 track miles are electrified with 256 track miles of DC 3rd rail power and 289 track miles of AC catenary power. The power supply for this system in New York State includes 49 DC substations, seven AC substations and three yard distribution systems. The long-term objective of investments in this area is to maintain the condition of the existing assets and increase traction power capacity to support current service levels and projected service growth over the next 20 years.

The Proposed 2010-2014 Capital Program

The proposed 2010-2014 Capital Program allocates $127 million, or approximately 7 percent of the total capital program budget, to power projects. Approximately 60 percent of this budget is allocated to two projects.

Substation Bridge 23

This project will replace the existing Substation Bridge 23 located at Mount Vernon East. This project is necessary as the substation has reached the limit of its electric traction power capacity, is the only feed to the New York State portion of the New Haven Line and also requires replacement to prevent the leakage of potentially hazardous materials. Total cost in the proposed 2010-2014 Capital Program is $36 million.

Harlem/Hudson Power Improvements

This project will continue the multi-program phasing of improvements recommended in the Traction Power Study completed under the 2000-2004 Capital Program. These improvements are required to support the future growth in ridership and service and to reduce equipment failures due to low voltage conditions. The traction power system is currently limiting capacity in some locations system-wide, in particular on the Upper Harlem Line. Therefore, this project includes additional funding to complete a combination of substations on the Upper Harlem Line and upgrade circuit breaker houses at 86th St., 110th St., and Claremont Parkway, and complete a Hudson Line siting study to develop recommendations for Hudson Line traction power improvements and to construct new Hudson Line Substations. Power projects and Communications and Signal projects, in combination with track work previously completed, will provide Metro-North with the ability to improve schedule flexibility and to add needed service. Total cost in the proposed 2010-2014 Capital Program is $42 million.

Other Power Projects

Other power projects include: renewal of Harlem and Hudson Line substations, replacement of motor alternator power supplies for signal power; Harlem River Lift Bridge breaker houses and motor controls; cyclical replacement of substation batteries; construction of the Park Avenue Tunnel and Viaduct Alarm system; and replacement of sectionalizing switches. Total cost in the proposed 2010-2014 Capital Program of the remaining projects is $49 million.

MTA METRO-NORTH RAILROAD
SHOPS AND YARDS
CATEGORY M-606

Metro-North operates 11 shops and/or yard facilities system-wide, including three shops at diesel/electric yards (Brewster, Harmon, Highbridge), two diesel yards East of Hudson (Poughkeepsie and Wassaic) and two diesel yards West of Hudson (Port Jervis and Woodbine), one electric yard at North White Plains, Grand Central Terminal and two yards for non-revenue equipment at MO Tower and Mount Vernon West. The shop and yard facilities provide for fleet storage, maintenance and inspection services. Metro-North's long-term shops and yards strategy is to upgrade and adequately size these facilities to accommodate additions to the rolling stock fleet (such as the M-7 electric cars), to support the Reliability Centered Maintenance program, to improve On-Time Performance, and to ensure customers are provided with a safe, reliable and comfortable ride. In support of the long-term strategy, Metro-North will continue to replace and upgrade its shop and yard infrastructure at Croton-Harmon yard and other critical locations to meet the demands of the current (and planned) fleet, and support efficient operating and maintenance practices.

The Proposed 2010-2014 Capital Program

There are three major projects within the $449 million shops and yards allocation (approximately 24 percent) in the proposed 2010-2014 Capital Program. These projects address the replacement of outmoded facilities at the Croton-Harmon Shop, and improvements at the Wassaic Yard and Port Jervis Yard to expand train storage yard capacity to meet projected demand growth on the Harlem and Port Jervis Lines, respectively.

Croton-Harmon Shop Replacement

Continuation of the Harmon shop replacement program will consist of investments to support an expanded fleet of electric and diesel hauled rail cars and provide improved productivity as a result of a more modern and efficient complex that strives to separate maintenance functions and equipment. Phase I (South Diesel Yard) and Phase II (Site Preparation for the Coach and Locomotive Shops) were completed in the 2000-2004 Capital Program; Phase III (Coach and Locomotive Shops and Wheel True Facility) is underway in the 2005-2009 Capital Program. Phase IV will be the focus of the proposed 2010-2014 Capital Program. In Phase IV Metro-North will construct a Support Shop which will be the Mechanical Department's primary component repair and rebuild facility. Phase IV will also include an assessment to evaluate the existing main shop and make facility improvements required to support the equipment maintenance and inspection programs, with continued emphasis on Reliability Centered Maintenance. This structure will be constructed adjacent to the existing Material Distribution Center to facilitate the movement of parts and material between the two facilities and will maintain space for a number of other campus-wide support functions such as Quality Control, Engineering, Training and Production, and Maintenance Planning. Total cost in the proposed 2010-2014 Capital Program is $414 million.

Wassaic Yard Improvements

Funds are allocated for extension of two yard tracks that will allow both tracks to be used for the storage of full-length through trains, increasing the usable capacity of the yard from 23 to 38 spots to address increases in service demand on the Harlem Line. Total cost in the proposed 2010-2014 Capital Program is $3 million.

Port Jervis Yard Improvements

To meet the service plan requirement for two additional trains and longer trains on the Port Jervis Line, this improvement will provide the design of a two track storage yard expansion, and construction of one additional yard storage track and service aisle, an increase to yard spots from 58 to 71. Other supporting services and facilities will be constructed as well. Total cost in the proposed 2010-2014 Capital Program is $7 million.

Other Shop and Yard Improvements

Other shop and yard projects will cover various priority needs including potential purchase of land for right-of way and/or yard expansion and potential funding for improvements to Poughkeepsie Yard (with funding partners). Total cost in the proposed 2010-2014 Capital Program for these shop and yard improvements is $25 million.

MTA METRO-NORTH RAILROAD
MISCELLANEOUS
CATEGORY M-608

Projects in this area provide for costs associated with the support and management of the Capital Program and projects with program-wide applicability such as system-wide environmental remediation, protective liability coverage, independent engineer services, value engineering services, scope development and security. Total cost in the proposed 2010-2014 Capital Program is $100 million.

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MTA BUS COMPANY

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MTA BUS COMPANY
2010-2014 CAPITAL PROGRAM
OVERVIEW

The MTA Bus Company operates the 10th largest bus fleet in the United States and Canada, serving nearly 400,000 riders daily. With a fleet of over 1,300 buses and approximately 3,400 employees, the agency operates 45 local bus routes serving the Bronx, Brooklyn, and Queens and 35 express bus routes between Manhattan, the Bronx, Brooklyn, and Queens. In 2008, the MTA Bus Company provided approximately 121 million trips to riders. The Bus Company's round-the-clock service complements and is coordinated with subway, train and bus services provided by other MTA agencies.

MTA Bus was created in September 2004 to merge into one organization the services formerly provided by seven private bus companies under franchise agreements with the City of New York. Those companies included: Command Bus, Green Bus Lines, Jamaica Bus, Liberty Lines, New York Bus Company, Triboro Coach, and Queens Surface. Transition of service began in January 2005 and was completed in February 2006.

MTA Bus inherited a substantial bus fleet and maintenance network, all requiring significant operating and capital improvements. The fleet consisted of 15 different bus models with an average age of over 13 years. The depots varied in condition and age, with several built before the 1950s. MTA Bus operates eight depots, including: Baisley Park, College Point, Eastchester, Far Rockaway, JFK, LaGuardia, Spring Creek, and Yonkers. The City of New York owns three of the depots (College Point, Spring Creek and Yonkers) and leases the others from private owners.

Prior to the creation of the Bus Company, service was irregular, maintenance was substandard, bus reliability was poor, and passengers' discomfort and dissatisfaction were high. Since assuming control of operations, MTA Bus has already taken many steps to improve customers' experience and satisfaction.

Improving service - with adjustments in service and schedules, better maintenance, new buses, and upgraded facilities - is a top priority for MTA Bus. Through evaluations of customer demand and operating constraints, MTA Bus has addressed a number of fundamental areas, making improvements in running times, crowding, service frequency, hours of service, and route structure. These efforts have increased ridership 10 percent on weekdays and 14 percent on weekends. A centralized Road Operations Unit, Training Center, and Command Center have been introduced to ensure consistent service.

The agency also has instituted new maintenance practices, including scheduled operation inspections, heavy scheduled overhauls of undercarriage components every three years, exterior bus painting, engine in-chassis overhauls, and other measures. These steps have helped to more than double fleet reliability by increasing its MDBF (mean distance between failures) from 2,154 miles in 2005 to 4,631 miles in 2008.

With approved capital funds to date, the Bus Company is procuring a total of 931 new buses. Through May 2009, 783 new buses have entered the fleet, including 475 high-capacity coaches for express service and 308 hybrid-electric standard buses for local service. An additional 81 hybrid-electric standard buses and 22 express buses are on order and are expected to enter

service by 2010. Another 45 standard buses will be procured in 2009 and delivered in 2010. The new buses have enabled retirement of overage and unreliable fleets and reduced the fleet average age to approximately seven years. In the process, the MTA Bus fleet has become more environmentally friendly with the introduction of low-emission technology, such as hybrid-electric propulsion and ultra-low sulfur fuel.

The Bus Company has also made numerous initial improvements and repairs to facilities. These include: asbestos abatement, electrical repairs, regulatory testing and repairs, select structural modifications and equipment replacement to accommodate new buses, installation of tailpipe exhausts, upgrade of paint booths, battery rooms and fire protection systems, and replacement of depot roofs and ventilation systems.

Though these efforts have yielded much success, more is needed and the proposed capital program builds on these successes.

THE PROPOSED 2010-2014 CAPITAL PROGRAM

The MTA Bus Company's proposed 2010-2014 Capital Program, totaling $325 million, provides the resources needed to restore, replace, and modernize significant portions of the agency's fleet and infrastructure. Table 7 identifies these investments by asset category.

Table 7
MTA Bus Proposed 2010-2014 Capital Program
by Investment Category
($ in millions)

Category	Proposed 2010-2014	Percent
Bus Company Projects:		
- Buses	$212	65%
- Facilities and Equipment	95	29%
- Program Administration	17	5%
Total	**$325**	**100%**

Numbers may not total due to rounding

Bus fleet and depots are the core of MTA Bus' service. Highlights of the plan follow.

Bus Fleet

The proposed 2010-2014 Capital Program includes $212 million to purchase a total of 290 new buses, including: 37 high capacity express buses, 72 articulated buses and 181 standard buses. MTA Bus will expand the fleet to meet ridership demands, and diversify the fleet with new types of buses to better meet different types of services. Of the total to be purchased, 17 buses are intended for growth and the remainder will replace overage buses. Given current funding levels in the proposed 2010-2014 Capital Program, however, the number of overage buses at the end of the 5-year period will be approximately 65 buses, or 5 percent of the total fleet.

Facilities and Equipment

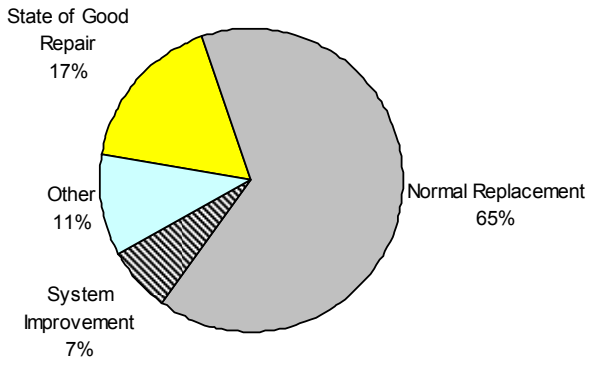
The proposed 2010-2014 Capital Program includes $95 million for facility and equipment

investments. This includes upgrading bus washers and HVAC systems, installing a new elevator at College Point, providing a new green roof at Far Rockaway, improving security, and providing a new apron at JFK depot, as well as purchasing depot equipment and service vehicles. It also includes upgrading CNG systems at Spring Creek and College Point and modifying Baisley Park and JFK to support the new articulated buses that will be assigned there. Development of a system is proposed (in concert with NYC Transit) to provide real-time bus location and arrival information to customers.

Program Administration
Funds totaling $17 million are set aside for in-house staff support of the projects proposed in the 2010-2014 Capital Program.

SYSTEM CONDITION
Figure 5 illustrates the mix of investments by needs category in the proposed 2010-2014 Capital Program. The program continues the MTA Bus emphasis on achieving and maintaining a State of Good Repair by devoting over 80 percent of the funding to replacing fleet and restoring facilities.

Figure 5
MTA Bus 2010-2014 Capital Program
by Needs Category



Prior to MTA Bus assuming control of operations, the knowledge of the condition of the facilities was based on a 2002 visual survey of the private bus lines' assets and facilities. That study did not include new technology requirements, power upgrades or structural assessments. In general, as cited in the survey and compounded by the increase in service, all MTA Bus locations appeared inadequately sized for the fleet and require extensive repairs and upgrades to accommodate the fleet and personnel. New depots, central maintenance facilities and fleet storage locations are necessary, especially in light of expected population and economic growth in the City. A comprehensive equipment replacement program is necessary. Major structural renovations are required in each facility. In addition to the issues raised by the survey's visual findings, ongoing environmental issues are present at a number of locations. While these areas have begun to be addressed with allocations approved in the 2005-2009 Capital Program and those proposed in this program, more facility upgrades and rehabilitations will be required.

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MTA BUS COMPANY
PROGRAM PLAN

MTA BUS COMPANY
BUS COMPANY PROJECTS
CATEGORY U-603

The MTA Bus Company operates the 10th largest bus fleet in the United States and Canada, serving nearly 400,000 riders daily. The fleet of 1,327 buses operates on 45 local bus routes serving the Bronx, Brooklyn, and Queens and 35 express bus routes between Manhattan, the Bronx, Brooklyn, and Queens. As of the Spring of 2009, the fleet consisted of 740 standard buses for local service, and 106 standard buses and 481 high capacity buses for express service. Maintaining a normal cycle of bus replacement is critical for service reliability and the ongoing infusion of new technologies and improved environmental standards. The Bus Company's fleet strategy is to achieve and continue a Normal Replacement cycle based on a 12-year useful life for buses and to invest in new buses and clean fuel technologies such as hybrid-electric to reduce emissions. The average age of the fleet is approximately seven years.

The fleet operates out of eight depots. These include: Baisley Park, College Point, Eastchester, Far Rockaway, JFK, LaGuardia, Spring Creek, and Yonkers. The City of New York owns three of the depots (College Point, Spring Creek and Yonkers) and leases the others from private owners. The facilities are needed to collect revenue from buses, clean and fuel buses in preparation for service, perform routine maintenance and repairs, and store buses when not in operation. In addition to the maintenance areas, the depots have 13 bus washers and three paint booths.

The Proposed 2010-2014 Capital Program

The proposed 2010-2014 Capital Program includes a total of $325 million, including: $220 million for bus purchases, $87 million for facility and equipment projects, and $17 million for program administration. A total of 290 new buses will be ordered. These include 72 articulated ($66 million) and 181 standard ($131 million) buses for local service, and 37 high capacity coaches ($24 million) for express service. Total growth, in terms of "standard bus equivalents (SBEs), is approximately 4 percent as compared to the current fleet.

Facility improvements of $87 million feature upgrading bus washers and HVAC systems, installing a new elevator at College Point, and providing a new green roof at Far Rockaway. Upgrading the CNG systems at Spring Creek and College Point is also included as well as improving security at various locations. Baisley Park and JFK depots will be modified to support new articulated buses, which are being introduced into the fleet and will be assigned there. In addition, a variety of depot equipment and non-revenue vehicles will be procured to support operations, such as tow trucks, bucket trucks, forklifts, etc. Lastly, in concert with NYC Transit, MTA Bus proposes eight million dollars to fund development of a system to provide automated real-time bus location and arrival information to bus customers. (NYC Transit's proposed program includes $42 million, for a combined total proposed investment of $50 million in 2010-2014.)

MTA-WIDE SECURITY AND SAFETY

MTA-WIDE SECURITY AND SAFETY 2010 -2014 CAPITAL PROGRAM OVERVIEW

In the wake of the September 11, 2001 terrorist attacks on the World Trade Center, the MTA initiated a comprehensive review of its infrastructure to determine how to best protect its customers and key assets from a terrorist incident. Security experts defined critical vulnerabilities and determined appropriate protective strategies. The result of these efforts was the implementation of a multi-faceted program including operating and capital investments. The capital investments included hardening vulnerable assets and implementing the networks and equipment necessary to conduct targeted surveillance, control access, stop intrusion and provide command and control systems to support incident response. MTA began implementing these investments in the 2000-2004 Capital Program and will continue to progress this program in subsequent programs using Federal funds. While the program is being implemented, continuing police presence supplements these efforts. In addition, the program of investments and policing programs are constantly recalibrated and vulnerabilities reassessed based on up-to-the-minute security intelligence. As recognized in a recent NYS Comptroller's report, the overall security environment has been enhanced with the completion of many capital security improvements and the implementation of these other policing initiatives.

In the area of safety, the new Federal Rail Safety Improvement Act of 2008 (RSIA), which was passed on October 16, 2008 in response to some fatal train accidents on other properties, requires installation of Positive Train Control (PTC) on all commuter railroad main-line tracks. PTC is a technology that is capable of preventing train-to-train collisions, over-speed derailments, and injuries to workers as the result of unauthorized incursions by a train. The Act requires the development of an implementation plan by April 2010 and full implementation of PTC on main-line tracks by December 31, 2015. FRA is in the process of finalizing regulations to implement the Act. The Railroads have included funds for the development plan and some initial design work in their 2005 to 2009 Capital Programs; they have also included funds in their proposed core 2010-2014 Capital Program to upgrade signals that are required to support the PTC application. Given the extraordinary investment required to fulfill the requirements of this unfunded mandate, this category includes funds to implement PTC in compliance with RSIA. While initial estimates of cost for PTC are about $125 million higher than the allocation supported within this capital program, MTA will aggressively pursue Federal grants to fund the remaining need as well as to offset costs included in this program.

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Table 8
MTA-wide Security and Safety Proposed 2010-2014 Capital Program
($ in millions)

Category	Proposed 2010-2014
Capital Security Projects	$250
Capital Safety Projects	400
Total	**$650**

Capital Security Projects: The 2000-2004 Capital Program allocated $591 million for a program to advance an initial set of capital investments addressing the highest priority vulnerabilities, including $144 million of grant support from the Department of Homeland Security (DHS). Subsequent funding allocations, including capital program amendments have increased MTA funding to support these projects to a total of $842 million, including an additional $80 million of DHS grant support.

The 2005-2009 Capital Program originally allocated $495 million to fund the next phase of projects with the intent to pursue funding from Homeland Security and other federal sources. However, the federal level of support for Phase II, $87 million, has been significantly lower than provided in Phase I. As a result, MTA added $141 million of its own funds to progress $228 million of critical work.

For the 2010-2014 Capital Program, the MTA is proposing a $250 million security program to continue addressing capital security needs. This program will advance the next group of projects identified for investment. The MTA will continue to vigorously pursue funding from Homeland Security and other federal sources to fund these projects. In the absence of federal funds, alternate funding sources will be sought.

Capital Safety Projects: The 2010-2014 Capital Program proposes a $400 million capital safety program to support implementation of FRA-mandated Positive Train Control. This program, in conjunction with railroad core program PTC-readiness investments, provides resources to meet the current December 31, 2015 implementation deadline. While initial estimates of cost for PTC are about $125 million higher than the allocation supported within this capital program, MTA will aggressively pursue Federal grants to fund the remaining need as well as to offset costs included in this program.

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MTA-WIDE SECURITY AND SAFETY PROGRAM PLAN

Due to the sensitive nature of the security effort, the proposed 2010-2014 Capital Program identifies a single budgetary reserve for $250 million, which will be used to progress the next group of projects.

A single budgetary reserve of $400 million for PTC is also established, to be defined upon completion in 2010 of the implementation plan, which has been funded in the 2005-2009 capital program.

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MTA INTERAGENCY

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MTA INTERAGENCY
2010-2014 CAPITAL PROGRAM
OVERVIEW

The interagency section of the program includes several categories of investment that benefit the MTA family of agencies. It includes investments for the MTA Police, MTA Planning and MTA Headquarters.

The MTA's police department was included for the first time in the MTA's capital program as a separate investment category in the 2005-2009 Capital Program; it had previously been included in the agencies' capital programs. The MTA Police Department was consolidated in 1998 from separate departments at the Long Island Rail Road and Metro-North Railroad and subsequently added the Staten Island Rapid Transit Police in 2005. The proposed 2010-2014 Capital Program continues to fund the capital needs for the MTA Police Department, including a new headquarters facility, district offices and the police radio system, as a separate investment category in this section. (See Table 9)

Additionally, this section of the capital plan budgets for a number of MTA-wide integrated initiatives, including rehabilitation of MTA facilities to support the MTA-wide integrated systems business service center initiative and consolidate various inter-agency leaseholds and an allocation for Planning studies to support the MTA's capital program.

Table 9
MTA Interagency Proposed 2010-2014 Capital Program
($ in millions)

Category	Proposed 2010-2014
MTA Police Department	$85
MTA Business Service Center and Facilities Rehabilitation	259
MTA Planning Initiatives	56
Total	**$400**

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MTA INTERAGENCY PROGRAM PLAN

MTA INTERAGENCY
MTA POLICE DEPARTMENT
CATEGORY N-610

The MTA Police Department is responsible for ensuring the safety and security of MTA's customers, employees, and facilities throughout the MTA service area. The service area encompasses over 4,400 square miles covering 14 counties in New York and Connecticut. On January 1, 1998, the MTA consolidated the police forces of the LIRR and Metro-North Railroad under the jurisdiction of the MTA Police. Subsequently, the Staten Island Rapid Transit Police was added to MTA Police on June 1, 2005. Prior to the consolidation, capital improvements associated with police needs at these Operating Agencies were addressed as part of the respective agency capital programs. Building upon the work begun with the 2005-2009 Capital Program, the MTA PD 2010 -2014 Capital Program will continue to assist the MTA Police to accomplish its mission of providing safety/security throughout the MTA network.

The Proposed 2010-2014 Capital Program

The MTA Police Department's proposed 2010-2014 Capital Program includes projects to invest in facilities and communication systems to allow the Police to effectively protect our customers and the overall transportation system (Table 10).

Table 10
MTA Police Department Proposed 2010-2014 Capital Program
by Investment
($ in millions)

Project	Proposed 2010-2014
Staten Island District Office	$12
Nassau County District Office	13
Public Safety Radio - Phase 2	60
Total	**$85**

Numbers may not total due to rounding

Staten Island District Office: District 9

The MTA Police Department will work with the Staten Island Railway (SIR) to construct a facility on Staten Island to be used as the District 9 Office. Currently, MTA Police personnel for this district share space with personnel at an existing SIR Maintenance of Way facility. The space allocated for police personnel does not provide adequate facilities to operate an effective District Office, resulting in overcrowding and use of other police facilities outside MTA's jurisdiction to complete necessary functions. Total cost in the proposed 2010-2014 Capital Program is $12 million.

Nassau County District Office: District 2
The MTA Police Department will work with MTA Real Estate to secure property and construct a facility in Nassau County to be used as the District 2 Office. As a result of the pending sale of the Mineola facility, personnel for this district currently report out of mobile trailers located in Garden City on Commercial Avenue. The trailers and land where they are located is costly to rent and does not provide adequate facilities required to operate an effective district office. Total cost in the 2010 -2014 Capital Program is $13 million.

Public Safety Radio – Phase 2
The goal of this investment is to have a dedicated MTA Police public safety radio system, built seamlessly to ensure system-wide radio coverage, allowing future interoperability among participating agencies and standardization of one system for the MTA Police. The 2005-2009 Capital Program included $45 million to fund design and early construction work intended to integrate the MTA police radio system with the New York State Wireless Network. However, with the future of this statewide system uncertain, alternative approaches for integrating the MTA Police system are being evaluated; design and construction will be advanced upon completion of this evaluation. The proposed 2010-2014 Capital Program adds $60 million to support this next phase of this project.

MTA INTERAGENCY
BUSINESS SERVICE CENTER / FACILITIES REHABILITATION
CATEGORY N-611

In April 2005 the MTA board commissioned the consulting firm Booz Allen Hamilton to assess the feasibility of implementing a shared services organization across the MTA and its operating agencies. The areas reviewed include Finance, Human Resources and Information Technology. The study concluded that the MTA could realize efficiencies by streamlining back-office processes into a Business Service Center. The Center could achieve substantial long term savings.

In 2009 MTA undertook to implement the Business Service Center plan with $45 million in contracts funded from the 2005-2009 Capital Program to extend the Metro-North and MTA Headquarter PeopleSoft Platform through out the MTA. To complete this work, an additional $75 million is required in the 2010-2014 program.

The MTA's Business Service Center will be located in the former NYC Transit headquarters building at 370 Jay St. in Brooklyn (418,000 square feet). This building offers the MTA an opportunity to satisfy a number of its office space needs, both short and long term; since the building is largely unoccupied, it enables the gradual occupancy needed for the planned ramp up of the shared services initiative and will also allow MTA to reprogram other MTA leased spaces such as 180 Livingston St., 3300 Northern Blvd.and 340 Flatbush Avenue. To meet the above described needs, the building will require a full interior (gut) rehabilitation as well as the replacement of the façade and all windows. The expected cost for this project is $184 million.

Table 11
MTA Business Service Center/Facilities Rehabilitation
Proposed 2010-2014 Capital Program
by Investment
($ in millions)

Project	Proposed 2010-2014
MTA Business Service Center	$75
Jay St. Building Rehabilitation	184
Total	**$259**

MTA INTERAGENCY
MTA PLANNING INITIATIVES
CATEGORY N-612

The proposed 2010-2014 Capital Program includes funds for various planning initiatives to support ongoing research and analytical activities in support of the MTA's Long Range Planning Framework which identifies long term capital transportation needs and solutions to address those needs. Budgeted activities include:

- $13 million is allocated for Modeling and Surveys for compliance with federal planning guidelines and upgrading MTA's travel model:
  - Maintaining and upgrading MTA's ridership model used to identify the need and conceptual scope for the MTA's network expansion projects and other key initiatives. In the past this model supported the development of the Second Avenue Subway, East Side Access and the #7 Extension projects which are now all underway. This model will be used for all future network expansion planning and analysis as well as other critical MTA planning initiatives.
  - Conducting travel surveys to remain eligible for New Starts funding (each survey costs between $2 and $3 million).
  - Strategic planning evaluations responding to short and long term policy questions, such as new regional rail initiatives and analyses of regional trends

- This program also includes $13 million in planning funds to initiate or continue research into travel corridors in need of congestion relief and greater connectivity as identified in the MTA Twenty Year Needs Assessment:
  - Queens Blvd. Corridor Study
  - Staten Island North Shore Corridor Study
  - Staten Island West Shore Corridor Study
  - Regional Bus Study

- Finally, this program also includes $30 million for the MTA share to complete the Tappan Zee Bridge Rail Study, progressed jointly with the New York State Department of Transportation and the New York State Thruway Authority. This will cover the work necessary to complete the draft and final environmental impact statements and achieve an FTA record of decision (ROD) for both the highway and transit strategies in the corridor.

Table 12
MTA Planning Initiatives Proposed 2010-2014 Capital Program
by Investment
($ in millions)

Project	Proposed 2010-2014
MTA Long Range Core Planning Support	$13
MTA Long Range Corridor Planning Support	13
Tappan Zee Bridge Rail Study	30
Total:	**$56**

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MTA CAPITAL CONSTRUCTION
COMPLETING CURRENT EXPANSION PROJECTS

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MTA CAPITAL CONSTRUCTION
2010-2014 CAPITAL PROGRAM
OVERVIEW

In July 2003, the MTA Board authorized creation of the MTA Capital Construction Company (MTACC) as a new subsidiary with the specific mission to plan, design, and construct major MTA system expansion and security projects for the operating agencies. Since that time, the MTACC's expansion portfolio has focused on the construction of East Side Access, which will bring Long Island Rail Road commuters into Grand Central Terminal; and the initial phase of a new Second Avenue Subway, which will relieve the pressure on New York City Transit's overcrowded Lexington Avenue Line and improve access to downtown Manhattan. In addition, the MTACC has been responsible for the construction of several other large scale projects. The extension of the #7 subway line to support the redevelopment of the far West Side of Manhattan is funded by the City of New York and is carried in its entirety in the 2005-2009 Capital Program. The construction of a new subway terminal at South Ferry and the construction of the Fulton St. Transit Center are largely federally funded, although local funds have also been provided to complete each of these. Finally, MTACC is responsible for the implementation of inter-agency security investments.

Since the MTA 2005-2009 Capital Program was first approved, these key projects have seen significant progress. Full Funding Grant Agreements have been secured for both East Side Access and the Second Avenue Subway, ensuring the receipt of $3.9 billion in financial support from the federal government. Ground has been broken to construct the first phase of the Second Avenue Subway, as well as the #7 line extension. East Side Access also reached project milestones when two massive tunnel boring machines (TBM) recently completed excavation of four tunnel tubes in Manhattan. Work has also begun on the new caverns to be mined under Grand Central Terminal.

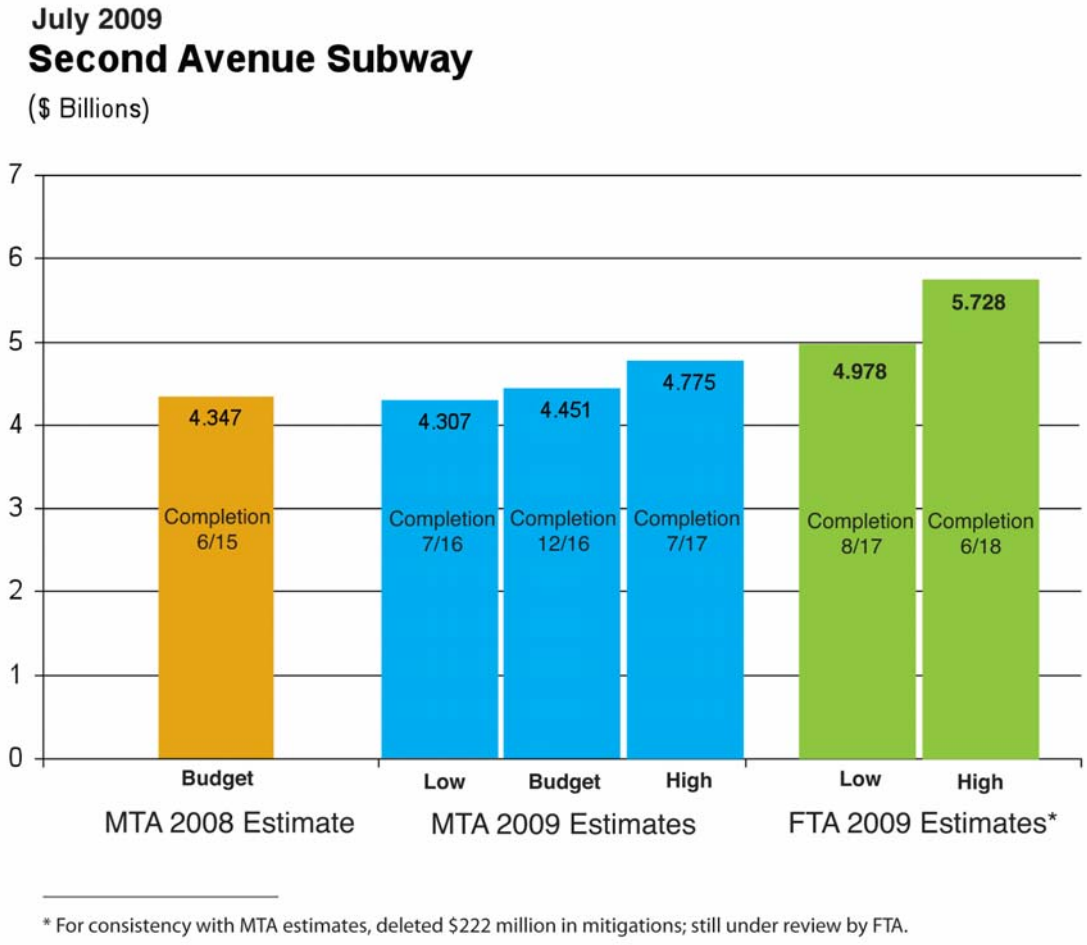
While these and other noteworthy accomplishments have moved these two projects toward completion, last year the MTA launched a comprehensive review in reaction to growing costs and delays. The process began with a 30-day review in March 2008 with the assistance of the retiring head of the MTA's Capital Construction Company. This review yielded revised budgets and timetables for each project but also made clear, by identifying a risk reserve, that a more comprehensive study was necessary to fully understand new risks associated with an overheated construction market and the limited pool of contractors available for such large, complex projects.

The MTA's comprehensive review is now complete. The MTA Capital Construction Company, the Office of Construction Oversight (OCO) and the Independent Engineering Consultant (IEC) have fully reviewed the cost and schedule and allocated the risk contingencies as necessary to the project budgets.

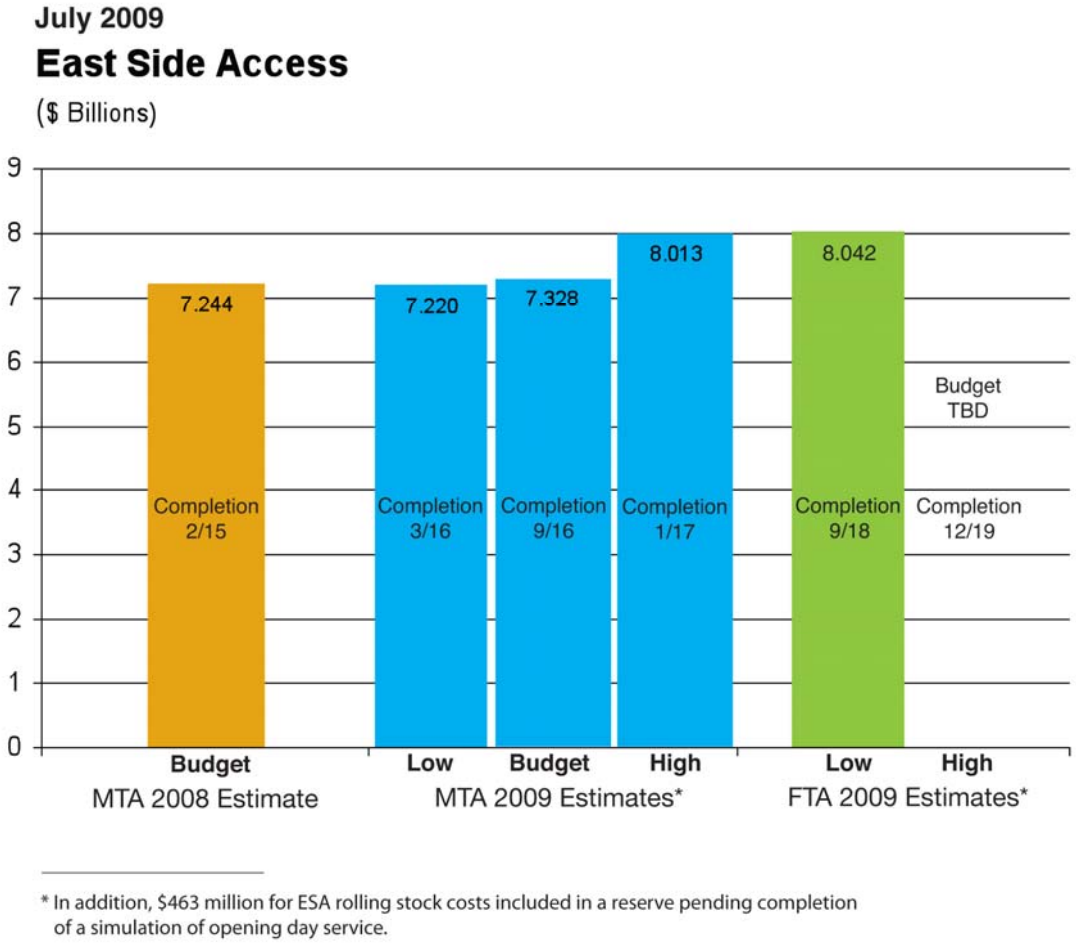
Concurrent with this review, the Federal Transit Administration has been independently evaluating the costs and schedules of these projects based on risks identified by virtue of lessons learned on mega projects nationwide; their review is still ongoing. While these reviews have resulted in differing estimates as described below, both have identified a range of risks as well as mitigation and management strategies for controlling cost and schedule.

MTA and FTA SAS and ESA Review Results:

Both MTA and FTA now believe that it is prudent to consider the costs and schedule of mega projects as ranges that bracket the lower and higher cost and schedule scenarios for each project and accordingly we have each developed risk-based ranges. While more work is pending between MTA and FTA staffs, the MTA has gone a step further than the FTA and developed a specific budget and schedule based on risk mitigation opportunities. Based on our ability to mitigate risks contained within the range, the MTA has defined a budget and schedule within the range for each project that we have confidence we can manage to and deliver. The results based on this approach are summarized on the charts below:



* For consistency with MTA estimates, deleted $222 million in mitigations; still under review by FTA.



* In addition, $463 million for ESA rolling stock costs included in a reserve pending completion of a simulation of opening day service.

MTA expects to continue to work with FTA on their ongoing evaluation in order to agree on a mitigation strategy for each project that will align FTA's range with each project's MTA budget and schedule. FTA has indicated that MTA can achieve its budget estimate with the implementation of new integrated decision-making processes.

Management Plan to Mitigate Risks:

To manage to and deliver the new budgeted cost and schedule for each project, MTA will do the following:

- Address cost increases since last March in this proposed Capital Program by allocating some of the reserves previously identified in the March 2008 review to the projects and by mitigating some of the identified costs immediately.

- Expand the risk reviews conducted by the OCO and the IEC to cover every significant contract for these projects, with a focus on identifying and then monitoring all available risk mitigation opportunities in order to ensure that the budget does not move higher up in the range.

- Immediately implement the risk identification, rating and prioritization analyses as recommended by FTA in the areas of:

    - requirements;
    - design and pre-construction;
    - project delivery;
    - early construction with a focus on geotechnical/utility/environmental risks;
    - mid-range construction; and
    - start-up / substantial completion of construction.

- Expedite agreement with FTA on a mitigation strategy for each project, including implementation of integrated decision-making processes, to align FTA and MTA cost and schedule. Monitor management conformance with mitigation strategies and processes and evaluate the timeliness and effectiveness of their implementation.

These efforts will track each component of these projects more closely and will allow CCC to respond before cost increases and delays are incurred.

While completion of these projects presents challenges, the revised budgeted costs for these projects are fully funded in this Capital Program; the 2010–2014 Capital Program proposes to award all contracts needed to complete the first phase of the Second Avenue Subway and East Side Access. Table 13 sets forth the funding commitment necessary to accomplish this work. With this fuller understanding of the project costs, risks and mitigation strategies associated with these "mega" construction projects, CCC can adhere to these budgets and schedules despite difficult conditions. The FTA's assistance in identifying mitigation strategies will also ensure the delivery of these projects, which are critical to our region's transportation network.

THE PROPOSED 2010-2014 CAPITAL PROGRAM

The proposed 2010-2014 Capital Program includes funding required to complete Phase 1 of the Second Avenue Subway, the East Side Access Project, regional investments to support the East Side Access improvements and enhance travel quality, an ESA rolling stock and liability reserve and miscellaneous project costs. A total of $5.739 billion is proposed.

Table 13
MTACC Proposed 2010-2014 Capital Program
By Investment Category
($ in millions)

Project	Funding In Prior Capital Program(s)	Proposed 2010-2014	Project Total
Second Avenue Subway (Phase I)	$2,964	$1,487	$4,451
East Side Access	4,374	2,954	7,328
Regional Investments	0	401	401
ESA Rolling Stock and Liability Reserve	0	697	697
Miscellaneous	91	200	291
Total	**$7,429**	**$5,739**	**$13,168**

Numbers may not total due to rounding

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MTA CAPITAL CONSTRUCTION PROGRAM PLAN

MTA CAPITAL CONSTRUCTION
SECOND AVENUE SUBWAY
CATEGORY G-610

The purpose of the full-length Second Avenue Subway (SAS) is to address the problems and deficiencies in access and mobility associated with an overburdened transit infrastructure that is struggling to accommodate existing customers as well as new customers from the continuing growth of Manhattan's East Side.

The East Side is densely populated with residential, retail, and commercial office use. Every day, more than two million people travel in the area that would be served by a full-length Second Avenue Subway as they commute to and from work. Over three-quarters of people working in the area use the subway, bus, rail, or ferry to get to and from their jobs during rush hours.

NYC Transit's Lexington Avenue subway is the only north-south route serving the East Side. Carrying more passengers than any other subway line in the United States, the "Lex" alone carries 1.3 million riders each weekday, which is greater than the ridership of the entire transit systems in San Francisco, Chicago, and Boston combined.

The Lexington Avenue service operates significantly above guideline capacity during peak hours, resulting in overcrowded trains, congested stations, and delays for customers. During the morning peak hour, 29 southbound trains per hour are scheduled to run on the Lexington Ave. express line. However, due to the frequent congestion south of 125th St., only 25 or fewer trains depart Grand Central-42nd St. during the peak hour. Because of excessive congestion, travel times are markedly longer than at other times, reducing service levels.

In addition, because the Lexington line is the only route serving most of the East Side, residents and workers often have to contend with poor access and long walks to and from the subway.

The Second Avenue Subway will address all of these issues, providing additional service and access to the East Side's dense residential, commercial and retail populations, and relieving overcrowding and service limitations currently experienced on the Lexington Avenue line by hundreds of thousands of people who travel to, from, and through the East Side of Manhattan.

Project Description

The goal of the project is to relieve crowding and improve reliability on the Lexington line and to improve mobility for commuters on Manhattan's East Side and throughout New York City and the metropolitan area. Numerous alternatives have been developed and analyzed for a new Second Avenue Subway since it was first conceived in the 1920s. The project is the result of the MTA's MESA (Manhattan East Side Alternatives) major investment study and subsequent environmental impact statements.

Specific project construction details for the full length SAS include:

- Construction of a two-track 8.5 mile subway line from 125th St. to Lower Manhattan
- Connection to the rest of the subway system via the 63rd St. line
- Construction of 16 new, fully accessible subway stations
- Construction of new transfers with other MTA services, including 125th St. (serving Metro-North and NYC Transit passengers) and Grand St. Other transfers are being evaluated for 55th, 42nd, 14th, and Houston Sts.

The full-length Second Avenue Subway will provide two new subway services. One will operate along the full length of the route between 125th St. and Hanover Square. The other will operate along Second Ave. from 125th St. to 63rd St., then travel west along the existing 63rd St. line and join the Broadway (N/R/Q/W) line via an existing connection and serve express stations along 7th Ave. and Broadway before crossing the Manhattan Bridge to Brooklyn. Passengers traveling to Lower Manhattan on this line can transfer to local services for destinations south of Canal St.

The project will be implemented to provide for four operational phases. These could potentially overlap and include: 1) 105th St. to 62nd St., including connection to the 63rd St. line; 2) 125th St. to 105th St.; 3) 62nd St. to Houston St.; and 4) Houston St. to Hanover Square. The MTACC is currently progressing Phase 1, which extends from 105th St. and Second Avenue to 63rd St. and Third Avenue with new stations along Second Avenue at 96th, 86th, 72nd and new entrances to the existing Lexington Ave./63 St. Station at 63rd St. and Third Avenue. By 2030, SAS Phase I is projected to carry 191,000 riders.

The total project cost for Phase I of the Second Avenue Subway is estimated to be $4.451 billion with a Revenue Service date of December 2016.

Prior Program Highlights/Accomplishments

The 1995-1999 Capital Program

- Funded the MESA (Manhattan East Side Alternatives) study.

The 2000-2004 Capital Program

The 2000-2004 Capital Program included $1.05 billion to complete planning and environmental studies, begin design, acquire real estate, and begin construction of the initial contracts of the first phase of the project. Major highlights include:

- Started preliminary engineering for all phases in December 2001. P.E. for Phase 1 was completed in May 2004.
- Completed Draft Environmental Impact Statement in March 2003
- Completed the Final Environmental Impact Statement in April 2004 with FTA approval.
- Received Record of Decision from FTA in July 2004.
- Awarded Contract One: construction of tunnels for two tracks using a tunnel boring machine from 92nd St. to 62nd St. A tunnel section built in the 1970s between 96th St. and 105th St. will be incorporated into the work, and will provide for train storage. March 2007
- Reached a Full Funding Grant Agreement with the FTA for $1.300 billion in November 2007
- Began acquisition of required real estate interests.

The 2005-2009 Capital Program

The 2005-2009 Capital Program contains $1.914 billion to continue Phase 1 construction. Major highlights include:

- Completed design of Phase 1.
- Awarded contracts to build the structural cavern for the 96th St. station (May 2009) and

relocate utilities in the 86th St. Station area (July 2009).
- Contracts for structural work for new stations at 72nd St. and 86th St.
- Rehabilitation of the existing 63rd St. Station.
- Begin installing the necessary systems and equipment to operate the new line, including signals, pumps, lighting, and fans.

The Proposed 2010-2014 Capital Program

The proposed 2010-2014 Capital Program contains $1.487 billion to complete construction of Phase 1. All elements of project management, design, construction management, insurance, and real estate necessary to support construction are also funded. The program includes the following major construction elements:

- Installing finishes and equipment in the three new stations at 96th St., 86th St., and 72nd St.
- Completing installation of track and systems from 105th St. to 63rd St.

Funds totaling $2.964 billion have been allocated in the MTA's 2000-2004 and 2005-2009 Capital Programs. The balance of funds required to complete Phase 1 are being requested in this program. The SAS project Federal Full Funding Grant Agreement approved in November 2007 will provide $1.3 billion in federal new starts funds. Through June 2009 the project has committed almost $1.5 billion and expended $720 million.

MTA CAPITAL CONSTRUCTION
EAST SIDE ACCESS
CATEGORY G-609

Improved access between the Long Island transportation corridor (Suffolk, Nassau and Queens counties) and the East Side of Manhattan is recognized as a critical transportation link in the New York Metropolitan region. The roadways, transit system, and Pennsylvania Station, which serve this area, have reached their capacity and restrict travel options for residents and commuters in the region. The creation of direct LIRR service from the Long Island/Queens corridor into Grand Central Terminal (GCT) will have a number of significant regional transportation benefits. They include providing the LIRR with more opportunities to maintain and capture a greater share of the Long Island/Queens-to-Manhattan commuter market by offering more services and better reliability into Penn Station. Furthermore, after completion, ESA is expected to provide more than 160,000 rides per day. The travel time savings and convenience of the new service will directly benefit the 76,000 daily customers who will use the new terminal as well as provide a significant benefit to the over 30,000 daily customers who currently arrive at Penn Station on overcrowded trains.

Project Description

The East Side Access Project will connect the Long Island Rail Road's Port Washington and Main Lines to a new station at GCT. The connection will be made by constructing seven miles of new tunnels (3.5 miles in each direction) beginning in Queens, going under Amtrak's Sunnyside Yard, connecting to the lower level of the existing 63rd St. tunnel, and traveling under Park Ave. in Manhattan to reach GCT. Tail tracks under Park Avenue will extend to 38th St.

Specific project construction details include:

- Construction of a new LIRR station at GCT
- Construction of a new concourse and entrances at GCT
- Construction of a new mid-day storage yard in Queens
- Complete construction and reconfiguration of LIRR's Harold Interlocking, including boring soft ground tunnels in Queens under Sunnyside Yard
- Reconstruction of a portion of Yard A for storing trains that serve GCT
- Complete excavation of tunnels in Manhattan using Tunnel Boring machines

The total project cost for bringing the LIRR to GCT is estimated to be $7.328 billion with a Revenue Service date of September 2016.

Major milestones and forecasts

Start Preliminary Design	March 1999
Obtain Record of Decision	May 2001
Start Early Construction Activities	September 2001
Award TBM Tunneling	July 2006
Award of the FFGA	December 2006
Complete Construction	September 2016
Begin Revenue Service to GCT	September 2016

Prior Program Highlights/Accomplishments

The 1995-1999 Capital Program

The 1995-1999 Capital Program included $157.7 million to fund preliminary engineering, preparation of the final environmental impact statement and early construction activities of ESA.

The 2000-2004 Capital Program

The 2000-2004 Capital Program included $1.5 billion of ESA funds and $33.5 million in non-ESA funds to continue design and to begin construction of major elements of the project. This included the following:

- Clean-up and preparation of the existing LIRR yards in Sunnyside, Queens and excavation of the existing 63rd St. tunnel bellmouth structure. This work is completed.
- Construction of a new Metro-North Railroad Highbridge maintenance facility and storage yard in the Bronx, replacing MNR's Madison Avenue Yard in GCT. This work is completed.
- Construction of the Arch St. LIRR Maintenance and Repair facility for the rail cars that will support LIRR's GCT service. This work is completed.
- Major demolition, civil and structural work and relocation of existing MNR tracks in the GCT Madison Avenue Yard in preparation of future construction of a passenger concourse for LIRR passengers. This work is on-going.
- Open-cut excavation adjacent to the existing Sunnyside Yard in Queens and construction of permanent tunnel structures. This work is on-going.
- Excavation of tunnels and station caverns in Manhattan from the existing 63rd St. tunnel at 2nd Ave. to the new station at GCT. This work is on-going.
- Procurement underway of long lead materials for force account construction at Harold Interlocking and construction of new interlockings.

The 2005-2009 Capital Program

The 2005-2009 Capital Program contains $2.672 billion in ESA funds and $10.5 million funded directly in the LIRR capital program to continue major construction elements. All elements of project management, design, construction management, insurance, and real estate necessary to support construction are also funded. The program includes the following major construction elements:

- Construction of the new tunnels in Manhattan
- Construction and fit-out of the new LIRR concourse and mezzanines at GCT
- Begin the reconfiguration of the Harold Interlocking
- Construction of bored tunnels under Sunnyside Yard and Harold Interlocking in Queens
- Purchase/acquisition of required real estate interests

The Proposed 2010-2014 Capital Program

The proposed 2010-2014 Capital Program contains $2.954 billion in ESA funds to complete the construction and begin revenue service in 2016. All elements of project management, design, construction management, and insurance necessary to support construction are also funded. The program includes the following major construction elements:

- Construction and fit-out of the new LIRR concourse and mezzanines at GCT
- Construction of new entrances for LIRR customers at Grand Central Terminal
- Reconfiguration of the Harold Interlocking and yard lead
- Construction of a mid-day storage yard in Queens for rolling stock
- Construction of ventilation, track, power, signals and ancillary systems
- Procurement of electric rail cars for opening day service (some rolling stock costs are

included in the reserve described later in this section pending a full simulation of opening day fleet needs)

The scope of the East Side Access project remains unchanged. Funds totaling $4.374 billion have been allocated in the MTA's 1995-1999, 2000-2004 and 2005-2009 Capital Programs. The balance of funds required to complete the project is being proposed in this program. The ESA project Federal Full Funding Grant Agreement approved in December 2006 will provide $2.632 billion in federal new starts funds. Through June 2009, the project has committed $2.7 billion and expended almost $1.6 billion.

MTA CAPITAL CONSTRUCTION
REGIONAL INVESTMENTS
CATEGORY G-614

Regional Investments

In the course of designing the East Side Access project, the MTA identified $401 million in additional investments to be progressed concurrently with East Side Access in this capital program in order to achieve ESA revenue service. These investments, while not required to meet the ESA project objectives, are necessary to meet the operational flexibility of the LIRR, Amtrak and New Jersey Transit within Harold Interlocking and Sunnyside yard and contribute to the long term growth potential in the region.

Regional investments include work at Harold interlocking, serving the busiest passenger rail corridor in the United States. The introduction of ESA service will result in an additional 24 trains in the peak hour traveling through this already busy interlocking. The MTA's Metro-North Railroad is also assessing the feasibility of bringing trains from the Hudson Valley and Connecticut through Harold to Penn Station. Recognizing the long term regional benefit of building an operationally "robust" complex through Harold interlocking that would accommodate the future needs of the LIRR, Amtrak, N.J. Transit and MNR, regional investments will provide critical operational flexibility for all the railroads to meet their long term service plans. Proposed investments include: an East Bound Reroute, which eliminates existing train conflicts between Amtrak and LIRR and increases speeds heading east and north; a West Bound Reroute, which will allow Amtrak and MNR to travel through the Harold complex without conflicting with trains heading into or out of Penn Station; and a Loop Track Interlocking, which allows flexibility for access to both Penn Station and the Mid-day Storage yard and increases capacity and speeds for Amtrak and NJT entering Sunnyside Yard.

Regional investments also include the purchase of a small number of LIRR cars to support ESA growth. Construction of an LIRR Sunnyside Station in Queens will be funded by regional investments in the next capital program.

MTA CAPITAL CONSTRUCTION
ESA ROLLING STOCK AND LIABILITY RESERVE
CATEGORY G-615

The new East Side Access service is estimated to require a fleet of 172 rail cars to meet opening day service needs. However, a full simulation of the opening day service plan is needed from LIRR to confirm the optimal operating plan and the full fleet need. This simulation will need to evaluate service in the context of the capacity enhancements proposed by LIRR as part of their proposed 2010-2014 Capital Program (including Jamaica enhancements— signal upgrades and interlocking reconfigurations, infrastructure to facilitate new Cross-Borough Scoot service between Jamaica and Brooklyn; yard enhancements, such as new Mid-Suffolk and Huntington / Port Jefferson branch yards; pocket tracks at strategic locations on the Port Washington and Babylon branches and construction of a full second track from Ronkonkoma to Central Islip as the first phase a complete Double Track on the Main Line from Farmingdale to Ronkonkoma). This reserve includes $463 million in funding for 110 rail cars (in addition to $202 million included within the project budget for 50 cars and $50 million for 12 growth cars in Regional Investments) pending completion of this simulation and the subsequent confirmation of the opening day fleet need. Any constraints identified by this simulation could reduce the total opening day service and associated fleet need. The investment will remain in the reserve as provisional funding pending the results of the above simulation. (See Table 14)

The reserve also includes funding to address final court awards or settlements for real estate acquisitions associated with all of the mega projects.

Table 14
ESA Rolling Stock and Liability Reserve
Proposed 2010-2014 Capital Program
By Investment
($ in millions)

Project	Proposed 2010-2014
Rolling Stock Reserve	$463
Liability Reserve	234
Total:	**$697**

MTA CAPITAL CONSTRUCTION MISCELLANEOUS CATEGORY G-616

A key objective of the new MTA Capital Construction Company is to establish a cost efficient program management structure to oversee and manage the MTA system expansion projects. The structure will maximize the sharing of expertise and support services from project sponsor agencies and avoid redundancies and duplication of functions between agencies.

To accomplish this, MTA Capital Construction Company established an organization of core management personnel. Project support for planning, design and construction management is also provided by staff that is matrixed from the sponsor operating agencies and MTA headquarters. MTA Capital Construction Company established consistent procedures, standards and guidelines that are applied to all the projects under its management.

The 2000-2004 and 2005-2009 Capital Programs

The preceding capital program includes $91 million to manage these projects and for incidental project costs not eligible for federal reimbursement, and for work related to restoration of Lower Manhattan transportation facilities.

The Proposed 2010-2014 Capital Program

The proposed 2010-2014 Proposed Capital Program includes $200 million for these functions. MTACC will continue major construction and design of the MTA's system expansion projects and implementation of the system-wide safety program. All major underground construction contracts will be awarded by the end of 2009. There will be four tunnel boring machines in operation in Manhattan and two more machines in procurement for construction of tunnels in Queens. Funds have been budgeted for MTACC staff, the provision of company-wide construction support from specialty contractors, independent engineering oversight, legal support, environmental, archeological and other specialty engineering resources and miscellaneous project-related costs. Such expenditures are non-project specific or may not be eligible for reimbursement by the Federal Transit Administration and will be funded through MTACC Administration. Remaining funds have been budgeted for testing and safety services, claims and disputes resolution, reimbursement of NYCT for administrative support staff and services, and other project office costs such as communications and supplies.

MTA BRIDGES AND TUNNELS

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MTA BRIDGES AND TUNNELS
2010-2014 CAPITAL PROGRAM
OVERVIEW

MTA Bridges and Tunnels operates seven bridges and two tunnels that form essential links for vehicular highway transportation in the New York City metropolitan area. In 2008, the nine crossings generated close to $1.3 billion in toll revenue and over the last five years have carried an average of nearly 300 million annual vehicle trips. With more than half of its toll revenue dedicated to mass transit operations, Bridges and Tunnels performs a unique and vital function in support of regional transportation. The proposed 2010-2014 Capital Program is shaped by detailed analyses of long-term needs based upon bridge and tunnel inspections and condition ratings of the various bridge and tunnel elements. The program demonstrates the agency's ongoing commitment to both maintain the structural integrity of its facilities and to enhance mobility, economic health, and the quality of life in the region. It is built around two major themes: maintaining the core infrastructure and smart infrastructure investments, the latter of which includes projects that will help improve mobility, customer satisfaction, safety and security.

THE PROPOSED 2010-2014 CAPITAL PROGRAM

Bridges and Tunnels' capital program totals $2.508 billion over the next five years (Table 15). The most significant investment needs have been identified in the category of Roadways and Decks ($1.75 billion or 70 percent of the five-year plan) with major deck replacement/rehabilitation programs at six facilities scheduled to begin or continue during this period. The entire program builds upon investments made in the current and past capital programs and fits into a master plan developed for each facility.

Table 15
MTA B&T Proposed 2010-2014 Capital Program
by Investment Category
($ in millions)

Category	Proposed 2010-2014	Percent
Structures	$289	12%
Roadways & Decks	1,750	70%
Toll Plazas & ITS	117	5%
Utilities	182	7%
Buildings & Sites	133	5%
Miscellaneous	38	2%
Total	**$2,508**	**100%**

Numbers may not total due to rounding

Investments to Maintain the Core Infrastructure

The replacement of aging facility components constitutes by far the bulk of the capital program, ensuring that the facilities stay in a State of Good Repair. To determine its most immediate structural needs, B&T's seven bridges and two tunnel facilities undergo periodic, comprehensive

condition inspections. The bridges are inspected every two years, in accordance with the New York State Biennial Bridge Inspection Program. In addition, separate underwater and substructure inspections are periodically performed and in-house engineering staff assesses the overall condition of all B&T facilities on an ongoing basis. Unlike bridges, federal and state mandated inspection cycles are not specified for tunnels; however, regular tunnel inspections are being carried out by B&T. A 2007 Peer Review of B&T's Bridge and Tunnel Inspection processes through the MTA's Independent Engineer contract commended B&T on the thoroughness of these inspection protocols.

In the 2005-2009 Capital Program, Bridges and Tunnels continued to rehabilitate and replace aging equipment and facility components. A design to upgrade the electrical systems at the Queens Midtown Tunnel is underway. At the Brooklyn Battery Tunnel facility, modernization work at the Manhattan, Brooklyn and Governor's Island ventilation buildings addressed priority architectural and structural needs on the buildings' facade and interior floor slabs and walls. The rehabilitation of the deck and superstructure is in progress at the Cross Bay Bridge while structural steel repairs on the deck are being carried out at the Marine Parkway Bridge. The lower level deck rehabilitation at the Henry Hudson Bridge is underway which will completely replace the northern approach structure, lower level deck and sidewalk, drainage system and roadway lighting.

At the Bronx-Whitestone Bridge, the replacement of the elevated and on-grade approaches in the Bronx is currently in progress. At the Throgs Neck Bridge, the replacement of the concrete deck of the Queens approach is being carried out, the Queens abutment and wing walls are being rehabilitated and the roadway lighting and drainage system are being replaced. At the Verrazano-Narrows Bridge, the replacement of the lower level approach decks in Brooklyn and Staten Island and the Lily Pond Ave. Bridge has been completed.

At the Robert F. Kennedy Bridge, the phased rehabilitation program that began in 1997 continues with improvements to the facility roadways and decks, including the replacement of the roadway deck and median barrier from the Bronx toll plaza to the Bronx approach structure, the Queens to Manhattan ramp, the East River suspended span and the Queens viaduct. A multi-construction staged project involving removal of the roadway deck, replacement of the Harlem River lift span from abutment to abutment with steel orthotropic decks, and removal of the center median and side barrier was completed in 2005. In the 2005-2009 Capital Program, portions of the roadway deck and median barrier on the Randall's and Wards' Island viaduct were replaced and the construction of an entrance ramp to Ward's Island is nearing completion.

In preparing the proposed 2010-2014 Capital Program, B&T utilized the inspection results to develop a State of the System Assessment and 2010-2029 Twenty Year Needs Assessment for each facility. The condition of critical bridge and tunnel elements were analyzed and the resulting evaluations were a key factor in determining B&T's near and long term needs and the group of projects that comprise the proposed capital program. The major projects include work at the four major bridges: Robert F. Kennedy, Verrazano-Narrows, Bronx-Whitestone and Throgs Neck.

The reconstruction/rehabilitation of the Bronx toll plaza deck, superstructure and substructure, as well as new tollbooths and canopies and a new ramp to and from Randall's/Wards' Island will be carried out at the Robert F. Kennedy Bridge. A project is planned at the Verrazano Narrows Bridge to rehabilitate the decks on the upper level suspended spans which will remove and replace the existing concrete deck with an orthotropic deck, replace the median and outside parapet walls with new concrete barriers, and replace roadway joints. The second phase of

construction work that is currently underway on the Bronx approach of the Bronx-Whitestone Bridge will continue, focusing on replacing the elevated approaches and reconstructing the on-grade roadway and end ramp concrete decks on the Queens approach of the bridge. At the Throgs Neck Bridge, the first phase of construction to replace the decks on the anchorage, tower and suspended spans, including structural reinforcement and seismic retrofits of the superstructure, will be carried out in the 2010-2014 timeframe.

Core infrastructure work will also be carried out at other facilities. Major projects include the rehabilitation of tunnel ventilation buildings; upgrade of electrical systems and repairs to the ceilings and walls at the Brooklyn Battery and Queens Midtown Tunnels; rehabilitation of the substructure at both the Cross Bay and Marine Parkway Bridges; and replacement of the sidewalk, curb stringers and toll plaza deck on the upper level of the Henry Hudson Bridge.

Detailed summaries of the 2010-2014 projects are discussed in later sections.

Smart Infrastructure Investments

Investments in Mobility
No project in B&T's history has done more to improve regional mobility and the overall economic competitiveness of the region than E-ZPass. Bridges and Tunnels was a founding member of the E-ZPass Interagency Group (IAG), originally comprised of toll authorities in New York, New Jersey and Pennsylvania and now including 25 agencies in 14 states. The IAG's goal was a compatible electronic toll collection system for the entire region. This goal has been achieved and all members provide inter-operability among agencies for their customers. By the end of 2008, 74 percent of B&T's traffic (and 87 percent of commercial vehicles) were using E-ZPass. Over three million tags are in active use today with weekday market share often exceeding 80 percent at most facilities during peak hours. It is estimated, based on recent traffic data, that E-ZPass saves the average weekday commuter more than 40 hours of waiting time annually and that the reduction in toll plaza waiting time saves an estimated 12 million gallons of fuel each year.

In the 2010-2014 Capital Program, the MTA will begin transitioning to new fare and toll payment methods focused on the customer using a single account linked to a smart card or an E-ZPass to ride the entire MTA rail and road network. B&T will participate in the development efforts of this initiative, particularly as it relates to providing additional opportunities for customers to establish and replenish E-ZPass accounts. In addition, with technological advancements in the area of toll collection developing and a national trend emerging as other similar properties consider new alternatives, B&T is currently studying the possibility of implementing All-Electronic (video) Tolling on its facilities. In July 2009, both the North Texas Tollway Authority and the E-470 Toll Road in Colorado implemented All-Electronic tolling on major toll highway facilities – the largest implementations to date in the United States. Several other major American toll roads have announced plans to implement all-electronic tolling in the future. The results of the study, which is expected to be completed in 2010, as well information gained from other agencies who have implemented or are studying such systems, will help inform B&T's decision-making as it moves forward to design or construct new toll plazas at several facilities as part of this program. The funds currently included in B&T's program for design or construction of toll plazas at several facilities are expected to be sufficient for either option (All Electronic Tolling or traditional designs with barriers).

Since the implementation of E-ZPass in 1995, B&T has also made smart investments in Intelligent Transportation Systems (ITS). For instance, TRANSMIT readers have been installed

at almost all facilities and the older readers at the Robert F. Kennedy and the Verrazano-Narrows Bridges are being upgraded. These readers anonymously detect E-ZPass tags in passing vehicles in order to measure general vehicular speeds on particular segments of roadway. Similarly, real-time roadway weather conditions can be obtained and shared with other agencies due to Roadway Weather Information Systems (RWIS) that have been installed at several facilities. B&T customers can also now access videos which monitor traffic conditions at all of B&T's facilities via the Webcam on the MTA's website. Variable Message Signs (VMS) have also been installed at B&T facilities, enabling real-time traveler information on traffic and roadway conditions to be shared throughout the region, enhancing regional mobility and helping to ensure the most efficient use of the regional transportation network. Variable speed limit signs installed at the Throgs Neck Bridge (and being installed at other facilities) allow the Authority to quickly change speed limits based on changing traffic and road conditions, helping to reduce accidents. In addition, the installation of rotating prism signs on the toll booth canopies of the Robert F. Kennedy Bridge – Manhattan plaza, Queens Midtown and Brooklyn-Battery Tunnels identifies if the lane is an E-ZPass or cash lane, improving traffic safety and flow at the plazas.

In the 2010-2014 program, B&T will continue to implement smart investments in ITS. With the E-ZPass system now almost 15 years old, the existing, original power and communications cables will be replaced or upgraded to increase the data capacity of the entire system and allow B&T to add new ITS features. The TRANSMIT system at B&T will be expanded to provide additional capacity for gathering travel time and incident information and extra nodes for integration with the regional TRANSMIT network. Similarly, the installation and upgrade of Roadway Weather Information Systems (RWIS) will continue at the Brooklyn Battery and Queens Midtown Tunnels, and the Robert F. Kennedy, Verrazano-Narrows, Bronx-Whitestone and Throgs Neck Bridges. Approximately 20 older VMS signs will also be replaced with new more modern signs at several crossings, enhancing B&T's ability to communicate information to its customers. In addition, B&T continues to upgrade the fiber network at its facilities, which is a backbone for communications and implementation of ITS devices and systems. Currently, a design for upgrading the fiber infrastructure at the RFK is underway, planned for completion by December 2009. Planning is also underway to upgrade the fiber network at the Throgs Neck Bridge.

Investments in Customer Satisfaction

Capital construction projects are planned and designed to minimize the impact on motorists and the surrounding communities. B&T is committed to maintaining the highest quality of service for its customers even while major construction work is ongoing. While many of these projects impose potentially significant burdens and constraints on maintaining efficient operations during construction, the end result of most of these facility improvements enhance the system and provide better ways for customers to gain access and travel through B&T facilities.

In previous capital programs, B&T made significant investments in projects that improved customer satisfaction, such as the Marine Parkway Bridge rehabilitation of the roadway deck, which replaced the entire roadway, widened the traffic lanes and installed a permanent center median. The project included a new steel roadway grating on the lift span and two truss spans that improved the ride and safety for customers as well as improvements to the bridge's lighting and electrical systems, which included suggestions from the community.

Other recent smart customer-focused investments include Queens Midtown and Brooklyn-Battery Tunnels work to increase the reliability and visibility of tunnel traffic control systems and improve overall visibility by installing new transition zone lighting systems, and replacing and

cleaning the wall tiles, which restored the tunnels' aesthetic appearance and enhanced reflectivity. Increased vertical clearance and improved overheight detection and traffic signs and signals at the Queens Midtown Tunnel have assisted in reducing the overheight vehicle incidents and the resulting disruption and safety impacts.

At the Robert F. Kennedy Bridge, the Ward's Island/Randall's Island Viaduct roadway deck was replaced and widened and a new entrance ramp from the Bronx to Wards' Island will soon be opened, which will help alleviate traffic congestion at the toll plaza. A new pedestrian ramp from Queens to Wards' Island was also completed allowing the surrounding community to access Wards' and Randall's Islands by foot or bicycle. The new and rehabilitated roadway decks of the Bronx-Whitestone Bridge have resulted in an improved ride for customers and traffic flow also has been improved for customers at several B&T toll plazas by grouping toll lanes by payment method and widening lanes. Similar efforts to improve traffic flow will continue in the proposed 2010-2014 Capital Program as part of the replacement of the Henry Hudson Bridge upper level toll plaza, and the replacement of the Bronx toll plaza of the Robert F. Kennedy Bridge as well as, design for new toll plazas at the Bronx-Whitestone and Verrazano-Narrows Bridges.

Other customer oriented investments in the 2010-2014 program include projects that improve access to B&T facilities and/or address community issues. At the Verrazano-Narrows Bridge, the eastbound and westbound ramps and the eastbound mainline will be rehabilitated and the toll booths in the eastbound direction will be removed, addressing long-standing community concerns. In addition, a design for the widening and relocation of the approach ramps from the Belt Parkway to the Verrazano-Narrows Bridge will be carried out, a project that will ultimately relocate the existing upper level left lane exit ramp to the right lane and potentially allow for the establishment of a continuous bus/HOV lane from the SIE to the Gowanus Expressway. At the Bronx-Whitestone Bridge, the obsolete necklace lighting system will be replaced, a major aesthetic attribute that is important to both to the surrounding community and B&T. Finally, in response to community requests in the Rockaways bicycle path improvements will be carried out at the Cross Bay Bridge facility.

Investments in Safety and Security

Safety of the facilities is addressed through regular maintenance of capital assets and specific projects that improve the characteristics of roadway surfaces and physical elements such as lane widths, median barriers, seismic retrofit improvements, lighting and toll plaza configurations. Other investments have been or will be made to improve the reliability and flexibility of systems and services at the facilities, enabling facility staff to respond to major events more quickly and effectively.

In the 2010-2014 period the tunnel electrical and ventilation systems will be replaced or upgraded to improve system monitoring and control. The existing switchgear will also be replaced with new automatic transfer switches, feeders and external connections for generators which will further safeguard tunnel operation during partial or complete power outage emergencies at the tunnels.

Other key investments are: a new fire standpipe system that has been installed on the suspended span of the Bronx-Whitestone Bridge, with similar work to be carried out as part of the deck replacement project planned on the approach roadways under the proposed 2010-2014 Capital Program; new fire safety systems are being installed at the Cross Bay Bridge and Henry Hudson Bridge lower level roadway as part of the current program; and the fire standpipe system at the Verrazano-Narrows bridge will be replaced in the 2010-2014 program. In

addition, B&T will install Weigh-In-Motion (WIM) systems at four major facilities: the Bronx-Whitestone, Robert F. Kennedy, Throgs Neck and Verrazano Narrows Bridges. These systems are comprised of equipment to monitor, detect, and collect data on all vehicles and will permit overweight vehicles to be detected and stopped before they cross the bridge structure(s).

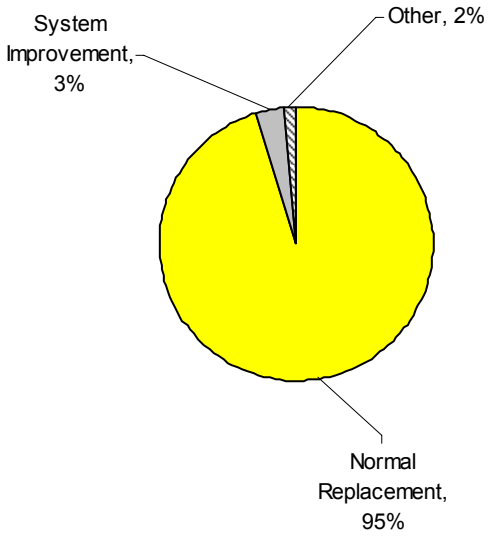
In other safety initiatives, under deck access platforms will be installed at several bridges to improve access and enhance the safety of bridge inspectors and maintenance staff. At the Bronx-Whitestone Bridge, motorized bridge traveler units have been installed under the 2005-2009 program to enhance accessibility, inspection and maintenance of the bridge's suspended spans. Finally, to further ensure the structural integrity of the bridges, seismic retrofits have been routinely incorporated into the larger bridge deck replacement/rehabilitation projects whenever possible. This work will continue at the Robert F. Kennedy, Bronx-Whitestone, Throgs Neck, Verrazano-Narrows and Henry Hudson Bridges in the 2010-2014 program.

More detailed summaries of the proposed 2010-2014 projects are discussed in later sections.

SYSTEM CONDITION

MTA Bridges and Tunnels developed its first multi-year capital program in 1989. More than half of its facilities are currently over 65 years old. Even with regular maintenance, the structures and mechanical components of the bridges and tunnels eventually need replacement from the combined effects of traffic loads and environmental exposure. As the components reach the end of their useful lives, they require a higher level of capital investment just to keep them structurally sound. Anticipating this need, Bridges and Tunnels has increased capital spending from $10-$15 million per year prior to 1989, to approximately $250 million annually (inflated to year of commitment) in the most recent five-year program. Over the 2010-2014 plan period, the average annual commitments will increase to approximately $469 million (inflated to year of commitment).

Figure 6
MTA B&T Proposed 2010-2014 Capital Program
by Needs Category



Approximately 95 percent of B&T's proposed 2010-2014 Capital Program is allocated for the Normal Replacement of assets that have reached or exceeded their expected useful life (Figure 6). An additional three percent is for system improvement work. Normal Replacement work will ensure that the facilities remain a safe and reliable means of transportation for Bridges and Tunnels' customers. The system improvement projects are intended to enhance customer safety, enable customers to proceed through the toll plaza more efficiently and/or continue improvement of the workplace for Bridges and Tunnels employees.

To inform these investments, MTA Bridges and Tunnels evaluates all of its assets based on the condition of the asset components.

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MTA BRIDGES AND TUNNELS
PROGRAM PLAN

MTA BRIDGES AND TUNNELS
STRUCTURES
CATEGORY D-601

Generally, the structural improvements on Bridges and Tunnels bridges address either the components of the superstructure, i.e., that part of the bridge above the foundation such as the suspension system and roadway deck supporting system, or the substructure, i.e., those elements which support the superstructure such as anchorages, piers, abutments and the foundations themselves. As components of both the superstructure and/or the substructure deteriorate over time and reach the end of their useful lives, investments must be made or the bridge will lapse into a state of disrepair requiring much larger capital investments in the future.

The Proposed 2010-2014 Capital Program
Projects planned in the proposed 2010-2014 Capital Program under the category of structures total $289 million and comprise twelve percent of the total 5-year program. Major projects include:

Throgs Neck Bridge: Suspended Span Deck Repairs Recent Biennial Inspections revealed needs that must be addressed in various structural steel members. The scope of work planned includes necessary repairs or replacements to structural steel members of the suspended spans including gusset plates, deteriorated stringers, lateral bracings, stiffening and floor truss elements. The total cost proposed in the 2010-2014 Capital Program is $48 million.

Cross Bay Bridge: Substructure and Underwater Rehabilitation Work
The scope for this project includes rehabilitation of delaminated spalled and unsound concrete on the all substructure elements such as the piles, pile caps, abutments, pier columns, pier caps and beams, and other substructure members. This project will also provide scour protection to the substructure, as necessary, and other substructure elements such as the north abutment, left wing wall and right embankment of the main line. Total cost proposed in the 2010-2014 Capital Program is $36 million.

Robert F. Kennedy Bridge: Miscellaneous Steel & Concrete Rehabilitation of the Manhattan Approach and Ramps
The rehabilitation and replacement of the roadway deck and support structure of the Manhattan Approach and Ramps is scheduled to begin in 2020. However, based on the most recent inspections, the condition of some of the approach ramp elements needs to be addressed at this time. This project will complete the necessary interim steel repairs and concrete rehabilitation work until the Manhattan approach and ramps can be replaced under future capital programs. Total cost proposed in the 2010-2014 Capital Program is $34 million.

Queens-Midtown Tunnel: Tunnel Walls and Ceiling Repairs including Leak Control
This project will continue work that was previously carried out under the 1992-1999 capital program. The various tunnel structural elements have continued to age with some portions of the elements approaching the need for rehabilitation. This project will design and perform the first phase of construction for the tunnel's ceramic tile wall and ceiling metal veneer panels. The concrete catwalk will also be addressed with the consideration of a complete new surface for the full length of the tunnel. Total cost proposed in the 2010-2014 Capital Program is $29 million.

Queens-Midtown Tunnel: Entrance & Exit Plazas Structural Rehabilitation
This project will design and construct the first phase of a rehabilitation to repair the Queens plaza to address plaza deficiencies identified in the most recent tunnel inspections. The three plazas will also be repaved and plaza sidewalks and concrete gutters will be rehabilitated. Total cost proposed in the 2010-2014 Capital Program is $20 million.

Verrazano Narrows Bridge: Steel Repair and Concrete Rehabilitation - Belt Parkway Ramps; Rehabilitation of storm water drainage systems
This project will address needs identified in the most recent biennial inspection, including repairs to various elements of the floor and truss members and replacement of deteriorated rivets with heavy duty bolts on various bridge components. Spalling concrete on parapets, piers and sidewalks will also be repaired with pedestals and bearings cleaned, replaced or re-set as required. Storm water drainage system components will also be rehabilitated or replaced as required. Total cost proposed in the 2010-2014 Capital Program is $19 million.

Brooklyn-Battery Tunnel: Miscellaneous Tunnel Ceiling Repairs
This project will continue work that was previously carried out under the 1992-1999 capital program. Work will include the replacement of tunnel ceiling veneer panels, selected repairs to tunnel ceiling concrete panels, concrete liner repairs and, miscellaneous leak repairs. Total cost proposed in the 2010-2014 Capital Program is $16 million.

Marine Parkway Bridge: Substructure and Underwater Work and Scour Protection
This project will address needs identified in the most recent biennial inspection, for the concrete substructure. A diving inspection will be performed to inspect the piers and evaluate their structural integrity. Upon completion of the inspection and repairs, a bridge piers and scour protection restoration program would be instituted to protect the substructure from being undermined by the flow and ebb action. Total cost proposed in the 2010-2014 Capital Program is $16 million.

MTA BRIDGES AND TUNNELS
ROADWAYS AND DECKS
CATEGORY D-602

The rehabilitation of bridge and tunnel roadways, decks, approaches and drainage systems ranges from resurfacing, which requires removing the top layer of deteriorated concrete and then re-covering to smooth out the riding surface, to total replacement of the roadway deck in which the steel support system is reconstructed. Drainage system projects are designed to convey runoff of heavy rains away from the supporting structures of the bridge or tunnel. Investments in roadways and decks that are reaching the end of their useful lives not only help ensure a safer trip for customers using the facilities, but they forestall the need for more extensive work that would entail long term lane closings and greatly reduce throughput on the facilities.

The Proposed 2010-2014 Capital Program

Deck replacement/rehabilitation work represents the highest level of investments planned in the 2010-2014 program ($1,750 million or 70 percent of the total program) and continues to carry out work identified in Facility Master Plans and begun in previous capital programs. While this represents a significant level of work, the agency, as in the past, will schedule this work to minimize disruption of bridge and tunnel traffic. Major projects in this category of work are:

Robert F. Kennedy Bridge: Reconstruction of the Bronx Toll Plaza Deck, Superstructure and Substructure Rehabilitation, New Tollbooths and Ramp, Utility Relocation and the design for the Manhattan Toll Plaza Deck

This work is part of the overall Robert F. Kennedy Bridge Rehabilitation program that began in 1997. The design for the Bronx Toll Plaza Reconstruction was carried out under the 2000-2004 and 2005-2009 Capital Programs. This project will address the rehabilitation and replacement needs of the Bronx toll plaza deck area, toll booths and canopies, as well as the construction of a new ramp to and from Randall's/Wards' Island. Similar work planned for the Manhattan Toll Plaza area will be designed as part of this project, with the construction phase to be carried out in the 2015-2019 time period. The final design and construction decisions regarding this project will be informed by B&T's All-Electronic (video) Tolling study (expected to be completed in 2010). Total cost proposed in the 2010-2014 Capital Program is $558 million.

Verrazano-Narrows Bridge: Rehabilitation of Upper Level Decks on Suspended Spans

This project continues work begun in previous capital programs. Conceptual design was carried out in the 2000-2004 program followed by a full design and the first phase of construction (relocation of utilities) under the 2005-2009 program. In the 2010-2014 time frame, the second construction phase will be carried out and will involve the removal and replacement of the existing concrete deck in the upper level suspended span with an orthotropic deck, replacement of the median and outside parapet walls with new concrete barriers, replacement of roadway joints, suspended span drainage system and sign structures. The upper level and lower level lighting system, including the tower floodlights will also be replaced, as well as elements of the fire standpipe system. The replacement of the bridge communication system that operates the lighting controls, emergency communications, closed circuit television, lane indicators on gantries, fire standpipe controls, weather reporting system, and other communication devices is also

part of this project. Another aspect of this project is the widening of the active roadway by eliminating the elongated curbs adjacent to the existing median and side barriers. This will allow for a wider roadway that will potentially improve BUS/HOV access across the VN Bridge. Total cost proposed in the 2010-2014 Capital Program is $412 million.

Bronx-Whitestone Bridge: Elevated and On-Grade Queens Approach Structure Replacement

The design for this project was carried out in the 2000-2004 Capital Program and construction work on the Bronx approach is in progress under the 2005-2009 Capital Program. This project in the 2010-2014 program is for similar work on the Queens approach that will replace the elevated approaches and reconstruct the on-grade roadway and end ramp concrete decks. Full replacement of the approach structures will include replacement of the fire standpipe main and installing risers, replacement of the power and communication systems and installation of new roadway lighting. Total cost proposed in the 2010-2014 Capital Program is $292 million.

Verrazano-Narrows Bridge: Rehabilitation of Toll Plaza East and West Bound Ramps and Toll Booth Replacement

Under this project, the eastbound and westbound ramps and the eastbound mainline will be rehabilitated, and the eastbound toll booths will be removed. The eastbound roadway will be constructed to meet current AASHTO standards. New traffic interchange work will be carried out in and around the toll plaza. New entrance ramps onto the Staten Island Expressway (SIE) in the eastbound direction to the new SIE bus lane will be constructed. Design for the new westbound toll plaza will also be carried out as part of this project. As discussed above in regard to the Robert F. Kennedy Bridge, the final design and construction for this project will be informed by the results of B&T's All-Electronic Tolling study, Total cost proposed in the 2010-2014 Capital Program is $113 million.

Throgs Neck Bridge: Seismic Retrofit and Replacement of Concrete Fill Steel Grid Suspended Span Decks and Fire Standpipe

Design and the first phase of construction for the deck replacement on suspended spans will be performed under this project. The new deck will permit the future implementation of a seventh lane with a moveable median barrier. The project will also contain initial construction elements including utility relocations, underdeck traveler system installation, and roadway lighting replacement. The deck will be designed to meet the higher load criteria for current and anticipated commercial traffic volumes crossing the TNB on the I-295 corridor. Total cost proposed in the 2010-2014 Capital Program is $97 million.

MTA BRIDGES AND TUNNELS
TOLL PLAZAS & TRAFFIC MGMT/SAFETY SYSTEMS
CATEGORY D-603

Bridges and Tunnels is undertaking projects to expand and improve the condition of the toll plazas at Bronx-Whitestone and Henry Hudson bridges. This needs category encompasses components of the bridge toll plaza, including the tollbooths and islands, lighting and utilities, and approaches. With the exception of the usual rehabilitation work, investments in this category are typically viewed as a system improvement, which will enhance safety and enable customers to proceed through the toll plazas more quickly.

Most of the Traffic Management and Safety Systems (TMSS) now in place and planned over the next 10 to 20 years, utilize Intelligent Transportation Systems (ITS). ITS encompasses a broad range of diverse technologies including information gathering and processing and communications and control systems to improve transportation management and safety. Integrating and using these technologies at B&T facilities enhances safety and security, improves customer service, and fosters economic growth in the region. The utilization of ITS also increases the efficiency of facility operations and minimizes the need for construction of new facilities by improving capacity utilization.

The Proposed 2010-2014 Capital Program

Toll Plaza Improvements and Traffic Management/Safety Systems comprise $117 million. As several projects in this category move forward, the results of B&T's All-Electronic (video) Tolling study will be utilized to inform design and construction decisions. Project highlights in this category of work include:

Henry Hudson Bridge: Upper Level Toll Plaza Deck

This project will replace the existing upper level toll plaza. The toll plaza booths, canopy, toll collection equipment, utilities, electrical services, HVAC System and toll plaza roadway lighting will also be replaced. The plaza will be reconfigured so that service options are grouped in a way that best serves the customer. Total cost proposed in the 2010-2014 Capital Program is $45 million.

Bronx-Whitestone Bridge: Toll Plaza Reconstruction (Design)

This project is for the preliminary design efforts that will lead to reconstruction of the toll plaza and will involve widening and standardizing widths of the toll lanes, and reconfiguring the toll plaza so that the different types of service options are grouped in a way that best serves the customer. Total cost proposed in the 2010-2014 Capital Program is $3 million.

Traffic Management and Safety Systems

B&T plans to continue to implement various initiatives in the ITS area during the 2010-2014 time frame. They include advanced weather information systems for use in gathering real-time information including temperature, wind speed and direction at most facilities; construction of an extensive fiber optic network and installation of CCTV cameras at several facilities; upgrading the systems at the operations centers with advanced technologies. As part of these initiatives, B&T will replace power and communication infrastructure for the E-ZPass system at each of its toll plazas. Also included is $2 million for pilot studies and other analyses during the 2010-2014 period,

aimed at allowing customers to use a single smart card, or cell phone with a smart chip to ride the entire MTA network.

Other key ITS systems such as traffic detection and sensor technologies for better data collection, response and clearance of incidents and efficient facility and traffic management will be designed and implemented, enhancing regional mobility and investments in customer satisfaction. One of the goals in the proposed 2010-2014 ITS Program is to complete the deployment of these key systems and make them fully operational. Efforts to interconnect with the regional ITS systems will also continue. Total cost proposed in the 2010-2014 Capital Program is $55 million.

Agency-Wide: Weigh-In-Motion (WIM) Systems
The project will install system equipment to monitor, detect, and collect data on all vehicles. The system will determine overall vehicle weight, individual axle loading, vehicle length, speed, and compile related data, including event time & date, vehicle photos, etc. Ideally the system and the facility geography will permit overweight vehicles to be detected and stopped before they cross the bridge structure(s). Under this project facility WIM systems will be installed in 26 lanes throughout four facilities: the Bronx-Whitestone, Robert F. Kennedy, Throgs Neck and Verrazano-Narrows Bridges. Total cost proposed in the 2010-2014 Capital Program is $14 million.

MTA BRIDGES AND TUNNELS
UTILITIES
CATEGORY D-604

Investments in utilities include the replacement, rehabilitation or upgrade of the mechanical, electrical and lighting systems, as well as tunnel ventilation equipment. The long-term objective of investments in these areas is to improve operational efficiency by replacing worn out parts and equipment and/or enhance customer safety.

The Proposed 2010-2014 Capital Program
Work in this category constitutes mostly Normal Replacement work totaling $182 million or 7 percent of the total program and include the following projects:

Brooklyn Battery Tunnel: Rehabilitation of Tunnel Ventilation and Electrical Systems
One of the major goals for the Brooklyn Battery Tunnel is to ensure that the electrical and ventilation systems continue to meet current standards and expectations relating to emergency operations and improved systems monitoring and control. The rehabilitation of supply fans, supply fan housings, and related components is included in this project. The existing obsolete switchgear will be replaced to greatly enhance the flexibility and reliability of the tunnel's electrical power system. Newly installed generators will be placed on an automatic transfer switching system and new tunnel feeders will be installed to complete the emergency power portion of the project. This will advance tunnel life safety systems by ensuring that tunnel power can be maintained, per tunnel safety standards, and eliminating power downtime in the event of power failure requiring the need for emergency power. A similar replacement of obsolete electrical switchgear will be implemented at the Queens Midtown Tunnel. Total cost proposed in the 2010-2014 Capital Program is $62 million.

Queens Midtown Tunnel: Tunnel Ventilation Building Electrical Upgrade (Construction)
This project will replace the existing electrical switchgear and the fan motor control equipment for the tunnel ventilation fans at both ventilation buildings. In addition to replacing the switchgear, two other new features will be added to safeguard tunnel operation during partial or complete power outage emergencies. One feature is the new automatic transfer switches between different switchgear sections and the other is new external connections for portable diesel generators. Total cost proposed in the 2010-2014 Capital Program is $59 million.

Agency-Wide: Advanced Traveler Information Systems
This project continues installations of variable message signs across B&T facilities. Approximately 20 older VMS signs will be replaced with new VMS at several crossings. The work will include a study for new VMS locations, necessary support gantries, electrical, communication links, maintenance and protection of traffic, foundation work, structural steel, approval from local authorities. Total cost proposed in the 2010-2014 Capital Program is $20 million.

Verrazano-Narrows Bridge: Rehabilitation of Substation #1
This project plans to replace five medium voltage breakers and four medium voltage switches. The rehabilitation will be designed to meet all Con Edison requirements. The new design/relays will have flexibility for proper coordination with all down stream devices and Con Edison breaker settings. Total cost proposed in the 2010-2014 Capital Program is $15 million.

Bronx-Whitestone Bridge: Necklace Lighting Replacement
This project will replace the unreliable necklace lighting of the Bronx-Whitestone Bridge with more energy efficient lighting. In addition to providing improved security lighting for the main part of the suspension system, the necklace lighting is a major aesthetic attribute. Total cost proposed in the 2010-2014 Capital Program is $11 million.

Marine Parkway Bridge: Programmable Logic Controller, Electrical & Mechanical Rehabilitation
The operation of the lift span is dependent on the proper function of the electrical and mechanical machinery of the bridge which is controlled by the Programmable Logic Controller (PLC). This project will design and carry out the rehabilitation and repairs necessary to the controller, electrical and mechanical machinery. Total cost proposed in the 2010-2014 Capital Program is $9 million.

Queens Midtown Tunnel: Controls/Communication System Room and Related Work (Design)
This project will design the expansion of the existing Supervisory Control Systems in the Facility Control Centers to incorporate all of the necessary functions such as ventilation and power system control and monitoring. The expanded Signal Control System will be connected to other tunnel and operational systems for control and monitoring. These systems include: traffic control and signaling, variable message signs, traffic speed sensors, radio rebroadcast, overheight detection, drainage pumps, tunnel lighting, and digital CCTV recording. Total cost proposed in the 2010-2014 Capital Program is $4 million.

MTA BRIDGES AND TUNNELS
BUILDINGS AND SITES
CATEGORY D-605

Related assets include service buildings, ventilation buildings and garages. The ongoing objective of investments in this area is to enhance the efficiency of the bridge and tunnel operations by maintaining a Normal Replacement cycle for the components of each building and by improving employee working conditions.

The Proposed 2010-2014 Capital Program

Work in this category comprises $133 million or five percent of the total program. Included in this category are the construction of new buildings and shops to accommodate tenants that need to be relocated as a result of the deck replacement projects at the Robert F. Kennedy Bridge. The major projects are:

Robert F. Kennedy Bridge: Construction of the New Combined Service Building, Shops and Warehouse

To advance the reconstruction of the toll plazas, it is necessary to relocate several facilities from their current locations under the Manhattan Toll Plaza. A new service building will be constructed to combine the two existing service buildings, shops and warehouse. B&T has entered into an agreement with New York City Department of Parks and Recreation to utilize the area next to the bridge to build the new combined service building. Total cost proposed in the 2010-2014 Capital Program is $104 million.

Brooklyn Battery Tunnel: Service Building Rehabilitation and Expansion and Replacement of Service Building Heating Plant

This project will provide design and construction services for the expansion and modernization of the service building. The expanded and renovated service building will be expanded in its present location with element of work to include architectural, structural, mechanical/HVAC, electrical, and plumbing, including the replacement of the service building heating plant. In addition, this project will address the expansion of the space over the maintenance service garage. This phase includes the design and construction for the expansion of space over the maintenance service garage. Total cost proposed in the 2010-2014 Capital Program is $13 million.

Verrazano-Narrows Bridge: Rehabilitation and Expansion of Service Building (Design)

This project will progress a design to expand the service building to accommodate office space for the Facility Engineer's staff and Facility Management personnel, as well as a Customer Service area. In addition, bathroom facilities, locker rooms, storage rooms, and the existing garage will be expanded. Boilers and HVAC equipment will also be replaced. Total cost proposed in the 2010-2014 Capital Program is $7 million.

MTA BRIDGES AND TUNNELS
MISCELLANEOUS
CATEGORY D-606

Projects in this area provide for costs associated with the support and management of the capital program. The proposed 2010-2014 Capital Program contains $38 million for projects with program-wide applicability such as protective liability coverage, independent engineer services, value engineering services, scope development and NYC traffic enforcement agent support.

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PROGRAM PROJECT LISTINGS

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New York City Transit

SUBWAY CARS
T - 601

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 NEW SUBWAY CARS							
01 123 A Division Railcars	SI	412.0	.0	.0	.0	.0	412.0
02 200 B Division Railcars	NR	542.0	.0	.0	.0	.0	542.0
03 140 B Division Railcars	NR	.0	.0	379.4	.0	.0	379.4
Element Total 01		**$954.0**	**$.0**	**$379.4**	**$.0**	**$.0**	**$1,333.4**
Category Total 601		**$954.0**	**$.0**	**$379.4**	**$.0**	**$.0**	**$1,333.4**

* Represents values less than $50,000

New York City Transit

BUSES
T - 603

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
02	**BUS REPLACEMENT**							
01	Purchase 285 Standard Buses	NR	198.4	.0	.0	.0	.0	198.4
02	195 Articulated Buses	NR	166.9	.0	.0	.0	.0	166.9
03	97 Express Buses	NR	66.0	.0	.0	.0	.0	66.0
04	321 Paratransit Vans	NR	26.4	.0	.0	.0	.0	26.4
05	330 Standard Buses	NR	.0	239.5	.0	.0	.0	239.5
06	238 Articulated Buses	NR	.0	208.5	.0	.0	.0	208.5
07	109 Express Buses	NR	.0	77.2	.0	.0	.0	77.2
08	284 Paratransit Vans	NR	.0	24.3	.0	.0	.0	24.3
09	130 Standard Buses	NR	.0	.0	97.9	.0	.0	97.9
10	95 Express Buses	NR	.0	.0	70.2	.0	.0	70.2
11	330 Standard Buses	NR	.0	.0	250.1	.0	.0	250.1
12	105 Articulated Buses	NR	.0	.0	95.9	.0	.0	95.9
13	423 Paratransit Vans	NR	.0	.0	37.7	.0	.0	37.7
14	80 Express Buses	NR	.0	.0	.0	61.4	.0	61.4
15	156 Articulated Buses	NR	.0	.0	.0	166.2	.0	166.2
16	330 Standard Buses	NR	.0	.0	.0	259.6	.0	259.6
17	289 Paratransit Vans	NR	.0	.0	.0	26.8	.0	26.8
Element Total 02			**$457.7**	**$549.5**	**$551.8**	**$514.0**	**$.0**	**$2,073.0**
Category Total 603			**$457.7**	**$549.5**	**$551.8**	**$514.0**	**$.0**	**$2,073.0**

* Represents values less than $50,000

New York City Transit

PASSENGER STATIONS

T - 604

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
04	**FARE COLLECTION**							
01	MetroCard Normal Replacement	NR	30.0	12.7	30.0	.0	.0	72.7
02	Purchase and Install 83 HEETs	SI	4.6	.0	.0	.0	.0	4.6
05	SmartCard Implementation	SI	60.0	.0	140.0	.0	.0	200.0
	Element Total 04		**$94.6**	**$12.7**	**$170.0**	**$.0**	**$.0**	**$277.3**
07	**STATION ESCALATORS/ELEVATORS**							
01	Repl 3 Escalators S Manhattan	SGR	.0	24.7	.0	.0	.0	24.7
02	Repl 10 Escalators Lex Av 63	NR	.0	80.0	.0	.0	.0	80.0
03	Repl 2 Escal Roosevelt Av QBL	SGR	.0	.0	14.3	.0	.0	14.3
04	Repl 11 Hydraulic Elevators	NR	.0	.0	48.4	.0	.0	48.4
05	Repl 10 Hydraulic Elevators	NR	.0	.0	.0	61.1	.0	61.1
	Element Total 07		**$.0**	**$104.7**	**$62.6**	**$61.1**	**$.0**	**$228.5**
11	**STATION REHABILITATION**							
01	Rehab Smith-9 Sts CUL	SGR	42.5	.0	.0	.0	.0	42.5
02	Rehab 20 Av SEA	SGR	.0	.0	43.7	.0	.0	43.7
03	Rehab 8 Av SEA	SGR	.0	.0	51.5	.0	.0	51.5
04	Rehab Fort Hamilton Pkwy SEA	SGR	.0	.0	57.7	.0	.0	57.7
05	Rehab 18 Av SEA	SGR	.0	.0	53.8	.0	.0	53.8
06	Rehab Kings Hwy SEA	SGR	.0	.0	53.3	.0	.0	53.3
07	Rehab New Utrecht Av SEA	SGR	.0	.0	56.0	.0	.0	56.0
08	Rehab Bay Parkway SEA	SGR	.0	.0	60.1	.0	.0	60.1
09	Rehab Avenue U SEA	SGR	.0	.0	56.5	.0	.0	56.5
10	Rehab 86 St SEA	SGR	.0	.0	45.1	.0	.0	45.1
11	Rehab Buhre Av PEL	SGR	.0	.0	28.6	.0	.0	28.6
12	Rehab Middletown Rd PEL	SGR	.0	.0	27.6	.0	.0	27.6
13	Rehab Zerega Av PEL	SGR	.0	.0	27.6	.0	.0	27.6
14	Rehab Castle Hill Av PEL	SGR	.0	.0	28.3	.0	.0	28.3
	Element Total 11		**$42.5**	**$.0**	**$589.9**	**$.0**	**$.0**	**$632.4**
12	**STATION RENEWAL**							
01	Station Work 4 Av CUL	SGR	13.7	.0	.0	.0	.0	13.7
02	Station Renewal Work 25 Stns	SGR	.0	50.0	60.0	70.0	70.0	250.0
03	Ventilator Rehabilitations	SGR	12.0	16.0	25.0	25.0	25.0	103.0
04	Platform Edge Repair/Rehab	SGR	17.0	25.0	34.0	34.0	34.0	144.0
05	Station Stair Repair/Rehab	SGR	13.0	19.0	27.0	27.0	27.0	113.0
06	Station Work Pelham Bay Pk PEL	NR	.0	.0	9.1	.0	.0	9.1
07	Station Ceilings Pilot Ph 1	SGR	.0	.0	25.0	.0	.0	25.0
	Element Total 12		**$55.7**	**$110.0**	**$180.1**	**$156.0**	**$156.0**	**$657.8**

* Represents values less than $50,000

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
13	**DISABLED ACCESSIBILITY**							
01	ADA Forest Hills-71 Av QBL	SI	33.4	.0	.0	.0	.0	33.4
02	Imprv Platform Edges 34 St BWY	SI	7.0	.0	.0	.0	.0	7.0
03	Imprv Platform Edges 34 St 6AV	SI	6.8	.0	.0	.0	.0	6.8
04	Pltfrm Boarding Areas Var Locs	SI	11.0	.0	11.7	.0	.0	22.7
05	Rsrv ADA Redundancy Increment	SI	100.0	.0	70.0	.0	.0	170.0
06	ADA Kingsbridge Rd BXC	SI	.0	28.8	.0	.0	.0	28.8
07	ADA 68 St-Hunter College LEX	SI	.0	67.2	.0	.0	.0	67.2
08	ADA Utica Av FUL	SI	.0	27.8	.0	.0	.0	27.8
09	ADA Hunts Point Av PEL	SI	.0	28.2	.0	.0	.0	28.2
10	ADA 23 St LEX	SI	.0	.0	27.1	.0	.0	27.1
11	ADA 57 St BWY-BMT Ph 2	SI	.0	.0	37.3	.0	.0	37.3
12	ADA Ozone Pk-Lefferts Blvd LIB	SI	.0	.0	41.7	.0	.0	41.7
	Element Total 13		**$158.2**	**$152.0**	**$187.8**	**$.0**	**$.0**	**$497.9**
14	**OTHER STATION IMPROVEMENTS**							
01	Station Signage 2010	NR	3.0	.0	.0	.0	.0	3.0
02	Station Railings	SGR	5.0	.0	.0	.0	.0	5.0
03	Water Condition Remedy	SGR	.0	7.2	.0	.0	.0	7.2
04	Scrubber Room Drainage 4 Loc	SGR	.0	4.0	.0	.0	.0	4.0
05	Grand Central - Access Impr	SI	.0	.0	20.4	.0	.0	20.4
06	Times Square: North End Stairs	SGR	.0	.0	23.9	.0	.0	23.9
07	Station Signage 2012	NR	.0	.0	3.2	.0	.0	3.2
08	Station Condition Survey #2	NR	.0	.0	.0	.0	8.2	8.2
09	Church St Corridor Improv	NR	.0	.0	.0	70.0	.0	70.0
	Element Total 14		**$8.0**	**$11.3**	**$47.5**	**$70.0**	**$8.2**	**$145.1**
	Category Total 604		**$359.1**	**$390.7**	**$1,237.9**	**$287.1**	**$164.2**	**$2,439.0**

* Represents values less than $50,000

New York City Transit

TRACK
T - 605

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
02 TRACK REHABILITATION							
01 2010 Mainline Track Repl	NR	184.7	.0	.0	.0	.0	184.7
02 2010 Track Force Account	NR	35.0	.0	.0	.0	.0	35.0
03 2010 Welded Rail	SI	10.7	.0	.0	.0	.0	10.7
04 2011 Mainline Track Repl	NR	.0	188.9	.0	.0	.0	188.9
05 2011 Track Force Account	NR	.0	35.0	.0	.0	.0	35.0
06 2011 Welded Rail	SI	.0	11.0	.0	.0	.0	11.0
07 2012 Mainline Track Repl	NR	.0	.0	190.0	.0	.0	190.0
08 2012 Track Force Account	NR	.0	.0	35.0	.0	.0	35.0
09 2012 Welded Rail	SI	.0	.0	11.4	.0	.0	11.4
10 2013 Mainline Track Repl	NR	.0	.0	.0	196.1	.0	196.1
11 2013 Track Force Account	NR	.0	.0	.0	35.0	.0	35.0
12 2013 Welded Rail	SI	.0	.0	.0	11.9	.0	11.9
13 2014 Mainline Track Repl	NR	.0	.0	.0	.0	205.4	205.4
14 2014 Track Force Account	NR	.0	.0	.0	.0	35.0	35.0
15 2015 Mainline Track Repl DES	NR	.0	.0	.0	.0	2.0	2.0
16 2014 Welded Rail	SI	.0	.0	.0	.0	3.7	3.7
Element Total 02		**$230.4**	**$234.9**	**$236.4**	**$243.1**	**$246.1**	**$1,190.9**
03 SWITCH REPLACEMENT							
01 2010 Mainline Switch Repl	NR	43.9	.0	.0	.0	.0	43.9
02 2011 Mainline Switch Repl	NR	.0	44.9	.0	.0	.0	44.9
03 2012 Mainline Switch Repl	NR	.0	.0	46.7	.0	.0	46.7
04 2013 Mainline Switch Repl	NR	.0	.0	.0	48.9	.0	48.9
05 2014 Mainline Switch Repl	NR	.0	.0	.0	.0	51.2	51.2
06 2015 Mainline Switch Repl DES	NR	.0	.0	.0	.0	2.9	2.9
Element Total 03		**$43.9**	**$44.9**	**$46.7**	**$48.9**	**$54.1**	**$238.5**
Category Total 605		**$274.4**	**$279.8**	**$283.1**	**$291.9**	**$300.2**	**$1,429.4**

* Represents values less than $50,000

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
02	**TUNNEL LIGHTING**							
01	Tun Ltg 11 St Portal-Qns Plaza	SGR	11.0	.0	.0	.0	.0	11.0
02	Tun Ltg 4 Av-Church Av CUL	SGR	36.8	.0	.0	.0	.0	36.8
03	Tun Ltg Roosevelt Av-36 St QBL	SGR	.0	.0	76.4	.0	.0	76.4
	Element Total 02		**$47.8**	**$.0**	**$76.4**	**$.0**	**$.0**	**$124.1**
03	**VENTILATION FACILITIES**							
01	Vent Plant: 55 St / 8AV	SGR	.0	.0	98.2	.0	.0	98.2
02	New Vent Plnt Study LEX s/o GC	SGR	.0	2.1	.0	.0	.0	2.1
03	Vent Plant: Mulry Square 8AV	SGR	.0	.0	108.5	.0	.0	108.5
04	Vent Plant: 46 St QBL	SGR	.0	.0	90.4	.0	.0	90.4
05	New Fan Controls 26 Loc	SGR	.0	.0	.0	15.8	.0	15.8
	Element Total 03		**$.0**	**$2.1**	**$297.1**	**$15.8**	**$.0**	**$315.1**
04	**PUMPING FACILITIES**							
01	Deep Wells Rehab NOS	NR	14.6	.0	.0	.0	.0	14.6
02	Deep Wells Rehab XTN	NR	.0	.0	13.7	.0	.0	13.7
03	Pumps 4 Loc PEL JER LNX	SGR	.0	.0	39.4	.0	.0	39.4
04	Pumps 2 Loc Manhattan Midtown	SGR	.0	.0	21.0	.0	.0	21.0
	Element Total 04		**$14.6**	**$.0**	**$74.1**	**$.0**	**$.0**	**$88.7**
	Category Total 606		**$62.3**	**$2.1**	**$447.6**	**$15.8**	**$.0**	**$527.9**

* Represents values less than $50,000

New York City Transit

LINE STRUCTURES
T - 607

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
03	**LINE STRUCTURE REHABILITATION**							
01	Flood Mitigation 148 St Yard	SI	34.3	.0	.0	.0	.0	34.3
02	Rehab Emergency Exits 125 Loc	NR	12.6	.0	20.1	.0	.0	32.8
03	Culver Viaduct Ph 3: Underside	SGR	19.5	.0	.0	.0	.0	19.5
04	Rpr Viaduct FAR RKY/RKY PK	NR	46.6	.0	.0	.0	.0	46.6
05	Rpr Cypress Hills-130 St JAM	NR	30.6	.0	.0	.0	.0	30.6
06	Demolish Abandoned Structures	SGR	15.2	.0	.0	.0	.0	15.2
07	Ovrct Steel Bridges & Wye RKY	SGR	6.1	.0	.0	.0	.0	6.1
08	Ovrct 15 Bridges BRT	SGR	9.9	.0	.0	.0	.0	9.9
09	Ovrct Portal-E180 St WPR	SGR	.0	36.0	.0	.0	.0	36.0
10	Nostrand-Flatbush Study/Design	SI	.0	.0	10.7	.0	.0	10.7
11	Flood Mitigation 6 Loc Mnhattn	SI	.0	.0	45.1	.0	.0	45.1
12	Sea Beach Line Retaining Wall	NR	.0	.0	42.1	.0	.0	42.1
13	Dyre Av Structure Repairs	SGR	.0	.0	10.0	.0	.0	10.0
14	Ovrct E Pkwy-Cypress Hills JAM	SGR	.0	.0	28.1	.0	.0	28.1
15	Ovrct Dyckman St to 215 St BW7	SGR	.0	.0	16.1	.0	.0	16.1
16	Repair Pacific-59 St 4AV Ph 1	SGR	.0	.0	.0	30.0	.0	30.0
17	Ovrct Church Av Portal-W 8 CUL	SGR	.0	.0	.0	51.4	.0	51.4
18	Ovrct Cypress Hills-130 St JAM	SGR	.0	.0	.0	31.2	.0	31.2
19	Ovrct Bway Jct-New Lots Av CNR	SGR	.0	.0	.0	.0	25.4	25.4
	Element Total 03		**$174.8**	**$36.0**	**$172.2**	**$112.6**	**$25.4**	**$521.0**
	Category Total 607		**$174.8**	**$36.0**	**$172.2**	**$112.6**	**$25.4**	**$521.0**

* Represents values less than $50,000

New York City Transit

SIGNALS & COMMUNICATIONS

T - 608

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
03	**SIGNAL MODERNIZATION**							
01	Signal Control Line Mods Ph 4	NR	25.2	.0	.0	.0	.0	25.2
02	Messenger Brackets BRT	NR	1.2	.0	.0	.0	.0	1.2
03	Interlocking Church Av CUL	SGR	246.1	.0	.0	.0	.0	246.1
04	Solid State Signal Equp 14 Loc	NR	6.8	.0	29.0	.0	.0	35.8
05	CBTC Flushing R142 Conversions	SGR	77.5	.0	.0	.0	.0	77.5
06	CBTC Flushing Support/Removals	SGR	54.2	.0	.0	70.4	.0	124.6
07	ST Signal Enhncmts LEX Ph 2	SI	28.3	.0	.0	21.8	.0	50.1
08	Stop Cable Replacement Ph 4	NR	.0	22.8	.0	.0	.0	22.8
09	Interlocking 71 Av QBL	SGR	.0	191.4	.0	.0	.0	191.4
10	Interlocking Union Tpke QBL	SGR	.0	171.4	.0	.0	.0	171.4
11	CBTC Signals Test Tk CUL Ph. 2	SI	.0	84.6	.0	.0	.0	84.6
12	Signal Control Line Mods Ph 5	NR	.0	.0	26.8	.0	.0	26.8
13	2 Intrlckings/Signal Mods DYR	SGR	.0	.0	265.0	.0	.0	265.0
14	Interlocking Roosevelt Av QBL	SGR	.0	.0	115.5	.0	.0	115.5
15	Interlocking: 34 St 6AV	SGR	.0	.0	221.9	.0	.0	221.9
16	Interlocking: West 4 St 6AV	SGR	.0	.0	230.6	.0	.0	230.6
17	ATS-B Train Monitoring Des/Plt	SI	.0	.0	25.0	.0	.0	25.0
18	Signal Key-By Circuit Mod Ph 3	NR	.0	.0	.0	28.0	.0	28.0
19	CBTC QBL West Ph 1	SGR	.0	.0	.0	125.0	.0	125.0
21	Interlocking Jay St 6AV	SGR	.0	.0	.0	.0	199.6	199.6
	Element Total 03		**$439.3**	**$470.2**	**$913.7**	**$245.2**	**$199.6**	**$2,268.1**
06	**COMMUNICATIONS SYSTEMS**							
01	Fiber Optic Cable Repl Ph 1	SGR	.0	.0	30.0	.0	.0	30.0
02	Appl Cutover to SONET Ph 1	NR	10.0	.0	15.0	.0	.0	25.0
03	Police Radio TDI & Enhncmnts	SGR	20.3	.0	35.7	.0	.0	56.0
04	PA/CIS 43 Stations	SGR	46.0	.0	.0	.0	.0	46.0
05	Comm Rm Upgrade/Expansion Ph 1	SI	20.0	.0	.0	.0	.0	20.0
06	Portable Radio Unit Repl	NR	12.1	.0	.0	.0	.0	12.1
07	Copper Cable Upgrade/Repl Ph 2	SGR	.0	15.0	.0	.0	.0	15.0
08	VHF Radio Sys - Option (B-Div)	SGR	.0	202.7	.0	.0	.0	202.7
09	Communication Room HVAC Ph 2	SGR	20.0	.0	.0	.0	.0	20.0
10	PBX Upgrade	NR	.0	.0	14.2	.0	.0	14.2
11	SCADA Systems Pilot/Design	SI	.0	.0	11.8	.0	.0	11.8
13	Antenna Cable Upgrde/Repl Ph 1	SGR	.0	.0	.0	31.4	.0	31.4
14	PA/CIS: 21 Stations FLS	NR	.0	.0	.0	37.8	.0	37.8
15	Copper Cable Upgrade/Repl Ph 3	SGR	.0	.0	.0	15.0	.0	15.0
16	Communication Room HVAC Ph 3	SGR	.0	.0	.0	27.6	.0	27.6
	Element Total 06		**$128.4**	**$217.7**	**$106.8**	**$111.8**	**$.0**	**$564.7**
	Category Total 608		**$567.7**	**$687.9**	**$1,020.5**	**$357.0**	**$199.6**	**$2,832.8**

* Represents values less than $50,000

New York City Transit

TRACTION POWER
T - 609

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
02 SUBSTATIONS							
01 5 Substation Enclosures	SGR	23.5	.0	.0	.0	.0	23.5
02 Modernize 10th St Substation	SGR	29.5	.0	.0	.0	.0	29.5
03 Underground SS Hatchways Ph 2	SGR	.0	15.7	.0	.0	.0	15.7
04 Central Substation Cables	SGR	.0	.0	20.0	.0	.0	20.0
05 Rehab 5 IRT Subst Roofs/Encl	SGR	.0	.0	.0	14.8	.0	14.8
06 Underground SS Hatchways Ph 3	SGR	.0	.0	.0	17.0	.0	17.0
Element Total 02		**$53.1**	**$15.7**	**$20.0**	**$31.8**	**$.0**	**$120.5**
04 POWER DISTRIBUTION							
01 Duct Bank 141 St-148 St LNX	NR	26.5	.0	.0	.0	.0	26.5
02 Reh CBH 292/293 Albermarle NOS	SGR	7.0	.0	.0	.0	.0	7.0
03 Repl Emergncy Telephones Pilot	NR	.0	5.7	.0	.0	.0	5.7
04 Rehab CBH #74 & 74A JAM	SGR	.0	.0	24.1	.0	.0	24.1
05 Rehab CBH #403 Vanderbilt FLS	SGR	.0	.0	14.5	.0	.0	14.5
06 Rehab CBH #146 Prospect Pk BRT	NR	.0	.0	7.1	.0	.0	7.1
07 Replace Emergency Alarms Ph 1	NR	.0	.0	.0	21.1	.0	21.1
08 Negatives: 59 St-Pacific 4AV	NR	.0	.0	30.6	.0	.0	30.6
09 Rehab CBH #275 Pearl St CLK	SGR	.0	.0	.0	.0	8.1	8.1
Element Total 04		**$33.5**	**$5.7**	**$76.3**	**$21.1**	**$8.1**	**$144.6**
Category Total 609		**$86.5**	**$21.4**	**$96.3**	**$52.9**	**$8.1**	**$265.1**

* Represents values less than $50,000

New York City Transit

SHOPS
T - 610

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
04	**MAINTENANCE SHOPS**							
01	207 St O/H Shop A/C Shop	SGR	.0	.0	157.8	.0	.0	157.8
02	207 St O/H Shop Electrical	SGR	33.1	.0	.0	.0	.0	33.1
03	207 St O/H Shop Heating Plant	SGR	21.0	.0	.0	.0	.0	21.0
04	207 St Maint Shop DC Pwr Upgrd	SGR	.0	.0	26.6	.0	.0	26.6
05	ENY Maint Shop Ventilation	SGR	8.5	.0	.0	.0	.0	8.5
06	Rehab C.I. Power Centers #2 #3	NR	.0	15.4	.0	.0	.0	15.4
07	DCE Shops: Priority Repairs	SGR	5.0	.0	48.1	.0	.0	53.1
08	Repl Heavy Shop Equipment	NR	.0	.0	12.9	.0	.0	12.9
Element Total 04			**$67.6**	**$15.4**	**$245.4**	**$.0**	**$.0**	**$328.4**
Category Total 610			**$67.6**	**$15.4**	**$245.4**	**$.0**	**$.0**	**$328.4**

* Represents values less than $50,000

New York City Transit

YARDS
T - 611

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
02 YARD IMPROVEMENTS							
01 Yard Lighting Jerome Pelham	SGR	.0	15.0	.0	.0	.0	15.0
02 Relieving Pltfrm 207 St Yd Ph1	SGR	.0	.0	5.0	.0	.0	5.0
03 Relieving Platform 148 St Yd	SGR	.0	.0	10.6	.0	.0	10.6
04 Yard Fencing Priority 2: 4 Loc	NR	.0	.0	20.8	.0	.0	20.8
05 Yard CCTV Ph 2	SI	.0	.0	18.0	.0	.0	18.0
06 Jamaica Yard Expansion Ph 1	SI	.0	.0	.0	152.0	.0	152.0
Element Total 02		**$.0**	**$15.0**	**$54.4**	**$152.0**	**$.0**	**$221.4**
05 YARD TRACK REHABILITATION							
01 2010 Yard Track Repl	SGR	5.9	.0	.0	.0	.0	5.9
02 2011 Yard Track Repl	SGR	.0	6.0	.0	.0	.0	6.0
03 2012 Yard Track Repl	SGR	.0	.0	6.3	.0	.0	6.3
04 2013 Yard Track Repl	SGR	.0	.0	.0	6.6	.0	6.6
05 2014 Yard Track Repl	SGR	.0	.0	.0	.0	6.9	6.9
06 2015 Yard Track Repl DES	SGR	.0	.0	.0	.0	.1	.1
Element Total 05		**$5.9**	**$6.0**	**$6.3**	**$6.6**	**$7.0**	**$31.8**
06 YARD SWITCH REPLACEMENT							
01 2010 Yard Switch Repl	SGR	9.4	.0	.0	.0	.0	9.4
02 2011 Yard Switch Repl	SGR	.0	9.6	.0	.0	.0	9.6
03 2012 Yard Switch Repl	SGR	.0	.0	10.0	.0	.0	10.0
04 2013 Yard Switch Repl	SGR	.0	.0	.0	10.4	.0	10.4
05 2014 Yard Switch Repl	SGR	.0	.0	.0	.0	10.9	10.9
06 2015 Yard Switch Repl DES	NR	.0	.0	.0	.0	1.3	1.3
Element Total 06		**$9.4**	**$9.6**	**$10.0**	**$10.4**	**$12.2**	**$51.6**
Category Total 611		**$15.3**	**$30.6**	**$70.7**	**$169.0**	**$19.2**	**$304.8**

* Represents values less than $50,000

New York City Transit

DEPOTS
T - 612

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
03 DEPOT REHAB AND RECONSTRUCTION							
02 I/H Mini-Rehabs 3 Depots	NR	.0	.0	27.8	.0	.0	27.8
03 Jamaica: New Depot Ph 1	SI	.0	.0	.0	75.0	.0	75.0
04 126 St Depot Demol Envir Dsgn	NR	.0	.0	.0	25.0	.0	25.0
05 Rehab/Conver ENY Paint Shop	NR	.0	.0	.0	10.0	.0	10.0
Element Total 03		**$.0**	**$.0**	**$27.8**	**$110.0**	**$.0**	**$137.8**
04 DEPOT IMPROVEMENTS							
01 Paint Booth Air Sys 7 Depots	NR	10.0	.0	.0	.0	.0	10.0
02 Bus Rapid Transit - 3 Routes	SI	25.0	.0	.0	.0	.0	25.0
03 Repl Bus Radio Sys: Radios/Fac	NR	.0	.0	342.7	.0	.0	342.7
05 IVN: 9 Depots	SI	5.2	.0	.0	.0	.0	5.2
06 10 Bus Washers KB GH MV CS	NR	21.6	.0	.0	.0	.0	21.6
07 Property: Kingsbridge Depot	SI	.0	5.0	.0	.0	.0	5.0
08 Paint Appl Sys FP Zerega	NR	.0	1.7	.0	.0	.0	1.7
09 Tank Upgrades Jam FP	NR	.0	.0	2.6	.0	.0	2.6
10 Upgrade HVAC 4 Depots	NR	.0	15.3	.0	.0	.0	15.3
11 Depot Equipment Replacement	NR	.0	.0	15.9	.0	.0	15.9
12 Parking Lot Dvlpmnt Jam Grand	NR	.0	.0	5.2	.0	.0	5.2
13 ADEPT System (Paratransit)	NR	.0	.0	7.2	.0	.0	7.2
14 Automated Fuel Mgt Sys Upgrade	NR	.0	.0	.0	2.5	.0	2.5
15 Bus Lift Replacement	NR	.0	.0	.0	14.3	.0	14.3
16 8 Bus Washers ENY FB UP YK	NR	.0	.0	.0	19.4	.0	19.4
17 Real Time Customer Information	SI	.0	21.0	.0	21.0	.0	42.0
Element Total 04		**$61.8**	**$43.0**	**$373.6**	**$57.2**	**$.0**	**$535.6**
Category Total 612		**$61.8**	**$43.0**	**$401.4**	**$167.2**	**$.0**	**$673.4**

* Represents values less than $50,000

New York City Transit

SERVICE VEHICLES
T - 613

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
02 SERVICE VEHICLES							
01 110 Non Rev Veh Purchases	NR	13.2	.0	.0	.0	.0	13.2
02 Purchase 54 Flatcars	NR	.0	.0	.0	35.4	.0	35.4
03 Purchase 8 Auger Snowthrowers	NR	9.5	.0	.0	.0	.0	9.5
04 Purchase 10 Locomotives	NR	40.7	.0	.0	.0	.0	40.7
05 118 Non Rev Veh Purchases	NR	.0	13.9	.0	.0	.0	13.9
06 101 Non Rev Veh Purchases	NR	.0	.0	11.5	.0	.0	11.5
Element Total 02		**$63.4**	**$13.9**	**$11.5**	**$35.4**	**$.0**	**$124.2**
Category Total 613		**$63.4**	**$13.9**	**$11.5**	**$35.4**	**$.0**	**$124.2**

* Represents values less than $50,000

Commitments
($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
02	**MISCELLANEOUS**							
01	Capital Revolving Fund 2010		5.0	.0	.0	.0	.0	5.0
02	Capital Revolving Fund 2011		.0	5.0	.0	.0	.0	5.0
03	Capital Revolving Fund 2012		.0	.0	5.0	.0	.0	5.0
04	Capital Revolving Fund 2013		.0	.0	.0	5.0	.0	5.0
05	Capital Revolving Fund 2014		.0	.0	.0	.0	5.0	5.0
06	Insurance Deductible		5.0	.0	5.0	.0	5.0	15.0
07	APPL Insurance Premium		1.4	1.4	1.4	1.4	1.5	7.1
	Element Total 02		**$11.4**	**$6.4**	**$11.4**	**$6.4**	**$11.5**	**$47.1**
04	**MANAGEMENT INFORMATION SYSTEMS**							
01	CPICS Technology Conversion	NR	2.5	.0	.0	.0	.0	2.5
02	NYCT-Wide SAN/Disaster Recov	SI	8.8	.0	9.3	.0	.0	18.1
03	Enterprise Sec Ntwrk Infrastr	SI	10.4	.0	.0	.0	.0	10.4
04	WAN/LAN Equipment Repl Ph 1	NR	.0	.0	9.6	.0	.0	9.6
	Element Total 04		**$21.7**	**$.0**	**$18.9**	**$.0**	**$.0**	**$40.6**
05	**ENGINEERING SERVICES**							
01	Boring Services BK Q SI	NR	2.4	.0	.0	.0	.0	2.4
02	Boring Services M Bx	NR	2.0	.0	.0	.0	.0	2.0
03	Test Pits Contract	NR	5.0	.0	.0	.0	.0	5.0
04	MTA Independent Engineer Cnslt	NR	3.9	3.9	3.9	3.9	9.7	25.3
05	G.O. Support Traffic Checkers	NR	12.0	.0	18.0	.0	.0	30.0
06	2010 Value Engineering Svcs	NR	2.0	.0	.0	.0	.0	2.0
07	Engineering Services	NR	3.6	3.6	3.6	3.6	3.6	18.0
08	Construction Support Svcs Rsrv		2.3	.0	2.5	.0	.0	4.8
09	Scope Development		10.0	10.0	10.0	10.0	10.0	50.0
10	Design Reserve		.0	13.9	.0	69.0	.0	82.9
11	Concrete Batch Plant 2012	NR	.0	.0	1.3	.0	.0	1.3
12	Concrete Cylinder Testing 2012	NR	.0	.0	.8	.0	.0	.8
13	Boring Services M / Bx	NR	.0	.0	.0	2.0	.0	2.0
14	Boring Services BK / Q / SI	NR	.0	.0	.0	1.7	.0	1.7
15	Test Pits Contract	NR	.0	.0	.0	.0	5.6	5.6
	Element Total 05		**$43.2**	**$31.4**	**$40.0**	**$90.2**	**$28.9**	**$233.7**

* Represents values less than $50,000

New York City Transit

MISC./EMERGENCY
T - 616

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
06	**ENVIRONMENTAL AND SAFETY**							
01	Asbestos Abatement: Priority 7	NR	5.0	.0	.0	.0	.0	5.0
02	Asbestos Removal	NR	8.3	.0	.0	.0	.0	8.3
03	Asbestos / Lead Air Monitoring	NR	7.2	.0	.0	.0	.0	7.2
04	Asbestos Disposal	NR	.0	2.5	.0	.0	.0	2.5
05	Sprinkler Alarm Systems 12 EFR	NR	.0	30.0	.0	.0	.0	30.0
06	Fire Alarm 207 St O/H Shop	NR	.0	11.0	.0	.0	.0	11.0
07	Groundwater / Soil Remediation	NR	.0	6.5	.0	.0	.0	6.5
08	Consult Svcs UST/ Remediation	NR	.0	6.0	.0	.0	.0	6.0
09	Asbestos Removal	NR	.0	.0	.0	9.7	.0	9.7
10	Asbestos / Lead Air Monitoring	NR	.0	.0	.0	9.1	.0	9.1
11	Fire Alarm Systems 16 Loc	NR	.0	.0	.0	.0	40.8	40.8
12	Consult Svcs UST/ Remediation	NR	.0	.0	.0	.0	6.5	6.5
	Element Total 06		**$20.5**	**$56.0**	**$.0**	**$18.8**	**$47.3**	**$142.6**
07	**EMPLOYEE FACILITIES**							
01	Money Rm Perimeter Ltg Upgrade	SI	4.8	.0	.0	.0	.0	4.8
02	Jay Street Systems Ph 1	NR	10.0	.0	.0	.0	.0	10.0
03	Signal Tower Hardening	NR	10.0	.0	.0	.0	.0	10.0
04	EFR: Jay St FUL	SGR	.0	.0	.0	12.3	.0	12.3
05	EFR: RTO Chambers St NAS	SGR	7.1	.0	.0	.0	.0	7.1
06	Maspeth Warehouse Repairs	NR	.0	.0	10.0	.0	.0	10.0
07	Perim Hardning RCC,130 Liv Plz	NR	12.0	.0	.0	.0	.0	12.0
08	Livingston Plz Emrg Gen Upgrd	SGR	.0	.0	.0	10.4	.0	10.4
09	Facility Roof Repair/Repl Ph 3	SGR	.0	13.7	.0	.0	.0	13.7
10	EFR West 4th St 8AV	SGR	.0	4.1	.0	.0	.0	4.1
11	AFC Equip Maint Qrtrs 8 Av SEA	SGR	.0	.0	2.0	.0	.0	2.0
12	Upgrade Power at RCC and PCC	NR	.0	.0	23.1	.0	.0	23.1
13	(ICC) EFR: 207 St / 8AV	SGR	.0	.0	6.7	.0	.0	6.7
14	EFR Imp Workforce Dvlpmt Fac	NR	.0	.0	35.0	.0	.0	35.0
15	EFR Rehab 9 Loc XTN	SGR	.0	.0	7.5	.0	.0	7.5
16	8 AFC Office Upgrade 5 Depots	SGR	.0	.0	3.0	.0	.0	3.0
17	Livingston Plaza Repairs	NR	.0	.0	.0	23.6	.0	23.6
18	Replace Currency Counters	NR	.0	.0	.0	3.5	.0	3.5
19	Facility Roof Repair/Repl Ph 4	SGR	.0	.0	.0	14.9	.0	14.9
	Element Total 07		**$43.9**	**$17.8**	**$87.2**	**$64.6**	**$.0**	**$213.5**
	Category Total 616		**$140.5**	**$111.6**	**$157.6**	**$180.0**	**$87.7**	**$677.5**
	TOTAL PROGRAM		**$3,285.1**	**$2,181.9**	**$5,075.3**	**$2,183.0**	**$804.6**	**$13,529.9**

* Represents values less than $50,000

Commitments
($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**SIR: MISCELLANEOUS**							
01	SIR Station Structural Repairs	NR	13.5	.0	.0	.0	.0	13.5
02	SIR Rehab 8 Bridges, 1 Culvert	NR	28.4	.0	.0	.0	.0	28.4
03	St George Track/Sig Repl Ph I	SGR	.0	.0	15.0	.0	.0	15.0
04	80 Railcars	NR	.0	.0	216.8	.0	.0	216.8
05	New Substation: Huguenot	SI	.0	.0	31.5	.0	.0	31.5
06	Rehab Circuit Breaker Houses	NR	.0	.0	.0	11.8	.0	11.8
07	Composite Contact Rail	NR	.0	.0	.0	14.2	.0	14.2
Element Total 01			**$41.9**	**$.0**	**$263.3**	**$26.0**	**$.0**	**$331.2**
Category Total 607			**$41.9**	**$.0**	**$263.3**	**$26.0**	**$.0**	**$331.2**
TOTAL PROGRAM			**$41.9**	**$.0**	**$263.3**	**$26.0**	**$.0**	**$331.2**

* Represents values less than $50,000

NYCT AGENCY SUMMARY

Commitments
($ in millions)

AGENCY	2010	2011	2012	2013	2014	Total All Years
TOTAL NYCT PROGRAM	$3,285.1	$2,181.9	$5,075.3	$2,183.0	$804.6	$13,529.9
TOTAL SIR PROGRAM	$41.9	$.0	$263.3	$26.0	$.0	$331.2
TOTAL	$3,327.0	$2,181.9	$5,338.6	$2,209.0	$804.6	$13,861.0
TOTAL MTA CAPITAL PROGRAM	$3,327.0	$2,181.9	$5,338.6	$2,209.0	$804.6	$13,861.0

* Represents values less than $50,000

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Long Island Rail Road

ROLLING STOCK

L - 601

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 REVENUE EQUIPMENT							
MA M-9 Procurement - 84 cars	NR	.0	355.9	.0	.0	.0	355.9
MB DMU Specification Development	SI	.0	2.8	.0	.0	.0	2.8
MC Work Locomotives	NR	.0	.0	23.0	.0	.0	23.0
Element Total 01		**$.0**	**$358.7**	**$23.0**	**$.0**	**$.0**	**$381.7**
Category Total 601		**$.0**	**$358.7**	**$23.0**	**$.0**	**$.0**	**$381.7**

* Represents values less than $50,000

Long Island Rail Road

STATIONS
L - 602

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
04 STATION AND BUILDINGS							
UA Repl Babylon Sta Platform Des	NR	.0	.0	2.1	.0	.0	2.1
UB Repl Massapequa Sta Platform	NR	2.0	.0	18.3	.0	.0	20.3
UC Repl Wantagh Station Platform	NR	2.1	19.1	.0	.0	.0	21.2
UD Kew Gardens Platform Extension	SI	4.5	.0	.0	.0	.0	4.5
UE ESA / GCT Support	SI	.0	.0	.0	.0	15.5	15.5
UF Mets/Willets Pt Sta Renovation	NR	6.2	.0	.0	.0	.0	6.2
UG Hunterspoint Station Renewal	NR	.0	2.5	.0	.0	.0	2.5
UH Elevator Replacement Program	NR	.5	.0	4.5	.0	.0	5.0
UJ Design New Republic Station	SI	.0	.0	3.5	.0	.0	3.5
UK Smart Card Improvements	SI	.0	2.0	8.0	.0	.0	10.0
Element Total 04		**$15.3**	**$23.6**	**$36.4**	**$.0**	**$15.5**	**$90.8**
05 PARKING							
U1 Intermodal Facility Developmnt	SI	.0	6.5	.0	58.5	.0	65.0
Element Total 05		**$.0**	**$6.5**	**$.0**	**$58.5**	**$.0**	**$65.0**
06 PENN STATION							
VL Penn Station HVAC	NR	1.1	.0	9.9	.0	.0	11.0
Element Total 06		**$1.1**	**$.0**	**$9.9**	**$.0**	**$.0**	**$11.0**
Category Total 602		**$16.4**	**$30.1**	**$46.3**	**$58.5**	**$15.5**	**$166.8**

* Represents values less than $50,000

Long Island Rail Road

TRACK
L - 603

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 ANNUAL TRACK REHAB PROGRAM							
TA 2010 Annual Track Program	NR	67.9	.0	.0	.0	.0	67.9
TB 2011 Annual Track Program	NR	.0	67.0	.0	.0	.0	67.0
TC 2012 Annual Track Program	NR	.0	.0	68.0	.0	.0	68.0
TD 2013 Annual Track Program	NR	.0	.0	.0	68.0	.0	68.0
TE 2014 Annual Track Program	NR	.0	.0	.0	.0	65.5	65.5
TF Construction Equipment	NR	4.8	.0	1.7	.5	.0	7.0
TG Atlantic Branch 1/2 ties	NR	2.5	.0	37.5	.0	.0	40.0
TH Merrick/Bellmr Direct Fixation	NR	1.0	25.3	10.5	.0	.0	36.8
TJ ROW - Culverts	NR	.5	.5	.5	.5	.5	2.5
TK ROW - Drainage Control	NR	.7	.7	.7	.7	.7	3.5
TL ROW - Fencing	SI	1.6	1.6	1.6	1.6	1.6	8.0
TM ROW - Demolitions	NR	.0	.6	.3	.3	.3	1.5
TN ROW -Track Stability/Ret Walls	NR	.3	.3	.3	.3	.3	1.5
Element Total 01		**$79.3**	**$96.0**	**$121.1**	**$71.9**	**$68.9**	**$437.2**
04 OTHER TRACK IMPROVEMENTS							
TU Jamaica Capacity Imprvmnts Ph1	SI	.0	10.0	130.0	135.0	125.0	400.0
TV Massapequa Pocket Track	SI	2.0	.0	17.6	.0	.0	19.6
TW Extend Great Neck Pocket Track	SI	.0	20.0	6.1	.0	.0	26.1
TX Second Track Farm to KO Ph1	SI	.0	6.9	.0	131.0	.0	137.9
Element Total 04		**$2.0**	**$36.9**	**$153.7**	**$266.0**	**$125.0**	**$583.6**
Category Total 603		**$81.3**	**$132.9**	**$274.8**	**$337.9**	**$193.9**	**$1,020.8**

* Represents values less than $50,000

Long Island Rail Road

LINE STRUCTURES
L - 604

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 BRIDGES							
BB Bridge Program	SGR	6.8	.0	10.0	11.0	11.0	38.8
BC Repl Colonial Rd Hwy Bridge	SGR	.0	10.0	.0	.0	.0	10.0
BD 150th St-Jamaica&Broadway / PW	SGR	.0	.0	26.0	.0	.0	26.0
BE Const 3 Montauk Branch Bridges	SGR	25.0	.0	.0	.0	.0	25.0
BF Atlantic Ave Viaduct - Ph IIb	SGR	6.7	60.0	.0	.0	.0	66.7
BG Bridge Painting Program	SGR	2.0	2.0	2.0	2.0	2.0	10.0
Element Total 01		**$40.5**	**$72.0**	**$38.0**	**$13.0**	**$13.0**	**$176.5**
02 TUNNELS							
BP ERT Fire and Life Safety	NR	20.0	.0	.0	.0	.0	20.0
Element Total 02		**$20.0**	**$.0**	**$.0**	**$.0**	**$.0**	**$20.0**
Category Total 604		**$60.5**	**$72.0**	**$38.0**	**$13.0**	**$13.0**	**$196.5**

* Represents values less than $50,000

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**COMMUNICATIONS IMPROVEMENTS**							
L1	Fiber Optic Network	NR	.0	10.0	10.0	.0	.0	20.0
L2	PBX-Wayside Phone Rplcmnt Ph1	NR	2.1	2.1	2.1	2.1	2.1	10.5
L3	Repl Comm. Pole/Copper Plant	NR	1.4	1.4	1.4	1.4	1.4	7.0
L4	Radio Coverage Improvements	SI	.5	2.0	2.0	2.9	2.9	10.3
L6	PennSt RadioRetrfit/ERT Antenn	NR	1.3	5.2	.0	.0	.0	6.5
L7	Atlantic Ave Tunnel Cable Repl	NR	.0	1.7	1.7	1.7	.0	5.1
L8	Radio System Head End Replcmt	NR	.4	1.0	1.0	1.0	.9	4.3
	Element Total 01		**$5.7**	**$23.4**	**$18.2**	**$9.1**	**$7.3**	**$63.7**
02	**SIGNAL IMPROVEMENTS**							
LA	Positive Train Control (PTC)	SI	29.3	70.7	.0	.0	.0	100.0
LB	Signal Normal Replacement Prog	NR	5.0	5.0	5.0	5.0	5.0	25.0
LC	Babylon Interlocking Renewal	NR	7.7	14.7	54.1	.0	.0	76.5
LD	Supervisory Control & RTU	NR	1.9	1.9	1.9	1.8	1.8	9.3
LE	Centralized Train Control	SI	10.0	12.2	4.1	13.7	.0	40.0
	Element Total 02		**$53.9**	**$104.5**	**$65.1**	**$20.5**	**$6.8**	**$250.8**
	Category Total 605		**$59.6**	**$127.9**	**$83.3**	**$29.6**	**$14.1**	**$314.5**

* Represents values less than $50,000

Long Island Rail Road

SHOPS AND YARDS

L - 606

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 SHOPS AND YARDS							
YA Shop Reconfig & LCM Infrastr	NR	10.4	.0	.0	.0	.0	10.4
YB Hillside Facility Roof Renewal	NR	.0	6.0	.0	.0	.0	6.0
YC Hillside Maintenance Facility	NR	.0	.0	6.0	.0	.0	6.0
YD HMC Car Shop Coil Door Upgrade	NR	.0	2.5	.0	.0	.0	2.5
YE Diesel Locomotive Shop Upgrade	NR	.0	.0	80.7	.0	.0	80.7
YJ Port Jeff Fuel Capacity Incr	SI	.9	.0	8.4	.0	.0	9.3
YK Montauk Yard Improvements	SI	.0	.8	.0	7.6	.0	8.4
YL Port Washington Yard Reconfig	SI	1.5	1.5	9.1	.0	.0	12.1
YM NewHuntingtn/PtJeff ElectrYard	SI	.0	.0	10.5	.0	75.0	85.5
YN New Mid Suffolk Electric Yard	SI	.0	2.0	5.9	.0	71.3	79.2
Element Total 01		**$12.8**	**$12.8**	**$120.6**	**$7.6**	**$146.3**	**$300.1**
04 EMPLOYEE FACILITIES							
YT Employee Facilities Renewal	NR	.0	6.0	3.0	3.0	3.0	15.0
Element Total 04		**$.0**	**$6.0**	**$3.0**	**$3.0**	**$3.0**	**$15.0**
Category Total 606		**$12.8**	**$18.8**	**$123.6**	**$10.6**	**$149.3**	**$315.1**

* Represents values less than $50,000

Long Island Rail Road

POWER
L - 607

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 POWER							
AA Substation Replacements	NR	10.0	25.0	85.0	.0	.0	120.0
AB Substation Battery Replacement	NR	.8	.0	.0	.0	.0	.8
AC Signal PowerMotorGeneratorRepl	NR	.2	1.8	.0	.0	.0	2.0
AD Substa Pilot Wire & Relay Repl	NR	2.0	.0	.0	.0	.0	2.0
AE 3rd Rail - 2000 MCM Cable	NR	2.5	.0	.0	.0	.0	2.5
AF 3rd Rail - Disconnect Switches	NR	1.0	.0	.0	.0	.0	1.0
AG 3rd Rail - Protection Board	NR	3.2	2.0	2.0	2.0	.0	9.2
AH 3rd Rail - Aluminum Rail	NR	5.6	.0	5.3	.0	.0	10.9
AJ Atlantic Ave Tunnel Lighting	NR	.0	.0	.7	.0	6.3	7.0
AK Signal Power Line Replacement	NR	2.0	1.0	.0	.0	.0	3.0
AL Power Pole Line Replacement	NR	3.0	.0	.0	.0	.0	3.0
AM New Substations	SI	.0	.0	5.0	17.1	.0	22.1
AN 3rd Rail Feeder Cable Upgrade	NR	1.5	1.0	.0	.0	.0	2.5
AP Negative Reactor Upgrade	NR	2.0	2.0	.0	.0	.0	4.0
Element Total 01		**$33.8**	**$32.8**	**$98.0**	**$19.1**	**$6.3**	**$190.0**
Category Total 607		**$33.8**	**$32.8**	**$98.0**	**$19.1**	**$6.3**	**$190.0**

* Represents values less than $50,000

Long Island Rail Road

MISCELLANEOUS
L - 609

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
04 MISCELLANEOUS							
N3 Chlordane Remed-20 Substations	NR	.0	.0	.8	7.7	.0	8.5
N4 Yaphank Landfill Remediation	NR	.9	8.2	.0	.0	.0	9.1
N5 Pt Jeff Yard Fuel RemedSupport	NR	.3	2.1	.0	.0	.0	2.4
N6 Smithtown Viaduct Remediation	NR	.0	.0	.3	2.9	.0	3.2
NA Program Administration		25.6	26.4	27.2	28.3	28.3	135.8
NB Program Development		.0	.0	5.5	1.4	1.4	8.3
NC Insurance		.2	.2	.2	.2	.2	1.0
ND Independent Engineer		.9	.9	.9	.8	.8	4.3
Element Total 04		**$27.9**	**$37.8**	**$34.9**	**$41.3**	**$30.7**	**$172.6**
Category Total 609		**$27.9**	**$37.8**	**$34.9**	**$41.3**	**$30.7**	**$172.6**
TOTAL PROGRAM		**$292.3**	**$811.0**	**$721.9**	**$510.0**	**$422.8**	**$2,758.0**

* Represents values less than $50,000

Metro-North Railroad

ROLLING STOCK
M- 601

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 REVENUE EQUIPMENT							
01 M-4 Critical Systems Repl	NR	13.8	.0	.0	.0	.0	13.8
02 M-6 Critical Systems Repl	NR	8.8	.0	13.6	.0	.0	22.4
03 EMU Replacement - 30 cars	NR	74.3	.0	25.7	.0	.0	100.0
04 M-8 NHL Purchase - 300/42	NR	225.0	.0	.0	.0	.0	225.0
Element Total 01		**$321.9**	**$.0**	**$39.3**	**$.0**	**$.0**	**$361.2**
02 MISCELLANEOUS							
01 Shuttle/Switcher Locomotives	NR	.0	.0	13.1	.0	.0	13.1
02 Rolling Stock Retrofit-Signals	NR	10.0	.0	.0	.0	.0	10.0
Element Total 02		**$10.0**	**$.0**	**$13.1**	**$.0**	**$.0**	**$23.1**
Category Total 601		**$331.9**	**$.0**	**$52.4**	**$.0**	**$.0**	**$384.3**

* Represents values less than $50,000

Metro-North Railroad

STATIONS
M- 602

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**GRAND CENTRAL TERMINAL**							
01	GCT Trainshed/Tunnel Structure	NR	7.7	.8	22.7	4.2	1.1	36.5
02	Park Ave Tunnel Renewal	NR	.0	.0	7.5	.0	.0	7.5
03	GCT/Park Avenue Exp. Joints	NR	.0	.0	2.0	.0	.0	2.0
04	GCT Trainshed Track Structure	NR	.0	.0	3.0	.0	.0	3.0
05	GCT Leaks Remediation - D/C	SGR	.0	.0	13.0	.0	.0	13.0
06	GCT Elevator Renewal Ph.4	NR	1.5	.0	6.0	.0	.0	7.5
07	GCT Platform Improvements	NR	.0	.0	3.0	.0	.0	3.0
08	GCT Water Conveyance Systems	NR	.0	2.0	25.4	.0	.0	27.4
09	Customer Communications - GCT	NR	.0	1.0	3.5	.0	.0	4.5
10	GCT Recycling Facility	SI	.0	.0	.0	.0	7.5	7.5
	Element Total 01		**$9.2**	**$3.8**	**$86.1**	**$4.2**	**$8.6**	**$111.9**
02	**OUTLYING STATIONS**							
01	Poughkeepsie Station Building	NR	.0	1.0	6.5	.0	.0	7.5
02	Fordham Station Improvements	NR	.0	13.0	.0	.0	.0	13.0
03	Harlem Line Station Renewal	NR	.0	3.0	30.8	.0	.0	33.8
04	Station Bldg Renewal/Net Lease	NR	1.0	.0	9.0	.0	.0	10.0
06	New Haven Line Stations-Ph II	NR	.0	.0	34.9	.0	.0	34.9
07	Smart Card Improvements	SI	2.6	.0	7.6	.0	.0	10.2
08	Station Communications Infra	NR	6.3	.0	17.8	.0	.0	24.0
	Element Total 02		**$9.9**	**$17.0**	**$106.5**	**$.0**	**$.0**	**$133.3**
03	**PARKING**							
01	Parking Renewal	SGR	.0	.0	3.0	.0	.0	3.0
02	Strategic Facilities	SI	2.6	5.1	5.6	27.6	4.1	45.0
	Element Total 03		**$2.6**	**$5.1**	**$8.6**	**$27.6**	**$4.1**	**$48.0**
	Category Total 602		**$21.7**	**$25.9**	**$201.2**	**$31.8**	**$12.7**	**$293.3**

* Represents values less than $50,000

Metro-North Railroad

TRACK AND STRUCTURES

M- 603

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**TRACK**							
01	Cyclical Track Program	NR	13.0	13.0	13.0	13.6	14.3	66.9
02	Turnouts: Mainline/High Speed	NR	12.0	21.4	13.6	10.0	14.0	71.0
03	GCT T.O./Switch Renewal	NR	2.8	1.2	4.0	2.8	2.9	13.6
04	Turnouts: Yards/Sidings	NR	1.4	.8	1.6	.8	.8	5.4
05	M of W Equipment/Rolling Stock	NR	2.0	2.0	2.0	2.0	2.0	10.0
06	Cyclical Repl. Insulated Joint	NR	1.0	1.0	1.0	1.0	1.0	5.0
07	Rock Slope Remediation	SGR	2.0	.0	5.0	.0	.0	7.0
08	Drainage and Undercutting	NR	.0	.0	10.0	.0	.0	10.0
09	Rebuild Retaining Walls	NR	1.5	.0	3.5	.0	.0	5.0
	Element Total 01		**$35.7**	**$39.5**	**$53.7**	**$30.1**	**$35.0**	**$193.9**
02	**STRUCTURES**							
01	Replace Timbers Undergrade Br.	NR	.9	.5	1.0	.7	.7	3.7
02	Renew Culverts/Railtop Culvert	NR	1.2	.6	.6	.6	.6	3.6
03	Right-of-Way Fencing	NR	.5	.5	.5	.3	.3	2.0
04	DC Substation/Signal House	NR	.5	.5	.5	.5	.5	2.5
05	Bridge Walkways Installation	NR	.7	.4	.4	.5	.5	2.5
06	Remove Obsolete Facilities	NR	.5	.5	.6	.7	.7	3.0
07	Specialized Structures Equip.	NR	.9	.0	.0	.0	.0	.9
08	Replace Sidewalk Canopies	NR	.2	.1	.1	.1	.1	.6
09	Employee Welfare & Storage Fac	NR	2.0	2.0	2.5	2.5	1.0	10.0
10	Replace/Repair Undergrade Br.	SGR	3.2	5.8	11.2	15.0	2.3	37.5
11	Harlem River Lift Bridge Cable	NR	.7	.2	9.2	.2	.2	10.5
12	Overhead Bridge Program-E of H	SGR	.9	2.0	4.5	2.7	7.0	17.1
13	Catenary Painting/Rehab Cat St	NR	.5	.0	3.5	.0	.0	4.0
14	Park Ave Via. Direct Fixation	NR	.0	.0	1.8	.0	.0	1.8
15	Beacon Line Undergrade Bridge	NR	.0	.0	2.0	.0	.0	2.0
	Element Total 02		**$12.7**	**$13.1**	**$38.4**	**$23.7**	**$13.9**	**$101.8**
03	**WEST OF HUDSON INFRASTRUCTURE**							
01	West of Hudson Track Program	NR	4.2	4.2	4.3	4.0	4.5	21.2
02	West of Hudson Improvements	NR	.8	.8	.8	.8	.8	3.8
03	Moodna/Woodbury Viaduct	SGR	6.5	.0	3.5	.0	.0	10.0
04	Otisville Tunnel Renewal	SGR	.0	.0	3.0	.0	.0	3.0
05	WoH Replace/Renew Undergr. Br.	SGR	1.4	1.0	2.0	5.2	2.4	11.9
	Element Total 03		**$12.8**	**$6.0**	**$13.6**	**$9.9**	**$7.7**	**$49.9**
	Category Total 603		**$61.2**	**$58.5**	**$105.7**	**$63.7**	**$56.6**	**$345.6**

* Represents values less than $50,000

Metro-North Railroad

COMMUNICATIONS AND SIGNALS

M- 604

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**COMMUNICATIONS AND SIGNALS**							
01	Signal System Improvements	NR	10.0	40.0	.0	.0	.0	50.0
02	Replace Fiber/C&S Cables	NR	1.0	.0	3.9	3.9	.0	8.8
03	Replace Field Code System - MO	NR	.4	.5	.5	.4	.0	1.8
04	Crossing Upgrades - Phase 2	NR	1.0	1.0	.0	.0	.0	2.0
05	CTC/SCADA Intrusion Testing	NR	.4	.0	.4	.0	.0	.7
06	Refurb/Replace Elec. Sw Machin	NR	.2	.1	.3	.2	.2	1.0
07	Design/Replace Track Relay H&H	NR	.4	.2	.2	.2	.2	1.2
08	Replace High Cycle Relays	NR	.3	.3	.3	.3	.3	1.3
09	C&S Maint. Management System	NR	.4	.5	.0	.0	.0	.9
10	PBX Replace/Upgrade	NR	.4	1.1	1.5	.0	.0	2.9
11	Mobile/Portable Radios	NR	.0	.0	.2	.2	.0	.4
12	Rolling Stock Radios & PA's	NR	.0	.1	.3	.2	.0	.5
13	Radio Base Station Replacement	NR	.5	1.0	.0	.0	.0	1.5
14	Repl Field PA/StationConnectiv	SI	.5	.0	30.2	.0	.0	30.7
15	Train Indication Infrastructur	NR	.0	.0	18.6	.0	.0	18.6
16	Radio Freq Rebanding (incl CT)	NR	.7	2.2	2.2	.0	.0	5.0
17	Upper Hudson Improvements	SI	12.5	.0	.0	.0	.0	12.5
Element Total 01			**$28.5**	**$46.9**	**$58.4**	**$5.2**	**$.7**	**$139.7**
Category Total 604			**$28.5**	**$46.9**	**$58.4**	**$5.2**	**$.7**	**$139.7**

* Represents values less than $50,000

Metro-North Railroad

POWER
M- 605

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**POWER**							
01	Substation Bridge 23 - Const	NR	36.0	.0	.0	.0	.0	36.0
02	Renewal H&H Substations -Const	NR	3.0	3.0	3.0	3.0	3.0	15.0
03	H & H Lines Power Improvements	SGR	22.0	4.6	.4	14.7	.0	41.6
04	Replace Motor Alternators	NR	.0	.0	5.0	.0	.0	5.0
05	Replace Substation Batteries	NR	.2	.2	.2	.2	.2	1.0
06	Park Ave Tunnel&Viaduct Alarm	NR	.0	.0	7.5	.0	.0	7.5
07	Repl HRLB Breaker Hses/Cntrls	NR	13.6	.0	.0	.0	.0	13.6
08	Repl 3rd Rail Sec Switches	NR	1.2	1.2	1.2	1.2	1.2	6.0
09	Repl 3rd RailBrackets-PATunnel	NR	.3	.3	.3	.3	.3	1.3
Element Total 01			**$76.3**	**$9.3**	**$17.5**	**$19.3**	**$4.7**	**$127.0**
Category Total 605			**$76.3**	**$9.3**	**$17.5**	**$19.3**	**$4.7**	**$127.0**

* Represents values less than $50,000

Metro-North Railroad

SHOPS AND YARDS

M- 606

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**SHOPS AND YARDS**							
01	Harmon Shop - Phase IV Const.	SGR	36.0	4.3	373.2	.0	.0	413.5
02	Wassaic Yard Expansion - D/C	SI	.0	.0	3.0	.0	.0	3.0
03	Other Shops/Yards Renewal	NR	.0	.0	10.5	14.5	.0	25.0
04	Port Jervis Yard Expansion	SI	7.3	.0	.0	.0	.0	7.3
Element Total 01			**$43.3**	**$4.3**	**$386.7**	**$14.5**	**$.0**	**$448.8**
Category Total 606			**$43.3**	**$4.3**	**$386.7**	**$14.5**	**$.0**	**$448.8**

* Represents values less than $50,000

Metro-North Railroad

MISCELLANEOUS

M- 608

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**MISCELLANEOUS**							
01	Systemwide Lead/Asb Abatement	SGR	1.0	.0	2.0	1.0	1.0	5.0
02	Environmental Remediation	SGR	.4	.0	.8	.4	.4	2.0
03	Railroad Protective Liability		.8	.8	.8	.8	.9	4.2
04	Independent Engineer		1.5	1.5	1.5	1.5	1.6	7.7
05	Program Administration		8.0	8.5	9.0	9.5	10.0	45.0
06	Program Scope Development		2.3	2.3	2.3	2.3	2.3	11.6
07	OCIP		.0	.0	19.9	.0	.0	19.9
08	SystemwideSecurity Initiatives	SI	.0	.6	4.4	.0	.0	5.0
Element Total 01			**$14.1**	**$13.8**	**$40.8**	**$15.6**	**$16.2**	**$100.3**
Category Total 608			**$14.1**	**$13.8**	**$40.8**	**$15.6**	**$16.2**	**$100.3**
TOTAL PROGRAM			**$576.9**	**$158.7**	**$862.6**	**$150.1**	**$90.8**	**$1,839.0**

* Represents values less than $50,000

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CRR AGENCY SUMMARY

Commitments
($ in millions)

AGENCY	2010	2011	2012	2013	2014	Total All Years
TOTAL LIRR PROGRAM	$292.3	$811.0	$721.9	$510.0	$422.8	$2,758.0
TOTAL MNR PROGRAM	$576.9	$158.7	$862.6	$150.1	$90.8	$1,839.0
TOTAL	$869.2	$969.7	$1,584.5	$660.1	$513.6	$4,597.0
TOTAL MTA CAPITAL PROGRAM	$869.2	$969.7	$1,584.5	$660.1	$513.6	$4,597.0

* Represents values less than $50,000

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MTA Bus Company

BUS COMPANY PROJECTS
U- 603

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
02	**BUS COMPANY PROJECTS**							
01	Program Administration		.0	4.1	4.3	4.4	4.6	17.4
02	Design/Construction Mgmt		.0	4.1	4.3	4.4	4.6	17.4
04	Security Improvements	SI	.0	6.1	.0	6.1	.0	12.2
05	Depot Equipment	SGR	.0	3.3	5.0	3.3	3.4	15.0
06	Service Vehicles	SGR	.0	.0	.0	4.6	.0	4.6
07	New Elevator CP	SGR	.0	.0	.0	2.2	.0	2.2
08	New Apron JFK	SGR	.0	6.5	.0	.0	.0	6.5
09	Renewable Energy-Green Roof FR	SI	.0	.0	.0	2.4	.0	2.4
10	5 New Bus Washers SC CP	SGR	.0	.0	.0	.0	6.5	6.5
11	New HVAC SC CP	SGR	.0	.0	.0	.0	6.5	6.5
12	CNG Upgrade/Conversion SC CP	SGR	.0	.0	.0	5.0	.0	5.0
13	Depot Mods for Artics BP JFK	SGR	.0	.0	6.1	.0	.0	6.1
14	Storeroom Expansion: Var Locs	SGR	.0	.0	.0	3.0	.0	3.0
15	83 Standard Buses 2010	NR	50.9	.0	.0	.0	.0	50.9
16	64 Standard Buses 2011	NR	.0	46.3	.0	.0	.0	46.3
17	34 Standard Buses 2012	NR	.0	.0	25.9	.0	.0	25.9
18	37 Express Buses 2012	NR	.0	.0	23.6	.0	.0	23.6
19	72 Artics 2012	NR	.0	.0	65.5	.0	.0	65.5
20	Real Time Customer Information	SI	.0	8.0	.0	.0	.0	8.0
Element Total 02			**$50.9**	**$78.4**	**$134.6**	**$35.5**	**$25.6**	**$325.0**
Category Total 603			**$50.9**	**$78.4**	**$134.6**	**$35.5**	**$25.6**	**$325.0**
TOTAL PROGRAM			**$50.9**	**$78.4**	**$134.6**	**$35.5**	**$25.6**	**$325.0**

* Represents values less than $50,000

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CORE AGENCY SUMMARY

Commitments
($ in millions)

AGENCY			2010	2011	2012	2013	2014	2015	Total All Years
TOTAL	NYCT	PROGRAM	$3,285.1	$2,181.9	$5,075.3	$2,183.0	$804.6	$0.0	$13,529.9
TOTAL	SIR	PROGRAM	$41.9	$.0	$263.3	$26.0	$.0	$0.0	$331.2
TOTAL			$3,327.0	$2,181.9	$5,338.6	$2,209.0	$804.6	$0.0	$13,861.0
TOTAL	LIRR	PROGRAM	$292.3	$811.0	$721.9	$510.0	$422.8	$0.0	$2,758.0
TOTAL	MNR	PROGRAM	$576.9	$158.7	$862.6	$150.1	$90.8	$0.0	$1,839.0
TOTAL			$869.2	$969.7	$1,584.5	$660.1	$513.6	$0.0	$4,597.0
TOTAL	BUS	PROGRAM	$50.9	$78.4	$134.6	$35.5	$25.6	$0.0	$325.0
TOTAL			$50.9	$78.4	$134.6	$35.5	$25.6	$0.0	$325.0
TOTAL MTA CAPITAL PROGRAM			$4,247.0	$3,229.9	$7,057.7	$2,904.6	$1,343.7	$0.0	$18,783.0

* Represents values less than $50,000

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MTA-WIDE SECURITY AND SAFETY

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 MTA-WIDE SECURITY AND SAFETY							
01 Capital Security Reserve	SI	50.0	50.0	50.0	50.0	50.0	250.0
02 Capital Safety Reserve	SI	152.0	248.0	.0	.0	.0	400.0
Element Total 01		**$202.0**	**$298.0**	**$50.0**	**$50.0**	**$50.0**	**$650.0**
Category Total 601		**$202.0**	**$298.0**	**$50.0**	**$50.0**	**$50.0**	**$650.0**
TOTAL PROGRAM		**$202.0**	**$298.0**	**$50.0**	**$50.0**	**$50.0**	**$650.0**

* Represents values less than $50,000

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MTA Interagency

MTA POLICE DEPARTMENT

N- 610

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 MTA PD PROJECTS							
02 Staten Island District Office	NR	.0	.0	12.0	.0	.0	12.0
03 Nassau County District Office	NR	13.0	.0	.0	.0	.0	13.0
04 Public Safety Radio - Phase 2	SI	.0	.0	60.0	.0	.0	60.0
Element Total 01		**$13.0**	**$.0**	**$72.0**	**$.0**	**$.0**	**$85.0**
Category Total 610		**$13.0**	**$.0**	**$72.0**	**$.0**	**$.0**	**$85.0**

* Represents values less than $50,000

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MTA Interagency

MTA BSC / FACILITIES REHAB

N- 611

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**MTA BSC / FACILITIES REHAB**							
01	MTA Business Service Center	SI	29.8	.0	45.2	.0	.0	75.0
02	Jay Street Building Rehab	NR	73.6	.0	110.4	.0	.0	184.0
Element Total 01			**$103.4**	**$.0**	**$155.6**	**$.0**	**$.0**	**$259.0**
Category Total 611			**$103.4**	**$.0**	**$155.6**	**$.0**	**$.0**	**$259.0**

* Represents values less than $50,000

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MTA Interagency

MTA PLANNING
N- 612

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 MTA PLANNING INITIATIVES							
01 Core Planning Support	SI	2.6	2.6	2.6	2.6	2.6	13.0
02 Corridor Planning Support	SI	2.6	2.6	2.6	2.6	2.6	13.0
03 Tappan Zee Bridge Rail Study	SI	6.0	6.0	6.0	6.0	6.0	30.0
Element Total 01		**$11.2**	**$11.2**	**$11.2**	**$11.2**	**$11.2**	**$56.0**
Category Total 612		**$11.2**	**$11.2**	**$11.2**	**$11.2**	**$11.2**	**$56.0**
TOTAL PROGRAM		**$127.6**	**$11.2**	**$238.8**	**$11.2**	**$11.2**	**$400.0**

* Represents values less than $50,000

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Capital Construction Company

EAST SIDE ACCESS

G- 609

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**EAST SIDE ACCESS**							
01	Program Management	NE	.0	7.0	9.0	7.5	14.7	38.2
02	Engineering	NE	.0	.0	33.6	.0	.0	33.6
03	MTA Management	NE	.0	7.0	9.5	8.7	22.7	47.9
04	Force Account Support	NE	.0	.0	5.4	.0	.0	5.4
05	Manh Structures 1-MNR ForcAcct	NE	.0	8.6	7.7	.0	.0	16.3
06	Track & 3rd Rail	NE	28.5	.0	86.7	.0	.0	115.2
07	Communication & Controls	NE	.0	50.0	93.3	.0	.0	143.3
08	Tunnel Vent & Facility Power	NE	.0	50.0	162.4	.0	.0	212.4
09	Traction Power	NE	.0	40.0	19.6	.0	.0	59.6
10	Signals	NE	.0	.0	114.9	.0	.0	114.9
11	OCIP	NE	15.0	15.0	15.0	13.7	.0	58.7
12	55th St. Ventilation Facility	NE	73.4	.0	.0	.0	.0	73.4
13	Construction Management	NE	14.8	37.2	49.5	34.5	62.4	198.3
14	GCT Concrse&Facilities	NE	.0	235.2	.0	.0	.0	235.2
15	Vertical Circulation Elements	NE	20.0	43.9	40.0	.0	.0	103.9
16	General Conditions	NE	.0	6.0	.0	7.0	2.4	15.4
17	Manh Structures 2	NE	10.0	90.8	336.2	.0	.0	437.1
18	Harold Interlocking ForceAcct	NE	28.2	38.6	52.8	33.5	41.3	194.5
19	Harold Misroute (TCA)	NE	.0	.0	13.2	.0	.0	13.2
20	Plaza Substation & Structures	NE	244.9	.0	.0	.0	.0	244.9
21	Mid-Day Storage Yard Facility	NE	.0	.0	182.0	.0	.0	182.0
22	Harold Structures - Part 2A	NE	.0	.0	12.2	.0	.0	12.2
23	Harold Structures - Part 3A	NE	72.0	.0	.0	.0	.0	72.0
24	Harold Structures - Part 3B	NE	.0	.0	36.2	.0	.0	36.2
25	Amtrak Access & Protection	NE	.0	5.1	3.0	.6	4.4	13.0
26	LIRR Access & Protection	NE	.0	6.9	3.9	.7	13.7	25.2
27	System Testing & Commissioning	NE	.0	.0	50.0	.0	.0	50.0
28	Rolling Stock Procurement	NE	.0	.0	202.0	.0	.0	202.0
Element Total 01			**$506.9**	**$641.3**	**$1,538.2**	**$106.2**	**$161.5**	**$2,954.0**
Category Total 609			**$506.9**	**$641.3**	**$1,538.2**	**$106.2**	**$161.5**	**$2,954.0**

* Represents values less than $50,000

Capital Construction Company

FULL LENGTH SECOND AVE SUBWAY

G- 610

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**FULL LENGTH SECOND AVE SUBWAY**							
01	2B/C: Shell/Finishes/MEP 96 St	NE	.0	256.2	198.7	.0	.0	454.9
02	4C: Station Finishes/MEP 72 St	NE	.0	.0	289.8	.0	.0	289.8
03	5B: Mining/Lining 86 St	NE	.0	270.1	.0	.0	.0	270.1
04	5C: Station Finishes/MEP 86 St	NE	.0	.0	.0	290.0	.0	290.0
05	6: Power Signal MEP Comm Track	NE	.0	.0	104.0	.0	.0	104.0
97	OCIP	NE	.0	.0	5.0	5.0	8.0	18.0
98	Real Estate	NE	.0	6.0	5.8	.0	.0	11.8
99	Reserve	NE	.0	13.0	35.5	.0	.0	48.5
Element Total 01			**$.0**	**$545.3**	**$638.8**	**$295.0**	**$8.0**	**$1,487.1**
Category Total 610			**$.0**	**$545.3**	**$638.8**	**$295.0**	**$8.0**	**$1,487.1**

* Represents values less than $50,000

Capital Construction Company

REGIONAL INVESTMENTS

G- 614

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT		Needs Code	2010	2011	2012	2013	2014	Total All Years
01	**REGIONAL INVESTMENTS**							
01	WBBP & EBRR F/A Connections	NE	6.8	5.1	18.4	12.0	7.8	50.1
02	Sunnyside Station	NE	.5	.5	.0	.0	.0	1.1
03	W. Bnd By-Pass/E. Bnd Re-Rte	NE	167.9	.0	88.6	.0	.0	256.5
04	Loop Interlocking	NE	.0	.0	33.6	.0	.0	33.6
05	Amtrak Buildings	NE	9.7	.0	.0	.0	.0	9.7
06	Rolling Stock Procurement	NE	.0	.0	50.0	.0	.0	50.0
Element Total 01			**$184.9**	**$5.6**	**$190.7**	**$12.0**	**$7.8**	**$401.0**
Category Total 614			**$184.9**	**$5.6**	**$190.7**	**$12.0**	**$7.8**	**$401.0**

* Represents values less than $50,000

Capital Construction Company

ESA RS / LIABILITY RESERVE

G- 615

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 ESA RS / LIABILITY RESERVE							
01 Rolling Stock Reserve	NE	.0	.0	463.0	.0	.0	463.0
02 Liability Reserve	NE	46.8	46.8	46.8	46.8	46.8	234.0
Element Total 01		**$46.8**	**$46.8**	**$509.8**	**$46.8**	**$46.8**	**$697.0**
Category Total 615		**$46.8**	**$46.8**	**$509.8**	**$46.8**	**$46.8**	**$697.0**

* Represents values less than $50,000

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
01 MISCELLANEOUS							
01 Misc Engineering/Prog Support	NE	40.0	40.0	40.0	40.0	40.0	200.0
Element Total 01		**$40.0**	**$40.0**	**$40.0**	**$40.0**	**$40.0**	**$200.0**
Category Total 616		**$40.0**	**$40.0**	**$40.0**	**$40.0**	**$40.0**	**$200.0**
TOTAL PROGRAM		**$778.6**	**$1,279.0**	**$2,917.5**	**$500.0**	**$264.1**	**$5,739.2**

* Represents values less than $50,000

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Commitments
($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
AW Agency-Wide							
98 TunnelVulnerability: BBT & QMT	NR	3.1	.0	.0	.0	.0	3.1
Element Total AW		**$3.1**	**$.0**	**$.0**	**$.0**	**$.0**	**$3.1**
BB Brooklyn-Battery Tunnel							
56 Misc. Tunnel Ceiling Repairs	NR	.0	.0	.0	.6	15.7	16.3
Element Total BB		**$.0**	**$.0**	**$.0**	**$.6**	**$15.7**	**$16.3**
BW Bronx-Whitestone Bridge							
07 Tower Pier & Fender Protection	NR	1.3	1.3	6.6	.0	.0	9.2
14 Misc Structural Rehabilitation	NR	.0	2.2	.0	11.4	.0	13.6
84 Cable Investigation/Monitoring	NR	.0	2.9	7.1	.0	.0	10.0
Element Total BW		**$1.3**	**$6.4**	**$13.7**	**$11.4**	**$.0**	**$32.8**
CB Cross-Bay Bridge							
09 Substructure & Underwater Work	NR	35.5	.0	.0	.0	.0	35.5
Element Total CB		**$35.5**	**$.0**	**$.0**	**$.0**	**$.0**	**$35.5**
HH Henry Hudson Bridge							
81 Repl Lower Lvl South Approach	NR	8.2	.0	.0	.0	.0	8.2
Element Total HH		**$8.2**	**$.0**	**$.0**	**$.0**	**$.0**	**$8.2**
MP Marine Parkway Bridge							
06 Substr&Underwater/ScourProtect	NR	2.4	.0	13.6	.0	.0	16.0
16 Miscellaneous Steel Repairs	NR	.0	.0	1.3	.0	.0	1.3
Element Total MP		**$2.4**	**$.0**	**$15.0**	**$.0**	**$.0**	**$17.4**
QM Queens Midtown Tunnel							
18 Entr&Exit Plazas Struct Rehab	NR	.0	2.9	.0	.0	17.0	19.9
40 Tunnel Wall & Ceiling Repairs	NR	.0	10.2	.0	.0	18.5	28.7
Element Total QM		**$.0**	**$13.1**	**$.0**	**$.0**	**$35.5**	**$48.6**
RK Robert F. Kennedy Bridge							
23 Misc Rehab-Manh Approach Ramps	NR	3.2	.0	31.2	.0	.0	34.4
Element Total RK		**$3.2**	**$.0**	**$31.2**	**$.0**	**$.0**	**$34.4**
TN Throgs Neck Bridge							
52 Miscellaneous Structural Rehab	NR	5.1	.0	.0	7.1	.0	12.3
60 Anchorage Dehumidification	NR	.0	.5	2.6	.0	.0	3.1
85 Suspended Span Deck Repair	NR	48.0	.0	.0	.0	.0	48.0
Element Total TN		**$53.1**	**$.5**	**$2.6**	**$7.1**	**$.0**	**$63.3**

* Represents values less than $50,000

Commitments
($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
VN Verrazano-Narrows Bridge							
34 VNB Main Cable Testing	NR	.0	.0	.0	.0	5.2	5.2
35 Steel Repair & Concrete Rehab	NR	.0	19.1	.0	.0	.0	19.1
36 Tower/Suspended Span Seismic	NR	.0	.0	.0	4.7	.0	4.7
Element Total VN		**$.0**	**$19.1**	**$.0**	**$4.7**	**$5.2**	**$29.0**
Category Total 601		**$106.9**	**$39.1**	**$62.4**	**$23.8**	**$56.4**	**$288.6**

* Represents values less than $50,000

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
BB Brooklyn-Battery Tunnel							
28 RehabTunnel Walls / Drainage	NR	.0	.7	3.8	1.5	55.8	61.8
54 Repl BrooklynPlaza Struct Slab	NR	.0	.0	2.1	19.2	.0	21.4
Element Total BB		**$.0**	**$.7**	**$6.0**	**$20.7**	**$55.8**	**$83.2**
BW Bronx-Whitestone Bridge							
89 Deck Repl Elev&OnGradeApproach	NR	8.0	22.4	261.8	.0	.0	292.2
Element Total BW		**$8.0**	**$22.4**	**$261.8**	**$.0**	**$.0**	**$292.2**
CB Cross-Bay Bridge							
19 Ped Sidewalk/BikePath Imprvmts	SI	.0	1.0	.0	.0	.0	1.0
Element Total CB		**$.0**	**$1.0**	**$.0**	**$.0**	**$.0**	**$1.0**
HH Henry Hudson Bridge							
10 UpperLvl Sidewlk/CurbStringers	NR	42.9	.0	.0	.0	.0	42.9
Element Total HH		**$42.9**	**$.0**	**$.0**	**$.0**	**$.0**	**$42.9**
MP Marine Parkway Bridge							
21 Rehab Rockaway Pt Overpass	NR	1.2	5.4	.0	.0	.0	6.6
Element Total MP		**$1.2**	**$5.4**	**$.0**	**$.0**	**$.0**	**$6.6**
RK Robert F. Kennedy Bridge							
65 DeckRepl:Brx/ManhRampsTollPlza	NR	47.7	.0	510.6	.0	.0	558.2
74 Replace T-48 Wearing Surface	NR	2.6	.0	30.9	.0	.0	33.5
75 Manh Toll Plaza Rehab /Repairs	NR	6.9	39.5	.0	.0	.0	46.4
Element Total RK		**$57.2**	**$39.5**	**$541.4**	**$.0**	**$.0**	**$638.1**
TN Throgs Neck Bridge							
49 SeismicRetrofit/Repl Susp Span	NR	11.3	.0	85.5	.0	.0	96.7
82 Rehab Orthotropic Deck Phase B	NR	52.6	.0	.0	.0	.0	52.6
Element Total TN		**$63.9**	**$.0**	**$85.5**	**$.0**	**$.0**	**$149.3**
VN Verrazano-Narrows Bridge							
03 Toll Plaza E & W Bound Ramps	NR	104.7	5.0	3.0	.0	.0	112.7
80 Rehab Upper Lvl Suspended Span	NR	412.4	.0	.0	.0	.0	412.4
84 Widening of Belt Parkway Ramps	NR	12.0	.0	.0	.0	.0	12.0
Element Total VN		**$529.1**	**$5.0**	**$3.0**	**$.0**	**$.0**	**$537.1**
Category Total 602		**$702.2**	**$73.9**	**$897.7**	**$20.7**	**$55.8**	**$1,750.4**

* Represents values less than $50,000

Bridges and Tunnels

Toll Plazas
D- 603

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
AW Agency-Wide							
35 Weather Information Systems	SI	.0	.2	.8	.0	.0	1.0
36 Installation of CCTV/Fiber Opt	NR	.9	11.3	.0	.0	.0	12.2
42 Wireless Communications	SI	.0	.4	.0	1.9	.0	2.3
47 Digital Video Surveillance Sys	NR	1.3	.0	.0	.0	.0	1.3
48 2nd Generation E-ZPass In-Lane	SI	.0	1.3	11.9	11.8	.0	25.0
52 Adv Traffic Detection/Mgt Sys	SI	.0	1.1	3.5	.0	.0	4.6
53 Weigh In Motion Systems	SI	1.8	11.9	.0	.0	.0	13.7
54 Regional Integration	SI	.0	2.9	.0	.0	.0	2.9
57 Advanced Traffic Mgt Systems	SI	.0	.7	.0	2.8	.0	3.5
62 Smart Card Development	SI	.0	.0	2.0	.0	.0	2.0
Element Total AW		**$3.9**	**$29.9**	**$18.2**	**$16.4**	**$.0**	**$68.5**
BW Bronx-Whitestone Bridge							
12 New Toll Plaza	SI	.0	3.0	.0	.0	.0	3.0
Element Total BW		**$.0**	**$3.0**	**$.0**	**$.0**	**$.0**	**$3.0**
HH Henry Hudson Bridge							
85 Upper Level Toll Plaza Deck	NR	.0	45.0	.0	.0	.0	45.0
Element Total HH		**$.0**	**$45.0**	**$.0**	**$.0**	**$.0**	**$45.0**
Category Total 603		**$3.9**	**$77.9**	**$18.2**	**$16.4**	**$.0**	**$116.5**

* Represents values less than $50,000

Commitments
($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
AW Agency-Wide							
80 Advanced Traveler Info Systems	SI	.0	2.2	.0	17.9	.0	20.1
Element Total AW		**$.0**	**$2.2**	**$.0**	**$17.9**	**$.0**	**$20.1**
BB Brooklyn-Battery Tunnel							
45 Tunnel Ventilation Sys Rehab	NR	62.3	.0	.0	.0	.0	62.3
Element Total BB		**$62.3**	**$.0**	**$.0**	**$.0**	**$.0**	**$62.3**
BW Bronx-Whitestone Bridge							
15 Necklace Lighting	NR	1.3	.0	9.5	.0	.0	10.8
Element Total BW		**$1.3**	**$.0**	**$9.5**	**$.0**	**$.0**	**$10.8**
MP Marine Parkway Bridge							
03 PLC and Mechanical Rehab	NR	.0	1.5	.0	7.9	.0	9.5
Element Total MP		**$.0**	**$1.5**	**$.0**	**$7.9**	**$.0**	**$9.5**
QM Queens Midtown Tunnel							
30 TunnelVent Bldg Electr Upgrade	NR	.0	1.8	57.6	.0	.0	59.5
81 Controls/Communication System	NR	.0	.0	4.4	.0	.0	4.4
Element Total QM		**$.0**	**$1.8**	**$62.0**	**$.0**	**$.0**	**$63.8**
VN Verrazano-Narrows Bridge							
82 Substation #1 Rehabilitation	NR	.0	15.1	.0	.0	.0	15.1
Element Total VN		**$.0**	**$15.1**	**$.0**	**$.0**	**$.0**	**$15.1**
Category Total 604		**$63.6**	**$20.7**	**$71.5**	**$25.8**	**$.0**	**$181.6**

* Represents values less than $50,000

Commitments
($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
AW Agency-Wide							
12 Hazardous Material Abatement	NR	1.0	1.9	1.9	1.9	1.9	8.7
Element Total AW		**$1.0**	**$1.9**	**$1.9**	**$1.9**	**$1.9**	**$8.7**
BB Brooklyn-Battery Tunnel							
21 Service Bldg Rehab & Expansion	NR	.5	1.3	.0	2.3	8.4	12.6
Element Total BB		**$.5**	**$1.3**	**$.0**	**$2.3**	**$8.4**	**$12.6**
RK Robert F. Kennedy Bridge							
34 New Service Building (SWSB)	NR	9.9	94.3	.0	.0	.0	104.2
Element Total RK		**$9.9**	**$94.3**	**$.0**	**$.0**	**$.0**	**$104.2**
VN Verrazano-Narrows Bridge							
01 Rehab/ Expand Service Building	NR	1.5	.0	.0	.0	5.7	7.2
Element Total VN		**$1.5**	**$.0**	**$.0**	**$.0**	**$5.7**	**$7.2**
Category Total 605		**$12.9**	**$97.4**	**$1.9**	**$4.2**	**$16.0**	**$132.5**

* Represents values less than $50,000

Commitments ($ in millions)

ELEMENT DESCRIPTION/PROJECT	Needs Code	2010	2011	2012	2013	2014	Total All Years
AW Agency-Wide							
15 MTA Independent Engineer		.6	.6	.6	.6	1.4	3.9
18 Protective Liability Insurance		.8	.8	.8	.8	.8	3.9
21 Program Administration		2.9	2.9	2.9	2.9	2.9	14.3
22 Miscellaneous		.6	.6	.6	.6	.6	3.1
28 Scope Development		2.0	.9	.9	1.0	1.0	6.0
85 Traffic Enforcement Support		7.3	.0	.0	.0	.0	7.3
Element Total AW		**$14.1**	**$5.8**	**$5.8**	**$5.9**	**$6.7**	**$38.3**
Category Total 606		**$14.1**	**$5.8**	**$5.8**	**$5.9**	**$6.7**	**$38.3**
TOTAL PROGRAM		**$903.6**	**$314.9**	**$1,057.6**	**$97.0**	**$134.9**	**$2,508.0**

* Represents values less than $50,000

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ALL AGENCY SUMMARY

Commitments
($ in millions)

AGENCY		2010	2011	2012	2013	2014	Total All Years
Total	New York City Transit	$3,327.0	$2,181.9	$5,338.6	$2,209.0	$804.6	$13,861.0
Total	Long Island Rail Road	$292.3	$811.0	$721.9	$510.0	$422.8	$2,758.0
Total	Metro-North Railroad	$576.9	$158.7	$862.6	$150.1	$90.8	$1,839.0
Total	MTA Bus Company	$50.9	$78.4	$134.6	$35.5	$25.6	$325.0
Core Sutotal		$4,247.0	$3,229.9	$7,057.7	$2,904.6	$1,343.7	$18,783.0
Total	Security and Safety	$202.0	$298.0	$50.0	$50.0	$50.0	$650.0
Total	MTA Interagency	$127.6	$11.2	$238.8	$11.2	$11.2	$400.0
Total	Capital Construction Company	$778.6	$1,279.0	$2,917.5	$500.0	$264.1	$5,739.2
Total 2010-2014 CPRB Program		$5,355.2	$4,818.1	$10,264.1	$3,465.8	$1,669.0	$25,572.2
Total	Bridges and Tunnels	$903.6	$314.9	$1,057.6	$97.0	$134.9	$2,508.0
Total 2010-2014 CAPITAL PROGRAM		$6,258.9	$5,133.0	$11,321.6	$3,562.8	$1,803.9	$28,080.2

* Represents values less than $50,000