

The View from the Subway (Bus, Railroad, Bridge & Tunnel)

*The Challenges of Maintaining and
Operating a 100(+) Year Old System*



**Transportation Research Board
January 13, 2009**



What I'll Talk About Today

- 1. What is the MTA?**
- 2. The Way We Were**
- 3. Going the Right Way**
 - 1. State of Good Repair**
 - a. Normal Replacement**
 - 2. Modest System Improvements**
- 4. What's Next?**
- 5. How Do We Pay for it All?**



What is the MTA?

- **State Authority that serves 3 states, 14 counties, 5000+ sq. mi.**



What is the MTA?

- State Authority that serves 3 states, 14 counties, 5000+ sq. mi.
- **Largest regional transit provider in U.S.:**
 - **New York City Transit**
 - **Long Island Rail Road**
 - **Long Island Bus**
 - **Metro-North Railroad**
 - **Bridges and Tunnels**
 - **Capital Construction**
 - **MTA Bus Company**



What is the MTA?

- Over **8.5 million** transit rides a day
 - Up over **3 million** since 1996/7
 - **30+/-%** of all transit rides in U.S.
 - more than next 10 systems **combined**
 - In **3.2 days** as many as Amtrak in one year
 - In **12-14** weeks as many as domestic airlines/yr
- B&T adds **900 k cars - 1.4 million people** a day
- **\$11+ billion** annual operating budget
- **\$21+ billion** five-year capital program



What is the MTA?

- **490** subway stations
- **243** commuter rail stations
- **3,012** bus route miles
- **1,931** track miles
- **8,453** rail and subway cars
- **6,400** buses
- **17** rail tunnels/**10** bridges
- **7** auto bridges, **2** tunnels, **197** toll lanes



“The Way We Were.....”

- Early ‘80s – Decades of disinvestment left system in shambles
- Daily reality:
 - breakdowns
 - fires
 - endless waits
 - high crime
- System in “death spiral”





Metropolitan Transportation Authority



Going the Right Way.....

- Over \$74 billion invested/reinvested through end of 2008
- Current 2005-2009 plan highest reinvestment levels ever - \$4+B/yr
- Out of “survival mode”



Going the Right Way.....SOGR

- **6,000+ new/rebuilt subway cars**
- **1,500+ new rail cars/coaches**
- **7,000+ new buses**



Going the Right Way.....SOGR

- **700 miles of subway track to state of good repair by '91 (400+ on railroads)**
- **200+ stations reconstructed**



Going the Right Way.....SOGR

- **New signals, pumps, fans, etc.**
- **Modest expansion (63rd St. Connector)**



Introduced New Technology

- **New-Tech subway cars**



Introduced New Technology

- **Clean Fuel buses**





Metropolitan Transportation Authority

Introduced New Technology

- Expanded utility, built ridership, bolstered regional and NATIONAL competitiveness:
 - MetroCard (PATH, AirTrain & RIOCC)
 - *E-ZPass*



State of Good Repair

What is SOGR?

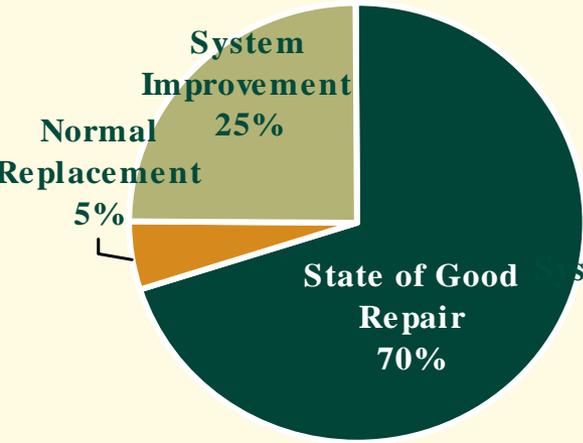
"Investments necessary to correct for past deferred maintenance or to replace equipment that is beyond its useful life"

Some include *"normal replacement"* as part of definition since it's essential to maintain SOGR



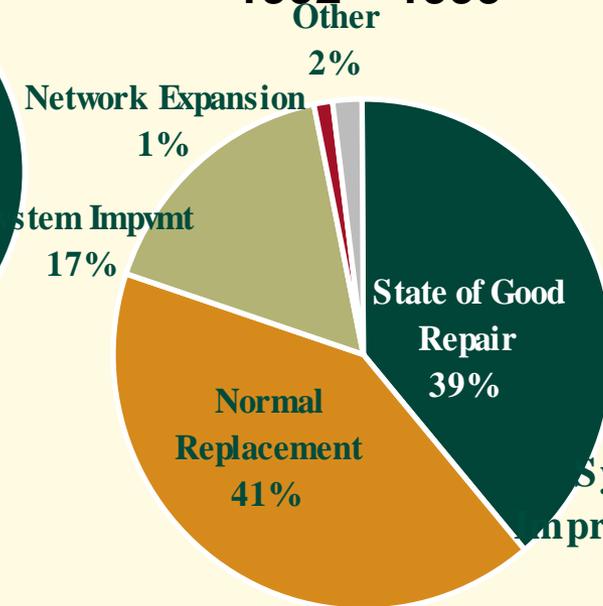
SOGR Evolution

1982 – 1991



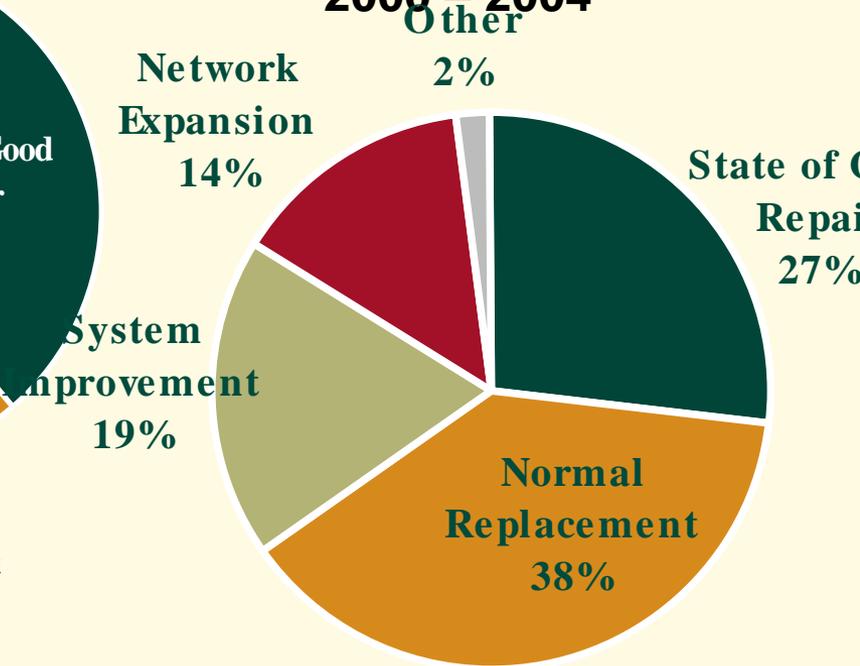
\$15.4 billion

1992 – 1999



\$18.1 billion

2000 – 2004

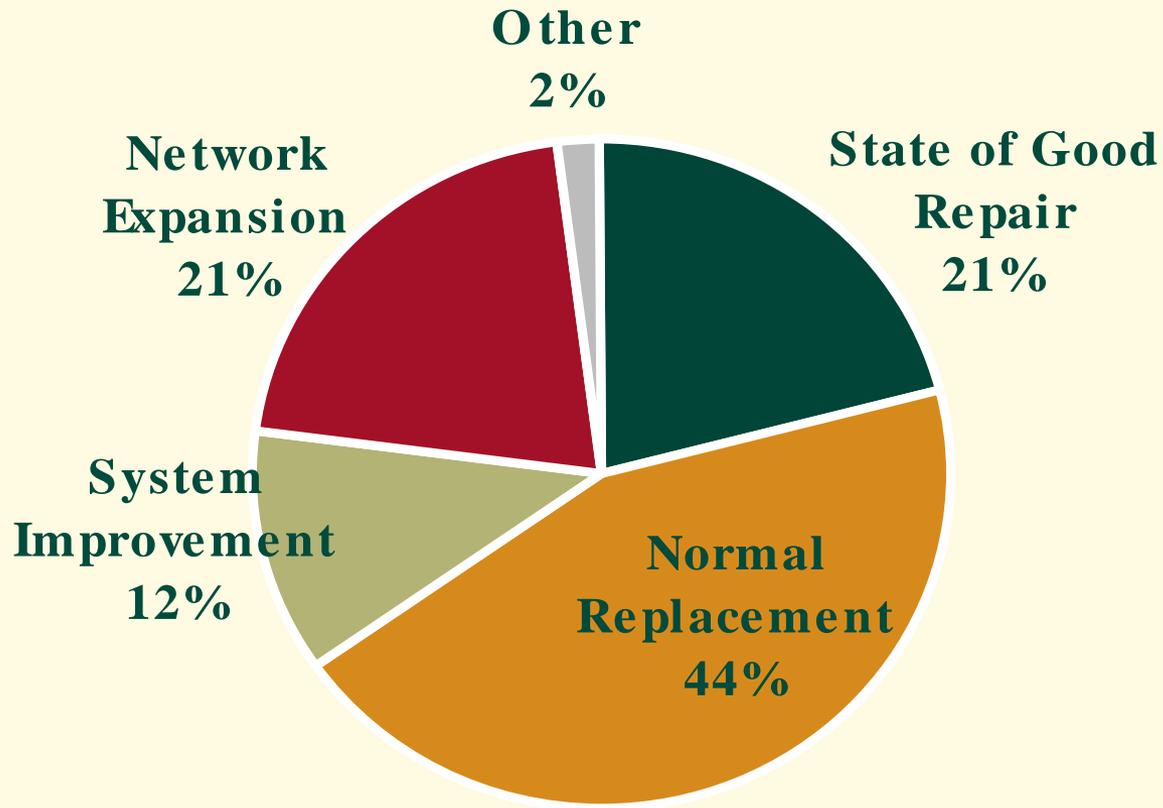


\$21.1 billion



Current Plan

2005 – 2009

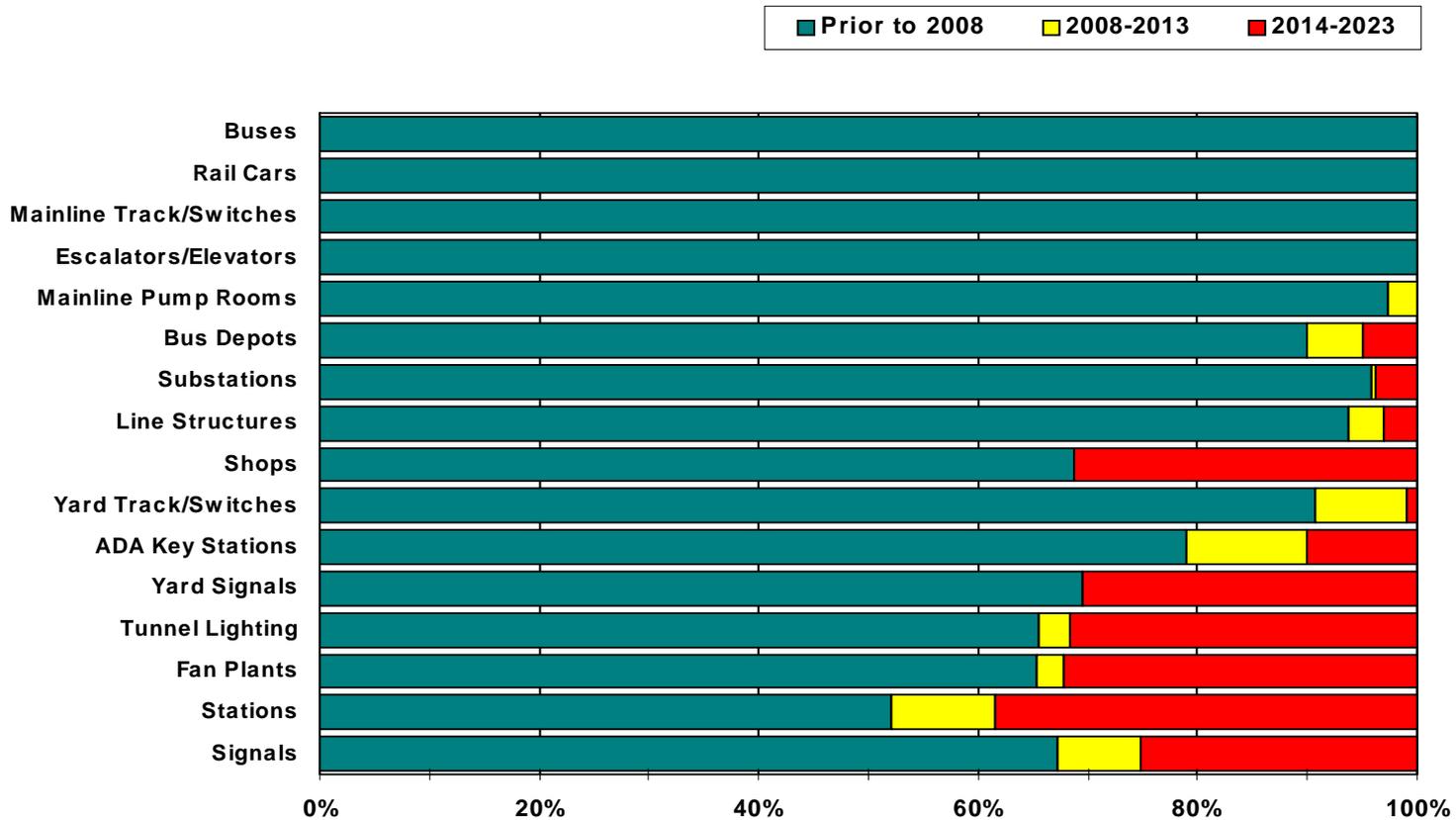


\$21.3 billion



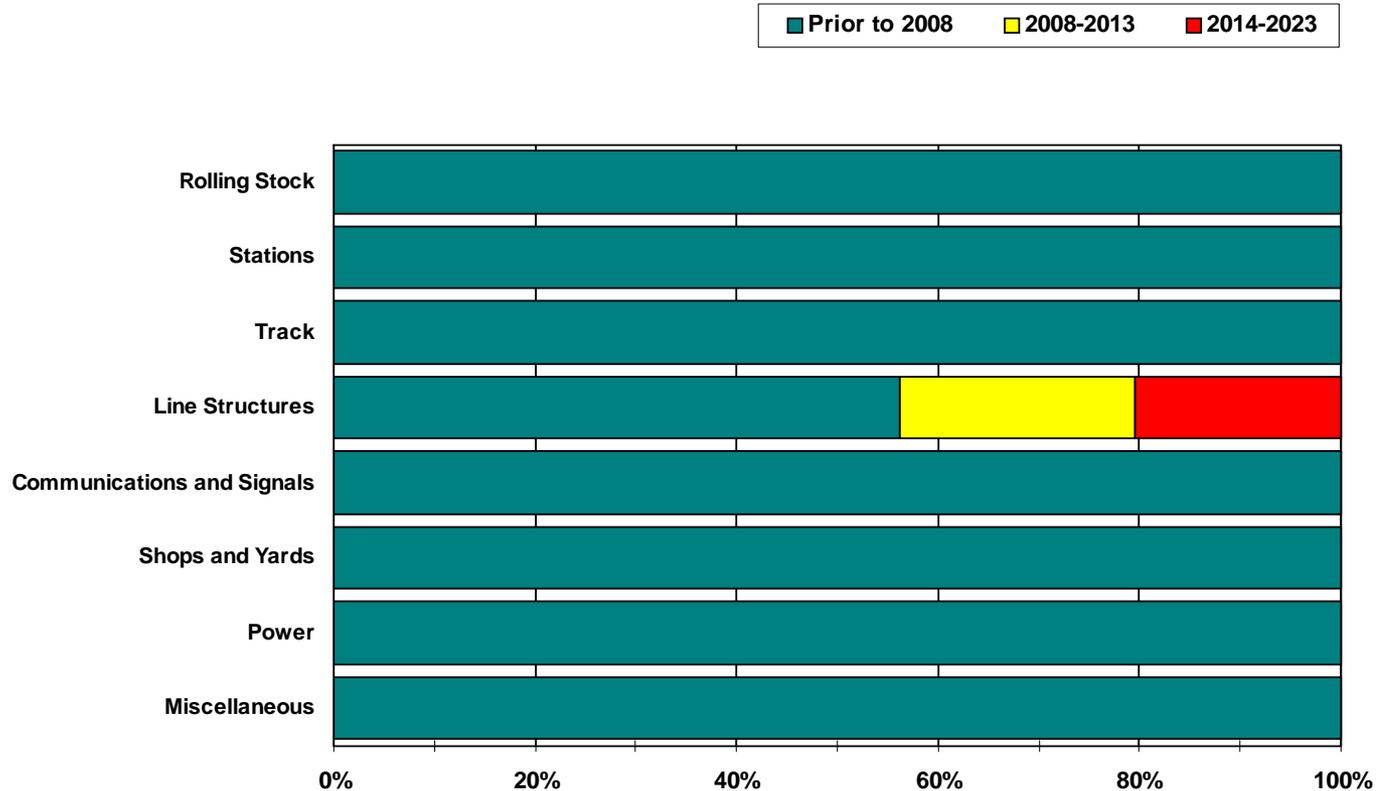
NYC Transit SOGR Status

SGR: 2008-2013, 2014-2023



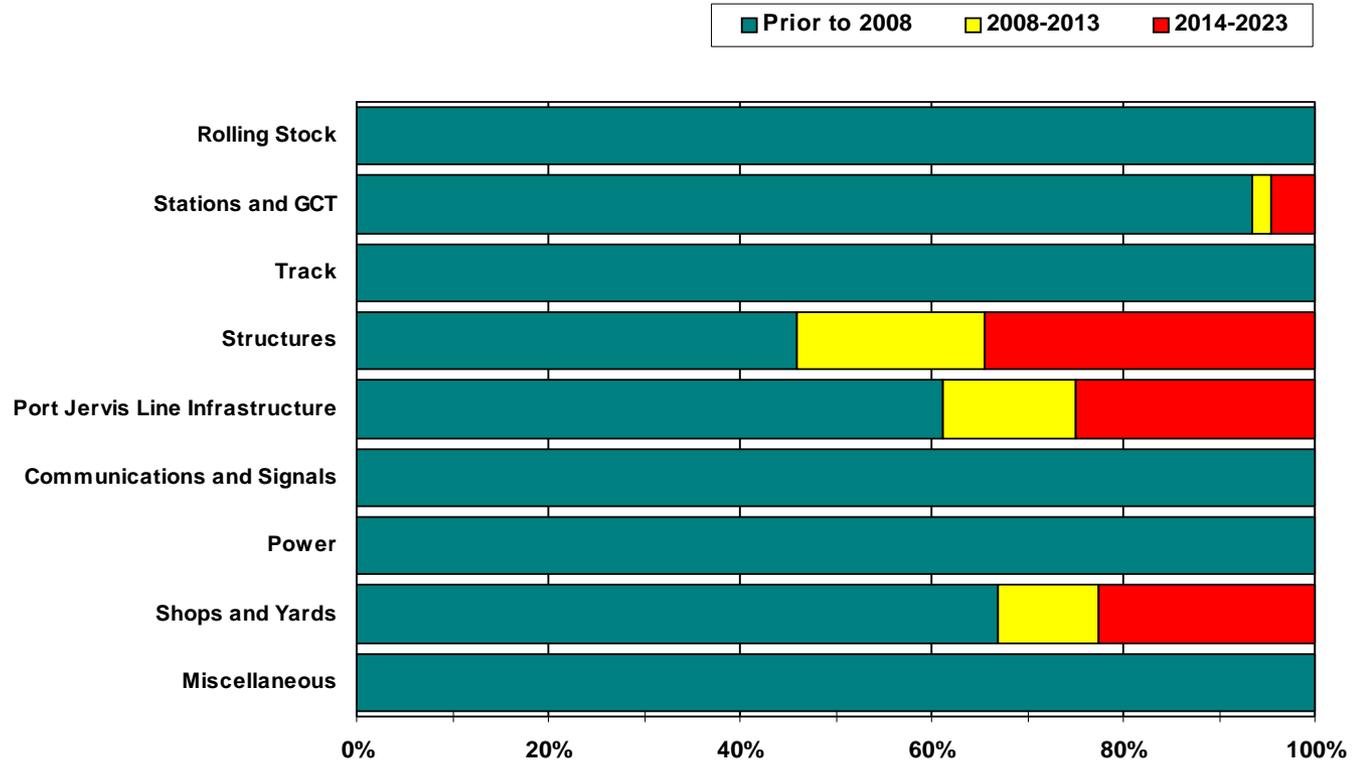
LIRR SOGR Status

SGR: 2008-2013, 2014-2023



MNR SOGR Status

SGR: 2008-2013, 2014-2023



The Results

- **Subway reliability increased by 155%**
- **MDBF up from <7,000 mi. to 156,624 mi.**
- **Delays down by 59%**
- **LIRR reliability increased by 332%**
- **Metro North reliability increased by 125%**
- **Ridership has grown by 58% from '82-'07
(*46% between '95 and '07 alone)**
- **During 1970s, ridership dropped 17%**



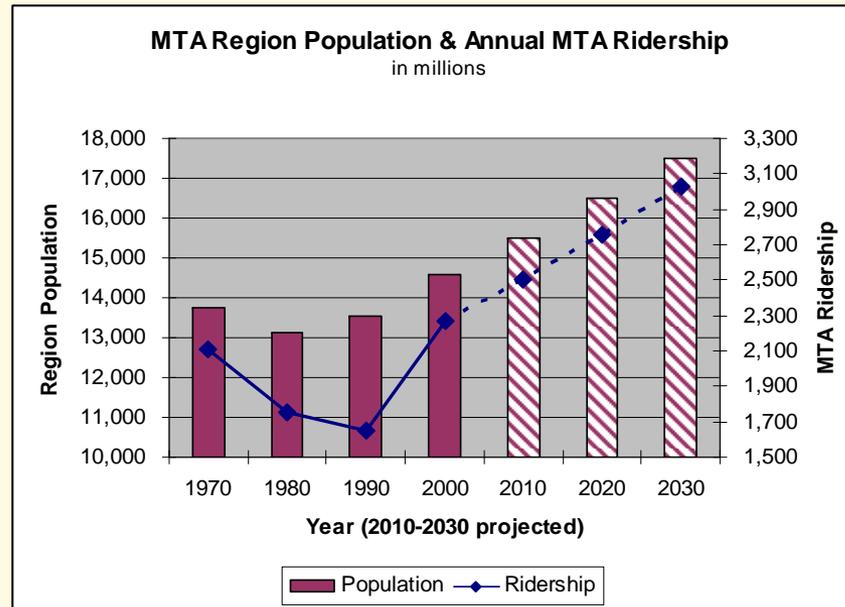
What's Next?

- **Developing 5-year plan starts with:**
 - **Asset Assessment**
 - **Twenty Year Needs Analysis**
 - **Setting 5 Year Envelope**



What's Next?

- All portions of the region are expected to experience robust population growth



Investment in transit, widely recognized as fundamental to economic prosperity, must keep pace.



What's Next?

- **State of Good Repair**
- **System Improvements**



State of Good Repair

- **New Rolling Stock**
- **Station Rehabilitations**
- **Tracks**
- **Signals**
- **Pumps**
- **Fans**
- **Security!**



2008-2013 Capital Program

	Total 2008-2013 Program
Tier 1: Core SOGR/NR Program	\$20,038
Tier 2: Core w/Current Improvements	\$26,304
Tier 3: Core, Current Improvements and Add'l Improvements	\$29,554



How Do We Pay For It All?

Existing Revenue Streams:

- **Fares and tolls**
- **Dedicated taxes**
- **Direct State Assistance**
- **City/County contributions**
- **Creative financing**
- **Federal Assistance**



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Regional Growth Demands Beyond Base Program

- Second Avenue Subway
 - Phase II: \$4.3B
 - Phase III: \$3.8B
 - Phase IV: \$5.0B
- LIRR Third Track: \$1B
- Increasing Train Frequency (Computer Based Train Control) \$1B
- Penn Station Access: \$800M
- NY/NJ Thru Running: \$300M
- Rail Access on Tappan Zee Bridge: \$6B
- Stewart Airport Connection: \$500M



Tier 3: Core Program, Completion of Current Expansions, New Expansions

in millions

Core CPRB Program Investments	\$20,535
Completion of Existing Capacity Expansions	5,769
New Capacity Expansion Investments:	
<i>CBTC Flushing and Qns. Blvd*</i>	\$1,425
<i>Second Avenue Subway Next Phase*</i>	1,000
<i>Penn Access*</i>	400
<i>Jamaica Capacity Improvement</i>	150
<i>#7 Fleet Expansion</i>	175
<i>Capacity Planning Studies</i>	50
<i>Sustainability Investments</i>	50
Implementation Initiatives for Congestion Mitigation (\$767 million)	**
Total Core CPRB Program, Current Expansions and New Expansions	\$29,554

*Completed over two plan periods.



**Paid for by Congestion Pricing revenues
Metropolitan Transportation Authority

2008-2013 Capital Program

Potential Funding Sources

in millions

Federal Formula and Flexible	8,100
Federal Security	590
City Funding (including MTA Bus)	527
Asset Sales	500
LaGuardia Reprogramming	160
Carryover Funds from 05-09	\$1,868
New Bonds (assumed in the MTA's Financial Plan to be supported by new state funding and local match)	4,000
Bonds based on Congestion Pricing	4,500
Identified Sources	\$20,245



- **East Side Access**
 - First expansion of the LIRR in over 100 years
 - Provides additional tunnel capacity between Queens and Manhattan
 - Supports job growth in the area around GCT
 - Improves condition at Penn Station by reducing congestion
 - Makes possible Metro North access to Penn Station
 - Saves thousands of east side bound commuters 30-40 minutes per day
- **Phase 1 of the Second Avenue Subway**
 - Reduces overcrowding on the Lexington Avenue Line
 - Will serve 191,000 riders when it opens
 - Will improve transit access to Manhattan's upper east side

Tier 1: Core Program

New York City Transit	\$14,265
Long Island Rail Road	2,629
Metro-North Railroad	1,770
MTA Bus	363
Security Program	590
Interagency	421
<i>Total Core CPRB Program</i>	\$20,038



2008-2013 Capital Program: Core Program

Highlights: NYC Transit, LIRR and MNR

Rolling Stock	<ul style="list-style-type: none"> – 590 subway cars – 2,492 NYCT buses, 484 MTA Bus buses – 440 commuter rail cars
Stations	<ul style="list-style-type: none"> – Station rehabilitations system-wide, incl. 44 comprehensive station rehabs (NYCT), 8 rehabs on MNR Harlem line, LIRR Babylon station rehab and Mineola intermodal expansion
Track	<ul style="list-style-type: none"> – Cyclical track rehabilitation system-wide – Main Line corridor improvements (LIRR)
Line Structures	<ul style="list-style-type: none"> – Repair of overhead and undergrade bridges system-wide, including Atlantic Viaduct replacement Phase II (LIRR) – NYCT flood control improvements
Communications and Signals	<ul style="list-style-type: none"> – NYCT Signal modernization
Shops and Yards	<ul style="list-style-type: none"> – Shop, yards, depots and related upgrades system-wide, including MNR Croton Harmon shop construction; MTA Bus and NYCT depots
Power	<ul style="list-style-type: none"> – Substation modernizations and replacements system-wide, including power imprvmnts along MNR Hudson/Harlem lines



2008-2013 Capital Program: Core Program

B&T	Total 2008-2013 Program
Bridges and Tunnels	<i>in millions</i> \$2,508

- B&T envelope reflects extraordinary investments needed to catch up on state-of-good-repair
 - B&T not included in first two capital programs



Tier 2 - Current Capacity Expansion

Projects Underway

Existing capacity expansions	Current Funding	2008-2013 Proposed	Project Total
East Side Access	\$4,107	\$3,137	\$7,244
Second Avenue Subway	2,964	1,383	4,347
Fulton Street Transit Center	903	295	1,198
South Ferry	490	27	517
Regional Investments	0	476	476
MTA Administration	n/a	200	200
Total		\$5,519	

in millions

