

# THE ROAD BACK

A Historic Review of the MTA Capital Program

*Addendum 2014*



**PCAC**

PERMANENT CITIZENS  
ADVISORY COMMITTEE TO THE MTA



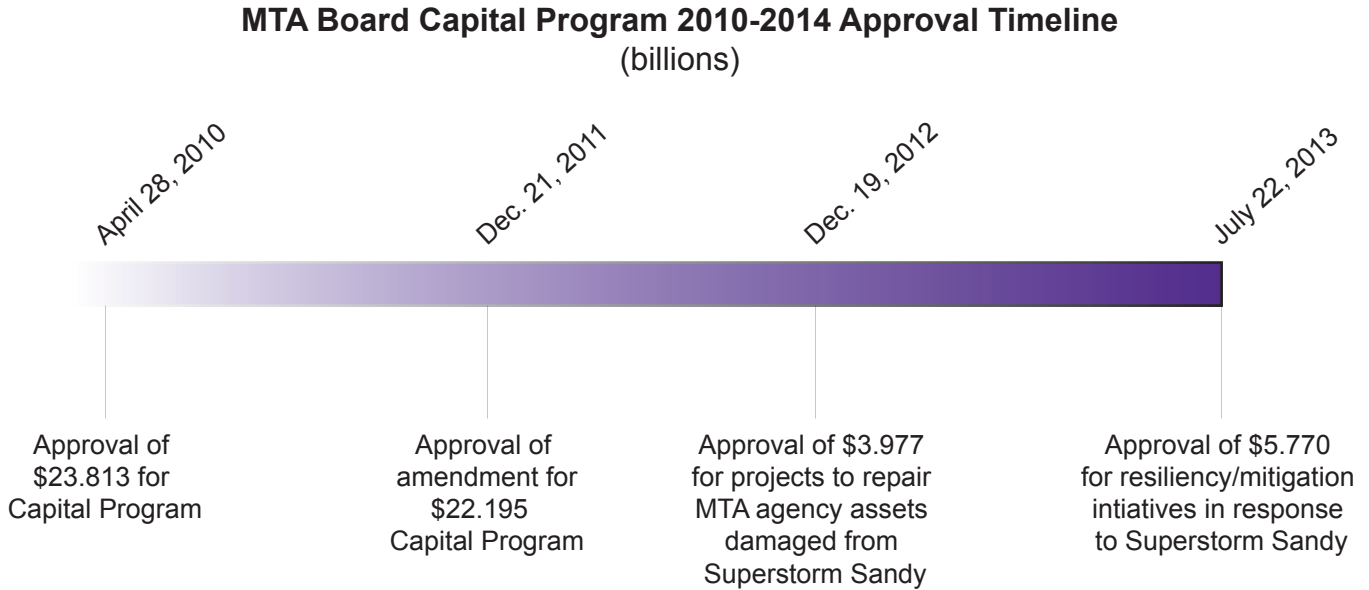
The purpose of this addendum is to update the facts and figures reported in the Permanent Citizens Advisory Committees' *The Road Back: A Historic Review of the MTA Capital Program* released in May 2012. The Road Back featured "the amount of funds that were needed; where the money went; how the funds were raised; and, most importantly, the benefits to the riders that resulted".<sup>1</sup> At the time of the report's release, The Road Back reported on current approved funds through 2011. Since then amendments have been made to the 2010-2014 Capital Program to include approved funds for the remaining three years (2012-2014) and the introduction of new repair and mitigation initiatives in response to Superstorm Sandy. To keep in accordance with the figures reported in The Road Back, Superstorm Sandy repair funds totaling \$3.977 billion (\$4.755 billion including MTA Bridges & Tunnels) and resilience mitigation initiatives totaling \$5.77 billion have been excluded for the purpose of clarity and consistency. Therefore, the tables and figures presented in this addendum reflect approved Metropolitan Transportation Authority (MTA) agency capital funds excluding resources allocated to Sandy-related projects.

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1 Permanent Citizens Advisory Committee to the MTA (PCAC), *The Road Back: A Historic Review of the MTA Capital Program*, (May 2012), i.

# 2010-2014 Capital Program Amendment History

Figure 1



To achieve funding approval for the remaining three years of the 2010-2014 Capital Program, the MTA Board approved the December 21, 2011 amendment which focused on efficiency improvements, real estate initiatives, and revised financing. This brought the total 2010-2014 Capital Program funds from \$23.813 billion to \$22.195 billion. In addition, as a result of the damage caused by Superstorm Sandy further amendments were approved to provide additional funding to repair and restore MTA assets and resiliency projects to protect from future storms.

## The July 2013 amendment focus was given to three main components

1. *Specific revisions to Plan projects to reflect cost savings/efficiency initiatives being implemented to obtain funding savings in accordance with the March 27, 2012 Capital Program Review Board (CPRB) approved amendment*
2. *Modifications to ensure timing of projects reflects updated priorities*
3. *New mitigation initiatives in response to damage as a result of Superstorm Sandy<sup>2</sup>*

## Modern Capital Programs

- Funded totals through 2014 in current dollars are over \$97.3 billion; in 2014 dollars, \$139.5 billion.

## Benefits

### **New York City Transit (NYCT)**

- Mean distance between failure (MDBF) in 1982 was only 7,186 miles. In 2011, the MDBF climbed to an astonishing 172,700 miles; 2012 was 162,138 miles; and in 2013 the MDBF decreased to 153,382 miles
- Annual ridership on subways has risen 73 percent from 989 million in 1982 to 1.7 billion in 2013
- Annual ridership on buses has risen 32 percent from 512 million in 1982 to 677.5 million in 2013

### **Long Island Rail Road (LIRR)**

- Annual ridership in 1982 was 71,411,000 and reached 83,384,250 in 2013 for a 16.76 percent increase
- MDBF in 1989<sup>3</sup> was 21,000 miles and reached 205,890 miles in 2013, for an astonishing 880 percent increase

### **Metro-North Railroad (MNR)**

- Annual ridership in 1982 was 48,292,000 and reached 83,378,506 in 2013 for a 72.65 percent increase
- MDBF in 1989 was 19,000 miles and reached 156,615 miles in 2013, for an astonishing 724 percent increase

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2 MTA, *2010-2014 Proposed Capital Program Amendment*, (July 2013), 1.

3 MDBF for LIRR and MNR were first available in 1989

## Debt Burden

- Currently, the MTA has \$32,802 billion in long-term debt (bonds)
- These bonds require a \$2.29 billion annual debt service

## Agency Spending Patterns

Table A summarizes the CPRB MTA thirty three-year capital program, displaying funded totals through 2014 in current dollars, reaching just under \$97.3 billion; in 2014 dollars, \$139.4 billion.

**Table A**  
**Total (funded) Capital Program, all agencies, 1982-2014**  
**Current and 2014 Dollars**  
 (in million \$)

Agency Total	Funded			Current <sup>2</sup>		2014 \$ <sup>1</sup>
	10 years 1982-1991	8 years 1992-1999	10 years 2000-2009	5 years 2010-2014	33 years 1982-2014	33 years 1982-2014
NYCT	\$ 11,030.6	\$ 12,590.6	\$ 21,922.0	\$ 11,642.0	\$ 57,185.2	\$ 84,467.4
LIRR	1,864.7	2,479.2	4,563.2	2,314.0	11,221.1	16,574.5
MNR	1,503.7	1,643.5	3,187.8	1,544.0	7,879.0	11,638.0
MTA Bus	-	-	646.6	297.0	943.6	1,079.0
WTC/Security	-	-	249.0	335.0	584.0	667.7
MTA Interagency	-	-	648.0	202.0	850.0	971.9
<b>Total Core Program</b>	<b>\$ 14,399.0</b>	<b>\$ 16,713.3</b>	<b>\$ 31,216.6</b>	<b>\$ 16,334.0</b>	<b>\$ 78,622.9</b>	<b>\$ 115,398.3</b>
MTACCC	-	157.7	12,646.0	5,865.0	18,668.7	24,053.4
<b>Total CPRB Program</b>	<b>\$ 14,399.0</b>	<b>\$ 16,871.0</b>	<b>\$ 43,862.6</b>	<b>\$ 22,199.0</b>	<b>\$ 97,331.6</b>	<b>\$ 139,451.7</b>

Source: MTA

Note: numbers may not add due to rounding.

<sup>1</sup>Bureau of Labor Statistics ([http://www.bls.gov/data/inflation\\_calculator.htm](http://www.bls.gov/data/inflation_calculator.htm)) conversion using mid-point of program.

<sup>2</sup>The value of a dollar at the time at which it is measured.

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Tables B-1 through B-3 highlights the shift in expenditures over the thirty three-year period. Amounts are shown in current dollars, but percent distribution has been used for comparability and to better emphasize the components to which the agencies gave priority.

## NYCT

Throughout the first 27 years of the Capital Program, larger investments were made to update and purchase new subway cars and restore passenger stations. In the first two years of the 2010-2014 Capital Program larger investments were made in purchasing new subway cars and in signals and communications. However, after the first two years, new cars were purchased and a new project was added to purchase R211 cars to be ordered at the beginning of the 2015-2019 Capital Program. This accounted for the overall reduction in this category from 18.5 percent in 2010-2011 to 8.8 percent for the entire five-year program. The largest investment categories for NYCT include passenger stations for a distribution of 18.5 percent; signals and communications constituting the largest investment category at 23.9 percent.<sup>4</sup>

**Table B-1**  
**NYCT, including SIRTOA,**  
**capital program: 1982-2014**  
 (in millions, current \$)

Category	1982-1991 10 years	% Dist	1992-1999 8 years	% Dist	2000-2009 10 years	% Dist	2010-2014 5 years	% Dist
Buses	\$ 476.5	4.3%	\$ 1,065.0	8.5%	\$ 1,515.5	6.9%	\$ 1,459.1	12.5%
Car, overhauls/rebuilt/rehab	1,953.6	17.7%	123.6	1.0%				
Depots	568.8	5.2%	546.9	4.3%	1,180.4	5.4%	470.4	4.0%
Line equipment	537.7	4.9%	655.7	5.2%	1,189.7	5.4%	320.2	2.8%
Line structures	602.8	5.5%	741.8	5.9%	1,601.9	7.3%	508.9	4.4%
Misc./emergency	195.9	1.8%	886.7	7.0%	1,236.4	5.6%	718.2	6.2%
New cars/subway cars	1,646.4	14.9%	2,066.3	16.4%	4,172.5	19.0%	1,020.4	8.8%
New routes	267.0	2.4%	650.3	5.2%				
Passenger stations	835.0	7.6%	2,699.9	21.4%	3,897.8	17.8%	2,157.9	18.5%
Power/traction power	505.7	4.6%	230.7	1.8%	697.6	3.2%	231.8	2.0%
Security	48.1	0.4%	220.6	1.8%	49.9	0.2%		
Service vehicles	113.7	1.0%	68.4	0.5%	230.1	1.0%	103.0	0.8%
Shops and yards	988.4	9.0%	221.5	1.8%	789.2	3.6%	263.2	2.3%
Signals and communications	956.2	8.7%	1,219.4	9.7%	3,232.6	14.7%	2,792.5	23.9%
Staten Island Railway					59.7	0.3%	118.9	1.0%
Track, structures, equipment	1,334.8	12.1%	1,193.8	9.5%	2,068.7	9.4%	1,477.3	12.7%
<b>Total</b>	<b>\$ 11,030.6</b>	<b>100.0%</b>	<b>\$ 12,590.6</b>	<b>100.0%</b>	<b>\$ 21,922.0</b>	<b>100.0%</b>	<b>\$ 11,641.8</b>	<b>100.0%</b>

Source: MTA

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4 MTA, 2010-2014 Proposed Capital Program Amendment, (July 2013), 10-11.

## LIRR

The 2010-2014 Capital Program, investments in tracks nearly doubled to 36.6 percent from 19.1 percent in 2000-2009. LIRR's Track Strategy is to build upon past investments to maintain and upgrade track infrastructure through normal replacement of track components. Major critical investments include the second main line track in Suffolk County. Rolling stock persisted as the second highest investment category, however had decreased to 17 percent from nearly 30 percent in 2000-2009 as aging M-3 cars were replaced.<sup>5</sup>

**Table B-2**  
LIRR  
capital program, 1982-2014  
(in millions, current \$)

Category	1982-1991 10 years	% Dist	1992-1999 8 years	% Dist	2000-2009 10 years	% Dist	2010-2014 5 years	% Dist
Communications and signals	\$ 245.7	13.2%	\$ 112.1	4.5%	\$ 492.7	10.8%	\$ 393.7	17.0%
Electrification	234.6	12.6%						
Line structures	147.2	7.9%	186.5	7.5%	503.3	11.0%	142.5	6.0%
Miscellaneous	54.1	2.9%	193.0	7.8%	294.2	6.4%	170.6	7.4%
Passenger stations	283.3	15.2%	434.4	17.5%	515.7	11.3%	120.1	5.2%
Power			16.4	0.7%	227.5	5.0%	130.0	5.6%
Rolling stock	58.5	3.1%	988.8	39.9%	1,365.6	29.9%	392.7	17.0%
Security	1.3	0.1%						0.0%
Shops and yards	630.8	33.8%	153.9	6.2%	290.5	6.4%	118.1	5.0%
Track	209.2	11.2%	394.1	15.9%	873.7	19.1%	846.1	36.6%
<b>Total</b>	<b>\$ 1,864.7</b>	<b>100.0%</b>	<b>\$ 2,479.2</b>	<b>100.0%</b>	<b>\$ 4,563.2</b>	<b>100.0%</b>	<b>\$ 2,313.8</b>	<b>100.0%</b>

Source: MTA

## MNR

In the current 2010-2014 Capital Program, the first two years were focused on completing the purchase of up to 380 M-8 cars. Once these purchases were complete investments shifted from rolling stock to repair shops and yards at 19.6 percent, with track and line structures following at a close 19.5 percent of investments for the entire 2010-2014 Capital Program. The track program focuses on the replacement of ties, rail, and interlockings/switches with cyclical surfacing. Funding in this category also includes repairs to undergrade and overhead bridges in the Metro-North territory.<sup>6</sup>

**Table B-3**  
MNR  
capital program, 1982-2014  
(in millions, current \$)

Category	1982-1991 10 years	% Dist	1992-1999 8 years	% Dist	2000-2009 10 years	% Dist	2010-2014 5 years	% Dist
Communications and signals	\$ 132.9	8.0%	\$ 79.5	4.8%	\$ 147.1	4.6%	\$ 273.4	17.7%
Electrification	63.5	3.8%				0.0%		
Miscellaneous	35.1	2.1%	110.3	6.7%	165.8	5.2%	76.2	4.9%
Network expansion			37.4	2.3%		0.0%		
Power	281.7	17.0%	40.2	2.4%	130.0	4.1%	104.7	6.8%
Rolling stock	353.9	21.4%	239.3	14.6%	1,056.2	33.1%	245.5	15.9%
Shops and yards	159.3	9.6%	88.8	5.4%	532.1	16.7%	303.1	19.6%
Stations	293.5	17.7%	478.7	29.1%	712.6	22.4%	239.9	15.5%
Track and line structures	337.4	20.4%	569.4	34.6%	444.0	13.9%	301.0	19.5%
<b>Total</b>	<b>\$ 1,657.2</b>	<b>100.0%</b>	<b>\$ 1,643.5</b>	<b>100.0%</b>	<b>\$3,187.8</b>	<b>100.0%</b>	<b>\$ 1,543.8</b>	<b>100%</b>

Source: MTA

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5 Ibid., 24-25.

6 Ibid., 33-34.



## MTA Bus Company

The original MTA Board approved plan called for \$325 million in MTA Bus Company investments. The 2013 approved amendment reduced investments to \$297 million, saving a total of \$28 million. The reduction is a result of efficiency initiatives, the transferring of certain scope to utilize funding from previous capital programs, and identifying work that is not necessary to complete now as current assets are able to meet the needed services.<sup>7</sup>

**Table C**  
**MTA Bus Company**  
**capital programs, 2000-2014**  
(in millions)

Category	2000-2004 5 years	2005-2009 5 years	2010-2014 5 years
MTA Bus Company projects	\$ 502.05	\$ 144.50	\$ 297.00
<b>Total</b>	<b>\$ 502.05</b>	<b>\$ 144.50</b>	<b>\$ 297.00</b>

Source: MTA

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<sup>7</sup> Ibid., 39.

Agency savings can be seen for NYCT, LIRR, MTA Interagency bringing the total core program from \$16,456 billion to \$16,334 billion. However, due an increase for Metropolitan Transportation Authority Capital Construction Company (MTACCC) from \$5,739 billion to \$5,865 billion and other agency adjustments increased the total CPRB Program from \$22,195 billion to \$22,199 billion. MTACCC increases can be attributed to an increase in the Regional Investments category which includes additional elevators in Grand Central Terminal and a transfer of MTA Interagency funds to the East Side Access (ESA) project.<sup>8</sup>

**Table D**  
**Revised 2010-2014 capital program, all agencies**  
**TOTAL (in millions)**

Agency Total	Revised 5 years 2010-2014	Funded 2 years 2010-2011	Funded 5 years 2010-2014
NYCT	\$ 11,649.0	\$ 5,033.0	\$ 11,642.0
LIRR	2,316.0	1,001.0	2,314.0
MNR	1,544.0	667.4	1,544.0
MTA Bus	297.0	129.3	297.0
WTC/Security	335.0	100.0	335.0
MTA Interagency	315.0	230.2	202.0
<b>Total Core Program</b>	<b>\$ 16,456.0</b>	<b>\$ 7,160.9</b>	<b>\$ 16,334.0</b>
MTACCC	5,739.2	1,981.6	5,865.0
<b>Total CPRB Program</b>	<b>\$ 22,195.2</b>	<b>\$ 9,142.5</b>	<b>\$ 22,199.0</b>

Source: MTA Finance Committee, 12/19/2011

MTA Board 12/21/2011- Capital Program Amendment

Note: This capital program was initially funded for the first two years (2010-2011);

This table has been updated to include the entire 5 year program (2010-2014);

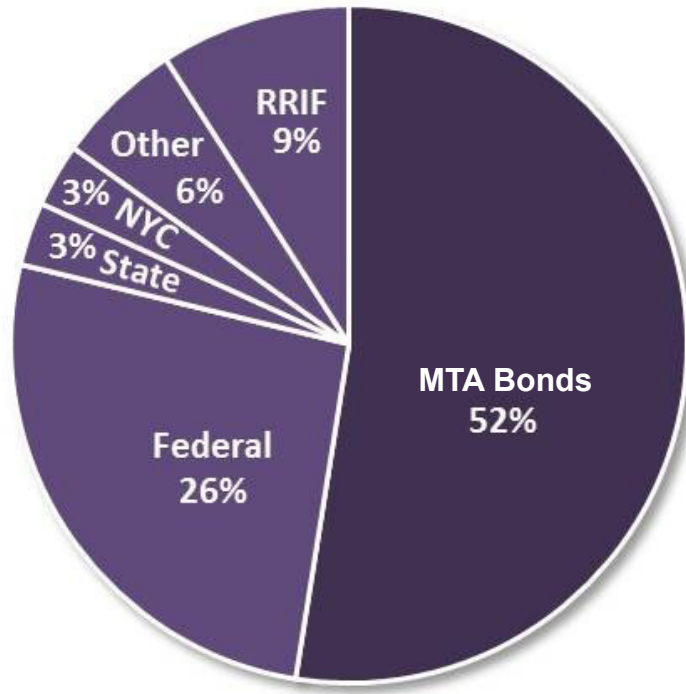
amendment approved by the MTA Board in July 2013.

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<sup>8</sup> Ibid., 53.

# MTA Capital Program Funding Sources 2010-2014

Figure 2



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**Table E**  
Sources of MTA Capital Program Funding  
1975-2014

	1975-1978 <sup>1</sup>	1982-1991	1992-1999	2000-2004	2005-2009	2010-2014
Federal Grants	78%	33%	33%	27%	39.0%	26.4%
State Bond Debt Service	14%					
NYC Grants	5%	10%	9%	3%	11.0%	3.4%
State Grants	3%	15%	1%		6.0%	3%
State DTF Bonds			11%	18%		
MTA Bonds		29%	26%	26%	39.3%	52%
MTA Debt Restructuring				21%		
Other		13%	20%	5%	4.7%	6.1%
RRIF Loan*						9.1%
	100%	100%	100%	100%	100.0%	100%

Source: 1975-2004, Seaman, et al.; 2005-2009, MTA; 2010-2014, MTA Independent Auditor's Review Report by Deloitte & Touche LLP, 2013

<sup>1</sup> NYCT only.

\*RRIF Loan: Railroad Rehabilitation and Improvement Financing loan to support East Side Access

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2010–2014 MTA Capital Program and MTA Bridges and Tunnels Capital Program include \$10,503 in MTA bonds, \$2,079 in MTA Bridges and Tunnels dedicated funds, \$6,343 in federal funds, \$148 in MTA Bus federal and city match, \$762 from city capital funds, \$1,472 from other sources, and \$770 in state assistance. Also included is a \$2,200 Railroad Rehabilitation and Improvement Financing (“RRIF”) loan to support ESA.<sup>9</sup>

**Table F**  
**2010–2014 MTA capital program funding sources**  
(as supported by the NYS approved budget for 2012–2013, \$ in millions)

Program funding plan	2012 Approved Plan	2013 Approved Plan
Federal formula, flexible and misc.	\$ 5,783	\$ 5,827
Federal high speed rail	295	295
Federal security	225	221
Federal RRIF loan	2,200	2,200
MTA bus federal formula/match	167	148
City capital funds	762	762
State assistance	770	770
MTA bonds	10,503	10,503
Other	1,490	1,472
<b>Total CPRB Program</b>	<b>\$ 22,195</b>	<b>\$ 22,198</b>
Bridges and tunnels dedicated funds	\$ 2,079	\$ 2,079

Source: 2010-2014 MTA Capital Program Amendment, July 2013

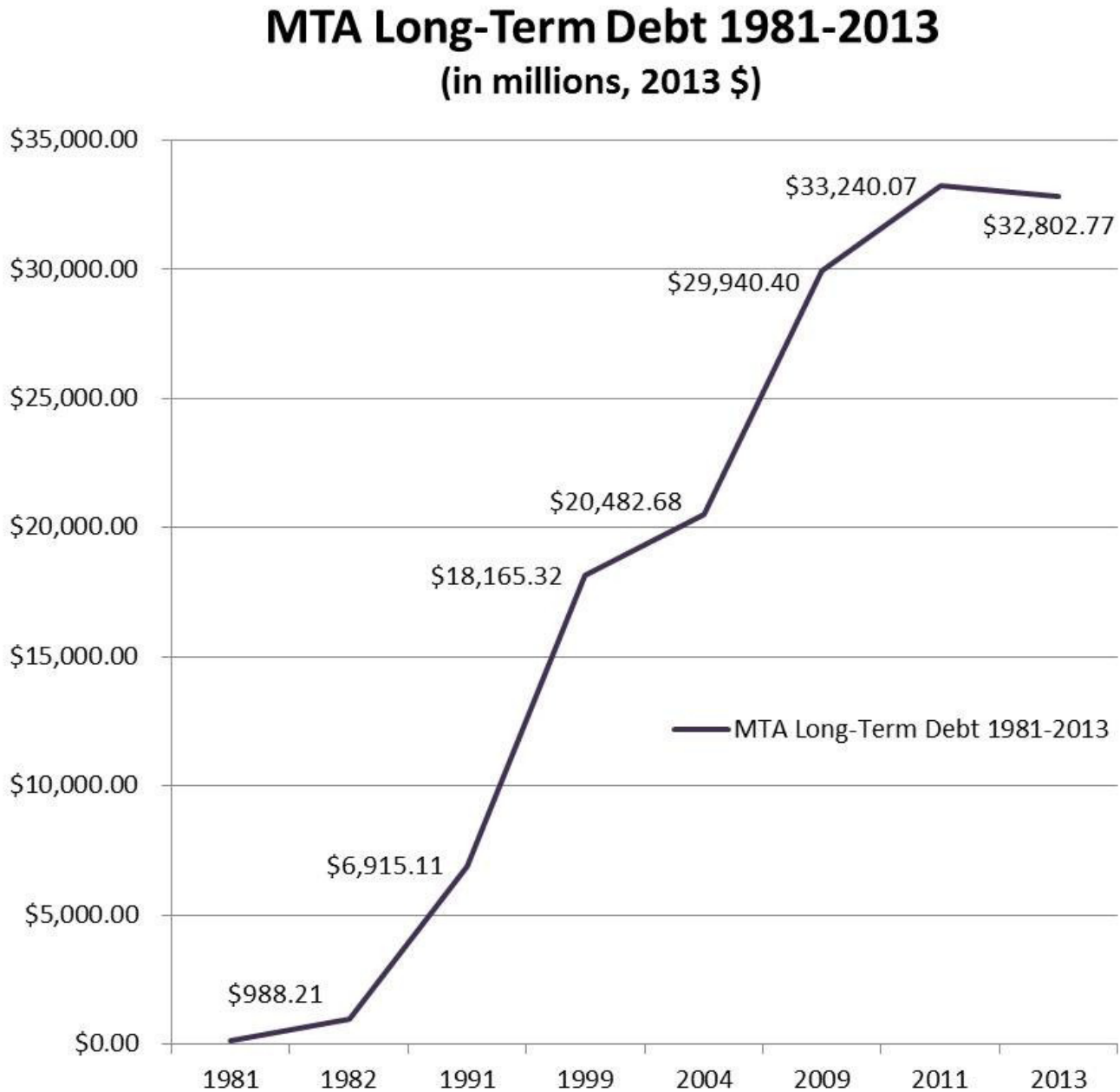
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<sup>9</sup> Deloitte & Touche LLP, “MTA Independent Auditor’s Review Report”, (January 2014), pp. 15.

## Debt Service

The latest debt amount outstanding is \$32.8 billion, requiring an average annual debt service of \$2,299 billion (see Figure 3 and Table G). Totals in Figure 3 have been normalized to reflect 2013 dollars. Therefore, in 2013\$ the long-term debt has decreased from 2011 by \$437.9 million.<sup>10</sup>

Figure 3



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10 MTA, Finance Committee Book, (January 2014), and Bureau of Labor Statistics ([http://www.bls.gov.data.inflation\\_calculator.htm](http://www.bls.gov.data.inflation_calculator.htm))

**Table G**  
**Yearly debt service through 2030**  
**(in millions, as of December 2013)**

\$ 1,320	MTA Revenue Bonds
458	TBTA Revenue Bonds
143	TBTA Subordinate Revenue Bonds
361	MTA DTF Bonds
1	MTA State Contract Bonds
16	MTA Certificates of Participation (2 Broadway)
<b>\$ 2,299</b>	<b>Total</b>

Source: January 2014 MTA Finance Committee Book, Finance Watch, IV-4

Over the last thirty-three years, agency investments have resulted in service improvements as can be seen in tables H and I. By 2013, NYCT subway ridership has increased by 73 percent; and 32 percent on transit buses. In addition, MDBF has climbed to 153,382 miles between break-downs for subway cars; and 4,941 miles for transit buses. Subway terminal on-time performance has increased from 71 percent to 80.5 percent; and subway major felonies have decreased by a staggering 82 percent.

**Table H**  
**NYCT service improvements, 1982-2013**

Ridership (millions)	1982	2013	% Change
Subways	989.3	1,708.0 <sup>1</sup>	73%
Buses	512.3	677.5 <sup>2</sup>	32%
MDBF <sup>3</sup>			
Subways	7,186.0	153,382	2034%
Buses	941.5	4,941 <sup>2</sup>	425%
Subway terminal on-time performance			
	71%	80.5%	13%
Crime (major felonies)			
Subways	14,306.0	2,606	-82%

Source: PCAC 1984; Seaman, et al., MTA 2013 Annual Report

<sup>1</sup> Does not include Staten Island Railway (SIRTOA); this the highest annual subway ridership since 1950

<sup>2</sup> Does not include MTA Bus

<sup>3</sup> Mean Distance Between Failure (reliability)

Annual ridership on LIRR and MNR in 2013 both reached 83.4 billion, for an 18 and 73 percent change, respectively. Terminal on-time performance for both commuter rails reached well above the ninetieth percentile; while MDBF for LIRR since 1989 showed an 880 percent change, and MNR showed a 724 percent change.

**Table I**  
**Commuter rail service improvements, 1982-2013**

Ridership (millions)	1982	2013	% Change	
LIRR	70.4	83.4	18%	
MNR	48.3	83.4	73%	
Terminal On-Time Performance				
LIRR	89%	94%	5%	
MNR (East of Hudson)	81%	95%	17%	
MDBF (miles)	1989 <sup>1</sup>	2003	2013	% Change 1989-2013
LIRR	21,000	30,000	205,890	880%
MNR	19,000	57,000	156,615	724%

<sup>1</sup> First year MDBF available

Source: Seaman, *et. al.*; PCAC, 1984; MTA 2013 Annual Report

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