2019 COMBINED CONTINUING DISCLOSURE FILINGS
PURSUANT TO SEC RULE 15c2-12

relating to

METROPOLITAN TRANSPORTATION AUTHORITY
Dedicated Tax Fund Bonds
Transportation Revenue Bonds
State Service Contract Bonds
Special Obligation Taxable Refunding Bonds
Hudson Rail Yards Trust Obligations

and

TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY
(MTA BRIDGES AND TUNNELS)
General Revenue Bonds
Subordinate Revenue Bonds

Dated: April 30, 2019

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INTRODUCTION

This book contains the 2019 Combined Continuing Disclosure Filings prepared by Metropolitan Transportation Authority ("MTA") and Triborough Bridge and Tunnel Authority ("TBTA") pursuant to various written undertakings made to assist the underwriters in complying with their obligations in accordance with SEC Rule 15c2-12 in connection with the following credits:

- MTA Transportation Revenue Bonds,
- TBTA General Revenue Bonds,
- TBTA Subordinate Revenue Bonds,
- MTA Dedicated Tax Fund Bonds,
- MTA State Service Contract Bonds,
- MTA Special Obligation Taxable Refunding Bonds, and
- MTA Hudson Rail Yards Trust Obligations.

A roadmap to the continuing disclosure information that MTA or TBTA has contractually agreed to update, in accordance with the respective continuing disclosure agreements in official statements, describing where the materials required may be found in MTA's Annual Disclosure Statement is set forth at the end of this Introduction**.** This Annual Information booklet contains the following information:

PART I contains the **MTA Annual Disclosure Statement** ("ADS"). The ADS describes the Related Entities, and includes the information necessary to meet the requirements of the continuing disclosure agreements under MTA and TBTA official statements, offering circulars and remarketing circulars, as applicable, for all credits.

PART II includes the following, which are also part of the Annual Continuing Disclosure Filings:

- **Tab 1** lists, by designation, the various issues of securities outstanding for all credits.
- **Tab 2** provides certain details of each series and subseries for MTA and TBTA credits, for the issues listed in Tab 1.
- **Tab 3a** lists any material events that have occurred within the past year for all credits.
- **Tab 3b** lists any voluntary disclosures that have been posted within the past year for all credits.

APPENDICES

- **Appendix A** — See Part I.
- **Appendix B —** Metropolitan Transportation Authority Consolidated Financial Statements.
- **Appendix C** — New York City Transit Authority Consolidated Financial Statements.
- **Appendix D** — Triborough Bridge and Tunnel Authority Financial Statements.
- **Appendix E** — History and Projection of Traffic, Toll Revenues and Expenses and Review of Physical Conditions of the Facilities of Triborough Bridge and Tunnel Authority.

TABLE OF CONTENTS

ROADMAP FOR CONTINUING DISCLOSURE

PART I - MTA Annual Disclosure Statement – The Related Entities

PART II - Outstanding Debt

Tab 1. Outstanding Issues of Securities Covered by this Combined Annual Continuing Disclosure Filing 1

Tab 2. Details of Each Issue of Obligations 3

Transportation Revenue Bonds 3
TBTA General Revenue Bonds 97
TBTA Subordinate Revenue Bonds 133
Dedicated Tax Fund Bonds 137
Special Obligation Taxable Refunding Bonds 159
Hudson Rail Yards Trust Obligations (Schedule 1 to Financing Agreement) 161

Tab 3a. Notice of Material Events 195

Tab 3b. Notice of Voluntary Disclosure 205

Appendix A – See Part I

Appendix B – Metropolitan Transportation Authority Consolidated Financial Statements

Appendix C – New York City Transit Authority Consolidated Financial Statements

Appendix D – Triborough Bridge and Tunnel Authority Financial Statements

Appendix E – History and Projection of Traffic, Toll Revenues and Expenses and Review of Physical Conditions of the Facilities of Triborough Bridge and Tunnel Authority

Roadmap for Continuing Disclosure to the Annual Information Statement

As part of all the official statements provided under all of the credits, the continuing disclosure agreements ("CDAs") require the filing of certain Annual Information with the Electronic Municipal Market Access System (EMMA). The following roadmap indicates where information under these CDAs may be found in this annual report, specifically in the **ADS.** There is additional information incorporated into the **ADS** that may not be reflected in the CDAs, so if it is not listed here, see the **ADS** Table of Contents for the detailed listing.

TRANSPORTATION REVENUE BONDS	**ADS Location**	
Continuing Disclosure Document	**Caption(s)**	**Heading(s)**
A. Description of the systems operated by the Related Transportation Entities and their operations.		
Related Transportation Entities	1. THE RELATED ENTITIES	All headings
Transit System	1. TRANSIT SYSTEM	All headings
Commuter System	1. COMMUTER SYSTEM	All headings
MTA Bus	1. MTA BUS COMPANY	All headings
B. Description of changes to the fares or fare structures charged to users of the systems operated by the Related Transportation Entities.		
Transit System	1. REVENUES OF THE RELATED ENTITIES	1. Fares and Tolls – Transit System Fares
Commuter System	1. REVENUES OF THE RELATED ENTITIES	1. Fares and Tolls – Commuter System Fares
MTA Bus	1. REVENUES OF THE RELATED ENTITIES	1. Fares and Tolls – MTA Bus Fares
C. Operating Data of the Related Transportation Entities.		
Transit System	1. TRANSIT SYSTEM	All headings
	2. RIDERSHIP AND FACILITIES USE	1. Transit System (MTA New York City Transit and MaBSTOA) Ridership
	3. EMPLOYEES, LABOR RELATIONS AND PENSION AND OTHER POST-EMPLOYMENT OBLIGATIONS	1. Transit System
Commuter System	1. COMMUTER SYSTEM	All headings
	2. RIDERSHIP AND FACILITIES USE	1. Commuter System Ridership
	3. EMPLOYEES, LABOR RELATIONS AND PENSION AND OTHER POST-EMPLOYMENT OBLIGATIONS	1. Commuter System
MTA Bus	1. EMPLOYEES, LABOR RELATIONS AND PENSION AND OTHER POST-EMPLOYMENT OBLIGATIONS 2. RIDERSHIP AND FACILITIES USE 3. EMPLOYEES, LABOR RELATIONS AND PENSION OBLIGATIONS	1. MTA Bus

D. Information regarding the Transit and Commuter Capital Programs.	1. FINANCIAL PLANS AND CAPITAL PROGRAMS	1. Capital Programs – Background and Development 2. Approved 2015-2019 Capital Program 3. 2010-2014 Capital Program 4. 1992-2009 Transit Capital Programs Objectives 5. 1992-2009 Commuter Capital Programs Objectives 6. Climate Bond Standard and Certification Compliance
E. Presentation of changes to indebtedness issued by MTA under the Transportation Resolution, as well as information concerning changes to MTA's debt service requirements on such indebtedness payable from pledged revenues.	1. TRANSPORTATION REVENUE BONDS	1. TRB Table 1 2. TRB Table 2
F. Information concerning the amounts, sources, material changes in and material factors affecting pledged revenues and debt service incurred under the Transportation Resolution.	1. REVENUES OF THE RELATED ENTITIES	1. Fares and Tolls 2. State and Local General Operating Subsidies 3. State Special Tax Supported Operating Subsidies 4. Metropolitan Transportation Authority Financial Assistance Fund Receipts 5. Urban Taxes for Transit System 6. MTA Bridges and Tunnels Surplus 7. Financial Assistance and Service Reimbursements from Local Municipalities 8. Miscellaneous Revenues
G. Additional financial information.	See Items E and F above.	
H. Material litigation relating to any of the foregoing.	1. LITIGATION	1. MTA 2. Transit System 3. Commuter System 4. MTA Bus
TBTA GENERAL REVENUE BONDS	**ADS Location**	
Continuing Disclosure Document	**Caption(s)**	**Heading(s)**
A. Certain financial and operating data.	1. TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY	1. MTA Bridges and Tunnels Facilities 2. Authorized Projects of MTA Bridges and Tunnels
	2. RIDERSHIP AND FACILITIES USE	1. MTA Bridge and Tunnels Total Revenue Vehicles 2. Toll Rates 3. Competing Facilities and Other Matters 4. E-ZPass
	3. EMPLOYEES, LABOR RELATIONS AND PENSION AND OTHER POST-EMPLOYMENT OBLIGATIONS	1. MTA Bridges and Tunnels
B. Information regarding the TBTA, Transit and Commuter Capital Programs.		

TBTA, Transit and Commuter Systems	1. FINANCIAL PLANS AND CAPITAL PROGRAMS	1. Capital Programs – Background and Development 2. Approved 2015-2019 Capital Program 3. 2010-2014 Capital Program 4. 1992-2009 Transit Capital Programs Objectives 5. 1992-2009 Commuter Capital Programs Objective 6. 1992-2009 MTA Bridges and Tunnels Capital Programs Objectives
C. Presentation of changes to indebtedness issued by TBTA under the TBTA Senior Resolution, as well as information concerning changes to TBTA's debt service requirements on such indebtedness payable from revenues.	1. MTA BRIDGES AND TUNNELS SENIOR REVENUE BONDS	1. MTA Bridges and Tunnels Senior Table 1 2. MTA Bridges and Tunnels Senior Table 2
D. Historical information concerning traffic, revenues, operating expenses, TBTA Senior Resolution debt service and debt service coverage	1. REVENUES OF THE RELATED ENTITIES	1. MTA Bridges and Tunnels Surplus
	2. RIDERSHIP AND FACILITIES USE	1. MTA Bridges and Tunnels Total Revenue Vehicles
	3. TBTA SENIOR REVENUE BONDS	1. MTA Bridges and Tunnels Senior Table 2
E. Material litigation relating to any of the foregoing.	1. LITIGATION	1. MTA Bridges and Tunnels
TBTA SUBORDINATE REVENUE BONDS	**ADS Location**	
Continuing Disclosure Document	**Caption(s)**	**Heading(s)**
A. Certain financial and operating data.	1. TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY	1. MTA Bridges and Tunnels Facilities 2. Authorized Projects of MTA Bridges and Tunnels
	2. RIDERSHIP AND FACILITIES USE	1. MTA Bridges and Tunnels Total Revenue Vehicles 2. Toll Rates 3. Competing Facilities and Other Matters 4. E-ZPass
	3. EMPLOYEES, LABOR RELATIONS AND PENSION AND OTHER POST-EMPLOYMENT OBLIGATIONS	1. MTA Bridges and Tunnels
B. Information regarding the TBTA, Transit and Commuter Capital Programs.		
TBTA, Transit and Commuter Systems	1. FINANCIAL PLANS AND CAPITAL PROGRAMS	1. Capital Programs – Background and Development 2. Approved 2015-2019 Capital Program 3. 2010-2014 Capital Program 4. 1992-2009 Transit Capital Programs Objectives 5. 1992-2009 Commuter Capital Programs Objective 6. 1992-2009 MTA Bridges and Tunnels Capital Programs Objectives
C. Presentation of changes to indebtedness issued by TBTA under the TBTA Senior and Subordinate Resolutions, as well as information concerning changes to TBTA's debt service requirements on such indebtedness payable from revenues.	1. MTA BRIDGES AND TUNNELS SUBORDINATE REVENUE BONDS	1. MTA Bridges and Tunnels Subordinate Table 1 2. MTA Bridges and Tunnels Subordinate Table 2

D. Historical information concerning traffic, revenues, operating expenses, TBTA Subordinate Resolution debt service and debt service coverage	1. REVENUES OF THE RELATED ENTITIES	1. MTA Bridges and Tunnels Surplus
	2. RIDERSHIP AND FACILITIES USE	1. MTA Bridges and Tunnels Total Revenue Vehicles
	3. TBTA SUBORDINATE REVENUE BONDS	1. MTA Bridges and Tunnels Subordinate Table 2
E. Material litigation relating to any of the foregoing.	1. LITIGATION	1. MTA Bridges and Tunnels
DEDICATED TAX FUND BONDS	**ADS Location**	
Continuing Disclosure Document	**Caption(s)**	**Heading(s)**
A. Description of the Transit and Commuter Systems operated by MTA and its affiliates and subsidiaries and their operation.	1. THE RELATED ENTITIES 2. TRANSIT SYSTEM 3. COMMUTER SYSTEM	All headings
	4. RIDERSHIP AND FACILITIES USE	1. Transit System (MTA New York City Transit and MaBSTOA) Ridership 2. Commuter System Ridership
	5. FEDERAL AND STATE LAWS	1. Transit System 2. Commuter System
	6. EMPLOYEES, LABOR RELATIONS AND PENSION AND OTHER POST-EMPLOYMENT OBLIGATIONS	1. Transit System 2. Commuter System
B. Information regarding the Transit and Commuter Capital Programs.	1. FINANCIAL PLANS AND CAPITAL PROGRAMS	1. Capital Programs – Background and Development 2. Approved 2015-2019 Capital Program 3. 2010-2014 Capital Program 4. 1992-2009 Transit Capital Programs Objectives 5. 1992-2009 Commuter Capital Programs Objectives
C. Presentation of changes to indebtedness issued by MTA under the DTF Resolution, as well as information concerning changes to MTA's debt service requirements on such indebtedness payable from DTF Revenues.	1. DEDICATED TAX FUND BONDS	1. DTF Table 1 2. DTF Table 2
D. Financial information and operating data, including information relating to the following:	1. FINANCIAL PLANS AND CAPITAL PROGRAMS	1. 2019-2022 Financial Plan (The February Plan)
Description of how the State allocates taxes to the MTA Dedicated Tax Fund.	1. DEDICATED TAX FUND BONDS	1. Sources of Payment – Revenues from Dedicated Taxes 2. DTF Table 2
Description of the material taxes allocated to the MTA Dedicated Tax Fund, together with a description of the tax rate, the tax base and the composition and collection of such taxes by the State.	1. DEDICATED TAX FUND BONDS	1. Sources of Payment – Revenues from Dedicated Taxes 2. DTF Table 2 3. MTTF Receipts – Dedicated Petroleum Business Tax

For the material taxes then constituting a source of revenue for the MTA Dedicated Tax Fund, an historical summary of such revenue, if available, together with an explanation of the factors affecting collection levels, for a period of at least the five most recent completed fiscal years then available.	1. DEDICATED TAX FUND BONDS	1. MTTF Receipts – Dedicated Petroleum Business Tax 2. MTTF Receipts – Motor Fuel Tax 3. MTTF Receipts – Motor Vehicle Fees 4. MMTOA Account – Special Tax Supported Operating Subsidies
E. Information concerning the amounts, sources, material changes in and material factors affecting DTF Revenues and debt service incurred under the DTF Resolution.	See Items C and D above.	
F. Material litigation relating to any of the foregoing.	1. LITIGATION	1. MTA 2. Transit System 3. Commuter System
STATE SERVICE CONTRACT BONDS	**ADS Location**	
Continuing Disclosure Document	Caption(s)	Heading(s)
A. Operating Data of the Related Transportation Entities.		
Transit System	1. TRANSIT SYSTEM	All headings
	2. RIDERSHIP AND FACILITIES USE	1. Transit System (MTA New York City Transit and MaBSTOA) Ridership
	3. EMPLOYEES, LABOR RELATIONS AND PENSION AND OTHER POST-EMPLOYMENT OBLIGATIONS	1. Transit System
Commuter System	1. COMMUTER SYSTEM	All headings
	2. RIDERSHIP AND FACILITIES USE	1. Commuter System Ridership
	3. EMPLOYEES, LABOR RELATIONS AND PENSION OBLIGATIONS	1. Commuter System
B. Information regarding the Transit and Commuter Capital Programs.	1. FINANCIAL PLANS AND CAPITAL PROGRAMS	1. Capital Programs – Background and Development 2. Approved 2015-2019 MTA Capital Program 3. 2010-2014 Capital Program 4. 1992-2009 Transit Capital Programs Objectives 5. 1992-2009 Commuter Capital Programs Objectives
C. Presentation of changes to indebtedness issued by MTA under the State Service Contract Resolution, as well as information concerning changes to MTA's debt service requirements on such indebtedness payable from the State Service Contract.	1. STATE SERVICE CONTRACT BONDS	1. STATE SERVICE CONTRACT BONDS
D. Material litigation relating to any of the foregoing.	1. LITIGATION	1. MTA 2. Transit System 3. Commuter System

SPECIAL OBLIGATION TAXABLE REFUNDING BONDS	**ADS Location**	
Continuing Disclosure Document	Caption(s)	Heading(s)
A. Updates to Table 1, Estimated Released Escrow Amounts and Debt Service on the Bonds	1. SPECIAL OBLIGATION TAXABLE REFUNDING BONDS	1. Special Obligations Table 1
B. Material litigation relating to Released Escrow Accounts	1. LITIGATION	1. General

HUDSON RAIL YARDS TRUST OBLIGATIONS	**ADS Location**	
Continuing Disclosure Document	Caption(s)	Heading(s)
A. Presentation of the financial results of the Related Transportation Entities prepared in accordance with GAAP for the most recent year for which that information is then currently available	1. FINANCIAL PLANS AND CAPITAL PROGRAMS	1. 2019-2022 Financial Plan (The "February Plan")
B. Presentation of changes to indebtedness issued by MTA under the Transportation Revenue Bond Resolution, as well as information concerning changes to MTA's debt service requirements on such indebtedness payable from pledged revenues	1. TRANSPORTATION REVENUE BONDS	1. TRB Table 1 2. TRB Table 2a 3. TRB Table 2b
C. Information concerning the amounts, sources, material changes in and material factors affecting pledged revenues and debt service incurred under the Transportation Revenue Bond Resolution.	1. REVENUES OF THE RELATED ENTITIES	1. Fares and Tolls 2. State and Local General Operating Subsidies 3. State Special Tax Supported Operating Subsidies 4. Metropolitan Transportation Authority Financial Assistance Fund Receipts 5. Urban Taxes for Transit System 6. MTA Bridges and Tunnels Surplus 7. Financial Assistance and Service Reimbursements from Local Municipalities 8. Miscellaneous Revenues
D. Financial information of the type included in TRB Table 2	1. TRANSPORTATION REVENUE BONDS	1. TRB Table 2a 2. TRB Table 2b
E. Material litigation related to any of the foregoing	1. LITIGATION	1. MTA 2. Transit System 3. Commuter System 4. MTA Bus
F. A summary presentation of the current status of development of the ERY and WRY components of the Hudson Rail Yards Project	1. FINANCIAL PLANS AND CAPITAL PROGRAMS	Non-Capital Program Projects - Hudson Yards Development and Financing
G. Updated Schedule 1 to the Financing Agreement	See item F above.	

CUSIP numbers used herein have been assigned by an organization not affiliated with MTA or TBTA and are included solely for the convenience of the holders of the securities listed. Neither MTA nor TBTA is responsible for the selection or uses of these CUSIP numbers, nor is any representation made as to their correctness on the securities or as indicated herein.

MTA ANNUAL DISCLOSURE STATEMENT

This Metropolitan Transportation Authority ("MTA") Annual Disclosure Statement ("ADS") is dated April 30, 2019, and contains information only through that date (or the specific earlier dates noted herein, such as year-end December 31, 2018 financial and statistical information). MTA intends to update and supplement specific information contained herein (1) through revised Continuing Disclosure Filings, (2) on a periodic basis, generally corresponding to its July, November and February financial plan updates and (3) by periodic supplement, as appropriate, in connection with its periodic issuance of bonds, notes and other obligations, or otherwise. *The financial statements for MTA, MTA New York City Transit and MTA Bridges and Tunnels (each as defined herein) for fiscal year ended December 31, 2018 and filed with this ADS are unaudited, and MTA expects to file supplements to include audited financial statements with respect to the foregoing entities when they become available.* MTA expects to file such updated and supplemental information with the Municipal Securities Rulemaking Board on its Electronic Municipal Market Access system and may incorporate such information herein by specific cross-reference. Such information is also posted on the MTA website under "MTA Info – Financial Information" at www.mta.info for convenience. Such information is accurate as of its date. MTA retains the right to update and supplement specific information contained herein as events warrant.

The factors affecting MTA's financial condition are complex. This ADS contains forecasts, projections, and estimates that are based on expectations and assumptions, which existed at the time they were prepared, and contains statements relating to future results and economic performance that are "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995. Such statements generally are identifiable by the terminology used, such as "plan," "expect," "estimate," "budget," "project," "forecast," "anticipate" or other similar words. Such forward-looking statements include, but are not limited to, certain statements contained in the information under the captions "FINANCIAL INFORMATION – FINANCIAL PLANS AND CAPITAL PROGRAMS" and "PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS." The forward looking statements contained herein are based on MTA's expectations and are necessarily dependent upon assumptions, estimates and data that it believes are reasonable as of the date made but that may be incorrect, incomplete, imprecise or not reflective of actual results. Forecasts, projections and estimates are not intended as representations of fact or guarantees of results. The achievement of certain results or other expectations contained in such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements described to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Except as set forth in the preceding paragraph, MTA does not plan to issue any updates or revisions to those forward-looking statements if or when its expectations change or events occur that change the conditions or circumstances on which such statements are based. Forward-looking statements in this ADS speak only as of the date of this ADS.

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PART 1. BUSINESS 1

THE RELATED ENTITIES 2

Legal Status and Public Purpose 2
Use of Popular Names 3
Governance 3
Facilities and Operations 3
MTA-Wide Security 6
Climate Change Adaptation 7
Financial Operations 7
Management 9

MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET 10

Central Business District Tolling Program 11
Other New Recurring Revenue Sources for MTA 13
Changes in MTA Organization and Related Provisions 14

PART 2. FINANCIAL INFORMATION 15

REVENUES OF THE RELATED ENTITIES 16

Fares and Tolls 16
State and Local General Operating Subsidies 20
State Special Tax Supported Operating Subsidies 22
Metropolitan Transportation Authority Financial Assistance Fund Receipts 25
Congestion Zone Surcharges 28
MTA Bridges and Tunnels Surplus 29
Financial Assistance and Service Reimbursements from Local Municipalities 32
Miscellaneous Revenues 35
Mortgage Recording Taxes 36
Urban Taxes for Transit System 38
Operating Funding for the Transit and Commuter Systems 39

FINANCIAL PLANS AND CAPITAL PROGRAMS 42

2019-2022 Financial Plan (The "February Plan") 42
Changes to the November Plan 43
Challenges and Risks Going Forward 44
Additional Matters 45
Subsequent Developments 46
Capital Programs – Background and Development 46
Approved 2015-2019 Capital Program 47
2010-2014 Capital Program 65
1992-2009 Transit Capital Programs Objectives 74
1992-2009 Commuter Capital Programs Objectives 74
2005-2009 MTA Network Expansion Objectives 74
1992-2009 MTA Bridges and Tunnels Capital Programs Objectives 75
Oversight and Review of Administration of Capital Programs 75
Non-Capital Program Projects - Hudson Yards Development and Financing 75
Climate Bond Standard and Certification Compliance 76

FUTURE CAPITAL NEEDS 77

INVESTMENT POLICY 78

PART 3. PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS 80

GENERAL 81
Financing of Capital Projects and Statutory Ceiling 81
MTA Capital Program Bonds 82
Non-Capital Program Securities 85
Interagency Loans 86
Leasing 86
Types of Debt Outstanding 88
Swap Agreements Relating to Synthetic Fixed Rate Debt 88
Risks Associated with the Swap Agreements 90
TRANSPORTATION REVENUE BONDS 94
General 94
Pledged Transportation Revenues Gross Lien and Rate Covenant 95
Description of Pledged Revenues 99
Factors Affecting Revenues 99
Security – General 100
Pledge Effected by the Resolution 101
Flow of Revenues 101
Covenants 103
Parity Debt 104
MTA BRIDGES AND TUNNELS SENIOR REVENUE BONDS 105
Sources of Payment 106
Security – General 107
Pledge Effected by the MTA Bridges and Tunnels Senior Resolution 107
Revenues and Additional MTA Bridges and Tunnels Projects 108
Flow of Revenues 108
Rate Covenant 109
Additional Bonds 109
Refunding Bonds 110
Parity Debt 110
Subordinate Obligations 110
MTA BRIDGES AND TUNNELS SUBORDINATE REVENUE BONDS 111
Sources of Payment 112
Security – General 113
Pledge Effected by the MTA Bridges and Tunnels Subordinate Resolution 113
Revenues and Additional Subordinate MTA Bridges and Tunnels Projects 114
Flow of Revenues 114
Rate Covenant 115
Additional Subordinate Revenue Bonds 115
Refunding Subordinate Revenue Bonds 116
Subordinate Parity Debt 116
DEDICATED TAX FUND BONDS 117
Sources of Payment – Revenues from Dedicated Taxes 118
Factors Affecting Revenues from Dedicated Taxes 121
Security – General 121
Pledge Effected by the DTF Resolution 122
Flow of Funds 122
Debt Service Fund 124
Covenants 125
Parity Debt 125
Appropriation by the Legislature 125
Agreement of the State 126

MTTF Receipts – Dedicated Petroleum Business Tax 126
MTTF Receipts – Motor Fuel Tax 130
MTTF Receipts – Motor Vehicle Fees 131
MMTOA Account – Special Tax Supported Operating Subsidies 132

STATE SERVICE CONTRACT BONDS 137

SPECIAL OBLIGATION TAXABLE REFUNDING BONDS 137

Special Obligation Taxable Refunding Bonds 137
Sources of Payment – General 138

HUDSON RAIL YARDS TRUST OBLIGATIONS 138

Hudson Rail Yards Trust Obligations 138
Security – General 138
Flow of Funds 140
Covenants of the MTA with respect to the HY Trust Obligations 142

PART 4. OPERATIONS 143

TRANSIT SYSTEM 144

Legal Status and Public Purpose 144
Management 144
History of the Transit System 146
Description of the Transit System 146
Relationships with the State, the City and the Federal Government 147

MTA BUS COMPANY 148

Legal Status and Public Purpose 148
Description of the MTA Bus System 148
Management 148

STATEN ISLAND RAPID TRANSIT OPERATING AUTHORITY 149

Legal Status and Public Purpose 149
Management 149

COMMUTER SYSTEM 149

Legal Status and Public Purpose 149
Management 150
Description of the Commuter System 150
Relationships with the State, Certain Local Governments and the Federal Government 151
Safety Initiatives 151

TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY 154

Legal Status and Public Purpose 154
Management 154
MTA Bridges and Tunnels Facilities 155
Authorized Projects of MTA Bridges and Tunnels 156

MTA CAPITAL CONSTRUCTION COMPANY 156

Legal Status and Public Purpose 156
Management 157
East Side Access 157
Second Avenue Subway 158
WTC Cortlandt Street No. 1 Line Station Reconstruction 159
No. 7 Subway Line Extension 159
Penn Station Access 159

Long Island Rail Road Expansion Project 159
Canarsie Tunnel Rehabilitation Project 160

PART 5. STATISTICAL INFORMATION 161

RIDERSHIP AND FACILITIES USE 162

Transit System (MTA New York City Transit and MaBSTOA) Ridership 162
Commuter System Ridership 170
MTA Bus Ridership 175
MTA Bridges and Tunnels – Total Revenue Vehicles 177
Toll Rates 177
Competing Facilities and Other Matters 181
E-ZPass 182
Cashless Open Road Tolling ("Cashless Tolling") 183

PART 6. REGULATORY, EMPLOYMENT, INSURANCE AND LITIGATION MATTERS 184

FEDERAL AND STATE LAWS 185

General 185
Transit System 185
Commuter System 185
MTA Bridges and Tunnels 186

EMPLOYEES, LABOR RELATIONS AND PENSION AND OTHER POST-EMPLOYMENT OBLIGATIONS 186

General 186
MTA Headquarters 187
MTA Capital Construction 188
MTA New York City Transit and MaBSTOA 188
MTA Bus 189
MTA Staten Island Railway 190
Commuter System 191
MTA Bridges and Tunnels 191
Interrelationship of Various Pension Plans 192
OPEB 194

INSURANCE 194

General 194
Property Insurance Program 195
Commuter Stations and Force Liability 196
FMTAC Excess Loss Fund 196
All Agency Protective Liability 202
Paratransit and Non-Revenue Vehicle Policies 202
Premises Liability 203
Owner Controlled Insurance Program 203
Builder's Risk 204

LITIGATION 204

General 204
MTA 204
Transit System 205
Commuter System 207
MTA Bridges and Tunnels 209
MTA Bus 210
Metropolitan Suburban Bus Company 210

PART 1. BUSINESS

THE RELATED ENTITIES

Legal Status and Public Purpose

The Metropolitan Transportation Authority ("MTA") was created by New York State legislation in 1965 (the Metropolitan Transportation Authority Act, New York Public Authorities Law, Title 11, Section 1260, et seq.), as a public benefit corporation. MTA is a corporate entity separate and apart from the State of New York (the "State"), without any power of taxation – frequently called a "public authority." MTA has the responsibility for developing and implementing a unified mass transportation policy for The City of New York (the "City") and Dutchess, Nassau, Orange, Putnam, Rockland, Suffolk and Westchester counties (collectively with the City, the "MTA Commuter Transportation District").

MTA carries out these responsibilities directly and through its subsidiaries and affiliates, which are also public benefit corporations. The following entities, listed by their legal names, are subsidiaries[*] of MTA:

- The Long Island Rail Road Company;
- Metro-North Commuter Railroad Company;
- Staten Island Rapid Transit Operating Authority;
- MTA Bus Company; and
- MTA Capital Construction Company.

The following entities, listed by their legal names, are affiliates of MTA:

- Triborough Bridge and Tunnel Authority; and
- New York City Transit Authority, and its subsidiary, the Manhattan and Bronx Surface Transit Operating Authority.

MTA and the foregoing subsidiaries and affiliates are collectively referred to herein, from time to time, as the "Related Entities." Throughout this ADS, the Related Entities are referred to by their popular names, which are listed below under "Use of Popular Names."

Certain insurance coverage for the Related Entities is provided by a State-licensed captive insurance public benefit corporation subsidiary of MTA, First Mutual Transportation Assurance Company ("FMTAC"). See "INSURANCE" in Part 6 of this ADS.

MTA and its subsidiaries are generally governed by the Metropolitan Transportation Authority Act, being Title 11 of Article 5 of the New York Public Authorities Law, as from time to time amended (the "MTA Act").

Triborough Bridge and Tunnel Authority is generally governed by the Triborough Bridge and Tunnel Authority Act, being Title 3 of Article 3 of the New York Public Authorities Law, as from time to time amended (the "MTA Bridges and Tunnels Act").

New York City Transit Authority and its subsidiary, the Manhattan and Bronx Surface Transit Operating Authority, are generally governed by the New York City Transit Authority Act, being Title 9 of Article 5 of the New York Public Authorities Law, as from time to time amended (the "MTA New York City Transit Act").

[*] The MTA subsidiary Metropolitan Suburban Bus Authority discontinued its provision of transportation services at the end of 2011. Its activities are limited to the winding up of its affairs.

Due to the continuing business interrelationship of the Related Entities and their common governance and funding, there are provisions of each of these three acts (the MTA Act, the MTA Bridges and Tunnels Act and the MTA New York City Transit Act) that affect some or all of the other Related Entities in various ways.

As more fully described herein under "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET – Changes in MTA Organization and Related Provisions," MTA is required by the 2019-2020 Enacted Budget to take actions which, when implemented, may substantially alter the organizational structure and operations of MTA and its Related Entities.

Use of Popular Names

The following table sets forth the legal and popular names of the Related Entities. Throughout this ADS, reference to each agency will be made using its popular name.

Legal Name	Popular Name
Metropolitan Transportation Authority	MTA (also referred to as "MTA Headquarters")
New York City Transit Authority	MTA New York City Transit
Manhattan and Bronx Surface Transit Operating Authority	MaBSTOA
Staten Island Rapid Transit Operating Authority	MTA Staten Island Railway
MTA Bus Company	MTA Bus
The Long Island Rail Road Company	MTA Long Island Rail Road
Metro-North Commuter Railroad Company	MTA Metro-North Railroad
MTA Capital Construction Company	MTA Capital Construction
Triborough Bridge and Tunnel Authority	MTA Bridges and Tunnels

Governance

MTA's Board consists of a Chairman and 16 other voting Members, two non-voting Members and four alternate non-voting Members, all of whom are appointed by the Governor with the advice and consent of the State Senate. Of the voting Members, four Members must reside in Dutchess, Orange, Putnam and Rockland counties, respectively, and cast one collective vote. The other voting Members, including the Chairman, cast one vote each (except that in the event of a tie vote, the Chairman shall cast one additional vote). Members of MTA are, *ex officio*, the Members or Directors of the other Related Entities and FMTAC. The Chairman is by statute also the Chief Executive Officer ("CEO") of MTA and is responsible for the discharge of the executive and administrative functions and powers of the Related Entities. The Chairman and CEO of MTA is, *ex officio*, the Chairman and CEO of the other Related Entities.

As more fully described herein under "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET – Changes in MTA Organization and Related Provisions," MTA is required by the 2019-2020 Enacted Budget to take actions which, when implemented, may substantially alter the organizational structure and operations of MTA and its Related Entities.

Facilities and Operations

The following is a summary of the facilities and operations presently conducted by the Related Entities.

MTA Headquarters. MTA Headquarters includes the executive staff of MTA, as well as a number of departments that perform largely all-agency functions, including the Business Service Center ("BSC"), information technology, security, audit, budget and financial management, capital programs management, finance, governmental relations, insurance and risk management, legal, planning, procurement, real estate, corporate compliance and ethics, information technology, and treasury. In addition, MTA maintains its own Police Department ("MTA Police

Department") with non-exclusive jurisdiction over all facilities of the Related Entities and is responsible for the costs and expenses of such police department.

Transit System. MTA New York City Transit and its subsidiary MaBSTOA operate all subway transportation and most of the public bus transportation within the City (the "Transit System"). Throughout this ADS, unless otherwise noted, the term "Transit System" includes only the operations of MTA New York City Transit and its subsidiary MaBSTOA, and does not include the operations of MTA Staten Island Railway (except for certain capital projects included in the Transit Capital Program (as defined below under "*–Capital Programs*")), or MTA Bus.

Commuter System. MTA Long Island Rail Road and MTA Metro-North Railroad operate commuter rail services in the MTA Commuter Transportation District (the "Commuter System").

- MTA Long Island Rail Road operates commuter rail service between the City and Nassau County and Suffolk County in Long Island and within Nassau County and Suffolk County in Long Island.
- MTA Metro-North Railroad operates commuter rail service between the City and the northern suburban counties of Westchester, Putnam and Dutchess; from the City through the southern portion of the State of Connecticut ("Connecticut"); through an arrangement with New Jersey Transit Rail Operations, Inc. ("NJ Transit"), the Port Jervis and Pascack Valley commuter rail services to Orange and Rockland Counties; and within such counties and Connecticut.

MTA Bus. MTA Bus operates certain bus routes in the City formerly served by seven private bus operators pursuant to franchises granted by the City (the "MTA Bus System"). Under an agreement between MTA and the City, the City is responsible for paying MTA Bus the difference between the actual cost of operation and all revenues and subsidies received by MTA Bus and allocable to the operation of the routes. Certain portions of the MTA Bus Capital Program are included in the capital programs approved by the Metropolitan Transportation Authority Capital Program Review Board ("CPRB"). The City is not responsible for paying debt service on bonds issued by MTA for the benefit of MTA Bus in connection with the 2005-2009 Capital Program and later Capital Programs described below. The expense of debt service on bonds issued by MTA for the benefit of MTA Bus in connection with the 2010-2014 and 2015-2019 Capital Programs described below is submitted to the City for reimbursement. MTA Bus is an "Additional Related Transportation Entity" within the meaning of the Transportation Resolution (as hereinafter defined), which allows MTA Bus to finance its capital projects with Transportation Revenue Bonds. See "PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS – TRANSPORTATION REVENUE BONDS" in Part 3 of this ADS.

MTA Staten Island Railway. MTA Staten Island Railway operates a single rapid transit line extending from the Staten Island Ferry Terminal at St. George to the southern tip of Staten Island. The City pays the operating expenses of MTA Staten Island Railway not covered by fares, State and local subsidies, and other amounts. Capital needs of MTA Staten Island Railway are financed under Transit Capital Programs.

MTA Bridges and Tunnels. MTA Bridges and Tunnels operates all nine of the intra-State toll bridges and tunnels in the City (the "MTA Bridges and Tunnels Facilities").

- MTA Bridges and Tunnels is authorized to issue its own obligations to finance the cost of capital costs and projects of its own facilities and of the Transit and Commuter Systems.
- MTA Bridges and Tunnels' annual operating surplus, after meeting its own expenses and after payment of debt service on its own obligations, is used to fund the operating expenses of the Transit System and the Commuter System and/or to finance the cost of certain capital costs and projects of the Transit System and the Commuter System, including payment of debt service on obligations of MTA issued to finance such costs and projects.
- MTA Bridges and Tunnels' annual surplus investment income, after meeting its own expenses and after payment of debt service on its own obligations, is used at the MTA Board's discretion to fund the operating or capital expenses of any of the Related Entities.

As more fully described herein under "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET – Central Business District Tolling Program," MTA Bridges and Tunnels will also operate the CBD Tolling Program.

MTA Capital Construction. MTA Capital Construction is responsible for the planning, design and construction of major MTA system expansion projects for the other Related Entities, currently including East Side Access (bringing MTA Long Island Rail Road into Grand Central Terminal) ("East Side Access"), the Second Avenue Subway, the Cortlandt Street No. 1 Line Station Reconstruction, the Canarsie Tunnel Rehabilitation Project (repairing damage to the tunnel carrying MTA New York City Transit's L subway line), and system-wide capital security projects.

Capital Programs. MTA is required to prepare and submit for approval to the CPRB successive five-year capital programs for (1) the Transit System and MTA Staten Island Railway and (2) the Commuter System. MTA Bridges and Tunnels and MTA Bus undertake their own capital planning that is not subject to CPRB approval; however, certain security projects of MTA Bridges and Tunnels and certain capital projects of MTA Bus have been included in CPRB-approved MTA Capital Programs (as defined below).

Capital program documents are distributed to certain elected officials and posted on MTA's website for review by the public. These documents are not a part of this ADS and are not filed on the Municipal Securities Rulemaking Board's Electronic Municipal Market Access System ("EMMA"). They are not prepared with a view to providing disclosure to investors in the securities of MTA or any of the Related Entities, and, accordingly, should not be relied upon by an investor in making an investment decision.

As used in this ADS, the following terms shall have the following definitions:

- The term "Capital Program," as used in connection with any five-year period, shall refer to the combined "MTA Capital Program" and "MTA Bridges and Tunnels Capital Program" for that period. For example, the term "2015-2019 Capital Program" shall refer to the combined "2015-2019 MTA Capital Program" and the "2015-2019 MTA Bridges and Tunnels Capital Program."

- The term "MTA Capital Program" as used in connection with any five-year period, shall refer to the combined "Transit Capital Program" and "Commuter Capital Program" for that period. For example, the term "2015-2019 MTA Capital Program" shall refer to the combined "2015-2019 Transit Capital Program" and the "2015-2019 Commuter Capital Program." As described herein, the MTA Capital Programs currently consist of the following components: Transit Core Program, Commuter Core Program, MTA Bus Capital Program, MTA Capital Construction Program (Network Expansion), and MTA Interagency Program.

- The term "Transit Capital Program," as used in connection with any five-year period, shall refer to the capital program for MTA New York City Transit, MaBSTOA and MTA Staten Island Railway that is approved by the CPRB for that five-year period.

- The term "Commuter Capital Program," as used in connection with any five-year period, shall refer to the capital program for MTA Long Island Rail Road and MTA Metro-North Railroad that is approved by the CPRB for that five-year period.

- The term "MTA Bridges and Tunnels Capital Program," as used in connection with any five-year period, shall refer to the capital program for MTA Bridges and Tunnels that is adopted by the MTA Board, but that does not need the approval of the CPRB to become effective.

MTA-Wide Security

Mission. The MTA Office of Security works to achieve a secure environment in MTA's multi-modal transportation system for its customers and employees, and at its facilities.

Management. Chief Owen Monaghan has been serving as the chief of the MTA Police Department since January 2017. His area of responsibility expanded to include Chief Security Officer later that same year. Chief Monaghan previously served as the Vice President of Security at MTA New York City Transit. Prior to joining MTA, Chief Monaghan enjoyed a 34 year career with the New York City Police Department, achieving the rank of Assistant Chief. His assignments there included serving as the commanding officer of Patrol Borough Brooklyn South, as well as the executive officer of the Transit Bureau. Chief Monaghan holds a Master's Degree in Public Administration from Marist College and a Certified Projection Professional designation from ASIS International.

General. The MTA Office of Security is pledged to the protection of life and property by adopting and incorporating contemporary technology and best practices in its operations and management based on current intelligence and evolving threat scenarios. The MTA Office of Security:

- Assesses risks and vulnerabilities associated with terrorist threats and develops mitigation strategies to protect ridership, employees and infrastructure;

- Collects intelligence and provides analysis and investigation to counter terrorist or criminal threats;

- Plans, coordinates and manages security mitigation strategies for all MTA physical assets;

- Manages and coordinates emergency planning and response with local, state and federal agencies;

- Develops training initiatives derived from intelligence information collected in coordination with the MTA Police and other law enforcement agencies;

- Maintains strategic partnerships with city, state and federal agencies and not-for-profit organizations; and

- Collaborates and coordinates with the Related Entities regarding their evolving security needs.

Cyber Security. MTA Information Technology implements a robust information security program to contend with constantly changing technology, compliance requirements, increasing complexity of information security and evolving threats. MTA Information Technology's security activities involve:

- Recommending necessary changes in controls, policies, or procedures;

- Maintaining an ongoing risk assessment process with respect to rapidly changing technology and the emergence of new threats;

- Making risk management practices an integral part of doing business;

- Revisiting information security efforts as needed to maintain their relevance to changes in MTA's mission, operational requirements, threats, environment, or deterioration in the degree of compliance;

- Aligning MTA's Cyber Security Program to applicable laws, regulations, standards, and policies and ensuring compliance therewith;

- Achieving industry standard best practices to reduce cyber risk to MTA;

- Improving cyber resilience for all MTA critical infrastructure systems in order to protect them from cyber breaches and attacks; and

- Assessing the adequacy of cyber security controls to protect MTA's critical infrastructure.

Climate Change Adaptation

The Climate Adaptation Task Force at MTA, formed after Superstorm Sandy in 2012, has been coordinating and creating information exchange platforms on climate change adaptation initiatives, ideas, projects and processes among MTA agencies as well as outside experts. The Climate Adaptation Task Force is maintained and managed by the MTA Headquarters Department of Environmental Sustainability & Compliance, which also publishes the Climate Adaptation & Resiliency Report periodically, updating completed and ongoing MTA-wide adaptation and resiliency projects. The next report is due to be published in 2019. The Climate Task Force will continue to meet quarterly starting 2019 to discuss MTA's response to various climate change adaptation, greenhouse gas emissions and energy efficiency initiatives.

Financial Operations

MTA's fiscal year begins on January 1. The MTA Board has adopted financial planning and budgeting practices for the Related Entities that require the preparation of four-year financial plans covering the existing and three future fiscal years. The preparation of the financial plans of the Related Entities includes provision for capital spending (including debt service) authorized by the Capital Programs of the Related Entities, including those Capital Programs approved by the CPRB as described above.

The implementation of the financial plans, as adopted from time to time, and the Capital Programs, as submitted and amended from time to time, are interrelated and complex. Any failure to implement an important component of one can adversely affect the implementation of the other. See generally "FINANCIAL PLANS AND CAPITAL PROGRAMS" in Part 2 of this ADS.

Financial Plans and Budgetary Practices.

- The MTA Board's financial planning and budgeting practices for the Related Entities require the following in each year:

    - In July of each year, MTA management will submit to the MTA Board a revised forecast of the current year's finances, a preliminary budget for the next year and an update to the four-year financial plan (which includes the next year and the three years thereafter) (referred to as the "July Plan").

    - In September, the MTA Board and the operating committees of the MTA Board will include the July preliminary budget and financial plan on their agendas. Public comments will be solicited at the September meeting.

    - In November, a revised forecast of the current year's finances and a proposed final budget for the next fiscal year, together with a revised four-year financial plan, will be submitted to the MTA Board (referred to as the "November Plan").

    - A final budget for the next fiscal year, following public comment, will be adopted by the MTA Board by no later than December 31.

    - No later than February of the following year, MTA Budget will issue a plan book containing the financial tables and supporting schedules for the current year's budget, as well as the financial plan for the next three years, as adopted by the MTA Board the preceding December (referred to as the "February Plan"). This plan incorporates applicable below-the-line policies and includes necessary technical adjustments to the plan. The budget is allocated over the 12-month period and becomes the basis on which monthly results are compared.

    - Consistent with the MTA budget process, the November and February Plans highlight certain policy actions and other adjustments for the benefit of the MTA Board and financial stakeholders. Until these items have been approved by the MTA Board, MTA excludes their financial impact from the "Statement of Operations" (also referred to as the "baseline").

Instead, these items are captured individually, and in total, on the "Plan Adjustments." Such Plan Adjustments are also referred to as being "below-the-baseline."

- Budget and financial plan documents are distributed to certain elected officials and posted on MTA's website for review by the public. (These documents are not a part of this ADS and are not filed on EMMA. They are not prepared with a view to providing disclosure to investors in the securities of MTA or any of the Related Entities, and, accordingly, should not be relied upon by an investor in making an investment decision).

- The Related Entities (other than MTA Bridges and Tunnels) are each required by law to adopt an annual budget that is self-sustaining on a cash basis, including self-generated fares and other revenues, as well as operating subsidies of various types from numerous sources, including the State and local governments. MTA Bridges and Tunnels transfers surplus funds (which do not include moneys deposited into the CBD Tolling Capital Lockbox Fund as described under "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET – Central Business District Tolling Program") to finance the Transit and Commuter Systems.

- MTA is required by law each year to update and submit to the Governor a five-year strategic operation plan (that extends by one year the period covered by the four-year financial plan referenced above) that includes not only estimated operating and capital cost information, but also long-range goals and objectives, planned service and performance standards, and strategies to improve productivity.

- The State Comptroller has promulgated regulations that require the Related Entities to follow certain guidelines in reporting certain budget and financial plan information.

- MTA uses a common chart of accounts to present standardized financial reporting among all of the Related Entities.

- MTA prepares quarterly unaudited consolidated financial statements on behalf of the Related Entities as described below under "–*Quarterly Financial Statement Reports*" and files them on EMMA.

Five-Year Capital Programs.

- The MTA Act requires the preparation of five-year capital programs for (1) the Transit System and MTA Staten Island Railway and (2) the Commuter System. MTA has included funding for the MTA Bus Capital Program in approved Capital Programs as well as certain MTA Bridges and Tunnels security projects which are similarly included in a broader list of security projects in approved Capital Programs.

- Though not required by law, MTA Bridges and Tunnels prepares its own capital program that covers the same time period as the MTA Capital Programs.

- MTA Bus has identified capital projects (the "MTA Bus Capital Program") that are funded through the overall MTA Capital Program approved by the CPRB.

- The capital programs of MTA Bridges and Tunnels and MTA Bus are not required to be approved by the CPRB.

- For information relating to the most recent Capital Programs, see "FINANCIAL PLANS AND CAPITAL PROGRAMS" in Part 2 of this ADS.

Quarterly Financial Statement Reports. MTA issues unaudited quarterly financial statement reports for the Related Entities on a consolidated basis. The reports are filed with EMMA and are posted on MTA's website. The review of the quarterly financial statements is conducted in accordance with the standards established by the American Institute of Certified Public Accountants.

Interagency Loans. The Related Entities are authorized to transfer their revenues, subsidies and other moneys or securities to another Related Entity for use by such other Related Entity, provided at the time of such transfer it is reasonably anticipated that the moneys and securities so transferred will be reimbursed, repaid or otherwise provided for by the end of the next succeeding calendar year. The use of such interagency loans allows for cash flow management on a more efficient MTA-wide basis and allows the Related Entities to meet their operating needs and other periodic financial commitments generally reducing the need for public or private cash flow borrowings. There are currently no interagency loans outstanding among the Related Entities.

Public Statements and Reports by Others. From time to time, the Governor, the State Comptroller, the Mayor of the City, the City Comptroller, County Executives, State legislators, City Council Members and other persons or groups may make public statements, issue reports, institute proceedings or take actions that contain predictions, projections or other information relating to the Related Entities or their financial condition, including potential operating results for the current fiscal year and projected baseline surpluses or gaps for future years, that may vary materially from, question or challenge the information provided herein or in budgets or financial plans prepared by MTA. While MTA may not directly respond to each such statement or action, MTA intends to update and supplement specific information contained herein and to prepare the quarterly financial statement reports and financial plan updates described above. Investors and other market participants should refer to MTA's filings on EMMA, from time to time, for information regarding the Related Entities and their financial condition.

Management

- The Chairman and Members of MTA, by statute, are also the Chairman and Members of the other Related Entities.
- The Chairman of MTA by statute is the CEO of MTA, who is responsible for the discharge of the executive and administrative functions and powers of the Related Entities. The CEO of MTA is, *ex officio*, the CEO of the other Related Entities.
- Each of the Related Entities has its own management that is responsible for its day-to-day operations.

The following are brief biographies of MTA's senior officers.

Patrick Foye was appointed Chairman and Chief Executive Officer of MTA on March 29, 2019, and his appointment was confirmed by the State Senate on April 1, 2019. Mr. Foye previously served as MTA President. As President, he led key innovation and modernization efforts. Mr. Foye previously served as the Executive Director of The Port Authority of New York and New Jersey ("PANYNJ") and President of the Port Authority Trans-Hudson transit system ("PATH"). Prior to joining the Port Authority, he served as Deputy Secretary for Economic Development for Governor Andrew M. Cuomo. Mr. Foye was a Mergers and Acquisition partner at the law firm of Skadden, Arps, Slate, Meagher & Flom and managing partner of the firm's Brussels, Budapest and Moscow offices. He was also Executive Vice President of AIMCO, a real estate investment trust and a component of the S&P 500. Mr. Foye served as President and CEO of the United Way of Long Island. He also served as a Board member of MTA from 2010 to 2012. Mr. Foye received his B.A. from Fordham College and J.D. from Fordham Law School.

Veronique Hakim has been the Managing Director of MTA since August 2017 and is responsible for oversight of MTA's operating agencies and the MTA Police, Labor Relations and Human Resources Departments. She previously served as MTA Interim Executive Director from January 2017 and as President of MTA New York City Transit from December 2015. Prior to that, Ms. Hakim served as Executive Director of the New Jersey Turnpike Authority for a year and a half and as Executive Director of the New Jersey Turnpike Authority for nearly four years. She has 28 years of experience in the transportation industry, including 24 years at MTA. As Executive Vice President and General Counsel for Capital Construction at MTA Capital Construction, Ms. Hakim provided senior management with policy and legal advice on numerous large-scale projects, including the Second Avenue Subway, the MTA Long Island Rail Road East Side Access Project, and the No. 7 Subway Extension Project. She also served as Special Counsel of MTA New York City Transit. Ms. Hakim holds a B.A. in Political Science from the University of Rochester and a J.D. from the Pace University School of Law.

John N. "Janno" Lieber has served as MTA Chief Development Officer since May 2017. Mr. Lieber also serves as President of MTA Capital Construction. His responsibilities include oversight and management of key strategic capital initiatives focused on increasing the capacity of the MTA system. He also oversees the MTA Real Estate Department and transit-oriented development projects. Prior to joining MTA, Mr. Lieber served as President of World Trade Center Properties for 14 years. Before that, he served as Senior Vice President of Lawrence Ruben Company and as Deputy Assistant Secretary for Policy for the U.S. Department of Transportation under President William Clinton. Earlier in his career, Mr. Lieber practiced law at a private law firm and served as a transportation policy advisor in the office of New York City Mayor Ed Koch. He is a graduate of Harvard University and New York University Law School.

Robert E. Foran has served as Chief Financial Officer of MTA since April 2010. Mr. Foran is responsible for the Capital Program Management, Comptroller, Finance, Management and Budget, Risk Management, and Treasury departments at MTA. Prior to this position, Mr. Foran spent 28 years as an investment banker in public finance, including 16 years as the head of public finance for Bear, Stearns & Co. Inc. Mr. Foran started his career in the audit division of Arthur Andersen & Co. where he became a Certified Public Accountant. Mr. Foran is a graduate of Bob Jones University and the Harvard Business School.

Thomas J. Quigley has served as MTA General Counsel since February 2018. Mr. Quigley was previously a partner in the law firm of Winston & Strawn, where he headed the firm's New York litigation department. He joined Winston & Strawn as an associate. Mr. Quigley received his B.A. from Fairfield University, an M.S. from Columbia University and his J.D. from St. John's University School of Law.

Helene Fromm has served as MTA Chief of Staff since February 2018. Prior to serving as MTA Chief of Staff, she served as Acting General Counsel of MTA. Ms. Fromm originally joined MTA in 1993 as Deputy General Counsel, Litigation. She served as Chief of Staff of the New York City Mayor's Office of Operations and later returned to MTA as General Counsel of MTA Bus and thereafter as MTA Deputy General Counsel, Litigation. Prior to joining MTA, Ms. Fromm was an attorney at the New York City Law Department and an associate at two private firms. Ms. Fromm received her A.B. from Princeton University and her J.D. from Stanford Law School.

MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET

Introduction. The New York State Legislature (the "Legislature") passed and the Governor signed the State budget for the State Fiscal Year 2019-2020 into law on April 1, 2019 (the "2019-2020 Enacted Budget"). The enactment of the provisions described in this section gives effect to proposals set forth in the Executive Budget and in the February 26, 2019 "MTA Transformation Plan" announced by Governor Cuomo and New York City Mayor de Blasio. The enactment of the Central Business District Tolling Program (the "CBD Tolling Program") and the hereinafter described 2019 Real Estate Transfer Tax and Internet Sales Tax are intended to provide stable and recurring sources of revenue support for MTA's capital program needs.

These initiatives, including the management and operational provisions discussed below under the subheading "Changes in MTA Organization and Related Provisions", do not materially address the near or long-term projected operating deficits of MTA. As noted in greater detail in Part 2 of this ADS under "FINANCIAL PLANS AND CAPITAL PROGRAMS—2018-2021 Financial Plan", the February Plan projects deficits of $467 million, $814 million and $976 million in 2020, 2021, and 2022, respectively. There can be no assurance that MTA will be able to remedy the near term cashflow crisis or meet the deficit reduction targets it hopes to achieve, or that the State, the City, or other stakeholders will provide additional financial assistance that MTA needs. As a result, MTA may need to implement additional reductions, including curtailment of service and associated workforce reductions.

The following section describes the MTA related provisions set forth in the 2019-2020 Enacted Budget under the subheadings of "Central Business District Tolling Program," "Other New Recurring Revenue Sources for MTA" and "Changes in MTA Organization and Related Provisions." MTA expects to provide additional details arising from the 2019-2020 Enacted Budget, as available, in updates and supplements to this ADS as implementation of the several initiatives further progresses. Projections of potential financial or operational and management benefits from each of the initiatives described in this heading are uncertain and difficult to quantify as of the date of this ADS.

Central Business District Tolling Program

The 2019-2020 Enacted Budget establishes the CBD Tolling Program, the goals of which are to reduce traffic congestion in the Manhattan central business district, improve air quality, and provide a stable and reliable funding source for the repair and revitalization of MTA's public transportation systems. The CBD Tolling Program revenues are not expected to begin to flow to MTA until at least early 2021.

MTA Bridges and Tunnels is directed to establish the CBD Tolling Program. The program will operate in the Central Business District or "CBD", defined as roadways, bridges, tunnels, approaches or ramps located within or entering into Manhattan south of and inclusive of 60th Street, not including the FDR Drive or the West Side Highway (which includes the Battery Park underpass and or any surface roadway portion of the Hugh L. Carey Tunnel that connects to West Street). MTA Bridges and Tunnels is directed to enter into a memorandum of understanding (the "MOU") with New York City Department of Transportation (the "NYCDOT") to coordinate the planning, design, installation, construction and maintenance of the CBD Tolling Program infrastructure. MTA Bridges and Tunnels, in accordance with the MOU, will plan, design, install, construct, maintain and operate the CBD Tolling Program infrastructure and collection system, an electronic toll collection system, and will plan, design, implement and operate a CBD tolling customer service center.

MTA Bridges and Tunnels is empowered (i) to establish and charge variable tolls, fees and other charges for vehicles entering or remaining in the CBD and (ii) to make rules and regulations for the establishment and collection of CBD tolls, fees, and other charges. Subject to agreements with bondholders and applicable federal law, all tolls, fees and other revenues derived from the CBD Tolling Program will be applied to the payment of operating, administration, and other necessary expenses of MTA Bridges and Tunnels properly allocable to the program, including the capital costs of the program, and to the payment of interest or principal of bonds, notes or other obligations of MTA Bridges and Tunnels or MTA issued for transit and commuter projects as provided pursuant to existing law, and shall not be subject to distribution of MTA Bridges and Tunnel's surplus under existing law. Any such tolls, and other charges may be established and changed only if approved by resolution of the Board of MTA Bridges and Tunnels after a public hearing.

The Board of MTA Bridges and Tunnels is directed to ensure at a minimum annual net revenue and fees less costs of operation, sufficient to fund $15 billion (through the issuance of bonds secured by such revenues and fees) for MTA capital projects in the 2020-2024 Capital Program or any successor capital program. See "FINANCIAL PLANS AND CAPITAL PLANS—Capital Programs–Background and Development" in PART 2 of this ADS.

The 2019-2020 Enacted Budget directs MTA Bridges and Tunnels to establish a CBD tolling capital lockbox fund (the "CBD Tolling Capital Lockbox Fund"). Monies in the fund cannot be commingled with any other MTA Bridges and Tunnel monies and will be held free and clear of claims arising under the CBD Tolling Program. The following revenues will be deposited into the CBD Tolling Capital Lockbox Fund:

(i) all monies MTA Bridges and Tunnels receives from the CBD Tolling Program;

(ii) revenues of the 2019 Real Estate Transfer Tax (as hereinafter defined); and

(iii) all Internet Sales Taxes (as hereinafter defined).

Funds on deposit in the CBD Tolling Capital Lockbox Fund shall be applied to:

(i) operating, administration and other necessary expenses relating to the CBD Tolling Program, or to NYCDOT pursuant to the MOU; and

(ii) costs of MTA capital projects included in the 2020-2024 Capital Program or any successor capital program.

Such funds in the CBD Tolling Capital Lockbox Fund may be:

(i) pledged by MTA Bridges and Tunnels to pay any bonds issued by MTA Bridges and Tunnels to finance (a) costs of the CBD Tolling Program, including the tolling infrastructure, CBD tolling collection system and CBD tolling customer service center and (b) the costs of any MTA capital projects in the 2020-2024 Capital Program or later capital program; or

(ii) used by MTA Bridges and Tunnels to pay capital costs of the CBD Tolling Program and the costs of any MTA capital projects in the 2020-2024 Capital Program or later capital program on a Pay-Go basis; or

(iii) transferred to MTA and either (x) pledged by MTA to pay MTA bonds issued to pay for costs of MTA capital projects in the 2020-2024 Capital Program or later capital program, or (y) used by MTA to pay costs of MTA capital projects in the 2020-2024 Capital Program or later capital program on a Pay-Go basis.

The 2019-2020 Enacted Budget further provides that capital project costs paid from the CBD Tolling Capital Lockbox Fund are subject to the following revenue split:

- eighty percent for MTA New York City Transit, MaBSTOA, MTA Staten Island Railway and MTA Bus capital project costs, with priority given to subway system, new signaling, new subway cars, track and car repair, accessibility, buses and bus system improvements and further investments in expanding transit availability in the outer boroughs;
- ten percent for MTA Long Island Rail Road capital projects, including parking facilities, rolling stock, capacity enhancements, accessibility and expanding transit availability; and
- ten percent for MTA Metro-North Railroad capital projects including parking facilities, rolling stock, capacity enhancements, accessibility and expanding transit availability.

The 2019-2020 Enacted Budget requires the Board of MTA Bridges and Tunnels to establish a traffic mobility review board (the "TMRB") composed of a chair and five members with specific requirements for regional representation and professional expertise.

The TMRB will make recommendations regarding the CBD toll amounts to be established, which shall include a variable-pricing structure, no sooner than November 15, 2020 and no later than December 31, 2020, or no later than thirty days before a CBD Tolling Program is initiated, whichever is later. Such recommendation shall be submitted by the TMRB to the Board of MTA Bridges and Tunnels for consideration before the Board of MTA Bridges and Tunnels may approve CBD toll amounts.

For purposes of recommending a CBD toll, in addition to the goal of reducing traffic within the CBD, the TMRB shall, at minimum, ensure that annual revenues and fees collected under the CBD Tolling Program, less costs of the program, provide revenues to be deposited into the CBD Tolling Capital Lockbox Fund sufficient to fund $15 billion for MTA capital projects for the 2020-2024 Capital Program. Any additional revenues above that amount are to be made available for any successor Capital Program. The TMRB will consider for purposes of its recommendations, factors including but not limited to, traffic patterns, traffic mitigation measures, operating costs, public impact, public safety, hardships, vehicle type, discounts for motorcycles, peak and off-peak rates and environmental impacts, including but not limited to air quality and emissions trends. The TMRB will recommend a plan for credits, discounts, and/or exemptions for tolls paid on bridges and crossings, which plan shall be informed by a traffic study associated with the impact of any such credits, discounts and/or exemptions on the recommended toll. The TMRB will recommend a plan for credits, discounts, and/or exemptions for for-hire vehicles subject to the For-Hire Transportation Surcharge described under "REVENUES OF THE RELATED ENTITIES – Congestion Zone Surcharges" in Part 2 of this ADS, based on factors, including, but not limited to, initial market entry costs associated with licensing and regulation, comparative contribution to congestion in the CBD, and general industry impact. The TMRB will produce a detailed report that provides information regarding the TMRB's review and analysis for purposes of establishing its recommendations. The TMRB will not recommend a toll that provides for charging passenger vehicles more than once per day.

In addition, the MTA Capital Program will be reviewed by the TMRB.

All capital and operating costs for the CBD Tolling Program will be funded by revenues generated from the program. The Legislature has appropriated $100 million as an advance to MTA for the capital project costs of the planning, design, acquisition and construction, required or expected to be required to implement the CBD Tolling Program's infrastructure and collection system. No portion of this appropriation shall be available for expenditure until MTA has entered into a repayment agreement with the State Director of Budget providing for repayment to the State of an amount equal to the amount disbursed from this appropriation and any associated financing costs. This agreement was being developed but had not yet been ratified as of April 2019.

Other New Recurring Revenue Sources for MTA

The 2019-2020 Enacted Budget also establishes two additional sources of annually recurring MTA Capital Program subsidy revenues. These are (i) a portion of the collections of new real estate transfer taxes to be imposed in the City (the MTA portion of such collections, hereinafter referred to as the "2019 Real Estate Transfer Tax"), and (ii) allocated portions of the State and City sales tax collections based upon projected increases due to legislative changes to collect City-based internet sales tax allocations (the MTA portion of such collections referred to herein as the "Internet Sales Tax").

The 2019 Real Estate Transfer Tax is derived from two new real estate transfer taxes imposed in the City on transfers of high value residential properties in the City beginning with transfers occurring on and after July 1, 2019. The revenues will be collected by the State Commissioner of Taxation and Finance and held in trust for MTA. The revenues will be transferred twice a month without appropriation directly to the CBD Tolling Capital Lockbox Fund. The State estimates that the 2019 Real Estate Transfer Tax will generate approximately $365 million annually for MTA Capital Programs.

The Internet Sales Tax is MTA's allocated portion of the State and City sales taxes, including those collected from internet marketplace providers based outside the State under changes in the sales tax law effected in the 2019-2020 Enacted Budget. The 2019-2020 Enacted Budget specifies the amounts of these sales tax receipts that are allocable to MTA, as follows:

(i) from State sales tax receipts collected by the State Department of Taxation and Finance, the following amounts will be deposited monthly by the State Comptroller in a new State-held fund, the New York Central Business District Trust Fund, and thereafter, subject to appropriation, such funds will be paid into the CBD Tolling Capital Lockbox Fund:

- State Fiscal Year 2019-2020--$112.5 million
- State Fiscal Year 2020-2021--$150 million
- State Fiscal Year 2021-2022 and every year thereafter-- an amount equal to 101% of the amount deposited the previous year.

(ii) the State Comptroller will withhold from the City the sales tax revenue from the sales tax imposed by the City and deposit such revenues monthly, without appropriation, into the CBD Tolling Capital Lockbox Fund the following amounts:

- State Fiscal Year 2019-2020--$127.5 million
- State Fiscal Year 2020-2021--$170 million
- State Fiscal Year 2021-2022 and every year thereafter-- an amount equal to 101% of the amount deposited the previous year.

Each of the 2019 Real Estate Transfer Tax and the Internet Sales Tax revenues should begin to provide support for MTA capital program needs upon commencement of revenue collection.

Changes in MTA Organization and Related Provisions

The 2019-2020 Enacted Budget establishes a series of reforms in the organization, governance, contracting and operations of MTA. Several of the provisions require MTA to take actions, which when implemented may substantially alter the organizational structure and operations of MTA and its Related Entities.

Among these provisions are the following:

(i) MTA is directed to develop a personnel and reorganization plan not later than June 30, 2019, authorizing reorganizations and potential consolidations and transfers of various management functions, to achieve operational efficiencies and cost savings; no consolidation shall result in the complete dissolution of or merger among MTA and its Related Entities;

(ii) MTA is directed to retain a financial advisory firm with a national practice to conduct a review by July 31, 2019 of: (a) any fraud, waste, abuse, or conflicts of interest occurring within any department, division, or office of MTA and its Related Entities; (b) any duplication of functions or duties between the departments, divisions or offices of MTA and its Related Entities; (c) options for potential cost efficiencies and savings that could be achieved through changes in internal controls and management reforms, functional and process streamlining, internal procurement process reforms; (d) the MTA 2015-2019 Capital Program for cost overages and duplication; (e) the development of standardized performance metrics for planning, design, approvals, change orders, project management and delivery; and (f) cash flow and accounting of expenditures of MTA and its Related Entities;

(iii) MTA is directed to consider the review's findings and incorporate them into a revised personnel and reorganization plan within 90 days of receipt;

(iv) modification of appointments to the MTA Board to align with the terms of the applicable governmental official making such appointment;

(v) MTA is directed to contract with a certified public accounting firm to conduct an independent and comprehensive forensic audit of MTA and its capital program. The audit must be completed and submitted to the MTA Board by January 1, 2020, and thereafter posted on MTA's website;

(vi) MTA is directed to establish a major construction review unit staffed with a panel of in-house and external experts in various relevant fields; it shall review all large scale capital projects, with emphasis on signal system upgrades and use of communications based train control and ultra-wideband technology;

(vii) any CPRB member who does not approve of a proposed MTA Capital Program is required to issue a written explanation for their veto, and giving MTA the opportunity to respond and revise the plan so the member may withdraw their veto;

(viii) MTA is allowed to debar any contractor that exceeds 10% of the contract cost or time on a capital construction project; and

(ix) MTA is directed to develop and implement a policy that includes the use of design-build contracting for MTA capital projects over $25 million in cost, unless the State Director of the Budget grants a waiver to allow traditional low-bid contracting on such projects.

The 2019-2020 Enacted Budget also requires that on or before October 1, 2023, and on or before October 1st of every fifth year thereafter, MTA will submit to the CPRB a twenty-year capital needs assessment. Such assessment will begin with the period commencing January 1, 2025. Such assessment will: (i) set forth broad long-term capital investments to be made throughout the MTA region; and (ii) establish a non-binding basis to be used by MTA in the planning of strategic investments involving capital elements in its five-year Capital Programs. Such assessment will not require a vote of the CPRB and will be for informational purposes only. The term "broad long-term capital investments" includes, but is not be limited to: system rebuilding, enhancement, and expansion needs; agency needs broken down by capital element or investment category; and projected future trends and network implications.

PART 2. FINANCIAL INFORMATION

REVENUES OF THE RELATED ENTITIES

The following is a general description of certain revenues generated by the Related Entities. While it is not a complete list of all revenues available, it does cover substantially all of the revenues pledged to pay any one or more of the securities described in Part 3 of this ADS under "PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS." Each MTA or MTA Bridges and Tunnels credit is supported by specific revenue streams. Reference is made to the unaudited financial statements of the various entities for more information relating thereto. The information in the unaudited financial statements may differ from the information set forth below in certain respects due to the classification of revenues or timing of receipt thereof. For example, while the Related Entities use a calendar year as their fiscal year, the State has a fiscal year that begins on April 1. Some of the information set forth below and under the caption "PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS – DEDICATED TAX FUND BONDS" relating to the State subsidies reflects revenues received during the State's fiscal year.

Collections of the different sources of revenues available to the Related Entities have varied, in some cases substantially, for a variety of reasons over the last ten years. Most of the revenues (including fares and tolls, dedicated taxes and miscellaneous concession and other revenues) are affected by general and local economic factors, including population and employment levels, stock market valuations, motor fuel prices and general economic activity, such as retail sales. The real estate-based revenues (i.e., the mortgage recording taxes and the urban taxes for the Transit System), which are equal to set percentages of the valuations of taxed transactions, are affected by a varying level of commercial and residential real property transactions, as well as, during certain periods, a generally lower value of real estate. In addition, the State's and the City's fiscal condition could affect their ability to subsidize the Related Entities and could affect their willingness to continue to provide revenues at prior or forecasted levels.

Fares and Tolls

Ridership and Use of Bridges and Tunnels. The level of fare revenues depends to a large extent on ridership levels on the Transit System, Commuter System and MTA Bus System. Similarly, the level of toll revenues depends to a large extent on use levels on its bridges and tunnels. Those ridership and use levels are affected by a range of factors, including, without limitation, the safety, quality and efficiency of systems operations and financial and economic conditions in the New York metropolitan area.

Fare and Toll Policy. MTA determines the fares charged to users of the Commuter System and the MTA Bus System; MTA New York City Transit and MaBSTOA, together with MTA, determine the fares for the Transit System; and MTA Bridges and Tunnels determines the tolls for the MTA Bridges and Tunnels Facilities. After adopting operating expense budgets and assessing the availability of governmental subsidies (other than in the case of MTA Bridges and Tunnels), each makes a determination of fares necessary to operate on a self-sustaining cash basis in compliance with State law and covenants in the relevant bond resolutions. After taking into consideration the impact of increased fares on riders and increased tolls on bridge and tunnel users and of both on the regional economy, MTA may attempt to reduce costs or obtain additional revenues from other sources, mainly governmental sources, before increasing fares and/or tolls. As a result, even though MTA does not generally need other governmental approvals before setting fares and MTA Bridges and Tunnels does not generally need other governmental approvals before setting tolls, the amount and timing of fare and toll increases may be affected by the federal, State and local government financial conditions, as well as by budgetary and legislative processes. In the case of the New Haven Line, MTA's ability to change fares is subject to the approval of the Connecticut Department of Transportation ("CDOT") pursuant to the terms of the joint service agreement among MTA, MTA Metro-North Railroad and CDOT. At the present time, MTA is exempt from all federal requirements relating to fares charged on interstate travel on the New Haven Line. MTA's obligation to obtain approval of fare increases on the New Haven line from CDOT can also affect the amount and timing of fare increases.

Methods of Payment and Collection. MTA New York City Transit employs an automated fare collection ("AFC") system that utilizes MetroCard payments, as more fully described in Part 5 of this ADS under "STATISTICAL INFORMATION – RIDERSHIP AND FACILITIES USE – Transit System (MTA New York City Transit and MaBSTOA) Ridership – *Automated Fare Collection*." In addition to in-system sales at station booths and through vending machines, MetroCards are presently sold through out-of-system vendors by MTA Long Island

Rail Road, MTA Metro-North Railroad, other entities that use MetroCard, and directly to businesses. In connection with certain of these sales, a sales commission is netted out of the amounts paid to MTA New York City Transit.

MTA New York City Transit offers an Easy Pay Express pre-payment program wherein customers pay for their rides automatically by linking their MetroCard to a credit card or debit card. MTA New York City Transit also has a program for senior citizens wherein their MetroCard usage is determined at the end of the month and they are retroactively charged the least cost based upon their usage.

MTA New York City Transit has integrated its MetroCard system with MTA Bus, NICE Bus (Nassau County), PATH (PANYNJ), JFK Air Train (PANYNJ), Westchester County Bee Line, and Roosevelt Island Tram (Roosevelt Island Operating Corporation of the State of New York).

Several ticket purchase options are available to MTA Long Island Rail Road and MTA Metro-North Railroad customers. Payment methods accepted for ticket purchases at station windows include cash, checks, credit/debit cards and vouchers. Ticket vending machines accept cash and credit and debit cards for the purchase of tickets. MTA's website allows customers from both MTA Long Island Rail Road and MTA Metro-North Railroad to establish individual Mail-and-Ride accounts for the purchase of monthly tickets, which are mailed just prior to the beginning of each month. In 2016, MTA Long Island Rail Road and MTA Metro-North Railroad introduced a mobile ticketing option (eTix™), which allows customers to establish accounts with credit cards, purchase electronic tickets using their mobile devices and display onboard to train personnel for validation.

MTA Long Island Rail Road and MTA Metro-North Railroad customers may purchase one-way tickets onboard all trains using cash, credit cards and pin-less debit cards.

MTA Bridges and Tunnels employs an electronic toll collection system ("E-ZPass") at all of its bridges and tunnels. Historically, MTA Bridges and Tunnels' E-ZPass program generally required prepayment on behalf of the customers. Substantially all of the E-ZPass users prepaid with credit cards or checks. As more fully described herein under "RIDERSHIP AND FACILITIES USE – Cashless Open Road Tolling ("Cashless Tolling")" in Part 5 of this ADS, MTA Bridges and Tunnels has converted to a cashless open road tolling system. MTA Bridges and Tunnels launched its "MTA Reload Card" pilot program on February 23, 2012. This program allows customers who wish to replenish their accounts with cash to receive an MTA Reload Card that is directly linked to their E-ZPass accounts. MTA Bridges and Tunnels also offers E-ZPass customers a "Pay per Trip" plan, which enables customers to set up an E-ZPass account without a pre-paid balance. Those interested in this program pay for their tolls each day through Automated Clearing House deductions from their checking accounts. For Cashless Tolling, MTA Bridges and Tunnels introduced a Tolls by Mail program, which covers anyone crossing an MTA Bridges and Tunnels facility without an E-ZPass. Customers who do not have E-ZPass are sent a toll bill which can be paid by cash, check or credit/debit card.

Payment by means other than cash (1) creates potential collection risk and (2) could delay the timing of the actual receipt of payment by the providers. Following the standard industry practice for credit and debit cards, fare and toll payments made by those means will produce cash receipts to the applicable authority and trustee which are net of standard discounts and transaction fees to the merchant processors, card associations and card issuers. Further, (a) the collection of fares and tolls by other governmental entities using an integrated payment system, such as MetroCard or E-ZPass, whereby a customer can purchase a card or pass from any of the entities for use on all of the systems, and (b) the use of the Related Entities' electronic media at commercial establishments, may subject the amounts due to MTA New York City Transit, MTA Bus and MTA Bridges and Tunnels to multiple liens and claims prior to the time that the fares or tolls are actually earned through use of the applicable facilities. The payment of fares and tolls by non-cash methods, including checks and credit and debit cards, is subject to, among other things, collection risk, including, without limitation, bankruptcy, insolvency and other creditor and debtor rights involving both the user of the facilities and the collection and processing entities.

Historical Fare and Toll Increases. Fares on the commuter rail, subway and bus systems did not increase between 1995 and 2003[*] and tolls did not increase between 1996 and 2003, both among the longest periods of time without an increase in the history of the systems. During this period, the State increased certain special tax

[*] Fares did not increase, but intermodal transfers, unlimited ride passes, and bonus value were all introduced in this period.

supported operating subsidies and fees in order to assist in the funding of operations and the approved capital programs. Due to general national and regional economic conditions since 2001, fares and tolls have been increased at various times. While ridership of the Transit and Commuter Systems and use of the MTA Bridges and Tunnels Facilities have fluctuated, fare and toll increases have allowed the revenues derived from such sources to generally increase during the last decade. MTA fares and tolls were increased effective in 2009, 2010, 2013, 2015, 2017 and 2019. In the case of MTA Metro-North Railroad's New Haven line, Connecticut also increased fares for travel between stations in Connecticut and the State, effective 2003, 2005, in each year from 2012-2016, and in 2018. Ridership and fares are more fully described in Part 5 of this ADS under the following captions "RIDERSHIP AND FACILITIES USE": "Transit System (MTA New York City Transit and MaBSTOA) Ridership – *Fares*," "Commuter System Ridership – *Fares*," "MTA Bus Ridership – *Fares*," and "MTA Bridges and Tunnels – Total Revenue Vehicles."

Transit System Fares. Revenues are derived from fares charged to users of the Transit System. Fare revenues on an accrual basis (not including school, elderly and paratransit reimbursement described below) for the past ten years are as follows:

Year	Fare Revenues (in millions)	Year	Fare Revenues (in millions)
2009	$3,132.8	2014	$4,191.0
2010	3,319.7	2015	4,371.4
2011	3,629.0	2016	4,415.0
2012	3,723.0	2017	4,486.8
2013	4,051.8	2018	4,454.0

The 2019 projected fare revenue, on an accrual basis, as reported in the 2019 Adopted Budget (as defined below under "– 2019-2022 Financial Plan (The "February Plan")"), together with the fare increase captured below-the-baseline, is $4,550.6 million.

The 2019 projected fare revenue, on a cash basis, as reported in the 2019 Adopted Budget, is $4,391.6 million.

The current fare schedule includes a basic bus and subway fare of $2.75, as well as a variety of discounted fare arrangements (as described in the next paragraph) covering the majority of passenger trips. Special fares are available for senior citizens, persons with disabilities, school children and on certain special services. For a description of historical fare levels and payment and collection methods and discount programs, see "RIDERSHIP AND FACILITIES USE – Transit System (MTA New York City Transit and MaBSTOA) Ridership – *Fares*" and "RIDERSHIP AND FACILITIES USE – Transit System (MTA New York City Transit and MaBSTOA) Ridership – *Automated Fare Collection*."

For MetroCard users only, MTA has continued the elimination of two-fare zones, provision of unlimited-ride 7-day and 30-day subway and bus passes and unlimited-ride 7-day combined express bus and regular bus/subway passes. MTA also offers a program for unlimited-ride 30-day and 7-day express pass holders that enables the holder to replace his or her lost pass at no cost (limit of two per calendar year per holder) if the pass was paid for by credit or debit card. Although these programs decrease revenues per trip, MTA currently projects that, over the next few years, revenues derived from fares charged to users of the Transit System will increase. This is due to MTA following a pattern of 4% biennial fare and toll increases, which is laid out in the 2019-2022 Financial Plan. In 2013, MTA implemented a $1.00 "green" fee for each new MetroCard bought in the subway system in an effort to reduce the cost attributable to the high volume of MetroCards produced and discarded. See "RIDERSHIP AND FACILITIES USE – Transit System (MTA New York City Transit and MaBSTOA) Ridership – *Automated Fare Collection*" in Part 5 of this ADS.

MTA New York City Transit may fix and adjust Transit System fares without the approval or consent of any other body or entity. However, as a recipient of federal funding, MTA New York City Transit is obligated to receive public comment prior to raising fares.

Transit System Fare Reimbursements from the City and State. MTA New York City Transit and MaBSTOA are required by law to permit, upon the request of the Mayor of the City, free or reduced fares for one or more classes of users of their facilities upon the agreement of the City to assume the burden of the resulting differential in fares and the associated administrative costs. Pursuant to an ongoing request of the Mayor, MTA New York City Transit and MaBSTOA have instituted free fare programs for certain school children and, as a requirement for obtaining grants from the federal government, have continued a half-fare program for senior citizens and have instituted a half-fare program for eligible disabled persons.

Beginning in 1996, the State and the City each began paying $45 million annually to MTA toward the cost of the free program for students. In 2009, the State reduced its reimbursement from $45 million to $6.3 million but subsequently increased it to $25.3 million in 2010. The 2010 reimbursement levels were maintained through 2018 by both the State and City. These annual reimbursements from the City and the State covered approximately 30% of the cost of the program in 2018.

MTA Bus Fares. Revenues are derived from fares charged to users of the MTA Bus System that are the equivalent of fares charged on the bus systems operated by MTA New York City Transit. Fare revenues on an accrual basis (not including school and elderly reimbursement) for the past ten years are as follows:

Year	Fare Revenues (in millions)	Year	Fare Revenues (in millions)
2009	$160.0	2014	$203.6
2010	168.0	2015	210.3
2011	179.0	2016	212.5
2012	181.9	2017	217.2
2013	193.0	2018	220.5

The 2019 projected fare revenue, on an accrual basis, as reported in the 2019 Adopted Budget, together with the fare increase captured below-the-baseline, is $229.0 million.

The 2019 projected fare revenue, on a cash basis, as reported in the 2019 Adopted Budget, is $221.4 million.

Commuter System Fares. Revenues, on an accrual basis, are derived from fares charged to users of the Commuter System. Fare revenues on an accrual basis for the past ten years are as follows:

Year	Fare Revenues (in millions)	Year	Fare Revenues (in millions)
2009	$1,011.2	2014	$1,308.7
2010	1,049.9	2015	1,373.0
2011	1,139.2	2016	1,416.1
2012	1,168.9	2017	1,461.0
2013	1,250.9	2018	1,480.8*

* Includes $740.3 million for MTA Metro-North Railroad and $740.5 million for MTA Long Island Rail Road.

The 2019 projected fare revenue, on an accrual basis, as reported in the 2019 Adopted Budget, together with the fare increase captured below-the-baseline, is $1,578.9 million.

The 2019 projected fare revenue, on a cash basis, as reported in the 2019 Adopted Budget, together with the fare increase captured below-the-baseline, is $1,582.0 million.

Fares are set in accordance with complicated formulae and vary in relation to the distance traveled. Discounts are generally available for travel during off-peak hours, for senior citizens, children and persons with disabilities, and for the purchase of weekly or monthly tickets by commuters. Mail and Ride monthly ticket customers can also receive an additional 2% discount for purchasing a joint 30-day unlimited-ride MetroCard with their monthly commuter ticket.

MTA Bridges and Tunnels Toll Revenues. Revenues are derived from tolls at the MTA Bridges and Tunnels Facilities. Toll revenues on an accrual basis for the past ten years are as follows:

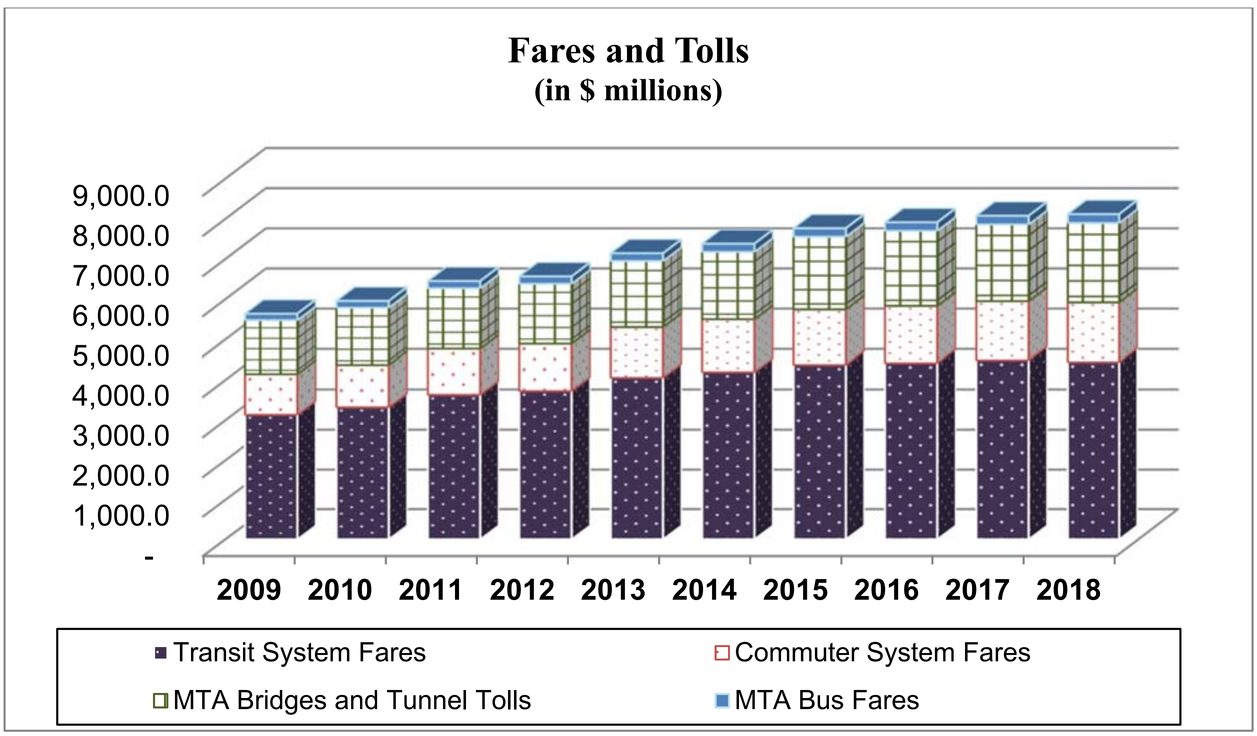
Year	Toll Revenues (in millions)	Year	Toll Revenues (in millions)
2009	$1,332.1	2014	$1,676.4
2010	1,417.0	2015	1,808.9
2011	1,501.6	2016	1,869.7
2012	1,491.0	2017	1,911.9
2013	1,645.2	2018	1,975.7

The 2019 projected toll revenue, on an accrual basis, as reported in the 2019 Adopted Budget, is $1,983.6 million.

The average toll in 2018 was $6.13, which was $0.04 lower than the average toll of $6.17 in 2017. The decrease was primarily due to an increase in E-ZPass usage. Most E-ZPass customers pay lower tolls than Tolls by Mail customers.

For more information relating to MTA Bridges and Tunnels' tolls, see "RIDERSHIP AND FACILITIES USE – Toll Rates" in Part 5 of this ADS. See also the section in the Stantec Report entitled "TOLL COLLECTION ON THE TBTA FACILITIES."

Combined Transit System, MTA Bus System, Commuter System and MTA Bridges and Tunnels Facilities fares and tolls. The following bar chart shows the level of combined Transit System, MTA Bus System, Commuter System and MTA Bridges and Tunnels Facilities fare and toll revenues for the past ten years.



State and Local General Operating Subsidies

Section 18-b Program. The Section 18-b Program, a statewide mass transportation operating assistance program, is administered by the State Commissioner of Transportation (the "Section 18-b Program"). Section 18-b

Program payments to MTA for the Transit System and Commuter System are made quarterly on the basis of specific annual appropriations by the Legislature, rather than pursuant to the formula set forth in the statute that is applicable to other transportation systems throughout the State. The City and the counties served by the Commuter System are required to make matching payments. The level of general operating subsidies paid annually to the Related Entities is not dependent on the level of collection of certain taxes or fees or any statutory formula. Consequently, the amount paid to the Related Entities under the Section 18-b Program is dependent on the willingness and the overall financial ability of the State, the City and such counties to make such payments.

Section 18-b Program payments, on an accrual basis, for the past ten years are as follows:

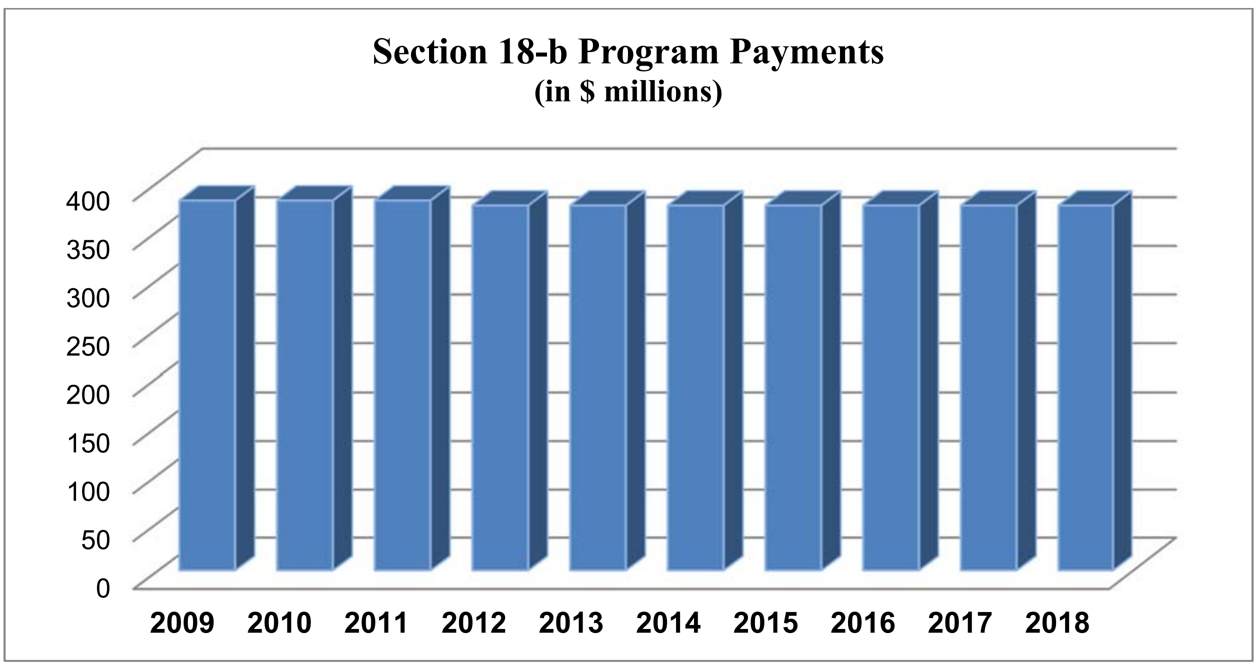
Year	Section 18-b Program Payments (in millions)	Year	Section 18-b Program Payments (in millions)
2009	$380.9	2014	$375.8
2010	380.9	2015	375.8
2011	380.9	2016	375.8
2012*	375.8	2017	375.8
2013	375.8	2018	375.8

* The MTA subsidiary Metropolitan Suburban Bus Authority discontinued its provision of transportation services at the end of 2011, resulting in lower Section 18-b payments in 2012 and each year thereafter.

The 2019 projected Section 18-b Program revenue, on an accrual basis, as reported in the 2019 Adopted Budget, is $375.8 million.

The 2019 projected Section 18-b Program revenue, on a cash basis, as reported in the 2019 Adopted Budget, is $375.8 million.

The following bar chart shows the level of Section 18-b Program payments made in the past ten years.



The State appropriates substantially all of such Section 18-b Program payments from a separate account (the “Transportation District Account”) in a special State fund, the Mass Transportation Operating Assistance Fund (the “MTOA Fund”), the revenues of which are derived from the special taxes described below under “State Special

Tax Supported Operating Subsidies." The remainder of such payments is appropriated from the State's General Fund. Appropriation from the Transportation District Account reduces the amount that would otherwise be available to be appropriated to (1) MTA New York City Transit and MaBSTOA and (2) MTA for the Commuter System, from such Account, as described below under "State Special Tax Supported Operating Subsidies — *MTTF Receipts and MMTOA Receipts*."

Under the Section 18-b Program:

- Whenever MTA New York City Transit or MaBSTOA receives a Section 18-b Program payment from the State, the City is required to make a matching payment in accordance with amounts established by the Legislature. In the event the City fails to make any required payment, the State Comptroller is authorized to withhold an equivalent amount from certain State aid to the City and to pay such amount directly to MTA New York City Transit or MaBSTOA.

- Whenever MTA receives a Section 18-b Program payment from the State for the Commuter System, the City and counties served by the Commuter System are required to make a matching payment in accordance with amounts established by the Legislature. In the event the City and counties fail to make any required payment, the State Comptroller is authorized to withhold an equivalent amount from certain State aid to the City and counties and to pay such amount directly to MTA for the Commuter System.

State Special Tax Supported Operating Subsidies

MTTF Receipts and MMTOA Receipts. The Transit System and Commuter System have historically operated at a deficit and have been dependent upon substantial amounts of general operating subsidies from the State as well as the City. Over time, the ongoing needs of mass transportation systems in the State has led the State to supplement the general operating subsidies with additional operating subsidies supported by State special taxes.

Since 1980, in response to anticipated operating deficits of State mass transit systems, the State has enacted legislation dedicating to the Related Entities specified portions of statewide and regional taxes and fees. Currently, subject to annual appropriation, a specified share of the following revenues is paid to the Related Entities:

- The Mass Transportation Trust Fund Receipts (the "MTTF Receipts") represent the portion of the funds deposited in the State's dedicated mass transportation trust fund that are subsequently paid to MTA by deposit into an MTA dedicated tax fund (the "Dedicated Tax Fund"). The MTTF Receipts are derived from:
    - certain business privilege taxes imposed by the State on petroleum businesses (the "PBT");
    - a portion of the motor fuel tax on gasoline and diesel fuel; and
    - certain motor vehicle fees, including both registration and non-registration fees.

- The Metropolitan Mass Transportation Operating Assistance Account Receipts (the "MMTOA Receipts") represent the portion of the funds in the State's MMTOA Account (hereinafter defined) that are subsequently paid to MTA by deposit into the Dedicated Tax Fund. The MMTOA Receipts are derived from:
    - a 3/8 of one percent regional sales tax;
    - a regional franchise tax surcharge on certain businesses;
    - taxes on certain transportation and transmission companies; and
    - an additional portion of the business privilege tax imposed on petroleum businesses.

See “PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS – DEDICATED TAX FUND BONDS – MTTF Receipts – Dedicated Petroleum Business Tax” and “ – Motor Fuel Tax” in Part 3 for a more detailed description of the MTTF Receipts.

See “PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS – DEDICATED TAX FUND BONDS – MMTOA Account – Special Tax Supported Operating Subsidies” in Part 3 for a more detailed description of the MMTOA Receipts.

The following table sets forth the amount of MTTF Receipts and MMTOA Receipts received by MTA on an accrual basis in each of the past ten years.

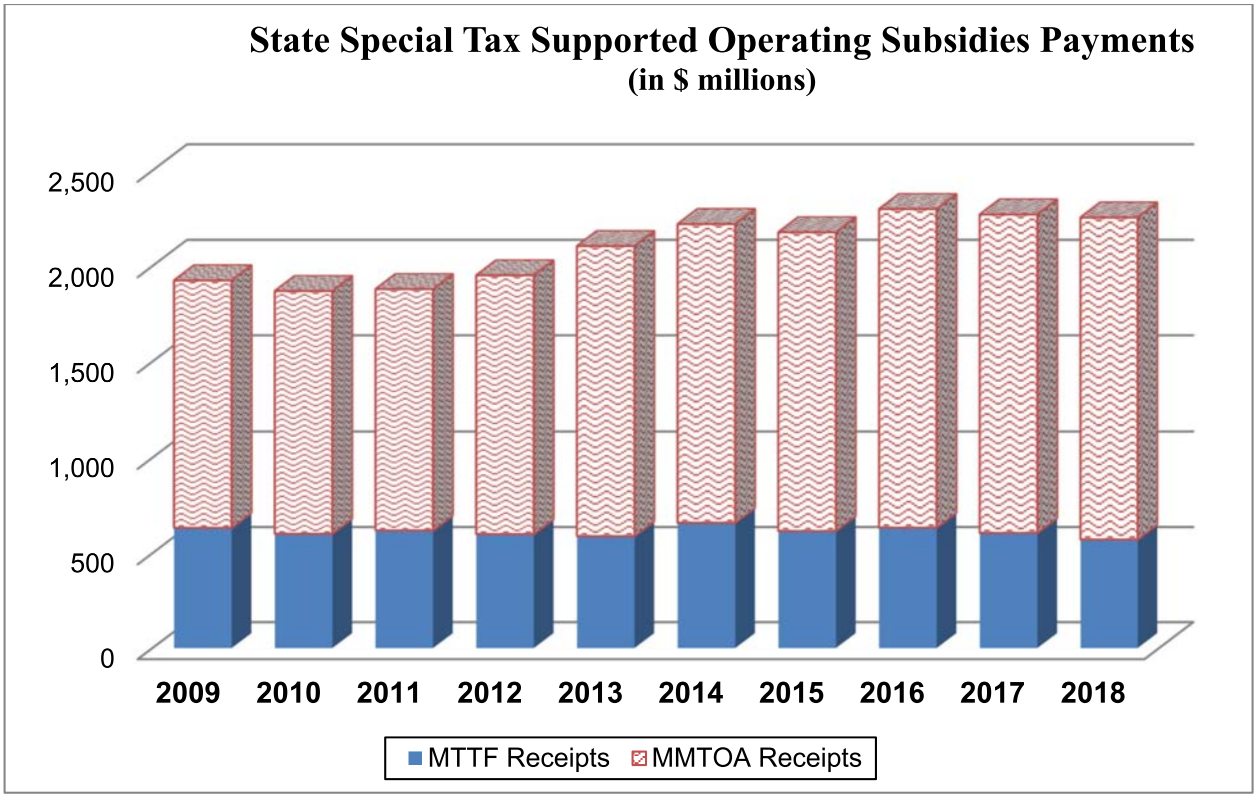
Year	MTTF Receipts (in millions)	MMTOA Receipts* (in millions)	Total† (in millions)
2009	$633.1	$1,291.7	$1,924.8
2010	602.3	1,266.8	1,869.1
2011	619.6	1,259.4	1,879.0
2012	600.2	1,351.1	1,951.3
2013	589.8	1,514.7	2,104.5
2014	659.4	1,560.3	2,219.7
2015	616.6	1,560.2	2,176.8
2016	634.1	1,664.0	2,298.1
2017	606.0	1,664.0	2,270.0
2018	571.6	1,682.5	2,254.1

* Excludes MMTOA share for MTA Staten Island Railway.
† Totals may not add due to rounding.

The 2019 projected MTTF Receipts are $637.4 million and projected MMTOA Receipts are $1,773.3 million, on an accrual basis, as reported in the 2019 Adopted Budget.

The 2019 projected MTTF Receipts are $637.4 million and projected MMTOA Receipts are $1,773.3 million, on a cash basis, as reported in the 2019 Adopted Budget.

The following bar chart shows the level of State special tax supported operating subsidies payments for the past ten years.



Use of MTTF Receipts and MMTOA Receipts. MTTF Receipts are used first to pay debt service on the Dedicated Tax Fund Bonds described under "PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS." To the extent that MTTF Receipts are insufficient, MMTOA Receipts are used to pay the remainder of the debt service on the Dedicated Tax Fund Bonds. After the payment of debt service on the Dedicated Tax Fund Bonds, all MTTF Receipts and MMTOA Receipts are pledged to the payment of debt service on the Transportation Revenue Bonds. All remaining MTTF Receipts and MMTOA Receipts are then allocated to the Transit System and the Commuter System in accordance with the formula provided by statute (85% to the Transit System and MTA Staten Island Railway and 15% to the Commuter System in the case of MTTF Receipts; the relative percentage of that year's State appropriation to the Transit System and the Commuter System, respectively, in the case of MMTOA Receipts; in each case, in order to establish compliance with the statutory formulae, payments allocated to the Transit System and the Commuter System are adjusted to take into account the respective amounts used to pay debt service on Dedicated Tax Fund Bonds and Transportation Revenue Bonds, if necessary, issued for the Transit System and the Commuter System, respectively).

Collections of each of the above-referenced subsidies vary depending on the level of business activity, either statewide or regionally. In addition, all of these subsidies are subject to State appropriation. As part of the State's deficit reduction plan in 2009, the Legislature reduced its prior appropriations to MTA for 2009 by $143 million. In 2010, as a result of a reduction in the Federal Medicaid Assistance Percentage Matching to the State, the Legislature again reduced its prior appropriation to MTA by $16.7 million. These were the only times that existing appropriations to MTA had been reduced under circumstances in which the money was derived from "dedicated" MTA taxes and had already been collected by the State. Beginning in its 2011-2012 State Enacted Budget, the State transferred unappropriated Metropolitan Mass Transportation Operating Assistance ("MMTOA") funds to the State General Debt Service Fund to cover State Service Contract Bonds associated with MTA. This amount was $165 million in 2011-2012, $20 million in 2013-2014 and 2015-2016, and $30 million in 2014-2015. There were no transfers made in 2012-2013, 2016-2017, 2017-2018 or 2018-2019, and there are no transfers scheduled for future years.

Metropolitan Transportation Authority Financial Assistance Fund Receipts

Mobility Tax Trust Account Receipts. In May 2009, Governor Paterson signed legislation (the "May 2009 Legislation") imposing a new payroll mobility tax (the "Payroll Mobility Tax" or "PMT") within the MTA Commuter Transportation District. A tax of 0.34%, which became effective in 2009, was imposed on the payroll expense of every employer who engages in business within the MTA Commuter Transportation District and the net self-employment earnings of individuals that are attributable to the MTA Commuter Transportation District. Initial payments of the PMT, including all retroactive liability, were due coincident with an employer's first withholding tax payment owed on or after October 31, 2009. Revenue from the PMT is deposited in the Mobility Tax Trust Account in the MTA Financial Assistance Fund. Beginning in State Fiscal Year 2018-2019, revenue from the PMT is no longer subject to appropriation, but is payable directly to MTA.

In December 2011, Governor Cuomo signed legislation that made significant changes to the PMT (the "December 2011 Legislation"). These amendments to the May 2009 Legislation eliminated or reduced the PMT imposed within the MTA Commuter Transportation District for certain taxpayers. Employers with payroll expense less than or equal to $312,500 in any calendar quarter, any public school district, a board of cooperative educational services, a public elementary or secondary school, a school serving students with disabilities of school age and any nonpublic elementary or secondary school that provides instruction in grade one or above were no longer required to pay the PMT as of the quarter that began April 1, 2012. In addition, individuals with net earnings from self-employment attributable to the MTA Commuter Transportation District that do not exceed $50,000 for the tax year were no longer subject to the tax. Employers with payroll expense no greater than $375,000 in any calendar quarter are subject to a reduced tax rate of 0.11%; employers with payroll expense greater than $375,000 but not greater than $437,500 in any calendar quarter are subject to a reduced tax rate of 0.23%. Employers with payroll expense in excess of $437,500 in any calendar quarter continue to pay a tax rate of 0.34%. The employer rate changes became effective beginning April 1, 2012.

The December 2011 Legislation further expressly provided that any reductions in aid to MTA attributable to these reductions in the PMT "shall be offset through alternative sources that will be included in the state budget" (the "PMT Revenue Offset"). Unlike the revenue from the PMT, the PMT Revenue Offset is subject to appropriation by the State.

Revenues in the Mobility Tax Trust Account collected from the PMT are deposited by MTA when received from the State into the MTA Financial Assistance Fund. PMT funds received by MTA can be (1) pledged by MTA to secure and be applied to the payment of bonds to be issued in the future to fund capital projects of the Related Entities, or (2) used by MTA to pay capital costs, including debt service of the Related Entities. In the absence of MTA's pledging the PMT revenues to a new bond credit, the PMT revenues are pledged to the payment of debt service on the Transportation Revenue Bonds. Subject to the provisions of any such pledge, or in the event there is no such pledge, the PMT revenues can be used by MTA to pay for costs, including operating costs of the Related Entities. MTA currently expects to issue bonds under a separate bond resolution payable from both the PMT and the MTA Aid Trust Account Receipts described below.

The 2015-2016 State Enacted Budget included an amendment to the PMT legislation to eliminate the PMT for all public library systems as well as public and free association libraries. This change applies to taxable periods beginning on or after January 1, 2016. The State Division of the Budget estimates that PMT revenue is $2 million per year lower as a result of the amendment.

In addition to the reduction itemized in the previous paragraph, the 2017-2018 State Enacted Budget also lowered the PMT Revenue Offset appropriation by $65 million for MTA's 2017 fiscal year. This resulted in an appropriation for the PMT Revenue Offset of $244.3 million to MTA beginning in 2017 and continuing through future years.

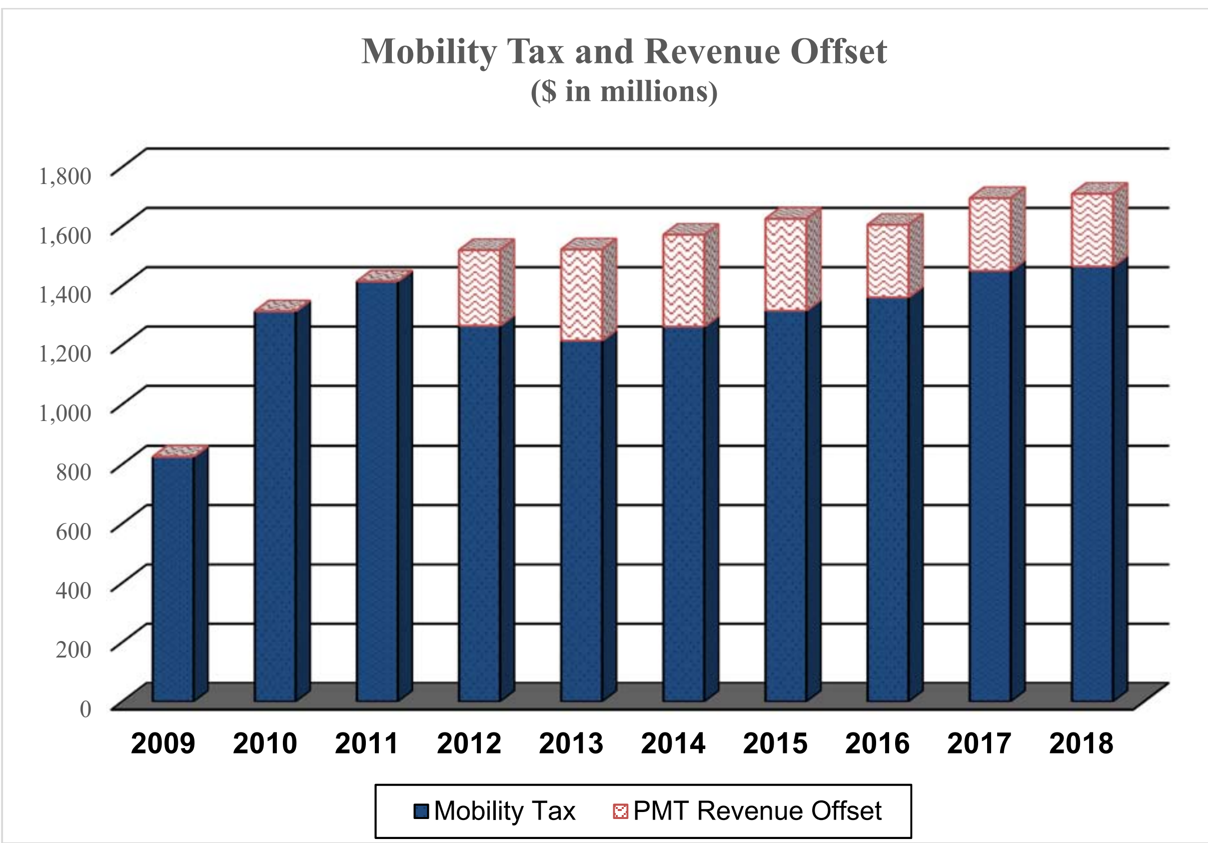
The following table sets forth the amount of PMT receipts and PMT Revenue Offsets on an accrual basis since the onset of the tax in 2009.

Year	Payroll Mobility Tax (in millions)	PMT Revenue Offset (in millions)
2009	$ 825.6	$ 0.0
2010	1,314.0	0.0
2011	1,415.0	0.0
2012	1,265.3	254.9
2013	1,215.3	307.2
2014	1,262.6	309.3
2015	1,316.9	309.3
2016	1,361.2	309.3
2017	1,450.9	244.3
2018	1,465.6	244.3

On an accrual basis, the 2019 projected PMT receipts and PMT Revenue Offset, as reported in the 2019 Adopted Budget, are $1,594.9 million and $244.3 million, respectively.

On a cash basis, the 2019 projected PMT receipts and PMT Revenue Offset, as reported in the 2019 Adopted Budget, are $1,594.9 million and $244.3 million, respectively.

The following bar chart shows the level of PMT receipts and PMT Revenue Offset since 2009.



MTA Aid Trust Account Receipts. The May 2009 Legislation also directed revenues from the following four new taxes and fees (the "MTA Aid Trust Account Receipts") to the MTA Aid Trust Account of the MTA Financial Assistance Fund:

- in the MTA Commuter Transportation District, a supplemental motor vehicle license fee of a dollar per six-month interval (effective September 1, 2009);

- in the MTA Commuter Transportation District, a supplemental motor vehicle registration fee of $25 for each year that the registration is valid (effective September 1, 2009);

- a tax of fifty cents on hailed vehicle trips that originate in the City and terminate anywhere within the territorial boundaries of the MTA Commuter Transportation District (effective November 1, 2009); and

- a supplemental tax of 6% on passenger car rentals in the MTA Commuter Transportation District (effective June 1, 2019).

Subject to appropriation, these revenues, received in the MTA Aid Trust Account, are paid by the State into the Corporate Transportation Account of the MTA Special Assistance Fund. These revenues may be pledged by MTA or pledged to MTA Bridges and Tunnels to secure debt of MTA or MTA Bridges and Tunnels. Subject to the provisions of such pledge, or in the event there is no such pledge, such new revenues can be used by MTA for the payment of operating and capital costs of the Related Entities. The MTA Aid Trust Account Receipts are not currently pledged to the payment of debt service on any MTA bonds. Beginning in State Fiscal Year 2019-2020, the foregoing revenues are no longer subject to appropriation, but will be paid on a quarterly basis to MTA.

The following table provides historical information relating to MTA Aid Trust Account Receipts on an accrual basis since the onset of the taxes and fees in 2009:

MTA Aid Trust Account Receipts
(in millions)

State Fiscal Year	Supplemental License Fee	Supplemental Registration Fee	Taxicab Tax	Supplemental Auto Rental Tax	Total
2009-10	$ 8.8	$ 79.2	$12.8	$24.4	$125.2
2010-11	22.3	158.0	81.1	35.0	296.4
2011-12	26.0	159.8	86.8	39.0	311.6
2012-13	24.4	156.0	82.9	41.0	308.0
2013-14	12.2	161.9	85.2	43.0	305.0
2014-15	10.3	161.0	82.3	45.0	298.6
2015-16	10.4	167.4	73.1	47.0	297.9
2016-17	10.5	167.5	64.0	49.0	291.0
2017-18*	†	191.9	55.9	45.0	292.8+
2018-19	†	192.3	51.7	49.0	293.0

* Forecast as published in the State Fiscal Year 2018 Executive Budget Financial Plan – Updated for Governor's Amendments and Forecast Revisions.

† Supplemental License Fee and Supplemental Registration Fee amount for State Fiscal Years 2017-2018 and 2018-2019 are provided by the State as a combined number.

+ Accrued Actuals for the calendar year 2018 are $268.4 million.

Source: New York State Division of the Budget.

The 2019 projected MTA Aid Trust Account Receipts, on an accrual basis, as reported in the 2018 Adopted Budget, is $308.2 million.

The 2019 projected MTA Aid Trust Account Receipts, on a cash basis, as reported in the 2018 Adopted Budget, is $308.2 million.

Congestion Zone Surcharges

In April 2018, legislation was enacted in the State (the "April 2018 Legislation") providing additional sources of revenues, in the form of surcharges and fines, to address the financial needs of MTA. Among other things, the April 2018 Legislation imposed, beginning January 1, 2019, the following:

- a surcharge of $2.75 on for-hire transportation trips (the "For-Hire Transportation Surcharge") provided by motor vehicles carrying passengers for hire (or $2.50 in the case of taxicabs that are subject to the $0.50 tax on hailed trips that are part of the MTA Aid Trust Account Receipts), other than pool vehicles, ambulances and buses, on each trip that (1) originates and terminates south of and excluding 96th Street in the Borough of Manhattan (the "Congestion Zone"), (2) originates anywhere in the State and terminates within the Congestion Zone, (3) originates in the Congestion Zone and terminates anywhere in the State, or (4) originates anywhere in the State, enters into the Congestion Zone while in transit, and terminates anywhere in the State;
- a surcharge of $0.75 for each person (which, together with the For-Hire Transportation Surcharge, is referred to herein collectively as the "Congestion Zone Surcharges") who both enters and exits a pool vehicle (certain carpool arrangements set forth in the April 2018 Legislation) in the State and who is picked up in, dropped off in, or travels through the Congestion Zone; and
- certain fines relating to bus rapid transit lane restrictions (the "Rapid Transit Lane Fines") captured by the use of stationary and mobile (on-bus) bus lane photo devices on up to ten bus rapid transit routes designated by the NYCDOT.

The Congestion Zone Surcharges do not apply to transportation services administered by or on behalf of MTA, including paratransit services.

The April 2018 Legislation also created the New York City Transportation Assistance Fund, held by MTA, and the following three accounts therein:

- Subway Action Plan Account,
- Outer Borough Transportation Account, and
- General Transportation Account.

Moneys in the Subway Action Plan Account may be used exclusively for funding the operating and capital costs of the Subway Action Plan (such plan developed by MTA New York City Transit and approved by the MTA Board). Moneys in the Outer Borough Transportation Account may be used exclusively for funding (1) the operating and capital costs of MTA facilities, equipment and services in the counties of Bronx, Kings, Queens and Richmond, and any projects improving transportation connections from such counties to Manhattan, or (2) a toll reduction program for any crossing under the jurisdiction of MTA or MTA Bridges and Tunnels. Moneys in the General Transportation Account may be used for funding the operating and capital costs of MTA. In each case, moneys may be used for various operations and capital needs or for debt service and reserve requirements.

In connection with the enactment of the 2019-2020 Enacted Budget, moneys from the Outer Borough Transportation Account were earmarked to establish two additional rebate programs. See "STATISTICAL INFORMATION – RIDERSHIP AND FACILITIES USE – Toll Rates – *Additional Outer Borough Transportation Account Funded Toll Rebate Programs*" in Part 5 of this ADS.

The Congestion Zone Surcharges, together with interest and penalties thereon, will be deposited daily to the credit of the State Comptroller in trust for MTA. The State Comptroller will retain such amount as is determined to be necessary for refunds and the State Commissioner of Taxation and Finance will deduct reasonable amounts for costs incurred to administer, collect and distribute such amounts. If sufficient amounts are collected and available, then in accordance with the April 2018 Legislation, on or before the 12th day of each month, after reserving amounts for refunds and reasonable costs, the Commissioner of Taxation and Finance will certify to the State Comptroller the amounts collected in the prior month and the following amounts will be transferred to the following accounts by the 15th business day of each succeeding month (except for the Rapid Transit Lane Fines, which are payable quarterly):

- to the Subway Action Plan Account, without appropriation:
    - in calendar year 2019 – the first \$362 million (\$342 million for operating expenses, \$20 million for capital expenses),
    - in calendar year 2020 – the first \$301 million, and
    - in calendar year 2021 and thereafter – the first \$300 million.
- to the Outer Borough Transportation Account, without appropriation, in each year the next \$50 million; provided that any uncommitted balance at the end of each calendar year shall be transferred to the General Transportation Account (the use of any funds paid into the Outer Borough Transportation Account must be unanimously approved by the members of the MTA Capital Program Review Board appointed upon the recommendations of the Temporary President of the Senate and the Speaker of the Assembly and the member appointed by the Governor); and
- to the General Transportation Account, without appropriation, (1) all excess Congestion Zone Surcharges in each calendar year above the amounts required to be deposited to the Subway Action Plan Account and the Outer Borough Transportation Account, (2) the uncommitted balance at the end of each year in the Outer Borough Transportation Account, and (3) Rapid Transit Lane Fines, including interest and penalties until expiration on September 20, 2020.

As a result of the filing of a lawsuit and temporary restraining order in late 2018, there was a delay in the collection of the For-Hire Transportation Surcharge, which was expected to begin in January, 2019. The temporary restraining order was lifted at the end of January, and collection of the fees began in February 2019.

MTA Bridges and Tunnels Surplus

General. MTA Bridges and Tunnels provides capital and operating assistance to the Transit and Commuter Systems in three important ways:

- it pays debt service on bonds that were issued to finance Transit and Commuter System capital projects;
- it generates annual MTA Bridges and Tunnels Operating Surplus, as described below, that is distributed to MTA New York City Transit and to MTA for the Commuter System in accordance with a statutorily mandated formula; and
- it generates an annual MTA Bridges and Tunnels Surplus Investment Income, as described below, that is distributed at the discretion of the MTA Board.

In the last ten years, MTA Bridges and Tunnels has not issued new money bonds to finance capital projects for the benefit of the Transit and Commuter Systems.

The following table sets forth for the past ten years MTA Bridges and Tunnels' total support to the Transit and Commuter Systems, consisting of (a) the debt service paid on bonds issued for Transit and Commuter System capital projects, (b) the MTA Bridges and Tunnels Operating Surplus and (c) the MTA Bridges and Tunnels Surplus Investment Income.

Year	Total Support to Transit and Commuter Systems (in millions)
2009	$ 741.7
2010	842.6
2011	939.6
2012	892.7
2013	1,004.6
2014	992.8
2015	1,124.9
2016	1,126.1
2017	1,122.6
2018	1,090.0

MTA Bridges and Tunnels Operating Surplus. Section 569-c of the MTA Bridges and Tunnels Act and Section 1219-a of the MTA New York City Transit Act require MTA Bridges and Tunnels to transfer, subject to the pledge in favor of the holders of the Transportation Revenue Bonds, its operating surplus ("MTA Bridges and Tunnels Operating Surplus") to MTA New York City Transit and to MTA for the benefit of the Commuter System in accordance with a statutorily mandated formula hereinafter described.

The MTA Bridges and Tunnels Operating Surplus subject to such transfer is the amount remaining from all tolls and other operating revenues derived from the MTA Bridges and Tunnels Facilities after (1) payment of (a) operating, administration and other expenses of MTA Bridges and Tunnels properly chargeable to such Facilities, and (b) principal of and sinking fund installments and interest on its bonds, including bonds issued under the MTA Bridges and Tunnels Senior Resolution and the MTA Bridges and Tunnels Subordinate Resolution (as defined under "PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS" in Part 3 of this ADS) to the extent, if any, paid from such sources, and (2) provision for (x) reserves and for all contract provisions with respect to any such bonds and (y) other obligations, including certain swap payments (both regularly scheduled payments and termination payments), incurred in connection with any of its authorized projects. See "Part 3. PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS" in Part 3 of this ADS. Monies deposited into the CBD Tolling Capital Lockbox Fund are not taken into consideration in the calculation of MTA Bridges and Tunnels Operating Surplus.

The first $24 million of MTA Bridges and Tunnels Operating Surplus must be allocated to MTA New York City Transit, and any excess is divided equally between MTA New York City Transit and the Commuter System. The foregoing allocations are adjusted to take into account the proportional amounts of MTA Bridges and Tunnels' debt service reasonably attributable to the bond proceeds used for their respective benefit.

The MTA Chairman is authorized in his discretion to advance to MTA and MTA New York City Transit monthly, from available funds, an aggregate amount not to exceed 90% of the Chairman's estimate of the sum which that month's operations will contribute to the MTA Bridges and Tunnels Operating Surplus that he anticipates will or may be certified and transferred for the fiscal year in which such month falls.

As set forth below in the "MTA Bridges and Tunnels Combined Surplus" chart, the MTA Bridges and Tunnels Operating Surplus has fluctuated in amount over the past ten years. In 2010 and 2011, the MTA Bridges and Tunnels Operating Surplus increased, due to higher operating revenues and decreased expenses, and, also in 2011, a toll increase. In 2012 and 2014, the decrease in MTA Bridges and Tunnels Operating Surplus was primarily the result of higher operating expenses and, in 2012, an increase in the funding of the Necessary Reconstruction Reserve, a reserve established by MTA Bridges and Tunnels primarily for its own capital projects (the "Necessary Reconstruction Reserve"). The balances for the Necessary Reconstruction Reserve were $374.2 million in 2015, $425.8 million in 2016, $416.8 million in 2017, and $410.6 million in 2018. In 2013, the MTA Bridges and Tunnels

Operating Surplus increased primarily due to increased operating revenues. A toll increase became effective on March 3, 2013, and there was a 0.6% increase in traffic as compared to 2012 levels. In 2014, the MTA Bridges and Tunnels Operating Surplus increased primarily due to increased operating revenues and decreased debt service costs. In 2015 and 2016, the MTA Bridges and Tunnels Operating Surplus increased primarily due to additional toll revenues generated by a 4% growth in traffic volume in 2015, in addition to a toll increase implemented on March 22, 2015, and a 3% growth in traffic volume in 2016. In 2017 and 2018, the MTA Bridges and Tunnels Operating Surplus declined due to increased operating and debt service costs in 2017 and a contribution to the MTA Bridges and Tunnels Capital Program in 2018.

MTA Bridges and Tunnels Surplus Investment Income. MTA Bridges and Tunnels generates investment income on funds held by it (the "MTA Bridges and Tunnels Surplus Investment Income"), principally from the debt service funds and operating and capital reserves (including the Necessary Reconstruction Reserve) held by MTA Bridges and Tunnels.

Combined Surplus Amounts. The MTA Bridges and Tunnels Operating Surplus and the MTA Bridges and Tunnels Surplus Investment Income (together, the "MTA Bridges and Tunnels Combined Surplus") are used to fund the operating expenses of the Transit System and the Commuter System and/or to finance the cost of certain capital costs and projects of the Transit System and the Commuter System, including payment of debt service on obligations of MTA issued to finance such costs and projects. As more fully described above, MTA Bridges and Tunnels Operating Surplus is, subject to the pledge in favor of the holders of the Transportation Revenue Bonds, distributed to MTA New York City Transit and MTA for the benefit of the Commuter System in accordance with a statutory formula. The MTA Bridges and Tunnels Surplus Investment Income is not subject to the pledge in favor of the holders of the Transportation Revenue Bonds, and is distributed at the MTA Board's discretion.

The MTA Bridges and Tunnels Combined Surplus amounts transferred for each of the past ten years on an accrual basis, set forth in the table below, are net of amounts paid for debt service and other obligations described above.

MTA Bridges and Tunnels Combined Surplus

Fiscal Year		MTA New York City Transit Share	MTA Share (Commuter System)	MTA Bridges and Tunnels Combined Surplus
2009				
Operating Surplus		$92,155,625	$222,303,554	$314,459,179
Investment Income		-0-	255,976	255,976
	Total	$92,155,625	$222,559,530	$314,715,155
2010				
Operating Surplus		$152,026,084	$277,083,603	$429,109,687
Investment Income		-0-	146,449	146,449
	Total	$152,026,084	$277,230,052	$429,256,136
2011				
Operating Surplus		$201,544,872	$326,113,156	$527,658,028
Investment Income		-0-	85,100	85,100
	Total	$201,544,872	$326,198,256	$527,743,128
2012				
Operating Surplus		$189,218,474	$308,424,309	$497,642,783
Investment Income		-0-	136,889	136,889
	Total	$189,218,474	$308,561,198	$497,779,672
2013				
Operating Surplus		$246,901,830	$367,308,419	$614,210,249
Investment Income		-0-	131,302	131,302
	Total	$246,901,830	$367,439,721	$614,341,551
2014				
Operating Surplus		$265,569,841	$371,984,103	$637,553,944
Investment Income		-0-	136,988	136,988
	Total	$265,569,841	$372,121,091	$637,690,932
2015				
Operating Surplus		$318,434,758	$432,281,958	$750,716,715
Investment Income		-0-	182,604	182,604
	Total	$318,434,758	$432,464,562	$750,899,319
2016				
Operating Surplus		$312,901,028	$430,007,919	$742,908,948
Investment Income		-0-	634,951	634,951
	Total	$612,901,028	$430,642,870	$743,543,899
2017				
Operating Surplus		$310,366,954	$429,776,887	$740,143,841
Investment Income		-0-	1,476,772	1,476,772
	Total	$310,366,954	$431,253,659	$741,620,613
2018				
Operating Surplus		$290,134,527	$411,821,544	$701,956,071
Investment Income		-0-	2,602,773	2,602,773
	Total	$290,134,527	$414,424,317	$704,558,844

Financial Assistance and Service Reimbursements from Local Municipalities

Commuter System Station Maintenance Payments. The City and each of the seven counties in the MTA Commuter Transportation District outside the City are billed an amount fixed by statute for the operation, maintenance and use of Commuter System passenger stations within the City and each county. The amount is adjusted each year for increases or decreases in the consumer price index for wage earners and clerical workers in the New York, Northeastern-New Jersey Consolidated Metropolitan Statistical Area. The Legislature has not made any changes in the base amounts since 2000. Further modifications may be made by the Legislature. In the event the City or any of the counties do not make their payments on a timely basis, the statute provides a mechanism whereby the State Comptroller can withhold certain other payments in order to satisfy the payments to MTA. Consequently, the Commuter System station maintenance payments are stable and generally grow gradually with corresponding annual inflation.

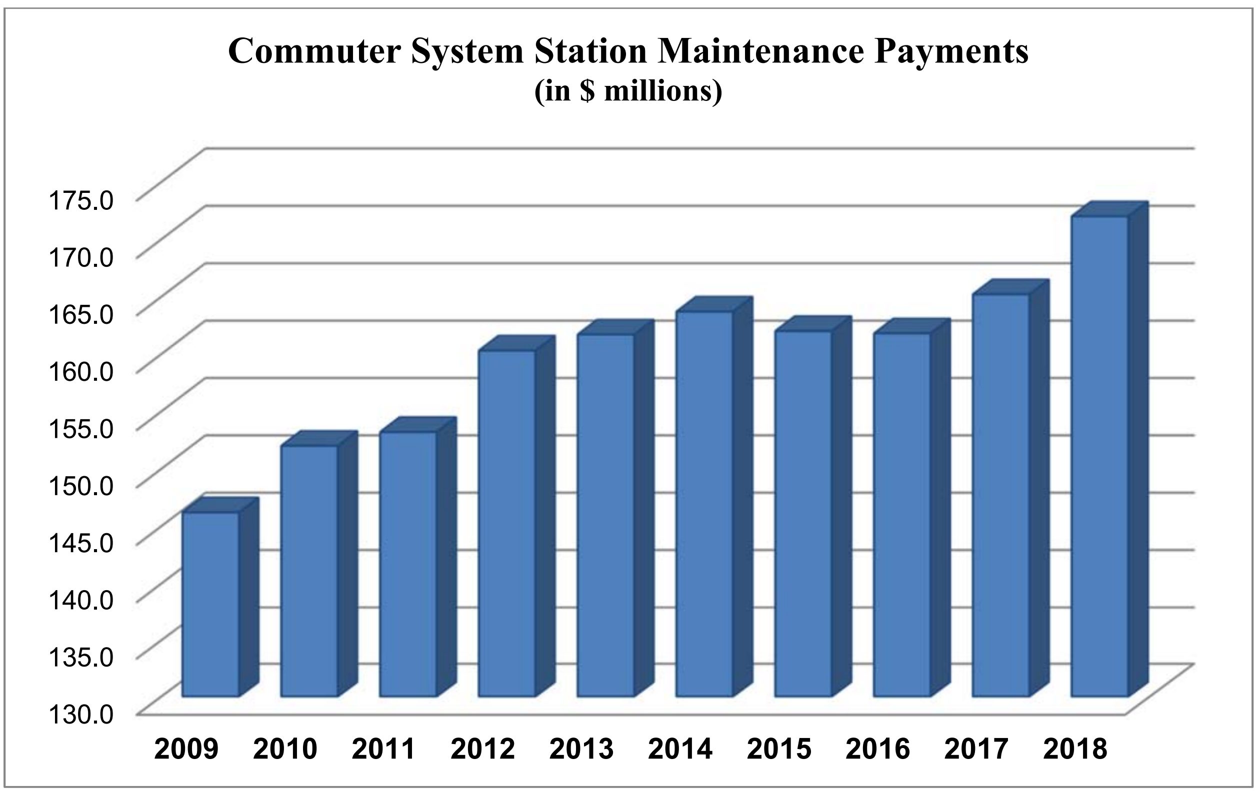
The following table sets forth the station maintenance, operation and use assessments received by MTA on an accrual basis in each of the last ten years:

Year	Payments (in millions)	Year	Payments (in millions)
2009	$146.2	2014	$163.7
2010	152.0	2015	162.0
2011	153.2	2016	161.8
2012	160.3	2017	165.2
2013	161.7	2018	172.0

The 2019 projected Commuter System Station Maintenance payments, on an accrual basis, are $176.6 million, as reported in the 2019 Adopted Budget.

The 2019 projected Commuter System Station Maintenance payments, on a cash basis, are $173.0 million, as reported in the 2019 Adopted Budget.

The following bar chart shows the level of Commuter System station maintenance payments made in the past ten years.



Transit System Service Reimbursements from the City. Policing of the Transit System is being carried out by the New York City Police Department at the City's expense. MTA New York City Transit is responsible for certain capital costs and support services related to such police activities, a small portion of which is reimbursed by the City.

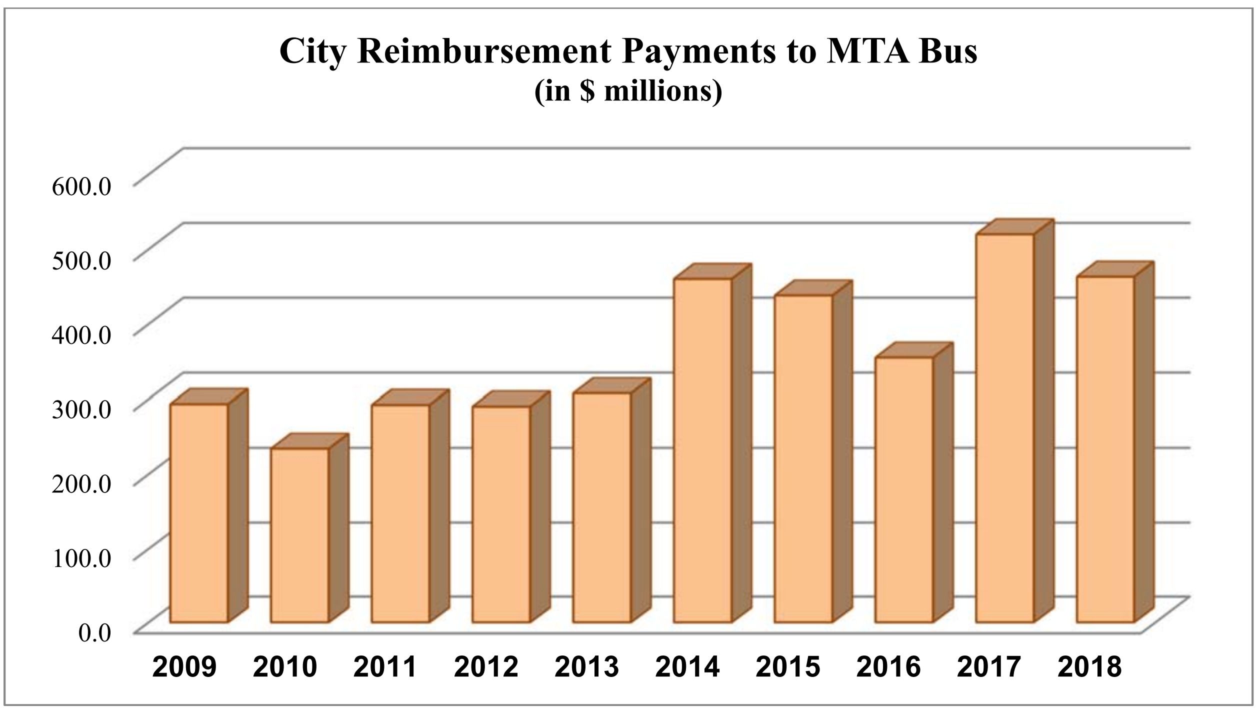
MTA Bus Reimbursements from the City. The City has agreed to reimburse MTA Bus the difference between the actual cost of operation of the City Bus Routes (other than certain capital costs) and all revenues and subsidies received by MTA Bus and allocable to the operation of the City Bus Routes. The annual amounts payable by the City to MTA Bus are subject to review by the City. The amount and timing of payments received from the City could be affected by the financial condition of the City.

As opposed to other revenues and subsidies discussed herein, the MTA Bus reimbursements from the City are reported on a cash basis rather than on an accrual basis. See "OPERATIONS – MTA BUS COMPANY."

The following table sets forth the amounts reimbursed by the City for MTA Bus operational costs on a cash basis in each of the past ten years:

Year	Payments (in millions)	Year	Payments (in millions)
2009	$293.2	2014	$460.2
2010	233.9	2015	438.3
2011	292.1	2016	355.0
2012	290.0	2017	519.9
2013	307.5	2018	463.2

The following bar chart shows the level of City reimbursement payments to MTA Bus for the past ten years.



Paratransit. Under an agreement with MTA, the City contributes an operating subsidy to support MTA New York City Transit paratransit services equal to the lesser of (1) 33% of the operating deficit, calculated after taking into account paratransit passenger revenue, certain Urban Tax revenues (as defined below under "—Urban Taxes for Transit System"), and MTA New York City Transit administrative expenses or (2) an amount that is 20%

greater than the amount required to be paid by the City for the preceding calendar year. Any remaining operating deficit is funded by MTA New York City Transit. See "OPERATIONS – TRANSIT SYSTEM – Description of the Transit System – *Paratransit*."

The following table sets forth the amount of the paratransit system cost that the City funded on an accrual basis in each of the last ten years pursuant to the Paratransit Agreement between the City and MTA dated May 28, 1993.

Year	New York City Contribution (in millions)	Year	New York City Contribution (in millions)
2009	$ 61.5	2014	$129.0
2010	73.8	2015	126.1
2011	88.5	2016	133.3
2012	106.2	2017	134.1
2013	127.5	2018	135.7

Miscellaneous Revenues

Transit System and MTA Bus. MTA New York City Transit, MaBSTOA and MTA Bus receive revenues from concessions granted to vendors, revenues from advertising and other space rented in transit vehicles and facilities, and fines collected by the Transit Adjudication Bureau.

The following table sets forth the miscellaneous revenues received by MTA New York City Transit, MaBSTOA and, beginning in 2014, MTA Bus, on an accrual basis in each of the last ten years:

Year	Miscellaneous Revenues (in millions)	Year	Miscellaneous Revenues (in millions)
2009	$112.1	2014	$133.6
2010	106.3	2015	159.3
2011	107.8	2016	159.6*
2012	108.4	2017	153.9*
2013	116.3	2018	141.6*

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* Miscellaneous revenues for the Transit System include MTA Bus which consists of $6.1 million of advertising revenues for 2016, $4.1 million for 2017, and $3.4 million for 2018.

Commuter System. MTA Long Island Rail Road and MTA Metro-North Railroad receive revenues from concessions granted to vendors, advertising and other space rented in Commuter System vehicles and facilities, the sale of power and other sundry revenue.

The following table sets forth the miscellaneous revenues (other than rental and concession revenues from Penn Station and Grand Central Terminal, which are not pledged under the Transportation Resolution) received by MTA Long Island Rail Road and MTA Metro-North Railroad on an accrual basis in each of the last ten years:

Year	Miscellaneous Revenues (in millions)	Year	Miscellaneous Revenues (in millions)
2009	$54.7	2014	$69.0
2010	55.5	2015	74.2
2011	54.6	2016	73.4
2012	86.5	2017	64.2
2013	64.1	2018	60.1*

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* Includes $41.0 million for MTA Long Island Rail Road and $19.1 million for MTA Metro-North Railroad.

Mortgage Recording Taxes

The mortgage recording taxes (MRT-1 and MRT-2) are described below.

General. Certain moneys paid to MTA by the City and counties in the MTA Commuter Transportation District pursuant to certain mortgage recording taxes may be used for the operating and capital costs, including debt service and reserve requirements, of or for MTA, MTA New York City Transit and their subsidiaries. Such taxes do not secure any outstanding MTA or MTA Bridges and Tunnels bonds, provided, however, the MTA Board, in its sole discretion may determine from time to time that specific amounts of mortgage recording taxes be applied to the payment of debt service for specific periods of time. Subject to the preceding sentence, neither MTA nor MTA Bridges and Tunnels currently expects to secure future bonds with mortgage recording taxes.

MRT-1 Receipts. Pursuant to Section 253(2)(a) of the New York Tax Law (the "Tax Law"), a tax is imposed (the "MRT-1 Tax") on recorded mortgages of real property situated within the State, subject to certain exclusions (such net MRT-1 Tax collections remitted to MTA are referred to as the "MRT-1 Receipts"). The tax is currently 30 cents per $100 of mortgage recorded. The MRT-1 Tax is paid by the property owner taking out the mortgage loan.

MRT-1 Receipts must be applied by MTA,

- first, to meet MTA Headquarters Expenses (as hereinafter defined), and
- second, to make deposits into the Transit Account (55% of the remaining amount) and the Commuter Railroad Account (45% of the remaining amount) of the Special Assistance Fund.

Moneys in the Transit Account are required to be used to pay operating and capital costs of MTA New York City Transit, its subsidiaries, and MTA Staten Island Railway, and moneys in the Commuter Railroad Account, after first making the transfers described below under "*Transfers to State Suburban Transportation Fund from MRT-1 Receipts*," are required to be used to pay operating and capital costs of the commuter railroad operations of MTA, other than MTA Staten Island Railway.

MRT-2 Receipts. Pursuant to Section 253(1-a) of the Tax Law, an additional tax is imposed (the "MRT-2 Tax") on recorded mortgages of real property situated within the State, subject to certain exclusions. The MRT-2 Tax is paid by the institution (or other persons) making the mortgage loan to the property owner(s). The Tax Law requires that the portion of the MRT-2 Tax collected on certain residential dwelling units be remitted to MTA for deposit into the Corporate Transportation Account of the Special Assistance Fund (such net MRT-2 Tax collections remitted to MTA are referred to as the "MRT-2 Receipts").

Moneys deposited into the Corporate Transportation Account from the MRT-2 Tax are applied as follows:

- first, to make deposits into the Dutchess, Orange and Rockland Payment Subaccount described below under "*Transfers to Counties from MRT-2 Receipts*," and
- second, to make deposits into the Corporate Purposes Subaccount to be used to pay operating and capital costs, including debt service and debt service reserve requirements, if any, of, or incurred for the benefit of, MTA, MTA New York City Transit and their respective subsidiaries.

MRT-1 and MRT-2 Receipts. Under existing law, no further action on the part of the Legislature is necessary for MTA to continue to receive such moneys (i.e., the State is not required to appropriate the moneys to MTA, so the moneys continue to be paid to MTA whether or not the State budget has been adopted). However, the State is not obligated to impose, or to impose at current levels, the MRT-1 Tax or the MRT-2 Tax or to direct the proceeds to MTA as presently provided.

MRT-1 Receipts and MRT-2 Receipts (collectively, "MRT Receipts") are subject to significant volatility from year-to-year. This volatility reflects the discretionary nature of the transactions that lead to the collection of the tax.

The following charts show the historical annual MRT Receipts, on an accrual basis, available for operations and capital costs for the past ten years.

Year	MRT-1 Receipts (in millions)	Increase/ (Decrease)	Year	MRT-1 Receipts (in millions)	Increase/ (Decrease)
2009	$151.1	(42)%	2014	$271.9	6%
2010	145.2	(4)	2015	320.6	18
2011	161.8	11	2016	330.1	3
2012	194.0	20	2017	314.4	(5)
2013	255.8	32	2018	316.6	(2)

Year	MRT-2 Receipts (in millions)	Increase/ (Decrease)	Year	MRT-2 Receipts (in millions)	Increase/ (Decrease)
2009	$ 93.5	(31)%	2014	$ 94.7	(14)%
2010	90.6	(3)	2015	113.5	20
2011	84.0	(7)	2016	130.0	15
2012	93.6	11	2017	138.3	6
2013	109.7	17	2018	131.2	(3)

Deductions for Headquarters Expenses. The general, administrative and operating expenses of MTA, net of reimbursements, recoveries and adjustments ("MTA Headquarters Expenses"), to the extent not paid from other sources, are required to be paid from MRT-1 Receipts prior to making any deposits to the Transit Account or the Commuter Railroad Account. MTA Headquarters Expenses do not include capital expenditures for headquarters operations. Among other uses, MTA pays the following annual amounts as MTA Headquarters Expenses:

- expenses of operating MTA Headquarters, including MTA Police Department, and
- an amount paid to MTA Bridges and Tunnels to fund a toll rebate program for residents of Broad Channel and the Rockaway Peninsula when using E-ZPass on the Cross Bay Veterans Memorial Bridge.

The amount of MTA Headquarters Expenses in any year is neither contractually nor statutorily limited. The amount of MTA Headquarters Expenses in future years may be affected by inflation, expansion or contraction of activities the expenses for which are not reimbursable, non-recurring expense items and other circumstances including changes in MTA's reimbursement practices with respect to the other Related Entities. The amount of MRT-1 Receipts received by MTA each month that is required to be applied to MTA Headquarters Expenses may vary widely based on MTA's cash flow requirements and the timing of reimbursements from the other Related Entities.

Transfers to State Suburban Transportation Fund from MRT-1 Receipts. State law requires MTA in each year to transfer up to $20 million of MRT-1 Receipts (in equal quarterly installments of $5 million) deposited in the Commuter Railroad Account to the State Suburban Transportation Fund to pay for or finance certain types of highway capital projects in certain areas of the MTA Commuter Transportation District. In the event the transfer would result in an operating deficit, the amount of the deficit is appropriated to MTA for commuter railroad operating purposes. Due to such a deficit, no transfers have been made since 2008.

Transfers to Counties from MRT-2 Receipts. MTA is required to transfer, in equal quarterly installments, in each year from the MRT-2 Tax in the Corporate Transportation Account to the Metropolitan Transportation Authority Dutchess, Orange and Rockland Fund an annual amount of $1.5 million for each of the counties of Dutchess and Orange, and $2.0 million for the county of Rockland. Additionally, MTA must transfer from that Account to such fund for each of these three counties, respectively, an amount equal to the product of (1) the percentage by which such county's mortgage recording tax payment to MTA in the preceding calendar year (calculated as if the 2005 increase in the MRT-1 Tax from 25 cents per $100 to 30 cents per $100 did not occur) increased over such payment in calendar year 1989 and (2) $1.5 million each for Dutchess and Orange Counties and $2.0 million for Rockland County.

The following table shows the amounts transferred to the counties for the past ten years:

Year	County	Additional Amounts
2009	Dutchess	$ 2,384,787
	Orange	2,494,445
	Rockland	2,982,495
		$ 7,861,727
2010	Dutchess	$ 2,204,006
	Orange	2,109,416
	Rockland	2,819,378
		$ 7,132,800
2011	Dutchess	$ 1,943,858
	Orange	1,685,606
	Rockland	2,684,835
		$ 6,314,299
2012	Dutchess	$ 2,198,169
	Orange	2,000,394
	Rockland	2,703,568
		$ 6,902,131
2013	Dutchess	$ 2,027,838
	Orange	2,357,214
	Rockland	3,459,238
		$ 7,844,290
2014	Dutchess	$ 1,842,282
	Orange	1,703,155
	Rockland	2,637,400
		$ 6,182,837
2015	Dutchess	$ 2,183,911
	Orange	1,997,223
	Rockland	3,253,259
		$ 7,434,395
2016	Dutchess	$ 2,402,397
	Orange	2,348,958
	Rockland	3,872,577
		$ 8,623,933
2017	Dutchess	$ 2,502,821
	Orange	2,854,947
	Rockland	4,032,653
		$ 9,390,421
2018	Dutchess	$ 2,545,853
	Orange	2,900,396
	Rockland	3,949,750
		$ 9,395,989

Urban Taxes for Transit System

In addition to the special tax supported subsidies described above under "State Special Tax Supported Operating Subsidies," a portion of the amounts collected by the City from certain mortgage recording and real property transfer taxes with respect to certain real property located within the City (collectively, the "Urban Taxes") are, as required by State statute, paid by the City's Commissioner of Finance directly to MTA New York City Transit on a monthly basis. As in the case of mortgage recording taxes described above, the Urban Taxes can change dramatically from year-to-year depending on the level of real estate activity.

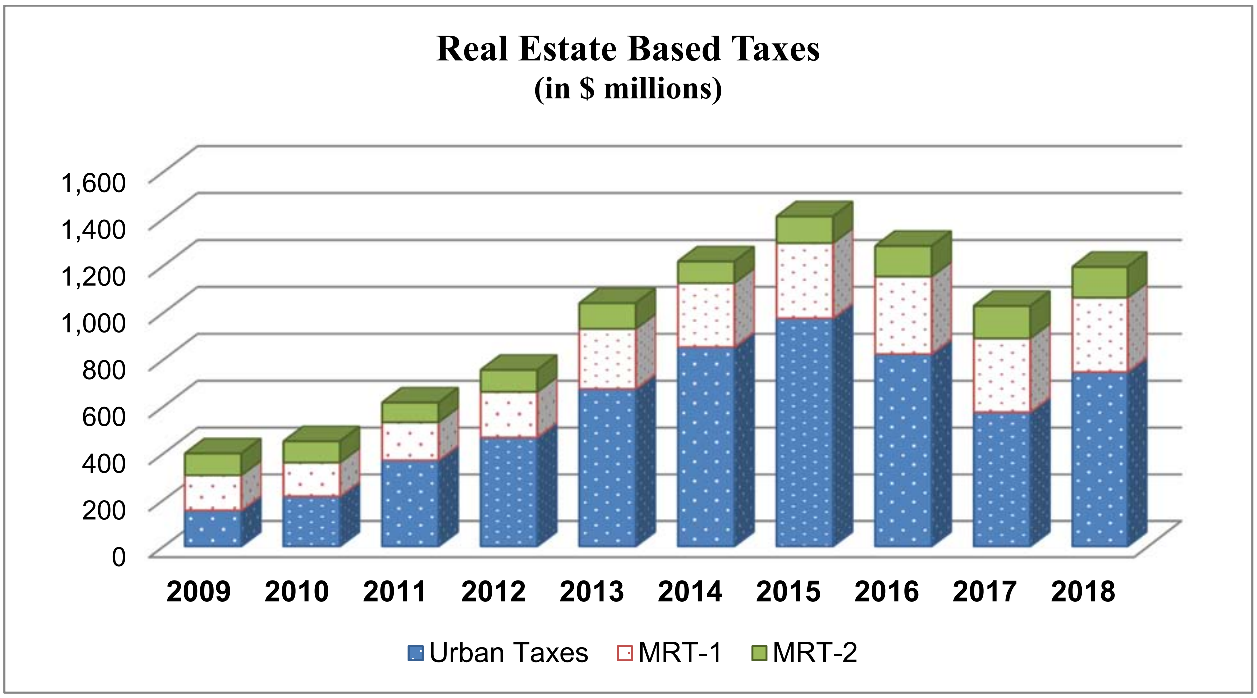
The following table sets forth the amount of Urban Taxes received by MTA New York City Transit on an accrual basis in each of the last ten years.*

Year	Urban Taxes (in millions)	Year	Urban Taxes (in millions)
2009	$154.4	2014	$ 852.9
2010	214.8	2015	1,040.0
2011	370.1	2016	822.9
2012	467.4	2017	575.1
2013	674.2	2018	746.4

The 2019 projected Urban Tax revenue, on an accrual basis, as reported in the 2019 Adopted Budget, is $666.1 million.

The 2019 projected Urban Tax revenue, on a cash basis, as reported in the 2019 Adopted Budget, is $668.2 million.

The following bar chart shows the amount of real estate based taxes received by MTA on an accrual basis for the past ten years. This includes mortgage recording taxes (both MRT-1 and MRT-2) and Urban Taxes received directly by MTA New York City Transit.



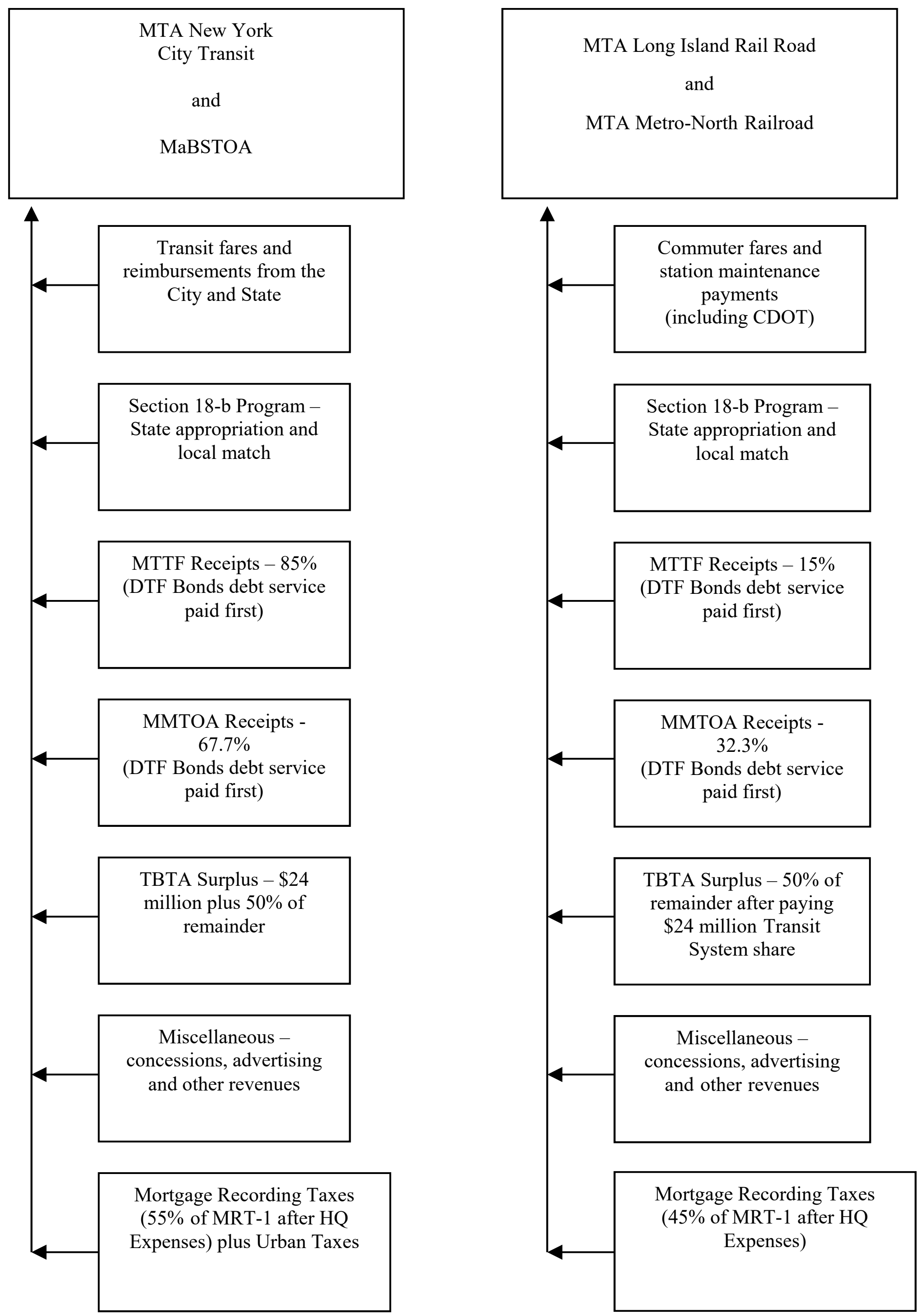
Operating Funding for the Transit and Commuter Systems

The chart on the following page shows the types of revenues and relative percentages of revenue streams that are currently available and required to be used to fund the Transit System (MTA New York City Transit and MaBSTOA) and the Commuter System (MTA Long Island Rail Road and MTA Metro-North Railroad). From time to time, MTA may, in its discretion, additionally subsidize the Transit System and Commuter System operations, or the operations of the other Related Entities, from other available excess moneys, including MTA Aid Trust Account Receipts, MTA Bridges and Tunnels Surplus Investment Income and mortgage recording taxes. All of the revenues listed on the following chart are revenues that are pledged for the payment of Transportation Revenue Bonds (as described in "PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS – TRANSPORTATION

* Urban Tax receipts in this chart include the 6% portion that is dedicated to funding paratransit operations.

REVENUE BONDS" in Part 3 of this ADS), with the exception of (1) mortgage recording taxes that do not become pledged revenues (by direction of the MTA Board) until, in the case of MRT-1, after the payment of MTA Headquarters Expenses, and (2) concession revenues at Penn Station and Grand Central Terminal. This chart does not include revenues from the PMT and taxes and fees deposited in the MTA Aid Trust Account which may be applied to fund operating and capital needs of the Transit System and Commuter System in amounts and relative percentages determined by MTA; to the extent such PMT amounts are available to be applied to operating needs of the Transit System and the Commuter System, they constitute revenues that are pledged for the payment of Transportation Revenue Bonds.

The percentages of MMTOA Receipts reflected below for the Transit and Commuter Systems are based upon the 2019-2020 State Enacted Budget.



FINANCIAL PLANS AND CAPITAL PROGRAMS

2019-2022 Financial Plan (The "February Plan")

General. The February Plan represents MTA management's completion of revisions to the 2019 Budget and financial plan for the years 2020-2022 from the draft that was first proposed in July 2018, adjusted in November 2018 and approved by the MTA Board in December 2018. The final 2019-2022 Financial Plan was released by MTA in February 2019 (the "February Plan"). It includes a Final Estimate for 2018, an Adopted Budget for 2019 (the "2019 Adopted Budget") and a financial plan for the years 2020-2022. As discussed under "Subsequent Developments" below, certain elements of the February Plan, which assumed funding consistent with the Governor's Executive Budget released on January 15, 2019, as amended on February 15, 2019 (the "Executive Budget"), have been impacted by events occurring since the plan was approved, in particular, by the 2019-2020 Enacted Budget adopted on April 1, 2019.

The following discussion of the February Plan should be read together with the description of the substantial and material changes relating to MTA's finances and governance enacted into law in the 2019-2020 Enacted Budget. See "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET" in Part 1 of this ADS for a description of such changes, including (i) provisions of new sources of recurring revenues to fund MTA's and the Related Entities' operations and capital needs, and (ii) changes in governance and oversight of MTA. Certain of these changes will require time, in months or years, to effect the expected improvement, and accordingly this discussion is preliminary.

The February Plan was designed to maintain the fiscal stability of the Related Entities and enable all those entities to maintain their respective operations on a self-sustaining basis. The February Plan also continued a program of capital expenditures that would support the ongoing maintenance of MTA's transportation network and provide needed improvements to enhance services to its customers, as well as expand service through a number of capital program initiatives.

A copy of the February Plan, which includes the 2019 Adopted Budget, is posted, for informational purposes only, on MTA's website under "MTA Info – Financial Information – Budget and Financial Statements." The February Plan is not included by specific cross-reference herein.

It should be noted that the year-end results appearing in MTA's unaudited financial statements are prepared on a GAAP basis, while the financial plan is prepared on a modified accrual basis. The modified accrual format allows the financial plan to show MTA's cash availability, which is the measurement for achieving statutory operating budget balance. Differences occurring between the unaudited financial statements and the financial plan are caused by the use of these different reporting formats. The most notable difference is the treatment of debt service and depreciation. GAAP financial statements reflect accrued interest costs and non-cash items, such as depreciation, while the financial plan reflects cash transactions, including actual principal and interest payments (i.e., deposits into debt service funds and payments to bondholders) paid out of operating funds. Moreover, cash transactions are reflected in the GAAP balance sheet and accounts receivables or payables, while the financial plan reflects completed cash transactions and does not include accounts receivables or payables.

The February Plan was projected to be balanced through 2019. Favorable impacts from Health and Welfare premium adjustments were offset by an anticipated one-month delay in the implementation of fare and toll increases and a one-month delay in the collection of the For-Hire Transportation Surcharge. The February Plan projected year-end cash balances of $79 million in 2018 and $11 million in 2019, with projected cash deficits of $467 million in 2020, $814 million in 2021, and $976 million in 2022.

The November Plan

The 2018 MTA November Financial Plan (the "November Plan"), which was approved by the MTA Board in December 2018, projected cash balances through 2019, with projected deficits of $467 million in 2020, $814 million in 2021, and $976 million in 2022. The November Plan projected net 4% biennial fare/toll increases (the equivalent of 2% per year), which is lower than the projected two-year inflation rates of 5.3% and 4.7% in 2019 and

2021, respectively. Consistent with recent financial plans, a March 1st implementation was assumed for both the 2019 and 2021 increases; however, the approval and implementation of the 2019 fare/toll increases was delayed by one month, until April 1, 2019, resulting in an estimated reduction of $27 million in the 2019 total collection. The annualized yield of these increases was projected in the November Plan to be $316 million and $321 million, respectively. Since February 2018, nearly $1.9 billion in recurring savings have been identified over the November Plan period. The November Plan maintained the commitment set out in earlier Financial Plans, but did not include any additional savings targets. Another $216 million over the November Plan period will be invested in additional maintenance and operating needs. With ridership levels not rebounding, the November Plan included MTA New York City Transit proposed service guideline adjustments beginning in 2020 that are projected to result in savings of $41 million annually, with reductions of $10 million for subway service and $31 million for bus service.

Changes to the November Plan

Consistent with the MTA budget process, the November and February Plans are formatted to highlight certain policy actions and other adjustments for the benefit of the MTA Board and financial stakeholders. Until these items have been approved by the MTA Board, MTA excludes their financial impact from the "Statement of Operations" (also referred to as the "baseline"). Instead, these items are captured individually, and in total, on the "Plan Adjustments." Such Plan Adjustments are also referred to as being "below-the-baseline." The February Plan captured baseline changes that were not included in the November Plan, as well as other adjustments which include:

- *Health & Welfare Premium Adjustment* – 2019 premiums for the New York State Health Insurance Program, which covers about 40% of MTA employees and retirees, are lower than estimates used in the November Plan. The lower premiums are estimated to reduce expenses by $57 million in 2019, and an estimated $6 million annually thereafter.
- *Insurance Policy Renewal Cost Adjustments* – Lower than forecasted renewal costs for excess liability, environmental liability, stations liability and force account liability policies with estimated savings of $8 million annually through 2020 and an estimated $9 million annually thereafter.
- *Timing Adjustments/Other Baseline Re-estimates* – The February Plan includes timing and other minor technical adjustments impacting expenses and subsidies that have been incorporated into the baseline.
- *City Subsidy for MTA Bus* – Reflects timing-related changes to subsidy payments from the City.
- *Other Subsidies* – Reflects lower collection of For-Hire Transportation Surcharge, which was delayed following the filing of a lawsuit and a temporary restraining order, which order was lifted at the end of January.

The following MTA adjustments in the February Plan remained below-the-baseline and therefore were not captured within the Related Entities baseline forecasts:

- *Fare and Toll Increase in March 2019* – A $316 million annualized consolidated farebox and toll increase was assumed for implementation in March 2019, and estimated to yield 4%, for an additional $269 million in 2019, $316 million in both 2020 and 2021, and $317 million in 2022. Factoring in the MTA Bus, MTA Staten Island Railway and MTA Bridges and Tunnels adjustments, the net increase to MTA was projected to be $262 million in 2019, $308 million in 2020, $307 million in 2021, and $308 million in 2022, unchanged from the estimate in the November Plan.

- *One-Month Delay in 2019 Fare and Toll Increase* – The November Plan, approved in December, anticipated the MTA Board would review and approve fare and toll increases in January 2019 for implementation in March. The February Plan reflected a one-month delay in approval and implementation of the 2019 fare and toll increases, resulting in an estimated $27 million reduction in 2019 revenues.

- *Fare and Toll Increase in March 2021* – A $329 million annualized consolidated farebox and toll increase was assumed for implementation in March 2021, and is estimated to yield 4%, for an additional $280 million in 2021 and $329 million in 2022. Factoring in the MTA Bus, MTA Staten

Island Railway and MTA Bridges and Tunnels adjustments, the net increase to MTA was projected to be $273 million in 2021 and $320 million in 2022, unchanged from the estimate in the November Plan.

- *MTA Efficiencies – Not Yet Implemented* – The November Plan recognized identified savings from the Related Entities – included in Related Entities baseline projections – totaling $84 million in 2018 (exceeding the target in that year), $207 million in 2019, $209 million in 2020, $213 million in 2021 and $203 million in 2022. Included in the total savings are identified non-recurring savings of $69 million in 2018 and $18 million in 2019. Efficiencies yet to be implemented are estimated to total $123 million in 2019, $58 million in 2020, $82 million in 2021 and $86 million in 2022, which was unchanged from the November Plan.

- *Service Guideline Adjustments* – Service guidelines, which have been reviewed and approved by the MTA Board, are used to maintain an appropriate level of service based upon actual ridership. The guidelines provide an objective standard of maximum loads for different times of day, and are intended to minimize the occurrences when buses or trains are either overcrowded or underutilized. Following these guidelines, MTA New York City Transit first proposed in the November Plan service guideline adjustments beginning in 2020 that are projected to result in net savings of $37 million in 2020 and $41 million in 2021 and 2022, of which $10 million is for subway service and $31 million for bus, which is unchanged from the November Plan.

- *Additional Savings Actions* – The November Plan included additional reductions and re-estimates resulting in savings beyond those captured in the Related Entities baseline projections. These savings programs are expected to be implemented in time for inclusion within the Related Entities' baseline budget projections in the 2019 July Financial Plan.

As emphasized in the November Plan, MTA requires new sources of sustainable recurring revenue to fund operations and capital needs. Without additional recurring revenue in the near-term, options to mitigate the cashflow shortfalls, close structural deficits and achieve balanced budgets, will be service reductions, reductions in force, and/or additional fare and toll increases. See "Subsequent Developments" below.

Challenges and Risks Going Forward

There are a variety of challenges and risks affecting MTA and the implementation of its February Plan:

Secure New Sustainable Funding for Operations and Capital. While the February Plan is benefiting from years of MTA management non-recurring and annually recurring cost reductions, significant near term cashflow challenges exist and out-year operating budget deficits are still projected. In order to sustain operations and protect investments made to date and/or planned, MTA will need new sources of recurring funding. If new funding is not secured, MTA's options for achieving favorable cashflow and balanced budgets are service reductions, reductions in force, and/or additional fare and toll increases. If actions were limited to fare and toll increases, an additional 15% increase, on top of the 4% increases approved for 2019 and proposed for 2021, would be required to eliminate the projected deficits. It remains to be seen whether the new sources of recurring revenues directed to MTA through the 2019-2020 Enacted Budget, together with the governance and oversight changes described in "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET" in Part 1 of this ADS, will adequately address the funding and management issues confronting MTA.

Implementation and Timing of State Funding, Governance and Oversight Initiatives. Each of the State legislative initiatives described above, including the surcharges on for-hire vehicle trips in a designated congestion zone in Manhattan enacted in the April 2018 Legislation, the 2019-2020 Enacted Budget provisions, including the CBD Tolling Program, expansion of design-build contracting powers, and establishment of the TMRB and related MTA governance proposals, is complex. It is expected that implementation of the CBD Tolling Program will not generate revenues for the MTA Capital Program until early 2021.

Implementation of Working Group Initiatives Without Sufficient Additional Recurring Revenues. In December 2017, in an effort to identify possible future initiatives to reduce capital costs and improve service and operational efficiencies, four working groups were established, consisting of MTA Board members and senior staff, to address four key areas: Construction Cost Containment, Procurement Reform, Paratransit/Access-a-Ride, and Station Accessibility.

Since the November Plan, the working groups have reported back to the full MTA Board their findings and initiatives, which include initiatives to streamline existing processes, increase efficiencies in terms of dollars and time, and provide for collaborations with internal and external stakeholders to achieve system-wide improvement. MTA management is committed to the implementation of the recommendations made by the working groups, and many of these initiatives are already being put into practice. As implementation results in cost savings and efficiencies, they will be captured in future Financial Plans.

Additional major challenges include:

Achievement of Increased Cost Reduction Targets. Unidentified savings targets of $123 million in 2019, $58 million in 2020, $82 million in 2021 and $86 million in 2022 remain. MTA management recognizes the difficulty of achieving these savings, but is committed to meeting these goals. Failure to achieve these savings targets may create an operating deficit in 2019, and out-year deficits will be larger.

Implementation of Biennial Fare and Toll Increases. While MTA management works diligently to control costs, combined fares and tolls only cover approximately half of operating costs ("Farebox Operating Ratio") and a little more than a third of total costs, including capital-related costs ("Farebox Recovery Ratio"). Additionally, many costs are dependent on pricing factors beyond MTA's direct control (e.g., energy, health and welfare, and pensions). If projected fare and toll increases are not implemented, MTA's financial situation will quickly deteriorate as revenue will not be able to keep pace with inflation and other cost growth.

Developing Economic Environment. The finances of MTA are highly influenced by economic factors. Passenger and toll revenues, dedicated taxes and subsidies (including real estate transaction revenue), debt service, pensions and energy costs are all impacted by the health of the economy. If the economic assumptions reflected in the February Plan are not realized, the February Plan projected results could be adversely affected.

Potential Impact of Changes in Federal Law. MTA's finances are also influenced by federal public transportation provisions, funding levels and by federal tax law. The Presidential administration and Congress are considering budgetary and programmatic changes in law relating to federal public transportation and infrastructure finance. Enacted federal tax reform includes changes in personal and corporate tax rates and deductions, which adversely impact MTA's opportunities for federal tax-exempt financing, as does the prohibition of advance refundings for debt service savings which became effective beginning in 2018. The limitation of itemized deductions for state and local income and property taxes to $10,000 may also adversely impact the New York region's real estate market and levels of MTA real estate related tax subsidies. Although MTA management is monitoring federal legislative activity, at this time it is not possible to assess the financial or programmatic impacts upon MTA's finances of current federal proposals and enacted tax law changes.

Potentially Higher Interest Rates Than Forecast. While the February Plan includes interest rate assumptions in line with the Federal Open Markets Committee's ("FOMC") recent actions and policy statements on future actions, a sudden and unexpected increase in economic activity may result in inflationary growth beyond the FOMC's inflation target, which in turn could lead to further increases in the federal funds rate. Such an increase could lead to an increase in interest rates for MTA capital borrowing that are higher than projected in the February Plan.

Additional Matters

Legal Challenge to Certain 2018 Enacted Congestion Zone Surcharges. On December 20, 2018, a group of taxi drivers and taxi medallion owners filed a suit in State Supreme Court in Manhattan against the State, the City and the City's Taxi and Limousine Commission, challenging the legality of the portion of the congestion zone surcharges that impose surcharges on the operation of taxis in the congestion zone (the area south of and excluding 96th Street in the Borough of Manhattan), pursuant to the April 2018 Legislation. A temporary restraining order was granted by the Court in favor of the petitioners which was in effect until a hearing which took place on January 31, 2019. Following the hearing, the temporary restraining order was vacated and lifted by a Decision and Order of the court, dated January 31, 2019, and the City's motion to dismiss was granted. The State's motion to dismiss was denied, and the Court directed the State to file an answer to the amended petition within twenty days. The State has timely filed its answer. No preliminary injunction was granted, and collection of the congestion zone surcharges was able to commence.

Neither the MTA nor any Related Entities are party to the action. If a final court judgment in favor of the petitioners occurred, and such judgment is sustained on appeal, the portion of the congestion zone surcharges attributable to surcharges on taxicab and other for-hire transportation operations could be adversely affected. The outcome of this matter cannot be determined at this time. The revenue loss to MTA while the temporary restraining order was in place was approximately $1 million per day.

Subsequent Developments

2018 Actual Cash Results and Cash Balance Projections. MTA's 2018 preliminary closing net cash balance is $372 million, which includes a $121 million carryover from 2017. This result is $293 million higher than the final estimate of $79 million that was included in the February Plan. Results include $221 million in favorable net cash timing variances that are projected to have an unfavorable impact in 2019. Excluding these timing variances, "real" preliminary operating results were $72 million favorable; unfavorable results of ($40) million from subsidies are from shortfalls in PMT revenues Tax and MTA Aid Trust Account Receipts, and were partially offset by favorable collections for Urban Tax and higher surplus transfers from MTA Bridges and Tunnels. These items were not reflected in the February Plan, but the July Plan will capture the revised opening cash balance and these projected timing impacts.

See "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET" in Part 1 of this ADS.

Capital Programs – Background and Development

Transit and Commuter Systems. The MTA Act requires MTA to submit to the CPRB, for its approval, successive five-year capital programs; one for the Transit System and MTA Staten Island Railway and another for the Commuter System. The CPRB approved capital programs for the Transit System and MTA Staten Island Railway and the Commuter System for the five-year periods beginning in the years 1982, 1987, 1992, 1995, 2000 and 2005. The projects included in the 1982-2009 MTA Capital Programs have been substantially completed.

MTA and the CPRB have also approved separate five-year MTA Capital Programs covering the periods 2010-2014 and 2015-2019. These Capital Programs, which are ongoing, are described in detail below. The 2020-2024 Capital Programs for both MTA and MTA Bridges and Tunnels are expected to be presented to the MTA Board later in 2019.

Funding for the MTA Capital Programs comes from a variety of sources, including bonds, pay-as-you-go monies ("PAYGO"), State, City and MTA Bridges and Tunnels assistance, and federal funds. The federal government supplied approximately 33% of the funds required for the 1982-2009 Capital Programs. Bonds issued to finance the MTA Capital Programs are subject to a statutory ceiling, as further described in Part 3 of this ADS.

MTA Bridges and Tunnels Facilities. Beginning in 1989, MTA Bridges and Tunnels undertook its first multi-year capital program totaling $160 million for the three-year period 1989-1991. The funds for the program were raised from revenues deposited in its own capital reserve fund and the proceeds of MTA Bridges and Tunnels bonds.

Since then, while not required to do so by statute, MTA Bridges and Tunnels has developed its own five-year capital programs covering the same periods as the MTA Capital Programs to enable MTA Bridges and Tunnels to keep its own facilities in good operating condition while also maintaining its role in MTA's unified transportation policy. The MTA Bridges and Tunnels Capital Programs are not subject to approval by the CPRB and bonds issued to finance MTA Bridges and Tunnels Facilities are not subject to a statutory ceiling.

Although substantial annual investments in major maintenance have regularly been made and additional expenditures are planned, MTA Bridges and Tunnels expects that capital investments in the rehabilitation or reconstruction and painting of its facilities will continue to be necessary as components approach the end of their respective useful lives and require normal replacement.

Approved 2015-2019 Capital Program

The MTA Act required that MTA submit to the CPRB for its approval, on or before October 1, 2014, proposed five-year capital programs for the Transit System and MTA Staten Island Railway (the "2015-2019 Transit Capital Program") and for the Commuter System (the "2015-2019 Commuter Capital Program" which, together with the 2015-2019 Transit Capital Program, and prior to their approval by the CPRB, are referred to collectively herein as the "Proposed 2015-2019 MTA Capital Program") for the years 2015-2019. At its September 24, 2014 meeting, the MTA Board reviewed and authorized a submission to the CPRB of the Proposed 2015-2019 MTA Capital Program totaling approximately $29.0 billion, as well as a five-year capital program for MTA Bridges and Tunnels for the years 2015-2019 (the "2015-2019 MTA Bridges and Tunnels Capital Program" which, together with the Proposed 2015-2019 MTA Capital Program, are referred to collectively herein as the "Proposed 2015-2019 Capital Program") that was not required to be submitted to the CPRB for approval totaling approximately $3.1 billion. On October 2, 2014, the CPRB vetoed the Proposed 2015-2019 MTA Capital Program without prejudice.

On October 28, 2015, the MTA Board reviewed and authorized a revised submission to the CPRB of the Proposed 2015-2019 MTA Capital Program totaling approximately $26.1 billion, as well as the 2015-2019 MTA Bridges and Tunnels Capital Program totaling $2.9 billion. The revised capital program provided for $29.0 billion in capital expenditures: $15.8 billion for ongoing repairs of, and replacements to, the transit system operated by MTA New York City Transit and MaBSTOA and the rail system operated by MTA Staten Island Railway; $5.2 billion for ongoing repairs of, and replacements to, the commuter system operated by MTA Long Island Rail Road and MTA Metro-North Railroad; $4.5 billion for the expansion of existing rail networks for both the transit and commuter systems to be managed by MTA Capital Construction; $0.3 billion for MTA Interagency and MTA Police Department; $0.4 billion for MTA Bus initiatives; and $2.9 billion for the ongoing repairs of, and replacements to, MTA Bridges and Tunnels facilities. Submission to the CPRB for review of the revised Proposed 2015-2019 MTA Capital Program was approved by the MTA Board in October 2015. The revised 2015-2019 MTA Bridges and Tunnels Capital Program, as approved by the MTA Board in October 2015, was not subject to the CPRB's approval.

Discussions were immediately undertaken with stakeholders, including the Governor, the Legislature, and the Mayor of the City, which continued into the State budget process, to ensure the Proposed 2015-2019 Capital Program met their concerns. Limited changes to the program were proposed by MTA in collaboration with these stakeholders. For a description of the City's commitment to provide funding for the Proposed 2015-2019 Capital Program, subject to appropriation, see the paragraph "*Funding*" below in this heading. The Proposed 2015-2019 Capital Program was revised to include an additional $500 million in proposed federal New Starts funding (described below) for Phase Two of the Second Avenue Subway project (see "OPERATIONS – MTA CAPITAL CONSTRUCTION COMPANY – Second Avenue Subway" in Part 4 of this ADS), increasing such project's funding allocation in the Proposed 2015-2019 Capital Program to $1.035 billion, and increasing MTA Capital Construction's portion of the program to $5 billion. This proposed federal funding was subject to further discussion with the Federal Transit Administration ("FTA"), and subject to future provision of additional local funding required for the New Starts application process. The Proposed 2015-2019 Capital Program, as revised, also included changes to advance station enhancement work at MTA Metro-North Railroad, MTA Long Island Rail Road, and MTA New York City Transit in support of regional mobility initiatives. No other changes were made to the plan that was approved by the MTA Board in October 2015 and no projects were removed from the plan. With the foregoing exception, these limited changes did not affect the agency overall allocations approved by the MTA Board in October 2015. The overall Proposed 2015-2019 Capital Program total was $29.5 billion, of which $26.6 billion was subject to review by the CPRB. On April 20, 2016, the MTA Board reviewed and authorized submission of the revised Proposed 2015-2019 MTA Capital Program totaling $26.6 billion to the CPRB. Submission of this revised program to the CPRB occurred on April 21, 2016. That program was approved on May 23, 2016 by the CPRB (as approved, the "2015-2019 MTA Capital Program" and, together with the 2015-2019 MTA Bridges and Tunnels

Capital Program, the "2015-2019 Capital Program"). The MTA Board, at its February 23, 2017, meeting also approved certain amendments to the 2015-2019 Capital Program, which were approved by the CPRB on March 30, 2017.

In May 2017, the MTA Board approved an amendment to increase the total 2015-2019 MTA Capital Program from $29.575 billion to $32.457 billion. The CPRB portion of the program increased from $26.719 billion to $29.517 billion. Changes to the program included the following: (a) updates to agency core programs to include critical projects such as station enhancement work, bus fleet amenities, train arrival information, and investments at Penn Station, as well as adjustments to update project budgets and schedules; (b) the inclusion of a new regional mobility project to expand the MTA Long Island Rail Road's Main Line; (c) additional required funding to meet needs for Second Avenue Subway's Phase Two; and (d) a new Cashless Tolling[*] ("Cashless Tolling") program of projects at MTA Bridges and Tunnels with corresponding program rebalances to accommodate this initiative. The CPRB portion was deemed approved on July 31, 2017.

In addition to the approved July 31, 2017 amendment, in December 2017 there were two separate actions approved by the MTA Board which impacted the MTA's 2015-2019 Capital Program. First, $100 million was transferred from MTA Long Island Rail Road's 2015-2019 program to the MTA Capital Construction MTA Long Island Rail Road Mainline Expansion Project to support the expansion project's budget at award. Second, the MTA Board approved a Subway Action Plan of $348.5 million to address needs in the MTA New York City Transit subway system. Unlike the first item, this second action represented an increase to the overall 2015-2019 Capital Program. These MTA Board amendments to the program did not require CPRB approval.

At its April 25, 2018, meeting, the MTA Board approved amendments to the 2015-2019 Capital Program. These amendments increased the 2015-2019 Capital Program by $813 million from $32.457 billion to $33.270 billion increasing the 2015-2019 MTA Capital Program from $29.517 billion to $30.334 billion, and reducing the 2015-2019 MTA Bridges and Tunnel Capital Program from $2.940 billion to $2.936 billion. Changes to the 2015-2019 Capital Program addressed the following: (a) the addition of a fully funded Subway Action Plan; (b) updated project assumptions reflecting the cost estimates and timing of ongoing projects and emerging needs; (c) consolidation of all budgets for City sponsored stations within the MTA New York City Transit stations program; (d) reallocating funds within the East Side Access project; (e) reallocating funds within Regional Investment programs; (f) a transfer of funds from the 2015-2019 MTA Bridges and Tunnels Capital Program to the 2010-2014 MTA Bridges and Tunnels Capital Program; and (g) elements with 10% increases for transit and commuter projects that require CPRB approval. CPRB approval was obtained on May 31, 2018.

The FTA's discretionary Capital Investment Grant ("CIG") program provides funding for fixed guideway investments such as new and expanded rapid rail, commuter rail, light rail, streetcars, bus rapid transit and ferries, as well as corridor–based bus rapid transit investments that emulate the features of rail. There are four categories of eligible projects under the CIG program: New Starts, Small Starts, Core Capacity and Programs of Interrelated Projects. New Starts projects are new fixed guideway projects or extensions to existing fixed guideway systems with a total estimated capital cost of $300 million or more, or that are seeking $100 million or more in CIG program funds. New Starts applications are evaluated and rated by the FTA in accordance with statutorily defined criteria at various points in the development process. In order to be eligible to receive a New Starts grant, the project must go through a multi-step, multi-year process and receive at least a "Medium" overall rating from the FTA, in addition to other requirements. There can be no assurance that the FTA will award a New Start grant to Phase Two of the Second Avenue Subway project.

MTA and the other Related Entities have advanced funds using PAYGO monies to advance certain elements of the 2015-2019 Capital Program prior to its approval by the CPRB.

There can be no assurance that all the necessary governmental actions to implement the 2015-2019 Capital Program will be taken, that funding sources currently proposed or assumed will be available in the amounts or at the times projected, or that the projects included in the 2015-2019 Capital Program, or parts thereof, will not be delayed or reduced. MTA regularly evaluates the status of all funding sources and projects and may, from time to time, submit amendments to the 2015-2019 Capital Program needed to bring funding sources and expected project costs

[*] Formerly described as "Open Road Tolling" or "ORT".

into balance. If the implementation of the 2015-2019 Capital Program or any modification thereof is significantly delayed, MTA's efforts to bring the entire Transit System and Commuter System to a state of good repair and to prevent deterioration of portions of the Transit System and the Commuter System that have already reached a state of good repair may be impeded, with potential negative effects on ridership and fare revenues.

Funding. The combined funding sources for the last MTA Board approved 2015-2019 Capital Program include $7.968 billion in MTA bonds, $2.936 billion in MTA Bridges and Tunnels dedicated funds, $8.640 billion in funding from the State, $7.307 billion in federal funds, $2.666 billion in funding from the City, $2.145 billion in PAYGO capital, and $1.610 billion from other sources.

	2015-2019 Capital Program Amount (in millions)
Federal Formula, Flexible, Misc.*	$ 6,707
Federal Core Capacity*	100
Federal New Starts*	500
City of New York Capital	2,666
State of New York Capital	8,640
MTA Bonds (Not including MTA Bridges and Tunnels)	7,968
PAYGO	2,145
Asset Sales / Leases	1,018
Other MTA Sources	592
MTA Bridges and Tunnels Bonds & PAYGO	2,936
Total†	$33,273

* Subject to future federal appropriation and guidance.
† As of December 31, 2018. Totals may not add due to rounding.

2015-2019 MTA Capital Program.

General. The following is a general description of the 2015-2019 MTA Capital Program initially adopted by the MTA Board on May 20, 2016 and approved by the CPRB on May 23, 2016, and last amended by the MTA Board on April 25, 2018 with approval from the CPRB on May 31, 2018. Following the description of the 2015-2019 MTA Capital Program is a description of the 2015-2019 MTA Bridges and Tunnels Capital Program, which is not subject to CPRB approval. The 2015-2019 MTA Capital Program consists of the following components:

- Transit Core Program;
- Commuter Core Program;
- MTA Bus Capital Program;
- MTA Interagency Program; and
- MTA Capital Construction Program (Network Expansion).

The following table shows, for each of the agencies or programs in the 2015-2019 Capital Program, the totals and the amounts committed, expended and completed:

As of December 31, 2018 (in billions)

Agency	Total	Committed	Expended	Completed
MTA New York City Transit, MaBSTOA and MTA Staten Island Railway	$16.742	$10.871	$3.852	$1.397
MTA Metro-North Railroad and MTA Long Island Rail Road	5.323	3.495	1.450	0.219
MTA Capital Construction	7.650	4.116	1.578	0.000
MTA Bus	0.376	0.097	0.006	0.003
MTA Bridges and Tunnels	2.936	1.669	0.613	0.284
MTA Interagency Program	0.243	0.069	0.017	0.001

2015-2019 Transit Core Program. The following table represents the capital program by category of work for the Transit System and MTA Staten Island Railway under the 2015-2019 Transit Capital Program.

	Transit Authority 2015-2019 Transit Core Program (in millions)*
Subway Cars	$ 1,482
Buses	1,185
Passenger Stations	4,608
Track	1,891
Line Equipment	277
Line Structures	907
Signals & Communications	3,053
Power	886
Shops & Yards	373
Depots	367
Service Vehicles	246
Miscellaneous	988
MTA Staten Island Railway	480
Total†	$16,742

* Does not include MTA Network Expansion Projects related to the Transit System, which are described below under the "*MTA Network Expansion*" section.

† Total may not add due to rounding.

Among the projects included in the Transit Core component of the 2015-2019 MTA Capital Program, as approved, are the following:

Subway Cars - $1,482 million. 440 new 60-foot R-211 railcars and 20 new open-gangway prototype subway cars will be ordered to replace the R-46 class on the B division that are reaching the end of their useful lives. The contract's base was approved by the MTA Board late in 2017. Options to exercise for the purchase of additional R-211 railcars will be addressed in a future capital program.

Buses - $1,185 million. A total of 2,069 new buses will be purchased, including 60 electric buses.

Passenger Stations. $4,608 million was approved for station renewal and component work, accessibility investments, structural reconfiguration of stations, and improvements in fare collection, signage, escalators, and elevators as follows:

- Station Renewal, Enhancement and Component Investments - $1,807 million. Additionally, the new enhanced station initiative will revamp the design guidelines for subway stations, and then put them in place using design-build procurement to deliver the projects more quickly.

- Accessibility for Customers with Disabilities - $1,356 million. MTA New York City Transit continues to implement a program pursuant to State and federal law to install and make 100 stations fully accessible to persons with disabilities. With investments made through the end of the 2010-2014 Capital Program, full ADA accessibility at 89 key stations will be complete or in progress. The 2015-2019 MTA Capital Program includes ADA investments at the remaining 11 key stations. In addition to the 100 key stations, investments made through the end of the 2015-2019 Capital Program also include ADA accessibility at an additional 45 stations, including ten additional stations funded in the 2015-2019 Capital Program.

- Other Station Improvements - $423 million. MTA New York City Transit proposes $30 million in access improvements at the Times Square-42nd Street Shuttle station (in concert with ADA accessibility improvements), and will revamp the shuttle's appearance and operations to make the station more accessible and improve customer circulation. Also proposed is $75 million for the next phase of access improvements at Grand Central-42nd Street associated with the proposed development of the MTA Madison Avenue property. Mezzanine work at 8th Avenue/Sea Beach including the reopening of a second entrance, and new street stairs at Bedford Avenue and 1st Avenue/Canarsie are also included in the program.

- Fare Collection - $544 million. MTA New York City Transit will continue the implementation of the next generation of fare payment equipment, including the use of contactless "tap and go" technology. Implementation of such equipment is expected to provide MTA with efficiencies in terms of cost and operation, thus improving the overall customer experience. The contract was awarded to the Cubic Transportation Systems in November 2017 as a design-build contract. The budgets for the Fare Control Area Improvements project and the New Fare Payment System, Phase Two project have been combined into one project. Additional project support across MTA is anticipated to be addressed in a future capital program.

- Station Escalators and Elevators - $479 million. The 2015-2019 MTA Capital Programs includes replacement of 32 escalators and 42 elevators. Elevator work reflects the growing need for normal replacement investment in units initially installed for the purpose of wheelchair access.

Track. The 2015-2019 MTA Capital Program includes $1,891 million for normal replacement of 72 miles of track and 127 mainline switches. The work includes the replacement of concreted subway track and prefabricated panel track on elevated and open-cut/at-grade structures. Additionally, as part of the mainline track program, traditional bolted rail will be replaced with continuously welded rail at critical locations to prevent the occurrence of broken rails. Cost-saving strategies, such as the Scheduled Component Replacement program and solid-cast polymer tie blocks, will also continue to be applied where appropriate.

Line Equipment. MTA New York City Transit expects to spend $277 million for line equipment investments, including: tunnel lighting on various lines; one new fan plant; replacement of fan components at various locations; and rehabilitation of various pump rooms.

Line Structures. MTA New York City Transit expects to spend $907 million for component repairs, painting, line structure rehabilitation, and other enhancements, including: rehabilitation of an underground tunnel on the 4th Avenue line (funding was split between the 2010-2014 Capital Program and the 2015-2019 Capital Program); component repairs to correct structural defects in underground tunnels and elevated structures throughout the system; replacement of a viaduct structure and bridge on the Myrtle line; overcoat painting of elevated structures on the Dyre, Jamaica, Jerome, Flushing, and Myrtle lines; repairs to elevated structures on the White Plains Road and Rockaway lines; and rehabilitation of emergency exits at various locations throughout the subway system.

Signals and Communications. MTA New York City Transit expects to spend $3,053 million for mainline signal modernization investments and $696 million for communication system improvements, for a total of $2,728 million.

- Signal Modernization. The 2015-2019 signals program will modernize 73.2 track miles of signals by implementing Communications-Based Train Control ("CBTC") on the 8th Avenue and Culver lines and completing phase two of CBTC on the Queens Boulevard line (the first phase was funded in the 2010-2014 Capital Program and covered the furnishing of both rolling stock and wayside equipment). Additionally, automatic signal components on the Fulton and Crosstown lines will be upgraded to extend their useful lives. Also planned are several system-wide signal improvement projects, such as control line modifications and speed enforcement system replacements. Six B Division interlockings are proposed for modernization, including two on the 8th Avenue line, three on the Culver line, and one on the Queens Boulevard line. These projects are expected to improve the quality, reliability, and safety of subway service in addition to preparing lines for the roll-out of CBTC.

Prior to the April 2018 amendment, in December 2017, the MTA Board approved a letter amendment for the capital portion of the Subway Action Plan, a $348.5 million initiative to address priority emergency investments within MTA New York City Transit's signal system. This amendment increased the capital program from $32,457.3 million to $32,805.8 million to incorporate the Subway Action Plan. The increase is reflected in the MTA New York City Transit portion of the program, increasing it from $16,315.4 million to $16,663.9 million. Much of this overall investment was focused directly on signal improvements in the signal modernization element with other investments planned in track, non-revenue vehicles and upgrading subway cars.

- Communications. The 2015-2019 communications program will install information kiosks ("Help Points") at 244 stations, thus completing the rollout of these kiosks to all stations system-wide. The program will also continue the rollout of an integrated service information management system for the B Division, which will enable MTA New York City Transit to provide real-time train arrival information on the B Division. Additionally, MTA New York City Transit will continue to upgrade the SONET/ATM network and replace key communications infrastructure including copper cables, fiber optic cables, antenna cables, and Private Branch Exchange switches. Improvements are also proposed to communication rooms, which protect and consolidate communications equipment. The proposed program also includes the replacement of the UHF T-Band radio system, in compliance with a Federal Communications Commission ("FCC") mandate to vacate the currently-used portion of spectrum. Other investments include the replacement of Public Address Customer Information Screen electronic equipment on the Canarsie line. Lastly, investments are proposed to pilot and begin the rollout of Track Intrusion Detection and Platform Safety Technology to reduce the occurrence of passenger injury from intrusion onto the right-of-way.

Power. MTA New York City Transit expects to spend $886 million for normal replacement and state of good repair investments in traction power, including: renewal of three substations and four substation enclosures; replacement of frequency converters and switchgear at various locations; rehabilitation of six circuit breaker houses and various circuit breaker house enclosures; replacement of negative cables on a segment of the 4th Avenue line; and supervisory system improvements, including upgrades to the SCADA system on certain subway lines and the replacement of control and battery cables at various substation control zones. MTA New York City Transit also expects to spend $479 million in power system improvements to support higher train throughput on lines enhanced by CBTC.

Shops and Yards. The 2015-2019 Transit Capital Program includes $373 million for maintenance and rehabilitation of yards. $306 million is allocated for priority repairs at various shops and facilities.

Depots. Additional investments of $367 million are planned for projects benefitting bus depots, including modifications to accommodate articulated buses and roof and HVAC work.

Service Vehicles. The 2015-2019 MTA Capital Program includes $246 million to purchase new work trains and new non-revenue rubber tire vehicles.

Miscellaneous. The 2015-2019 MTA Capital Program includes $988 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. Among the engineering work is a study of the extension of the Eastern Parkway line to provide service on the 3 and 4 lines along Utica Avenue in Brooklyn. The study will be coordinated with the City and may examine extension options, supporting land use changes, and financing strategies. The 2015-2019 MTA Capital Program includes funds to undertake critical station improvements at key locations including Broadway Junction, Flushing Main Street, Vernon-Jackson Avenues, 86th Street Lexington Avenue, Sutphin/Archer/JFK, 149th Street-Grand Concourse, Jamaica Center Parsons/Archer, Marcy Avenue, Union Street and Fordham Road. Activities will include but are not limited to studies, planning, design and construction.

Other investments include improvements and repairs at assorted facilities, including the consolidated revenue facility, Livingston Plaza, the Rail Control Center, Power Control Center, and many employee facility rooms located within passenger stations. Also, Police District Office #4 at 14th Street-Union Square will be rehabilitated. An additional $65 million is proposed for other passenger security measures. Various management information system projects are also proposed, such as data storage and server enhancements at 2 Broadway and an MTA-wide initiative for Enterprise Asset Management ("EAM"). MTA New York City Transit will address various environmental and safety needs, such as asbestos monitoring and removal, fire alarm system replacement at various facilities, and environmental soil remediation.

MTA Staten Island Railway. The 2015-2019 MTA Capital Program budgets $480 million for MTA Staten Island Railway, including significant investments in railcars, $257 million, and the power system, $83 million. MTA Staten Island Railway's R-44 railcar fleet, which has reached the end of its useful life, is proposed for replacement. To provide improved and reliable traction power for the new fleet, three new power substations will be constructed to increase the power supply on the line. Additionally, following a successful pilot, a capital project to support the rollout of customer information signs that will provide real-time train arrival information at all stations is included in the proposed program. Other MTA Staten Island Railway work includes mainline track replacement, radio system enhancement, and component repairs at various stations.

2015-2019 Commuter Core Program. The following table represents the capital program by agency and category of work for the Commuter System under the 2015-2019 MTA Capital Program, as approved.

	2015-2019 Commuter Core Program (in millions)*
MTA Long Island Rail Road	
Rolling Stock	$ 369
Stations	679
Track	776
Line Structures	126
Communications and Signals	370
Shops and Yards	228
Power	155
Miscellaneous	157
Total†	$2,859
MTA Metro-North Railroad	
Rolling Stock	$ 394
Stations	537
Track and Structures	437
Communications and Signals	310
Shops and Yards	470
Power	112
Miscellaneous	202
Total†	$2,462

* Does not include MTA Network Expansion Projects related to the Commuter System which are described below under the "*MTA Network Expansion*" section.

† Total may not add due to rounding.

MTA Long Island Rail Road

Among the projects included in the Commuter Core Program component of the 2015-2019 MTA Capital Program are the following projects for MTA Long Island Rail Road:

Rolling Stock. Rolling stock has a total budget of $369 million. This project will continue the purchase of new M-9 electric cars, which was initiated in the 2010-2014 Capital Program. This continued fleet purchase will allow for the replacement of the MTA Long Island Rail Road's remaining M-3 electric fleet (88 cars), which faces a number of service reliability challenges and dated system technology. In addition, a key system improvement component is the procurement of up to 76 new M-9 growth cars, which will prepare MTA Long Island Rail Road for future service to Grand Central Terminal by expanding the size of the MTA Long Island Rail Road electric fleet. An award was made in late 2017 for the 88 replacement cars and 22 cars for growth. 54 additional electric cars may be addressed in a future capital program.

Stations. This program ($679 million) includes initiatives 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.

Station Rehabilitation - $110 million. Maintenance, rehabilitation, and upgrades at several stations, Work at the Babylon Station will include design, demolition and reconstruction of the Station's two platforms and platform waiting rooms, as well as renewal of the canopy roofing system, and replacement of platform lighting, staircases, escalators, and elevators. Work at the Nostrand Avenue Station will include demolition and replacement of both platforms, replacement of staircases, canopies, railings, station lighting, along with security and communication systems. Two new elevators will be installed, making this station wheelchair accessible. At the Mets-Willets Point Station, MTA Long Island Rail Road will design future infrastructure upgrades to support full-time service and accommodate large volumes of railroad customers. The new station will feature direct access from the MTA Long Island Rail Road Station to the proposed LaGuardia Air Train Station.

Elmhurst and Republic - $8 million. These projects will advance preliminary design for two new MTA Long Island Rail Road stations – Elmhurst, on the Port Washington Branch in Queens, and Republic, on the Main Line in Suffolk County. Construction is anticipated to be progressed in a future capital program.

Enhanced Station Initiative, 17 Stations - $154 million. This effort will target features to improve station aesthetics and the customer experience. Enhancements may include art components, safety/security, improved/renewed signage, passenger amenities, lighting, railings and staircases and customer information systems. This project will utilize the services of a consultant to advise on industry best practices as a means to enhance station aesthetics, amenities, and passenger experience and improving stations through design innovation, all with minimal disruptions to customers. This project may include work elements at various stations. An additional reserve was added to the capital program as part of the July 2017 amendment to address further stations anticipated to receive investments.

New Fare Payment System - $9 million. The $9 million allocated to advancing the MTA-wide new fare payment system will support MTA-wide efforts to allow customers to use a single smart card, or cell phone with a smart chip to ride the entire MTA network. The primary contract was awarded in October 2017 through MTA New York City Transit's procurement department. The award was made to Cubic Transportation Systems.

Penn Station Investments - $346 million. Investments in support of MTA Long Island Rail Road's busiest station focus on customer improvements, including the replacement of elevators and escalators in the MTA Long Island Rail Road area of the station, along with rehabilitation of stairs, platform lighting and other station components.

Parking - $5 million. The 2015-2019 MTA Capital Program includes rehabilitation work at existing commuter parking facilities which are in need of capital renewal based on condition. The Ronkonkoma Parking Facility has been identified as priority for these funds.

Small Business Mentoring - $13 million. Various contracts supporting the station program are expected to be awarded through the MTA Small Business Development Program ("SBDP"). This proposal reflects anticipated programmatic savings of an average of 12 percent among selected station projects in this category. Savings are expected as a result of intensive coordination of track outages amongst multiple capital projects to maximize "piggy backing" opportunities, mid-day station closures for construction (where feasible), and leveraging of contributions from municipalities and private development towards construction of new MTA Long Island Rail Road stations.

Tracks. The $372 million track rehabilitation program consists of 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.

Right-of-Way Improvements - $10 million. MTA Long Island Rail Road will also make various right-of-way improvements, including rehabilitation of retaining walls, along with work to address drainage and culvert deficiencies along the right-of-way. In addition, high security fencing will be installed at sites which have been identified as priority. In addition, abandoned structures will be removed along certain rights-of-way.

Jamaica Capacity Improvements – Design of Phase Two - $42.5 million. Building upon the Phase One work undertaken in the 2010-2014 Capital Program, MTA Long Island Rail Road applied implementation efficiencies to the schedule for this latest phase, reducing the 2015-2019 investment while continuing to modernize the track level infrastructure both east and west of Jamaica station, installing higher speed switches and creating more streamlined track routes through the Jamaica complex. This effort will address design for selected state of good repair needs, by replacing and upgrading track, signal and switch components, many of which have exceeded their useful lives and are in need of modernization. Future phases of the Jamaica Capacity Improvements project are expected to be included in upcoming capital programs.

Amtrak Territory Investments - $68 million. This project provides funding for MTA Long Island Rail Road's contribution to the North East Corridor pursuant to the Passenger Rail Investment and Improvement Act and other major investments in the Penn Station and East River Tunnel joint use territory. This includes the continuation of the total track replacement work in the East River Tunnels that began in the 2010-2014 Capital Program.

Main Line Double Track Phase Two - $294 million. The MTA Long Island Rail Road's Main Line from Farmingdale to Ronkonkoma is largely single track, with double tracking only at stations and selected passing sidings. This results in a very fragile operation, where it is very challenging to recover from adverse operational conditions and service disruptions. Infrastructure challenges also create timetable limitations, particularly for off-peak trains. To address these challenges and to enhance service reliability and train service opportunities along this very critical corridor, the MTA Long Island Rail Road is currently constructing a full second track. The first phase, covering Ronkonkoma to Central Islip, included in the 2010-2014 Capital Program, was completed in 2018. Phase Two in the 2015-2019 MTA Capital Program completes the double track, by constructing the Central Islip to Farmingdale segment; this phase was completed in 2019.

Line Structures. This $126 million category includes multiple projects:

The Bridge Program provides for rehabilitation of bridges, including:

- Buckram Road and Springfield Boulevard - $26 million. The proposal includes a full replacement of the Buckram Road Bridge. For Springfield Boulevard, the rehabilitation plan consists of girder repairs, diaphragm and stiffener renewal, and deck and under-deck rehabilitation.

- Main Line Bridges - $22 million. A key element of this proposed project is the replacement of the Post Avenue Bridge in Westbury. Not only is this century-old bridge deteriorated and in need of full replacement, but due to its limited clearance, it is subjected frequently to vehicular strikes, particularly from trucks. The program development project in the 2010-2014 Capital Program funded the preliminary design for replacement of this bridge. The project will provide a new bridge with increased clearance, which will improve safety and reduce the operational impacts associated with bridge strikes.

- Bridge Painting/Waterproofing - $8 million. MTA Long Island Rail Road will continue the bridge painting program established in the 2005-2009 Capital Program. In addition to painting, waterproofing is a key aspect of the MTA Long Island Rail Road's strategy to bring the line structures category into a state of good repair.

This Bridge Program will also include renewal and rehabilitation of other bridges to be identified on the Main Line.

Communications and Signals.

Communications - $58 million. The 2015-2019 MTA Capital Program includes a $34 million project to continue the multi-program effort to upgrade and build out the fiber optic network. This program also includes continued replacement of communications poles and hardware and deteriorated copper cable infrastructure at various locations along MTA Long Island Rail Road right-of-way. In addition, to comply with FCC requirements, MTA Long Island Rail Road will continue system migration to a narrow-band radio frequency by upgrading and replacing radios, radio equipment and infrastructure.

Signals - $312 million. The 2015-2019 MTA Capital Program includes funds to advance MTA Long Island Rail Road's long-term signal strategy. MTA Long Island Rail Road has included a $30 million signal replacement project to renew and upgrade existing signal component equipment at locations throughout the MTA Long Island Rail Road system.

Also, targeting one of the most critical needs for signal investment, the $40 million Babylon Interlocking Renewal project will replace and upgrade aging signal equipment in the vicinity of Babylon Station, including switches, signals, cables and other signal system components.

On October 16, 2008, Congress passed the Rail Safety Improvement Act of 2008 which requires, among other things, the implementation of a Positive Train Control ("PTC") system on all non-exempt 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 into a work zone. In 2013, a System Integrator contract was awarded by MTA Metro-North Railroad and MTA Long Island Rail Road to design PTC systems and to furnish PTC on-board kits and wayside kits. In late 2018, an Alternative Schedule and revised PTC implementation plan were submitted to the FRA. MTA Long Island Rail Road and MTA Metro-North Railroad met all 2018 federal compliance requirements to request an Alternative Schedule, which extends the project to December 31, 2020. Overall completion of PTC for both the MTA Long Island Rail Road and MTA Metro-North Railroad is now expected to occur in December 2020. Full PTC implementation is contingent upon the Systems Integrator meeting their schedule commitments and mitigating project risks. Full PTC implementation is also contingent upon no new quality or equipment reliability issues.

The $40 million Babylon to Patchogue project will upgrade and modernize the signal system within this segment of the Montauk Branch. In conjunction with other capital projects which are underway, this will provide for a modernized, speed control signal system between Babylon and Montauk.

This program also continues efforts towards Centralized Train Control, with a total of $10 million to advance to migration into the central control facility in Jamaica, thereby creating a greater concentration of the MTA Long Island Rail Road's train dispatching and supervision functions within a single location.

Shops and Yards.

Yard Improvements - $48 million. The MTA Long Island Rail Road will undertake environmental review, land acquisition and preliminary design in support of a new 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. Efforts undertaken in this proposed capital program would support construction of a new yard in a future program. The yard improvements project will complete work started in the 2010-2014 Capital Program to construct a new electric train storage yard on the Main Line in central Suffolk County. This is required to increase train storage capacity for MTA Long Island Rail Road in support of service to Grand Central Terminal.

Shop Improvements - $164 million. Shop improvements include a $102 million project at Morris Park to replace and renew facilities utilized to maintain diesel locomotives – this includes maintenance bays and associated work areas, employee facilities, parts storage and wayside power for storage tracks.

This program also continues efforts to replace and upgrade aging and deteriorated shop equipment, as part of the Reliability Centered Maintenance program to maintain MTA Long Island Rail Road's fleet. A $16 million Rolling Stock Support Equipment project reflects this ongoing shop investment initiative.

Improvements totaling $3 million are also planned for the facilities at Hillside and Holban. Work includes renewal of doors, electrical systems, flooring, restrooms, site work, and building systems. A $5 million Fire Protection Improvements project will replace and upgrade fire alarm and fire suppression systems at selected employee facility locations.

Shops and yards investment efforts in support of the above projects, to be undertaken as part of the SBDP, total $20 million. This includes replacement/renewal of building components within MTA Long Island Rail Road's employee facilities.

Power. Power has a total budget of $155 million. The 2015-2019 MTA Capital Program will replace traction power substations in Queens and Nassau County that have reached the end of their useful lives. These substations have been identified as priority replacements, both due to their age and condition, as well as their critical location at high traffic locations along the Main Line, Port Washington Branch and the Babylon Branch. The six substations identified for replacement in this proposed program include Jamaica (Main Line), Meadowbrook (Babylon Branch), Forest Hills (Main Line), Bellmore (Babylon Branch), Murray Hill (Port Washington Branch), and Queens Breaker House (Main Line). The total cost of these substation replacements is estimated to be $59 million.

MTA Long Island Rail Road's substations and breaker houses are rapidly aging and require investment in order to protect service reliability and address deteriorating substation components. MTA Long Island Rail Road will be rolling out substation renewal and substation component programs, which target specific components at particular locations. Components to be replaced/renewed as part of this effort include: high voltage cable, control cable, ballast, remote terminal units, substation roofs, motor generators, along with transformers. The total cost of these projects is estimated to be $39 million.

Miscellaneous.

Environmental Remediation - $2 million. The environmental remediation effort within this program is the completion of chlordane remediation at selected substation locations. This proposed project will complete the soil remediation efforts at these contaminated locations, addressing those sites not remediated in the 2010-2014 Program.

EAM Reserve - $8 million. Funds have been allocated for a new MTA-wide initiative, EAM. The MTA Long Island Rail Road's proposed program contains $8 million towards this effort.

Pursuant to an MTA Board action in December 2017, $100 million was transferred to the MTA Capital Construction project "MTA Long Island Rail Road Expansion Project" to support that project's budget at award. The $100 million was a transfer of budgets for similar work to be carried out as part of the MTA Long Island Rail Road Expansion Project.

MTA Metro-North Railroad

Among the projects included in the Commuter Core Program component of the 2015-2019 MTA Capital Program are the following projects for MTA Metro-North Railroad:

Rolling Stock. MTA Metro-North Railroad has allocated $394 million to replace the 140-car M-3 fleet, which was built in 1984, including rolling stock to accommodate future projected ridership growth in the areas served by these vehicles. $92 million of the $532 million was allocated to address additional M-8 fleet purchases in concert with the CDOT. 60 units were purchased to address New Haven Line growth.

Stations. Stations has a budget of $537 million. Included in the 2015-2019 MTA Capital Program is the continuing renewal of the historic Grand Central Terminal complex including the 75 acre trainshed complex, as well as stations on the Hudson and Harlem Lines, and parking and strategic facilities. The Grand Central Terminal complex consists of the terminal building plus the multi-level, subsurface trainshed.

Grand Central Terminal Renewal Projects - $165 million. Major work continuing from the 2010-2014 Capital Program includes the ongoing structural work on the Grand Central Terminal trainshed and the elevator renewal program. In 2013, a structural assessment of the trainshed was completed that indicated $1 billion of investments (including priority replacement work) are necessary in order to bring the trainshed to a state of good repair and improve the condition and safe operation of the tunnel and trainshed. In addition, this program will replace the PA and Central Control and Grand Central Terminal's Visual Information Systems ("VIS").

- Grand Central Terminal Trainshed/Tunnel Structure (including Roof Expansion Joints) - $68 million. The project will increase the level of investment needed following an in-depth inspection and assessment of the 75 acre trainshed condition completed in 2013 under the 2010-2014 Capital Program. As a result of continuing and accelerating deterioration, MTA Metro-North Railroad will begin a systematic block by block reconstruction of the trainshed as well as continue the spot priority repair program. Work in this capital program will include the design and superstructure replacement under Park Avenue Northbound and Southbound in the locations determined to be the highest priority.

- Grand Central Terminal VIS Replacement - $60 million. The purpose of this project is to replace the Grand Central Terminal VIS including central control, cable plant and information displays with a more robust infrastructure that will improve communications, increase reliability and provide for future growth for new types of information to be displayed. Existing system components have reached the end of their useful lives and pose vulnerability in the event of failure. It is expected that CDOT will provide supplemental funding for this important project.

- Small Business Mentoring - Grand Central Terminal - $6 million. The 2015-2019 MTA Capital Program includes an allocation of $5 million for Grand Central Terminal investment efforts in support of the above projects, to be undertaken as part of the SBDP.

Enhanced Station Initiative, five Stations - $136 million. The focus of this project is to improve customer comfort and convenience at select stations by refining underlying station aesthetics through design innovation. Types of Station Enhancement elements could include artistic lighting of the historic station buildings or architectural enhancement of the station building components to improve public perception. MTA Metro-North Railroad has identified five stations for these improvements: Harlem-125th Street, Riverdale, Crestwood, White Plains and Port Chester. These improvements will be coordinated with work under the phased Customer Communications project which will deploy customer information technology providing real-time performance information including departure time and destination, status, and track assignments. These initial investments total $14 million. An additional reserve of $100 million was added to the 2015-2019 MTA Capital Program by an earlier amendment made in July 2017.

Upper Hudson and Harlem Line Stations Priority Repairs - $39 million. Priority component repairs at stations along the Upper Hudson and Upper Harlem Line will improve the condition of the stations and provide an enhanced customer experience. In addition, potential intermodal improvements are contemplated at White Plains based on an upcoming study led by the City of White Plains to be undertaken in conjunction with MTA and other stakeholders.

Harlem Line Stations Improvements - $64 million. This project is a continuation of work begun in the 2010-2014 Capital Program. The 2015-2019 MTA Capital Program will rehabilitate Botanical Gardens, Williams Bridge and Woodlawn Stations, addressing those elements of the stations that are either in poor condition or that are at or beyond the end of their useful life. Station elements to be addressed include platforms, overpasses, and canopies.

Customer Communications - $94 million. This project, being designed in the 2010-2014 Capital Program, is part of a larger phased initiative to deploy the latest customer information technology, providing real-time performance information including departure time and destination, status, and track to customers and employees. Improvements will include replacement of obsolete PA and VIS equipment, integration of existing customer communication systems, implementation of fiber connectivity, and upgrades to CCTV systems.

These initiatives are intended to provide a higher level of service to MTA Metro-North Railroad customers in a phased rollout east of the Hudson River. Customer service initiatives will be coordinated with work under the Station Enhancements project at Harlem-125th Street, Riverdale, Crestwood, White Plains and Port Chester. CDOT will provide supplemental funding for this important project. In addition, MTA Metro-North Railroad will work with the CDOT to install these capabilities in Connecticut and with New Jersey Transit on the west of the Hudson River territory as well.

New Fare Payment System - $6 million. The $6 million is allocated to advance the MTA-wide new fare payment system in support of the MTA-wide efforts to allow customers to use a single smart card, or cell phone with a smart chip to ride the entire MTA network. The primary contract was awarded to Cubic Transit Systems in October 2017 through MTA New York City Transit's procurement department.

Strategic Facilities - $14 million. The $14 million Strategic Facilities project will improve parking and access to MTA Metro-North Railroad trains through parking expansion at location(s) to be determined with possible candidates for such facilities considered based on available land, demonstrated need and Transit Oriented Development where possible. Transit Oriented Development initiatives, joint use of parking facilities and access provided in partnership with developers can enhance MTA Metro-North Railroad's opportunities to expand rail access, grow ridership, reduce capital costs, increase revenues and establish a more sustainable, mixed use station area. To progress these projects, MTA Metro-North Railroad will look to partner and coordinate with various third party groups such as counties, local towns, communities and private organizations, as well as State agencies such as the New York State Department of Transportation ("NYSDOT").

Small Business Mentoring - Stations and Strategic Facilities - $25 million. The 2015-2019 MTA Capital Program includes an allocation of $25 million for station component and strategic facilities investments in support of the above projects, to be undertaken as part of the SBDP.

<u>Track and Structures</u>.

Cyclical Track Program - $75 million. 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 has been expanded and enhanced to ensure that MTA Metro-North Railroad's track is maintained in a constant state of good repair so that the track structure does not deteriorate, and ensures conformance to Federal Railroad Administration ("FRA") track standards. The project includes the phased replacement of 119 pound rail in order to maintain a safe right-of-way, improve performance, reliability and condition. The scope of work for this project includes the purchase of rail, ties, track ballast and other track materials associated with installation.

Turnout Replacement - Mainline/High Speed - $52 million. This project provides for the replacement of interlocking switches at select locations throughout the MTA Metro-North Railroad territory in the 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 select locations, improving existing standard turnouts with high-speed turnouts. High-speed turnouts will result in reduced travel time for MTA Metro-North Railroad customers and greater operational flexibility for the railroad.

Grand Central Terminal Switch Renewal - $25 million. This project is a continuation of the switch replacement in Grand Central Terminal along with the stick/jointed rail that currently exists at the platform areas.

This project provides for the removal of existing switches and the annual renewal of switches within the terminal and tracks in the platform areas.

Turnout Replacement – Yards and Sidings - $5 million. 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 the State.

West of Hudson Track Improvements - $10 million. This project will replace rail and ties, as well as perform surfacing on selected track areas on the Port Jervis Line.

Undergrade and Overhead Bridge Program - $128 million. 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 project funding levels were increased in this program to progress work towards a state of good repair. The undergrade bridge program includes the design and/or repair or replacement of up to thirty structures on the Hudson, Harlem and New Haven Lines based on detailed evaluation of needs and efficiencies identified during design and construction activities. MTA Metro-North Railroad will continue its work to undertake intensive coordination of track outages amongst multiple capital projects to maximize outage opportunities. The overhead bridge program includes the replacement of bridges on the New Haven Line as well as funds for ongoing long-term bridge repairs.

Harlem River Lift Bridge - $10 million. This project continues a rehabilitation program initiated in the 2010-2014 Capital Program. The work includes repairs to cracked piers that support the critical moveable bridge which provides the only access into Manhattan for all MTA Metro-North Railroad trains traveling to and from Grand Central Terminal.

Moodna and Woodbury Viaducts – West of Hudson - $14 million. This project continues the state of good repair work on the Moodna and Woodbury viaducts on the Port Jervis Line. The project includes the total replacement of ties on both viaducts, approximately 3,000 ties on Moodna and 600 ties on Woodbury.

Undergrade Bridge Program – West of Hudson - $15 million. This project includes the replacement of three bridges on the Port Jervis Line, as well as repairs to two additional bridges. This project provides for the continuing renewal of structures determined as top priorities based on condition surveys.

Other Track and Structures Projects - $94 million. Additional projects in the 2015-2019 MTA Capital Program for track include work to maintain the system infrastructure as safe and reliable. Work includes cyclical insulated joints, rock slope remediation, rebuilding retaining walls, improvements to system-wide drainage and purchase of maintenance of way equipment.

Structures improvements to maintain reliability and that contribute to progress towards a state of good repair include bridge preservation rehabilitation, Beacon Line undergrade bridges, Park Avenue direct fixation, railtop culverts, bridge walkways, replace timbers on undergrade bridges, Hudson Line tunnels inspection, catenary painting and DC substation/signal house roof replacement and right-of-way fencing.

Additional West of Hudson infrastructure improvements needed to progress Port Jervis Line state of good repair include track improvements and rock slope remediation.

Small Business Mentoring – Structures - $6 million. The 2015-2019 MTA Capital Program includes an allocation for line structure component investments in support of the above projects, to be undertaken as part of the SBDP. This proposal reflects anticipated programmatic savings of an average of 9% among selected track and structures projects.

Communications and Signals.

Network Infrastructure Replacement - $44 million. This project will upgrade the fiber optic communication system infrastructure. The current system is approaching the end of its useful life. If not addressed, this will leave current communication infrastructure without replacement or support from the vendor. In order to meet future demands for such projects as security system upgrades along with passenger station and information upgrade projects, the next generation in Optical Transport Dense Wave Division Multiplexing is needed. The 2015-2019 MTA Capital Program includes $42 million for the project to address this need in New York territory. CDOT will provide supplemental funding for this project.

Croton-Harmon to Poughkeepsie Signal System - $87 million. The existing wayside signal and communication systems and infrastructure located on the Hudson Line from Croton-Harmon to Division Post in Poughkeepsie have reached the end of their useful life. This project will begin replacement of the existing wayside signal and communication systems and infrastructure including communication and signal central instrument locations and fiber optic and copper cable system.

Positive Train Control - $110 million. As more fully described above under "MTA Long Island Rail Road – Communications and Signals – Signals - $312 million," in 2013, a System Integrator contract was awarded by MTA Metro-North Railroad and the MTA Long Island Rail Road to design PTC systems and to furnish PTC on-board kits and wayside kits. The 2015-2019 MTA Capital Program includes $94 million for MTA Metro-North Railroad for the continued funding of this project in the State. CDOT participation will supplement this funding to support PTC investments in Connecticut.

West of Hudson Signal Improvements - $21 million. Establishes cab signaling on the Port Jervis line.

Harlem Wayside Communication and Signal Improvements - $40 million. Installs express cable from Woodlawn to Southeast stations on the Harlem Line.

Other Communications and Signals projects - $11 million. The remainder of the communications and signals projects include Replace Signal Office Equipment/Supervisory Control and Data Acquisition ("SCADA") Office, PBX Replacement, Upgrade Grade Crossings, Replace High Cycle Relays and Fire Suppression Systems.

Shops and Yards.

Harmon Shop Improvements - $432 million. The Harmon shop replacement program consists of investments to support the fleet of electric and diesel hauled rail cars and provide improved productivity. This program funds the design-build of the new Running Repair and Support Shop facility that will complete the replacement of the functionally and physically obsolete existing facility. As a result of realized implementation efficiencies, a portion of the work previously planned was accelerated to the 2010-2014 MTA Capital Program. The 2010-2014 Capital Program phase is complete while the next phase, included in the 2015-2019 MTA Capital Program, is now underway.

Brewster Yard Improvements – Design - $4 million. The $4 million project will provide design services for the expansion of Brewster Yard. This yard, adjacent to Southeast station and at capacity, will need to be expanded in order to accommodate longer trains anticipated following the M-3 fleet replacement. Construction of the yard expansion will be programmed in a future capital program.

Other Improvements - $27 million. Other projects will include the Harmon Wheel True Facility and West of Hudson Yard Improvements, including environmental and design for a new midpoint yard and passing sidings on the Port Jervis Line to support West of Hudson service and ridership.

Small Business Mentoring – Shops & Yards - $8 million. The 2015-2019 MTA Capital Program includes an allocation of $10 million for shop and yard component investments in support of the above projects, to be undertaken as part of the SBDP.

Power.

Harlem/Hudson Power Rehabilitation - $15 million. This project will continue the multi-program phasing of component rehabilitation of MTA Metro-North Railroad's 49 substations.

Harlem/Hudson Power Improvements - $21 million. 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 future growth in ridership and service and to reduce equipment failures due to low voltage conditions. This project also includes funding to complete a new substation on the Upper Harlem Line.

Substation Replacements - $30 million. This project will design the replacement of three outdoor traction power substations that have exceeded their useful life at Pelham, Bronxville and Mount Vernon stations with MTA Metro-North Railroad's enclosed standard substation. This project will also construct at least two of the substations.

Park Avenue Tunnel Power Initiatives - $22 million. The new project combines already planned power investments into a single project which includes third rail component work, tunnel lighting and the tunnel alarm.

Harlem/Hudson Power at 86 St and 110 St - $10 million. This is a new project to complete power substation construction already ongoing. It addresses constructability issues which have delayed the overall project completion.

Miscellaneous. This category also includes MTA Metro-North Railroad's contribution of $26 million for a new, unified trash facility being constructed as part of the East Side Access project.

Finally, MTA Metro-North Railroad has included an allocation of $13 million in this category to support the MTA-wide EAM initiative.

In October 2017, $47.8 million was added to the MTA Metro-North Railroad capital program from CDOT for administrative assets. This money was added directly to existing projects across the MTA Metro-North Railroad 2015-2019 Capital Program. The breakout of this additional money from CDOT will be reflected in a future capital program amendment.

MTA Bus

The 2015-2019 MTA Capital Program of $376 million includes $263 million for bus purchases, $91 million for facility and equipment projects, and $22 million for program administration and engineering support. A total of 335 new buses will be ordered for the normal replacement of buses approaching the end of their useful lives. Also included are component repairs at five depots: Spring Creek, College Point, LaGuardia, Baisley Park, and JFK. The development and rollout of new technology systems such as on-board audio/visual information for customers, automated passenger counters, and a depot bus location system are also proposed. The proposed program also includes $35 million to support the development of a new bus radio system.

MTA Interagency. The total for the MTA Interagency Program budget is $243 million.

MTA Mentoring Program Administration - $57 million. As a part of the amendment, SBDP reserves at each of the agencies were transferred to MTA Interagency to create a new, centralized reserve for supporting the overall MTA SBDP program. $29 million came from MTA New York City Transit, $9 million from MTA Long Island Rail Road, $7 million from MTA Metro-North Railroad, $7 million from MTA Capital Construction and $6 million from MTA Bridges and Tunnels.

MTA Police Department - $39 million. MTA Police Department's 2015-2019 Capital Program includes projects to invest in facilities, vehicles and communications systems. $29 million of this supports the Public Safety Radio project which is ongoing and also funded in two other capital programs (the 2005-2009 Capital Program and the 2010-2014 Capital Program).

MTA Planning Initiatives - $145 million. The MTA Planning Initiatives budget includes funds for research and analysis to sustain various planning initiatives.

- Core Planning Support - $10 million.

- Corridor Planning Support - $10 million.

- Capital Program Support - $125 million.

As part of the May 31, 2018 CPRB approved amendment to the 2015-2019 Capital Program, the Urban Core Infrastructure Reserve of $80 million was transferred to the 2015-2019 Transit Core Program for use by MTA New York City Transit to support City sponsored station investments.

MTA Network Expansion.

The total Network Expansion budget is $7.652 billion, allocated to East Side Access, Penn Station Access, Second Avenue Subway Phase Two, the MTA Long Island Rail Road Mainline Expansion Project, Regional Investments and program support.

<u>East Side Access - $2.710 billion</u>. The 2015-2019 MTA Capital Program continues the construction of the East Side Access project to enable revenue service by December 2022. Elements of project management, design, construction management, and insurance necessary to support construction, as well as support to testing and commissioning are also funded.

The scope of the East Side Access project remains substantially unchanged. Funds totaling $10.178 billion have been allocated in the MTA's 1995-1999, 2000-2004, 2005-2009, 2010-2014 and 2015-2019 Capital Programs. Some scope and associated budgets were transferred from the 2015-2019 program to the 2010-2014 program as a part of the July 2017 amendments to those programs. These transfers did not change the current $10.178 billion East Side Access budget. However, based upon a recently completed review of the East Side Access project, the estimated cost to complete the project exceeded the $10.178 billion budget by $955 million. This estimated cost increase required funding from the 2015-2019 Capital Program and the proposed 2020-2024 Capital Program. The amendment to the 2015-2019 Capital Program, approved by the MTA Board on April 25, 2018, addressed the 2015-2019 Capital Program cost increases of $157 million, which amount was transferred from the Regional Investments program (sources were from both the 2010-2014 Capital Program and the 2015-2019 Capital Program). The expected revenue service date for the East Side Access project remains December 2022.

<u>MTA Long Island Rail Road Mainline Expansion Project - $2.050 billion</u>. This project, which will be managed and delivered by MTA Capital Construction, will construct a third track on MTA Long Island Rail Road's main line between Floral Park and Hicksville. Station work, right of way work and grade crossings are some of the scope included in this project. The design-build award was approved by the MTA Board in December 2017. Additional project support is expected to be included in the anticipated 2020-2024 Capital Program.

<u>Second Avenue Subway, Phase Two - $1.735 billion</u>. Implementation of the full Second Avenue Subway Phase Two will span several capital programs. The project includes the following: Preliminary Engineering, Design and Environmental Studies - $135 million; Construction Management, Project Support and Real Estate - $130 million; and Early Construction and project reserves - $1,470 million.

<u>Penn Station Access - $695 million</u>. The 2015-2019 MTA Capital Program includes design and construction of infrastructure and completion of specifications for rolling stock to operate MTA Metro-North Railroad service on the New Haven Line into Penn Station via Amtrak's Hell Gate Line.

<u>Regional Investments - $203 million</u>. The 2015-2019 MTA Capital Program includes a new program-wide contingency established from project deferrals to support ongoing and upcoming work of $153 million and the East Bound Re-route of $9 million. Additional money will be required in the proposed 2020-2024 Capital Program to continue Regional Investments. As part of the April 2018 amendment, a portion of the budget was transferred to East Side Access to address needs in that project. Needs for Regional Investments will be addressed in future capital programs starting with the proposed 2020-2024 Capital Program.

<u>East Side Access Risk Reserve - $131 million</u>. The 2015-2019 MTA Capital Program includes an executive reserve established outside of the East Side Access program as a risk contingency of $131 million.

Miscellaneous - $129 million. The 2015-2019 MTA Capital Program includes $83 million for miscellaneous functions, including $99 million to provide MTA Capital Construction with administrative and independent engineering services throughout the 2015-2019 Capital Program period. $29 million is also included as a reserve to support Second Avenue Subway Phase One.

MTA Bridges and Tunnels

2015-2019 MTA Bridges and Tunnels Capital Program. This investment program provides for $2.936 billion in capital commitments, which is expected to be financed with MTA Bridges and Tunnels bonds and PAYGO.

Category of Project	2015-2019 Capital Program (in millions)
Structures	$ 753
Roadways & Decks	859
Toll Plazas & Traffic Mgmt.	622
Utilities	436
Buildings & Sites	41
Miscellaneous	65
Structural Painting	160
Total*	$2,936

* As of April 25, 2018. The total may not add due to rounding.

Among the major projects included are the following:

- *Throgs Neck Bridge - $315 million*. Replacement of the suspended span deck with a new deck including upgrade of the lighting system to energy-efficient LED luminaries and installation of a dry fire standpipe system;

- *Verrazzano-Narrows Bridge ("VNB") - $250 million*. Rehabilitation of the upper level approach ramps to and from the VNB on Staten Island and Brooklyn. Phase I includes Staten Island upper level approach, Lily Pond Avenue exit ramp, Staten Island and Brooklyn upper level anchorage spans, Brooklyn upper level westbound approach;

- *Robert F. Kennedy Bridge - $135 million*. Design-build construction of a new Harlem River Drive ramp directly connecting the RFK Harlem River lift span with the northbound Hudson River Drive; miscellaneous structural rehabilitation and structural painting of the structures, facility-wide;

- *Hugh L. Carey Tunnel - $88 million*. Design-build rehabilitation of the tunnel ventilation systems;

- *Henry Hudson Bridge - $211 million*. Design-build rehabilitation and retrofit of the concrete skewbacks which support the bridge arch, replacement of the concrete pedestals which support the bridge approach structures and lower level north abutment pilaster (construction underway); replacement of the upper and lower level toll plaza structure and the lower level approach structure including roadway lighting (construction underway);

- *Rockaway Facilities - $66 million*. Design-build repair/replacement of the pier fender systems at Cross Bay and Marine Parkway bridges;

- *Queens Midtown Tunnel - $39 million*. Design-build rehabilitation of the tunnel controls and communication systems; and

- *Cashless Tolling - $502 million*. Transition all MTA Bridges and Tunnels toll operations to a cashless open road tolling system. This project achieved beneficial use in 2017.

While maintaining the overall investment strategy for the completion of critical project work, the 2015-2019 MTA Bridges and Tunnels Capital Program also completed initiatives under the New York Crossings Project ("NYCP"), a transformational plan to improve the overall customer experience at all MTA Bridges and Tunnels crossings. In October 2016, Governor Cuomo announced the project, which, included an aggressive one-year schedule for implementing open road, cashless tolling at all MTA Bridges and Tunnels crossings, enabling a free flow of traffic through overhead gantries with vehicle classification, license plate image cameras and E-ZPass sensors. For vehicles without an E-ZPass, a "Tolls by Mail" invoice is sent to the vehicle's registered owner. Cashless Tolling reduces customer travel time and idle time, thus saving energy and lowering carbon emissions. The NYCP schedule included an accelerated 2016 roll-out of cashless tolling at the Henry Hudson Bridge, with remaining MTA Bridges and Tunnels crossings completed in 2017. See "RIDERSHIP AND FACILITIES USE – Cashless Open Road Tolling ("Cashless Tolling")" in Part 5.

Design and construction of the new toll collection systems and toll plaza reconfigurations at all seven bridges and two tunnels was completed within the program. In addition to implementation of Cashless Tolling, the 2015-2019 MTA Bridges and Tunnels Capital Program includes major structural projects to ensure state of good repair, meet current codes, and enhance customer safety.

- The funding for the NYCP work to be carried out in the 2015-2019 MTA Bridges and Tunnels Capital Program is in the amount of $501.7 million. The approved May 2017 amendment to the 2015-2019 MTA Bridges and Tunnels Capital Program is a result of a review and reprioritization of agency needs and adjusted the 2015-2019 MTA Bridges and Tunnels Capital Program to reflect the inclusion of new, high priority initiatives principally related to the implementation of Cashless Tolling.

- The approved amendment increased the 2015-2019 MTA Bridges and Tunnels Capital Program by a net $84 million, consisting of $90 million transferred from the 2010-2014 Capital Program to support Cashless Tolling and $6 million moved to the MTA Interagency portion of the 2015-2019 Capital Program to consolidate administrative costs of the MTA Mentoring Program.

2010-2014 Capital Program

The MTA Board, at its meeting on September 23, 2009, reviewed and authorized for submission to the CPRB a five-year Proposed MTA Capital Program (the "Proposed 2010-2014 Capital Program") for the Transit and Commuter Systems for the 2010-2014 period, totaling approximately $25.6 billion. The Proposed 2010-2014 Capital Program was submitted to the CPRB for its review in October 2009, as required by law and was vetoed without prejudice by the CPRB on December 30, 2009, allowing the Legislature to review funding issues in their 2010 session.

On September 23, 2009, the Board of MTA Bridges and Tunnels approved a Capital Program for the 2010-2014 period that provided for commitments of approximately $2.508 billion designed to keep its facilities in good operating condition. At its April 28, 2010 meeting, the MTA Board reviewed and authorized a revised five-year Capital Program for 2010-2014 for MTA Bridges and Tunnels totaling $2.452 billion. This revised 2010-2014 MTA Bridges and Tunnels Capital Program represented a substantial increase over the $1.2 billion in the prior 2005-2009 MTA Bridges and Tunnels Capital Program.

At its April 28, 2010 meeting, the MTA Board reviewed and authorized a resubmission of the five-year Proposed 2010-2014 Capital Program for the Transit and Commuter Systems (the "Revised Proposed 2010-2014 Capital Program") totaling approximately $23.8 billion, which was $1.8 billion less than the Proposed 2010-2014 Capital Program submitted to the CPRB in October 2009. The Revised Proposed 2010-2014 Capital Program was subsequently submitted to the CPRB for its approval and was deemed approved by the CPRB on June 1, 2010 (as subsequently amended and revised, the "2010-2014 Capital Program"). Included in the 2010-2014 Capital Program, as initially approved, was approximately $18.1 billion for core investments for the ongoing replacement needs of the existing Transit System and Commuter System and MTA Bus. Also included in the 2010-2014 Capital Program was $5.7 billion to finance a portion of the costs of the East Side Access and the Second Avenue Subway projects. The 2010-2014 Capital Program included $13.9 billion of identified funding — including $6.0 billion of new bonding authorized by the May 2009 State legislation providing for the Payroll Mobility Tax and other additional revenues — leaving a $9.9 billion funding gap. The new bonding, in combination with other identified revenues, provided for two years of program funding.

2010-2014 Capital Program Amendments

On December 21, 2011, the MTA Board approved an amendment to the 2010-2014 Capital Program addressing funding needs for the last three years of the program of projects through a combination of efficiency improvements and real estate initiatives, participation by funding partners and innovative and pragmatic financing arrangements. As part of a commitment to continually review the program to identify savings, this amendment provided for a reduction of the program's costs by another $2 billion by applying a variety of further initiatives to be rolled out over the last three years of the program, with the expectation that such savings would be achieved without eliminating any of the benefits of the projects in the five-year program approved in June 2010. The efficiencies include eliminating 15% of capital program administrative staff, improving productivity of work along the right-of-way, maximizing component replacement over full-asset renewal or replacement and reviewing every project as it moves into implementation through the Gates Review Process, an MTA process designed to ensure that projects are designed for the least cost to deliver the intended benefit. The revised program for the Transit and Commuter Systems provided for $22.195 billion in capital expenditures: $11.649 billion for the core projects for the Transit System operated by MTA New York City Transit and MaBSTOA and the rail system operated by MTA Staten Island Railway; $3.860 billion for the core projects for the Commuter System operated by MTA Long Island Rail Road and MTA Metro-North Railroad; $5.739 billion for the expansion of existing rail networks for both the Transit and Commuter Systems to be managed by MTA Capital Construction; $0.335 billion for the security program including MTA Police Department, $0.315 billion for MTA Interagency Program, and $0.297 billion for MTA Bus initiatives. On March 27, 2012, the amended 2010-2014 Capital Program was approved by the CPRB as submitted.

On December 19, 2012, the MTA Board approved an additional amendment to the 2010-2014 Capital Program to add projects for the repair and restoration of MTA agency assets damaged as a result of Superstorm Sandy, which struck the region on October 29, 2012. The amended program provides for additional $3.977 billion in Superstorm Sandy recovery-related capital expenditures. On January 22, 2013, the amended program was deemed approved by the CPRB as submitted. On July 24, 2013, the MTA Board approved a further amendment to the 2010-2014 Capital Program for the Transit and Commuter systems to include specific revisions to planned projects and to include new resilience/mitigation initiatives, totaling $5.674 billion in response to Superstorm Sandy. On August 26, 2013, the CPRB deemed approved the amended 2010-2014 Capital Program for the Transit and Commuter systems as submitted. On July 28, 2014, the MTA Board approved a further amendment to the 2010-2014 Capital Program for the Transit and Commuter systems to include specific revisions to planned projects in the Sandy recovery and mitigation programs and the Transit Core Program. These amendments did not modify the overall program budget. On September 3, 2014, the CPRB deemed approved the amended 2010-2014 Capital Program for the Transit and Commuter systems as submitted.

On December 21, 2011, the MTA Board reviewed and authorized an amended 2010-2014 Capital Program for MTA Bridges and Tunnels totaling $2.079 billion. This revised 2010-2014 Capital Program for MTA Bridges and Tunnels represented a $0.374 billion decrease to the previously approved plan in line with the MTA-wide initiative described above. On December 19, 2012, the MTA Board approved an amendment to the 2010-2014 Capital Program for MTA Bridges and Tunnels, adding $0.778 billion for the repair and restoration of assets damaged as a result of Superstorm Sandy. On July 24, 2013, the MTA Board approved a further amendment to the 2010-2014 Capital Program for MTA Bridges and Tunnels, adding $0.096 billion for new storm-related resilience/mitigation initiatives. On July 28, 2014, the MTA Board approved a further amendment to the 2010-2014 Capital Program for MTA Bridges and Tunnels to include specific revisions to planned projects in the Superstorm Sandy repair program. These revisions did not modify the overall program budget. On May 24, 2017, the MTA Board approved the latest modification to the 2010-2014 Capital Program for MTA Bridges and Tunnels. The amendment decreased the overall program by $0.108 billion from $0.874 billion to $0.766 billion. The repair and restoration allocation decreased by $0.157 billion from $0.778 billion to $0.621 billion and released reserves following actual commitments and revised estimates to complete ongoing and remaining work. The amendment also reprogrammed $0.049 billion from the repair and restoration allocation for resiliency and mitigation measures. This modified the resiliency and mitigation allocation from $0.096 billion to $0.145 billion to address climate-related vulnerabilities.

On May 24, 2017, the MTA Board approved an additional amendment to the 2010-2014 Capital Program providing for a reduction of funding related to Superstorm Sandy-related restoration of $2.959 billion, consisting of a reduction in restoration by $183 million and mitigation by $2.777 billion, reflecting the reduced availability of funding. The amendment was designed to align overall budget allocations with essential project needs and funding and to prioritize needs and update the timing and costs of projects. The amended Superstorm Sandy program provides full funding for all priority needs in such program. MTA has also established $240 million of programmatic Superstorm Sandy restoration reserves for MTA New York City Transit ($194 million), MTA Metro-North Railroad ($24 million) and MTA Long Island Rail Road ($22 million) to support ongoing and future restoration projects. Partially offsetting these reductions is a $3 million increase in the security portion of the program.

As a part of the May 24, 2017 amendment, select budget allocations for the East Side Access project, Regional Investments and East Side Access rolling stock, which are all common to both the 2015-2019 Capital Program and 2010-2014 Capital Program, discussed above under "–Approved 2015-2019 Capital Program", were administratively transferred to the 2010-2014 Capital Program. Such transfers consolidated the budgets for rolling stock, the East Side Access management reserve and select Regional Investment and Harold Interlocking budgets to re-organize projects to increase transparency and improve budget management. The overall multi-capital program budgets for the East Side Access project (at the time $10.178 billion) and Regional Investments (at the time $758 million) remained unchanged. The resulting $464 million increase to the 2010-2014 MTA Capital Construction network expansion program was supported by surpluses identified in the 2010-2014 Capital Program and other MTA capital programs.

The approved amendment transferred $90 million from the 2010-2014 Capital Program to the 2015-2019 Capital Program to support Cashless Tolling projects at MTA Bridges and Tunnels facilities. The reduction to the 2010-2014 Capital Program included $32 million that had been added in the previous amendment, and results in a net reduction of $61 million in MTA Bridges and Tunnels core program (from $2.078 billion to $2.018 billion).

Updates were made to project timing and cost estimates within the core and network expansion programs to reflect current assumptions and prioritizations. As a result of the amendment, numerous elements are more than 10% over budgeted elements that had been previously approved by CPRB.

The amendment decreased the 2010-2014 Capital Program funding by $2.780 billion to $32.021 billion, primarily to align the budgets related to Superstorm Sandy with reduced funding assumptions. The remaining federal, insurance and MTA local funds fully support each MTA agency's highest repair and resiliency priorities. The proposed funding plan also reflects the administrative transfer of funding between approved capital programs - particularly New Starts and MTA local funding for the East Side Access project and Second Avenue Subway - to match actual/planned fund source usage by program. The amendment also transfers available MTA local funds from prior capital programs to support the East Side Access project, Regional Investment, the East Side Access project Rolling Stock Reserve and various core agency projects. The remaining adjustments reconcile the funding plan with actual receipts of funds.

The previously discussed amendment required the approval of the CPRB. MTA initially submitted the amendment to the CPRB for approval on May 31, 2017. The amendment was approved by the CPRB on July 31, 2017.

At its April 25, 2018, meeting, the MTA Board revised the 2015-2019 MTA Bridges and Tunnels Capital Program, in part, by transferring $4.14 million to the 2010-2014 MTA Bridges and Tunnels Capital Program. Such amendment does not require CPRB approval. The increase in the 2010-2014 MTA Bridges and Tunnels Capital Program is meant to address several projects' updated cost estimates at completion as the remaining ongoing projects in the 2010-2014 MTA Bridges and Tunnels Capital Program approach completion.

General. The amended 2010-2014 Capital Program (as approved by the CPRB on July 31, 2017, and as further amended with respect to the 2010-2014 MTA Bridges and Tunnels Capital Program portion by the MTA Board on April 25, 2018), in the amount of $32.025 billion, consists of the following components:

- Transit Core Program;
- Commuter Core Program;
- MTA Bus Capital Program;
- MTA Capital Construction Program (the Network Expansion Program);
- MTA-Wide Security/Disaster Recovery Program (including Bridges and Tunnels);
- MTA Interagency Program; and
- Bridges and Tunnels Program.

Funding. The combined funding sources for the last MTA Board approved 2010-2014 Capital Program includes $11.483 billion in MTA Bonds, $2.025 billion in MTA Bridges and Tunnels Bonds, $7.594 billion in federal funds, $0.132 billion in MTA Bus Federal and City Match, $0.719 billion from the City, $2.092 billion from other sources (including $0.250 billion from disposition of real estate assets) and $0.770 billion in state assistance.

The 2010-2014 Capital Program funding strategy for Superstorm Sandy repair, restoration and resiliency initiatives assumes $6.329 billion in insurance and federal reimbursement proceeds (including interim borrowing by MTA to cover delays in the receipt of such proceeds), $0.234 billion in pay-as-you-go capital, supplemented, to the extent necessary, by external borrowing of up to $0.988 billion in additional MTA and MTA Bridges and Tunnels bonds. Given the 2010-2014 Capital Program's predominant reliance on federal governmental programs as the funding source for Superstorm Sandy mitigation efforts, MTA's ability to carry out specific Superstorm Sandy initiatives will depend upon the future award of federal grants to provide funding for proposed repair, restoration and resiliency projects.

	2010-2014 Capital Program Amount (in millions)
Federal Formula, Flexible, Misc.	$ 5,853
Federal Security	189
Federal High Speed Rail	295
Federal New Start	1,257
City	719
MTA Bus Federal and City Match	132
State Assistance	770
MTA Bonds (not including MTA Bridges and Tunnels)	11,483
Other	1,322
MTA Bridges and Tunnels	2,022
Superstorm Sandy Recovery Funds	
• Federal Reimbursement/Insurance Proceeds*	6,329
• Pay-as-you-go capital	234
• MTA Bonds (including MTA Bridges and Tunnels)	988
Total†	$31,597

* Subject to future federal appropriation and guidance.
† As of December 31, 2018.

The following table shows, for each of the agencies or programs in the 2010-2014 Capital Program, the totals and the amounts committed, expended and completed:

As of December 31, 2018 (in billions)

Agency	Total	Committed	Expended	Completed
MTA New York City Transit, MaBSTOA and MTA Staten Island Railway	$11.365	$11.110	$9.531	$7.743
MTA Metro-North Railroad and MTA Long Island Rail Road	3.882	3.698	3.009	1.605
MTA Capital Construction	5.920	5.180	4.712	2.851
MTA Bus	0.297	0.267	0.217	0.181
MTA Bridges and Tunnels	2.022	1.962	1.830	1.896
MTA-Wide Security Program	0.337	0.231	0.168	0.142
MTA-Wide Superstorm Sandy Recovery/Resilience/Mitigation Program	7.551	5.187	2.854	1.870
MTA Interagency Program	0.223	0.198	0.180	0.154

2010-2014 Transit Core Program. The following table represents the capital program by category of work for the Transit System and MTA Staten Island Railway under the 2010-2014 Transit Core Capital Program.

MTA New York City Transit	2010-2014 Transit Core Program (in millions)
Subway Cars	$ 1,028
Buses	1,405
Passenger Stations	2,295
Track	1,487
Line Equipment	285
Line Structures	438
Signals & Communications	2,666
Power	165
Shops & Yards	219
Depots	448
Service Vehicles	129
Miscellaneous	702
MTA Staten Island Railway	96
Total*	$11,365

* As of December 31, 2018. The total may not add due to rounding.

Among the projects included in the 2010-2014 Transit Core Program are the following:

Subway Cars. For rolling stock, the 2010-2014 Transit Capital Program includes purchase of 300 railcars for the B Division which are expected to replace R-32 and R-42 cars and 103 fleet expansion railcars for the A Division to accommodate service growth on the Flushing and Broadway/7th Avenue lines, including growth to provide service on the "7 West" extension of the Flushing line.

Buses. The bus category includes 1,127 standard buses, 649 articulated buses, and 390 express buses for a total of 2,166 vehicles. Also included is the purchase of 237 new paratransit vehicles. Additionally, the bus category includes the addition of a project for an automated wireless announcement system to be pilot tested and then fully implemented with future bus purchases. This On-Board Audio Visual system will provide bus passengers with planned and real-time service alerts.

Passenger Stations and Track. The 2010-2014 Transit Capital Program funds the rehabilitation of one station, the renewal of 38 others, normal replacement investment at the Dyckman Station and numerous defective station component repairs. ADA accessibility is being added at 12 stations. The program provides for the replacement of approximately 57 miles of mainline track, eight track miles of welded rail, and 126 mainline switches. Also included is the replacement of 18 miles of incandescent lighting with brighter, more energy-efficient compact fluorescent lighting in tunnels, two new fan plants, and the rehabilitation of eight pump rooms.

Line Structures. The 2010-2014 Transit Capital Program's line structures investments include Phase One of subway structural repairs on the 4th Avenue line in Brooklyn, repairs on 15 route miles of structures, and overcoat painting of 18.5 miles of elevated structures. Also included are rehabilitation of 125 emergency exits throughout the subway system, flooding alleviation at one location in Manhattan, and the demolition of abandoned structures.

Signals and Communications. The 2010-2014 Transit Capital Program's major improvements for signals feature complete rehabilitation of conventional signals and two interlockings on the Dyre Avenue line, modernization of six interlockings, system-wide replacement of degraded signal cable, and other similar projects. MTA continues its implementation of CBTC on the Flushing line and anticipates completion in 2018. Communications projects include the implementation of new technologies to display real-time train arrival information in B Division stations, the first phase of Help Point installations, replacement of the subway's VHF radio system and portable radio units, upgrades to the network backbone cable infrastructure, and improvements to communication rooms.

Power. The power category includes full modernization of one substation in Brooklyn, which was part of the original IND System, and initial cable work at the Central Substation in midtown Manhattan, repair or replacement of deficient roofs and enclosures at 10 substations and the rehabilitation of 38 hatchways. Also included are projects providing for the rehabilitation of seven circuit breaker houses, replacement of traction power cables on the 4th Avenue Line and cables plus ducts on the Lenox Avenue Line, and replacement of emergency alarm units at selected locations.

Shops and Yards. For shops, investments include upgrades to the electrical system and heating plant at the 207th Street Overhaul Shop, an upgrade to the DC power system at the 207th Street Maintenance Shop, improvements to the ventilation system at the East New York Maintenance Shop, and rehabilitation of component defects at various railcar shops. Investments at yards include replacement of yard track and switches, replacement of yard lighting fixtures at two locations, and installation of closed circuit television systems at various yards.

Depots. The major depot projects include priority repairs at various bus facilities, replacement of the bus radio system, expansion of the Select Bus Service program, and replacements of depot components such as bus washers at various locations.

MTA Staten Island Railway. For MTA Staten Island Railway, the 2010-2014 Transit Capital Program includes construction of a new station at Arthur Kill and station component repairs at eight stations. Other projects include rehabilitation of eight bridges and one culvert, the first phase of the St. George terminal track and switch modernization, and a new substation at Prince's Bay.

2010-2014 Commuter Core Program. This investment program supports the commuter rail agencies' ongoing commitment to maintaining and enhancing mobility, economic health, and quality of life in the region. Also subject to the efficiencies efforts described above, the 2010-2014 Commuter Core Program includes investments in the state of good repair of its most essential components ─ rolling stock, stations, track, communications/signals, power, shops and yards, and bridges/viaducts. In addition, there are select service improvements, including customer benefits like delivery of real-time train information to all MTA Metro-North Railroad stations east of the Hudson River in New York territory.

MTA Long Island Rail Road	2010-2014 Commuter Core Program (in millions)
Rolling Stock	$ 405
Passenger Stations	107
Track	873
Line Structures	133
Communications & Signals	401
Shops & Yards	123
Power	151
Miscellaneous	167
Total*	$2,360

* As of December 31, 2018. The total may not add due to rounding.

MTA Metro-North Railroad	2010-2014 Commuter Core Program (in millions)
Rolling Stock	$ 245
Passenger Stations	183
Track & Structures	290
Communications & Signals	301
Power	117
Shops & Yards	322
Miscellaneous	84
Total*	$1,542

* As of December 31, 2018. The total may not add due to rounding.

Among the projects included in the 2010-2014 Commuter Core Program are the following:

Rolling Stock. The rolling stock investment for MTA Long Island Rail Road electric fleet in the 2010-2014 Capital Program includes the replacement of approximately 92 multiple unit electric cars. MTA Metro-North Railroad investments in this area include completing the purchase of the initial M-8 multiple unit electric cars to modernize the fleet used for New Haven Line service.

Passenger Stations. Station investments for MTA Long Island Rail Road include replacement of station platforms in Massapequa and Wantagh, and replacement of elevators at Woodside and Rockville Centre stations. Also included are the construction of the new Wyandanch parking facility and air conditioning enhancements at Penn Station. MTA Metro-North Railroad activities in this category include continued component investments at Grand Central Terminal, improvements to customer communications to provide real-time information at East of Hudson stations, component-based renewal work at East of Hudson stations, and new strategic intermodal facility development.

Track and Structures. For MTA Long Island Rail Road, the ongoing track improvements in the 2010-2014 Capital Program include continuation of annual system-wide track investments, replacement of deteriorated track structure on the Atlantic Branch, replacement of track system on the Babylon Branch viaduct, improvement of system-wide right-of-way, and implementation of the first phase of Jamaica infrastructure work to improve capacity. Also included are the full design and Phase One construction of a second track between Farmingdale and Ronkonkoma, and the construction of pocket tracks for train storage capacity at Great Neck and Massapequa. MTA Long Island Rail Road investments in line structures include completion of the Atlantic Avenue Viaduct rehabilitation and rehabilitation or replacement of railroad bridges at priority locations. The MTA Metro-North Railroad track and structures category includes continued investment in the cyclical track program, replacement of track switches system-wide, replacement/repair of approximately 10 East of Hudson undergrade bridges, and continuation of the cyclical track program on the West of Hudson lines.

Communications and Signals. MTA Long Island Rail Road's communications and signal investments include implementation of legislatively-mandated Positive Train Control, installation of a signal system from Speonk to Montauk, system-wide replacement of signal components based on condition, and investments in support of future Centralized Train Control. MTA Metro-North Railroad's investments in communications and signals include implementation of legislatively-mandated Positive Train Control, installation of West of Hudson signal improvements on the Port Jervis Line, and replacement of critical components (fiber, cables, track relays, radios).

Shops and Yards. In the 2010-2014 Commuter Capital Program, MTA Long Island Rail Road's investments in shops and yards include building a new Mid-Suffolk Electric Yard for train storage needs on the Main Line in central Suffolk County and reconfiguration of the Port Washington Yard to expand storage capacity. MTA Metro-North Railroad's investments in shops and yards include initiating the replacement of the Harmon Shop electric repair facility, as well as the repair and rehabilitation of select components in shops and yards system-wide.

Power. MTA Long Island Rail Road's power category includes replacement of traction power substations, and replacement and upgrade of third rail system components. MTA Metro-North Railroad's power category includes continued power improvements and component replacement on the Harlem and Hudson Lines, replacement of critical power infrastructure in Mount Vernon, and replacement of the breaker houses at the Harlem River Lift Bridge.

Miscellaneous. For miscellaneous purposes, the 2010-2014 MTA Commuter Capital Program includes various program administrative costs (including program contingency) and environmental remediation.

2010-2014 MTA Bus Program. The primary focus of MTA Bus' $297 million 2010-2014 Capital Program is meeting the needs of the bus fleet and depots, the core of its service. The 2010-2014 Capital Program includes the purchase of 288 new buses consisting of 75 articulated buses and 213 standard buses. The agency is also continuing the process of providing real-time customer information for its routes.

2010-2014 MTA Network Expansion Projects. The $5.920 billion 2010-2014 Capital Program includes funding for Phase One of the Second Avenue Subway, the East Side Access Project, and Regional Investments to support the East Side Access Project improvements and to enhance travel quality. See "MTA CAPITAL CONSTRUCTION COMPANY" for a more detailed discussion of the Second Avenue Subway Project and the East Side Access Project. For further information, see below under "– 2005-2009 MTA Network Expansion Projects." As a part of the July 2017 capital program amendment, $464 million of related scope in East Side Access and Regional Investments were administratively transferred from the 2015-2019 program to the 2010-2014 program with no change to the overall, multi-capital program budgets of East Side Access and Regional Investments. The largest transfers were for rolling stock reserves that were consolidated in the 2010-2014 program so that all budgets related to the future MTA Long Island Rail Road growth fleet for East Side Access (the M9A fleet) are now assembled in the 2010-2014 Capital Program. The M9A fleet is scheduled for award later in 2019. The base order is funded in the 2010-2014 Capital Program. Up to 160 cars will be purchased by East Side Access and Regional Investments with the base and a future option.

2010-2014 MTA-Wide Security/Disaster Recovery Program. In the wake of the September 11, 2001 attacks, MTA initiated a comprehensive security review of its infrastructure. Security experts defined critical vulnerabilities and better strategies to protect people and infrastructure. Capital investments included hardening 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 and 2005-2009 Capital Programs. The 2010-2014 Capital Program continues this commitment.

The December 2012 amendment to the 2010-2014 Capital Program added $4.755 billion to repair and restore MTA assets damaged by Superstorm Sandy. Projects span all MTA agencies and include restoration of the subway Rockaway Line and South Ferry Station and restoration of the Hugh L. Carey Tunnel and Queens Midtown Tunnel. Other projects restore damaged infrastructure at a variety of locations, including communications and signals systems, power systems, line structures, yards, and depots. The July 22, 2013 amendment added $5.770 billion in resilience/mitigation projects across all agencies. These projects are meant to harden the system against future storms or other catastrophic damage. A subsequent "letter" amendment to the program in July 2014 re-allocated several Superstorm Sandy project budgets with no net change to the disaster recovery budgets. In the July 2017 amendment, the overall budget for MTA-Wide Security and Disaster recovery was reduced from $10.859 billion to $7.902 billion. This was primarily done to reflect the availability of funding for the Superstorm Sandy recovery program. The core program now has $3.951 billion for repair and $2.848 billion for mitigation. The MTA Bridges and Tunnels Capital Program now has $621 million for repair and $145 million for mitigation. As a part of this reduction, projects were adjusted to reflect updated cost and schedule assumptions. All critical projects, such as repair of subway tubes, remain unaffected by the amendments to the 2010-2014 Capital Project. For example, budgets were preserved for all nine subway tubes damaged by Sandy as well as the MTA Long Island Rail Road's East River Tunnels. In addition, yards vulnerable to coastal flooding continue to have budgets supporting mitigation measures. These include 207th Street Yards, Coney Island Yard and 148th Street Yard. All three of these assets had contracts awarded in 2018.

2010-2014 Interagency Program. The MTA Interagency section of the 2010-2014 Capital Program includes several categories of investment related to the MTA Business Service Center initiative and other facilities, a small business development program, and planning studies to support MTA's Capital Program.

2010-2014 MTA Bridges and Tunnels Capital Program. Following the April 25, 2018, amendments approved by the MTA Board, this investment program provides for $2.022 billion in capital commitments, which is expected to be financed with MTA Bridges and Tunnels bonds.

Category of Project	2010-2014 Capital Program (in millions)
Structures	$ 414
Roadways & Decks	1,160
Toll Plazas & Traffic Mgmt.	27
Utilities	200
Buildings & Sites	13
Miscellaneous	37
Structural Painting	171
Total*	$2,022

* As of December 31, 2018. The total may not add due to rounding.

All but one of the major projects included in the currently approved 2010-2014 MTA Bridges and Tunnels Capital Program have been completed including: rehabilitation of tunnel walls, ceiling and fireline system, and replacement of electrical equipment in the Hugh L. Carey Tunnel (formerly the Brooklyn Battery Tunnel)*; rehabilitation of tunnel walls, ceiling and fireline system, and replacement of electrical equipment in the Queens Midtown Tunnel; replacement of the Queens approach to the Bronx Whitestone Bridge; Phase One construction in connection with the replacement of the upper and lower level toll plaza structure, the lower level approach structure, and the upper level curb stringers supporting the roadway and sidewalk at the Henry Hudson Bridge; replacement of the Bronx toll plaza deck and rehabilitation of the superstructure steel and substructure, rehabilitation of Manhattan approach ramps, repair of Manhattan toll plaza decks, and structural painting at the Robert F. Kennedy Bridge; replacement of the upper level suspended span decks, construction of a new bus/HOV lane and ramp connecting to the Gowanus Expressway, structural painting, west bound Belt Parkway connector ramp improvements at the Verrazzano-Narrows Bridge; and rehabilitation of the Marine Parkway Bridge lift span's electrical, mechanical and controls systems.

The remaining major project included in the currently approved 2010-2014 MTA Bridges and Tunnels Capital Program, the upgrade of the ventilation building electrical system at the Queens Midtown Tunnel, will be completed in 2019.

* These projects' contracts include work performed and funded under the MTA Bridges and Tunnels 2010-2014 Sandy Capital Restoration Program for staging and coordination efficiencies with the state of good repair work that is not included in the $2,022 million MTA Bridges and Tunnels 2010-2014 Capital Program.

1992-2009 Transit Capital Programs Objectives

Highlights of the investments funded in the 1992-2009 Transit Capital Programs include the purchase or remanufacture of 5,865 buses; the purchase of 1,387 new paratransit vehicles; the purchase of 1,025 subway cars; rehabilitation and upgrade of 122 subway stations and three subway station complexes, including the addition of elevators and escalators at several of these stations to make them accessible for the elderly and disabled; construction of a Rail Control Center; modernization of signal systems on six subway lines and the Williamsburg Bridge; development of CBTC; construction of two bus maintenance facilities and reconstruction and maintenance at several other facilities; new cranes at the 207th Street Overhaul Shop and rehabilitation of the 38th Street Yard Shop; and the completion of the 63rd Street connector project designed to significantly relieve overcrowding on the Queens Boulevard line. The 1992-2004 Transit Capital Programs also included investments to modernize the MTA New York City Transit's electrical power system, reconstruct the Franklin Avenue shuttle, reconstruct a section of the Lenox Avenue Line, and replace signals and repair bridges on the MTA Staten Island Railway.

The projects included in the 1992-1999 Transit Capital Program have been substantially completed. As of December 31, 2018, $10.415 billion of the $10.427 billion for MTA New York City Transit, MaBSTOA and MTA Staten Island Railway projects included in the 2000-2004 Transit Capital Program have been committed, $10.327 billion have been expended and $10.341 billion of projects have been completed, and $11.442 billion of the $11.516 billion for MTA New York City Transit, MaBSTOA and MTA Staten Island Railway projects included in the 2005-2009 Transit Capital Program have been committed, $11.218 billion have been expended and $10.756 billion of projects have been completed.

1992-2009 Commuter Capital Programs Objectives

Highlights of key investments funded under the 1992-2009 Commuter Capital Programs for MTA Long Island Rail Road included replacement of MTA Long Island Rail Road's diesel fleet of coaches and locomotives, the purchase of electric cars to replace a portion of its electric fleet, completion of normal life cycle replacement of M-1 electric cars, conversion of diesel territory station platforms to high level platforms, extension of platform 11 at Penn Station, start of preliminary engineering for the Network Expansion project East Side Access, and rehabilitation of stations system-wide, including installation of additional ticket vending machines and elevator replacement and upgrades. MTA Metro-North Railroad's key investments included the purchase of diesel coaches and dual-mode locomotives for replacement of a portion of its electric fleet, purchase of new electric cars as part of its continued fleet modernization, extensive infrastructure renovations at Grand Central Terminal, station and platform improvements, installation of concrete ties, construction of a third track on the Mid-Harlem line, and the extension of service from Dover Plains to Wassaic.

The projects included in the 1992-1999 Commuter Capital Program and 2000-2004 Commuter Capital Program have been substantially completed. As of December 31, 2018, $3.689 billion for Commuter System projects of the $3.716 billion of projects included in the 2005-2009 Commuter Capital Program have been committed, $3.628 billion have been expended and $3.067 billion of projects have been completed. The 2000-2004 Commuter Capital Program included a Commuter Rail Rolling Stock allocation separately budgeted from the MTA Long Island Rail Road and the MTA Metro-North Railroad.

2005-2009 MTA Network Expansion Objectives

MTA Capital Construction's 2005-2009 Capital Program included the start of construction of East Side Access, the Second Avenue Subway and the No. 7 subway line extension.

The total approved budget in the 2005-2009 MTA Capital Program for expansion projects is $4.808 billion. The No. 7 subway line extension project, estimated at $2.367 billion, is to be 100% funded by the City. A total of $53 million in preliminary design included in the 2000-2004 Capital Program was locally funded.

1992-2009 MTA Bridges and Tunnels Capital Programs Objectives

Highlights of key investments funded in the 1992-2009 MTA Bridges and Tunnels Capital Programs included rehabilitation of approaches, roadways and decks at the Bronx-Whitestone Bridge, the Robert F. Kennedy Bridge, the Henry Hudson Bridge, the Throgs Neck Bridge, Cross Bay Veterans' Memorial Bridge, the Verrazzano-Narrows Bridge and the Marine Parkway-Gil Hodges Memorial Bridge and rehabilitation of roadways and drainage systems at the Henry Hudson Bridge; rehabilitation of the Randall's Island Junction Structure, the Harlem River lift span, anchorages and suspension cables at the Robert F. Kennedy Bridge and walls and ceilings at the Queens Midtown Tunnel; replacement of exhaust fans at the Hugh L. Carey Tunnel and rehabilitation of bridge electrical substations and power feeders at the Throgs Neck Bridge; expansion of the service building at the Bronx-Whitestone Bridge, structural rehabilitation and repairs at the ventilation building and overpasses of the Queens Midtown Tunnel; and rehabilitation of toll plazas, including electronic toll collection systems.

The projects included in the 1992-1999 and 2000-2004 MTA Bridges and Tunnels Capital Program have been substantially completed. As of December 31, 2018, $2.096 billion of the $2.097 billion for projects in these programs has been committed, $2.096 billion expended and $2.096 billion completed, and $1.119 billion of the $1.127 billion for projects in the 2005-2009 Capital Program has been committed, $1.111 billion expended and $1.108 billion completed.

Oversight and Review of Administration of Capital Programs

A committee on capital program oversight (which by charter consists of at least six members, including the Chair of the MTA Board and the Chairs of each of the MTA Board operating committees), monitors various capital program actions and activities, including:

- current and future funding availability;
- contract awards;
- program expenditures; and
- timely progress of projects within the programs.

The legislation establishing the committee also requires MTA to submit a five-year strategic operations plan to the Governor and to amend such plan at least annually. Such plan must include, among other things, planned service and performance standards and the projected fare levels for each year covered by the plan and an analysis of the relationship between planned capital elements and the achievement of planned service and performance standards. MTA communicates with the State officials responsible for monitoring the strategic operations plan in order to keep them informed of such matters.

Non-Capital Program Projects - Hudson Yards Development and Financing

Hudson Yards Development and Financing. MTA owns the land in Manhattan generally bounded by West 30th Street on the south, West 33rd Street on the north, 10th Avenue on the east and 12th Avenue on the west (and including rights to operate under 11th Avenue), on which MTA Long Island Rail Road operates its layup and maintenance yard (the "West Side Yard") for trains not in service pending travel from Penn Station, its Manhattan hub. The Eastern Rail Yard ("ERY") portion of the West Side Yard, located between 10th and 11th Avenues, was rezoned by the City in 2005 and the Western Rail Yard ("WRY") portion of the West Side Yard, located between 11th and 12th Avenues, was rezoned by the City in December 2009. The zoning on these sites permits extensive mixed-use development.

In July of 2007, MTA issued two separate Requests for Proposals for the sale of and/or long term leasing of air space and related real property interests for development at the ERY and the WRY, respectively. In 2010, the MTA Board adopted environmental findings with respect to the development and MTA entered into agreements to enter into leases for the WRY and ERY, respectively, with a joint venture of The Related Companies L.P. and its joint venture partner, Oxford Properties Group, Inc., a subsidiary of the Ontario Municipal Employees Retirement

System (together, "Related-Oxford"). The closing with respect to the ERY lease occurred on April 10, 2013, with retroactive effect to December 3, 2012 and the closing with respect to the WRY occurred on April 10, 2014. As noted in the next succeeding paragraph, as Related-Oxford proceeded with the entire project, it was projected that the leases and related purchase options relating to the ERY and WRY would provide a net present value which could, if monetized, guarantee approximately $1.00 billion to support the 2005-2009 and the 2010-2014 MTA Capital Programs.

On September 22, 2016, MTA successfully monetized its interest in the remaining leases and related purchase options by issuing $1,057,430,000 Hudson Rail Yards Trust Obligations, Series 2016A (the "HY Trust Obligations"). The proceeds of the HY Trust Obligations were used to finance and refinance approved capital program transit and commuter projects for the Related Entities.

Construction continues to move forward on the platform over the ERY, with completion expected in 2019. The status of construction of the ERY severed parcels is as follows:

- Tower C (also known as 10 Hudson Yards or the Coach Building) is a 1,421,776 zoning square foot office building that was substantially completed in 2016. The purchase option for 10 Hudson Yards was exercised by Legacy Yards Tenant LP in July 2016, and thus it is not a source of payment or security for the HY Trust Obligations.

- Tower A (also known as 30 Hudson Yards) is a 2,069,217 zoning square foot office building under construction with Time Warner as an anchor tenant. Completion is expected in 2019.

- The Retail Podium is a 983,881 zoning square foot retail mall with Neiman Marcus as an anchor tenant. It opened in March 2019.

- Tower D (also known as 15 Hudson Yards) is a 737,779 zoning square foot residential condominium building that was substantially completed in 2019. The first residential closings began in the first quarter of 2019.

- The Culture Shed, a 100,000 zoning square foot cultural center, was completed in April 2019.

- Tower E (also known as 35 Hudson Yards) is an 846,547 zoning square foot mixed use building with residential, office and hotel components scheduled for completion in 2020.

- The Retail Pavilion is a 10,800 zoning square foot facility incorporated into the public open space scheduled to open in 2020.

Design is underway on the platform above the WRY. Construction work has not yet started on the WRY platform.

For a detailed description of the HY Trust Obligations see "PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS – HUDSON RAIL YARDS TRUST OBLIGATIONS" in Part 3 of this ADS and Part II – Tab 2 – "Details of Each Issue of Obligations – Hudson Rail Yards Trust Obligations (Schedule 1 to Financing Agreement)" of MTA's 2017 Combined Continuing Disclosure Filings.

Climate Bond Standard and Certification Compliance

In early 2016, MTA requested, and the Climate Bonds Standard Board approved, the designation of MTA's Transportation Revenue Bonds, Series 2016A Bonds as "Climate Bond Certified" pursuant to the Low Carbon Transport criteria (the "Climate Criteria") under the Climate Bonds Standard 2.0. As part of the certification requirement MTA engaged Sustainalytics as an independent verifier to review the MTA's 2010-2014 Capital Program to identify projects with expenditures that met the Climate Criteria. Sustainalytics reviewed $12.6 billion of spending and concluded that projects totaling $11.3 billion, or 89.7%, qualified under the Climate Criteria, making them eligible projects for Climate Bonds Initiative ("CBI") certification. CBI and MTA agreed that while MTA's pooled funding of its capital projects makes tracking proceeds to specific bond transactions prior to issuance impractical, the inherent benefit of MTA's Transit and Commuter Systems and the ongoing support and maintenance of them are compatible with an emissions trajectory consistent with the principles underlying the Climate Criteria. Due to the size and complexity of MTA's Capital Program and difficulty in tracking proceeds to specific projects, it is possible that MTA CBI certified bonds may fund or refund projects not specifically identified by the independent verifier but essential to MTA's core mission. Additionally, some of these projects may have been funded by other pooled resources available for MTA's Capital Programs. After an analysis of MTA's Capital Program elements, CBI agreed to certify any bonds issued by MTA for credits that fund the Transit and Commuter Systems portion of its Capital Programs up to a maximum of $11.3 billion (the "CBI Programmatic Approach Certification").

In January 2017, the CBI implemented the Climate Bonds Standard 2.1, which created a programmatic approach specifying the ability to identify projects as a pool, similar to the approach MTA has taken since its inaugural issuance in 2016. MTA has issued CBI certified bonds pursuant to both standards and continues to issue bonds pursuant to the 2.1 standard.

In light of various investor interest in "Green Bonds" and specifically what constitutes a "Green Bond" MTA asserts the following with regard to its issuances of CBI certified bonds:

- MTA follows a programmatic approach in connection with its MTA CBI certified bond issuances that complies with CBI standards and has been approved by CBI.
- Any certified MTA CBI bond/bond issuance is not tracked on a project specific basis nor is it tied to specific projects but rather to the CBI Programmatic Approach Certification.
- MTA has an engaged an independent verifier to identify and to annually re-verify the total amount of Climate Criteria eligible transit and commuter projects under its Capital Programs.
- MTA has issued in aggregate a total par amount of bonds with the CBI certification that is less than the amount of eligible projects verified.

Commencing in 2017 and consistent with the requirements of the Climate Bonds Standard and Certification Process, MTA has undertaken as part of its continuing disclosure filing obligation with respect to Climate Bond Certified bonds to file with EMMA:

- annually, until the maturity or prior redemption of the Climate Bond Certified bonds, a post-issuance compliance certificate as required by the certification process;
- any event of material non-conformance with the certification process and the action MTA is taking or expecting to take to bring the projects and/or assets into conformance; and
- any revocation of the Climate Bond Certification by the Climate Bonds Standard Board.

MTA expects to file with EMMA a copy of its annual compliance certificate pursuant to the Climate Bonds Standard and Certification Process on or about the date hereof.

FUTURE CAPITAL NEEDS

MTA periodically updates its 20-year capital needs assessment which revisits its asset inventory, assesses the conditions of those assets and identifies the long-term investment schedules required to maintain a state of good repair. Long-term investments that improve and expand the system to meet operating goals and strategies are also identified. This long-term plan provides the basis for sizing and configuring the successive five-year Capital Programs and establishes the rationale for the funding levels that are requested to support the program. MTA's "2015-2034 Twenty Year Capital Needs Assessment," the most recent update, was published in October 2013. The 2020-2039 Twenty Year Capital Needs Assessment is targeted for release in 2019.

As more fully described herein under "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET – Changes in MTA Organization and Related Provisions" in Part 1 of this ADS, on or before October 1, 2023 for the period commencing January 1, 2025, and on or before October first of every fifth year thereafter, MTA is required to submit to the CPRB a twenty-year capital needs assessment in compliance with the requirements of the MTA Act.

No assurances can be given that MTA will be able to identify and secure sufficient sources to fully pay for current and future capital needs or that, if identified, those funding sources will be received. Some of the prospective funding sources, such as federal, City and State funds, are not within the control of MTA and the receipt of such funding is contingent, among other things, upon the ability and willingness of such entities to provide such funding. If MTA does not receive sufficient moneys to fund current and future capital needs, the improvements to the Transit System, MTA Staten Island Railway, the Commuter System, and the MTA Bus System, state of good repair achieved through implementation of previous capital programs could erode.

The MTA will seek Board approval for a new 2020-2024 Capital Program in late 2019. The content and levels of investment are in development. This capital program will include proposed investments for MTA New York City Transit, MTA Long Island Rail Road, MTA Metro-North, MTA Bus, MTA Interagency, MTA Capital Construction capacity projects and MTA Bridges and Tunnels.

INVESTMENT POLICY

MTA's Treasury Division is responsible for the investment management of the funds of the Related Entities. The investment activity covers all operating and capital funds, including bond proceeds, and the activity is governed by State statutes, bond resolutions and the MTA Board-adopted investment guidelines (the "Investment Guidelines"). The MTA Act currently permits the Related Entities to invest in the following general types of obligations:

- obligations of the State or the United States Government;
- obligations the principal and interest of which are guaranteed by the State or the United States Government;
- obligations issued or guaranteed by certain federal agencies;
- repurchase agreements fully collateralized by the obligations of the foregoing United States Government and federal agencies;
- certain certificates of deposit of banks or trust companies in the State;
- certain banker's acceptances with a maturity of 90 days or less;
- certain commercial paper;
- certain municipal obligations; and
- certain mutual funds up to $10 million in the aggregate.

Investment obligations and collateral are held by one of MTA's custodians or trustees.

As of December 31, 2018, $1.806 billion non-bond capital funds were invested in approximately 2.45% repurchase agreements, 78.89% United States Treasury obligations, 6.6% agency obligations, and 12.06% commercial paper.

As of December 31, 2018, the operating and working capital of the Related Entities (including Payroll Mobility Tax receipts) amounted to $1.285 billion. Investments included 34.67% commercial paper, 12.38% repurchase agreements, 12.15% agency obligations and 40.8% United States Treasury obligations.

A copy of the current Investment Guidelines is posted, for informational purposes only, on MTA's website under "MTA Info – Investor Information."

See "PART 3. PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS – GENERAL – Swap Agreements Relating to Synthetic Fixed Rate Debt" for a discussion of current guidelines relating to the use of swap contracts.

PART 3. PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS

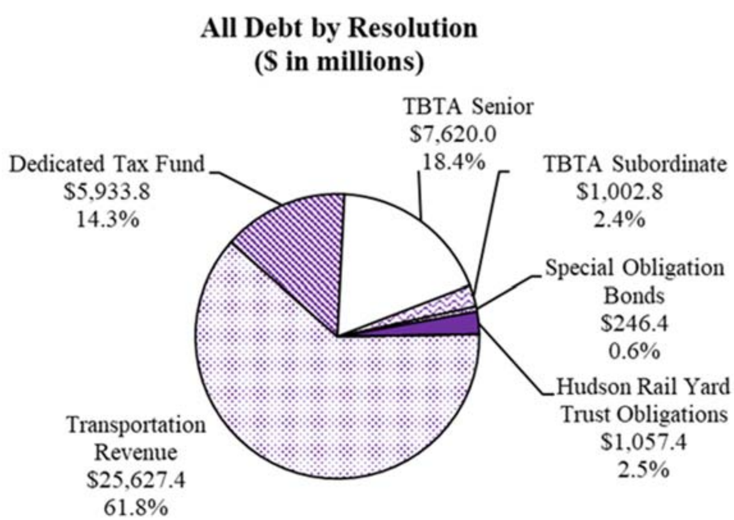
GENERAL

Financing of Capital Projects and Statutory Ceiling

Financing of Capital Projects. Some of the Related Entities are authorized to issue bonds, notes and other obligations to finance capital projects as well as for other purposes. All bonds, notes and other obligations are expected to be issued through either MTA or MTA Bridges and Tunnels. Such obligations are secured by and payable from the revenues and other receipts specified in the bond resolution, indenture or other document authorizing the issuance of such obligations. Generally, bonds, notes and other obligations issued to finance capital projects included in the MTA Capital Programs have in the past been, and are currently, subject to a statutory limitation on the principal amount of such obligations (referred to herein as the statutory ceiling). It is anticipated that obligations issued to finance future MTA Capital Programs will also be subject to a statutory ceiling imposed by the Legislature. Obligations issued by MTA Bridges and Tunnels to fund capital projects relating to its seven bridges and two tunnels, the MTA Bridges and Tunnels Facilities, and obligations issued by the Related Entities for purposes other than to finance projects in the MTA Capital Programs are not subject to the current statutory ceiling. In addition, none of the RRIF Bond (as defined below), Special Obligation Bonds, and the HY Trust Obligations are subject to the current statutory ceiling.

Reflecting the statutory debt ceiling increase passed by the Legislature on April 1, 2016, for the MTA Capital Programs for the years 1992-2019, the MTA Act permits MTA, MTA Bridges and Tunnels and MTA New York City Transit, collectively, to issue on or after January 1, 1993 an aggregate of $55.497 billion of bonds, notes and other obligations (net of certain statutory exclusions, including refunding bonds). As of April 30, 2019, MTA, MTA Bridges and Tunnels and MTA New York City Transit have issued approximately $34.849 billion of bonds (not including $5.0 billion of bond anticipation notes) net of such statutory exclusions under the current statutory ceiling. MTA expects that the current statutory ceiling will allow it to fulfill the bonding requirements of all MTA Capital Programs approved by the CPRB to date, including the 2010-2014 MTA Capital Program, as amended, and the 2015-2019 MTA Capital Program, as amended. Set forth below under "MTA Capital Program Bonds" is a brief summary of the types of obligations issued by the Related Entities to finance or refinance the MTA Capital Programs that are governed by past and current statutory ceilings. Only a portion of the MTA Bridges and Tunnels Senior Revenue Bonds and MTA Bridges and Tunnels Subordinate Revenue Bonds (as each is described below) were issued to finance or refinance items in such MTA Capital Programs and, consequently, were subject to the statutory ceiling; the remainder were issued to finance capital costs of the MTA Bridges and Tunnels Facilities that are not subject to the statutory ceiling.

The following pie chart shows, by percentages, the amount of all debt MTA and MTA Bridges and Tunnels have outstanding as of April 30, 2019, under the various bond resolutions, all as described below.



MTA Capital Program Bonds

MTA Transportation Revenue Bonds. Bonds referred to as "Transportation Revenue Bonds" are issued pursuant to the General Resolution Authorizing Transportation Revenue Obligations of MTA, adopted on March 26, 2002 (the "Transportation Resolution"), and are payable solely from and secured by a gross lien on the items pledged under such bond resolution, which include amounts derived from: fares received for the use of the subway and bus systems operated by MTA New York City Transit and MaBSTOA, the commuter railroads operated by MTA Long Island Rail Road and MTA Metro-North Railroad and buses operated by MTA Bus; certain concession revenues; and operating subsidies, including expense reimbursement payments, from the State, the City, and MTA Bridges and Tunnels surplus. The proceeds from the sale of such bonds are used solely to finance capital projects set forth in the MTA Capital Programs. For more information on the Transportation Revenue Bonds, see "TRANSPORTATION REVENUE BONDS" below.

MTA Transportation Revenue Bond Anticipation Notes. Bond anticipation notes referred to as "Transportation Revenue Bond Anticipation Notes" are issued pursuant to the Transportation Resolution and are payable solely from the proceeds of other Transportation Revenue Bond Anticipation Notes or Transportation Revenue Bonds, and though not pledged therefor, notes or other evidences of indebtedness or any other amounts, in each case if and to the extent such amounts may lawfully be used to make such payments.

As of April 30, 2019, $4,250 million of MTA Transportation Revenue Bond Anticipation Notes are outstanding:

Bond Anticipation Notes Subseries	Principal Amount Outstanding ($ in millions)	Maturity Date
TRB 2017C-2a BANS	$250.00	5/15/2019
TRB 2017C-2b BANS	75.00	5/15/2019
TRB 2017C-2c BANS	50.00	5/15/2019
TRB 2017C-2d BANS	50.00	5/15/2019
TRB 2017C-2e BANS	25.00	5/15/2019
TRB 2017C-2f BANS	25.00	5/15/2019
TRB 2017C-2g BANS	25.00	5/15/2019
TRB 2018A-1 BANS	200.00	8/15/2019
TRB 2018A-2 BANS	100.00	8/15/2019
TRB 2018A-3 BANS	100.00	8/15/2019
TRB 2018A-4 BANS	75.00	8/15/2019
TRB 2018A-5 BANS	25.00	8/15/2019
TRB 2019A BANS	750.00	2/3/2020
TRB 2018B-1a BANS	325.00	5/15/2020
TRB 2018B-1b BANS	145.00	5/15/2020
TRB 2018B-1c BANS	100.00	5/15/2020
TRB 2018B-1d BANS	50.00	5/15/2020
TRB 2018B-1e BANS	55.00	5/15/2020
TRB 2018B-1f BANS	25.00	5/15/2020
TRB 2018B-1g BANS	25.00	5/15/2020
TRB 2018B-1h BANS	25.00	5/15/2020
TRB 2018B-1i BANS	25.00	5/15/2020
TRB 2018B-1j BANS	25.00	5/15/2020
TRB 2018C-1 BANS	450.00	9/1/2020
TRB 2018B-2a BANS	425.00	5/15/2021
TRB 2018B-2b BANS	200.00	5/15/2021
TRB 2018B-2c BANS	100.00	5/15/2021
TRB 2018B-2d BANS	50.00	5/15/2021
TRB 2018B-2e BANS	25.00	5/15/2021
TRB 2018C-2 BANS	450.00	9/1/2021

Railroad Rehabilitation and Improvement Financing Program ("RRIF") Loan. On May 5, 2015, MTA entered into a Financing Agreement (the "RRIF Financing Agreement") with the United States of America, represented by the Secretary of Transportation, acting through the FRA in connection with a Railroad Rehabilitation and Improvement Financing loan in an amount not to exceed $967,100,000, to finance the positive train control project for MTA Long Island Rail Road and MTA Metro-North Railroad (the "RRIF Loan"). As evidence of its obligation to repay the RRIF Loan, MTA delivered to FRA its Transportation Revenue Bonds, Series 2015X (RRIF Loan – Positive Train Control Project) (the "RRIF Bond"). The RRIF Bond constitutes a parity obligation under the Transportation Resolution. Pursuant to a statutory exclusion, the principal amount of the RRIF Bond is not taken into account for purposes of calculating the statutory debt ceiling referred to above.

The principal amount of the RRIF Bond will be increased upon each advance made under the RRIF Loan for eligible expenditures in accordance with the requirements of the RRIF Financing Agreement. Commencing November 15, 2018, advances under the RRIF Loan are repaid in annual installments on each November 15, calculated on a level debt service basis. The RRIF Loan matures November 15, 2037. MTA may prepay the RRIF Bond in whole or in part at any time, without penalty or premium.

The RRIF Bond bears interest at a base rate of 2.38% per annum and is federally taxable. During the period that the FRA or another federal entity is the holder of the RRIF Bond, the interest rate on the RRIF Bond will increase as follows:

- the interest rate will increase by 2.00% per annum, in the event MTA fails to maintain, for a period of at least 180 consecutive days, the unenhanced long-term credit ratings issued by at least two rating agencies on bonds issued under the Transportation Resolution of at least "A-" by S&P Global Ratings ("S&P") or Fitch Ratings ("Fitch"), or "A3" by Moody's Investor Service, Inc. ("Moody's") (a "Ratings Downgrade"); and

- the interest rate will increase by 2.00% per annum, in the event any interest or principal due on the RRIF Bond is not paid within five business days after the same becomes due and payable (a "Payment Default").

- In the event of both a Payment Default and a Ratings Downgrade, the interest rate will be increased during such periods by 4.00% per annum.

During the period that the FRA or another federal entity is the holder of the RRIF Bond, the following events constitute "Advance Suspension Events" under the RRIF Financing Agreement: a Payment Default; MTA's breach of a covenant under the RRIF Financing Agreement or misrepresentation by MTA; the occurrence of certain material adverse events (which include materially adverse events with respect to transportation operations, facilities or financial condition of MTA or the Related Entities, changes in law permitting bankruptcy or insolvency protection or the ability of MTA or any Related Entity to perform any obligation under the RRIF Financing Agreement) for thirty days; an event of default under the Transportation Resolution; the occurrence of a default with respect to any other indebtedness of MTA or any other Related Entity in an aggregate principal amount exceeding $100,000,000 that would permit acceleration of principal; certain bankruptcy or insolvency events; certain actions by the State in violation of its pledge and agreement to bondholders; unenforceability of material provisions of the Transportation Resolution or the RRIF Financing Agreement or if any Related Entity challenges the enforceability thereof; and judgments of $25,000,000 or more in excess of available third party insurance coverage. Upon the occurrence of an Advance Suspension Event, unless the Advance Suspension Event is (a) a Payment Default or a Ratings Downgrade, in which case the interest rate will increase as provided in the preceding paragraph, or (b) also an event of default under the Transportation Resolution, in which case the holder of the RRIF Bond may exercise remedies as described in the following paragraph, the FRA may refuse to honor additional advances under the Financing Agreement and may exercise any and all available rights and remedies, including enforcement through specific performance of certain obligations.

Upon the occurrence of an event of default under the Transportation Resolution, a holder of the RRIF Bond (including transferees of the FRA that are not federal entities), may exercise those remedies under the Transportation

Resolution that are available to all holders of Transportation Revenue Bonds. No bondholder has any right to require MTA to redeem the RRIF Bond or accelerate the payment of principal thereon or to subject the RRIF Bond to mandatory purchase in advance of its stated maturity date.

If the FRA transfers all or a portion of the RRIF Bond to a holder that is not another federal entity, such transferee holder will have no right to (1) exercise any remedies other than those provided to the holders of all other Transportation Revenue Bonds under the Transportation Resolution; (2) enforce covenants under the RRIF Financing Agreement; or (3) apply any provisions of the RRIF Financing Agreement with respect to Advance Suspension Events, exercise of remedies under the RRIF Financing Agreement or have any right to receive increased interest rates following a Ratings Downgrade or a Payment Default.

On September 20, 2016, MTA made a draw of $146.5 million under the RRIF Loan. As of April 30, 2019, the undrawn balance of the RRIF Loan is $820.6 million. As of January 2, 2019, the Commuter System has incurred an additional $390.7 million in eligible expenditures for which MTA will submit future reimbursement requests, including an anticipated $300 million draw on May 1, 2019. As of February 26, 2019, MTA and FRA have reached an agreement to extend the commitment termination dates to December 31, 2021, for PTC related project elements, and December 31, 2026, for all other project elements, including those related to Automated Speed Control (Safety). A summary of certain provisions of the RRIF Loan and a copy of the RRIF Financing Agreement can be obtained on MTA's website under "MTA Investor Information" at http://web.mta.info/mta/investor/.

MTA Dedicated Tax Fund Bonds. Bonds referred to as "Dedicated Tax Fund Bonds" are issued pursuant to the Dedicated Tax Fund Obligation Resolution of MTA, adopted on March 26, 2002 (the "DTF Resolution"), and are payable solely from and secured by the MTTF Receipts and the MMTOA Receipts described below under "DEDICATED TAX FUND BONDS – Sources of Payment – Revenues from Dedicated Taxes," subject to appropriation by the Legislature. The proceeds from the sale of such bonds are used solely to finance capital projects of the MTA Capital Programs. For more information on the Dedicated Tax Fund Bonds, see "DEDICATED TAX FUND BONDS" below.

MTA Dedicated Tax Fund Bond Anticipation Notes. Bond anticipation notes referred to as "Dedicated Tax Fund Bond Anticipation Notes" are issued pursuant to the Dedicated Tax Fund Resolution and are payable solely from the proceeds of other Dedicated Tax Fund Bond Anticipation Notes or Dedicated Tax Fund Revenue Bonds, and though not pledged therefor, notes or other evidences of indebtedness or any other amounts, in each case if and to the extent such amounts may lawfully be used to make such payments.

As of April 30, 2019, $750 million of MTA Dedicated Tax Fund Bond Anticipation Notes are outstanding:

Bond Anticipation Notes Subseries	**Principal Amount Outstanding ($ in millions)**	**Maturity Date**
DTF 2019A BANS	$750.00	3/1/2022

MTA Bridges and Tunnels Senior Revenue Bonds. Bonds referred to as "General Revenue Bonds" are issued pursuant to the General Resolution Authorizing General Revenue Obligations of MTA Bridges and Tunnels, adopted on March 26, 2002 (the "MTA Bridges and Tunnels Senior Resolution"), and are payable from the net revenues collected on the MTA Bridges and Tunnels Facilities described under "TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY – MTA Bridges and Tunnels Facilities" in Part 4 of this ADS after the payment of operating expenses. The proceeds from the sale of such bonds are used to finance capital projects relating to the MTA Bridges and Tunnels Facilities and the MTA Capital Programs (i.e., the Transit System, MTA Bus, MTA Staten Island Railway and the Commuter System), as described herein under "TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY – Authorized Projects of MTA Bridges and Tunnels" in Part 4 of this ADS. Only that portion of any such bonds issued to finance capital projects of the MTA Capital Programs is subject to the current statutory ceiling. For more information on the MTA Bridges and Tunnels Senior Revenue Bonds, see "MTA BRIDGES AND TUNNELS SENIOR REVENUE BONDS" below.

MTA Bridges and Tunnels Senior Revenue Bond Anticipation Notes. Bond anticipation notes referred to as "General Revenue Bond Anticipation Notes" are issued pursuant to the MTA Bridges and Tunnels Senior Resolution and are payable solely from the proceeds of other General Revenue Bond Anticipation Notes or General Revenue Bonds, and though not pledged therefor, notes or other evidences of indebtedness or any other amounts, in each case if and to the extent such amounts may lawfully be used to make such payments. As of April 30, 2019, there are no General Revenue Bond Anticipation Notes outstanding.

MTA Bridges and Tunnels Subordinate Revenue Bonds. Bonds referred to as "Subordinate Revenue Bonds" are issued pursuant to the 2001 Subordinate Revenue Resolution Authorizing Subordinate Revenue Obligations of MTA Bridges and Tunnels, adopted on March 26, 2002 (the "MTA Bridges and Tunnels Subordinate Resolution"), and are payable from the net revenues collected on the MTA Bridges and Tunnels Facilities after the payment of operating expenses and debt service as required by the MTA Bridges and Tunnels Senior Resolution. The proceeds from the sale of such bonds are used to finance capital projects relating to the MTA Bridges and Tunnels Facilities and MTA Capital Programs. Only that portion of any such bonds issued to finance capital projects of the MTA Capital Programs is subject to the current statutory debt ceiling. For more information on the MTA Bridges and Tunnels Subordinate Revenue Bonds, see "MTA BRIDGES AND TUNNELS SUBORDINATE REVENUE BONDS" below.

MTA State Service Contract Bonds. Bonds referred to as "State Service Contract Bonds" were issued pursuant to the State Service Contract Obligation Resolution of MTA adopted on March 26, 2002 (the "State Service Contract Resolution"). These bonds were payable solely from and secured by certain payments made by the State, subject to annual appropriations, under the service contract referred to in such bond resolution. The proceeds from the sale of such bonds were used solely to finance capital projects of the MTA Capital Programs. There are currently no State Service Contract Bonds outstanding, and MTA does not expect to issue additional bonds under the State Service Contract Resolution, unless the State service contract is amended to permit the issuance of additional new money bonds. For more information on the State Service Contract Bonds, see "STATE SERVICE CONTRACT BONDS" below.

MTA Hudson Rail Yards Trust Obligations. The Hudson Rail Yard Trust Obligations (the "HY Trust Obligations") were issued pursuant to the MTA Hudson Rail Yards Trust Agreement, dated as of September 1, 2016 (the "HY Trust Agreement"), by and between MTA and Wells Fargo Bank, National Association, as trustee (the "HY Trustee"). The HY Trust Obligations are payable solely from and secured by certain payments made by MTA under the Financing Agreement referred to in the HY Trust Agreement. The proceeds from the sale of such obligations were used solely to finance capital projects of the MTA Capital Programs. Other than refunding bonds, MTA does not expect to issue additional bonds under the HY Trust Agreement. For more information on the HY Trust Obligations see "HUDSON RAIL YARD TRUST OBLIGATIONS" below.

Non-Capital Program Securities

The Related Entities have also issued other obligations that are not subject to the current or any prior statutory ceiling and that were issued for projects that are not part of the Capital Programs, as follows:

Revenue Anticipation Notes. MTA and MTA New York City Transit have in the past and may, from time to time, in the future issue revenue anticipation notes for their working capital needs and the needs of their respective affiliates and subsidiaries occasioned by delays in the receipt of subsidies or other irregularities in the timing of receipt of revenues.

Moynihan Station Development Project Financial Guarantee. On May 22, 2017, the MTA Board approved entering into various agreements necessary to effectuate Phase Two of the Moynihan Station Development, which project will entail the redevelopment of the James A. Farley Post Office Building adjacent to Penn Station to include a new train hall, to be shared by Amtrak, MTA Long Island Rail Road and MTA Metro-North Railroad (the "Train Hall"), as well as providing retail and commercial space.

On July 21, 2017, New York State Urban Development Corporation d/b/a Empire State Development ("ESD") executed a TIFIA Loan Agreement with the U.S. Department of Transportation in an amount of up to $526 million (the "TIFIA Loan"), the proceeds of which are being used to pay for costs of construction of the Train Hall.

The TIFIA Loan is secured primarily by payments in lieu of taxes ("PILOTs") to be made by certain future retail and commercial tenants of the Train Hall, a debt service reserve account (the "TIFIA Debt Service Reserve Account") and a mortgage (the "Train Hall Mortgage") on the Train Hall property.

Simultaneously with the execution of the TIFIA Loan Agreement, a Joint Services Agreement (the "JSA") was entered into among MTA, the U.S. Department of Transportation, ESD, and Manufacturers and Traders Trust Company (as PILOT trustee). Under the JSA, MTA is obligated to satisfy deficiencies, if any, in the TIFIA Debt Service Reserve Account. The TIFIA Loan will remain in effect until the earliest to occur of (i) the MTA JSA Release Date (as defined in the JSA and summarized below), (ii) the date on which the TIFIA Loan has been paid in full, or (iii) foreclosure by the U.S. Department of Transportation under the Train Hall Mortgage. Pursuant to the JSA, the MTA JSA Release Date is the date on which each of the following conditions has been satisfied: (a) substantial completion of (i) the Train Hall and initiation by MTA Long Island Rail Road and Amtrak of transportation service therein, and (ii) the retail and commercial space; (b) discharge or settlement of all material construction claims; (c) certain PILOTs have been calculated as provided in the TIFIA Loan Agreement; (d) certain designated defaults or events of default under the TIFIA Loan Agreement have not occurred and are continuing; and (e) certain occupancy and ratings thresholds and debt service coverage ratios for the TIFIA Loan have been met. Upon execution of the JSA, MTA set aside $20 million in the event it is obligated to make deficiency payments to the TIFIA Debt Service Reserve Account. The MTA JSA Release Date is not expected to occur prior to June 30, 2033.

On June 12, 2017, MTA entered into a Memorandum of Understanding with ESD and DOB whereby DOB agreed that, subject to certain conditions, in the event in any given year during the term of the JSA MTA is required to make a deficiency payment to the TIFIA Debt Service Reserve Account, DOB will consider entering into an agreement with MTA that will provide for a reduction in the cost recovery assessment otherwise payable under State law to the State. As of April 30, 2019, MTA has not been required to make any deficiency payments to the TIFIA Debt Service Reserve Account.

Revolving Credit Agreement. On August 24, 2017, MTA entered into a $350,000,000 Revolving Credit Agreement ("JPMorgan Chase Agreement") with JPMorgan Chase Bank, National Association ("JPMorgan Chase Bank"), which expires on August 24, 2022. An initial draw of $3,500,000 was made under the JPMorgan Chase Agreement, as evidenced by the issuance of $3,500,000 Taxable Revenue Anticipation Notes, Series 2017A, on August 24, 2017. The draw amount is expected to remain outstanding throughout the duration of the JPMorgan Chase Agreement. On August 14, 2018, MTA and JPMorgan Chase Bank amended the JPMorgan Chase Agreement, increasing the line of credit to $700 million. Another draw of $3,500,000 was made upon closing, and the balance will remain throughout the duration of the JPMorgan Chase Agreement. On January 18, 2019, MTA drew $300 million on the JPMorgan Chase Agreement for use in its capital programs, which draw was repaid on February 15, 2019. MTA drew $10 million on March 29, 2019 and $10 million on April 16, 2019 on the JPMorgan Chase Agreement, in each case, for use in its capital programs, among other purposes. When these draws are repaid, it will be noted on the MTA investor website under menu item "Financing Agreements."

Interagency Loans

The Related Entities are authorized to transfer their revenues, subsidies and other moneys or securities to another Related Entity for use by that other Related Entity, provided at the time of the transfer it is reasonably anticipated that the moneys and securities so transferred will be reimbursed, repaid or otherwise provided for by the end of the next succeeding calendar year.

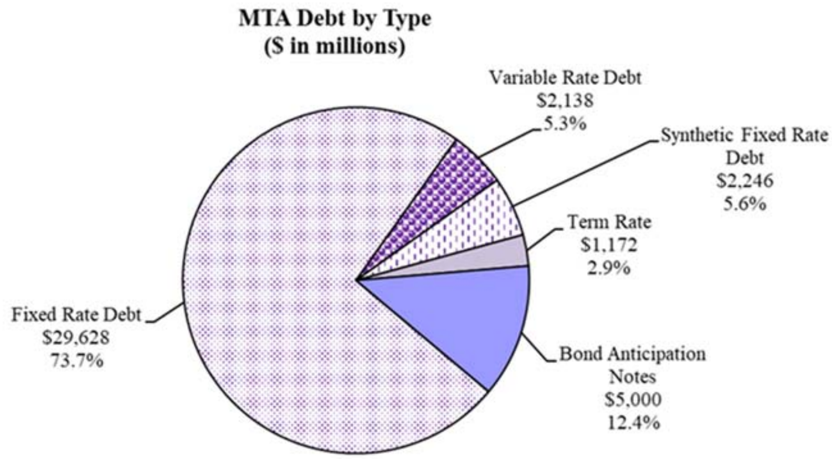
Leasing

The Related Entities lease real property, facilities, equipment and other personal property in the normal course of business. In addition, the Related Entities have entered into financing leases and other financial transactions, including sale-leaseback and lease-leaseback arrangements, pursuant to which existing assets are sold or leased to other parties and leased or subleased back by the Related Entities. The basic rent payment obligation of the Related Entities under such leases and subleases, together with a purchase option, is economically defeased by a pledge of financial obligations and/or securities of other entities, including, in certain cases, United States government obligations. The expected economic result of such transactions is the receipt by the Related Entities of a net up-front payment, while pursuant to the agreement, the relevant operating agency retains full use of the facility or equipment. If a defeasance obligor were to default on its financial obligations under its respective defeasance instrument, it is possible that the applicable Related Entity would be required to pay the related rent obligations or purchase option amounts from other sources. In addition, the event of loss, default, indemnification, and guaranty provisions of these transactions could create substantial undefeased financial obligations of the Related Entities in the unlikely event that they were triggered; if those financial obligations were, in turn, not timely met, the relevant operating agency could lose use of the leased facilities or equipment. For all of the lease transactions entered into after 1996, MTA has covenanted that all rent and supplemental rent obligations under such lease transactions which are not paid by defeasance obligors shall be paid from those "Revenues" (as defined in Section 102 of the Transportation Resolution) available for release from the lien of the Transportation Resolution in accordance with Section 504(d) of the Transportation Resolution, immediately following all transfers pursuant to Section 504(a), (b) and (c) of the Transportation Resolution, on a pari passu basis among all such lease transactions and prior to the transfer or use of any such amounts for any other purpose, including the payment of operating and maintenance expenses. The payment obligations of the Related Entities under such leases and subleases is generally subordinate to the payment of debt service on the bonds of the agency obligated to make the payments, but to the extent the undefeased financial obligations were obligations (including guaranties) of MTA Bridges and Tunnels, a reduction in the amount of operating surplus transferred from MTA Bridges and Tunnels could result.

For more information with respect to certain of these leasing and other financial transactions, reference is made to the footnotes in the financial statements of the Related Entities which contain a summary of certain capital lease obligations. See, in particular, Footnote 8 to the unaudited Combined Financial Statements of MTA for the years ended December 31, 2018 and 2017, Footnote 5 to the unaudited Consolidated Financial Statements of MTA New York City Transit for the years ended December 31, 2018 and 2017, and Footnote 16 to the unaudited Financial Statements of MTA Bridges and Tunnels for the years ended December 31, 2018 and 2017.

Types of Debt Outstanding

The following pie chart shows, by percentages, the types of debt MTA and MTA Bridges and Tunnels have outstanding under the resolutions relating to the MTA Transportation Revenue Bonds, MTA Dedicated Tax Fund Bonds, MTA Bridges and Tunnels Senior Revenue Bonds and MTA Bridges and Tunnels Subordinate Revenue Bonds as of April 30, 2019.



Swap Agreements Relating to Synthetic Fixed Rate Debt

Board-adopted Guidelines. The Related Entities adopted guidelines governing the use of swap contracts on March 26, 2002. The guidelines were amended and approved by the MTA Board on March 13, 2013. The guidelines establish limits on the amount of interest rate derivatives that may be outstanding and specific requirements that must be satisfied for a Related Entity to enter into a swap contract, such as suggested swap terms and objectives, retention of a swap advisor or qualified independent representative, credit ratings of the counterparties, collateralization requirements and reporting requirements.

Objectives of Synthetic Fixed Rate Debt. To achieve cash flow savings through a synthetic fixed rate, MTA and MTA Bridges and Tunnels have entered into separate pay-fixed, receive-variable interest rate swaps at a cost anticipated to be less than what MTA and MTA Bridges and Tunnels would have paid to issue fixed-rate debt, and in some cases where federal tax law prohibits an advance refunding to synthetically refund debt on a forward basis.

Fair Value and Mid-Market Value. Fair value for the swaps is calculated in accordance with GASB Statement No. 72, utilizing the income approach and Level 2 inputs. It incorporates the mid-market valuation, nonperformance risk of either MTA/MTA Bridges and Tunnels or the counterparty, as well as bid/offer. The fair values were estimated using the zero-coupon method. This method calculates the future net settlement payments required by the swap, assuming that the current forward rates implied by the yield curve correctly anticipate future spot interest rates. These payments are then discounted using the spot rates implied by the current yield curve for hypothetical zero-coupon bonds due on the date of each future net settlement on the swap.

A negative mid-market value means that MTA and/or MTA Bridges and Tunnels would have to pay the counterparty that approximate amount to terminate the swap. If a swap has a positive mid-market value, in the event of a termination, MTA and/or MTA Bridges and Tunnels would be entitled to receive a termination payment from the counterparty. Consequently, MTA and/or MTA Bridges and Tunnels would be exposed to the credit risk of the counterparty when a swap has a positive mid-market value.

Terms and Fair Values. The terms, fair values and counterparties of the outstanding swaps of MTA and MTA Bridges and Tunnels are reflected in the following tables (as of March 31, 2019).

Metropolitan Transportation Authority						
Related Bonds	**Notional Amount as of 3/31/19 ($ in millions)**	**Effective Date**	**Maturity Date**	**Terms**	**Counterparty and Ratings (S&P / Moody's / Fitch)**	**Fair Value as of 3/31/19 ($ in millions)**
TRB 2002D-2	$200.000	01/01/07	11/01/32	Pay 4.45%; receive 69% 1M LIBOR	JPMorgan Chase Bank, NA (A+ / Aa2 / AA)	$(60.095)
TRB 2005D & 2005E	274.395	11/02/05	11/01/35	Pay 3.561%; receive 67% 1M LIBOR	UBS AG (A+ / Aa3 / AA-)	(44.398)
TRB 2005E	91.465	11/02/05	11/01/35	Pay 3.561%; receive 67% 1M LIBOR	AIG Financial Products* (BBB+ / Baa1 / BBB+)	(14.799)
TRB 2012G	356.775	11/15/12	11/01/32	Pay 3.563%; receive 67% 1M LIBOR	JPMorgan Chase Bank, NA (A+ / Aa2 / AA)	(74.195)
DTF 2008A	324.670	03/24/05	11/01/31	Pay 3.3156%; receive 67% 1M LIBOR	Bank of New York Mellon (AA- / Aa2 / AA)	(39.854)
Total	**$1,247.305**					**$(233.342)**

* Guarantor: American International Group, Inc., parent of AIG Financial Products.

MTA Bridges and Tunnels						
Related Bonds	**Notional Amount as of 3/31/19 ($ in millions)**	**Effective Date**	**Maturity Date**	**Terms**	**Counterparty and Ratings (S&P / Moody's / Fitch)**	**Fair Value as of 3/31/19 ($ in millions)**
TBTA 2002F & 2003B-2	$189.300	07/07/05	01/01/32	Pay 3.076%; receive 67% 1M LIBOR	Citibank, N.A. (A+ / Aa3 / A+)	$(27.331)
TBTA 2005B-2	189.300	07/07/05	01/01/32	Pay 3.076%; receive 67% 1M LIBOR	JPMorgan Chase Bank, NA (A+ / Aa2 / AA)	(27.331)
TBTA 2005B-3	189.300	07/07/05	01/01/32	Pay 3.076%; receive 67% 1M LIBOR	BNP Paribas US Wholesale Holdings, Corp. (A(1) / Aa3 / A+)	(27.331)
TBTA 2005B-4	189.300	07/07/05	01/01/32	Pay 3.076%; receive 67% 1M LIBOR	UBS AG (A+ / Aa3 / AA-)	(27.331)
TRB 2002G-1 & 2011B, TBTA 2001C(2) & 2005A	120.5875	04/01/16	01/01/30	Pay 3.52%; receive 67% 1M LIBOR	U.S. Bank N.A. (AA- / A1 / AA-)	(12.859)(3)
TRB 2002G-1 & 2011B, TBTA 2001C(2) & 2005A	120.5875	04/01/16	01/01/30	Pay 3.52%; receive 67% 1M LIBOR	Wells Fargo Bank, N.A. (A+ / Aa2 / AA-)	(12.859) (3)
Total	$998.375					$ (135.042)

(1) The S&P rating for BNP Paribas, the guarantor on the swap, was upgraded to A+ on April 5, 2019.

(2) Between November 22, 2016 and December 5, 2016, the Variable Rate Certificates of Participation, Series 2004A were redeemed. Corresponding notional amounts from the Series 2004A COPs were reassigned to MTA Bridges and Tunnels General Revenue Variable Rate Bonds, Series 2001C.

(3) MTA Bridges and Tunnels' obligation to make both its regularly scheduled and termination payments under these swap agreements is subordinate to its obligation to pay debt service on MTA Bridges and Tunnels Subordinate Revenue Bonds and from the same revenues that are available to pay termination payments on the other MTA Bridges and Tunnels swap agreements. Pursuant to an Interagency Agreement (following novations from UBS in April 2016), MTA New York City Transit is responsible for 68.7%, MTA is responsible for 21.0%, and MTA Bridges and Tunnels is responsible for 10.3% of the transaction.

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LIBOR: London Interbank Offered Rate
TRB: Transportation Revenue Bonds
DTF: Dedicated Tax Fund Bonds
TBTA: Triborough Bridge and Tunnel Authority General Revenue Bonds

Risks Associated with the Swap Agreements

From MTA's and MTA Bridges and Tunnels' perspective, the following risks are generally associated with swap agreements:

- Credit Risk – The risk that a counterparty becomes insolvent or is otherwise not able to perform its financial obligations. To mitigate the exposure to credit risk, the swap agreements include collateral provisions in the event of downgrades to the swap counterparties' credit ratings. Generally, MTA's and MTA Bridges and Tunnels' swap agreements contain netting provisions under which transactions executed with a single counterparty are netted to determine collateral amounts. Collateral may be posted with a third-party custodian in the form of cash, U.S. Treasury securities, or certain federal agency securities. MTA and MTA Bridges and Tunnels require its counterparties to fully collateralize if ratings fall below certain levels (in general, at the Baa1/BBB+ or Baa2/BBB levels), with partial posting requirements at higher rating levels (details on collateral posting discussed further under "*Collateralization/Contingencies*" below). As of March 31, 2019, all of the valuations were in liability positions to MTA and MTA Bridges and Tunnels; accordingly, no collateral was posted by any of the counterparties.

  The following table shows, as of March 31, 2019, the diversification, by percentage of total notional amount, among the various counterparties that have entered into ISDA Master Agreements with MTA and/or MTA Bridges and Tunnels. The notional amount totals below include all swaps.

Counterparty	**S&P**	**Moody's**	**Fitch**	**Notional Amount (in millions)**	**% of Total Notional Amount**
JPMorgan Chase Bank, NA	A+	Aa2	AA	$746.075	33.22%
UBS AG	A+	Aa3	AA-	463.695	20.65
The Bank of New York Mellon	AA-	Aa2	AA	324.670	14.46
Citibank, N.A.	A+	Aa3	A+	189.300	8.43
BNP Paribas US Wholesale Holdings, Corp.	A[1]	Aa3	A+	189.300	8.43
U.S. Bank National Association	AA-	A1	AA-	120.5875	5.37
Wells Fargo Bank, N.A.	A+	Aa2	AA-	120.5875	5.37
AIG Financial Products Corp.	BBB+	Baa1	BBB+	91.465	4.07
Total				**$2,245.680**	**100.00%**

(1) The S&P rating for BNP Paribas, the guarantor on the related swap, was upgraded to A+ on April 5, 2019.

- Interest Rate Risk – MTA and MTA Bridges and Tunnels are exposed to interest rate risk on the interest rate swaps. On the pay-fixed, receive-variable interest rate swaps, as LIBOR decreases, MTA and MTA Bridges and Tunnels' net payments on the swaps increase. MTA and MTA Bridges and Tunnels are evaluating the impact of the cessation of the LIBOR benchmark at the end of 2021.

- Basis Risk – The risk that the variable rate of interest paid by the counterparty under the swap and the variable interest rate paid by MTA or MTA Bridges and Tunnels on the associated bonds may not be the same. If the counterparty's rate under the swap is lower than the bond interest rate, then the counterparty's payment under the swap agreement does not fully reimburse MTA or MTA Bridges and Tunnels for its interest payment on the associated bonds. Conversely, if the bond interest rate is lower than the counterparty's rate on the swap, there is a net benefit to MTA or MTA Bridges and Tunnels.

- Termination Risk – The risk that a swap agreement will be terminated and MTA or MTA Bridges and Tunnels will be required to make a swap termination payment to the counterparty and, in the case of a swap agreement which was entered into for the purpose of creating a synthetic fixed rate for an advance refunding transaction may also be required to take action to protect the tax-exempt status of the related refunding bonds.

The ISDA Master Agreement sets forth certain termination events applicable to all swaps entered into by the parties to that ISDA Master Agreement. MTA and MTA Bridges and Tunnels have entered into separate ISDA Master Agreements with each counterparty that govern the terms of each swap with that counterparty, subject to individual terms negotiated in a confirmation. MTA and MTA Bridges and Tunnels are each subject to termination risk if its credit ratings fall below certain specified thresholds or if it commits a specified event of default or other specified event of termination. If, at the time of termination, a swap was in a liability position to MTA or MTA Bridges and Tunnels, a termination payment would be owed by MTA or MTA Bridges and Tunnels to the counterparty, subject to applicable netting arrangements.

The following tables set forth the Additional Termination Events for MTA/MTA Bridges and Tunnels and its counterparties.

MTA Transportation Revenue		
Counterparty Name	**MTA**	**Counterparty**
AIG Financial Products Corp.; JPMorgan Chase Bank, NA; UBS AG	Below Baa3 (Moody's) or BBB- (S&P)*	Below Baa3 (Moody's) or BBB- (S&P)*

* Equivalent Fitch rating is replacement for Moody's or S&P.

MTA Dedicated Tax Fund		
Counterparty Name	**MTA**	**Counterparty**
Bank of New York Mellon	Below BBB (S&P) or BBB (Fitch)*	Below A3 (Moody's) or A- (S&P) †

* Equivalent Moody's rating is replacement for S&P or Fitch.
† Equivalent Fitch rating is replacement for Moody's or S&P.

MTA Bridges and Tunnels Senior Lien		
Counterparty Name	**MTA Bridges and Tunnels**	**Counterparty**
BNP Paribas US Wholesale Holdings, Corp.; Citibank, N.A.; JPMorgan Chase Bank, NA; UBS AG	Below Baa2 (Moody's) or BBB (S&P)*	Below Baa1 (Moody's) or BBB+ (S&P)*

* Equivalent Fitch rating is replacement for Moody's or S&P.

MTA Bridges and Tunnels Subordinate Lien		
Counterparty Name	**MTA Bridges and Tunnels**	**Counterparty**
U.S. Bank National Association; Wells Fargo Bank, N.A.	Below Baa2 (Moody's) or BBB (S&P)*	Below Baa2 (Moody's) or BBB (S&P) †

* Equivalent Fitch rating is replacement for Moody's or S&P. If not below investment grade, MTA Bridges and Tunnels may cure such Termination Event by posting collateral at a zero threshold.
† Equivalent Fitch rating is replacement for Moody's or S&P.

- MTA and MTA Bridges and Tunnels' ISDA Master Agreements provide that the payments under one transaction will be netted against other transactions entered into under the same ISDA Master Agreement. Under the terms of these agreements, should one party become insolvent or otherwise default on its obligations, close-out netting provisions permit the non-defaulting party to accelerate and terminate all outstanding transactions and net the amounts so that a single sum will be owed by, or owed to, the non-defaulting party.

- Rollover Risk – The risk that the swap agreement matures or may be terminated prior to the final maturity of the associated bonds on a variable rate bond issuance, and MTA or MTA Bridges and Tunnels may be exposed to then market rates and cease to receive the benefit of the synthetic fixed rate for the duration of the bond issue. The following debt is exposed to rollover risk:

Associated Bond Issue	Bond Maturity Date	Swap Termination Date
MTA Bridges and Tunnels General Revenue Variable Rate Bonds, Series 2001C (swaps with U.S. Bank/Wells Fargo)	January 1, 2032	January 1, 2030
MTA Bridges and Tunnels General Revenue Variable Rate Refunding Bonds, Series 2002F (swap with Citibank, N.A.)	November 1, 2032	January 1, 2032
MTA Bridges and Tunnels General Revenue Variable Rate Bonds, Series 2003B (swap with Citibank, N.A.)	January 1, 2033	January 1, 2032
MTA Bridges and Tunnels General Revenue Variable Rate Bonds, Series 2005A (swaps with U.S. Bank/Wells Fargo and Citibank, N.A.)	November 1, 2035	January 1, 2030 (U.S. Bank/Wells Fargo) January 1, 2032 (Citibank)
MTA Transportation Revenue Variable Rate Bonds, Series 2011B (swaps with U.S. Bank/Wells Fargo)	November 1, 2041	January 1, 2030

Collateralization/Contingencies. Under the majority of the swap agreements, MTA and/or MTA Bridges and Tunnels is required to post collateral in the event its credit rating falls below certain specified levels. The collateral posted is to be in the form of cash, U.S. Treasury securities, or certain federal agency securities, based on the valuations of the swap agreements in liability positions and net of the effect of applicable netting arrangements. If MTA and/or MTA Bridges and Tunnels do not post collateral, the swap(s) may be terminated by the counterparty(ies).

As of March 31, 2019, the aggregate mid-market valuation of MTA's swaps subject to collateral posting agreements was ($201.274) million; as of this date, MTA was not subject to collateral posting based on its credit ratings (see further details below).

As of March 31, 2019, the aggregate mid-market valuation of MTA Bridges and Tunnels' swaps subject to collateral posting agreements was ($134.647) million; as of this date, MTA Bridges and Tunnels was not subject to collateral posting based on its credit ratings (see further details below).

The following tables set forth the ratings criteria and threshold amounts applicable to MTA/MTA Bridges and Tunnels and its counterparties.

MTA Transportation Revenue		
Counterparty	**MTA Collateral Thresholds (based on highest rating)**	**Counterparty Collateral Thresholds (based on highest rating)**
AIG Financial Products Corp.; JPMorgan Chase Bank, NA; UBS AG	Baa1/BBB+: $10 million Baa2/BBB & below: Zero	Baa1/BBB+: $10 million Baa2/BBB & below: Zero

Note: Based on Moody's and S&P ratings. In all cases except JPMorgan Chase Bank, N.A. counterparty thresholds, Fitch rating is replacement for either Moody's or S&P, at which point threshold is based on lowest rating.

MTA Dedicated Tax Fund		
Counterparty	**MTA Collateral Thresholds**	**Counterparty Collateral Thresholds (based on lowest rating)**
Bank of New York Mellon	N/A – MTA does not post collateral	Aa3/AA- & above: $10 million A1/A+: $5 million A2/A: $2 million A3/A-: $1 million Baa1/BBB+ & below: Zero

Note: Counterparty thresholds based on Moody's and S&P ratings. Fitch rating is replacement for either Moody's or S&P.

MTA Bridges and Tunnels Senior Lien		
Counterparty	**MTA Bridges and Tunnels Collateral Thresholds (based on highest rating)**	**Counterparty Collateral Thresholds (based on highest rating)**
BNP Paribas US Wholesale Holdings, Corp.; Citibank, N.A.; JPMorgan Chase Bank, NA; UBS AG	Baa1/BBB+: $30 million Baa2/BBB: $15 million Baa3/BBB- & below: Zero	A3/A-: $10 million Baa1/BBB+ & below: Zero

Note: MTA Bridges and Tunnels thresholds based on Moody's, S&P, and Fitch ratings. Counterparty thresholds based on Moody's and S&P ratings; Fitch rating is replacement for Moody's or S&P.

MTA Bridges and Tunnels Subordinate Lien		
Counterparty	**MTA Bridges and Tunnels Collateral Thresholds (based on lowest rating)**	**Counterparty Collateral Thresholds (based on lowest rating)**
U.S. Bank National Association; Wells Fargo Bank, N.A.	Baa3/BBB- & below: Zero *(note: only applicable as cure for Termination Event)*	Aa3/AA- & above: $15 million A1/A+ to A3/A-: $5 million Baa1/BBB+ & below: Zero

Note: Thresholds based on Moody's and S&P ratings. Fitch rating is replacement for Moody's or S&P.

TRANSPORTATION REVENUE BONDS

General

There is $21,377,388,512 aggregate principal amount of outstanding Transportation Revenue Bonds as of April 30, 2019. In addition, and not included in the above amount, MTA has outstanding $4,250,000,000 aggregate principal amount of bond anticipation notes issued under the Transportation Resolution. The following **TRB Table 1** sets forth, on a cash basis, the debt service on outstanding MTA Transportation Revenue Bonds as of April 30, 2019.

TRB Table 1 -- Aggregate Debt Service
($ in thousands)

Year Ending December 31	Aggregate Debt Service[(1)(2)(3)(4)]
2019	$1,589,667
2020	1,595,128
2021	1,583,201
2022	1,566,560
2023	1,651,940
2024	1,643,338
2025	1,623,592
2026	1,666,265
2027	1,651,641
2028	1,646,138
2029	1,654,773
2030	1,640,421
2031	1,676,918
2032	1,678,746
2033	1,341,496
2034	1,296,076
2035	1,296,762
2036	1,107,974
2037	1,083,924
2038	1,011,593
2039	947,871
2040	846,724
2041	679,621
2042	626,785
2043	484,885
2044	513,037
2045	406,467
2046	352,614
2047	322,806
2048	309,103
2049	108,965
2050	108,888
2051	79,397
2052	79,394
2053	79,398
2054	79,395
2055	79,395
2056	63,684
2057	10,483
Total	$36,185,064

(1) Totals may not add due to rounding.

(2) Includes the following assumptions for debt service: variable rate bonds at an assumed rate of 4.0%; variable rate bonds swapped to fixed at the applicable fixed rate on the swap; floating rate notes at an assumed rate of 4.0% plus the current fixed spread; floating rate notes swapped to fixed at the applicable fixed rate on the swap plus the current fixed spread; Subseries 2002G-1 Bonds at an assumed rate of 4.0% plus the current fixed spread, except Subseries 2002G-1g Bonds at an assumed rate of 4.0%; Series 2011B Bonds at an assumed rate of 4.0% plus the current fixed spread; fixed rate mandatory tender bonds at their respective fixed rates prior to the mandatory tender date; interest paid monthly, calculated on the basis of a 360-day year consisting of twelve 30-day months for variable rate bonds and floating rate notes.

(3) Excludes debt service on all outstanding Bond Anticipation Notes and Revenue Anticipation Notes.

(4) Debt service has not been reduced to reflect expected receipt of Build America Bond interest subsidies relating to certain Outstanding Bonds; such subsidies do not constitute pledged revenues under the Transportation Resolution.

Under State law, the Transportation Revenue Bonds are MTA's special obligations, which means that they are payable solely from a gross lien on the money pledged for payment under the Transportation Resolution. They are not MTA's general obligations.

Summaries of certain provisions of the Transportation Resolution, including certain defined terms used therein, and the form of the Interagency Agreement relating thereto have been filed with the MSRB through EMMA, all of which are incorporated by specific cross-reference herein. In addition, for convenience, copies of the summaries and the Interagency Agreement can be obtained at no cost on MTA's website under "MTA Info – Financial Information – Investor Information" at www.mta.info or from the MTA Finance Department at 2 Broadway, New York, New York 10004.

Capitalized terms used under this caption "TRANSPORTATION REVENUE BONDS" not otherwise defined herein have the meanings set forth in the Transportation Resolution.

Pledged Transportation Revenues Gross Lien and Rate Covenant

MTA receives "transportation revenues" directly and through certain subsidiaries (currently, MTA Long Island Rail Road, MTA Metro-North Railroad and MTA Bus) and affiliates (currently, MTA New York City Transit and MaBSTOA), and its receipts from many of these sources are pledged for the payment of Transportation Revenue Bonds. MTA and its subsidiaries also receive operating subsidies from MTA Bridges and Tunnels and a number of other governmental sources. The Transportation Resolution provides that bondholders are to be paid from pledged revenues prior to the payment of operating or other expenses and as described in more detail below.

TRB Table 2a sets forth by general category the amount of pledged revenues, calculated in accordance with the Transportation Resolution, and the resulting debt service coverage for the five years ended December 31, 2018. A general description of the pledged revenues in the general categories referenced in **TRB Table 2a** follows the table, and a more detailed description is set forth in Part 2 of this ADS under the heading "REVENUES OF THE RELATED ENTITIES."

For the years 2014 to 2017, **TRB Table 2a** is based on the historical audited financial statements of MTA and its subsidiaries, MTA Long Island Rail Road, MTA Metro-North Railroad and MTA Bus, and MTA New York City Transit and its subsidiary MaBSTOA, on a cash basis. For the year 2018, **TRB Table 2a** is based on the unaudited financial statements of MTA, MTA Long Island Rail Road, MTA Metro-North Railroad, MTA Bus, and MTA New York City Transit and its subsidiary MaBSTOA, on a cash basis. The audited financial statements for MTA and MTA New York City Transit for 2016 and 2017 and the unaudited financial statements for 2018 covered by **TRB Table 2a** are included herein by specific cross-reference and should be read in connection with this information. The information in **TRB Table 2a** may not be indicative of future results of operations and financial condition. The information contained in the table has been prepared by MTA management based upon the historical financial statements and the notes thereto.

TRB Table 2a
Summary of Pledged Revenues (Calculated in Accordance with the Transportation Resolution)
Historical Cash Basis (in millions)

	Years Ended December 31,				
	2014	2015	2016	2017	2018
Revenues from Systems Operations					
Fares from Transit System	$ 4,195	$ 4,396	$ 4,414	$ 4,487	$ 4,454
Fares from Commuter System	1,308	1,373	1,401	1,460	1,481
Fares from MTA Bus	225	223	233	236	242
Other Income[(1)]	270	248	248	256	280
Subtotal – Operating Revenues	**$5,999**	**$6,240**	**$6,296**	**$6,439**	**$6,457**
Revenues from MTA Bridges and Tunnels Surplus	**$623**	**$740**	**$742**	**$731**	**$692**
Revenues from Governmental Sources					
State and Local General Operating Subsidies	**$376**	**$370**	**$378**	**$376**	**$375**
Special Tax-Supported Operating Subsidies					
DTF Excess[(2)]	279	277	259	231	250
MMTOA Receipts	1,564	1,564	1,668	1,668	1,687
Urban Tax	806	941	811	585	656
Excess Mortgage Recording Taxes	25	25	25	25	25
MTA Aid Trust Account Receipts	313	285	300	306	273
Payroll Mobility Tax Receipts[(3)]	1,572	1,626	1,682	1,680	1,787
Subtotal Special Tax-Supported Operating Subsidies	**$4,559**	**$4,718**	**$4,745**	**$4,495**	**$4,677**
Station Maintenance and Service Reimbursements	**524**	**599**	**563**	**560**	**530**
City Subsidy for MTA Bus	**461**	**439**	**356**	**520**	**464**
Revenues from Investment of Capital Program Funds[(4)]	**7**	**8**	**13**	**24**	**55**
Subtotal – Non-Operating Revenues[(5)]	**$6,550**	**$6,874**	**$6,797**	**$6,706**	**$6,793**
Total Transportation Resolution Pledged Revenues	**$12,549**	**$13,114**	**$13,093**	**$13,145**	**$13,250**
Debt Service[(6)]	**$1,332**	**$1,399**	**$1,381**	**$1,581**	**$1,457**
Debt Service Coverage from Pledged Revenues	**9.4x**	**9.4x**	**9.5x**	**8.3x**	**9.1x**

(1) Other income in the case of the Transit System includes advertising revenue, interest income on certain operating funds, station concessions, Transit Adjudication Bureau collections, rental income and miscellaneous. Other income in the case of the Commuter System includes advertising revenues, interest income on certain operating funds, concession revenues (excluding Grand Central Terminal and Penn Station concessions), rental income and miscellaneous. Other income does not include Superstorm Sandy reimbursement funds.

(2) Calculated by subtracting the debt service payments on the Dedicated Tax Fund Bonds from the MTTF Receipts described in Part 3 of this ADS under the caption "DEDICATED TAX FUND BONDS."

(3) Payroll Mobility Tax Receipts include PMT Revenue Offset of $309 million annually in 2014 through 2016, and $244.3 million in both 2017 and 2018.

(4) Represents investment income on capital program funds held for the benefit of the Transit and Commuter Systems on an accrual basis.

(5) Sum of (a) Revenues from MTA Bridges and Tunnels Surplus, (b) Revenues from Governmental Sources (including State and Local General Operating Subsidies and Special Tax-Supported Operating Subsidies), (c) Station Maintenance and Service Reimbursements, (d) City Subsidy for MTA Bus and (e) Revenues from Investment of Capital Program Funds.

(6) Debt service was reduced by approximately $54 million in each year of 2014 through 2018 to reflect Build America Bonds interest credit payments relating to certain outstanding bonds. Such payments do not constitute Pledged Revenues under the Transportation Resolution.

The following should be noted in **TRB Table 2a**:

- Totals may not add due to rounding.

- In 2014 through 2016, there was an increase in DTF Excess due to higher MTTF Receipts. DTF Excess decreased in 2017 and 2018 because debt service on DTF bonds increased while MTTF Receipts decreased.

- MTA receives monthly payments beginning in May of MMTOA Receipts, with the first quarter of the State's appropriation for the succeeding year advanced into the fourth quarter of MTA's calendar year. MTA continues to monitor the effect of not having MMTOA Receipts available during the first quarter of the calendar year to determine if working capital borrowings may be necessary for cash flow needs. In 2015, MMTOA Receipts remained at the same level as in 2014, because the State redirected a portion of MMTOA funds from the operating budget to the capital budget. In 2016, there was an increase from the lower 2015 levels of MMTOA Receipts. In 2017, MMTOA Receipts remained at the same level as the prior year, and in 2018 there was a small increase from the prior year.

- "Urban Tax" collection reflects the activity level of certain commercial real estate transactions in the City. Urban Tax revenues declined in 2017 due to fewer significantly large transactions (valued over $100 million) as compared to 2015 and 2016. In 2016, MTA saw an increase in Urban Tax revenues from the prior year, as a result of both overall stronger commercial real estate economy and an uptick in the value of significantly large transactions.

- Mortgage recording taxes consist of two separate taxes: the MRT-1 Tax, which is imposed on borrowers of recorded mortgages of real property; and the MRT-2 Tax, which is a tax imposed on the institutional lender. These taxes are collected by the City and the seven other counties within MTA's service area. Mortgage recording taxes are used for Transit and Commuter Systems purposes after the payment of MTA Headquarters' expenses and MTA Bus debt service (beginning in 2009). Since 2009, even though mortgage recording tax receipts have grown in six out of the last seven years, MTA Headquarters expenses and MTA Bus debt service expenses have continued to exceed MRT receipts, resulting in no Excess Mortgage Recording Tax transfers to the Transit and Commuter Systems.

- City Subsidy for MTA Bus was higher in 2017 predominantly due to the timing of payments received. MTA received one extra monthly payment made in 2017 (only 11 payments were made in 2016) and an additional quarterly payment, which is usually reconciled in the following year. In 2018, there was a decrease in receipts for MTA Bus, resulting from the additional quarterly payment that was made in 2017.

- Revenues from Investment of Capital Program Funds – substantially all of the investment income is generated from bond proceeds, such as funds held in anticipation of expenditure on project costs.

- In 2016, $45.3 million of revenues on deposit in the TRB debt service fund was replaced with proceeds of certain Transportation Revenue Bonds permitting such revenues to be used together with other available moneys to prepay outstanding 2 Broadway Certificates of Participation. As a result, 2016 Debt Service reported in the above table is lower by $45.3 million than it would have been if such transaction had not occurred.

MTA has covenanted to impose fares and other charges so that pledged revenues, together with other available moneys, will be sufficient to cover all debt service and operating and capital costs of the systems. See "Factors Affecting Revenues – *Ability to Comply with Rate Covenant and Pay Operating and Maintenance Expenses*" below.

TRB Table 2b is the MTA Consolidated Statement of Operations by Category. It sets forth, by major category, for the five years ended December 31, 2018, all of the system operating revenues, expenses, adjustments, prior-year carryover and net cash balance. The information in the table has been prepared by MTA management based on the MTA financial plans. The amounts indicated in the "Actual" columns for 2014 to 2017 reflect actual information based on the historical audited financial statements of MTA and its subsidiaries, and amounts for 2018 are based on unaudited financial statements. The information in **TRB Table 2b** may not be indicative of future results of operations and financial condition.

TRB Table 2b
MTA Consolidated Statement of Operations by Category
($ in millions)

Non-Reimbursable	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018
Operating Revenue					
Farebox Revenue	$5,709	$5,961	$6,170	$6,172	$6,155
Toll Revenue	1,676	1,809	1,912	1,912	1,976
Other Revenue	682	689	653	653	660
Capital and Other Reimbursements	0	0	0	0	0
Total Operating Revenue	**$8,068**	**$8,459**	**$8,608**	**$8,737**	**$8,791**
Operating Expense					
Labor Expenses:					
Payroll	$4,672	$4,696	$5,019	$5,021	$5,196
Overtime	730	755	934	934	1,066
Health & Welfare	962	1,050	1,209	1,209	1,237
OPEB Current Payment	479	502	564	564	605
Pensions	1,304	1,249	1,345	1,345	1,339
Other-Fringe Benefits	784	861	794	792	881
Reimbursable Overhead	(350)	(380)	(492)	(492)	(527)
Sub-total Labor Expenses	**$8,582**	**$8,732**	**$9,238**	**$9,373**	**$9,797**
Non-Labor Expenses:					
Electric Power	$516	$474	$430	$430	$482
Fuel	267	162	150	150	185
Insurance	51	57	(3)	(3)	(30)
Claims	269	331	515	526	390
Paratransit Service Contracts	366	379	393	393	455
Maintenance and Other Operating Contracts	549	579	692	695	674
Professional Service Contracts	283	380	506	507	539
Materials & Supplies	527	543	588	588	636
Other Business Expenses	180	196	217	217	220
Sub-total Non-Labor Expenses	**$3,007**	**$3,101**	**$3,168**	**$3,505**	**$3,551**
Other Expense Adjustments:					
Other	$45	$37	$49	$49	$129
General Reserve	0	0	0	0	0
Sub-total Other Expense Adjustments	**$45**	**$37**	**$47**	**$49**	**$129**
Total Operating Expense before Non-Cash Liability Adj.	**$11,634**	**$11,871**	**$12,454**	**$12,927**	**$13,477**
Depreciation	$2,266	$2,443	$2,600	$2,608	$2,697
OPEB Liability Adjustment	2,035	1,490	1,548	1,567	1,344
GASB 75 OPEB Expense Adjustment					133
GASB 68 Pension Expense Adjustment	0	(410)	(234)	(168)	(366)
Environmental Remediation	21	21	13	13	104
Total Operating Expense after Non-Cash Liability Adj.	**$15,956**	**$15,414**	**$16,252**	**$16,948**	**$17,389**
Conversion to Cash Basis: Non-Cash Liability Adjs.	($4,322)	($3,543)	($3,927)	($4,021)	($3,912)
Debt Service (excludes Service Contract Bonds)	2,249	2,373	2,525	2,525	2,541
Total Operating Expense with Debt Service	**$13,882**	**$14,244**	**$14,912**	**$15,452**	**$16,018**
Dedicated Taxes and State/Local Subsidies	$6,375	$6,595	$6,429	$6,416	$7,129
Net Surplus/(Deficit) After Subsidies and Debt Service	**$561**	**$810**	**$371**	**($300)**	**($98)**
Conversion to Cash Basis: GASB Account	(50)	0	0	0	0
Conversion to Cash Basis: All Other	(626)	(660)	129	174	349
CASH BALANCE BEFORE PRIOR-YEAR CARRYOVER	**($115)**	**$150**	**($232)**	**($126)**	**$251**
ADJUSTMENTS	**0**	**0**	**0**	**0**	**0**
PRIOR-YEAR CARRYOVER	**445**	**330**	**480**	**248**	**121**
NET CASH BALANCE	**$330**	**$480**	**$248**	**$121**	**$372**

Description of Pledged Revenues

Each of the following pledged revenues is described in more detail in Part 2 of this ADS under the caption "REVENUES OF THE RELATED ENTITIES":

- Fares and Tolls – Transit System Fares;
- Fares and Tolls – Transit System Fare Reimbursements from the City;
- Fares and Tolls – Commuter System Fares;
- Fares and Tolls – MTA Bus Fares;
- State and Local General Operating Subsidies;
- State Special Tax Supported Operating Subsidies;
- Congestion Zone Surcharges deposited into the General Transportation Account and the Rapid Transit Lane Fines;
- Metropolitan Transportation Authority Financial Assistance Fund Receipts;
- Urban Taxes for Transit System;
- MTA Bridges and Tunnels Surplus;
- Financial Assistance and Service Reimbursements from Local Municipalities; and
- Miscellaneous Revenues.

Pledged revenues also include payments made by the City under its agreement with MTA Bus to reimburse MTA Bus the difference between the actual cost of operation of the City Bus Routes (other than certain capital costs) and all revenues and subsidies received by MTA Bus and allocable to the operation of the City Bus Routes, as further described under the caption "MTA BUS COMPANY" in Part 4 of this ADS.

Factors Affecting Revenues

Ridership. The level of fare revenues depends to a large extent on MTA's ability to maintain and/or increase ridership levels on the Transit, Commuter and MTA Bus Systems. Those ridership levels are affected by safety and the quality and efficiency of systems operations as well as by financial and economic conditions in the New York metropolitan area.

Fare Policy. MTA determines the fares charged to users of the Commuter System and MTA Bus System, and MTA New York City Transit and MaBSTOA, together with MTA, do the same for the Transit System. After adopting operating expense budgets and assessing the availability of governmental subsidies, each makes a determination of fares necessary to operate on a self-sustaining cash basis in compliance with State law and covenants in the Transportation Resolution. Considering the impact of increased fares on riders, MTA may attempt to reduce costs or obtain additional revenues from other sources, mainly governmental sources, before increasing fares. As a result, even though MTA does not generally need other governmental approvals before setting fares, the amount and timing of fare increases may be affected by federal, State and local government financial conditions, as well as by their respective budgetary and legislative processes. MTA's obligation to obtain approval of fare increases on the New Haven line from CDOT can also affect the amount and timing of fare increases.

Ability to Comply with Rate Covenant and Pay Operating and Maintenance Expenses. The Transit, Commuter and MTA Bus Systems have depended, and are expected to continue to depend, upon government subsidies to meet capital and operating needs. Thus, although MTA is legally obligated by the Transportation Resolution's rate covenant to raise fares sufficient to cover all capital and operating costs together with other available monies, there can be no assurance that there is any level at which Transit, Commuter and MTA Bus Systems fares alone would produce revenues sufficient to comply with the rate covenant, particularly if the current level (or the assumed level in the budget prepared in connection with 2019 and the forecasts prepared in connection with 2020, 2021 and 2022) of collection of dedicated taxes, operating subsidies, and expense reimbursements were to be discontinued or substantially reduced.

Operating Results and Projections. Based upon the adoption of the February Plan, the budgets of the Related Entities are expected to be substantially in balance through 2019, but there are expected to be deficits in 2020, 2021 and 2022. Any of the Transit System, the Commuter System or MTA Bus System or all of them may be forced to institute additional cost reductions (which, in certain circumstances, could affect service which, in turn, could adversely affect revenues) or take other additional actions to close projected budget gaps, which could include additional fare increases. See "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET" in Part 1 of this ADS.

2019-2022 Financial Plans. The February Plan, the 2010-2014 Capital Program, the 2015-2019 Capital Program and prior and future Capital Programs are interrelated, and any failure to fully achieve the various components of these plans could have an adverse impact on one or more of the other proposals contained in the February Plan, 2010-2014 Capital Program, the 2015-2019 Capital Program and prior and future Capital Programs, as well as on pledged revenues. See "FINANCIAL PLANS AND CAPITAL PROGRAMS" in Part 2 of this ADS.

MTA Bridges and Tunnels Operating Surplus. The amount of MTA Bridges and Tunnels operating surplus to be used for the Transit and Commuter Systems is affected by a number of factors, including traffic volume, the timing and amount of toll increases, the operating and capital costs of MTA Bridges and Tunnels Facilities, and the amount of debt service payable from its operating revenues, including debt service on obligations issued for the benefit of MTA's affiliates and subsidiaries and for MTA Bridges and Tunnels' own capital needs.

Government Assistance. The level and timing of government assistance to MTA may be affected by several different factors, such as:

- Subsidy payments by the State may be made only if and to the extent that appropriations have been made by the Legislature and money is available to fund those appropriations.
- The Legislature may not bind or obligate itself to appropriate revenues during a future legislative session, and appropriations approved during a particular legislative session generally have no force or effect after the close of the State fiscal year for which the appropriations are made.
- The State is not bound or obligated to continue to pay operating subsidies to the Transit System, Commuter System or MTA Bus System or to continue to impose any of the taxes currently funding those subsidies.
- The financial condition of the State, Connecticut, and the City and counties in the MTA Commuter Transportation District, could affect the ability or willingness of the States and local governments to continue to provide general operating subsidies, the City and local governments to continue to provide reimbursements and station maintenance payments, and the State to continue to make special appropriations.
- Court challenges to the State taxes, tolls, fees, surcharges, fines and other charges that are the sources of various State and City operating subsidies to MTA, if successful, could adversely affect the amount of pledged revenues generated by such State taxes, tolls, fees, surcharges, fines and other charges.

Security – General

Transportation Revenue Bonds are MTA's special obligations payable as to principal (including sinking fund installments), redemption premium, if any, and interest from the security, sources of payment, and funds specified in the Transportation Resolution.

The payment of principal (including sinking fund installments, if any), redemption premium, if any, and interest on the Transportation Revenue Bonds is secured by, among other sources described below, the transportation revenues discussed in the preceding section which are, together with certain other revenues, referred to as "pledged revenues."

Summaries of certain provisions of the Transportation Resolution, including certain defined terms used therein, have been filed with the MSRB through EMMA, all of which are incorporated by specific cross-reference herein. In addition, for convenience, copies of the summaries can be obtained on MTA's website under "MTA Info – Financial Information – Investor Information" at www.mta.info or from the MTA Finance Department at 2 Broadway, New York, New York 10004.

Holders of Transportation Revenue Bonds are to be paid from pledged revenues prior to the payment of operating or other expenses of MTA, MTA New York City Transit, MaBSTOA, MTA Long Island Rail Road, MTA Metro-North Railroad and MTA Bus. However, MTA's ability to generate major portions of the pledged revenues depends upon its payment of operating and other expenses.

MTA Transportation Revenue Bonds are not a debt of the State or the City, or any other local governmental unit. MTA has no taxing power.

Pledge Effected by the Resolution

The Transportation Resolution provides that there are pledged to the payment of principal and redemption premium of, interest on, and sinking fund installments for, the Transportation Revenue Bonds and Parity Debt, in accordance with their terms and the provisions of the Transportation Resolution the following, referred to as the "trust estate."

- all pledged revenues as described above;
- the net proceeds of certain agreements pledged by MTA to the payment of Transit and Commuter capital projects;
- the proceeds from the sale of Transportation Revenue Bonds, until those proceeds are paid out for an authorized purpose;
- all funds, accounts and subaccounts established by the Transportation Resolution (except those established pursuant to a related supplemental resolution, and excluded by such supplemental resolution from the Trust Estate as security for all Transportation Revenue Bonds, in connection with variable interest rate obligations, put obligations, parity debt, subordinated contract obligations or subordinated debt); and
- the Interagency Agreement dated as of April 1, 2006, among MTA, MTA Long Island Rail Road, MTA Metro-North Railroad, MTA Bus, MTA New York City Transit and MaBSTOA.

The Trustee may directly enforce an undertaking to operate the Transit System, the Commuter System or the MTA Bus System to ensure compliance with the Transportation Resolution.

Under the Transportation Resolution, the operators of the Transit System, Commuter System and MTA Bus System are obligated to transfer to the Trustee for deposit into the Revenue Fund virtually all pledged revenues as soon as practicable following receipt or, with respect to revenues in the form of cash and coin, immediately after being counted and verified. The pledge of money located in Connecticut may not be effective until that money is deposited under the Transportation Resolution.

Flow of Revenues

The Transportation Resolution creates the following funds and accounts:

- Revenue Fund (held by the Trustee);
- Debt Service Fund (held by the Trustee); and
- Proceeds Fund (held by MTA).

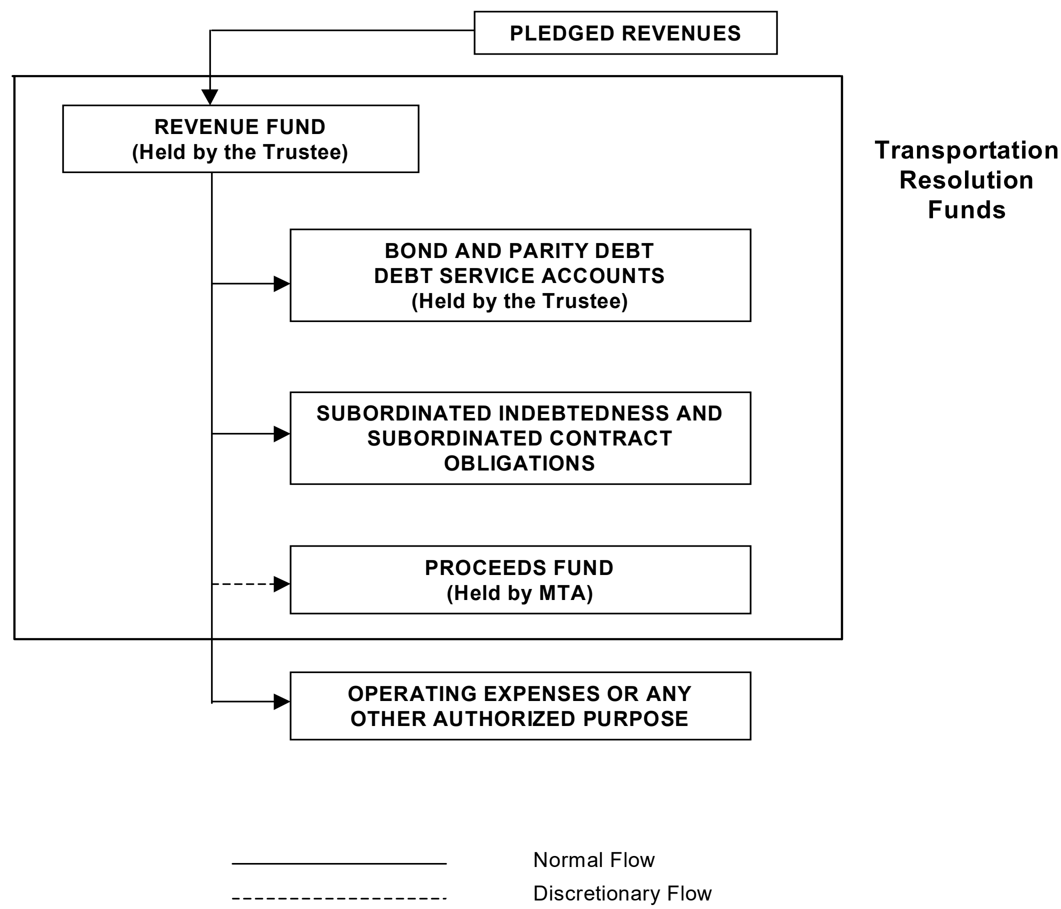
The Transportation Resolution requires the trustee, promptly upon receipt of the pledged revenues in the Revenue Fund, to deposit the revenues into the following funds and accounts, in the amounts and in the order of priority, as follows:

- to the debt service accounts, the net amount, if any, required to make the amount in the debt service accounts equal to the accrued debt service for Transportation Revenue Bonds and Parity Debt to the last day of the current calendar month;
- to pay, or accrue to pay, principal of and interest on any Subordinated Indebtedness or for payment of amounts due under any Subordinated Contract Obligation;
- to MTA for deposit in the Proceeds Fund, as directed by one of MTA's authorized officers, to fund Capital Costs of the Transit System, Commuter System and MTA Bus System; and
- to accounts held by MTA or any of the other Related Entities for payment of operating expenses or any other authorized purpose.

All amounts paid out by MTA or the Trustee either for an authorized purpose (excluding transfers to any other pledged fund or account) or under the last bullet point above are free and clear of the lien and pledge created by the Transportation Resolution.

The following chart illustrates the basic elements of the flow of revenues described above.

TRANSPORTATION REVENUE OBLIGATIONS - FLOW OF PLEDGED REVENUES



Covenants

Rate Covenants. MTA must fix the Transit and Commuter and MTA Bus fares and other charges and fees to be sufficient, together with other money legally available or expected to be available, including from government subsidies –

- to pay the debt service on all the Transportation Revenue Bonds;
- to pay any Parity Debt;
- to pay any Subordinated Indebtedness and amounts due on any Subordinated Contract Obligations; and
- to pay, when due, all operating and maintenance expenses and other obligations of its transit and commuter affiliates and subsidiaries.

Operating and Maintenance Covenants.

- MTA, MaBSTOA, MTA New York City Transit, MTA Bus, MTA Metro-North Railroad and MTA Long Island Rail Road are required at all times to operate, or cause to be operated, the systems properly and in a sound and economical manner and maintain, preserve, reconstruct and keep the same or cause the same to be maintained, preserved, reconstructed and kept in good repair, working order and condition.

- Nothing in the Transportation Resolution prevents MTA from ceasing to operate or maintain, or from leasing or disposing of, all or any portion of the systems if, in MTA's judgment it is advisable to do so, but only if the operation is not essential to the maintenance and continued operation of the rest of the systems and this arrangement does not materially interfere with MTA's ability to comply with MTA's rate covenants.

Additional Bonds. The Transportation Resolution permits MTA to issue additional Transportation Revenue Bonds and to issue or enter into Parity Debt, from time to time, to pay or provide for the payment of qualifying costs, without meeting any specific debt-service-coverage level, as long as MTA certifies to meeting the rate covenant described above for the year in which the additional debt is being issued. Under the Transportation Resolution, MTA may only issue additional Transportation Revenue Bonds if those bonds are issued to fund projects pursuant to a CPRB-approved MTA Capital Program, if an approved Capital Program is then required.

There is no covenant with bondholders limiting the aggregate principal amount of additional Transportation Revenue Bonds or Parity Debt that MTA may issue. There is a limit under current State law that covers the Transportation Revenue Bonds and certain other securities. See "PUBLIC DEBT SECURITIES AND OTHER FINANCIAL INSTRUMENTS—GENERAL—Financing of Capital Projects and Statutory Ceiling" above for a description of the current statutory ceiling.

Refunding Bonds. MTA may issue Transportation Revenue Bonds to refund all or any portion of the Transportation Revenue Bonds or Parity Debt.

Non-Impairment. Under State law, the State has pledged to MTA that it will not limit or change MTA's powers or rights in such a way that would impair the fulfillment of MTA's promises to holders of the Transportation Revenue Bonds.

No Bankruptcy. State law specifically prohibits MTA or the other Related Entities from filing a voluntary bankruptcy petition under Chapter 9 of the Federal Bankruptcy Code, so long as any Transportation Revenue Bonds are outstanding. The State has covenanted not to change the law to permit MTA or its affiliates or subsidiaries to file such a petition. Chapter 9 does not provide authority for creditors to file involuntary bankruptcy proceedings against MTA or other Related Entities.

Parity Debt

MTA may incur Parity Debt pursuant to the terms of the Transportation Resolution that, subject to certain exceptions, would be secured by a pledge of, and a lien on, the Trust Estate on a parity with the lien created by the Transportation Resolution with respect to Transportation Revenue Bonds. Parity Debt may be incurred in the form of a Parity Reimbursement Obligation, a Parity Swap Obligation or any other contract, agreement or other obligation of MTA designated as constituting "Parity Debt" in a certificate of an Authorized Officer delivered to the Trustee.

MTA BRIDGES AND TUNNELS SENIOR REVENUE BONDS

There is $7,620,040,000 aggregate principal amount of outstanding MTA Bridges and Tunnels Senior Revenue Bonds as of April 30, 2019. The following **MTA Bridges and Tunnels Senior Table 1** sets forth, on a cash basis, the debt service on the outstanding MTA Bridges and Tunnels Senior Revenue Bonds as of April 30, 2019.

MTA Bridges and Tunnels Senior Table 1
Aggregate Senior Lien Debt Service
($ in thousands)

Year Ending December 31	Aggregate Debt Service[(1)(2)(3)]
2019	$510,770
2020	584,363
2021	572,571
2022	568,180
2023	579,160
2024	599,562
2025	598,992
2026	617,594
2027	613,782
2028	618,143
2029	619,641
2030	613,113
2031	621,139
2032	663,255
2033	368,177
2034	368,176
2035	368,178
2036	368,177
2037	368,178
2038	368,175
2039	232,065
2040	184,973
2041	161,734
2042	161,733
2043	143,439
2044	140,096
2045	124,674
2046	120,416
2047	101,122
2048	81,870
2049	13,726
2050	13,729
Total	$12,068,902

(1) Totals may not add due to rounding.

(2) Includes the following assumptions for debt service: variable rate bonds at an assumed rate of 4.0%; variable rate bonds swapped to fixed at the applicable fixed rate on the swap; floating rate notes at an assumed rate of 4.0% plus the current fixed spread; floating rate notes swapped to fixed at the applicable fixed rate on the swap plus the current fixed spread. Series 2001C Bonds and a portion of Series 2005A Bonds at an assumed rate of 4.0%, interest paid monthly, calculated on the basis of a 360-day year consisting of twelve 30-day months.

(3) Debt service has not been reduced to reflect expected receipt of Build America Bond interest subsidies relating to certain Outstanding Bonds; such subsidies do not constitute pledged revenues under the MTA Bridges and Tunnels Senior Resolution.

Sources of Payment

MTA Bridges and Tunnels receives its revenues from all tolls, revenues, rates, fees, charges, rents, and proceeds of use and occupancy insurance on any portion of its tunnels, bridges and other facilities, including the net revenues of the Battery Parking Garage, and of any other insurance which insures against loss of revenues therefrom payable to or for the account of MTA Bridges and Tunnels, and MTA Bridges and Tunnels' receipts from those sources, after payment of MTA Bridges and Tunnels' operating expenses, are pledged to the holders of the MTA Bridges and Tunnels Senior Revenue Bonds for payment, as described below.

MTA Bridges and Tunnels is required to fix and collect tolls for the MTA Bridges and Tunnels Facilities, and MTA Bridges and Tunnels' power to establish toll rates is not subject to the approval of any governmental entity. For more information relating to MTA Bridges and Tunnels' power to establish tolls, see "RIDERSHIP AND FACILITIES USE – Toll Rates" in Part 5 of this ADS.

MTA Bridges and Tunnels Senior Table 2 sets forth, by MTA Bridges and Tunnels facility, the amount of revenues for each of the last five years, as well as operating expenses. The audited financial statements for MTA and MTA Bridges and Tunnels for 2016 and 2017 and the unaudited financial statements for 2018 covered by **MTA Bridges and Tunnels Senior Table 2** are included herein by specific cross-reference and should be read in connection with this information. The information in **MTA Bridges and Tunnels Senior Table 2** may not be indicative of future results of operations and financial condition. The information contained in the table has been prepared by MTA management based upon the historical financial statements and notes.

MTA Bridges and Tunnels Senior Table 2
Historical Revenues, Operating Expenses and Senior Lien Debt Service
(in thousands)

Bridge and Tunnel Revenues:	2014	2015	2016	2017	2018[3]
Robert F. Kennedy Bridge	$393,622	$422,756	$428,083	$437,735	$449,086
Verrazzano-Narrows Bridge	345,466	372,347	393,017	416,312	434,963
Bronx Whitestone Bridge	260,756	294,022	320,486	327,812	334,325
Throgs Neck Bridge	302,110	324,702	335,732	345,556	345,992
Henry Hudson Bridge	64,879	71,388	76,309	84,479	84,422
Marine Parkway Gil Hodges Memorial Bridge	15,578	16,906	17,263	18,182	17,526
Cross Bay Veterans' Memorial Bridge	16,269	17,517	18,431	18,662	18,647
Queens Midtown Tunnel	178,630	182,382	171,121	157,443	175,919
Hugh L. Carey Tunnel	99,135	106,881	109,250	105,677	114,783
Total Bridge and Tunnel Revenues:	$1,676,445	$1,808,901	$1,869,693	$1,911,858	$1,975,663
Investment Income and Other[1]	35,184	48,551	35,135	20,082	23,921
Total Revenues	**$1,711,629**	**$1,857,452**	**$1,904,828**	**$1,931,940**	**$1,999,584**
Operating Expenses[2]					
Personnel Costs	$238,528	$226,408	$250,285	$254,621	$275,410
Maintenance and Other Operating Expenses	205,225	217,658	221,418	241,838	256,210
Total Operating Expenses	**$443,753**	**$444,066**	**$471,703**	**$496,459**	**$531,620**
Net Revenues Available for Debt Service	**$1,267,876**	**$1,413,386**	**$1,433,125**	**$1,435,481**	**$1,467,964**
MTA Bridges and Tunnels Senior Lien Debt Service	**$470,418**	**$484,852**	**$513,277**	**$536,427**	**$560,063**
Senior Lien Coverage	**2.70x**	**2.92x**	**2.79x**	**2.68x**	**2.62x**

(1) Includes the net revenues from the Battery Parking Garage, as well as E-ZPass administrative fees and miscellaneous other revenues. Includes Build America Bond interest subsidies of $8.4 million in 2014, $8.7 million in 2015, $8.4 million in 2016, $8.1 million in 2017, and $8.5 million in 2018. Investment earnings include interest earned on bond funds, including debt service funds that were applied to the payment of debt service as follows for the years 2014 through 2018, respectively: $121, $185, $708, $1,824, and $3,582. The amounts set forth in this footnote, as well as all of **MTA Bridges and Tunnels Senior Table 2**, are derived from MTA Bridges and Tunnels' audited financial statements for the years 2014 through 2017 and unaudited financial statements for 2018.

(2) Excludes depreciation, other post-employment benefits other than pensions and asset impairment due to Superstorm Sandy.

(3) The 2018 amounts are unaudited.

The following should be noted in **MTA Bridges and Tunnels Senior Table 2**:

- Bridge and Tunnel Revenues – Crossing charges were increased March 22, 2015 and March 19, 2017. Traffic in 2018 was the highest year ever with approximately 322.3 million paid vehicle crossings, surpassing the previous high of 310.0 million crossings in 2017 by 3.6%. The increase is primarily due to improvements in the regional economy, stable gas prices, and improved mobility achieved through Cashless Tolling.

- Operating Expenses - Personnel Costs – The 2014 to 2015 decrease in personnel costs was largely due to lower salaries and related benefits because of fewer retroactive adjustments and headcounts compared to the previous year, including the transfer of technology personnel to MTA as part of the agency-wide IT consolidation effort. The 2016 increase was primarily due to the additional wage and fringe benefits costs resulting from the full value of all vacation and sick leave balances, earned by employees to date if the leave was attributable to past service. The increase in 2017 was primarily due to wage and fringe benefits inflation for both contractually represented and non-represented employees. The increase in 2018 was mainly due to the recent changes to accounting for Other Post Employment Benefit ("OPEB") plans under GASB 75, a new accounting standard.

- Operating Expenses - Maintenance and Other Operating Expenses – In 2014, the increase in non-labor expenses was primarily due to additional major maintenance and bridge painting costs and increases in property and general liability insurance. In 2015, the increase in non-labor expenses was primarily due to additional major maintenance and bridge painting costs and higher credit card fees associated with the toll increase. In 2016, the increase in non-labor expenses was mainly due to additional major maintenance and bridge painting costs. Most of the growth in 2017 non-labor expenses was due to implementation costs for Cashless Tolling and back-office costs for administering the Tolls by Mail program. In 2018, the increase in non-labor expenses was mainly due to higher costs relating to a full year of Cashless Tolling as well as additional major maintenance, engineering services and credit card fees expense.

Security – General

MTA Bridges and Tunnels Senior Revenue Bonds are general obligations of MTA Bridges and Tunnels payable solely from the trust estate (described below) pledged for the payment of the Bonds and Parity Debt pursuant to the terms of the MTA Bridges and Tunnels Senior Resolution, after the payment of Operating Expenses.

Summaries of certain provisions of the MTA Bridges and Tunnels Senior Resolution, including certain defined terms used therein, have been filed with the MSRB through EMMA, all of which are incorporated by specific cross-reference herein. In addition, for convenience, copies of the summaries can be obtained on MTA's website under "MTA Info – Financial Information – Investor Information" at www.mta.info or from the MTA Finance Department at 2 Broadway, New York, New York 10004.

Capitalized terms used under this caption "MTA BRIDGES AND TUNNELS SENIOR REVENUE BONDS" not otherwise defined herein have the meanings set forth in the MTA Bridges and Tunnels Senior Resolution, except that the term "MTA Bridges and Tunnels" is used herein in place of the defined term "TBTA." So, for example, the term "MTA Bridges and Tunnels Facilities" as used herein is referred to in the MTA Bridges and Tunnels Senior Resolution and in the summaries thereof as "TBTA Facilities."

MTA Bridges and Tunnels Senior Revenue Bonds are not a debt of the State or the City, or any local governmental unit. MTA Bridges and Tunnels has no taxing power.

Pledge Effected by the MTA Bridges and Tunnels Senior Resolution

The Bonds and Parity Debt issued in accordance with the MTA Bridges and Tunnels Senior Resolution are secured by a net pledge of Revenues after the payment of Operating Expenses.

Pursuant to, and in accordance with, the MTA Bridges and Tunnels Senior Resolution, MTA Bridges and Tunnels has pledged to the holders of the MTA Bridges and Tunnels Senior Revenue Bonds a "trust estate," which consists of

- Revenues;
- the proceeds from the sale of the MTA Bridges and Tunnels Senior Revenue Bonds; and
- all funds, accounts and subaccounts established by the MTA Bridges and Tunnels Senior Resolution (except those established pursuant to a related supplemental resolution, and excluded by such supplemental resolution from the Trust Estate as security for all MTA Bridges and Tunnels Senior Revenue Bonds in connection with variable interest rate obligations, put obligations, parity debt, subordinated contract obligations or subordinated debt).

Revenues and Additional MTA Bridges and Tunnels Projects

Revenues from MTA Bridges and Tunnels Facilities. MTA Bridges and Tunnels does not currently derive any significant recurring Revenues from any sources other than the MTA Bridges and Tunnels Facilities and investment income. Income from capital projects for the Transit and Commuter Systems, MTA Bus and MTA Staten Island Railway financed by MTA Bridges and Tunnels is not derived by or for the account of MTA Bridges and Tunnels; consequently, no revenues from any portion of the capital projects for the Transit and Commuter Systems, MTA Bus and MTA Staten Island Railway financed by MTA Bridges and Tunnels are pledged to the payment of debt service on the MTA Bridges and Tunnels Senior Revenue Bonds.

Additional MTA Bridges and Tunnels Projects That Can Become MTA Bridges and Tunnels Facilities. If MTA Bridges and Tunnels is authorized to undertake another project, whether a bridge or tunnel, that project can become an MTA Bridges and Tunnels Facility for purposes of the MTA Bridges and Tunnels Senior Resolution if it is designated as such by MTA Bridges and Tunnels and it satisfies certain conditions more fully described under "SUMMARY OF CERTAIN PROVISIONS OF THE TBTA RESOLUTION – Additional TBTA Facilities" in the summaries of documents.

Flow of Revenues

The MTA Bridges and Tunnels Senior Resolution establishes the following funds and accounts, each held by MTA Bridges and Tunnels:

- Revenue Fund;
- Proceeds Fund;
- Debt Service Fund; and
- General Fund.

Under the MTA Bridges and Tunnels Senior Resolution, MTA Bridges and Tunnels is required to pay into the Revenue Fund all Revenues as and when received and available for deposit.

MTA Bridges and Tunnels is required to pay out from the Revenue Fund, on or before the 25th day of each calendar month, the following amounts in the following order of priority:

- payment of reasonable and necessary Operating Expenses or accumulation in the Revenue Fund as a reserve (1) for working capital, (2) for such Operating Expenses the payment of which is not immediately required, including amounts determined by MTA Bridges and Tunnels to be required as an operating reserve, or (3) deemed necessary or desirable by MTA Bridges and Tunnels to comply with orders or rulings of an agency or regulatory body having lawful jurisdiction;
- transfer to the Debt Service Fund, the amount, if any, required so that the balance in the fund is equal to Accrued Debt Service to the last day of the current calendar month; provided, however, that in no

event shall the amount to be so transferred be less than the amount required for all payment dates occurring prior to the 25th day of the next succeeding calendar month;

- transfer to another person for payment of, or accrual for payment of, principal of and interest on any Subordinated Indebtedness or for payment of amounts due under any Subordinated Contract Obligations; and
- transfer to the General Fund any remaining amount.

All amounts paid out by MTA Bridges and Tunnels for an authorized purpose (excluding transfers to any other pledged Fund or Account), or withdrawn from the General Fund in accordance with the MTA Bridges and Tunnels Senior Resolution, are free and clear of the lien and pledge created by the MTA Bridges and Tunnels Senior Resolution.

Under the MTA Bridges and Tunnels Senior Resolution, MTA Bridges and Tunnels is required to use amounts in the General Fund to make up deficiencies in the Debt Service Fund and the Revenue Fund, in that order. Subject to the preceding sentence and any lien or pledge securing Subordinated Indebtedness, the MTA Bridges and Tunnels Senior Resolution authorizes MTA Bridges and Tunnels to release amounts in the General Fund to be paid to MTA Bridges and Tunnels free and clear of the lien and pledge created by the MTA Bridges and Tunnels Senior Resolution.

MTA Bridges and Tunnels is required by law to transfer amounts released from the General Fund to MTA, and a statutory formula determines how MTA allocates that money between the Transit and Commuter Systems.

Rate Covenant

Under the MTA Bridges and Tunnels Senior Resolution, MTA Bridges and Tunnels is required at all times to establish, levy, maintain and collect, or cause to be established, levied, maintained and collected, such tolls, rentals and other charges in connection with the MTA Bridges and Tunnels Facilities as shall always be sufficient, together with other money available therefor (including the anticipated receipt of proceeds of the sale of Obligations or other bonds, notes or other obligations or evidences of indebtedness of MTA Bridges and Tunnels that will be used to pay the principal of Obligations issued in anticipation of such receipt, *but not including* any anticipated or actual proceeds from the sale of MTA Bridges and Tunnels Facilities), to equal or exceed in each calendar year *the greater of*:

- an amount equal to the sum of amounts necessary in such calendar year
    - to pay all Operating Expenses of MTA Bridges and Tunnels, plus
    - to pay Calculated Debt Service, as well as the debt service on all Subordinated Indebtedness and all Subordinated Contract Obligations, plus
    - to maintain any reserve established by MTA Bridges and Tunnels pursuant to the MTA Bridges and Tunnels Senior Resolution, in such amount as may be determined from time to time by MTA Bridges and Tunnels in its judgment, or
- an amount such that Revenues less Operating Expenses shall equal at least 1.25 times Calculated Debt Service on all senior lien Bonds for such calendar year.

For a more complete description of the rate covenant and a description of the minimum tolls that can be charged at the MTA Bridges and Tunnels Facilities, see "SUMMARY OF CERTAIN PROVISIONS OF THE TBTA RESOLUTION – Rates and Fees" in the summaries of documents.

Additional Bonds

Under the provisions of the MTA Bridges and Tunnels Senior Resolution, MTA Bridges and Tunnels may issue one or more series of Additional Bonds on a parity with the outstanding MTA Bridges and Tunnels Senior Revenue Bonds to provide for Capital Costs.

Certain Additional Bonds for MTA Bridges and Tunnels Facilities. MTA Bridges and Tunnels may issue Additional Bonds without satisfying any earnings or coverage test for the purpose of providing for Capital Costs relating to MTA Bridges and Tunnels Facilities for the purpose of keeping such MTA Bridges and Tunnels Facilities in good operating condition or preventing a loss of Revenues or Revenues after payment of Operating Expenses derived from such MTA Bridges and Tunnels Facilities.

Additional Bonds for Other Purposes. MTA Bridges and Tunnels may issue Additional Bonds to pay or provide for the payment of all or part of Capital Costs relating to any of the following purposes:

- capital projects of the Transit and Commuter Systems, MTA Bus and MTA Staten Island Railway;
- any Additional MTA Bridges and Tunnels Project (that does not become an MTA Bridges and Tunnels Facility); or
- any MTA Bridges and Tunnels Facilities other than for the purposes set forth in the preceding paragraph.

In the case of Additional Bonds issued other than for the improvement, reconstruction or rehabilitation of MTA Bridges and Tunnels Facilities as described under the preceding heading, in addition to meeting certain other conditions, all as more fully described in "SUMMARY OF CERTAIN PROVISIONS OF THE TBTA RESOLUTION – Special Provisions for Capital Cost Obligations" in the summaries of documents, an Authorized Officer must certify that the historical Twelve Month Period Net Revenues are at least equal to 1.40 times the Maximum Annual Calculated Debt Service on all MTA Bridges and Tunnels Senior Revenue Bonds, including debt service on the MTA Bridges and Tunnels Senior Revenue Bonds to be issued.

Refunding Bonds

MTA Bridges and Tunnels Senior Revenue Bonds may be issued for the purpose of refunding MTA Bridges and Tunnels Senior Revenue Bonds or Parity Debt if (a) the Maximum Annual Calculated Debt Service (including the refunding MTA Bridges and Tunnels Senior Revenue Bonds then proposed to be issued but not including the MTA Bridges and Tunnels Senior Revenue Bonds to be refunded) is equal to or less than the Maximum Annual Calculated Debt Service on the MTA Bridges and Tunnels Senior Revenue Bonds as calculated immediately prior to the refunding (including the refunded MTA Bridges and Tunnels Senior Revenue Bonds but not including the refunding MTA Bridges and Tunnels Senior Revenue Bonds) or (b) the conditions referred to above under Additional Bonds for the category of MTA Bridges and Tunnels Senior Revenue Bonds being refunded are satisfied.

For a more complete description of the conditions that must be satisfied before issuing refunding Bonds, see "SUMMARY OF CERTAIN PROVISIONS OF THE TBTA RESOLUTION – Refunding Obligations" in the summaries of documents.

Parity Debt

MTA Bridges and Tunnels may incur Parity Debt pursuant to the terms of the MTA Bridges and Tunnels Senior Resolution that, subject to certain exceptions, would be secured by a pledge of, and a lien on, the Trust Estate on a parity with the lien created by the MTA Bridges and Tunnels Senior Resolution with respect to MTA Bridges and Tunnels Senior Revenue Bonds. Parity Debt may be incurred in the form of a Parity Reimbursement Obligation, a Parity Swap Obligation or any other contract, agreement or other obligation of MTA Bridges and Tunnels designated as constituting "Parity Debt" in a certificate of an Authorized Officer delivered to the Trustee.

Subordinate Obligations

The MTA Bridges and Tunnels Senior Resolution authorizes the issuance or incurrence of subordinate obligations. See "MTA BRIDGES AND TUNNELS SUBORDINATE REVENUE BONDS" below.

MTA BRIDGES AND TUNNELS SUBORDINATE REVENUE BONDS

There is $1,002,775,000 aggregate principal amount of outstanding MTA Bridges and Tunnels Subordinate Revenue Bonds as of April 30, 2019. The following **MTA Bridges and Tunnels Subordinate Table 1** sets forth, on a cash basis, the debt service thereon and on the MTA Bridges and Tunnels Senior Revenue Bonds as of April 30, 2019.

MTA Bridges and Tunnels Subordinate Table 1
Aggregate Senior and Subordinate Debt Service[(1)]
($ in thousands)

Year Ending December 31	MTA Bridges and Tunnels Senior Revenue Bonds Debt Service[(2)(3)]	MTA Bridges and Tunnels Subordinate Revenue Bonds Debt Service	MTA Bridges and Tunnels Aggregate Debt Service[(3)]
2019	$510,770	$102,801	$613,571
2020	584,363	102,231	686,594
2021	572,571	101,978	674,549
2022	568,180	103,148	671,327
2023	579,160	104,445	683,604
2024	599,562	93,656	693,218
2025	598,992	94,084	693,075
2026	617,594	75,670	693,264
2027	613,782	75,952	689,734
2028	618,143	76,146	694,289
2029	619,641	76,198	695,838
2030	613,113	76,408	689,521
2031	621,139	75,713	696,852
2032	663,255	62,484	725,738
2033	368,177	-	368,177
2034	368,176	-	368,176
2035	368,178	-	368,178
2036	368,177	-	368,177
2037	368,178	-	368,178
2038	368,175	-	368,175
2039	232,065	-	232,065
2040	184,973	-	184,973
2041	161,734	-	161,734
2042	161,733	-	161,733
2043	143,439	-	143,439
2044	140,096	-	140,096
2045	124,674	-	124,674
2046	120,416	-	120,416
2047	101,122	-	101,122
2048	81,870	-	81,870
2049	13,726	-	13,726
2050	13,729	-	13,729
Total	$12,068,902	$1,220,911	$13,289,813

(1) Totals may not add due to rounding.

(2) Includes the following assumptions for debt service: variable rate bonds at an assumed rate of 4.0%; variable rate bonds swapped to fixed at the applicable fixed rate on the swap; floating rate notes at an assumed rate of 4.0% plus the current fixed spread; floating rate notes swapped to fixed at the applicable fixed rate on the swap plus the current fixed spread, MTA Bridges and Tunnels Senior Revenue Bonds, Series 2001C and a portion of MTA Bridges and Tunnels Senior Revenue Bonds, Series 2005A at an assumed rate of 4.0%; interest paid monthly, calculated on the basis of a 360-day year consisting of twelve 30-day months.

(3) Debt service has not been reduced to reflect expected receipt of Build America Bond interest subsidies relating to certain Outstanding Bonds; such subsidies do not constitute pledged revenues under the MTA Bridges and Tunnels Senior Resolution.

Sources of Payment

The revenues that are pledged to pay the MTA Bridges and Tunnels Subordinate Revenue Bonds are the same as the revenues that are pledged to pay the MTA Bridges and Tunnels Senior Revenue Bonds. See "MTA BRIDGES AND TUNNELS SENIOR REVENUE BONDS – Sources of Payment" above.

MTA Bridges and Tunnels Subordinate Table 2 sets forth, by MTA Bridges and Tunnels facility, the amount of revenues for each of the last five years, as well as operating expenses. The audited financial statements for MTA and MTA Bridges and Tunnels for 2016 and 2017 and the unaudited financial statements for 2018 covered by **MTA Bridges and Tunnels Subordinate Table 2** are included herein by specific cross-reference and should be read in connection with this information. This information in **MTA Bridges and Tunnels Subordinate Table 2** may not be indicative of future results of operations and financial condition. The information contained in the table has been prepared by MTA management based upon the historical financial statements and notes.

MTA Bridges and Tunnels Subordinate Table 2
Historical Revenues, Operating Expenses and Senior and Subordinate Debt Service
(in thousands)

Bridge and Tunnel Revenues:	2014	2015	2016	2017	2018[3]
Robert F. Kennedy Bridge	$ 393,622	$ 422,756	$ 428,083	$ 437,735	$ 449,086
Verrazzano-Narrows Bridge	345,466	372,347	393,017	416,312	434,963
Bronx-Whitestone Bridge	260,756	294,509	320,486	327,812	334,325
Throgs Neck Bridge	302,110	324,702	335,732	345,556	345,992
Henry Hudson Bridge	64,879	71,388	76,309	84,479	84,422
Marine Parkway Gil Hodges Memorial Bridge	15,578	16,906	17,263	18,182	17,526
Cross Bay Veterans' Memorial Bridge	16,269	17,517	18,431	18,662	18,647
Queens Midtown Tunnel	178,630	182,382	171,121	157,443	175,919
Hugh L. Carey Tunnel	99,135	106,881	109,250	105,677	114,783
Total Bridge and Tunnel Revenues:	$ 1,676,445	$ 1,808,901	$ 1,869,693	$ 1,911,858	$ 1,975,663
Investment Income and Other[1]	35,184	48,551	35,135	20,082	23,921
Total Revenues	**$ 1,711,629**	**$1,857,452**	**$ 1,904,828**	**$ 1,931,940**	**$ 1,999,584**
Operating Expenses[2]					
Personnel Costs	$ 238,528	$ 226,408	$ 250,285	$ 254,621	$ 275,410
Maintenance and Other Operating Expenses	205,225	217,658	221,418	241,838	256,210
Total Operating Expenses	**$ 443,753**	**$ 444,066**	**$ 471,703**	**$ 496,459**	**$ 531,620**
Net Revenues Available for Debt Service	**$ 1,267,876**	**$ 1,413,386**	**$ 1,433,125**	**$ 1,435,481**	**$ 1,467,964**
MTA Bridges and Tunnels Senior Lien Debt Service	**$ 470,418**	**$ 484,852**	**$ 513,277**	**$ 536,427**	**$ 560,063**
Subordinate Bond Fund Investment Earnings	**$ 23**	**$ 53**	**$ 157**	**$ 412**	**$ 819**
Net Revenues Available for Subordinate Debt Service	**$ 797,481**	**$ 928,587**	**$ 920,005**	**$ 899,466**	**$ 907,901**
Debt Service on Subordinate Revenue Bonds	**$ 112,295**	**$ 125,898**	**$ 127,424**	**$ 125,384**	**$ 120,076**
Total Debt Service (Senior and Subordinate)	**$ 582,713**	**$ 610,750**	**$ 640,702**	**$ 661,811**	**$ 680,139**
Combined Debt Service Coverage Ratio	**2.18x**	**2.31x**	**2.24x**	**2.17x**	**2.16x**

(1) Includes the net revenues from the Battery Parking Garage, as well as E-ZPass administrative fees and miscellaneous other revenues. Includes Build America Bond interest subsidies of \$8.4 million in 2014, \$8.7 million in 2015, \$8.4 million in 2016, \$8.1 million in 2017, and \$8.5 million in 2018. Investment earnings include interest earned on bond funds, including debt service and debt service reserve funds that were applied to the payment of debt service as follows for the years 2014 through 2018, respectively, \$121, \$185, \$708, \$1,824, and \$3,582. The amounts set forth in this footnote, as well as all of **MTA Bridges and Tunnels Subordinate Table 2**, are derived from MTA Bridges and Tunnels' audited financial statements for the years 2014 through 2017 and unaudited financial statements for 2018.

(2) Excludes depreciation, other post-employment benefits other than pensions and asset impairment due to Superstorm Sandy.

(3) The 2018 amounts are unaudited.

The following should be noted in **MTA Bridges and Tunnels Subordinate Table 2**:

- Bridge and Tunnel Revenues - Crossing charges were increased on March 22, 2015 and March 19, 2017. Traffic in 2018 was the highest year ever with approximately 322.3 million paid vehicle crossings, surpassing the previous high of 310.0 million crossings in 2017 by 3.6%. The increase is primarily due to improvements in the regional economy, stable gas prices, and improved mobility achieved through Cashless Tolling.

- Operating Expenses - Personnel Costs - The 2014 to 2015 decrease in personnel costs was largely due to lower salaries and related benefits because of fewer retroactive adjustments and headcounts compared to the previous year, including the transfer of technology personnel to MTA as part of the agency-wide IT consolidation effort. The 2016 increase was primarily due to the additional wage and fringe benefits costs resulting from the full value of all vacation and sick leave balances, earned by employees to date if the leave was attributable to past service. The increase in 2017 was primarily due to wage and fringe benefits inflation for both contractually represented and non-represented employees. The increase in 2018 was mainly due to the recent changes to accounting for OPEB plans under GASB 75, a new accounting standard.

- Operating Expenses - Maintenance and Other Operating Expenses - In 2014, the increase in non-labor expenses was primarily due to additional major maintenance and bridge painting costs and increases in property and general liability insurance. In 2015, the increase in non-labor expenses was primarily due to additional major maintenance and bridge painting costs and higher credit card fees associated with the toll increase. In 2016, the increase in non-labor expenses was mainly due to additional major maintenance and bridge painting costs. Most of the growth in 2017 non-labor expenses was due to implementation costs for Cashless Tolling and back-office costs for administering the Tolls by Mail program. In 2018, the increase in non-labor expenses was mainly due to higher costs relating to a full year of the cashless tolling program as well as additional major maintenance, engineering services and credit card fees expense.

Security – General

MTA Bridges and Tunnels Subordinate Revenue Bonds are special obligations of MTA Bridges and Tunnels payable solely from the trust estate (described below) pledged for the payment of the MTA Bridges and Tunnels Subordinate Revenue Bonds and subordinate parity debt pursuant to the terms of the MTA Bridges and Tunnels Subordinate Resolution, after the payment of Operating Expenses and after payment of debt service as required by the MTA Bridges and Tunnels Senior Resolution.

Summaries of certain provisions of the MTA Bridges and Tunnels Subordinate Resolution, including certain defined terms used therein, have been filed with the MSRB through EMMA, all of which are incorporated by specific cross-reference herein. In addition, for convenience, copies of the summaries can be obtained on MTA's website under "MTA Info – Financial Information – Investor Information" at www.mta.info or from the MTA Finance Department at 2 Broadway, New York, New York 10004.

Capitalized terms used under this caption "MTA BRIDGES AND TUNNELS SUBORDINATE REVENUE BONDS" not otherwise defined herein have the meanings set forth in the MTA Bridges and Tunnels Subordinate Resolution, except that the term "MTA Bridges and Tunnels" is used herein in place of the defined term "TBTA." So, for example, the term "MTA Bridges and Tunnels Facilities" as used herein is referred to in the MTA Bridges and Tunnels Subordinate Resolution and in the summaries thereof as "TBTA Facilities."

MTA Bridges and Tunnels Subordinate Revenue Bonds are not a debt of the State or the City or any local governmental unit. MTA Bridges and Tunnels has no taxing power.

Pledge Effected by the MTA Bridges and Tunnels Subordinate Resolution

The lien on the trust estate described below created by the MTA Bridges and Tunnels Subordinate Resolution is junior and subordinate to the lien created by the MTA Bridges and Tunnels Senior Resolution.

Pursuant to, and in accordance with, the MTA Bridges and Tunnels Subordinate Resolution, MTA Bridges and Tunnels has pledged to the holders of the MTA Bridges and Tunnels Subordinate Revenue Bonds a "trust estate," which consists of:

- Revenues (after the application of those Revenues as required by the MTA Bridges and Tunnels Senior Resolution, including the payment of Operating Expenses and MTA Bridges and Tunnels Senior Resolution debt service);
- the proceeds from the sale of the MTA Bridges and Tunnels Subordinate Revenue Bonds; and
- all funds, accounts and subaccounts established by the MTA Bridges and Tunnels Subordinate Resolution (except those established pursuant to a related supplemental resolution, and excluded by such supplemental resolution from the Trust Estate as security for all MTA Bridges and Tunnels Subordinate Revenue Bonds in connection with variable interest rate obligations, put obligations, parity debt, subordinated contract obligations or subordinated debt).

Revenues and Additional Subordinate MTA Bridges and Tunnels Projects

Revenues from MTA Bridges and Tunnels Facilities. MTA Bridges and Tunnels does not currently derive any significant recurring Revenues from any sources other than the MTA Bridges and Tunnels Facilities and investment income. Income from capital projects for the Transit and Commuter Systems, MTA Bus and MTA Staten Island Railway financed by MTA Bridges and Tunnels is not derived by or for the account of MTA Bridges and Tunnels; consequently, no revenues from any portion of the capital projects for the Transit and Commuter Systems, MTA Bus and MTA Staten Island Railway financed by MTA Bridges and Tunnels are pledged to the payment of debt service on the MTA Bridges and Tunnels Subordinate Revenue Bonds.

For a discussion of other projects that MTA Bridges and Tunnels is authorized to undertake, see "TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY – Authorized Projects of MTA Bridges and Tunnels."

Additional Subordinate MTA Bridges and Tunnels Projects. One or more projects owned or to be owned by MTA Bridges and Tunnels or another Related Entity may become an Additional Subordinate MTA Bridges and Tunnels Project without satisfying any earnings or coverage test if MTA Bridges and Tunnels is authorized to undertake that project, and the project is designated by MTA Bridges and Tunnels to be an Additional Subordinate MTA Bridges and Tunnels Project.

Upon satisfaction of certain conditions, MTA Bridges and Tunnels is authorized to issue Subordinate Revenue Bonds to fund the Capital Costs of Additional Subordinate MTA Bridges and Tunnels Projects. See "—Additional Subordinate Revenue Bonds" below.

Flow of Revenues

The MTA Bridges and Tunnels Subordinate Resolution establishes the following funds and accounts, each held by MTA Bridges and Tunnels:

- Proceeds Fund; and
- Debt Service Fund.

MTA Bridges and Tunnels is required to transfer to the Debt Service Fund under the MTA Bridges and Tunnels Subordinate Resolution, from time to time, but no less frequently than on or before the 25th day of each calendar month, from amounts as shall from time to time be available for transfer from the Revenue Fund under the MTA Bridges and Tunnels Senior Resolution, free and clear of the lien of the MTA Bridges and Tunnels Senior Resolution, the amount, if any, required so that the balance in the fund is equal to Accrued Debt Service to the last day of the current calendar month; provided, however, that in no event shall the amount to be so transferred be less than the amount required for all payment dates occurring prior to the 25th day of the next succeeding calendar month.

Rate Covenant

MTA Bridges and Tunnels is required at all times to establish, levy, maintain and collect, or cause to be established, levied, maintained and collected, such tolls, rentals and other charges in connection with the MTA Bridges and Tunnels Facilities as shall always be sufficient, together with other money available therefor (including the anticipated receipt of proceeds of the sale of Obligations or other bonds, notes or other obligations or evidences of indebtedness of MTA Bridges and Tunnels that will be used to pay the principal of Obligations issued in anticipation of such receipt, but not including any anticipated or actual proceeds from the sale of MTA Bridges and Tunnels Facilities), to equal or exceed in each calendar year the greater of:

- an amount equal to the sum of amounts necessary in that calendar year
  - to pay all Operating Expenses of MTA Bridges and Tunnels, plus
  - to pay Calculated Debt Service on all senior lien and subordinate lien bonds and parity debt, plus
  - to maintain any reserve established by MTA Bridges and Tunnels pursuant to the MTA Bridges and Tunnels Senior Resolution, in such amount as may be determined from time to time by MTA Bridges and Tunnels in its judgment, or
- an amount such that Revenues less Operating Expenses shall equal at least 1.10 times Calculated Debt Service on all senior lien and subordinate lien bonds and parity debt for such calendar year.

For a more complete description of the rate covenant and a description of the minimum tolls that can be charged at the MTA Bridges and Tunnels Facilities, see "SUMMARY OF CERTAIN PROVISIONS OF THE TBTA RESOLUTION – Rates and Fees" and "SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATE REVENUE RESOLUTION — Additional Provisions Relating to the Series 2002D and Series 2002E Bonds—*Rate Covenant*" in the summaries of documents.

Additional Subordinate Revenue Bonds

Under the provisions of the MTA Bridges and Tunnels Subordinate Resolution, MTA Bridges and Tunnels may issue one or more series of Additional Subordinate Revenue Bonds to pay or provide for the payment of all or part of Capital Costs relating to any of the following purposes:

- MTA Bridges and Tunnels Facilities;
- capital projects of the Transit and Commuter Systems, MTA Bus and MTA Staten Island Railway; or
- any Additional Subordinate MTA Bridges and Tunnels Project.

In addition to meeting certain other conditions, all as more fully described in "SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATE REVENUE RESOLUTION – Special Provisions for Capital Cost Obligations" in the summaries of documents, an Authorized Officer must certify that the historical Twelve Month Period Net Revenues are at least equal to 1.10 times the Combined Maximum Annual Calculated Debt Service for all MTA Bridges and Tunnels Subordinate Revenue Obligations, subordinate parity debt, MTA Bridges and Tunnels Senior Obligations and senior parity debt.

In addition, MTA Bridges and Tunnels covenants that, prior to the issuance of MTA Bridges and Tunnels Senior Revenue Bonds, an Authorized Officer must certify that the historical Twelve Month Period Net Revenues are at least equal to 1.10 times the Combined Maximum Annual Calculated Debt Service for all MTA Bridges and Tunnels Subordinate Revenue Obligations, subordinate parity debt, MTA Bridges and Tunnels Senior Obligations and senior parity debt. See "SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATE REVENUE RESOLUTION —Additional Provisions Relating to the Series 2002D and Series 2002E Bonds—*Covenant Regarding Senior Resolution*" in the summaries of documents.

Refunding Subordinate Revenue Bonds

MTA Bridges and Tunnels Subordinate Revenue Bonds may be issued for the purpose of refunding MTA Bridges and Tunnels Subordinate Revenue Bonds, subordinate parity debt, MTA Bridges and Tunnels Senior Revenue Bonds or senior parity debt if:

- the Combined Maximum Annual Calculated Debt Service (including the refunding MTA Bridges and Tunnels Subordinate Revenue Bonds then proposed to be issued, but not including the MTA Bridges and Tunnels Subordinate Revenue Bonds, subordinate parity debt, MTA Bridges and Tunnels Senior Revenue Bonds or senior parity debt to be refunded) is equal to or less than the Combined Maximum Annual Calculated Debt Service as calculated immediately prior to the refunding (including the refunded MTA Bridges and Tunnels Subordinate Revenue Bonds, subordinate parity debt, MTA Bridges and Tunnels Senior Revenue Bonds or senior parity debt, but not including the refunding MTA Bridges and Tunnels Subordinate Revenue Bonds), or

- the conditions referred to above under "— Additional Subordinate Revenue Bonds" are satisfied.

For a more complete description of the conditions that must be satisfied before issuing refunding MTA Bridges and Tunnels Subordinate Revenue Bonds, see "SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATE RESOLUTION – Refunding Subordinate Revenue Obligations" in the summaries of documents.

Subordinate Parity Debt

MTA Bridges and Tunnels may incur subordinate parity debt pursuant to the terms of the MTA Bridges and Tunnels Subordinate Resolution that, subject to certain exceptions, would be secured by a pledge of, and a lien on, the Trust Estate on a parity with the lien created by the MTA Bridges and Tunnels Subordinate Resolution with respect to MTA Bridges and Tunnels Subordinate Revenue Bonds. Such subordinate parity debt may be incurred in the form of a Parity Reimbursement Obligation, a Parity Swap Obligation or any other contract, agreement or other obligation of MTA Bridges and Tunnels designated as constituting "Parity Debt" under the MTA Bridges and Tunnels Subordinate Resolution in a certificate of an Authorized Officer delivered to the Trustee.

DEDICATED TAX FUND BONDS

There is $5,183,780,000 aggregate principal amount of outstanding Dedicated Tax Fund Bonds as of April 30, 2019. In addition, and not included in the above amount, MTA has outstanding $750,000,000 aggregate principal amount of bond anticipation notes issued under the Dedicated Tax Fund Resolution. The following **DTF Table 1** sets forth, on a cash basis, the debt service thereon as of April 30, 2019.

DTF Table 1 – Aggregate Debt Service
($ in thousands)

Year Ending December 31	Aggregate Debt Service(1)(2)(3)(4)
2019	$409,967
2020	418,406
2021	418,405
2022	418,400
2023	418,391
2024	418,385
2025	413,929
2026	404,161
2027	412,101
2028	410,543
2029	419,891
2030	419,888
2031	404,151
2032	374,314
2033	382,995
2034	300,008
2035	300,009
2036	371,532
2037	394,327
2038	375,992
2039	357,651
2040	74,216
2041	38,171
2042	38,169
2043	38,170
2044	38,163
2045	38,171
2046	38,167
2047	38,167
2048	21,459
2049	21,456
2050	21,457
2051	21,460
2052	21,454
2053	21,448
2054	21,447
2055	21,451
2056	21,448
2057	13,425
Total	$ 8,791,344

(1) Totals may not add due to rounding.
(2) Includes the following assumptions for debt service: variable rate bonds at an assumed rate of 4.0%; variable rate bonds swapped to fixed at the applicable fixed rate on the swap; floating rate notes at an assumed rate of 4.0% plus the current fixed spread; floating rate notes swapped to fixed at the applicable fixed rate on the swap plus the current fixed spread; interest paid monthly, calculated on the basis of a 360-day year consisting of twelve 30-day months.
(3) Debt service has not been reduced to reflect expected receipt of Build America Bond interest subsidies relating to certain Outstanding Bonds; such subsidies do not constitute pledged revenues under the DTF Resolution.
(4) Excludes debt service on all outstanding DTF Bond Anticipation Notes.

Sources of Payment – Revenues from Dedicated Taxes

Under State law, MTA receives money from certain dedicated taxes and fees described in this section (the "Dedicated Taxes"). This money is deposited into MTA's Dedicated Tax Fund and is pledged by MTA for the payment of its Dedicated Tax Fund Bonds.

MTA Revenues from PBT, Motor Fuel Tax and Motor Vehicle Fees (MTTF Receipts). In 1991, as part of a program to address the need for continued capital investment in the State's transportation infrastructure, the Legislature established a State fund, called the Dedicated Tax Funds Pool, from which money is apportioned by statutory allocation under current Tax Law to a State fund, called the Dedicated Mass Transportation Trust Fund ("MTTF"). Currently, portions of the following taxes and fees are deposited into the Dedicated Tax Funds Pool, of which 34% is allocated to the MTTF for the benefit of MTA:

- A business privilege tax imposed on petroleum businesses operating in the State (the "PBT"), consisting of: a basic tax that varies based on product type; a supplemental tax on gasoline and highway diesel; and a carrier tax. Currently, 80.3% of net PBT receipts from the basic tax (excluding receipts from aviation fuel, which are deposited in an aviation purpose account from which no receipts are directed to MTTF) and all of the supplemental tax and the carrier tax are deposited in the Dedicated Tax Funds Pool.

- Motor fuel taxes on gasoline (50%) and diesel fuel (100%) are deposited in the Dedicated Tax Funds Pool.

- Certain motor vehicle fees administered by the State Department of Motor Vehicles ("DMV"), including both registration and non-registration fees.

Subject to appropriation by the Legislature, money in the MTTF is required by law to be transferred to the MTA Dedicated Tax Fund, held by MTA. Amounts transferred from the MTTF to the MTA Dedicated Tax Fund constitute MTTF Receipts.

A more detailed description of the MTTF Receipts is set forth below under the following headings below:

- MTTF Receipts – Dedicated Petroleum Business Tax;

- MTTF Receipts – Motor Fuel Tax; and

- MTTF Receipts – Motor Vehicle Fees.

MTA Revenues from Special Tax-Supported Operating Subsidies (MMTOA Receipts). Starting in 1980, in response to anticipated operating deficits of State mass transit systems, the Legislature enacted a series of taxes, portions of the proceeds of which have been and are to be deposited in a special State Fund – the Mass Transportation Operating Assistance Fund – to fund the operations of mass transportation systems. The Metropolitan Mass Transportation Operating Assistance Account, or "MMTOA Account", was established in that State Fund to support operating expenses of transportation systems in the MTA Commuter Transportation District, including MTA New York City Transit, MaBSTOA and the commuter railroads operated by MTA's subsidiaries, MTA Long Island Rail Road and MTA Metro-North Railroad. After payment of Section 18-b general operating assistance to the various transportation systems, MTA receives 84.7% of the moneys deposited into the MMTOA Account, which constitute the MMTOA Receipts. The remaining 15.3% are available to other transportation properties within the MTA Commuter Transportation District, such as MTA Bus.

Since the creation of the MMTOA Account, MTA has requested and received in each year significant payments from that account in order to meet operating expenses of the Transit and Commuter Systems. It is expected that payments from the MMTOA Account will continue to be essential to the operations of the Transit and Commuter Systems. Although a variety of taxes have been used to fund the special tax-supported operating subsidies, the taxes levied for this purpose, which MTA refers to collectively as the "MMTOA Taxes," currently include:

- *MMTOA PBT*. The products that are subject to the tax, the tax rates, and the transactions excluded from the tax are identical to those of the basic PBT dedicated to the Dedicated Tax Funds Pool and the MTTF Account in that Pool. Pursuant to State law, 10.835% of the PBT basic tax collections are deposited in the MMTOA Account (excluding receipts from aviation fuel, which are deposited in an aviation purpose account from which no receipts are directed to MMTOA).

- *District Sales Tax*. The District Sales Tax consists of a 0.375% sales and compensating use tax imposed on sales and uses of certain tangible personal property and services applicable only within the MTA Commuter Transportation District.

- *Franchise Taxes*. Also deposited in the MMTOA Account is a legislatively-allocated portion of the following three taxes imposed on certain transportation and transmission companies (such as trucking, telegraph and local telephone companies and mobile communication services) —

    - an annual franchise tax based on the amount of the taxpayer's issued capital stock (Section 183);

    - an annual franchise tax on the taxpayer's gross earnings (Section 184) from all sources calculated to have been generated statewide pursuant to statutory formulae; and

    - an additional excise tax (Section 186-e) on the sale of mobile communication services.

- *Franchise Surcharges*. The Franchise Surcharges are imposed on the portion of the franchise and other taxes of certain corporations, insurance, transportation and transmission companies attributable (according to various complex formulae) to business activity carried on within the MTA Commuter Transportation District. In accordance with the Tax Law, the tax revenue generated under these provisions, after the deduction of administrative costs, is to be deposited to the MMTOA Account, as taxes are received.

MTA receives the equivalent of four quarters of MMTOA Receipts each year, with the first quarter of each succeeding calendar year's receipts advanced into the fourth quarter of the preceding year. This results in little or no MMTOA Receipts being received during the first quarter of each calendar year; MTA is required to make other provisions to provide for cash liquidity during this period.

A more detailed description of the MMTOA Taxes is set forth below under the heading "– MMTOA Account – Special Tax Supported Operating Subsidies."

Five-Year Summary of MTTF Receipts and MMTOA Receipts. **DTF Table 2** sets forth a five-year summary (based on the State's fiscal year ending March 31) of the following:

- actual collections by the State of receipts for each of the sources of revenues that, subject to appropriation and allocation among MTA and other non-MTA transit agencies, could become receipts of the MTA Dedicated Tax Fund;

- amount of MTTF Receipts and MMTOA Receipts; and

- debt service coverage ratio based upon MTTF Receipts, and MTTF Receipts plus MMTOA Receipts.

The information in the following **DTF Table 2** relating to MTTF Receipts and MMTOA Receipts was provided by the New York State Division of the Budget and the remaining information was provided by MTA.

DTF Table 2
Summary of MTTF Receipts and MMTOA Receipts[1]
State Fiscal Year ending March 31 ($ millions)

Dedicated Taxes ($ millions)	Actual 2016	Actual 2017	Actual 2018	Actual 2019	Projection 2020[8]
MTTF[1]					
PBT[2]	$ 337.3	$ 336.9	$ 326.5	$ 345.6	$ 345.6
Motor Fuel Tax	96.5	100.5	100.5	102.0	98.9
Motor Vehicle Fees[3]	127.4	128.7	132.5	130.7	132.3
Total Available	$ 561.2	$ 566.1	$ 559.5	$ 578.3	$ 576.8
MMTOA[1]					
PBT[2]	$ 72.6	$ 73.1	$ 70.8	$ 74.1	$ 73.9
District Sales Tax	874.2	903.0	942.0	963.1	1,022.0
Franchise Taxes[4]	39.4	41.4	37.2	41.3	33.4
Franchise Surcharges	1,039.7	1,017.1	1,087.4	1,169.1	1,223.8
Total Available	$ 2,025.9	$ 2,034.6	$ 2,137.4	$ 2,247.6	$ 2,353.1
Disbursements					
MTTF[3][5]	$ 604.8	$ 616.4	$ 623.4	$ 630.8	$ 640.5
MMTOA[6]	$ 1,563.9	$ 1,668.0	$ 1,668.0	$ 1,686.6	$ 1,823.7
Total Disbursed	$ 2,168.7	$ 2,284.4	$ 2,291.4	$ 2,317.4	$ 2,464.2
Debt Service[7]	$ 341.7	$ 365.1	$ 390.2	$ 383.0	$ 389.1
Debt Service Coverage Ratio – MTTF Receipts Only	1.77x	1.69x	1.60x	1.65x	1.65x
Debt Service Coverage Ratio – MTTF and MMTOA Receipts	6.35x	6.26x	5.87x	6.05x	6.33x

(1) As used in this Table, MTTF Receipts and MMTOA Receipts have the meaning given such terms in the DTF Resolution.

(2) Effective December 1, 2017, all receipts from aviation fuel are directed to an aviation purpose account, from which no revenue is directed to MTTF or MMTOA.

(3) Pursuant to legislation enacted in 2014, beginning with State Fiscal Year 2014-2015 and each year thereafter, a portion of the Fiscal Year 2013-2014 Motor Vehicle General Fund transfer of $169.4 million has been replaced with a direct transfer of $62.7 million from the State General Fund to the Dedicated Mass Transportation Trust Fund. $57.7 million of such amount flows to the MTA Dedicated Tax Fund as MTTF Receipts; the remainder flows to other transportation systems.

(4) Beginning with State Fiscal Year 2012-2013, the distribution to the MMTOA Account was changed from 80% to 54% of the taxes collected from Franchise Taxes. The remaining 26% is distributed to the Public Transportation Systems Operating Assistance PTOA Account.

(5) Represents the amount in the MTTF that was, subject to appropriation, paid to MTA by deposit into the MTA Dedicated Tax Fund, thereby becoming MTTF Receipts. The amount of MTTF Receipts in any State fiscal year may be greater than the amount collected for deposit into the MTTF due to, among other things, investment earnings or surplus amounts retained in the MTTF that were not paid out in prior years.

(6) Represents the amount in the MMTOA Account that was, subject to appropriation, paid to MTA by deposit into the MTA Dedicated Tax Fund, thereby becoming MMTOA Receipts. The difference between Total Available MMTOA Taxes and MMTOA Receipts generally represents the amount appropriated for operating expenses of the various non-MTA systems in the MTA Commuter Transportation District, as well as the amounts appropriated to MTA and other transportation agencies, primarily in accordance with the Section 18-b Program as described in this ADS under the caption "REVENUES OF THE RELATED ENTITIES – State and Local General Operating Subsidies" in Part 2.

(7) Net of approximately $26.0 million of Build America Bond interest credit payments in each State fiscal year. Projections based on debt service as budgeted in the MTA 2019 Adopted Budget February Financial Plan 2019-2022.

(8) The State Fiscal Year 2019-2020 projections are based on the 2019-2020 Executive Budget Financial Plan Updated for Governor's Amendments and Forecast Revisions.

Factors Affecting Revenues from Dedicated Taxes

Legislative Changes. The requirement that the State pay the MTTF Receipts and the MMTOA Receipts (collectively, the "MTA Dedicated Tax Fund Revenues") to the MTA Dedicated Tax Fund is subject to and dependent upon annual appropriations being made by the Legislature for such purpose and the availability of moneys to fund such appropriations. The Legislature is not obligated to make appropriations to fund the MTA Dedicated Tax Fund, and there can be no assurance that the Legislature will make any such appropriation. The State is not restricted in its right to amend, repeal, modify or otherwise alter statutes imposing or relating to the MTA Dedicated Tax Fund Revenues or the taxes or appropriations that are the source of such Revenues.

In connection with the financing of future capital programs, MTA may propose legislation affecting components of the taxes currently securing MTA Dedicated Tax Fund Bonds.

Litigation. Aspects relating to the imposition and collection of the Dedicated Taxes have from time to time been and may continue to be the subject of administrative claims and litigation by taxpayers.

Economic Conditions. Many of the Dedicated Taxes are dependent upon economic and demographic conditions in the State and in the MTA Commuter Transportation District, and therefore there can be no assurance that historical data with respect to collections of the Dedicated Taxes will be indicative of future receipts.

Government Assistance. The level of government assistance to MTA through Dedicated Taxes may be affected by different factors, two of which are as follows:

- The Legislature may not bind or obligate itself to appropriate revenues during a future legislative session, and appropriations approved during a particular legislative session generally have no force or effect after the close of the State fiscal year for which the appropriations are made. However, in the case of the PBT that is deposited as a portion of the MTTF Receipts, the Legislature has expressed its intent in the State Finance Law to enact for each State fiscal year an appropriation for the current and the next year. See the heading "—Appropriation by the Legislature" below.

- The State is not bound or obligated to continue to pay operating subsidies to the Transit or Commuter System or to continue to impose any of the taxes currently funding those subsidies.

Security – General

The Dedicated Tax Fund Bonds are MTA's special obligations payable as to principal, redemption premium, if any, and interest solely from the security, sources of payment and funds specified in the DTF Resolution. Payment of principal of or interest on the Dedicated Tax Fund Bonds may not be accelerated in the event of a default.

Dedicated Tax Fund Bonds are secured primarily by the Sources of Payment described above, and are not secured by

- the general fund or other funds and revenues of the State; or

- the other funds and revenues of MTA or any of its affiliates or subsidiaries.

The Dedicated Tax Fund Bonds are not a debt of the State or the City or any other local governmental unit. MTA has no taxing power.

Summaries of certain provisions of the DTF Resolution, including certain defined terms used therein, have been filed with the MSRB through EMMA, all of which are incorporated by specific cross-reference herein. In addition, for convenience, copies of the summaries can be obtained on MTA's website under "MTA Info – Financial Information – Investor Information" at www.mta.info or from the MTA Finance Department at 2 Broadway, New York, New York 10004.

Capitalized terms used under this caption "DEDICATED TAX FUND BONDS" not otherwise defined herein have the meanings set forth in the DTF Resolution.

Pledge Effected by the DTF Resolution

Trust Estate. The DTF Resolution provides that there are pledged to the payment of principal and redemption premium of, interest on, and sinking fund installments for, the Dedicated Tax Fund Bonds and Parity Debt, in accordance with their terms and the provisions of the DTF Resolution, subject only to the provisions permitting the application of that money for the purposes and on the terms and conditions permitted in the DTF Resolution, the following, referred to as the "trust estate":

- the proceeds of the sale of the Dedicated Tax Fund Bonds, until those proceeds are paid out for an authorized purpose;

- the Pledged Amounts Account in the MTA Dedicated Tax Fund (which includes MTTF Receipts and MMTOA Receipts), any money on deposit in that Account and any money received and held by MTA and required to be deposited in that Account; and

- all funds, accounts and subaccounts established by the DTF Resolution (except funds, accounts and subaccounts established pursuant to Supplemental Resolution, and excluded by such Supplemental Resolution from the Trust Estate as security for all Dedicated Tax Fund Bonds, in connection with Variable Interest Rate Obligations, Put Obligations, Parity Debt, Subordinated Indebtedness or Subordinated Contract Obligations), including the investments, if any, thereof.

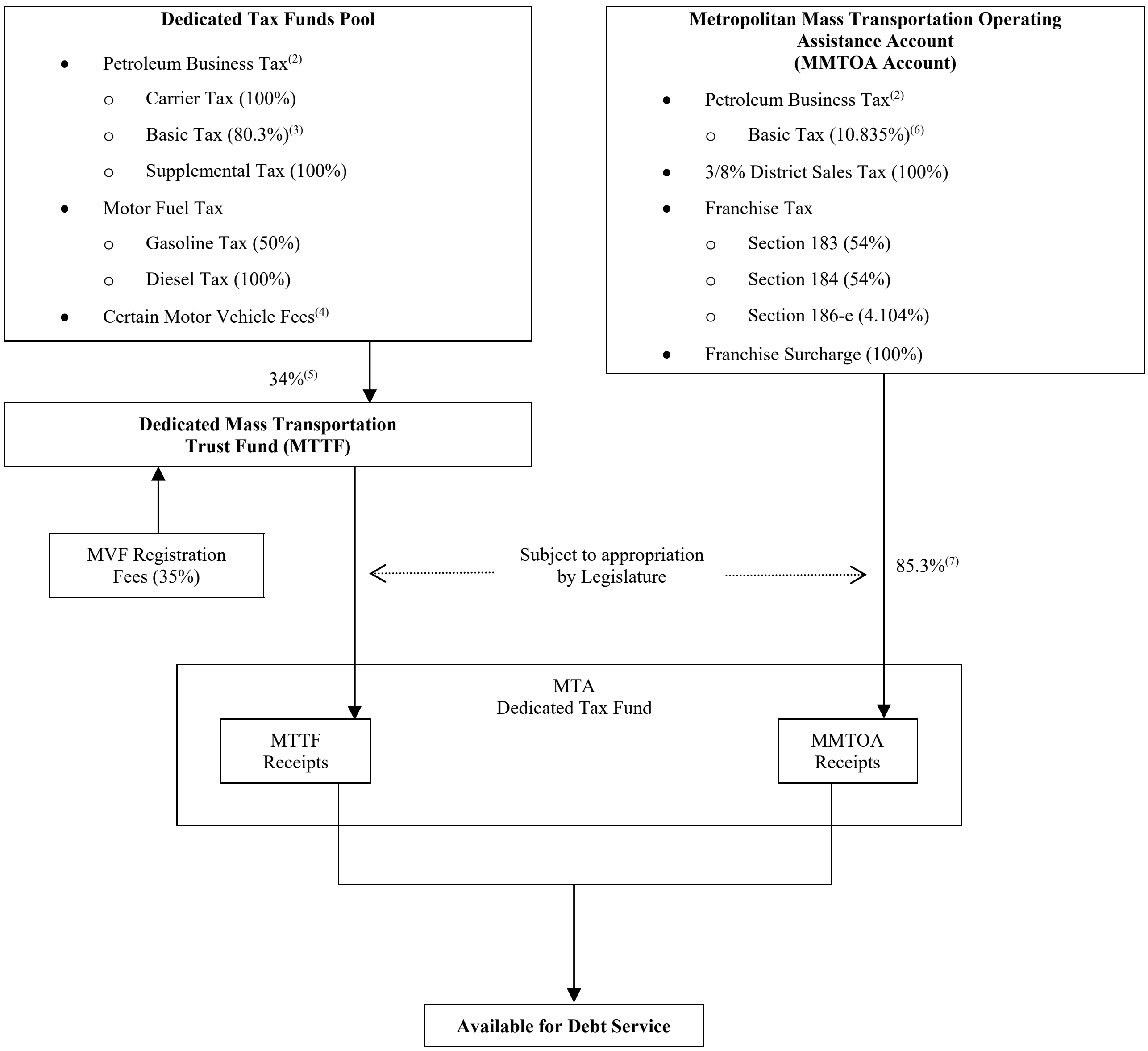
The DTF Resolution provides that the Trust Estate is and will be free and clear of any pledge, lien, charge or encumbrance thereon or with respect thereto prior to, or of equal rank with, the pledge created by the DTF Resolution, and all corporate action on the part of MTA to that end has been duly and validly taken.

Flow of Funds

The DTF Resolution establishes a Proceeds Fund held by MTA and a Debt Service Fund held by the Trustee. See the summaries of documents for a description of the provisions of the DTF Resolution governing the deposits to and withdrawals from the Funds and Accounts. Amounts held by MTA or the Trustee in any of such Funds shall be held in trust separate and apart from all other funds and applied solely for the purposes specified in the DTF Resolution or any Supplemental Resolution thereto.

The following two charts summarize (1) the flow of taxes into the MTA Dedicated Tax Fund, and (2) the flow of MTA Dedicated Tax Fund Revenues through the MTA Dedicated Tax Fund and the Funds and Accounts established under the DTF Resolution.

MTA DEDICATED TAX FUND BONDS SOURCES OF REVENUE
(Through March 31, 2020)[1]



Notes

(1) Parenthetical amounts and percentages, as well as flow of fund percentages, indicate the amount or percent of that tax or fund to be deposited for the year ending March 31, 2020 in the respective fund or account. The allocations shown may be changed at any time by the Legislature.

(2) Effective December 1, 2017, all receipts from aviation fuel are directed to an aviation purpose account, from which no revenue is directed to MTTF or MMTOA. However, beginning in Fiscal Year 2018-2019 the enacted statutory "hold-harmless" provision directs transfers from the State General Fund to MTTF and MMTOA. In 2018-2019, these transfers totaled $8.4 million of which $4.7 million flowed to the MTA Dedicated Tax Fund as MTTF Receipts and $1.9 million flowed to MMTOA for downstate transit systems including the MTA.

(3) In addition, the first $7.5 million of the Basic Tax is appropriated to the Dedicated Tax Funds Pool prior to any percentage split of the Dedicated Tax Funds Pool.

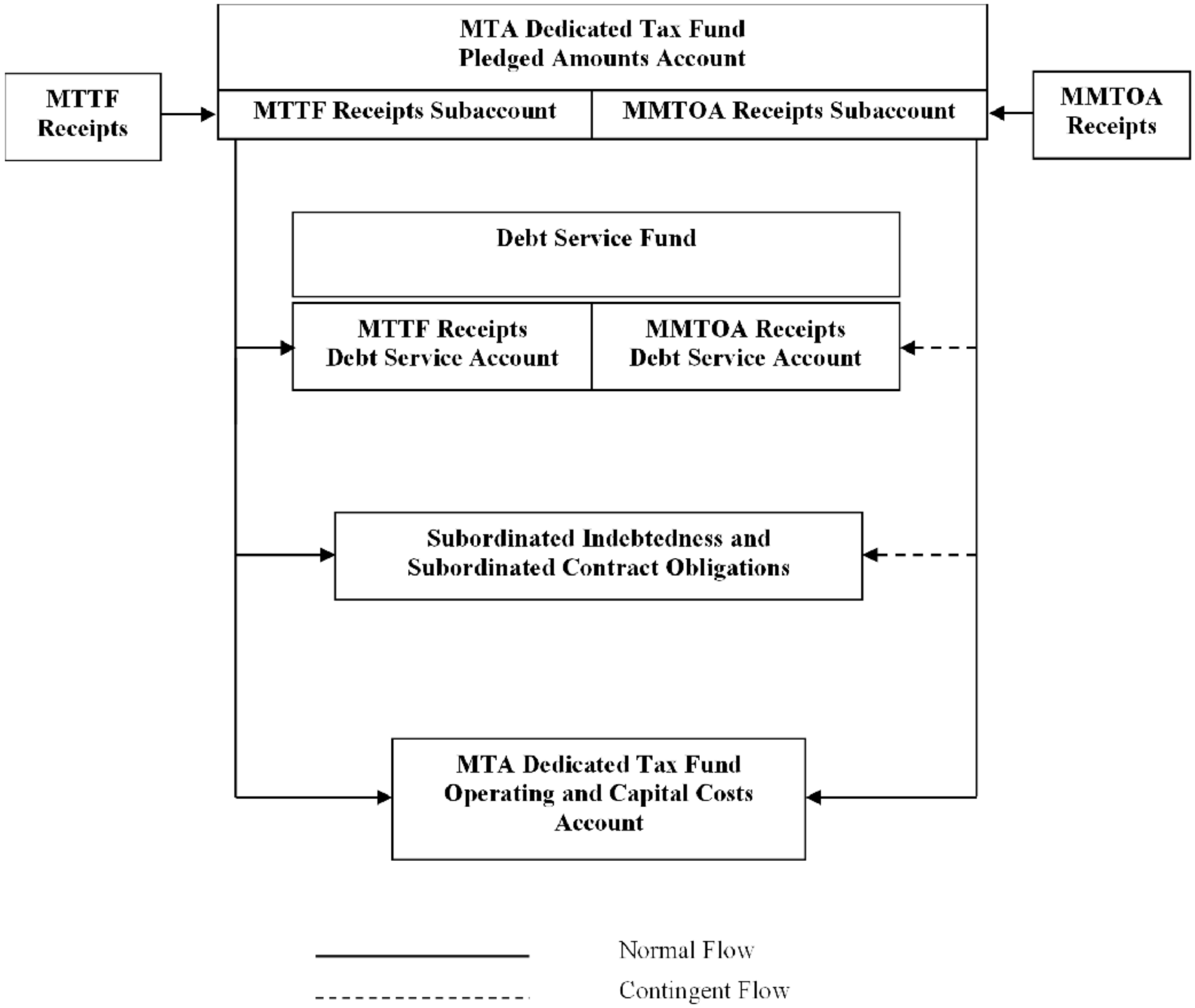
(4) Beginning with the State fiscal year 2014-2015, and each year thereafter, a portion of the State fiscal year 2013-2014 Motor Vehicle General Fund transfer of $169.4 million has been replaced with a direct transfer of $62.7 million from the State General Fund to the MTTF; $57.6 million of such amount flows to the MTA Dedicated Tax Fund as MTTF Receipts as defined in the DTF Resolution.

(5) Percentage of Dedicated Tax Funds Pool.

(6) The remaining 8.865% share of the Basic Tax is deposited in an account for certain upstate transportation entities.

(7) Percentage based upon appropriations for State fiscal year 2019-2020, including Section 18-b assistance.

MTA DEDICATED TAX FUND BONDS – RESOLUTION FLOW OF FUNDS



All amounts on deposit in the Pledged Amounts Account – MTTF Receipts Subaccount are paid out before any amounts on deposit in the Pledged Amounts Account – MMTOA Receipts Subaccount are paid out.

Amounts paid out from any fund or account for an authorized purpose (excluding transfers to any other pledged fund or account) are free and clear of the lien and pledge created by the DTF Resolution.

Debt Service Fund

Pursuant to the DTF Resolution, the Trustee holds the Debt Service Fund, consisting of the MTTF Receipts Debt Service Account and the MMTOA Receipts Debt Service Account. Moneys in the Debt Service Fund are applied by the Trustee to the payment of Debt Service on the Dedicated Tax Fund Bonds in the manner, and from the accounts and subaccounts, more fully described under "SUMMARY OF CERTAIN PROVISIONS OF THE DTF RESOLUTION – Debt Service Fund" in the summaries of documents.

MTA is required to make monthly deposits to the appropriate account of the Debt Service Fund of interest (1/5th of the next semiannual payment) and principal (1/10th of the next annual payment), first from MTTF Receipts and then, to the extent of any deficiency, from MMTOA Receipts.

Covenants

Additional Bonds. The DTF Resolution permits MTA to issue additional Dedicated Tax Fund Bonds from time to time to pay or provide for the payment of Capital Costs and to refund outstanding Dedicated Tax Fund Bonds.

Under the DTF Resolution, MTA may issue one or more Series of Dedicated Tax Fund Bonds for the payment of Capital Costs, provided, in addition to satisfying certain other requirements, MTA delivers a certificate that evidences MTA's compliance with the additional bonds test set forth in the DTF Resolution.

Such certificate must set forth:

(A) for any 12 consecutive calendar months ended not more than six months prior to the date of such certificate: (i) MTTF Receipts, (ii) MMTOA Receipts, and (iii) investment income received during such period on amounts on deposit in the Pledged Amounts Account, the MTTF Receipts Subaccount, the MMTOA Receipts Subaccount and the Debt Service Fund; and

(B) the greatest amount for the then current or any future Debt Service Year of the sum of (a) Calculated Debt Service on all Outstanding Dedicated Tax Fund Obligations, including the proposed Capital Cost Obligations and any proposed Refunding Obligations being treated as Capital Cost Obligations, but excluding any Obligations or Parity Debt to be refunded with the proceeds of such Refunding Obligations, plus (b) additional amounts, if any, payable with respect to Parity Debt; and then state:

- (x) that the sum of the MTTF Receipts and investment income (other than investment income on the MMTOA Receipts Subaccount) set forth in clause (A) above is not less than 1.35 times the amount set forth in accordance with clause (B) above, and

- (y) that the sum of the MTTF Receipts, MMTOA Receipts and investment income set forth in clause (A) above is not less than 2.5 times the amount set forth in clause (B) above.

See "SUMMARY OF CERTAIN PROVISIONS OF THE DTF RESOLUTION—Special Provisions for Capital Cost Obligations" in the summaries of documents for a description of further provisions which apply to the additional bonds test if the percentage of available existing taxes deposited into the MTA Dedicated Tax Fund is increased or additional taxes are added to the amounts so deposited.

For a discussion of the requirements relating to the issuance of Refunding Dedicated Tax Fund Bonds, see "SUMMARY OF CERTAIN PROVISIONS OF THE DTF RESOLUTION—Special Provisions for Refunding Obligations" in the summaries of documents.

Parity Debt

MTA may incur Parity Debt pursuant to the terms of the DTF Resolution that, subject to certain exceptions, would be secured by a pledge of, and a lien on, the Trust Estate on a parity with the lien created by the DTF Resolution with respect to Dedicated Tax Fund Bonds. Parity Debt may be incurred in the form of a Parity Reimbursement Obligation, a Parity Swap Obligation or any other contract, agreement or other obligation of MTA designated as constituting "Parity Debt" in a certificate of an Authorized Officer delivered to the Trustee.

Appropriation by the Legislature

The State Constitution provides that the State may not expend money without an appropriation, except for the payment of debt service on general obligation bonds or notes issued by the State. An appropriation is an authorization approved by the Legislature to expend money. The State Constitution requires all appropriations of State funds, including funds in the MTTF and the MMTOA Account, to be approved by the Legislature at least every two years. In addition, the State Finance Law provides that appropriations shall cease to have force and effect, except as to liabilities incurred thereunder, at the close of the State Fiscal Year for which they were enacted. To the extent liabilities are incurred thereunder, such appropriations shall lapse on the succeeding June 30th or September 15th, depending upon the nature of the appropriation. The Legislature may not be bound in advance to make any appropriation, and there can be no assurances that the Legislature will appropriate the necessary funds as anticipated. MTA expects that the Legislature will make appropriations from amounts on deposit in the MTTF and the MMTOA Account in order to make payments when due. Until such time as payments pursuant to such appropriation are made in full, revenues in the MTTF shall not be paid over to any entity other than MTA.

The Legislature has expressed its intent in the State Finance Law to enact for each State Fiscal Year in the future in an annual budget bill an appropriation from the MTTF (with respect to the PBT portion only) to the MTA Dedicated Tax Fund for the then current State Fiscal Year and an appropriation of the amounts projected by the Director of the Budget to be deposited in the MTA Dedicated Tax Fund from the MTTF (with respect to the PBT portion only) for the next succeeding State Fiscal Year. In any State Fiscal Year, if the Governor fails to submit or if the Legislature fails to enact a current year appropriation from the MTTF (with respect to the PBT portion) to the MTA Dedicated Tax Fund, or such appropriation has been delayed, MTA is required to notify the State of amounts required to be disbursed from the appropriation made during the preceding State Fiscal Year for payment in the current State Fiscal Year. The State Comptroller may not make any payments from the MTTF to the MTA Dedicated Tax Fund from such prior year appropriation prior to May 1st of the current State Fiscal Year.

The 2019-2020 Enacted Budget included two appropriations from the MTTF to the MTA Dedicated Tax Fund. One such appropriation is for the State Fiscal Year that ends March 31, 2020, and the other such appropriation is for the succeeding State Fiscal Year that ends March 31, 2021. MTA has periodically availed itself of the latter appropriation to meet operating costs in response to delays in the adoption of the State budget in such years.

A budgetary imbalance in the present or any future State Fiscal Year could affect the ability and willingness of the Legislature to appropriate and the availability of moneys to make the payments from the MTTF and the MMTOA Account. However, MTA believes that any failure by the Legislature to make appropriations as contemplated would have a serious impact on the ability of the State and its public benefit corporations to raise funds in the public credit markets.

Agreement of the State

The MTA Act prohibits MTA from filing a voluntary petition in bankruptcy under Chapter 9 of the Federal Bankruptcy Code or such successor chapters or sections as may from time to time be in effect and the State has pledged that so long as any notes, bonds or lease obligations of MTA are outstanding, it will not limit or alter the denial of authority to MTA to so file.

Under the MTA Act, the State pledges to and agrees with the holders of any notes, bonds or lease obligations issued or incurred by MTA, including the Dedicated Tax Fund Bonds, that the State will not limit or alter the rights vested in MTA to fulfill the terms of any agreements made by MTA with the holders of its notes, bonds and lease obligations, including the Dedicated Tax Fund Bonds, or in any way impair the rights and remedies of such holders. Notwithstanding the foregoing, in accordance with State law, nothing in the DTF Resolution shall be deemed to restrict the right of the State to amend, repeal, modify or otherwise alter statutes imposing or relating to the MTA Dedicated Tax Fund Revenues or the taxes or appropriations which are the source of such Revenues. No default under the DTF Resolution would occur solely as a result of the State exercising its right to amend, repeal, modify or otherwise alter such taxes or appropriations.

MTTF Receipts – Dedicated Petroleum Business Tax

General. The PBT is the business privilege tax, which includes both a base tax and a supplemental tax, imposed on petroleum businesses operating in the State. The base of the PBT is the quantity of various petroleum products refined or sold in the State or imported into the State for sale or use therein.

Tax Rates. The basic and supplemental PBT tax rates are subject to separately computed annual adjustments on January 1 of each year, to reflect the change in the Producer Price Index (“PPI”) for refined petroleum products for the 12 months ended August 31 of the immediately preceding year. The tax rates, therefore, increase as prices rise and decrease as prices fall. Current legislation provides that the PBT rates will be adjusted annually subject to a maximum change of plus or minus 5% of the current rate in any year. In addition to the 5% cap on rate changes, the statute also requires basic and supplemental rates to be rounded to the nearest tenth of one cent. Subsequent legislation provided that diesel rates be rounded to the nearest hundredth of one cent. As a result, the tax rates usually do not change by the full 5% allowed under the statutory formula.

The table below shows the changes in the PPI for refined petroleum products and the capped PBT index change over the last ten years.

Petroleum Business Tax Index Change (percent)

Year for PPI Change (September 1 to August 31)	PPI for Refined Petroleum Products Change	Year for PBT Index	PBT Index Change (January 1)
2008-09	-34.9	2010	-5.0
2009-10	18.6	2011	5.0
2010-11	29.8	2012	5.0
2011-12	9.2	2013	5.0
2012-13	-0.8	2014	-0.8
2013-14	-3.2	2015	-3.2
2014-15	-29.1	2016	-5.0
2015-16	-30.4	2017	-5.0
2016-17	13.3	2018	5.0
2017-18	26.1	2019	5.0

Source: New York State Division of the Budget.

The table below shows the rates per gallon for the PBT in effect for 2017, 2018 and 2019, respectively.

PETROLEUM BUSINESS TAX RATES FOR 2017, 2018 and 2019*
(cents per gallon)

	2017			2018			2019		
Petroleum Product	Base	Supp	Total	Base	Supp	Total	Base	Supp	Total
Automotive fuel									
Gasoline & other non-diesel	9.7	6.5	**16.2**	10.1	6.8	**16.9**	10.6	7.1	**17.7**
Diesel	9.7	4.75	**14.45**	10.1	5.05	**15.15**	10.5	5.35	**15.95**
Aviation gasoline or Kero-Jet fuel	6.5	0.0	**6.5**	6.8	0.0	**6.8**	7.1	0.0	**7.1**
Non-automotive diesel fuels									
Commercial gallonage	8.9	0.0	**8.9**	9.3	0.0	**9.3**	9.7	0.0	**9.7**
Nonresidential heating	4.8	0.0	**4.8**	5.0	0.0	**5.0**	5.2	0.0	**5.2**
Residual petroleum products									
Commercial gallonage	6.8	0.0	**6.8**	7.1	0.0	**7.1**	7.4	0.0	**7.4**
Nonresidential heating	3.7	0.0	**3.7**	3.8	0.0	**3.8**	3.9	0.0	**3.9**
Railroad diesel fuel	8.4	0.0	**8.4**	8.8	0.0	**8.8**	9.3	0.0	**9.3**

* The Tax Rates are the net tax rate after credits.

Tax Base. Generally, transactions that are excluded from the basic PBT base are also excluded from the supplemental tax base. Exemptions include sales for export from the State, sales of fuel oil for residential heating purposes and manufacturing use, and sales to government entities when such entities buy petroleum for their own use. Sales of kerosene (other than kero-jet fuel) and liquefied petroleum gas and sales of residual fuel oil used as bunker fuel also are exempted. Regulated electric utilities that use petroleum to generate electricity obtain credits or reimbursements to offset a portion of the basic tax. These utilities receive no credit or reimbursement with respect to the supplemental tax.

The State also imposes a petroleum business carrier tax under the PBT on fuel purchased by motor carriers outside the State but consumed within the State. The carrier tax rates are the same as the PBT automotive gasoline and diesel rates listed above.

Legislative Changes. The Legislature has, from time to time, changed the percentage of the PBT basic tax which is available for distribution to the Dedicated Tax Funds Pool. The percentage of the Dedicated Tax Funds Pool which is, subject to appropriation, deposited in the MTA Dedicated Tax Fund has remained constant at 34%. The changes in the percentage of the PBT basic tax which is available for distribution to the Dedicated Tax Funds Pool have been designed to be, and were, revenue neutral to the Dedicated Tax Funds Pool.

Legislation adopted with the 2011-2012 State Enacted Budget modernized motor fuel, diesel motor fuel and E-85 product definitions to reflect changes in the fuels marketplace that had rendered then current law definitions unworkable. There is no financial impact to the funds.

Legislation adopted with the 2012-2013 State Enacted Budget reimburses volunteer fire departments and ambulances for PBT paid on motor fuel purchases and also imposes the PBT on diesel fuel at removal from a terminal below the rack effective August 1, 2013. The financial impact to the MTTF and MMTOA is minimal.

Legislation adopted with the 2014-2015 State Enacted Budget extended the partial or full exemptions for certain alternative fuels for two years. The financial impact to the MTTF and MTA is approximately $3 million.

Legislation adopted with the 2015-2016 State Enacted Budget allowed PBT refunds for farm use of highway diesel motor fuel. There is no financial impact to the funds.

Legislation adopted with the 2016-2017 State Enacted Budget extended the alternative fuels exemption for five years, conformed the State Tax Law to Federal Aviation Administration regulations regarding taxes on aviation fuel, and required motor fuel wholesalers to register and file informational returns with the State to increase the effectiveness of fuel tax evasion auditing.

Tax Imposition and Payment. Imposition of the tax occurs at different points in the distribution chain, depending upon the type of product. The tax is imposed on motor fuels at the same time as the eight-cent-per-gallon motor fuel tax. Gasoline, which represents the preponderance of automotive fuel sales in the State, is taxed upon importation into the State for sale or upon manufacture in the State. Other non-diesel automotive fuels such as compressed natural gas, methanol and ethanol become subject to the tax on their first sale as motor fuel in the State. Automotive diesel motor fuel is taxed when it leaves a fuel terminal below the rack. Nonautomotive diesel fuel (such as No. 2 fuel oil used for commercial heating) and residual fuel usually become taxable on the sale to the consumer or upon use of the product in the State.

Most petroleum businesses remit this tax on a monthly basis. Taxpayers with yearly motor fuel tax and PBT liability totaling more than $5 million now remit tax for the first 22 days of the month by electronic funds transfer by the third business day thereafter. Tax for the balance of the month is paid with the monthly returns filed by the 20th of the following month. The Department of Taxation and Finance advises that, in State Fiscal Year 2017-2018, 34 taxpayers, accounting for 90% of all PBT receipts, participated in the electronic funds transfer program.

Historical Summary of PBT Revenue. The following table provides historical information for the last ten years on the basic PBT and the supplemental PBT, the major funding source for the MTTF.

Basic and Supplemental PBT Collections
(in millions)

State Fiscal Year	Basic PBT	Supplemental PBT
2009-10	$674.1	$411.0
2010-11	660.4	412.8
2011-12	661.3	419.1
2012-13	688.4	430.2
2013-14	704.4	428.6
2014-15	700.4	435.9
2015-16	677.2	426.3
2016-17	682.3	423.1
2017-18	663.7	412.9
2018-19	705.3	443.5

Source: New York State Department of Taxation and Finance.

Receipts for State Fiscal Year 2009-2010 reflect the 5% increase in PBT rates effective January 1, 2009, offset slightly by the 5% decrease on January 1, 2010. In addition to basic tax and supplemental tax receipts, total PBT collections also include $18.4 million from the carrier tax.

Receipts for State Fiscal Year 2010-2011 reflect the 5% decrease in PBT rates effective January 1, 2010, offset slightly by the 5% increase on January 1, 2011. In addition to basic tax and supplemental tax receipts, total PBT collections also include $17.1 million from the carrier tax.

Receipts for State Fiscal Year 2011-2012 reflect the 5% increases in PBT rates effective January 1, 2011 and January 1, 2012, offset by a decline in taxable gallonage. In addition to basic tax and supplemental tax receipts, total PBT collections also include $19.2 million from the carrier tax.

Receipts for State Fiscal Year 2012-2013 reflect the 5% increases in PBT rates effective January 1, 2012 and January 1, 2013, offset by a decline in taxable gallonage. In addition to basic tax and supplemental tax receipts, total PBT collections also include $21.0 million from the carrier tax.

Receipts for State Fiscal Year 2013-2014 reflect the 5% increases in PBT rates effective January 1, 2013 and a 0.8% decrease effective January 1, 2014. In addition to basic tax and supplemental tax receipts, total PBT collections also include $21.0 million from the carrier tax.

Receipts for State Fiscal Year 2014-2015 reflect the 0.8% decrease in PBT rates effective January 1, 2014 and a 3.2% decrease effective January 1, 2015, offset by slight growth in taxable gallonage. In addition to basic tax and supplemental tax receipts, total PBT collections also include $21.0 million from the carrier tax.

Receipts for State Fiscal Year 2015-2016 reflect the 3.2% decrease in PBT rates effective January 1, 2015 and a 5.0% decrease effective January 1, 2016. In addition to basic tax and supplemental tax receipts, total PBT collections also include $20.3 million from the carrier tax.

Receipts for State Fiscal Year 2016-2017 reflect the 5.0% decrease in PBT rates effective January 1, 2016 and a 5.0% decrease effective January 1, 2017. In addition to basic tax and supplemental tax receipts, total PBT collections also include $18.3 million from the carrier tax.

Receipts for State Fiscal Year 2017-2018 reflect the 5.0% decrease in PBT rates effective January 1, 2017 and a 5.0% increase effective January 1, 2018. In addition to basic tax and supplemental tax receipts, total PBT collections also include $15.5 million from the carrier tax.

Receipts for State Fiscal Year 2018-2019 reflect the 5.0% increase in PBT rates effective January 1, 2018 and a 5.0% increase effective January 1, 2019. In addition to the basic tax and supplemental tax receipts, total PBT collections also include $16.3 million from the carrier tax.

Historical Summary of Dedicated PBT. The following table provides historical information relating to PBT receipts for the last ten years.

MTTF Revenues from Petroleum Business Taxes
(in millions)

State Fiscal Year	Dedicated Tax Funds Pool	MTTF Total[1]	MTA's Share of MTTF[2]
2009-10	$972.3	$359.8	$330.6
2010-11	961.8	355.9	327.0
2011-12	970.8	359.2	330.1
2012-13	1,005.7	372.1	341.9
2013-14	1,017.3	376.4	345.8
2014-15	1,021.9	378.1	347.4
2015-16	991.9	367.0	337.2
2016-17	990.8	366.6	336.9
2017-18	960.3	355.3	326.5
2018-19	1,016.4	376.1	345.6

(1) Represents 37% of the Dedicated Tax Funds Pool.
(2) Represents 34% of the Dedicated Tax Funds Pool.
Source: New York State Division of the Budget.

MTTF Receipts – Motor Fuel Tax

General. Motor fuel and diesel motor fuel taxes ("MFT") are derived from an eight-cent-per-gallon excise tax levied with respect to gasoline and diesel motor fuels, generally for highway use. The aggregate rate of tax on gasoline was last changed on February 1, 1972, when it was increased from seven cents to eight cents per gallon. The aggregate rate of tax on diesel motor fuel was last changed on January 1, 1996, when it decreased from ten cents per gallon to eight cents per gallon.

Effective April 1, 2000, 2.25 cents of the gasoline MFT and 4 cents of the diesel MFT is remitted to the Dedicated Tax Funds Pool. Legislation enacted in 2000 earmarked an additional 2.25 cents of the diesel MFT for the Dedicated Tax Funds Pool. Effective April 1, 2003, an additional 1.75 cents tax on gasoline and diesel motor fuels was earmarked for the Dedicated Tax Funds Pool.

Therefore, 4 cents of the gasoline MFT and 8 cents of the diesel MFT are deposited to the Dedicated Tax Funds Pool, of which 34% is deposited in the MTA Dedicated Tax Fund.

Tax Imposition and Payment. The tax on motor fuel is payable by distributors registered with the State. The gasoline motor fuel tax is imposed when gasoline is imported (or caused to be imported) into the State for sale or use in the State, or manufactured in the State. Generally, the tax on other nondiesel motor fuels earmarked to the Dedicated Tax Funds Pool (such as compressed natural gas, propane, methanol and ethanol) is remitted by the dealer selling them as motor fuels. The tax on diesel motor fuel is imposed on the first non-exempt sale of diesel in the State.

Most petroleum businesses remit these taxes on a monthly basis. Businesses with yearly MFT and PBT liability totaling more than $5 million remit the PBT and MFT for the first 22 days of the month by electronic funds transfer by the third business day thereafter. Tax for the balance of the month is paid with the monthly returns filed by the 20th of the following month. In State Fiscal Year 2017-2018, 33 taxpayers, accounting for 91% of all motor fuel tax receipts, participated in the electronic funds transfer program.

Although the tax is remitted by distributors, the incidence of the tax falls primarily on final users of the fuel on the highways and waterways of the State. Governmental purchases are exempt from the tax. Fuel purchased for certain road vehicles (such as fire trucks, buses used in local transit, taxicabs and ambulances), upon which the tax has been paid, may be eligible for full or partial reimbursement of the MFT. Reimbursement of the tax is also available for fuel not used on the highways (e.g., fuel used in farming).

Historical Summary of Dedicated Motor Fuel Tax. The following table provides historical information relating to Motor Fuel Tax receipts for the last ten years.

MTTF Revenues from Motor Fuel Tax
(in millions)

State Fiscal Year	MTTF Portion of Gasoline MFT	MTTF portion of Diesel MFT	MTTF Total[(1)]	MTA's Share of MTTF[(2)]
2009-10	$81.7	$24.1	$105.8	$97.2
2010-11	82.5	25.8	108.3	99.6
2011-12	80.3	24.9	105.3	96.7
2012-13	79.0	24.2	103.2	94.8
2013-14	76.4	22.3	98.7	90.7
2014-15	79.3	21.6	100.9	92.7
2015-16	81.1	23.9	105.0	96.5
2016-17	82.7	26.7	109.4	100.5
2017-18	80.2	29.1	109.3	100.4
2018-19	84.4	26.6	111.0	102.0

(1) Represents 37% of the Dedicated Tax Funds Pool.
(2) Represents 34% of the Dedicated Tax Funds Pool.
Source: New York State Division of the Budget.

MTTF Receipts – Motor Vehicle Fees

General. Motor vehicle fees are derived from a variety of sources, but consist mainly of vehicle registration and driver license fees. A percentage of State motor vehicle registration fees is earmarked to the MTA Dedicated Tax Fund. These motor vehicle fees derive from the registration of passenger vehicles, trucks, vans, motorcycles, trailers, semitrailers, buses and other types of vehicles operating on the public highways of the State.

The DMV administers motor vehicle registration provisions of the State Vehicle and Traffic Law. County clerks in most counties act as agents for the State in administering the issuance of most types of motor vehicle registration. Motor vehicle registration renewals generally are accomplished by mail.

With the exception of buses, which are charged according to seating capacity, and semitrailers, which are registered at a flat fee, motor vehicle registration fees in the State are based on vehicle weight.

Legislation enacted in 1989 mandated biennial registration of all motor vehicles weighing less than 18,000 pounds. Thus, most motor vehicle registrations are issued and renewed for two-year periods. Motor vehicle registrations are staggered evenly throughout the months to ensure an even workload for the DMV.

In the 2009-2010 State Enacted Budget, fees for licenses and most registrations were increased by 25%. The revenues from this increase were directed to the Dedicated Highway and Bridge Trust Fund. In addition, the fee for plate issuance was increased from $15 to $25. The revenues from this increase were included as part of the non-dedicated fees, of which $169.4 million were transferred to the Dedicated Tax Funds.

Beginning with State Fiscal Year 2014-2015, and each year thereafter, a portion of the Fiscal Year 2013-2014 Motor Vehicle General Fund transfer of $169.4 million has been replaced with a direct transfer of $62.7 million from the State General Fund to the MTTF; $57.6 million of such amount flows to the MTA Dedicated Tax Fund as MTTF Receipts, and the remainder flows to other transportation systems.

To reduce the overall number of funds and improve programmatic efficiencies, legislation enacted in the 2016-2017 State Enacted Budget dedicated several categories of motor vehicle fees to the Dedicated Highway and

Bridge Trust Fund that had previously flowed to four Special Revenue Funds ("SROs"). The SROs include DMV Compulsory Insurance, DMV Seized Assets, Motorcycle Safety, and the Accident Prevention Course Program.

Historical Summary of Dedicated Motor Vehicle Fees. The following table provides historical information relating to Motor Vehicle Fee receipts for the last ten years.

MTTF Revenues from Motor Vehicle Fees
(in millions)

State Fiscal Year	MTTF Total[1]	MTA's Share of MTTF[2]
2009-10	$191.5	$176.0
2010-11[3]	201.3	178.3
2011-12	195.2	179.3
2012-13	168.2	154.7
2013-14	197.7	181.6
2014-15	131.3	120.7
2015-16	138.7	127.4
2016-17	140.1	128.7
2017-18	144.2	132.5
2018-19	142.2	130.7

(1) Represents 37% of the Dedicated Tax Funds Pool. Does not include SRF Motor Vehicle Fees.
(2) Represents 34% of the Dedicated Tax Funds Pool. Does not include SRF Motor Vehicle Fees.
(3) In mid-2010, the Office of the State Comptroller re-classified motor vehicle fees as miscellaneous receipts. Previously, motor vehicle fees were classified in two receipt categories, user taxes and fees and miscellaneous receipts.
Source: New York State Division of the Budget

MMTOA Account – Special Tax Supported Operating Subsidies

General. Like other U.S. mass transit systems, the Transit System and Commuter System have historically operated at a deficit and have been dependent upon substantial amounts of general operating subsidies from the State as well as the City. Over time, the ongoing needs of State mass transportation systems led the State to supplement the general operating subsidies with additional operating subsidies supported by special State taxes.

Starting in 1980, in response to anticipated operating deficits of State mass transportation systems, the Legislature enacted a series of taxes, portions of the proceeds of which have been and are to be deposited in a special State fund, the MTOA Fund, to fund the operations of mass transportation systems. The MMTOA Account was established in the MTOA Fund to fund the operating expenses of transportation systems in the MTA Commuter Transportation District, including MTA New York City Transit, MaBSTOA and the commuter railroads operated by MTA Long Island Rail Road and MTA Metro-North Railroad. Payments from this Account are made to MTA and its affiliates periodically to the extent that: (1) appropriations are made by the Legislature, (2) the State Director of the Budget certifies that the MMTOA Account contains sufficient funds to make such payments, and (3) State officials determine that the funds are necessary to finance operations of MTA and its affiliates and subsidiaries. Such payments are allocated among the various public transportation systems within the MTA Commuter Transportation District in accordance with schedules as specified by such appropriations. Such payments to MTA are first deposited in the Pledged Amounts Account of the MTA Dedicated Tax Fund to meet the requirements of the DTF Resolution and then any remaining amounts are transferred to the Operating and Capital Costs Account to be used to meet operating costs of the Transit System and MTA Staten Island Railway and the Commuter System.

The table below summarizes the historical amounts appropriated and paid to MTA from the MMTOA Account (including investment income) for the last ten years.

MMTOA Account
($ in millions)

State Fiscal Year	Appropriations to MTA[(1)]	Payments to MTA
2009-10	$1,249.8	$1,249.8
2010-11	1,269.8	1,344.7[(2)]
2011-12	1,232.3	1,243.0[(3)]
2012-13	1,343.5	1,343.5
2013-14	1,518.2	1,518.2
2014-15	1,563.9	1,563.9
2015-16	1,563.9	1,563.9
2016-17	1,668.0	1,668.0
2017-18	1,668.0	1,668.0
2018-19	1,686.6	1,686.6

(1) Does not include $175.1 million in State Fiscal Years 2008-2009 through 2014-2015, and $182.1 million in State Fiscal Years 2015-2016 through 2018-2019 through the Section 18-b program.

(2) MMTOA appropriations for MTA for State Fiscal Year 2010-2011 amounted to $1,269.8 million, but an additional $30 million was paid to MTA utilizing existing supplemental MMTOA reappropriations and $44.9 million was rolled from State Fiscal Year 2009-2010 into State Fiscal Year 2010-2011. These additional payments brought the total MMTOA Receipts to $1,344.7 million.

(3) MMTOA appropriations for MTA for State Fiscal Year 2011-2012 amounted to $1,232.3 million, but an additional $10.7 million was paid to MTA utilizing existing supplemental MMTOA reappropriations. This payment brought the total MMTOA receipts to $1,243 million.

Source: New York State Division of the Budget.

Although a variety of taxes have been used to fund the special tax supported operating subsidies, the taxes levied for this purpose currently include the MMTOA PBT, the District Sales Tax, the Franchise Taxes and the Franchise Surcharge ("MMTOA Taxes"), all described in more detail below. State law gives State officials the authority to disburse funds to MTA from the MMTOA Account to the extent such officials determine that the funds are necessary to finance operations of the Transit System and MTA Staten Island Railway and the Commuter System. Fluctuations in the economic and demographic conditions of the MTA Commuter Transportation District are directly related to the growth of economically sensitive taxes, including the District Sales Tax and the Franchise Surcharge. Therefore, there can be no assurance that such taxes will generate tax receipts at current levels. If shortfalls are experienced in the collection of MMTOA Taxes, the Commissioner of Transportation is authorized to reduce each recipient's payment from the MTOA Fund proportionately. MTA has historically received approximately 86% of such amounts deposited in the MMTOA Account. However, starting in 2012 a split in the Franchise Taxes component of the MMTOA taxes between the upstate Public Transportation Systems Operating Assistance Account ("PTOA Account") and the MMTOA account diverted 26% of the transportation and transmission taxes that were allotted previously to MMTOA to the upstate PTOA Account.

MMTOA PBT.

General. The products that are subject to the tax, the tax rates and the transactions excluded from such tax are identical to the basic PBT as described above under "MTTF Receipts – Dedicated Petroleum Business Tax" which is dedicated to the MTTF.

As of April 1, 2001, the share of the PBT basic tax earmarked to the MMTOA Account is 10.835%.

As described above in "MTTF Receipts — Dedicated Petroleum Business Tax," aspects relating to the imposition and collection of the MMTOA PBT have from time to time been and may continue to be the subject of administrative claims and litigation by taxpayers.

Historical Summary of MMTOA PBT. The following table provides historical information relating to MMTOA PBT receipts deposited into the MMTOA Account for the last ten years.

MMTOA Petroleum Business Taxes

State Fiscal Year	Net Receipts (in millions)
2009-10	$72.2
2010-11	70.7
2011-12	71.0
2012-13	73.8
2013-14	75.5
2014-15	75.1
2015-16	72.6
2016-17	73.1
2017-18	70.8
2018-19	74.1

Source: New York State Division of the Budget.

District Sales Tax.

General. The District Sales Tax consists of a 0.375% sales and compensating use tax imposed on sales and uses of certain tangible personal property and services applicable only within the MTA Commuter Transportation District.

District Sales Tax receipts have been a significant source of tax receipts deposited in the MMTOA Account. The level of District Sales Tax receipts is necessarily dependent upon economic and demographic conditions in the MTA Commuter Transportation District, and therefore there can be no assurance that historical data with respect to collections of the District Sales Tax will be indicative of future receipts.

The base of the District Sales Tax is identical to the base of the State's 4% sales and compensating use tax. The tax now applies to (1) sales and use of most tangible personal property; (2) certain utility service billings; and (3) charges for restaurant meals, hotel and motel occupancy, and for specified admissions and services. The base of the tax has been amended periodically by the Legislature to exempt various purchases.

Clothing and footwear costing less than $110 were permanently exempted from State sales tax on April 1, 2006. Localities have an option to also offer this exemption. Pursuant to Tax Law, localities opting to remove their tax must reimburse MTA for one-half of the foregone District Sales Tax revenue, while the State will provide the other half, but these reimbursements are paid to MTA and such reimbursements are not deposited into the MMTOA.

On June 1, 2006, the State placed a cap on the amount of State sales tax collected on motor fuel and diesel motor fuel at eight cents per gallon. Localities have an option to continue to use the percentage rate method or to change to a cents-per-gallon method of computing sales tax. Pursuant to the Tax Law, the State must reimburse MTA for the entire foregone District Sales Tax revenue, but these reimbursements are paid from the State General Fund to MTA and such reimbursements are not deposited into the MMTOA.

MTA is held harmless from the impact of the clothing and footwear exemption and the cap on motor fuel and diesel motor fuel. This entire held harmless amount is reflected in the following table, but such amounts are not deposited into the MMTOA.

Historical Summary of District Sales Tax. The following table provides historical information relating to District Sales Tax receipts deposited into the MMTOA Account for the last ten years.

District Sales Tax
($ in millions)

State Fiscal Year	Net Receipts	Held Harmless Amount(1)	Total
2009-10	$656.5	$41.1(2)	$697.6
2010-11	756.0(3)	32.2(4)	794.2
2011-12	749.5	59.0(5)	808.5
2012-13	757.5	54.6(6)	812.1
2013-14	801.7	52.6(7)	854.3
2014-15	854.0	50.7(8)	904.7
2015-16	874.2	39.2(9)	913.4
2016-17	903.0	35.9(10)	938.9
2017-18	942.0	38.4(11)	980.4
2018-19	963.1	41.9(12)	1,005.0

(1) This amount includes moneys paid by both the State and the localities. Such amounts are not deposited into the MMTOA.
(2) Includes $35.8 million from the State and localities for the clothing exemption and $5.3 million from the State for the cap on motor fuel and diesel fuel.
(3) The March closeout number was increased to $44.1 million (in comparison, March 2010 was $5.1 million).
(4) Includes $23.2 million from the State and localities for the clothing exemption and $9 million from the State for the cap on motor fuel and diesel fuel. The State eliminated the sales tax exemption on clothing and footwear costing less than $110 from October 1, 2010 to March 31, 2011.
(5) Includes $41.8 million from the State and localities for the clothing exemption and $17.2 million from the State for the cap on motor fuel and diesel fuel. The State had a sales tax exemption on clothing and footwear costing less than $55 from April 1, 2011 to March 31, 2012.
(6) Includes $34.7 million from the State and localities for the clothing exemption and $19.9 million from the State for the cap on motor fuel and diesel fuel.
(7) Includes $36.6 million from the State and localities for the clothing exemption and $16 million from the State for the cap on motor fuel and diesel fuel.
(8) Includes an estimated $34.7 million from the State and localities for the clothing exemption and $16 million from the State for the cap on motor fuel and diesel fuel.
(9) Includes an estimated $34.1 million from the State and localities for the clothing exemption and $5.1 million from the State for the cap on motor fuel and diesel fuel.
(10) Includes an estimated $34.4 million from the State and localities for the clothing exemption and $1.5 million from the State for the cap on motor fuel and diesel fuel.
(11) Includes an estimated $34.9 million from the State and localities for the clothing exemption and $3.5 million from the State for the cap on motor fuel and diesel fuel.
(12) Includes an estimated $35.6 million from the State and localities for the clothing exemption and $6.3 million from the State for the cap on motor fuel and diesel fuel.
Source: New York State Division of the Budget and New York State Department of Taxation and Finance.

Franchise Taxes.

General. A legislatively allocated portion of two taxes imposed on certain transportation and transmission companies (such as trucking, telegraph and local telephone companies), consisting of (a) an annual franchise tax based on the amount of the taxpayer's issued capital stock, and (b) an annual franchise tax on the taxpayer's gross earnings from all sources calculated to be in the State pursuant to statutory formulae are deposited in the MMTOA Account.

In addition to the two taxes described in the previous paragraph, effective May 1, 2015, Section 186-e was amended to include an additional excise tax of 0.4% (2.9% vs. 2.5%) that is imposed on the sale of mobile communication services. The receipts from the additional excise tax are deposited in the MMTOA Account using the same statutory formulae as the two franchise taxes described in the previous paragraph. Previously, mobile communication providers were taxed under (b) above.

The percentage of franchise receipts required to be deposited in the MMTOA Account has been modified from time-to-time. At present, this percentage is 54%. These changes were made to preserve the dedicated funds revenue flow subsequent to changes enacted in prior years reducing the base of the gross earnings tax and/or reducing the tax rates.

Historical Summary of the Franchise Taxes. The following table provides historical information relating to the portion of Franchise Tax receipts deposited into the MMTOA Account for the last ten years. A one-time election to remain under the taxes imposed on trucking and railroad companies was enacted in 1996 for elections made before March 15, 1998. Companies not electing to remain under Sections 183 and 184 were taxed under the general corporate franchise tax. As part of the same legislation, the Section 184 rate was reduced from 0.75% to 0.6% on gross earnings. The MMTOA revenue distribution was held harmless. Additional rate reductions occurred beginning in 1998 that do not affect MMTOA. Effective State Fiscal Year 2012-2015, the distribution to MMTOA was changed from 80% to 54% of the Franchise Taxes. The remaining 26% is distributed to the Public Transportation Systems Operating Assistance PTOA Account.

The following table provides historical information relating to Franchise Tax receipts deposited into the MMTOA Account for the last ten years.

Franchise Taxes
(in millions)

State Fiscal Year	Net Receipts
2009-10	$78.6
2010-11	65.6
2011-12	53.1
2012-13	39.5
2013-14	36.5
2014-15	25.7
2015-16	39.4
2016-17	41.4
2017-18	37.2
2018-19	41.3

Source: New York State Division of the Budget.

Franchise Surcharge.

General. This surcharge, originally imposed in 1982, was extended by the Legislature in March 2013 and was made permanent in the 2014-2015 State Enacted Budget. The Franchise Surcharge is imposed on the portion of the franchise and other taxes of certain corporations, insurance, utility, and transportation and transmission companies attributable (according to various complex formulae) to business activity carried on within the MTA Commuter Transportation District. The MTA surcharge rate for Tax Year 2015 was 25.6%. Since 2015, the Tax Department has determined the surcharge tax rate needed to maintain revenue neutrality. Revenue neutrality is defined as the rate necessary to achieve the MTA surcharge revenue for the Article 9A franchise tax published in the 2014-2015 State Enacted Budget. This calculation is repeated annually at a similar time. Determination of an annual rate is necessary because certain tax reform provisions took effect with tax year 2016 that lower State Article 9A receipts. These reforms will be fully implemented in tax year 2021.

For tax year 2019, the surcharge rate for corporate franchise taxpayers is 28.9%. Insurance (Article 33) and corporate and utility (Article 9) taxpayers continue to pay a 17% surcharge rate and be subject to the 1997 Tax Law calculation since they were not part of corporate tax reform. Effective May 1, 2015, an additional surcharge rate of 0.721% (17.721% vs. 17.0%) is imposed on the sale of mobile communication services (this corresponds to the higher excise tax rate described in the Franchise Taxes section). In accordance with Section 171-a of the Tax Law, the tax revenue generated under these provisions, after the deduction of administrative costs, is to be deposited to the MMTOA Account, as such taxes are received.

Aspects relating to the imposition and collection of the Franchise Surcharge have from time to time been, are currently and may continue to be, the subject of administrative claims and litigation by taxpayers. The financial impact of such challenges commenced to date has not been and is not expected to be material.

Historical Summary of the Franchise Surcharge. The following table provides historical information relating to the Franchise Surcharge receipts deposited into the MMTOA Account for the last ten years.

Franchise Surcharges
($ in millions)

State Fiscal Year	Net Receipts
2009-10	$ 885.7
2010-11	827.7
2011-12	951.7
2012-13	997.9
2013-14	989.9
2014-15	1,032.0
2015-16	1,039.7
2016-17	1,017.1
2017-18	1,087.4
2018-19	1,169.1

Source: New York State Division of the Budget.

STATE SERVICE CONTRACT BONDS

MTA entered into a service contract dated as of May 15, 2002, called the "State Service Contract" with the State, acting through the Director of the Budget of the State. MTA has filed a copy of the State Service Contract and summaries of certain provisions of the State Service Contract Resolution, including certain defined terms used therein, with EMMA. In addition, copies of the summaries of the State Service Contract can be obtained on MTA's website under "MTA Info – Financial Information – Investor Information" at www.mta.info or from the MTA Finance Department at 2 Broadway, New York, New York, 10004.

All outstanding State Service Contract Bonds were retired as of March 31, 2019. The aggregate debt service on the previously issued State Service Contract Bonds has exhausted MTA's current capacity under the State Service Contract to issue additional bonds. MTA does not expect to issue additional bonds under the State Service Contract Resolution, unless the State Service Contract is amended to permit the issuance of additional new money bonds. Debt service payments on the State Service Contract Bonds were payable solely by State Service Contract payments appropriated by the State and not by MTA revenues.

SPECIAL OBLIGATION TAXABLE REFUNDING BONDS

Special Obligation Taxable Refunding Bonds

On August 14, 2014, MTA issued $348,910,000 MTA Special Obligation Taxable Refunding Bonds, Series 2014 (the "SOBs"). The SOBs are MTA's special obligations, payable solely from the money pledged for payment under the "Bond Resolution Authorizing Special Obligation Taxable Refunding Bonds, Series 2014," adopted on July 28, 2014. The SOBs were issued to redeem at an early redemption date certain MTA bonds that were issued to finance transit and commuter projects and to provide operation and maintenance moneys to the MTA New York City Transit and the commuter railroads operated by MTA Long Island Rail Road and MTA Metro-North Railroad.

There are $246,410,000 aggregate principal amount of outstanding SOBs as of April 30, 2019. **SOB Table 1** below sets forth, on an annual cash basis, the Released Escrow Amounts and the aggregate debt service on the SOBs.

SOB Table 1
Estimated Released Escrow Amounts and Debt Service on the SOBs
($ in thousands)[1]

Maturity Date (July 1)	Future Receipts From Released Escrow Amounts[2]	Debt Service on the SOBs Principal	Interest	Principal and Interest	Excess Receipts[3]	Cumulative Excess Receipts[3]
2019	$38,338	$31,745	$6,556	$38,301	$ 37	$ 200
2020	38,336	32,335	5,969	38,304	32	232
2021	38,336	33,045	5,268	38,313	23	255
2022	38,340	33,885	4,434	38,319	20	275
2023	34,793	31,270	3,512	34,782	11	286
2024	34,794	32,175	2,615	34,790	4	291
2025	29,587	28,230	1,644	29,874	(286)	5
2026	29,587	23,725	763	24,488	5,098	5,103

(1) Totals may not add due to rounding.
(2) The Future Receipts from Released Escrow Amounts assume the future investment of certain amounts at a 0% interest rate.
(3) Includes $163 thousand of cumulative excess receipts accumulated from 2015 through 2018.

Sources of Payment – General

The SOBs are secured solely by the income generated by certain securities, and not by the revenues of any of the Related Entities.

HUDSON RAIL YARDS TRUST OBLIGATIONS

Hudson Rail Yards Trust Obligations

On September 22, 2016, $1,057,430,000 MTA Hudson Rail Yards Trust Obligations, Series 2016A were issued to finance and refinance approved capital program transit and commuter projects for the Related Entities. The HY Trust Obligations are payable in part by amounts due under the Ground Leases described below. There are $1,057,430,000 aggregate principal amount of outstanding HY Trust Obligations as of April 30, 2019. On May 15, 2019, an early mandatory redemption in the principal amount of $105,500,000 for a portion of the HY Trust Obligations maturing on November 15, 2046 is anticipated. This early mandatory redemption is due to the payment of Fee Purchase Payments in connection with two commercial condominium units in 30 Hudson Yards (Tower A) and a portion of the residential condominiums in 15 Hudson Yards (Tower D).

For additional information on MTA's HY Trust Obligations see "FINANCIAL PLANS AND CAPITAL PROGRAMS — Non-Capital Program Projects - Hudson Yards Development and Financing" in Part 2 of this ADS and Part II – Tab 2 – "Details of Each Issue of Obligations – Hudson Rail Yards Trust Obligations (Schedule 1 to Financing Agreement)" of MTA's 2018 Combined Continuing Disclosure Filings.

Security – General

The HY Trust Obligations are MTA's special limited obligations, payable solely from the trust estate (the "HY Trust Estate") established under the HY Trust Agreement. The HY Trust Estate consists principally of (i) monthly Ground Lease rent payments (the "Monthly Ground Rent") to be paid by any tenants of Ground Leases (the "Ground Lease Tenants") of certain parcels being developed on and above the Eastern Rail Yard and Western Rail Yard portions of the John D. Caemmerer West Side Yards ("Hudson Rail Yards") currently operated by MTA Long Island Rail Road, (ii) monthly scheduled transfers from the capitalized interest fund established by the HY Trust Agreement (the "Capitalized Interest Fund") during the limited period that the Monthly Ground Rent is abated under the applicable Ground Lease, (iii) payments made by the Ground Lease Tenants if they elect to exercise their option to purchase the fee interest in such parcels ("Fee Purchase Payments"), (iv) certain Contingent Support Payments (as discussed below) made by MTA, (v) rights of MTA to exercise certain remedies under the Ground Leases and (vi) rights of the HY Trustee to exercise certain remedies under the Ground Leases and the separate fee mortgages (the "Fee Mortgages") from MTA in favor of the HY Trustee. Pursuant to the HY Trust Agreement, MTA has unconditionally and irrevocably assigned and transferred to the HY Trustee its rights in the HY Trust Estate and the HY Trustee has agreed to execute and deliver HY Trust Obligations, each evidencing the interests of the Owners thereof in the MTA Financing Agreement Amount (consisting of the principal components (the "Principal Components") and the interest components (the "Interest Components") of the MTA Financing Agreement Amount payable by MTA pursuant to the Interagency Financing Agreement dated as of September 1, 2016 (the "Financing Agreement"), by and among MTA, MTA New York City Transit, MaBSTOA, MTA Long Island Rail Road, MTA Metro-North Railroad, and MTA Bus (collectively, the "HY Related Transportation Entities") and the HY Trustee).

Overview of the Ground Leases

Both the Eastern Rail Yard ("ERY") and Western Rail Yard ("WRY") are ground leased for 99 years by MTA to limited liability entities controlled by Related-Oxford (collectively, the "Ground Lease"). The property that is ground leased by MTA consists of the airspace above a limiting plane above the tracks (from 31st to 33rd Streets) and the area where there are no rail tracks (from 30th to 31st Streets) within the boundary of the Hudson Rail Yards (collectively, the "Ground Leased Property"). The commencement date of the ERY Original Ground Lease was December 3, 2012 and the expiration date is December 2, 2111[*]. The commencement date of the WRY Original Ground Lease was December 3, 2013 and the expiration date is December 2, 2112. Five of the eight individual ground-leased parcels (each, a "Severed Parcel Ground Lease") on the ERY (and on the WRY, when entered into) have the same commencement date, expiration date and rent adjustment dates as the respective ERY and WRY Original Ground Lease. Each Ground Lease Tenant has the option to purchase fee title to the Ground Leased Property at any time following completion of construction of the building on the Ground Leased Property.

The Ground Leases do not encumber the railroad tracks, which will continue to be used for transportation purposes. Related-Oxford, or a limited liability development entity created by them for developing an individual parcel, is responsible for constructing a platform over the railroad tracks and improvements on, in and under such platform, and for the development of buildings on the Ground Leased Property, including designing, financing, constructing, leasing, selling, and operating such buildings.

The primary sources of revenue available for the payment of the Principal Components and Interest Components represented by the HY Trust Obligations will be the Monthly Ground Rent and any Fee Purchase Payments payable by the Ground Lease Tenants under the Ground Leases. These Ground Lease revenues are being pledged to the HY Trustee by MTA under the Financing Agreement and the HY Trust Agreement, and Ground Lease Tenants are directed to pay the revenues directly to the Depositary (as defined under "–Flow of Funds" below) for deposit into a deposit account with the HY Trustee (the "Dedicated Deposit Account"). Such payments are then transferred daily from the Depositary to the HY Trustee for deposit into the rent payment fund established under the HY Trust Agreement (the "Rent Payment Fund").

Monthly Ground Rent under the Ground Leases

Monthly Ground Rent is due on the first day of each month from each of the Ground Lease Tenants. A failure to timely pay Monthly Ground Rent following the applicable notice and grace period is an event of default under the affected Ground Lease (a "Ground Lease Payment Event of Default"). The amount of Monthly Ground Rent due under each Ground Lease is a fixed dollar amount established in each Ground Lease, subject to a 10% escalation every five years, except for the 30th, 55th and 80th years when the escalations will be based on fair market value (but no less than a 0% increase and no greater than a 20% increase from the previous year's amount). The timing of each escalation is calculated from the commencement date for the Original Ground Lease.

Fee Purchase Payments

Under each Severed Parcel Ground Lease, following substantial completion of construction of the building on the Ground Leased Property, a Ground Lease Tenant has the option to (a) continue to pay Monthly Ground Rent due on a monthly basis or (b) at any time, purchase the fee interest in its Ground Leased Property (and thus

[*] The ERY Original Ground Lease has since been terminated and substituted with separate Severed Parcel Ground Leases.

terminate its Ground Lease) by exercising its option to purchase the fee interest in its Severed Parcel and related improvements upon substantial completion thereof (a "Fee Conversion Option") and making the required Fee Purchase Payment under its applicable Ground Lease. The required Fee Purchase Payment under each Ground Lease is equal to (a) the present value to the purchase date of all remaining Monthly Ground Rent due for the 99-year ground lease term, including escalations, plus (b) the present value to the purchase date of a pre-established reversionary value of the property after the 99th year. The calculation of the required Fee Purchase Payment is set forth in each Ground Lease. The required Fee Purchase Payments set forth by the terms of the Ground Leases increase approximately 2.2% per year for at least the first 30 years of each Ground Lease. The receipt of a Fee Purchase Payment will result in a redemption of the HY Trust Obligations. In addition, upon MTA's receipt of a Fee Purchase Payment, the fee interest purchased by the Ground Lease Tenant will be released from the applicable Fee Mortgage.

Ground Lease Tenants are not obligated to exercise their Fee Conversion Options but can instead continue to pay Monthly Ground Rent for the full 99-year ground lease term.

All Fee Purchase Payments received are pledged by MTA and directed to be paid to the Depositary and are required to be applied by the HY Trustee on a no less than quarterly basis to redeem Principal Components of HY Trust Obligations at the then applicable redemption price plus accrued interest. The aggregate par amount of HY Trust Obligations issued is limited such that at any time after issuance there is calculated to be sufficient funds (assuming Ground Lease Tenants meet all their obligations) to redeem prior to the scheduled maturity dates all outstanding Principal Components of HY Trust Obligations at the applicable redemption price plus accrued interest in the event all Ground Lease Tenants decide to exercise their respective Fee Conversion Options and pay their required Fee Purchase Payments.

Limitations on Related Entities' Obligations

Neither MTA nor any of the other HY Related Transportation Entities are obligated to make any payment with respect to the MTA Financing Agreement Amount or the HY Trust Obligations (and the related Principal Components and Interest Components) from any source other than the HY Trust Estate (which includes the Financing Agreement Payments) and Contingent Support Payments. Contingent Support Payments consist of Interest Reserve Advances and Direct Cost Rent Credit Payments. Under the Financing Agreement, MTA has an obligation to make advances to replenish the Interest Reserve Fund (an "Interest Reserve Advance") upon the occurrence of a Ground Lease Payment Event of Default, which obligation is generally limited to seven years after the Ground Lease Payment Event of Default. "Direct Cost Rent Credit Payments" are made upon determination that the Ground Lease Tenant is entitled to a Direct Cost Rent Credit (a partial credit against Monthly Ground Rent under certain limited circumstances as a result of an action or failure to take certain action by MTA or MTA Long Island Rail Road). Contingent Support Payments are subordinate to debt service on MTA's Transportation Revenue Bonds and payable from the same pool of revenues that are available to pay operating and maintenance expenses of the Related Entities.

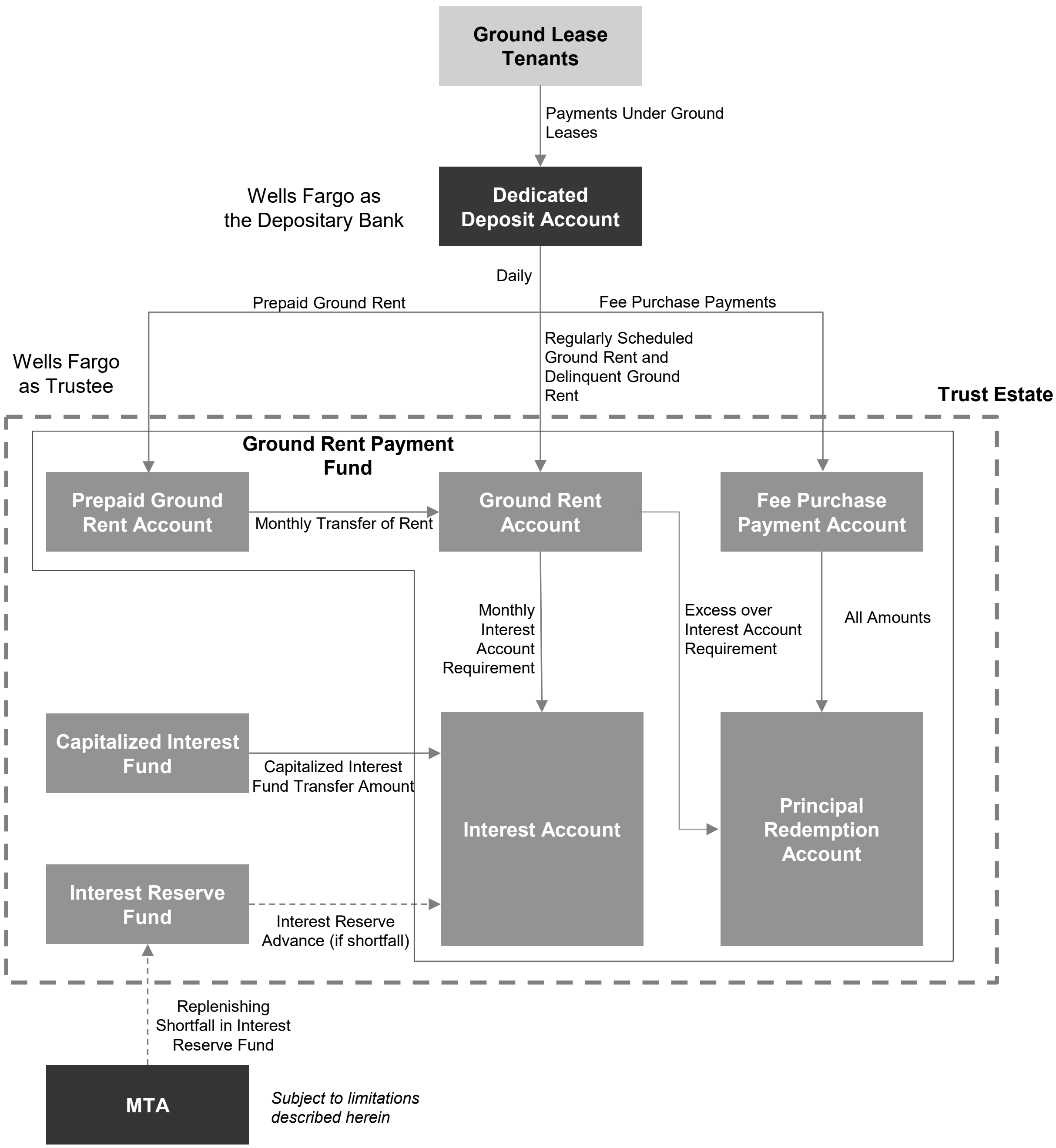
Flow of Funds

MTA has established a deposit account with the HY Trustee, as depositary (the "Depositary"), and MTA has directed all Ground Lease Tenants to make Monthly Ground Rent and Fee Purchase Payments directly to the Depositary, which deposits will be transferred daily to the Trustee.

The chart which follows describes the flow of funds from the payments by Ground Lease Tenants of Monthly Ground Rent and Fee Purchase Payments to the Depositary for deposit to the Dedicated Deposit Account to the account and fund flow under the HY Trust Agreement for payment of the Principal Components and Interest Components relating to the HY Trust Obligations.

MTA Hudson Rail Yards Trust Obligations

Illustrative Flow of Funds



Covenants of the MTA with respect to the HY Trust Obligations

MTA has undertaken, among others, the following covenants and agreements in the HY Trust Agreement:

- MTA covenants and agrees, on behalf of itself and the other HY Related Transportation Entities, with the Owners of the HY Trust Obligations to perform all obligations and duties imposed on them, as applicable, under the HY Trust Agreement, the Financing Agreement, certain instructions requiring the Depositary to transfer the amounts deposited into the Dedicated Deposit Account to the HY Trustee, the Fee Mortgages and the Ground Leases.

- MTA covenants and agrees that it shall use commercially reasonable efforts to timely pursue any and all actions to enforce its rights to collect (or to direct the payment to the Depositary of) all amounts due under the Ground Leases, the completion guaranties (the "Completion Guaranties") and the payment guaranties (the "Payment Guaranties") described in the Ground Leases.

- MTA covenants and agrees that it shall not take any action and will use its best efforts not to permit any action to be taken by others under the Ground Leases, the Completion Guaranties, the Payment Guaranties and the Fee Mortgages that would result in a Prohibited Modification.

Prohibited Modifications means (i) any modification to the Ground Leases or to the Severed Parcel Pro Forma Rent Schedule attached to a Ground Lease which reduces the annual base rent payable thereunder, (ii) any modification to the Ground Leases which reduces the Fee Purchase Payments and/or the Residential Unit Purchase Price payable in connection with a Fee Purchase Payment, (iii) any modification to the Ground Leases which increases or extends abatements set forth in the Ground Leases, (iv) any waiver of a Ground Lease Tenant's obligation to make payments of Annual Base Rent and/or the Fee Purchase Payments in the amounts and at the times due as set forth in the Ground Leases, (v) any acceleration of a Ground Lease Tenant's right to exercise the Fee Conversion Option earlier than the Fee Conversion Closing Date set forth in the Ground Leases, (vi) any modification of the Ground Leases which would grant a Ground Lease Tenant an express right to deduction, counterclaim, set-off or offset against the Annual Base Rent, or constitute a Ground Lease not to be a "triple net lease" as set forth in the Ground Leases, (vii) any modification to the application of funds to be used to restore the premises following a casualty pursuant to the Ground Leases, (viii) any modification to the apportionment or application of condemnation proceeds pursuant to the Ground Leases, and (ix) any modification to the Ground Leases with respect to Ground Lease Tenant Events of Default (as further described in the Ground Leases) and landlord remedies relating thereto.

PART 4. OPERATIONS

TRANSIT SYSTEM

(popular names – MTA New York City Transit and MaBSTOA)

Legal Status and Public Purpose

MTA New York City Transit was created in 1953 pursuant to the MTA New York City Transit Act for the purposes of acquiring the transit facilities then operated by the City and operating them for the convenience and safety of the public.

MaBSTOA was created as a public benefit corporation in 1962 as a statutory subsidiary of MTA New York City Transit to operate the bus routes that had been operated by Surface Transit, Inc. and Fifth Avenue Coach Lines, Inc. prior to their acquisition by the City.

Pursuant to the MTA New York City Transit Act, MTA New York City Transit and the City entered into an agreement of lease, dated June 1, 1953, providing for the lease to MTA New York City Transit of the transit facilities then owned or thereafter to be acquired or constructed by the City for use in the fulfillment of MTA New York City Transit's corporate purposes. In connection with the creation of MaBSTOA, MTA New York City Transit agreed that bus lines acquired by the City would be leased to MaBSTOA by the City for operation and maintenance by MaBSTOA. Such lease with MaBSTOA was entered into on March 20, 1962.

MTA New York City Transit became an affiliate of MTA in 1968. The Chairman and Members of MTA, by statute, are also the Chairman and Members of MTA New York City Transit and Directors of MaBSTOA, and the CEO of MTA is, *ex officio*, CEO of MTA New York City Transit. The CEO is responsible for the discharge of the executive and administrative functions and powers of MTA New York City Transit. The President of MTA New York City Transit is primarily responsible for the general management and operation of MTA New York City Transit. The executive personnel of MTA New York City Transit and MaBSTOA report to the President of MTA New York City Transit.

Management

The following are brief biographies of MTA New York City Transit's senior officers, who also serve as MaBSTOA's senior officers.

Andrew Byford, President since January 2018. Mr. Byford was appointed President of MTA New York City Transit effective January 16, 2018. As President of MTA New York City Transit, Mr. Byford is responsible for the general management and operation of North America's largest mass transit system. A seasoned transportation professional whose work has taken him across three continents over nearly three decades, Mr. Byford joins MTA New York City Transit after serving for five years as the CEO of the Toronto Transit Commission (TTC), the third largest transit system in North America. At TTC, Mr. Byford spearheaded several prominent initiatives including the development of a corporate plan aimed at modernizing the TTC and improving operational performance. Under his leadership, TTC was named by the American Public Transportation Association as its Outstanding Transit System of the Year for 2017. Mr. Byford began his transit career at London Underground where, over 14 years, he rose to the position of General Manager of the Central, Bakerloo and Victoria Lines, three of its busiest subway lines. He also was Chief Operating Officer of Australia's largest transit system in Sydney between 2009 and 2011. At MTA New York City Transit, Mr. Byford is responsible for leading the modernization of one of the oldest and largest transit systems in the world. A native of the United Kingdom, Mr. Byford holds an honors degree from the University of Leicester.

Darryl C. Irick, Senior Vice President, Department of Buses since April 2011. As Senior Vice President, Department of Buses, Mr. Irick oversees the MTA New York City Transit bus system (including MaBSTOA bus operations) and also presides over the MTA Bus Company. Mr. Irick has served in this capacity for the past eight years, with the exception of the period from February to September, 2017, during which Mr. Irick served as Acting President of MTA New York City Transit. Mr. Irick began his MTA New York City Transit career more than thirty years ago, in 1986, as a bus operator at Kingsbridge Depot. Mr. Irick progressively earned more senior positions in the areas of operations planning, depot management and road operations before taking on the responsibility of heading the MTA New York City Transit Bus Division and MTA Bus Company in 2011.

Sally Librera, Senior Vice President, Department of Subways, appointed April 29, 2018. Ms. Librera is responsible for overseeing all aspects of the Department of Subways, including development and delivery of long-term strategy for modernization and improvement of subway operations. Ms. Librera has worked at MTA New York City Transit for 15 years, assuming positions of increasing responsibility. Most recently, Ms. Librera served as Vice President & Chief Officer for Subways Operations Support and as Vice President & Chief Officer for Staten Island Railway. Ms. Librera holds a bachelor's degree from Cornell University and master's degrees in City and Regional Planning and Transportation Engineering from the University of California, Berkeley.

Frank Jezycki, Executive Vice President & Chief Operating Officer, Department of Subways, appointed April 29, 2018. Mr. Jezycki is responsible for day-to-day subway operations, overseeing Service Delivery, Car Equipment and Maintenance of Way divisions. Mr. Jezycki, a 34-year veteran of MTA New York City Transit, has risen through the ranks of the Department of Subways. Prior to his appointment as Chief Operating Officer, Mr. Jezycki served as Acting Senior Vice President of Subways, Vice President & Chief Officer, Car Equipment, and Vice President and Chief Officer of Maintenance of Way. Among others, he has held prior positions within the Department of Subways as Line General Manager, Chief of Infrastructure/Maintenance of Way, and Vice President and Chief Officer of Staten Island Railway.

Sarah Meyer, Senior Vice President/Chief Customer Officer since March 2018. This new senior management position of Chief Customer Officer was created by President Byford to institutionalize the priority of placing the customer at the center of how MTA New York City Transit does business. Prior to joining MTA New York City Transit, Ms. Meyer served as Senior Vice President at Edelman, a global communications marketing firm, and worked there on a recent project overhauling communication protocols at MTA New York City Transit's Rail Control Center. Ms. Meyer has also worked with Fortune 500 companies and non-profits, creating communication campaigns and digital platforms that raise awareness and built reputation. Ms. Meyer holds a bachelor's degree from Wellesley College.

Deborah Prato, Senior Vice President of People and Business Transformation since August 2018. This new senior management position of Chief People Officer was created by President Byford to formally recognize the importance of engaging and empowering employees as a priority and an essential component to achieving the foundations of the Fast Forward Plan. With over 30-years of public sector experience and holding previous executive leadership roles in public transportation Ms. Prato brings a deep knowledge and expertise in business transformation, labor relations, human resource management, benefits, training, civil service and organizational and process redesign. Ms. Prato holds a bachelor's degree from SUNY Potsdam.

Timothy Mulligan, Senior Vice President, Operations Support since October 2016. As Senior Vice President, Mr. Mulligan is responsible for MTA New York City Transit's divisions of revenue control, operations planning, office of the CFO and strategic initiatives. Mr. Mulligan previously served as the Deputy Comptroller for Budget at the Office of the City Comptroller and as the Deputy Director of Education and Intergovernmental Task Forces for the New York City Office of Management and Budget. Prior to his work at Office of Management Budget, Mr. Mulligan served as Deputy Commissioner in the Office of Legislative Affairs at Human Resources Administration. He received a bachelor's degree from Boston College, a master's degree in Public Affairs at Princeton University, and his JD from New York University School of Law.

Alok Saha, Acting Senior Vice President, Capital Program Management Department since December 2018. Mr. Saha has been employed with MTA New York City Transit for more than 28 years, most recently as Vice President and Chief Engineer, Engineering Services in Capital Program Management and before that, as Program Executive, Recovery and Resiliency. In 2015, he assumed responsibilities as Vice President and Chief Engineer, Engineering Services in Capital Program Management. In that role, Mr. Saha directed Capital Program Management's staff of over 950 high level engineers and architects, responsible for the technical direction, quality of engineering and design of all project in the Capital Program.

David Farber, Acting Vice President and General Counsel since March 2019. Mr. Farber also heads the MTA New York City Transit Law Department's General Law and Contracts Division. Prior to his service with

MTA, Mr. Farber was General Counsel and EVP for Legal Affairs at the New York City Housing Authority, General Counsel and SVP of Hudson Yards Development Corporation, and General Counsel to the NYC Department of Small Business Services. Mr. Farber is a graduate of Brandeis University and UCLA School of Law.

History of the Transit System

General. Mass transit has played a vital role in the development of the City from its earliest days. It continues to be essential to the economic life of the metropolitan area and for a substantial portion of the population of the metropolitan area it represents the principal means of transportation within the City and to and from places of employment. The intense concentration of commercial, financial, cultural, industrial and residential development that exists in the 22 square miles comprising the Borough of Manhattan, particularly its central business district, would not be feasible without an extensive system of mass transit.

Subway System. Construction of the first subway in the City began in 1900 and was completed in 1904. Although built with City funds, it was leased to and operated by a private company, the IRT. A major expansion of the subway system was completed in various stages between 1918 and 1922. A portion of the expanded system was incorporated into the IRT and the remainder was leased to another private company, the BMT. In 1924, the City Board of Transportation was created to plan, construct and operate a third subway system, the IND. That system was completed in various stages between 1932 and 1940.

In 1940, the City acquired the franchise rights and properties of the IRT and BMT from the private companies that had operated those lines and that were then in reorganization. The entire subway system was placed under the control of the City Board of Transportation. In 1953, the subway system was leased to the then newly-formed MTA New York City Transit.

Although a number of changes have been made to the fixed physical plant of the subway system since 1940, such as the closing of the oldest elevated lines and the integration of the several systems, there were no significant alterations of the basic physical configuration of the subway network since that time until MTA New York City Transit opened the Archer Avenue Line extension and the 63rd Street Tunnel in 1988 and 1989, respectively, along with three new subway stations along each of these routes.

More recently, MTA has developed new expansions and improvements to the Transit System. These include the extension of the No. 7 subway line from Times Square south to 34th Street and 11th Avenue in Manhattan and the opening of the Lower Manhattan Fulton Center. In December of 2016, installation of the first phase of the Second Avenue Subway was completed. The Second Avenue Subway began service on January 1, 2017, with Q train service running from 96th Street, 86th Street, 72nd Street, and 63rd Street, and continuing through Manhattan and into Brooklyn, to Coney Island. For more information about these projects, see "MTA CAPITAL CONSTRUCTION COMPANY" below.

Bus System. During the 1940s and 1950s, the City acquired the properties and franchises of a number of private bus companies operating within the City, all of which were leased to MTA New York City Transit at the time of its creation. MaBSTOA was created in 1962 to operate the bus lines formerly operated by Fifth Avenue Coach Lines, Inc. and Surface Transit, Inc. Both MTA New York City Transit and MaBSTOA have since assumed the operation of additional franchises and routes.

Most bus service within the City is operated by MTA New York City Transit, MaBSTOA and MTA Bus. MTA Bus is currently operating the bus routes formerly operated by seven former franchise private bus companies, and only a very small number of private bus companies continue to operate local service within the City or between the outer boroughs and the Manhattan central business district. See "MTA BUS COMPANY" below.

Description of the Transit System

Subway System. The City's rapid transit system is by far the largest in the nation. Only a few cities in the world have a subway system comparable in physical size and ridership. The subway system has over 665 miles of mainline track extending 248 route miles. It operates 24 hours a day, 365 days a year, although certain lines are not in service the entire day and frequency of service varies by route and time of day. In calendar year 2018, 1.68 billion revenue passengers used the subway. It currently has a fleet of 6,546 subway cars, two major subway car overhaul shops, 14 maintenance shops, 24 subway car storage yards and 472 active passenger stations. As of December 31, 2018, MTA New York City Transit employed 30,041 full-time workers in rapid transit.

Bus System. MTA New York City Transit and MaBSTOA presently operate bus service on 235 local and express routes throughout the City. The majority of bus routes are designed to serve passengers traveling within a particular borough or to serve as feeders to the subway system. In calendar year 2018, 569 million revenue passengers used the bus system. The bus system operates on a continuous basis, although certain bus routes are not in service the entire day and frequency of service varies by route and time of day. As of December 31, 2018, the bus system employed 14,858 full-time persons and operated 4,359 buses.

Paratransit. On July 1, 1993, MTA New York City Transit assumed responsibility from the City for the Access-A-Ride paratransit service, in order to increase the efficiency of providing such services by vesting responsibility in a single entity. Access-A-Ride service is provided by private vendors under contract with MTA New York City Transit. Paratransit fares are currently equivalent to the regular undiscounted passenger fare rate of $2.75. Paratransit operations are also supported by 6% of the revenue from the Urban Tax (a portion of a mortgage recording tax and a portion of a property transfer tax imposed upon commercial property in the City). The City contributes an operating subsidy to support paratransit, equal to the lesser of (1) one third of the operating deficit, calculated after deducting paratransit passenger revenue, the above-described Urban Tax revenue, and MTA New York City Transit administrative expenses, or (2) an amount that is 20% greater than the amount required to be paid by the City for the preceding calendar year. Any remaining operating deficit is funded by MTA New York City Transit.

Relationships with the State, the City and the Federal Government

State and City. MTA New York City Transit and MaBSTOA receive substantial amounts of funding for the operating costs of the Transit System from subsidies provided by the State and the City. In the calendar year 2018, State and City operating assistance, special tax supported subsidies and reimbursements for the Transit System constituted, on a cash basis, approximately 43.2% of the total pledged revenues of MTA New York City Transit and MaBSTOA; up from 42.6% in 2017, due primarily to the increase in Special Tax Supported Subsidies. To the extent that future operating assistance from the State and City are subject to their receipt of tax revenues, the level of such funding may be affected by the general economic conditions in, and the financial condition of, the State and City.

In addition to the operating and capital assistance received by MTA New York City Transit and MaBSTOA from the City, MTA New York City Transit and MaBSTOA are dependent upon the City for the maintenance and repair of City-maintained bridges, streets and other infrastructure necessary for the operation of the Transit System. Water main breaks and other infrastructure problems, including problems on bridges, have in the past and may in the future cause service disruptions.

City infrastructure problems that restrict or preclude service on the Transit System could decrease ridership and revenue levels of the Transit System. The materiality of any such decrease would depend on the nature, severity and duration of the service interruptions.

Federal. MTA New York City Transit and MaBSTOA also receive substantial amounts of funding for the capital costs of the Transit System from grants provided by the federal government. The federal government also supplied substantial capital funds for prior Transit Capital Programs. Federal operating assistance is not currently authorized by federal law for mass transit operations, including the Transit System.

Other. Officials of the State, City and federal governments and the Inspector General of MTA periodically conduct audits and reviews of the operations of MTA New York City Transit and MaBSTOA. Officers of MTA New York City Transit and MaBSTOA respond to these reports and adopt some of the recommendations made therein or take other appropriate remedial actions.

MTA New York City Transit and MaBSTOA are subject to regulation by federal and State agencies with responsibilities for safety. In general, they must maintain and equip their tracks and rolling stock in compliance with minimum standards, file reports with respect to certain accidents and incidents and respond to recommendations for improving transit system safety.

MTA BUS COMPANY

(popular name – MTA Bus)

Legal Status and Public Purpose

MTA Bus was created as a public benefit corporation subsidiary of MTA in 2004. At its meeting in December 2004, the MTA Board approved a letter agreement with the City with respect to MTA Bus' establishment and operation of certain bus routes (the "City Bus Routes") in areas then served by seven private bus companies pursuant to franchises granted by the City. The letter agreement with the City provides for the following:

- A lease by the City to MTA Bus of the bus assets to operate the City Bus Routes.
- The City agrees to pay MTA Bus the difference between the actual cost of operation of the City Bus Routes (other than certain capital costs) and all revenues and subsidies received by MTA Bus and allocable to the operation of the City Bus Routes.
- If the City fails to timely pay any of the subsidy amounts due for a period of 30 days, MTA Bus has the right, after an additional 10 days, to curtail, suspend or eliminate service and may elect to terminate the agreement. The City can terminate the agreement on one year's notice.

MTA Bus completed the consolidation of the seven bus lines in the first quarter of 2006. As discussed under "FINANCIAL PLANS AND CAPITAL PROGRAMS," in Part 2 of this ADS the CPRB and MTA have included certain capital funding for MTA Bus in the 2000-2004, 2005-2009, 2010-2014 and 2015-2019 MTA Capital Programs.

Effective as of April 1, 2006, MTA Bus pledged its operating revenues to the Trustee under the Transportation Resolution and became a signatory to the Interagency Agreement securing the Transportation Revenue Bonds. All or a portion of MTA Bus' capital needs may be financed from the proceeds of the Transportation Revenue Bonds. The City is not responsible for paying debt service on bonds issued by MTA for the benefit of MTA Bus in connection with the 2000-2004 and 2005-2009 MTA Capital Programs. The debt service expense associated with bonds issued by MTA for the benefit of MTA Bus in connection with the 2010-2014 Capital Program is billable to the City. In addition, debt service expenses relating to the approved 2015-2019 Capital Program will be submitted to the City for reimbursement to MTA Bus and MTA.

Description of the MTA Bus System

MTA Bus presently operates bus service on 44 local routes in the Bronx, Brooklyn and Queens, 43 express routes between Manhattan and the Bronx, Brooklyn and Queens and three Select Bus Service routes in Queens. In calendar year 2018, over 121 million revenue passengers used the MTA Bus System. As of December 31, 2018, the MTA Bus System employed 3,981 persons and operated 1,298 buses. The MTA Bus System operates on a continuous basis, although certain bus routes are not in service the entire day and frequency of service varies by route and time of day.

Management

Darryl Irick, the Senior Vice President, MTA New York City Transit Department of Buses, is also the President of MTA Bus.

STATEN ISLAND RAPID TRANSIT OPERATING AUTHORITY

(popular name – MTA Staten Island Railway)

Legal Status and Public Purpose

MTA Staten Island Railway was created as a public benefit corporation subsidiary of MTA in 1970. MTA Staten Island Railway is responsible for the operation of a rapid transit railroad system on Staten Island pursuant to a lease and operating agreement with the City.

MTA Staten Island Railway service runs 24 hours daily between the St. George and Tottenville stations. At the St. George station, customers can make connections with Staten Island Ferry service. MTA Staten Island Railway's capital needs are funded as a part of the Transit Capital Program approved by the CPRB and its operating losses are funded by the City and/or MTA.

Management

Andrew Byford, the President of MTA New York City Transit, is also the President of MTA Staten Island Railway.

COMMUTER SYSTEM

(popular names – MTA Long Island Rail Road and MTA Metro-North Railroad)

Legal Status and Public Purpose

MTA Long Island Rail Road. Through MTA Long Island Rail Road, MTA operates commuter railroad service between the City and Long Island and within Long Island (the "MTA Long Island Rail Road Commuter Service").

MTA Long Island Rail Road was incorporated as a privately-held railroad company in 1834. In 1966, MTA acquired all of the capital stock of MTA Long Island Rail Road from its parent, the Pennsylvania Railroad Company. In February 1980, MTA Long Island Rail Road's Certificate of Incorporation was amended to convert it into a subsidiary public benefit corporation of MTA. MTA Long Island Rail Road owns, leases or has easements or other rights to the rolling stock, physical plant and equipment material to its operations. It is noted that the lease between the Atlantic Avenue Railroad Company of Brooklyn and MTA Long Island Rail Road, dated March 26, 1877 (the "Atlantic Avenue Lease") expired by its terms in 2000 and has not been renewed. MTA Long Island Rail Road continues to operate service on the tracks covered by the Atlantic Avenue Lease.

MTA Metro-North Railroad. Through MTA Metro-North Railroad, MTA operates the New Haven Line (pursuant to a joint service agreement with CDOT) and the Harlem and Hudson commuter rail services (collectively, the "MTA Metro-North Commuter Service") and subsidizes and performs certain other services relating to the State portion of the Port Jervis and Pascack Valley Lines operated, pursuant to a joint service agreement, by NJ Transit. The MTA Metro-North Commuter Service provides service between the City and the northern New York suburban counties of Westchester, Putnam and Dutchess and from the City through New Haven and Fairfield Counties in the southern portion of Connecticut to New Haven, Connecticut. The Port Jervis and Pascack Valley Lines provide service from the northern New York suburban counties of Orange and Rockland to northern New Jersey and the City (known as "West of Hudson" service). MTA Metro-North Railroad also contracts out ferry services connecting to Rockland County and Orange County.

MTA Metro-North Railroad was incorporated on September 22, 1982 as a subsidiary public benefit corporation of MTA. MTA or MTA Metro-North Railroad owns, leases or has easements or other rights to the rolling stock, physical plant and equipment material to the operation of the Harlem and Hudson Lines, and to the physical plant and equipment material to the operation of the State portion of the New Haven Line. With respect to the New Haven Line, MTA or MTA Metro-North Railroad owns approximately 35% of the non-diesel rolling stock and CDOT owns the remainder.

The New Haven Line is operated by MTA Metro-North Railroad pursuant to the terms of an Amended and Restated Service Agreement dated as of June 21, 1985, among Connecticut (by CDOT), MTA and MTA Metro-North Railroad (the "ARSA"). Under the provisions of the ARSA, at the expiration of each term, it is automatically extended for five years, subject to the right of CDOT or MTA to terminate the ARSA on 18 months' written notice. The current term of the ARSA expires December 31, 2019.

The Port Jervis and Pascack Valley Lines are operated by NJ Transit pursuant to the terms of an Agreement for Operation dated as of July 27, 2006, between NJ Transit and MTA Metro-North Railroad (the "AFO"), the initial term of which expired on June 30, 2012. Under the provisions of the AFO, at the expiration of each term, it is automatically extended for an additional year, subject to the right of NJ Transit or MTA Metro-North Railroad to terminate the AFO by no later than March 15, in which case the AFO will terminate on June 30 of that same year.

Management

The following are brief biographies of the presidents of MTA Long Island Rail Road and MTA Metro-North Railroad.

Phillip Eng was named President of MTA Long Island Rail Road as of April 2018. He has served as Chief Operating Officer ("COO") of MTA since March 2017. As COO, Mr. Eng oversaw major operating initiatives at all MTA agencies including the delivery of new fare payment systems and mobile ticketing apps, advertising contracts, technology integration, overall procurement strategy, oversight of best practices used across all agencies, and other key MTA priorities. Mr. Eng most recently served as Executive Deputy Commissioner and Chief Engineer of NYSDOT, where he oversaw all aspects of engineering, operations and capital planning. Mr. Eng has served the public at NYSDOT for more than 33 years, starting in 1983 as a junior engineer. He has held a number of key positions since then, including construction supervisor, director of operations, and as the regional director of the NYSDOT's New York City office. He is a licensed professional engineer in New York State, received his Bachelor of Engineering Degree from Cooper Union, and is a member of the American Society of Civil Engineers.

Catherine A. Rinaldi was named President of MTA Metro-North Railroad on February 21, 2018, after serving as Acting President following the retirement of Joseph J. Giulietti in 2017. Ms. Rinaldi joined MTA Metro-North Railroad in 2015 as Executive Vice President, overseeing the railroad's Strategic Planning Initiatives as well as its Capital Programs, Customer Service and Stations, Planning, Corporate and Public Affairs, Procurement, and Human Resources departments. Prior to that, Ms. Rinaldi was named the MTA's Chief of Staff in 2011. She has also served as Vice President and General Counsel at MTA Long Island Rail Road. She joined MTA as Deputy Executive Director and General Counsel in 2003. Ms. Rinaldi is a *summa cum laude* graduate of Yale College and received her law degree from the University of Virginia School of Law.

Description of the Commuter System

MTA Long Island Rail Road Commuter Service and MTA Metro-North Commuter Service are the two largest commuter railroad services in the nation. MTA Long Island Rail Road uses 19 yards, two major repair shops and one support facility which have staff. The West Side Yard shop was taken out of service in July 2013 and demolished in order to facilitate Amtrak's construction of the concrete casing under the Hudson Yards as route protection for their future proposed cross-Hudson River tunnel. A new West Side Yard shop was substantially completed on November 10, 2017, and placed in to service on February 14, 2018. In providing the Metro-North Commuter Railroad Service, MTA Metro-North Railroad uses 10 yards, Grand Central Terminal, two major repair shops and four support facilities. The commuter services operate every day of the year, although frequency of service varies by route, day of the week and time of day. The following table further details the MTA Long Island Rail Road Commuter Service and the MTA Metro-North Commuter Service.

MTA Long Island Rail Road and MTA Metro-North Commuter Service as of December 31, 2018[1]

	Revenue Passengers (in thousands)[2]	Stations	Actual Route Miles	Main Line Track Miles	Passenger Cars
MTA Long Island Rail Road	89,773	124	336.1	689.0[3]	1,112[4]
MTA Metro-North Railroad	84,911	112	285.5	708.0[5]	1,122[6]
Totals	174,684	236	621.6	1,397.0	2,234

(1) Certain of the stations, track and passenger cars are not owned by MTA, MTA Long Island Rail Road or MTA Metro-North Railroad.
(2) The number of revenue passengers is determined in part by ascribing an assumed frequency of use to holders of weekly and monthly commutation tickets. MTA Metro-North Railroad's numbers do not include West of Hudson service.
(3) MTA Long Island Rail Road track miles total includes MTA Long Island Rail Road yards and sidings as well as track that is owned by Amtrak or maintained by New York and Atlantic Railway.
(4) The number of MTA Long Island Rail Road passenger cars includes 10 that are not usable (10 M-7's).
(5) Includes 40.96 miles along the Beacon Line, which is not in regular revenue service.
(6) The number of MTA Metro-North Railroad passenger cars represents a reduction of 41 cars from 2017 due to the retirement of older New Haven Line cars (8 M-2's and 33 M-4's) facilitated by the purchase of M-8 cars. The total fleet number includes 10 cars that are long term out of service (2 M-3's that are dedicated to training and 2 M-7's, 4 M-8's and 2 coaches that will be repaired following various incidents).

Relationships with the State, Certain Local Governments and the Federal Government

State and Local Governments. MTA receives substantial amounts of funding for the operating and capital costs of the Commuter System from appropriations and subsidies provided by the State and certain local governments. In calendar year 2018, State and local operating assistance, special tax supported subsidies and reimbursements for the Commuter System constituted, on a cash basis, approximately 48.0% of the total pledged revenues of MTA relating to the Commuter System, up by 1% from approximately 47.0% in 2017. To the extent that future operating assistance and the funding of the capital costs of subsequent capital programs projected to be funded by the State are subject to its receipt of tax revenues and the making of annual appropriations, the level of such funding may be affected by the current economic conditions in, and the financial condition of, the State.

Federal. MTA also receives substantial amounts of funding for the capital costs of the Commuter System from grants provided by the federal government. Federal operating assistance is not currently authorized by federal law for mass transit operations, including the Commuter System.

Other. Officials of the State, City and federal governments and the Inspector General of MTA periodically conduct audits and reviews of the operations of MTA Long Island Rail Road and MTA Metro-North Railroad. Officers of MTA Long Island Rail Road and MTA Metro-North Railroad respond to these reports and adopt some of the recommendations made therein or take other appropriate remedial actions.

MTA Long Island Rail Road and MTA Metro-North Railroad are subject to regulation by federal and State agencies and, with respect to MTA Metro-North Railroad, by Connecticut agencies with responsibilities for railroad safety. In general, they must maintain and equip their roadbed and rolling stock in compliance with minimum standards, file reports with respect to certain accidents and incidents and respond to recommendations for improving Commuter System safety.

Safety Initiatives

In 2018 MTA Metro-North Railroad made significant advances in its safety initiatives, enhancing current safety efforts to ensure a safe work environment. MTA Metro-North's goal is a 100% incident free operation, and it focuses on continuous safety improvement to achieve this through its Safety Program Plan.

- Cameras on Rolling Stock: Installation of crash and fire-protected inward and outward-facing audio and image recorders started in August 2017 and will conclude in mid-2019. The devices are capable of providing recordings to verify that train crew actions are in accordance with rules and procedures. The system has capacity for 30 days of continuous recording. The on-board cameras assist the railroad in accident/incident investigation and are used by management in carrying out efficiency testing and system wide performance monitoring programs.

- Safety Rule Book: MTA Metro-North Railroad released a new Safety Rule Book effective March 12, 2018.

- Confidential Close Call Reporting System ("C3RS"): An industry-leading initiative, C3RS, is designed to encourage employees to report any potential safety hazard or breach of procedures that they may observe by providing them with a convenient, non-confrontational and anonymous method to do so. It is a partnership between the National Aeronautics and Space Administration and the FRA, in conjunction with MTA Metro-North Railroad and its labor organizations.

- Enhanced Employee Protection System: The fully developed in-house system provides protection for Maintenance of Way employees by placing a blocking device on the track that can only be removed after Rail Traffic Controllers are provided a unique code.

- First Responder Training: The program teaches first responders how to respond to incidents involving the railroad and provides guidance on safe operations around railroad equipment and the right-of-way. In 2018, there were over 2,000 first responders trained. Additionally, MTA Metro-North Railroad conducted a full-scale simulation of a passenger train emergency in the Park Avenue tunnel.

- Obstructive Sleep Apnea: MTA Metro-North Railroad has an Obstructive Sleep Apnea program for its Locomotive Engineers and Conductors.

- Public Safety Program: MTA Metro-North Railroad's program, TRACKS ("Together Railroads and Communities Keeping Safe"), in partnership with Operation Lifesaver and the MTA Police, was implemented in May 2016. The program is designed to educate and promote grade crossing awareness and rail safety to schools, busing and trucking companies as well as the communities served by MTA Metro North. In 2018, over 100,000 individuals were trained through TRACKS. MTA Metro-North was awarded the 2018 APTA Safety Gold Award for TRACKS.

- Safety Focus Day: MTA Metro-North Railroad holds Quarterly Safety Focus Days at work locations throughout the railroad. These provide opportunities for employees to discuss relevant safety topics and provide feedback and safety concerns. Safety concerns are tracked and corrective actions are developed as necessary.

- Safety Leadership Structure: Safety Committees covering all six districts throughout MTA Metro-North Railroad's territory were reinvigorated to ensure continuity of communication from the district level to the local level. The overall goal is to ensure communication of safety awareness at all levels of MTA Metro-North Railroad - from the President to front-line employees.

- Safety Training: the New Employee Safety Orientation training introduces new and promoted employees to safe work practices on the railroad, and includes time in the field to ensure all employees are safe while working on the railroad. Supervising for Safety is an in-depth training program for all employees in a supervisory or management role. Supervising for Safety is a full day course that provides supervisors, foreman and managers the tools needed to identify risks, mitigate hazards and provide their employees with a safe working environment.

- Suicide Prevention Program: MTA Metro-North Railroad has partnered with the National Suicide Prevention Lifeline and Mental Health Association of New York City to promote awareness for suicide prevention.

- Safety Enterprise System Application: MTA Metro-North implemented a new Safety Enterprise System Application to proactively mitigate risks, manage compliance requirements, identify problem areas, manage/track incidents and monitor performance.

- Accident Investigation Unit: MTA Metro-North implemented an Accident Investigation Unit which conducts investigations of major accidents and incidents in an objective manner, making recommendations for corrective actions, ensuring their implementation and monitoring for effectiveness.

The continuing goal of MTA Long Island Rail Road's corporate safety program is to work towards an accident-free workplace through the implementation of a comprehensive, sustainable, and measurable safety initiative designed to engage every level of the organization in promoting the value of safety. This initiative is a collaborative effort between the Corporate Safety Department; all MTA Long Island Rail Road operating, support, and administrative departments; and labor partners. Communication of safety as a core agency value begins at the highest executive levels and is constantly reinforced to all employees.

The Corporate Safety Department develops and oversees MTA Long Island Rail Road's comprehensive Safety Management System. MTA Long Island Rail Road's System Safety Program Plan ("SSPP") is in accordance with American Public Transportation Association standards and is a critical component of the Safety Management System approach. For more than a decade, MTA Long Island Rail Road had voluntarily participated in a triennial audit of its SSPP by the American Public Transportation Association, which has routinely recognized the strength of MTA Long Island Rail Road's safety program. In 2018, a consultant began a more in-depth review of the program for both internal compliance and to ensure compliance with future FRA regulatory mandates.

Key 2018 safety initiatives include:

- Quarterly "Safety FOCUS Days" across MTA Long Island Rail Road, each attended by approximately 4,000 employees. Weeklong Safety, Health, and Wellness Events throughout the property on all tours focusing on seasonal safety trends, personal protective equipment, fire extinguisher safety, physical fitness, fatigue, and electrical safety. The President and Vice President of Corporate Safety also meet with a small group of frontline supervisors from various departments to discuss how they are experiencing safety in the field.

- Continued implementation of C3RS, a collaborative effort between management, labor, and the FRA, that provides a mechanism for employees to confidentially report "close calls" that could have resulted in operating and safety incidents.

- Continued to work with MTA Headquarters, NYSDOT, Nassau and Suffolk counties, local government authorities, and a third-party consultant to develop improved safety measures at railroad grade crossings.

- Worked with a third-party vendor and developed a new enterprise safety system. This system replaced MTA Long Island Rail Road's existing mainframe-based Accident Control System that had served as the railroad's FRA accident-reporting system and the official depository of accident and incident data.

- Continued implementation of a "Safety Management Systems" approach to MTA Long Island Rail Road's overall safety program. The Safety Management Systems approach, which has been endorsed by the FTA, the FRA, the U.S. Department of Transportation, other transportation authorities, supplements an engineering-centered process with increased attention to the "human element," data sharing, and measurements of safety performance.

- Continued screening of locomotive engineers for sleep disorders, including obstructive sleep apnea.

- Continued Customer Safety Awareness Days in partnership with NJ Transit, Amtrak, and MTA New York City Transit at Penn Station. Messaging focuses on "Let's Travel Safely Together" highlighting how customer behaviors can help reduce customer accidents and injuries.

- Continued labor-management partnership committee meetings focusing on track safety. The committee is comprised of representatives from Corporate Safety, Employee Training, and Engineering Department management and labor representatives.

- A dedicated Roadway Worker Compliance Unit conducts field observations of employees in compliance with Title 49 Code of Federal Regulation Part 217 requirements to achieve safety and operational goals. All observations are recorded in the corporate Employee Compliance Reporting System.

- A dedicated Accident Investigation Unit conducts investigations of major accidents and incidents in an objective manner, making recommendations for corrective actions; ensuring their implementation; and monitoring for effectiveness.

TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY

(popular name – MTA Bridges and Tunnels)

Legal Status and Public Purpose

MTA Bridges and Tunnels, a public benefit corporation, became an affiliate of MTA effective March 1, 1968. MTA Bridges and Tunnels is empowered, among other things, to construct and operate certain vehicle bridges, tunnels and highways and other public facilities in the City. The following are the vehicular toll facilities operated by MTA Bridges and Tunnels:

MTA Bridges and Tunnels Facilities

Seven Bridges	Two Tunnels
Robert F. Kennedy Bridge	Hugh L. Carey Tunnel
Verrazzano-Narrows Bridge	Queens Midtown Tunnel
Bronx-Whitestone Bridge	
Throgs Neck Bridge	
Henry Hudson Bridge	
Marine Parkway-Gil Hodges Memorial Bridge	
Cross Bay Veterans Memorial Bridge	

A more detailed description of the MTA Bridges and Tunnels Facilities is set forth below.

MTA Bridges and Tunnels also operates, pursuant to a management agreement with a private contractor, the Battery Parking Garage located adjacent to the Manhattan plaza of the Hugh L. Carey Tunnel. The garage was opened in 1950, has since been renovated, and has space for 2,100 vehicles.

Title to the MTA Bridges and Tunnels Facilities and the Battery Parking Garage is vested in the City, but MTA Bridges and Tunnels has the use and occupancy of such facilities so long as its corporate existence continues.

As more fully described herein under "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET – Central Business District Tolling Program," MTA Bridges and Tunnels will also operate the CBD Tolling Program.

Management

The following are brief biographies of certain senior operating officers of MTA Bridges and Tunnels.

Daniel F. DeCrescenzo Jr., Acting President since January 2019. Mr. DeCrescenzo has been with MTA Bridges and Tunnels for over 28 years, most recently as the Vice President and Chief of Operations. Mr. DeCrescenzo also serves on the Board of the Transportation Operations Coordination Committee. Throughout his career, Mr. DeCrescenzo has worked at every level within the Operations Department, holding key management roles through Super Storm Sandy and the 9/11 World Trade Center Attacks, when he served as MTA Bridges and

Tunnels' primary contact for regional coordination. More recently, as Vice President and Chief of Operations, Mr. DeCrescenzo oversaw the transition of the Operations Department to agency-wide Cashless Tolling in 2017. Mr. DeCrescenzo holds numerous certifications in Incident and Emergency Management such as Enhanced Incident Management Unified Command Course from Texas A&M Extension Services.

Joe Keane, Vice President since 2013 and Chief Engineer since 2010. Mr. Keane has been at MTA Bridges and Tunnels since 1988 and previously worked for NYCDOT. Mr. Keane is a licensed professional engineer in both New York and New Jersey. He holds a BS in Civil Engineering from the National University of Ireland and a MS in Structural Engineering from City College of New York as well as an Executive Construction Management Diploma from Polytechnic University, New York.

M. Margaret Terry, Senior Vice President and General Counsel since September 2013. Ms. Terry was named General Counsel in 2011 and Acting General Counsel in 2010 and had served as Deputy General Counsel since September 2000. Before joining MTA Bridges and Tunnels in January 1992, Ms. Terry was the Chief of Construction Litigation at MTA New York City Transit and an associate at the law firms of Lubell & Lubell and Cohn, Glickstein, Lurie, Ostrin, Lubell & Lubell. Ms. Terry received a JD degree from NYU Law School and a BA in Theology from Santa Clara University.

Dore Abrams, Acting Vice President and Chief Financial Officer since January 2019. Mr. Abrams joined MTA Bridges and Tunnels in 2000 and has served in various positions including Acting Assistant Vice President and Deputy Chief Financial Officer, Operating Budget Director and Economist/Revenue Analyst. Before joining MTA Bridges and Tunnels, he was a Supervising Analyst in the Tax Policy, Revenue Forecasting and Economic Analysis Task Force of New York City's Office of Management and Budget. Mr. Abrams received an MPA in Public Finance, an MA in Music Education and a BS in Classical Piano Performance, all from New York University.

MTA Bridges and Tunnels Facilities*

The following is a brief description of the MTA Bridges and Tunnels Facilities, listed in order of revenue generation:

Robert F. Kennedy Bridge - Crosses the East River and the Harlem River and connects the Boroughs of Queens, The Bronx and Manhattan. Opened to traffic in 1936, it generally carries eight traffic lanes between Queens and The Bronx via Wards Island and Randall's Island except where the Wards Island Viaduct has been widened to nine lanes; the bridge also generally carries six traffic lanes between Randall's Island and Manhattan. These three major crossings are interconnected by viaducts.

Verrazzano-Narrows Bridge - Connects the Boroughs of Brooklyn and Staten Island. It is a double deck structure with the upper level deck carrying seven traffic lanes including a reversible lane and the lower level deck carrying six lanes. The upper deck was opened to traffic in 1964 and the lower deck in 1969. The fully reversible lane on the upper level was implemented in September 2017.

Throgs Neck Bridge - Crosses the upper East River between the Boroughs of Queens and The Bronx approximately two miles east of the Bronx-Whitestone Bridge. Opened in 1961, it carries six traffic lanes.

Bronx-Whitestone Bridge - Crosses the East River and connects the Boroughs of Queens and The Bronx. The roadways of the bridge, which was opened to traffic with four lanes in 1939, were widened so as to carry six traffic lanes commencing in 1946.

Queens Midtown Tunnel - Crosses under the East River and connects the Boroughs of Queens and Manhattan. Opened to traffic in 1940, it consists of twin tubes, carrying an aggregate of four traffic lanes.

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* For purposes of the bond resolutions, the MTA Bridges and Tunnels Facilities are referred to as the "TBTA Facilities."

Hugh L. Carey Tunnel - Crosses under the East River at its mouth and connects the Boroughs of Brooklyn and Manhattan. Opened to traffic in 1950, it consists of twin tubes, carrying an aggregate of four traffic lanes.

Henry Hudson Bridge - Crosses the Harlem River between the Spuyten Duyvil section of The Bronx and the northern end of Manhattan. It has two roadway levels, each level carrying three traffic lanes, the lower level having been opened to traffic in 1936 and the upper level in 1938. The operation of this bridge includes the maintenance of a small part of the Henry Hudson Parkway.

Cross Bay Veterans Memorial Bridge - Crosses Beach Channel in Jamaica Bay to Rockaway Peninsula, and is located in Queens. Reconstructed and opened to traffic in May 1970, this bridge carries three traffic lanes in each direction, dropping to two lanes in each direction just before the Cashless Tolling gantry. Its operation includes the maintenance of a small part of the Cross Bay Parkway.

Marine Parkway-Gil Hodges Memorial Bridge - Crosses Rockaway Inlet and connects Rockaway Peninsula in Queens, with Brooklyn. Opened in 1937, it carries four traffic lanes. The operation of this bridge includes the maintenance of the Marine Parkway from the Cashless Tolling gantries to Jacob Riis Park.

MTA Bridges and Tunnels also operates the Battery Parking Garage. Only the bridges and tunnels constitute MTA Bridges and Tunnels Facilities under the MTA Bridges and Tunnels bond resolutions, though the net revenues derived from the operation of the Battery Parking Garage are included as net revenues that are pledged to the payment of such bonds.

MTA Bridges and Tunnels is a founding member of the E-ZPass Interagency Group ("IAG"), which is a consortium of 29 agencies in 17 states that operate an interoperable electronic toll collection system.

Authorized Projects of MTA Bridges and Tunnels

MTA Bridges and Tunnels' powers have been broadened by the Legislature beyond its traditional role as a vehicular toll facility authority within the City. MTA Bridges and Tunnels is also authorized to participate in the financing of capital projects for the Transit and Commuter Systems, the MTA Bus System and MTA Staten Island Railway.

The capital assets constructed or acquired by MTA Bridges and Tunnels as part of the Transit and Commuter Systems, the MTA Bus System and MTA Staten Island Railway are to be transferred or leased for nominal consideration to MTA, MTA New York City Transit or a designated subsidiary of either of them, and neither such conveyance nor any capital grants made by MTA Bridges and Tunnels will produce revenues for MTA Bridges and Tunnels. Alternatively, such capital assets may be sold to parties other than a Related Entity and leased back by MTA Bridges and Tunnels for subleasing for a nominal consideration to MTA, MTA New York City Transit or a designated subsidiary or leased directly to such Related Entity at the expense of MTA Bridges and Tunnels. As more fully described herein under "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-2020 ENACTED BUDGET – Central Business District Tolling Program," MTA Bridges and Tunnels will also operate the CBD Tolling Program.

Under existing law, MTA Bridges and Tunnels has no obligation with respect to the operation and maintenance of the equipment or facilities financed as part of the Transit and Commuter Systems or MTA Staten Island Railway.

MTA CAPITAL CONSTRUCTION COMPANY

(popular name – MTA Capital Construction)

Legal Status and Public Purpose

MTA Capital Construction was created as an MTA subsidiary in 2003. MTA Capital Construction is responsible for administration of the planning, design and construction of major MTA projects which span multiple

Capital Programs. Current projects include East Side Access, Second Avenue Subway, Penn Station Access, the Long Island Rail Road Expansion project, and the Canarsie Tunnel Rehabilitation Project, as well as MTA-wide capital security projects. Recently opened projects include Second Avenue Subway Phase One, the No. 7 subway line extension, and WTC Cortlandt Street No. 1 Line Station Reconstruction.

Management

John N. "Janno" Lieber is the Chief Development Officer of the Metropolitan Transportation Authority and also serves as the President of MTA Capital Construction.

From 2003 to 2017, Mr. Lieber served as President of World Trade Center Properties LLC, where he was responsible for managing all aspects of the Silverstein organization's efforts to rebuild at the World Trade Center ("WTC") site, including planning, design and construction issues; business, financing and legal matters; and public affairs, government and community relations.

Mr. Lieber previously served as Senior Vice President of the Lawrence Ruben Company and as an independent consultant specializing in public-private development issues. During the Clinton Administration, Mr. Lieber worked at the U.S. Department of Transportation, where his most recent position was Assistant Secretary for Transportation Policy.

East Side Access

The East Side Access project consists of construction of a 3.5-mile commuter rail connection between the MTA Long Island Rail Road's Main and Port Washington lines in Queens and a new terminal being constructed beneath Grand Central Terminal. The project also includes upgrades to the Harold Interlocking infrastructure. The new connection will increase MTA Long Island Rail Road's capacity into Manhattan, dramatically shortening the travel time for Long Island and eastern Queens commuters traveling to the east side of Manhattan and improve the reliability and operational flexibility of the Harold Interlocking. MTA began construction of certain portions of the East Side Access project in 2001.

Based upon a recently completed review of the East Side Access project, the estimated cost to complete the project will exceed the current $10.178 billion budget by $955 million. This estimated cost increase to $11.133 billion will require funding from the 2015-2019 Capital Program and the 2020-2024 Capital Program. An amendment to the 2015-2019 Capital Program included a transfer of $157 million from Regional Investments to support ongoing and upcoming work remaining in the 2015-2019 Capital Program. The amendment was approved by the MTA Board on April 25, 2018 and by the CPRB on May 31, 2018. Additional funding will be addressed in the 2020-2024 Capital Program. The expected revenue service date for the East Side Access project, however, remains December 2022.

Federal funds for the project, primarily received through an FFGA with the FTA are $2.70 billion. As of February 2017, 100% of these funds have been received. The State is contributing $450 million in direct funding for this project. MTA is financing the remaining portion of the cost of the East Side Access project using MTA bond proceeds.

MTA's Regional Investment program, which was to be progressed concurrently with the East Side Access program, includes improvements to Harold Interlocking that will benefit the regional transportation network by separating Amtrak and MTA Long Island Rail Road train operations and increase Amtrak train speeds between Penn Station and the New Haven line. The Regional Investment program is funded in the 2010-2014 Capital Program and 2015-2019 Capital Program and is partially funded by the FRA's High Speed Intercity Passenger Rail Program. Additional funding to complete Regional Investment program scope will be requested in future capital programs.

Two major East Side Access contracts were completed in 2018. In April, the Grand Central Concourse & Facilities Fit-out Early Work contract was declared substantially complete. The forecasted final cost of that contract is $60.9 million. This contract includes fit-out of the south end of the new MTA Long Island Rail Road concourse located in the lower level of Grand Central Terminal, construction of the south High-Tension Substation facility including two substation units, construction and fit-out of the Terminal Management Center, and construction of communication and maintenance storage rooms. In August 2018, the Track A Cut and Cover Structure contract was declared substantially complete. That contract is for the heavy civil work to connect the existing mainline tracks with one of the four previously bored East Side Access tunnels. The work included excavating and constructing a 900-foot cut and cover structure, installing utilities, demolishing structures, and fabricating and installing 14 new catenary structures. The forecasted final cost of that contract is $38.8 million.

During 2018, MTA Capital Construction awarded three major construction contracts to advance work for the Manhattan Tunnel signal systems and for the Harold Interlocking. In September, the Tunnel Systems Package 2 – Signal Installation contract was awarded at a cost of $53 million. This contract will install, test and commission the East Side Access tunnel signaling system, install signal signage for the East Side Access tunnels, and plan and execute integrated systems tests for signal installation. In April 2018, the Harold Track Work Part #3 contract was awarded at a cost of $19.2 million. This contract will remove and replace existing tracks with new track and install special track in the Harold Interlocking. In October 2018, the Harold Structures B/C Approach contract was awarded at a cost of $60.2 million. This contract will construct the B/C Approach structure, perform underpinning of the 39th St. Bridge, and carry out miscellaneous demolition, catenary and track work in the Harold Interlocking.

Second Avenue Subway

The Second Avenue Subway is a multi-phased project to provide MTA customers with a new subway service ultimately stretching approximately 8.5 miles under the East Side of Manhattan from 125th Street to Hanover Square.

Under the current plan, the project is expected to be built in four phases.

- *Phase One*: Construction includes tunnels from 105th Street and 2nd Avenue to 63rd Street and Third Avenue, with new stations along 2nd Avenue at 96th, 86th and 72nd Streets and new entrances to and newly opened portions of the existing Lexington Avenue/63rd Street Station. The new service will run from 96th Street and 2nd Avenue to the existing Lexington Avenue/63rd Street Station, where it will connect with the N/Q/R Line.

- *Phase Two*: The new subway line will be extended north from 96th Street to 125th Street. Subway service will run from 125th Street to the existing Lexington Avenue/63rd Street Station, where it will connect with the N/Q/R Line.

- *Phase Three*: The new subway line will be extended south to Houston Street. Subway service will run from 125th Street to Houston Street and 2nd Avenue.

- *Phase Four*: In this final phase the new subway line will be extended south to Hanover Square. Subway service will run from 125th Street to Hanover Square in Lower Manhattan.

Second Avenue Subway Phase One started revenue service on January 1, 2017. The capital cost for Phase One is $4.601 billion. As of December 2018, MTA received from the FTA approximately $1.54 billion, primarily through an FFGA. The State is contributing $450 million in direct funding for this project. The remainder of the necessary funding for this project will be achieved through the issuance of MTA bonds.

Second Avenue Subway Phase Two, which will complete the project's northern operational phase, commenced in December 2016 with the award of the environmental and design contracts. The design work will initially focus on completing extended preliminary engineering, completing design of utility relocation and tunnel and station structural contract packages, and identifying changes in real estate needs. Environmental work will initially focus on reviewing and updating environmental review and providing support for the Federal New Starts program. As of December 2018, Second Avenue Subway Phase Two is working to complete environmental, design, and planning submissions in support of the Federal New Starts program. Current funding for the commencement of Phase Two is $1.735 billion. The balance of the construction work necessary for operation is to be funded in future capital programs.

WTC Cortlandt Street No. 1 Line Station Reconstruction

The WTC Cortlandt Street No. 1 Line Station Reconstruction project replaces the original station which was severely damaged when the WTC towers collapsed on September 11, 2001. MTA New York City Transit procured a construction contract and completed the work necessary to demolish the damaged station and restore service to the No. 1 Line by September 2002. The WTC Cortlandt Street station has remained closed, due to ongoing PANYNJ construction around the station which is located within the WTC site.

In March 2013, the PANYNJ awarded a construction contract for the reconstruction of the WTC Cortlandt Street No. 1 Line Station. As Phase One was completed, the PANYNJ and MTA agreed that MTA is in the best position to complete construction of the station. Accordingly, the PANYNJ agreed to assign the remaining work under its WTC Cortlandt Street Station Contract to MTA. In February 2015, the MTA Board approved that assignment and construction on Phase Two began in April 2015.

The project budget is $182 million and the station was opened to the public in September 2018. This project is MTA funded through the 2010-2014 and 2015-2019 Capital Programs.

No. 7 Subway Line Extension

The No. 7 Subway Line Extension, with a new Hudson Yards Station at 34th Street, was opened on September 13, 2015. This work was carried out at the request of the Hudson Yards Development Corporation ("HYDC") as part of the redevelopment of the area starting at West 28th Street on the south, 8th Avenue on the east, West 43rd Street on the north and the Hudson River Park on the west. The No. 7 Line Extension was developed in conjunction with the New York City Planning Commission's re-zoning of far west Midtown. The new extension provides a transit link to the Javits Convention Center and is leading the transformation of the surrounding manufacturing and industrial neighborhood into a mixed-use community.

The budget for the No. 7 subway line extension was $2.43 billion. Of that amount, HYDC funded $2.378 billion. MTA funded the remaining $53 million for design and environmental review work.

MTA Capital Construction awarded the first construction contract in November 2007. A secondary station entrance between 34th and 35th Streets east of 11th Avenue, was opened to the public in September 2018.

Penn Station Access

The Penn Station Access project will allow MTA Metro-North Railroad to initiate service between its New Haven Line and Penn Station via Amtrak's Hell Gate Line through the East Bronx and Queens. Construction of new intermediate stations in the East Bronx is proposed in the vicinity of Co-op City, Morris Park, Parkchester/Van Nest and Hunts Point.

Initial funding for this project in the 2015-2019 Capital Program is $695 million. Additional funds will be requested in the next capital program.

This project's planning, pre-design, and environmental activities are forecasted to be completed by the end of 2018. The General Engineering Consultant contract was advertised in January 2018, and the contract was awarded in January 2019.

Long Island Rail Road Expansion Project

In December 2017, the MTA Board granted approval to award two contracts for the Long Island Rail Road Expansion project. The first contract, a design-build contract, calls for the awardee to design and construct approximately 10 miles of third track on the Main Line, remove seven street-level grade crossings, and provide grade-separated vehicular and pedestrian crossings at five locations. This contract contains options for various completion work and for up to five parking facilities. The second contract is a project management consulting services contract for a period of three years, with options to extend the contract period for two additional one-year terms.

Heavy construction commenced in October 2018. Retaining wall construction is currently being performed at three locations and station work at two sites. Bridge replacements, grade crossing work, and parking structure construction also is underway. The project is currently forecasted to be completed in April 2023.

The project is currently funded at $2.05 billion in the 2015-2019 Capital Program. Additional funds will be requested in the 2020-2024 Capital Program.

Canarsie Tunnel Rehabilitation Project

In April 2017, the MTA Board granted approval for MTA New York City Transit to award construction of the Canarsie Tunnel Rehabilitation Project on the L Line in Manhattan and Brooklyn. This project will address damage caused by Superstorm Sandy in the tunnel and other capital work in the vicinity of the tunnel in order to improve service and reliability. Construction commenced on April 13, 2017. Weeknight and weekend subway tunnel closures began in April 2019.

This federally-funded MTA New York City Transit project is included in the 2010-2014 and 2015-2019 MTA Capital Programs.

In January 2019, the MTA announced that MTA Capital Construction will manage the construction of this project.

PART 5. STATISTICAL INFORMATION

RIDERSHIP AND FACILITIES USE

Transit System (MTA New York City Transit and MaBSTOA) Ridership

General. Subway revenue passengers in 2018 totaled 1.68 billion, a decrease of approximately 2.7% from 2017. Bus ridership in 2018 was 569 million, 5.5% lower than in 2017.

To meet the overall growth in demand, MTA New York City Transit expanded service from 1996 to 2009, adding new capacity on its subway lines and bus routes. MetroCard fare incentives were introduced beginning in 1997. Due to financial circumstances in 2010, bus and subway service cuts were required along with other budget reduction programs in order to balance the 2011 budget. In more recent years, there have been expansions in service. In 2013 and 2014, MTA New York City Transit restored some of the bus service eliminated in 2010, and added four new bus routes. In 2015, service on the No. 7 line was extended to 34th Street-Hudson Yards and two new Select Bus Service routes were established. In 2016, an additional two Select Bus Service routes were added, followed by two additional routes added in 2017 and one additional route in 2018. And on January 1, 2017, the Second Avenue Subway began service, with Q train service running from three newly opened stations (96th Street, 86th Street, 72nd Street) to 63rd Street, and continuing through Manhattan and into Brooklyn. In November, the WTC Cortlandt Street station reopened for the first time since 2001.

While some of the Transit System changes in use in the past few years have been attributable to the changes in the economy, overall ridership changes are also attributable to other factors including efforts to reduce fare evasion and improve security. Significant factors which impact ridership, discussed more fully below, include fare increases and fare incentives, Transit System performance and levels of services, Transit System security and employment in the City generally as well as the relative level and cost of service provided by competing transportation modes such as taxis, competing taxi services such as Uber and Lyft, licensed and unlicensed vanpools, private car and bus services and charter operators. Interruptions to service or temporary closures of lines resulting from major capital improvement projects to the Transit System by MTA New York City Transit or service disruptions caused by City infrastructure problems not under the control of MTA New York City Transit and MaBSTOA or from repairs to or rehabilitation of City infrastructure by the City or its agencies could adversely impact ridership and revenues. The effect would depend on the nature, severity and duration of the service interruptions.

Historical Ridership. The following table sets forth annual ridership on the Transit System since 2009 and the percentage increase (decrease) each year. Relative to the 2009 levels, subway revenue passengers have increased by 6%, bus revenue passengers have decreased by 22%, paratransit revenue passengers have increased by 16%, and total revenue passengers have decreased by 2%. From 2009 to 2018, average weekday subway passengers increased 7%, while average weekend subway passengers increased by 4%. As indicated below, annual subway ridership has declined in the past three years, including a 2.7% decrease in 2018, and a 1.7% decrease in 2017. Factors contributing to the 2017 and 2018 subway ridership declines include several major construction projects underway in 2017 and 2018, more maintenance work resulting in off-peak and weekend service changes, and increased competition from for-hire services (Uber, Lyft, etc.). Annual bus ridership has declined over the past five years, including a 5.5% decrease in 2018. Factors contributing to the recent bus ridership declines include increased congestion resulting in slow bus speeds, the availability of alternate travel options such as CitiBike and for-hire services, and fare increases in 2015 and 2017.

Revenue Passengers[(1)]
(in thousands)

Years	Subway	Subway Increase/ (Decrease)	Bus	Bus Increase/ (Decrease)	Para-Transit[(2)]	Paratransit Increase/ (Decrease)	Total Revenue Passengers[(3)]	Total Increase/ (Decrease)
2009	1,579,867	(2.7)	726,472	(2.7)	8,490	17.2	2,314,829	(2.7)
2010	1,604,198	1.5	696,923	(4.1)	9,017	6.2	2,310,138	(0.2)
2011	1,640,435	2.3	670,699	(3.8)	8,947	(0.8)	2,320,080	0.4
2012	1,654,582	0.9	667,911	(0.4)	9,343	4.4	2,331,836	0.5
2013	1,707,556	3.2	677,569	1.4	9,266	(0.8)	2,394,391	2.7
2014	1,751,288	2.6	667,051	(1.6)	8,884	(4.1)	2,427,223	1.4
2015	1,762,565	0.6	650,682	(2.5)	8,829	(0.6)	2,422,076	(0.2)
2016	1,756,815	(0.3)	638,413	(1.9)	8,938	1.2	2,404,166	(0.7)
2017	1,727,367	(1.7)	602,620	(5.6)	8,585	(3.9)	2,338,572	(3.4)
2018	1,680,060	(2.7)	569,361	(5.5)	9,867	14.9	2,259,288	(3.4)

(1) "Revenue Passengers" are defined as all passengers for whom revenue is received, either through direct fare payment (cash, MetroCards) or fare reimbursements (senior citizens, school children, the physically disabled). "Revenue Passengers" statistics count passengers that use a free intermodal or bus-to-bus transfer as an additional passenger though they are not paying an additional fare.
(2) Paratransit ridership includes trips made by personal care attendants and guests.
(3) Includes subway, bus and paratransit.

Fares. Since September 1975 when the base fare was 50 cents, the base fare charged for use of the Transit System has been raised eleven times. The most recent fare increase, which will become effective April 21, 2019, does not adjust the base fare.

Date of Increase	New Base Fare	Amount of Increase	Percent Increase
1980 – June	$0.60	$0.10	20.0%
1981 – July	0.75	0.15	25.0
1984 – January	0.90	0.15	20.0
1986 – January	1.00	0.10	11.1
1990 – January	1.15	0.15	15.0
1992 – January	1.25	0.10	8.7
1995 – November	1.50	0.25	20.0
2003 – May	2.00	0.50	33.3
2009 – June	2.25	0.25	12.5
2013 – March	2.50	0.25	11.1
2015 – March	2.75	0.25	10.0

Each fare increase listed in the chart above, except the 1986 increase, has been followed by an immediate decrease in ridership.

The above-referenced increases in the base fare have also been accompanied by other changes in the pricing of various products, including express bus fares and MetroCards of various durations. The following describes the pricing changes during the last decade.

In addition to the $0.25 increase in the base fare in June 2009, on June 28, 2009, MTA New York City Transit increased the cost of a 1-day unlimited-ride MetroCard from $7.50 to $8.25, the cost of a 7-day unlimited-ride MetroCard from $25 to $27, the cost of a 14-day unlimited-ride MetroCard from $47 to $51.50, and the cost of a 30-day unlimited-ride MetroCard from $81 to $89. The bonus on Pay-Per-Ride MetroCards remained at 15%, while the minimum purchase required to receive the bonus increased from $7 to $8. The express bus base fare increased from $5.00 to $5.50 and the cost of the 7-day Express Bus Plus MetroCard increased from $41 to $45.

On December 30, 2010, MTA New York City Transit eliminated the 1-day and 14-day unlimited-ride MetroCards, increased the cost of a 7-day unlimited-ride MetroCard from $27 to $29 and increased the cost of a 30-day unlimited-ride MetroCard from $89 to $104. The bonus on Pay-Per-Ride MetroCards was changed from 15% on purchases of $8 or more to 7% on purchases of $10 or more. The express bus fare remained $5.50, while the cost of a 7-day Express Bus Plus MetroCard increased from $45 to $50.

In addition to the $0.25 increase in the base fare on March 3, 2013, MTA New York City Transit increased the cost of a 7-day unlimited-ride MetroCard from $29 to $30, and the cost of a 30-day unlimited-ride MetroCard from $104 to $112. In addition, the bonus on Pay-Per-Ride MetroCards was changed from 7% on purchases of $10 or more to 5% on purchases of $5 or more. The express bus fare increased from $5.50 to $6.00, while the cost of a 7-day Express Bus Plus MetroCard increased from $50 to $55.

In addition to the $0.25 increase in the base fare on March 22, 2015, MTA New York City Transit increased the cost of a 7-day unlimited-ride MetroCard from $30 to $31, and the cost of a 30-day unlimited-ride MetroCard from $112 to $116.50. In addition, the bonus on Pay-Per-Ride MetroCards was changed from 5% on purchases of $5 or more to 11% on purchases of $5.50 or more. The express bus fare increased from $6.00 to $6.50, while the cost of a 7-day Express Bus Plus MetroCard increased from $55 to $57.25.

On March 19, 2017, MTA New York City Transit increased the cost of a 7-day unlimited ride MetroCard from $31 to $32, the cost of 30-day unlimited ride MetroCard from $116.50 to $121, and the cost of 7-day Express Bus Plus MetroCard from $57.25 to $59.50. The bonus on Pay-Per-Ride MetroCards was changed from 11% to 5% on purchases of $5.50 or more. The subway and local bus fare remain unchanged at $2.75 and the express bus fare remains at $6.50.

On April 21, 2019, MTA New York City Transit increased the cost of a 7-day unlimited ride MetroCard from $32 to $33, the cost of 30-day unlimited ride MetroCard from $121 to $127, and the cost of 7-day Express Bus Plus MetroCard from $59.50 to $62. The 5% bonus on Pay-Per-Ride MetroCard purchases of $5.50 or more has been eliminated. The subway and local bus fare remain unchanged at $2.75 and the express bus fare increased from $6.50 to $6.75.

The following chart shows historical fare information since 2009.

Historical Fare Information

Year	CPI[1]	Base Fare	Base Fare Real Fare $[2]	Average Fares[3]	Non-Student Average Fares[4]
2009[5]	236.8	2.25	0.905	1.330	1.411
2010[6]	240.9	2.25	0.890	1.407	1.492
2011	247.7	2.25	0.866	1.543	1.637
2012	252.6	2.25	0.849	1.555	1.646
2013[7]	256.8	2.50	0.928	1.665	1.763
2014	260.2	2.50	0.916	1.704	1.799
2015[8]	260.6	2.75	1.006	1.773	1.867
2016	263.4	2.75	0.995	1.803	1.896
2017[9]	268.5	2.75	0.976	1.886	1.980
2018	273.6	2.75	0.958	1.936	2.026
2019 (projected)[10]	279.5	2.75	0.938	1.996	2.092

(1) CPI All Urban Consumers, New York, N.Y. – Northeastern N.J.; 1982-84=100.0. The Consumer Price Index ("CPI") levels listed are the annual average for each year. 2010 estimate based on Global Insight forecast of 1.20% increase in NY/NJ CPI.

(2) Base fare after adjusting for inflation since 1982 (1982 CPI = 95.3).

(3) Total farebox revenue divided by revenue passenger trips (including students). Average fares in the table are for the full year.

(4) Non-student revenue divided by revenue passenger trips (excluding students).

(5) Base fare increased from $2.00 to $2.25, express bus fare increase from $5.00 to $5.50, and 1-day, 7-day, 14-day and 30-day unlimited ride fares increased effective June 28, 2009.

(6) Effective December 30, 2010, 1-day and 14-day unlimited-ride MetroCards were eliminated, the cost of a 7-day unlimited-ride MetroCard increased from $27 to $29 and the cost of a 30-day unlimited-ride MetroCard increased from $89 to $104. The bonus on Pay-Per-Ride MetroCards was changed from 15% on purchases of $8 or more to 7% on purchases of $10 or more. The express bus fare remained $5.50, while the cost of a 7-day Express Bus Plus MetroCard increased from $45 to $50.

(7) Effective March 3, 2013, the base fare increased from $2.25 to $2.50, the express bus fare increased from $5.50 to $6.00, the bonus on Pay-Per-Ride MetroCards was changed from 7% on purchases of $10.00 or more to 5% on purchases of $5.00 or more and 7-day and 30-day unlimited-ride MetroCard fares increased. Average fare shown in table is for full year.

(8) Effective March 22, 2015, the base fare increased from $2.50 to $2.75, the express fare increased from $6.00 to $6.50, the bonus on Pay-Per-Ride MetroCards was changed from 5% on purchases of $5.00 or more to 11% on purchases of $5.50 or more, and 7-day and 30-day unlimited-ride MetroCard fares increased. Average fare shown is for full year.

(9) Effective March 19, 2017, 7-day and 30-day unlimited-ride MetroCard fare increased, and the MetroCard bonus on purchases of $5.50 or more decreased from 11% to 5%.

(10) Effective April 21, 2019, 7-day and 30-day unlimited-ride MetroCard fares increased, and the 5% MetroCard bonus on purchases of $5.50 or more were eliminated.

MTA New York City Transit offers the following MetroCard discount and bonus programs as of April 21, 2019, which was the last day such discount and bonus programs were adjusted:

- free intermodal (subway-to-bus and bus-to-subway) transfers;
- unlimited-ride 7-day and 30-day passes;
- unlimited-ride 7-day combined express bus and regular bus and subway pass;
- free and half-fare student programs;
- half-fare programs for senior citizens and persons with disabilities; and
- free replacement of lost or stolen unlimited-ride 30-day and 7-day express passes (limit of two per calendar year per holder) if the holder paid by credit or debit card.

Subway System Performance and Level of Service. A number of measures are used to quantify Transit System performance and the level of Transit System service, including total vehicle miles traveled ("VMT"), on-time performance and mean distance between failures ("MDBF"), which are discussed in further detail below.

Since implementation of the capital programs began in early 1982, Transit System performance, on the whole, has improved. MTA New York City Transit has replaced or overhauled its entire fleet since then. The entire fleet is now free of painted graffiti, and subway cars in 2018 ran an average of 121,116 miles between breakdowns, up from an average of 7,145 in 1982. Since the end of 1992, all of the Transit System's 665 miles of mainline track have been maintained in a state of good repair, which has reduced track related mainline derailments and delays. Other aspects of the passenger environment have also experienced significant improvement. Almost all cars have adequate climate control and are displaying the correct signage.

Further improvements, as well as the maintenance of significant improvements since the inception of the capital programs in 1982 and the improvements in Transit System performance produced as a result thereof, are dependent upon the completion of final work of the 2010-2014 Transit Capital Program, the 2015-2019 Transit Capital Program, and subsequent capital programs.

In 2018, MTA New York City Transit reversed recent declines in system performance. For example, weekday terminal on-time performance was 63.4% for the year 2017, a decrease of 3.3% from the 2016 level of 66.7%. However, for the full year 2018, weekday on-time performance rebounded to 67.1%, with particular improvement in the second half of the year, reaching 72.6% by December 2018. These metrics reflect a number of factors, including changes to the operating environment and a significant increase in work on the right of way, specifically Capital Program work and maintenance requirements. In 2017, MTA New York City Transit introduced new customer-focused performance measures, including Service Delivered, Additional Train Time, and Additional Platform Time, as well as an online Subway Performance Metrics Dashboard. These steps were designed to provide customers with more information relevant to their experience using the system.

In late July 2017, a MTA New York City Transit Subway Action Plan was set forth to address service disruptions, service delays, overcrowding and infrastructure disrepair. The initial phase of the Plan focuses on stabilizing the subway system and preparing it for modernization by addressing key factors which account for a large percentage of the major incidents causing delays on the system. The Plan includes focus on signal and track maintenance; car reliability; system safety and cleanliness; and customer communications.

The following table shows the VMT for subways since 2009.

Vehicle Miles Traveled by Subways

Year	Subway VMT (in millions)	% Increase / (Decrease)
2009	364	1.5
2010	361	(0.7)
2011	353	(2.2)
2012	352	(0.3)
2013	356	1.1
2014	356	0.0
2015	356	0.0
2016	358	0.6
2017	360	0.6
2018	359	(0.3)

Subway vehicle miles traveled was at or above 350 million vehicle miles over the last ten years. In 2016, the increase in VMT was mostly due to the 7 Line Extension functioning on a full year basis, versus a partial year basis in 2015. VMT remained stable (at 356 million vehicle miles traveled) from 2013 through 2015. The 2009 increase in VMT was largely due to certain service enhancements and improvements made in 2008 being in effect for the entire calendar year. The extension of the G train to Church Avenue also contributed to additional VMT. The decrease from 2009 to 2010 was due to the 2010 service reductions and the December 2010 blizzard. The decrease from 2010 to 2011 was due to annualization of service reductions in June and December 2010 and suspension of service during Hurricane Irene in August 2011. The decrease from 2011 to 2012 would have been an increase if the impact of Superstorm Sandy is excluded, representing higher ridership, including an additional leap year day. The increase from 2012 to 2013 was due to the impact of Superstorm Sandy in 2012 and higher ridership in 2013.

The Transit Capital Program has necessitated and will continue to necessitate temporary service disruptions that adversely affect certain aspects of Transit System performance. These disruptions are required to facilitate work on certain capital projects. Such disruptions include the rerouting of subway trains, the closing of either part or all of certain passenger stations, cessation of either local or express service, train delays and reduction of train speeds.

Subway MDBF represents total revenue car miles divided by the number of car failures. A car failure is any incident, including delays, relating to equipment in revenue service that is attributable to that equipment and/or its maintenance.

The following table shows subway MDBF since 2009.

Subway MDBF

Year	(in miles)	% Increase/ (Decrease)
2009	148,002	9.8
2010	170,217	15.0
2011	172,700	1.5
2012	162,138	(6.1)
2013	153,382	(5.4)
2014	141,202	(7.9)
2015	131,325	(7.0)
2016	112,208	(14.6)
2017	121,220	8.0
2018	121,116	(0.1)

Subway MDBF improvements are attributable to a number of factors, including: increased supervision and management control of the MTA New York City Transit work force, improved maintenance and inspection procedures, better training of employees, and the influx of replacement and overhauled subway cars funded through the capital program. The Scheduled Maintenance System (the "Scheduled Maintenance System") program is the agency's primary means of maintaining fleet reliability. Under the Scheduled Maintenance System, important car components and subsystems are overhauled or replaced at regular intervals – seven years for most subsystems.

For the most recent year, 2018, MDBF was almost unchanged from 2017, which had reversed a previous five-year trend of declining MDBF. The decreases experienced from 2011 to 2016 were due mostly to the aging of the fleet in several car classes. The average age of the fleet had grown over the previous five years (i.e., between 2011 and 2016) from 16.9 to 21.5 years. In addition, in 2016, the hotter-than-normal summer season impacted HVAC equipment and the Millennium fleet, which had been boosting the MDBF with above standard MDBF levels, settled into lower MDBF levels which, in turn, decreased overall MDBF. Improvements in MDBF experienced in 2017 are attributable to a variety of factors, including focus on replacing specific car components with high failure rates, and initiatives included in the Subway Action Plan. Future improvements in MDBF are anticipated, as seven of the older, lower performing car classes undergo the Scheduled Maintenance System, the R160s, which make up 25% of the fleet, complete their Scheduled Maintenance System by 2019, and newer cars are added to the fleet. As of December 2018, the first 162 R-179 rail cars of a 316-car order were delivered, with delivery of the remainder expected in 2019. In January 2018, a contract was awarded for the purchase of 535 new R-211 rail cars for both the subway and Staten Island Railway, with options for additional rail cars; delivery of these rail cars is expected to begin in 2022.

Bus System Performance and Level of Service. Bus MDBF measures the average rate of bus failure in terms of miles of operation. While declining bus MDBF affects the quality of bus service, it generally is not expected to have as significant an impact on bus ridership as MDBF has on subway ridership, since the breakdown of one bus generally does not affect the operations of other buses on the same route.

There has been an overall increase in bus MDBF since the beginning of the capital program process and MDBF for the last three years has reached record levels not achieved in prior periods. MDBF performance improvements have resulted from a variety of factors, including integrating new buses into the fleet, improved maintenance practices, and a focus on data-driven solutions to address issues that have previously led to declining reliability. MDBF of 4,221 in 2014 decreased by 14.6% from 2013, due to a population of significantly over-age buses that pose a greater challenge for bus operations. A large number of these buses were replaced in 2015 and 2016 under the 2010-2014 Capital Program, with additional buses delivered in 2017 under that program. The remaining over-age fleet is anticipated to be replaced under the 2015-2019 Capital Program. Buses ran an average of 4,618 miles between mechanical breakdowns during 2015, 5,957 miles in 2016, 6,225 in 2017, and 6,244 in 2018, a cumulative increase in MDBF of 35.2% over the past four years, following the decline in 2014. These significant increases over the past four years were due primarily to noted replacement in 2015 through 2018 of a large number of overage buses (those over their useful life of 12 years). Overage buses are significantly less reliable when utilized beyond their expected life. In addition, the new buses have improved reliability over their expected life relative to the models they replaced due to focused efforts by the organization to review new fleets, identify and correct problem areas, and introduce new technologies.

The following table shows bus MDBF since 2009.

Bus MDBF

Year	(in miles)	% Increase/ (Decrease)
2009	3,922	(0.3)
2010	3,678	(6.2)
2011	3,340	(9.2)
2012	4,546	36.1
2013	4,941	8.7
2014	4,221	(14.6)
2015	4,618	9.4
2016	5,957	29.0
2017	6,225	4.5
2018	6,244	0.3

Numerous schedule and route adjustments have been and continue to be made to better match bus availability to passenger demand. The following table shows the VMT for buses since 2009.

Vehicle Miles Traveled by Buses

Year	(in millions)	% Increase/ (Decrease)
2009	122	(0.3)
2010	115	(5.7)
2011	113	(1.7)
2012	114	0.9
2013	117	2.6
2014	116	(0.5)
2015	117	0.9
2016	118	0.9
2017	118	0.0
2018	118	0.0

For the last six years VMT has been quite stable, with values within a range of 116 to 118 million vehicle miles traveled. The reduction from 2009 to 2010 was due to the 2010 service reductions and the December 2010 blizzard. The reduction from 2010 to 2011 was due to annualization of the June 2010 service reductions and service suspensions during severe winter snow storms and Hurricane Irene. The increase from 2011 to 2012 would have been higher if the impact of Superstorm Sandy is excluded, representing higher mileage, including an additional leap year day. The increase from 2012 to 2013 was due mostly to the impact of Superstorm Sandy in 2012.

Transit System Security. Ridership is also affected by the public's perception of security and order in the Transit System. Security around the Transit System has been increased since the terrorist attacks on the WTC. The public's perception of security and order is also affected by the presence of homeless people, beggars, illegal vendors and fare evaders in the Transit System. MTA New York City Transit and the New York City Police Department have taken significant steps over the past three decades to address these problems. These include instituting an outreach program to transport the homeless from the Transit System to City shelters, increasing the uniformed police presence throughout the Transit System and reducing fare evasion and serious crimes. The fare evasion ratio was 3.2% in 2018. Police presence has been important to reductions in subway crime and fare evasion.

Employment. City employment levels generally have a significant impact on the level of subway ridership. The weak economy in 2009 adversely affected both employment and subway ridership, with both employment and subway ridership declining 2.7%. With the local economy recovering in 2010 and 2011, subway ridership again outpaced the local economy, increasing 3.8% from 2009 to 2011 compared with a 2.8% employment increase over the same period. However, employment has outpaced subway ridership since 2011, increasing 17.9% from 2011 to

2018, compared to a 2.4% subway ridership increase over the same period. From 2015 to 2018, City employment increased 5.8%, compared to a 4.7% subway ridership decrease over the same period. The 2016-2018 subway decline was due in part to major construction projects, off-peak and weekend service changes, and increased competition from for-hire vehicles.

Automated Fare Collection. MTA New York City Transit employs an automated fare collection, or AFC, system in all subway stations and on all MTA New York City Transit, MaBSTOA, and MTA Bus routes. AFC includes, among other elements, subway turnstiles and bus fare boxes that accept a magnetic farecard ("MetroCard") in payment. AFC provided the technical capability to eliminate two-fare zones as well as to implement flexible intermodal and interagency fare structures. MetroCard enables passengers to purchase multiple rides and use the MetroCard to enter the Transit System through AFC turnstiles that automatically deduct the cost of each use. The subway turnstiles are designed to be tamper-resistant and to inhibit fare evasion by being more difficult to pass without payment. The bus fareboxes issue magnetically encoded transfers that are designed to reduce fare evasion resulting from the use of invalid transfers.

In 2018, 97.2% of non-student trips were made with MetroCard, up from 23.0% in 2009. 45.5% of 2018 non-student trips were made with Pay-Per-Ride MetroCards, and 51.8% were made on unlimited-ride MetroCards (29.6% with 30-day cards and 22.1% with 7-day cards). The market share of all non-MetroCard fare media (cash and single-ride tickets) was 2.8% in 2018.

Out-of-system sales outlets, including over 4,103 active retail locations, generated approximately $612 million in MetroCard sales in 2018, a 4.1% decrease from 2017. Market share for MetroCard out-of-system sales is approximately 12.5%. During 2018, sales of nearly 3.0 million MetroCards valued at $324 million were made to transit benefit companies delivering tax-advantaged transportation benefits through MetroCard to their client employers/employees. Unlimited ride products accounted for approximately 92% of these sales in 2018, including total annual card sales of $175 million, with more than 121,000 employees enrolled in this annual card program at year's end. In 2018, the amount that mass transit commuters were permitted for monthly payroll deductions was $260.

MetroCard Vending Machines ("MVMs") allow riders to purchase MetroCards using cash, credit, debit or Electronic Benefits Transfer ("EBT") cards. The MetroCard Express Machine ("MEM") is a compact vending unit that accepts only credit, debit or EBT cards for payment. A total of 1,694 MVMs were servicing 472 active stations throughout MTA New York City Transit's subway system in 2018, as well as the MTA Staten Island Railway, Staten Island Ferry's St. George terminal, Orchard Beach in the Bronx, the NICE Bus Hempstead Terminal, Roosevelt Island Tramway, and Grand Central Terminal. In addition, 597 MEMs were in service in 281 active stations by the end of the year. 793 MetroCard Fare Collectors were in service serving 399 active Select Bus Service bus stops. Vending machine sales totaled $3.27 billion in 2018, accounting for 82% of total in-system sales.

Purchasers of a 30-day or 7-day express unlimited ride MetroCard with a credit or debit card through the MVMs and MEMs are the beneficiaries of a free replacement if their MetroCards are lost or stolen, subject to a limit of two per holder per calendar year.

The 2010-2014 and 2015-2019 Transit Capital Programs earmarked funding for the next generation of fare collection system improvements. In November 2017, MTA awarded a contract to phase in a new fare payment system that will incorporate the latest digital technologies and ease travel across the Transit system and the commuter rail systems. The contract was awarded to Cubic Transportation Systems, Inc., which has delivered similar technology for London's public transit system. For additional information see "FINANCIAL PLANS AND CAPITAL PROGRAMS — Approved 2015-2019 Capital Program – *2015-2019 Transit Core Program*" in Part 2 of this ADS.

Commuter System Ridership

From 2008 to 2018, ridership on MTA Metro-North Railroad increased by 4.2% and ridership on MTA Long Island Rail Road increased by 2.8%. In 2018, MTA Metro-North Railroad ridership increased slightly, totaling 84.9 million and MTA Long Island Rail Road ridership decreased to 89.8 million.

The following table details annual commuter services ridership over the last ten years and the percentage increase/(decrease) each year.

Revenue Passengers[1]
(in thousands)

Year	MTA Long Island Rail Road	MTA Long Island Rail Road Percent Increase/(Decrease)	MTA Metro-North Railroad[2]	MTA Metro-North Railroad Percent Increase/(Decrease)
2009	82,951	(5.0)	77,976	(4.3)
2010	81,556	(1.7)	79,211	1.6
2011	81,027	(0.6)	80,364	1.5
2012	81,754	0.9	81,341	1.2
2013	83,384	2.0	81,802	0.6
2014	85,868	3.0	82,975	1.4
2015	87,648	2.1	84,272	1.5
2016	89,352	1.9	84,808	0.6
2017	89,159	(0.2)	84,879	0.1
2018	89,773	0.7	84,911	0.0

(1) A single rider traveling to and from the same destination is counted as two revenue passengers. The number of revenue passengers is determined in part by ascribing an assumed frequency of use to holders of weekly and monthly commutation tickets.

(2) MTA Metro-North Railroad ridership totals do not include West of Hudson riders. In 2018, West of Hudson ridership on MTA Metro-North Railroad totaled 1.6 million passengers.

A variety of factors affect ridership on the Commuter System. Among the most important are level of fares, Commuter System performance and regional employment discussed below. Other factors that may be important to Commuter System ridership include the amount and level of service provided and security. Several service level increases have been implemented since 2013.

In 2018, MTA Metro-North Railroad ridership was 31,800 or 0.04% greater than 2017, with 2018 representing the ninth consecutive year of ridership growth. Ridership increased on the Harlem and New Haven lines relative to 2017, with the largest growth occurring on the Hudson line. MTA Metro-North Railroad's annual West of Hudson ridership decreased by 0.36%, due to a decrease on the Port Jervis Line of 1.52%, partially offset by a 1.37% increase on the Pascack Valley Line.

In 2018, MTA Long Island Rail Road ridership finished the year with a new record, carrying 89.8 million customers compared to the post-war high of 91.8 million customers in 1949. Total ridership increased by 0.7% for the full year 2018 compared to 2017, while non-commutation ridership increased by 1.3% for the year 2018 with 38.9 million customers, outpacing the growth in the commutation market that finished the year 2018 slightly up 0.2% with 50.8 million customers when compared to 2017.

Fares. The chart below identifies the years in which the base fares charged for the use of the Commuter System within the State have been raised. The most recent increase became effective on April 21, 2019, following the MTA Board's approval of an increase in fares for travel on MTA Long Island Rail Road and the State portion of MTA Metro-North Railroad.

Date of Increase	Approximate Increase in New York State Average Fares
1984 – January	20%
1986 – January	11
1990 – January	15
1995 – November	9
2003 – May	25
2005 – March	7.6/6.2*
2008 – March	3.85
2009 – June	10
2010 – December	9
2013 – March	9
2015 – March	4
2017 – March	4
2019 – April	4

* Effective March 1, 2005, the average fare increased by 7.6% on MTA Long Island Rail Road and by 6.2% on MTA Metro-North Railroad for service between points in the State.

In addition, CDOT, with the MTA Board's approval, has authorized implementation of increased fare levels for travel to and from Connecticut stations on a number of occasions. A cumulative increase of approximately 16.2% for New Haven Line fares for travel to or from stations located in Connecticut was phased in, beginning January 1, 2012 (5.3%), with additional increases on January 1, 2013 (5.04%) and January 1, 2014 (5.04%). Another cumulative fare increase was phased in, which commenced as of January 1, 2015 (1.0%), with an additional increase on January 1, 2016 (1.0%). On December 1, 2016, a 6% increase was implemented, which subsumed the previously-planned 1.0% increase that was to have occurred on January 1, 2017. Another 1.0% was implemented on January 1, 2018.

A 2018 CDOT proposal to initiate a multi-phase fare increase for travel to and from Connecticut stations totaling 21.28% over three years was cancelled resulting in no fare increase at such time.

The MTA Board has approved and authorized implementation of increased fare levels for travel on MTA the Metro-North Railroad Hudson and Harlem Lines, as well as the New Haven Line for travel between stations in the State only, effective April 21, 2019. Fares will not increase on Metro-North Railroad Pascack Valley and Port Jervis lines. The increase is approximately 3.85% or less, for all weekly and monthly passes, with increase limitations of no more than $15.00 for monthly tickets, and $5.75 for weekly passes. There will be no fare increases on monthly tickets or weekly tickets currently at or above $460.00, and $147.00, respectively. Some one-way fares will have larger percentage increases as fares must occur in $0.25 increments. Any one-way fare increase greater than 6% has been limited to not more than $0.50 per ride.

The MTA Board has approved and authorized implementation of increased MTA Long Island Rail Road fare levels, effective April 21, 2019. The commutation ticket increase is approximately 3.85% or less, for all weekly and monthly passes, with increase limitations of no more than $15.00 for monthly tickets, and $5.75 for weekly passes. There were no fare increases on monthly tickets or weekly tickets currently at or above $460.00, and $147.00, respectively. Some one-way fares had larger percentage increases as fares must occur in $0.25 increments. Any one-way fare increase greater than 6% has been limited to not more than $0.50 per ride.

MTA Long Island Rail Road and MTA Metro-North Railroad offer several discounts that enable customers to purchase transportation at fares below the cost of a one-way peak ticket. Discounted fares are available based on the ticket type (e.g., Monthly ticket, Weekly, 10-Trip Off Peak, Group, Family, Child, CityTicket) and the purchase option selected (e.g., Mail and Ride, Commuter Benefit Programs, Buy Before Boarding).

The following chart shows historical fare information from 2009.

		MTA Long Island Rail Road		Harlem		MTA Metro-North Railroad Hudson		New Haven	
Year	CPI[1]	Average Nominal Fare[2]	Real Fare 1982$	Average Nominal Fare	Real Fare 1982$	Average Nominal Fare	Real Fare 1982$	Average Nominal Fare	Real Fare 1982$
2009	236.8	6.14	2.47	5.67	2.28	7.02	2.82	6.72	2.71
2010	240.9	6.42	2.54	5.96	2.36	7.29	2.88	6.85	2.71
2011	247.7	7.06	2.71	6.54	2.51	8.01	3.08	7.01	2.70
2012	252.6	7.11	2.68	6.57	2.48	8.06	3.04	7.32	2.76
2013	256.8	7.58	2.81	7.00	2.60	8.57	3.18	7.57	2.81
2014	260.2	7.67	2.81	7.08	2.59	8.65	3.17	8.00	2.93
2015	260.6	7.93	2.90	7.34	2.68	8.94	3.27	8.14	2.98
2016	263.4	7.97	2.88	7.39	2.68	9.00	3.26	8.27	2.99
2017	268.5	8.16	2.90	7.63	2.71	9.31	3.31	8.70	3.09
2018	273.6	8.25	2.89	7.69	2.68	9.38	3.27	8.78	3.06
2019 (Est)[3]	280.4	8.50	2.89	7.92	2.69	9.70	3.30	8.95	3.04

(1) CPI All Urban Consumers, New York-Northern New Jersey-Long Island, NY-NJ-CT-PA, 1982-84=100.0. The CPI levels listed are the annual average for each year.

(2) Average Nominal Fare means the fare paid per ride, determined by dividing total passenger revenues by total revenue passengers.

(3) 2019 estimates of fares include impact of the MTA fare increase effective April 21, 2019 (not final budget). CPI is estimated by IHS Global, Inc.

Characteristics of Commuter System Performance. Characteristics of performance potentially affecting ridership include on-time performance, the fleet's mean distance between failures, the number of standees and platform waiting time. Since implementation of the capital program began in early 1982, Commuter System performance as measured by those indicia has, on the whole, improved, although some of those indicia have shown declines during certain periods. Implementation of certain capital projects that are part of the Commuter Capital Programs may involve temporary disruptions of service as various portions of the Commuter System are refurbished or replaced. MTA Long Island Rail Road and MTA Metro-North Railroad schedule capital project work so as to minimize disruption of operations. In addition, as the Commuter Capital Program for rolling stock replacement progresses from its normal system replacement and the rolling stock is retired at the end of its useful life, further fluctuations may appear in various measures of Commuter System performance.

The following table shows on-time performance for MTA Long Island Rail Road and MTA Metro-North Railroad for the last ten years.

On-Time Performance (%)

Year	MTA Long Island Rail Road	MTA Metro-North Railroad
2009	95.2	97.8
2010	92.8	97.7
2011	93.7	96.9
2012	94.3	97.6
2013	93.5	94.8
2014	92.0	91.5
2015	91.6	93.5
2016	92.7	93.7
2017	91.4	93.4
2018	90.4%	90.1

For MTA Metro-North Railroad, on-time performance ("OTP") for 2018 totaled 90.1%, 2.9% below the goal of 93.0% as performance was impacted due to increased infrastructure work on the Hudson and New Haven Lines. This work increased train running times, which were not reflected in the Spring 2018 schedule change.

MTA Long Island Rail Road's OTP in 2018 was 90.4%, a decrease of 1.0% from the previous year. The decrease in OTP was attributable to increases in delays caused by severe weather and capital project work.

The following table shows the fleet's MDBF for MTA Long Island Rail Road and MTA Metro-North Railroad for the last ten years.

MDBF

	MTA Long Island Rail Road		MTA Metro-North Railroad	
Year	MDBF (in miles)	Increase/ (Decrease)	MDBF (in miles)	Increase/ (Decrease)
2009	145,703	10.2	116,066	10.7
2010	149,651	2.7	129,329	11.4
2011	169,724	13.4	114,347	(11.6)
2012	194,382	14.5	165,694	44.9
2013	205,890	5.9	156,617	(5.5)
2014	206,226	0.2	147,063	(6.1)
2015	208,383	1.0	199,838	35.9
2016	211,975	1.7	216,772	8.0
2017	205,270	(3.2)	193,883	(10.6)
2018	185,217	(9.8)	144,017	(25.7)

In 2018, MTA Metro-North Railroad's fleet MDBF experienced a reduction due to the implementation of new PTC equipment which experienced a level of infancy failures (none of which were safety-related). 2018 MDBF was 28% below the goal of 200,000 miles. Excluding PTC failures, the adjusted MDBF was near goal at 195,247. Due to the continued PTC implementation, MTA Metro-North Railroad's 2019 MDBF goal is reduced to 165,000 miles.

For MTA Long Island Rail Road, the MDBF for the entire fleet in 2018 was 185,217 miles, below the railroad's 2018 goal of 200,000 miles, and represents a 9.8% decrease from 2017.

Regional Employment. Regional employment levels, primarily in the City, have a significant impact on commuter railroad ridership. See "RIDERSHIP AND FACILITIES USE – Transit System (MTA New York City Transit and MaBSTOA) Ridership – *Employment*" above in this Part 5.

MTA Bus Ridership

General. MTA Bus was created as a public benefit corporation subsidiary of MTA in 2004 to integrate seven private bus companies into MTA. The final MTA Bus company merger was completed in February 2006.

Since MTA Bus launched operations, bus performance has improved significantly. MTA Bus has replaced most of its fleet and currently operates 517 express buses, 409 low-floor hybrid electric local buses, 213 low-floor compressed natural gas standard buses, 44 clean diesel standard buses and 115 articulated clean diesel local buses. The bus fleet age fluctuates based on the number of new buses being purchased and how many over-age buses remain in service. On February 20, 2006 (the first day of complete consolidated operations), the fleet age was 9.43 years; it was 10.04 years at the end of 2018. MTA Bus relies on the timely procurement and delivery of new buses to replace over-age buses in order to improve MDBF and equipment reliability. However, by the end of the 2015-2019 Capital Program, MTA Bus will still have buses greater than 12 years of age in service.

Historical Ridership. MTA Bus has been enhancing service since 2006, incrementally increasing capacity on all of its bus routes. MTA Bus revenue passengers in 2018 totaled 121 million, a decrease of 0.6% from 2017. Local bus ridership similarly decreased by 4.0%, and express ridership decreased by 6.8%. In 2018, average weekday ridership was 5.0% lower and average weekend ridership was 1.0% lower than 2017 respectively. MTA Bus ridership began its current decline in 2014 and follows a national and international trend experienced by other transit agencies. Several factors have contributed to the decline, including increased congestion and slower travel speeds. A portion of the ridership decline is also in areas where there is a high overlap with subways. Specifically, MTA Bus express bus riders are more sensitive to travel time issues as they have other options (local bus-to-subway or direct access to the subway). Biking has also become more popular over the years. The following table sets forth total annual ridership and the year-over-year percentage increase/decrease for MTA Bus since 2009.

Revenue Passengers[1]
(in thousands)

Years	Ridership	Bus Increase/ (Decrease)
2009	119,976	(0.9)%
2010	120,237	0.2
2011	119,381[2]	(0.7)
2012	120,877	1.3
2013	124,951	3.4
2014	125,581	0.5
2015	125,400	(0.01)
2016	125,617	0.2
2017	122,214	(2.7)
2018	121,448	(0.6)

(1) "Revenue Passengers" are defined as all passengers for whom revenue is received, either through direct fare payment (cash, MetroCards) or fare reimbursements (senior citizens, school children and the physically disabled). "Revenue Passengers" statistics count passengers that use a free intermodal or bus-to-bus transfer as an additional passenger though they are not paying an additional fare.
(2) 2011 ridership number has been revised with transfer counts.

Fares. MTA Bus offers the same discount and bonus programs as MTA New York City Transit and adheres to the same fare structure, including pricing for passes, as MTA New York City Transit. See "RIDERSHIP AND FACILITIES USE — Transit System (MTA New York City Transit and MaBSTOA) — *Fares*" above.

Performance and Level of Service. Buses ran an average of 7,506 miles between mechanical breakdowns during 2018, a 0.36% increase over a 7,479 average MDBF for 2017.

The following table shows MTA Bus MDBF for the past ten years.

Bus MDBF

Year	(in miles)	Increase/ (Decrease)
2009	3,372	(27.2)%
2010	3,438	2.0
2011	3,430	(0.3)
2012	5,300	54.5
2013	5,548	4.7
2014	5,366	(3.3)
2015	5,741	7.0
2016	7,271	26.7
2017	7,479	2.9
2018	7,506	0.4

The following table shows total actual vehicle miles traveled by MTA Bus for the past ten years.

Total Actual Vehicle Miles Traveled by MTA Bus
(in millions)

Year	VMT	Increase/ (Decrease)
2009	37.0	(1.1)%
2010	35.2	(4.9)
2011	35.2	0.2
2012	35.4	0.7
2013	36.4	2.8
2014	36.4	0.0
2015	36.8	1.1
2016	37.1	0.8
2017	36.9	(0.5)
2018	36.9	0.0

MTA Bridges and Tunnels – Total Revenue Vehicles

The following table shows the total number of revenue vehicles at the MTA Bridges and Tunnels Facilities for the past ten years.

MTA Bridges and Tunnels Facilities
Total Revenue Vehicles

Year	Revenue Vehicles 000's	Increase/ (Decrease)	Year	Revenue Vehicles 000's	Increase/ (Decrease)
2009[1]	291,383	(1.5)%	2014	286,417	0.7%
2010[2]	291,714	0.1	2015[4]	297,980	4.0
2011	283,575	(2.8)	2016	307,417	3.2
2012	282,753	(0.3)	2017[5]	310,038	0.9
2013[3]	284,528	0.6	2018	322,290	4.0

(1) Toll increase became effective July 12, 2009.
(2) Toll increase became effective December 30, 2010.
(3) Toll increase became effective March 3, 2013.
(4) Toll increase became effective March 22, 2015.
(5) Toll increase became effective March 19, 2017.

MTA Bridges and Tunnels' independent engineers, Stantec Consulting Services, Inc. ("Stantec"), have prepared a report (the "Stantec Report") to develop projections of traffic, revenues and expenses for the MTA Bridges and Tunnels Facilities entitled "History and Projection of Traffic, Toll Revenues and Expenses and Review of Physical Conditions of the Facilities of Triborough Bridge and Tunnel Authority," dated April 30, 2019. The report also contains certain historical revenue, traffic and more detailed toll rate information not included herein. A copy of the Stantec Report is attached to the Continued Disclosure Filings and, for convenience, has also been posted on the MTA website under "About the MTA – Financial Information – Investor Information" at www.mta.info. The Stantec Report is included by specific cross-reference herein.

Toll Rates

General Power to Establish Tolls.

- MTA Bridges and Tunnels' power to establish toll rates is not subject to the approval of any governmental entity. However, prior to implementing proposed changes in its toll rates, MTA Bridges and Tunnels is required to comply with the State Environmental Quality Review Act, which generally requires an assessment of environmental impacts of the proposed action, if any.

- Tolls on the Verrazzano-Narrows Bridge and the Throgs Neck Bridge, which were constructed pursuant to the General Bridge Act of 1946, 33 U.S.C. 525 et seq., may be subject to the standard imposed by Section 135 of the Federal-Aid Highway Act of 1987, Pub.L. 100-17, that tolls on bridges constructed under the authority of certain Federal legislation, including the General Bridge Act of 1946, be "just and reasonable." MTA Bridges and Tunnels believes that the tolls on all of its vehicular toll facilities are just and reasonable.

Resident E-Token, Discount and Rebate Programs.

- The MTA Bridges and Tunnels Act was amended in 1981 to require that residents of Broad Channel and the Rockaway Peninsula be afforded the right to purchase tokens for the Cross Bay Veterans Memorial Bridge at a cost of 66-2/3% of the regular crossing fare.

- The MTA Bridges and Tunnels Act was further amended in 1983 to:

- ○ eliminate the residency requirement for the purchase of reduced rate tokens for the Cross Bay Veterans Memorial Bridge,

- ○ require the offering of tokens for the Marine Parkway-Gil Hodges Memorial Bridge at a cost of 66-2/3% of the regular crossing fare, and

- ○ require the offering of tokens to residents of Richmond County (Staten Island) for the Verrazzano-Narrows Bridge at a cost of 80% of the regular crossing fare.

- The MTA Bridges and Tunnels Act was amended in 1993 to provide that surcharges, in addition to the regular toll, imposed by MTA Bridges and Tunnels on the Verrazzano-Narrows, Marine Parkway-Gil Hodges Memorial and Cross Bay Veterans Memorial Bridges shall not be treated as part of the regular crossing fare for the purpose of computing the reduced token cost discussed in this paragraph. The 1993 amendment also provided that residents of Staten Island, Broad Channel and the Rockaway Peninsula are entitled to a permanent exemption from any applicable surcharge imposed in 1993 on such bridges.

- MTA has a program to rebate the tolls for E-ZPass customers who are residents of Broad Channel and the Rockaway Peninsula using the Cross Bay Veterans Memorial Bridge. Between July 23, 2010 and March 31, 2012, the E-ZPass resident discount applied to the first two trips across the Cross Bay Veterans Memorial Bridge, and all subsequent trips during a calendar day using the same E-ZPass tag were eligible for a toll rebate funded by the MTA. Since April 1, 2012, all trips are rebated and funded by the MTA. See "Additional Outer Borough Transportation Account Funded Toll Rebate Programs" below for a discussion of a toll rebate for Queens residents for use of the Cross Bay Veterans Memorial Bridge.

Since 2014, MTA has had two toll rebate programs at the Verrazzano-Narrows Bridge: the Staten Island Resident ("SIR") Rebate Program, available for residents of Staten Island participating in the SIR E-ZPass toll discount plan, and the Verrazzano-Narrows Bridge Commercial Rebate Program ("VNB Commercial Rebate Program"), available for commercial vehicles making more than ten trips per month using the same New York Customer Service Center ("NYCSC") E-ZPass account. Since they are partially funded by the State, the VNB Rebate Programs follow the State Fiscal Year.

The annualized cost of the 2018-2019 VNB Rebate Programs was approximately $20.8 million, with $14 million for the 2018-2019 VNB Commercial Rebate Program and for the 2018-2019 SIR Rebate Program, funded equally by the State and MTA, with the State's contribution provided by appropriations to MTA. An additional $6.8 million in appropriations was provided by the State to MTA to keep the effective post-rebate SIR E-ZPass toll at $5.50 by providing a $0.98 rebate for Staten Island Residents with three or more trips per month and a $1.34 rebate for Staten Island Residents with less than three trips per month.

The projected annualized cost of the 2019-2020 VNB Rebate Program is approximately $26.8 million with $14 million for the 2019-2020 VNB Commercial Rebate Program and for the 2019-2020 SIR Rebate Program, funded equally by the State and MTA, with the State's contribution provided by appropriations to MTA. An additional $12.8 million in appropriations is being provided by the State to MTA to keep the effective post-rebate SIR E-ZPass toll at $5.50 by providing a $1.38 rebate for Staten Island Residents with three or more trips per month and a $1.76 rebate for Staten Island Residents with less than three trips per month.

The money to fund a year's estimated costs for the VNB Rebate Programs is transferred by MTA to MTA Bridges and Tunnels prior to the implementation of the VNB Rebate Programs each year. The 2019-2020 VNB Rebate Programs will be implemented as specified herein only for such periods during which both (a) MTA's total financial responsibility, net of State actions or available offsets, does not exceed $7 million for the 2019-2020 SIR Rebate and VNB Commercial Rebate Programs and (b) the State provides (i) at least $7 million for the 2019-2020 SIR Rebate Program and VNB Commercial Rebate Program and (ii) such additional funds as are necessary (currently estimated to be $12.8 million) to keep the effective post-rebate SIR E-ZPass toll at $5.50 by increasing the rebate to $1.38 for Staten Island Residents with three or more trips per month and to $1.76 for Staten Island Residents with less than three trips per month under the 2019-2020 SIR Rebate Program. MTA shall apply the

$12.8 million of additional funds provided by the State as necessary to provide a $1.38 rebate for Staten Island Residents with three or more trips per month and a $1.76 rebate for Staten Island Residents with less than three trips per month.

If, as a result of unexpected toll transaction activity, MTA Bridges and Tunnels estimates that such MTA and State funds allocated to MTA for the 2019-2020 VNB Rebate Programs, net of offsets, will be insufficient to fund the 2019-2020 VNB Commercial Rebate Program for the full program year, MTA Bridges and Tunnels may reduce the rebate amount under such program to a percentage that is forecast to be payable in full for the remainder of the program year with the available funds. However, in the event that such MTA and State funds allocated to MTA for the 2019-2020 VNB Rebate Programs are fully depleted at any time during the 2019-2020 VNB Rebate Programs annual period, the 2019-2020 VNB Rebate Programs will cease and Staten Island residents will be charged the applicable resident discount toll and trucks and other commercial vehicles will be charged the applicable NYCSC E-ZPass toll for the Verrazzano-Narrows Bridge.

The VNB Rebate Programs will continue into future years provided that (a) MTA's annual period contribution does not exceed $7 million, (b) the MTA Board approves a budget that includes MTA's contribution to such program, and (c) the State provides to MTA funds sufficient for at least half the expenses of each continuing annual period.

Under the 2018-2019 SIR Rebate Program, MTA rebated $0.98 of the $6.48 SIR E-ZPass toll paid by Staten Island residents with three or more trips per month across the Verrazzano-Narrows Bridge, and $1.34 of the $6.84 SIR E-ZPass toll paid by Staten Island residents with one or two trips across the bridge. As a result of these MTA toll rebates, Staten Island residents paid an effective toll of $5.50 per trip. The 2018-2019 SIR Rebate Program was retroactive to April 1, 2018 and continued through March 31, 2019.

Under the 2019-2020 SIR Rebate Program, MTA will rebate $1.38 of the $6.88 SIR E-ZPass toll paid by Staten Island residents with three or more trips per month across the Verrazzano-Narrows Bridge, and $1.76 of the $7.26 SIR E-ZPass toll paid by Staten Island residents with one or two trips across the bridge. As a result of these MTA toll rebates, Staten Island residents will pay an effective toll of $5.50 per trip under the current SIR toll rates. The 2019-2020 SIR Rebate Program is retroactive to April 1, 2019 and will continue through March 31, 2020.

Under the 2018-2019 VNB Commercial Rebate Program, the rebate was 17.25% of the E-ZPass toll for trucks and other commercial vehicles with more than ten trips per month across the Verrazzano-Narrows Bridge, using the same NYCSC E-ZPass Account until January 2019 when the rebate was reduced because of insufficient funds. The 2018-2019 VNB Commercial Rebate Program was retroactive to April 1, 2018 and continued through March 31, 2019.

Under the 2019-2020 VNB Commercial Rebate Program, the initial rebate is 16.25% of the E-ZPass toll for trucks and other commercial vehicles with more than ten trips per month across the Verrazzano-Narrows Bridge, using the same NYCSC E-ZPass Account. Implementing a 16.25% rebate of the E-ZPass toll for trucks and other eligible commercial vehicles is expected to ensure that the $7 million allocated for the 2019-2020 VNB Commercial Rebate Program is sufficient to provide funding from April 1, 2019 through March 31, 2020. The 2019-2020 VNB Commercial Program is retroactive to April 1, 2019 and will continue through March 31, 2020.

Additional Outer Borough Transportation Account Funded Toll Rebate Programs. As noted above under "PART 2. FINANCIAL INFORMATION – REVENUES OF THE RELATED ENTITIES – Congestion Zone Surcharges," moneys in the Outer Borough Transportation Account may be applied to fund a toll reduction program for any crossing under the jurisdiction of MTA or MTA Bridges and Tunnels. As of April 5, 2019, the Legislature and Governor had agreed, subject to MTA approval, to establish two new toll rebate programs relating to MTA Bridges and Tunnels' crossings. They are (i) a Queens resident rebate for passenger vehicles with E-ZPass tags using the Cross Bay Veterans Memorial Bridge, and (ii) a Bronx resident rebate for passenger vehicles with E-ZPass tags using the Henry Hudson Bridge. In each case, the E-ZPass toll will be charged to the customer's NYCSC resident E-ZPass account, and then an immediate credit will be issued for the amount of the toll using funds in the Outer Borough Transportation Account to provide the rebate. MTA Bridges and Tunnels will collect the full amount of the toll. The dates of implementation and other details of the new rebate programs are not available as of the date of this ADS. In any event, there is not expected to be any reduction of MTA Bridges and Tunnels' toll revenue receipts caused by these toll rebate programs.

One-Way Collection in Staten Island. On March 20, 1986, in accordance with federal law, MTA Bridges and Tunnels instituted one-way toll collection on the Verrazzano-Narrows Bridge for all vehicles. Federal law now prohibits MTA Bridges and Tunnels from discontinuing one-way toll collection on vehicles exiting such bridge in Staten Island.

Current Toll Rates. Tolls were last increased effective March 31, 2019. For the Verrazzano-Narrows Bridge, the two-axle passenger vehicle crossing charge (one-way collection) for Tolls by Mail customers increased from $17 to $19, with a $6.76 reduction for E-ZPass customers with accounts at the New York Customer Service Center; the E-ZPass reductions do not apply to E-ZPass customers who do not have accounts at the New York Customer Service Center. For the Bronx-Whitestone Bridge, Hugh L. Carey Tunnel, Queens Midtown Tunnel, Robert F. Kennedy Bridge and Throgs Neck Bridge, the two-axle passenger vehicle crossing charge for Tolls by Mail customers increased from $8.50 to $9.50, with a $3.38 reduction for E-ZPass users. For the Henry Hudson Bridge, the two-axle passenger vehicle crossing charge for Tolls by Mail customers increased from $6.00 to $7.00, with a $4.20 reduction for E-ZPass users. For the Marine Parkway-Gil Hodges Memorial Bridge and the Cross Bay Veterans Memorial Bridge, the two-axle passenger vehicle crossing charge for Tolls by Mail customers increased from $4.25 to $4.75, with a $2.46 reduction for E-ZPass users. Additional charges apply for additional axles and/or weight. Certain resident discounts apply to the Verrazzano-Narrows Bridge, the Marine Parkway-Gil Hodges Memorial Bridge and the Cross Bay Veterans Memorial Bridge.

A more complete description of the current toll structure is set forth in the Stantec Report under the caption "TOLL COLLECTION ON THE TBTA FACILITIES."

Minimum Toll Covenants in MTA Bridges and Tunnels Bond Resolutions. The MTA Bridges and Tunnels Senior Resolution and MTA Bridges and Tunnels Subordinate Resolution provide that:

- the minimum undiscounted toll rate for automobiles carrying not more than two persons is at least $3.00 for each crossing over or through the Robert F. Kennedy Bridge, the Bronx-Whitestone Bridge, the Throgs Neck Bridge, the Hugh L. Carey Tunnel or the Queens Midtown Tunnel, $2.50 for each crossing over the Verrazzano-Narrows Bridge, at least $1.50 for each crossing over the Henry Hudson Bridge, and at least $1.25 for each crossing over the Marine Parkway-Gil Hodges Memorial Bridge or the Cross Bay Veterans Memorial Bridge;

- in the event MTA Bridges and Tunnels shall impose a surcharge in addition to the regular toll rate, such surcharge shall not constitute part of the toll rate for purposes of computing the maximum discount described in the first bullet point above and MTA Bridges and Tunnels may provide exemptions from such surcharges without regard to the limits on maximum discounts;

- in the event MTA Bridges and Tunnels imposes different undiscounted toll rates for vehicles utilizing an electronic toll collection system and based upon time of day, day of week or period of the year mode of pricing, the limits on the maximum discounts shall be measured against the undiscounted toll rate applicable to the particular crossing; and

- the minimum crossing charge, however denominated, and after giving effect to any exemption, exclusion or discount, for automobiles carrying not more than two persons shall be at least $3.20 for each westbound crossing over the Verrazzano-Narrows Bridge, at least $1.60 for each crossing over the Robert F. Kennedy Bridge, the Bronx-Whitestone Bridge or the Throgs Neck Bridge or through the Hugh L. Carey Tunnel or the Queens Midtown Tunnel and at least 66.7 cents for each crossing over the Henry Hudson Bridge, the Marine Parkway-Gil Hodges Memorial Bridge or the Cross Bay Veterans Memorial Bridge.

Board Policy Regarding Senior Lien Coverage. In addition to the requirements of the minimum rate covenant and the requirements for the issuance of additional bonds, the MTA Bridges and Tunnels Board has established a policy that it will "endeavor to maintain a ratio" of Net Revenues to Senior Lien Debt Service (each as defined in the MTA Bridges and Tunnels Senior Resolution) of at least 1.75x. MTA Bridges and Tunnels has been in compliance with this policy since its adoption in March 2002.

The policy does not constitute a covenant or agreement by MTA Bridges and Tunnels enforceable under the MTA Bridges and Tunnels Senior Resolution. While this policy has been in effect without change since 2002, the MTA Bridges and Tunnels Board retains the right to amend, modify or repeal such policy and may do so at any time in its sole discretion without the consent or approval of the trustee or any bondholder under the MTA Bridges and Tunnels Senior Resolution.

Limitations on Free Crossings. The MTA Bridges and Tunnels Senior Resolution and MTA Bridges and Tunnels Subordinate Resolution limit toll free crossings with respect to the MTA Bridges and Tunnels Facilities to (1) the vehicles of present and former MTA Bridges and Tunnels members, officers and employees, (2) military, police, fire, ambulance and other emergency, service and maintenance vehicles, (3) vehicles of persons employed on Wards Island or Randall's Island traveling to and from such Islands over the Robert F. Kennedy Bridge and (4) other vehicles by passes or permits, provided that there shall not be more than 500 passes or permits outstanding at any one time.

Legislative Proposals. From time to time bills have been introduced by various State legislators seeking, among other things, to restrict the level of tolls on certain MTA Bridges and Tunnels Facilities, to require approval of future toll increases by the Governor, to eliminate minimum tolls or to require discounts or free passage to be accorded to certain users of MTA Bridges and Tunnels Facilities. Under the MTA Bridges and Tunnels Act, however, the State has covenanted to holders of MTA Bridges and Tunnels' bonds that it will not limit or alter the rights vested in MTA Bridges and Tunnels to establish and collect such charges and tolls as may be convenient or necessary to produce sufficient revenue to fulfill the terms of any agreements made with the holders of such bonds or in any way to impair their rights and remedies.

Legislation enacted in connection with the State's Fiscal Year 2006-2007 budget prohibits all public authorities, including MTA Bridges and Tunnels, from imposing, on and after June 1, 2006, a periodic administrative or other charge on electronic payment accounts, such as the E-ZPass toll collection system described below, for the privilege of using such electronic method of payment. The legislation does not prevent the authorities from making any charge for extra services requested by a holder of such electronic method of payment, any charge for lost or damaged equipment, or for defaults, such as charges for dishonored checks.

Competing Facilities and Other Matters

In addition to the Robert F. Kennedy, Bronx-Whitestone and Throgs Neck Bridges and Hugh L. Carey and Queens Midtown Tunnels, there are four vehicular bridges operated by the City crossing the East River which are toll-free at the present time, namely: the Ed Koch Queensboro, Williamsburg, Manhattan and Brooklyn Bridges. In addition to the Robert F. Kennedy and Henry Hudson Bridges, there are nine vehicular bridges crossing the Harlem River, which are toll-free at the present time. The City and the State have explored, from time to time, the possibility of tolling some or all of these bridges to raise revenue for the City and/or the MTA; however, MTA Bridges and Tunnels cannot predict the effect that the tolling of such bridges will have on its revenues if it occurs.

The Legislature has passed and the Governor has signed the 2019-2020 Enacted Budget, which establishes the CBD Tolling Program, the goals of which are to reduce traffic congestion in the Manhattan central business district, improve air quality, and provide a stable and reliable funding source for the repair and revitalization of MTA's public transportation systems. MTA Bridges and Tunnels is directed to establish the CBD Tolling Program. The program will operate in the CBD, defined as roadways, bridges, tunnels, approaches or ramps located within or entering into Manhattan south of and inclusive of 60th Street, not including the FDR Drive or the West Side Highway (which includes the Battery Park underpass and or any surface roadway portion of the Hugh L. Carey Tunnel that connects to West Street). MTA Bridges and Tunnels is directed to enter into a MOU with NYCDOT to coordinate the planning, design, installation, construction and maintenance of the CBD Tolling Program infrastructure. MTA Bridges and Tunnels, in accordance with the MOU, will plan, design, install, construct, maintain and operate the CBD Tolling Program infrastructure and collection system, an electronic toll collection system, and will plan, design, implement and operate a CBD tolling customer service center. Since details relating to the tolling structure, tolling rates and possible credits, as well as date of implementation, of the CBD Tolling

Program have not been established, it is unclear how the CBD Tolling Program will affect both transactions and revenues for MTA Bridges and Tunnels. See "MTA-RELATED PROVISIONS IN THE NEW YORK STATE FISCAL YEAR 2019-202 ENACTED BUDGET – CENTRAL BUSINESS DISTRICT TOLLING PROGRAM" in Part 1 of this ADS.

The State agrees in the MTA Bridges and Tunnels Act that while any bonds of MTA Bridges and Tunnels are outstanding, there will not be constructed any vehicular connection competitive with the MTA Bridges and Tunnels Facilities and crossing (a) the East River north of 73rd Street or south of 59th Street in Manhattan, (b) New York Bay, or (c) Jamaica Bay or Rockaway Inlet to Rockaway Peninsula within a specified distance (approximately 2½ miles) east of the Cross Bay Veterans Memorial Bridge. There is no provision in the MTA Bridges and Tunnels Act regarding competitive vehicular crossings over the Harlem River.

Under the MTA Bridges and Tunnels Senior Resolution and MTA Bridges and Tunnels Subordinate Resolution, the owners of MTA Bridges and Tunnels bonds waive the foregoing agreement of the State with respect to the construction of any East River vehicular toll crossing to be operated by MTA Bridges and Tunnels.

A significant reduction in the availability of fuel to motorists would, or significant increases in the cost thereof could, have an adverse effect on the revenues derived from the MTA Bridges and Tunnels Facilities. The use of automobiles in the New York City metropolitan area is subject to increased governmental concern and promulgation of governmental regulations relating to environmental and other concerns restricting the use of vehicles, which could also adversely affect revenues from the MTA Bridges and Tunnels Facilities. The Clean Air Act Amendments of 1990 (the "Clean Air Amendments") require the State to adopt transportation control strategies and measures to control emissions, and establish among other matters, specific measures the State may adopt to reduce air pollution. The impact on MTA Bridges and Tunnels and revenues from the MTA Bridges and Tunnels Facilities of the Clean Air Amendments and the State implementation plan that must be developed thereunder cannot be assessed at this time.

Revenues derived from the MTA Bridges and Tunnels Facilities could also be adversely affected by the condition of arteries feeding and approach and access roads leading to and from such facilities which are not owned by MTA Bridges and Tunnels. A number of those arteries and approach and access roads are in need of significant repairs. MTA Bridges and Tunnels is currently partnering with the NYSDOT and the NYCDOT at the Verrazzano-Narrows Bridge and Robert F. Kennedy Bridge, to address some of these conditions in a joint agency approach to improving these connecting corridors. Revenues have been and may hereafter be affected by access to, and conditions and restrictions on use of, the toll-free facilities over which MTA Bridges and Tunnels has no control and which compete with MTA Bridges and Tunnels' facilities. The Stantec Report referenced in this ADS under the caption "MTA Bridges and Tunnels – Total Revenue Vehicles" above also lists current and proposed construction projects that could adversely affect bridge and tunnel use.

E-ZPass

MTA Bridges and Tunnels employs an electronic toll collection system, E-ZPass, at all of its bridges and tunnels. MTA Bridges and Tunnels' E-ZPass program generally requires prepayment on behalf of the customers. Substantially all of the E-ZPass users prepay with credit cards or checks.

MTA Bridges and Tunnels is a founding member of the E-ZPass IAG, which has grown to include toll authorities in Delaware, Pennsylvania, New Jersey, New York, Maryland, Massachusetts, Virginia, West Virginia, New Hampshire, Illinois, Indiana, Maine, Kentucky, Rhode Island, Ohio, North Carolina, Florida and the Peace Bridge between Buffalo, New York and Fort Erie, Ontario. Payments are settled among all such entities after use of the facilities. MTA Bridges and Tunnels transfers significantly more cash to IAG members than it receives from them, which at times could adversely affect MTA Bridges and Tunnels' cash position.

The following chart shows the amount of annual transfers to and from other IAG members by MTA Bridges and Tunnels during the last nine years.

Year	Transfers to IAG Members (in millions)	Transfers from IAG Members (in millions)
2010	$507.4	$312.0
2011	547.6	350.9
2012	679.6	356.1
2013	740.9	408.2
2014	797.1	417.1
2015	891.2	455.6
2016	973.1	475.1
2017	1,015.7	514.8
2018	1,042.8	565.2

MTA Bridges and Tunnels participates in E-ZPass Plus agreements that have been negotiated by IAG members with commercial entities (such as parking facility operators) whereby the electronic media can be used to purchase goods and services. E-ZPass Plus is currently available to customers for use at Albany International Airport, Syracuse Hancock International Airport, John F. Kennedy International Airport, LaGuardia Airport and Newark International Airport and Atlantic City International Airport. MTA Bridges and Tunnels may expand the use of agreements with commercial entities.

For 2018 E-ZPass market share on MTA Bridges and Tunnels Facilities averaged:

- overall: 94.4%;
- weekday: 95.0%; and
- weekend: 92.9%.

Cashless Open Road Tolling ("Cashless Tolling")

In October 2016, Governor Cuomo announced the New York Crossings Project. This project included an aggressive one-year schedule for all MTA Bridges and Tunnels crossings to migrate from cash and gated E-ZPass toll plazas to Cashless Tolling. MTA Bridges and Tunnels completed full implementation of Cashless Tolling on September 30, 2017. Cashless Tolling eliminates traditional toll plazas by allowing tolls to be collected in a free-flow environment through E-ZPass sensors and license-plate cameras mounted on overhead gantries. Drivers without E-ZPass receive a "Tolls by Mail" invoice mailed to the vehicle's registered owner.

In Spring 2016, MTA Bridges and Tunnels began asking the DMV to suspend the vehicle registrations of violators who fail to pay their tolls and violation fees or have them dismissed or transferred in response to violation notices for five toll violations within 18 months, in accordance with the new DMV regulation for persistent or habitual toll violators. In January 2017, the DMV changed its regulation for persistent or habitual violators so that vehicle registrations can be suspended for three toll violations within five years and commercial vehicle registrations can be suspended for $200.00 or more in unpaid tolls within five years.

MTA Bridges and Tunnels employs and develops measures to enhance collection and enforcement of tolls under the Cashless Tolling system. License plate recognition technology on gantries and in patrol vehicles is being used for the detection of persistent toll violators and toll violation enforcement. Additionally, MTA Bridges and Tunnels began issuing exclusion orders barring the vehicles of out-of-state toll violation scofflaws from MTA Bridges and Tunnels facilities.

In April 2017 the New York State DMV received legislative authorization to enter into reciprocal compacts with other states to suspend the vehicle registrations of persistent or habitual toll violators, which will allow MTA Bridges and Tunnels to have the home states of out-of-state violators suspend or place holds on vehicle registrations for toll violations committed on MTA Bridges and Tunnels' facilities. MTA Bridges and Tunnels has entered into such an agreement with Massachusetts and expects to begin submitting registration hold packages to the Massachusetts Registry of Motor Vehicles in the Spring of 2019 so that holds can be placed on the registrations of toll-evading Massachusetts owners. In time MTA Bridges and Tunnels will be able to discontinue issuing exclusion orders to out-of-state toll violators barring their vehicles from MTA Bridges and Tunnels facilities.

PART 6. REGULATORY, EMPLOYMENT, INSURANCE AND LITIGATION MATTERS

FEDERAL AND STATE LAWS

General

Federal and State laws concerning, among other things, protection of the environment and access to transportation and non-transportation facilities by the physically disabled will require future operating and capital expenditures by the Related Entities. Those expenditures are material. Many of the projects undertaken in connection with such legal requirements are being funded through MTA Capital Programs.

Future federal and State laws and regulations concerning matters such as the environment and access by the physically disabled could subject the Related Entities to additional operating and capital costs, which costs may be material.

Transit System

Environmental. MTA New York City Transit is currently the subject of an environmental consent order with the New York State Department of Environmental Conservation ("NYSDEC") pursuant to which underground storage tanks have been replaced or upgraded. Capital expenditures will continue for site remediations in accordance with the order.

Access for Persons with Disabilities. It is MTA New York City Transit's position that it is in substantial compliance with the statutory requirements of the ADA, with the exception of meeting certain bus stop announcement criteria. At year-end 2018, 58% of bus stop announcements were in compliance. MTA New York City Transit is currently rolling out an automated audio-visual announcements system on-board buses. After a successful pilot, MTA New York City Transit is specifying these systems on new buses and retrofitting buses in the current fleet. As of the end of 2018, more than 1,000 buses have the system - 753 retrofits and 319 newly delivered buses. The system has led to better compliance of stop announcements across routes.

MTA New York City Transit continues to implement a program in accordance with State and federal law to install and make 100 stations fully accessible to the disabled (the "Key Station Plan") by the year 2020. As of January 2019, MTA New York City Transit had completed 87 of these Key Stations. MTA New York City Transit also has made vertically accessible an additional 33 stations that are not part of the Key Station Plan (seven of which are accessible in a single direction). Investments in accessibility are continuing, with accessibility projects underway at 25 stations that are under construction and/or funded in approved capital programs (including the remaining 13 Key Stations and 12 additional stations). In November 2015, the FTA released Circular 4710.1 setting forth guidance that, without regard to cost, would expand the circumstances under which vertical access for the disabled would be required when work that affects station stairs and escalators is performed in subway stations. The FTA has applied such guidance as part of its review of ADA accessibility in connection with certain federally funded station projects. MTA cannot predict the full impact of Circular 4710.1 at this time. If MTA New York City Transit were to be required to install elevators in connection with every capital repair or replacement of existing stairs or escalators undertaken without regard to the cost or technical infeasibility of such installation, the result would materially increase the expense of performing necessary component work. MTA estimates that the additional cost of such installation in relation to the projects included in the revised 2015-2019 Capital Program could exceed $1.7 billion.

Commuter System

Environmental. MTA Long Island Rail Road and MTA Metro-North Railroad are required to file annual reports with the NYSDEC identifying areas of environmental concern. MTA Long Island Rail Road and MTA Metro-North Railroad have each incurred and will continue to incur costs of asbestos abatement and lead paint removal on their respective properties. The Commuter Capital Programs allocate funds for, among other matters, asbestos abatement, costs of fuel handling and storage, and wastewater treatment and environmental remediation. MTA Long Island Rail Road and MTA Metro-North Railroad each are required to clean up various conditions on properties they own or operate, and each has established reserves for the clean-up costs.

MTA Long Island Rail Road has completed interim remediation on substations for mercury contamination due to the utilization of mercury rectifiers that were removed during the 1970s. Eighteen substations have been fully remediated as per NYSDEC regulations, with six having received official NYSDEC closure letters. Remediation on the two remaining substations under NYSDEC process oversight is planned for this year. Work continues to progress on all MTA Long Island Rail Road substation remediation projects. State environmental agencies are monitoring the remediation of pollutants at certain MTA Long Island Rail Road and MTA Metro-North Railroad facilities. The extent of pollution, the cost of clean-up and MTA Long Island Rail Road's and MTA Metro-North Railroad's liability, if any, which may be material, cannot be determined at this time.

Access for Persons with Disabilities. MTA Long Island Rail Road and MTA Metro-North Railroad are in substantial compliance with ADA requirements.

MTA Bridges and Tunnels

General. MTA Bridges and Tunnels regularly reviews its facility maintenance programs, both remedial and preventive, and believes the same to be of high quality. MTA Bridges and Tunnels intends to continue its comprehensive inspection and maintenance programs for the MTA Bridges and Tunnels Facilities and to continue to engage independent engineering firms to provide virtually all biennial inspections of its bridge and tunnel facilities. Stantec has reviewed the inspection reports of the bridges and tunnels undertaken by MTA Bridges and Tunnels' engineering consultants.

Environmental. MTA Bridges and Tunnels' Capital Programs incorporate the removal and clean-up of lead paint on its bridges and tunnels in compliance with federal, State and local laws, codes and regulations.

Bridge and Tunnel Inspections. NYSDOT maintains a program of comprehensive bridge and tunnel management, maintenance and inspection applicable to MTA Bridges and Tunnels' bridges and tunnels. That program includes the uniform code for bridge inspection and tunnel inspection, which:

- meets or exceeds applicable federal law;
- requires that bridges and tunnels be inspected at least every two years in accordance with the provisions of that code;
- prescribes qualifications for licensed professional engineers who inspect bridges and tunnels; and
- requires that all bridge and tunnel inspections be performed or supervised by such persons.

Bridge and tunnel inspection reports must be filed with NYSDOT and NYSDOT may close bridges or tunnels found unsafe for public use. MTA Bridges and Tunnels is in compliance with the NYSDOT program.

EMPLOYEES, LABOR RELATIONS AND PENSION AND OTHER POST-EMPLOYMENT OBLIGATIONS

General

The transportation services provided by the Related Entities, as well as related maintenance and support services, are labor intensive. Consequently, the major portion of the Related Entities' expenses consists of the costs of salaries, wages and fringe benefits for employees and retirees.

The employees of MTA and its affiliates and subsidiaries, other than MTA Long Island Rail Road and MTA Metro-North Railroad, are prohibited by the State's Taylor Law from striking. Nevertheless, represented employees of MTA New York City Transit and MaBSTOA engaged in an illegal three-day strike in December 2005. There have been no labor stoppages at MTA Bridges and Tunnels since 1976. The Taylor Law also requires that the TWU Local 100 (and permits other unions) and MTA New York City Transit and MaBSTOA submit a dispute preventing the voluntary resolution of contract negotiations to binding arbitration before a three-member public arbitration panel upon the occurrence of certain events. The three-member panel would be chosen as follows:

one member appointed by MTA, one member appointed by the affected union, and one member appointed jointly by the parties. Almost all of the unions covered by the Taylor Law have elected to be bound by the Taylor Law's binding arbitration provisions.

The employees of MTA Long Island Rail Road and MTA Metro-North Railroad are not subject to the same State prohibition, but are governed by federal railroad employment statutes.

MTA Headquarters

The February Plan assumes 3,098 full time employees for MTA Headquarters as of year-end 2019. As of December 31, 2018, MTA Headquarters had 3,073 full time employees.

- *Police*: MTA Headquarters staff include 739 police officers represented by the Police Benevolent Association ("PBA"), 28 commanding officers, represented by the Commanding Officers Association ("COA"), and 50 clerical/administrative employees represented by the International Brotherhood of Teamsters ("IBT"). Collective bargaining agreements for both unions expired October 14, 2018 and negotiations have begun for successor agreements.

- *Clerical/Administrative*: The labor contract with IBT 808 covering the 50 MTA Police Department and 29 other MTA Headquarters clerical and administrative employees expired on August 31, 2016 and the parties have reached a tentative agreement for the period up through September 30, 2021 that is consistent with the MTA Financial Plan.

- *Business Service Center*: The BSC has 293 employees, approximately 230 of whom are represented by several clerical/administrative unions. The largest such union, representing 203 employees, is the Transportation Communications Union ("TCU"), Local 643 whose contract covers the period from April 1, 2015 through March 31, 2020. By collective bargaining agreement, newly hired TCU-represented employees do not participate in a defined benefit pension plan, but instead are eligible to participate in a 401(k) plan with employer contributions.

- *Information Technology (IT)*: The Information Technology Department consolidated all agency IT functions and positions under MTA Headquarters as of January 1, 2015. There are 982 employees in the IT department, 609 of whom are represented. The two predominant unions are the TCU, Local 982 with 387 members, and TWU Local 100 with 161 members. MTA's agreement with the TCU expires December 31, 2019 and, in many respects, is similar to the BSC agreement, including 401(k) plan participation rather than a defined benefit pension plan for new hires. An agreement was reached with TWU Local 100 that is consistent with the established bargaining pattern and expires July 13, 2019.

Most MTA Headquarters employees, other than MTA police officers and the aforementioned BSC and IT represented employees, are members of the New York State and Local Employees' Retirement System ("NYSLERS"). MTA police officers are members of the MTA Defined Benefit Pension Plan, which has a substantial Net Pension Liability. MTA's policy is to contribute at least the actuarially determined contributions ("ADC") on an annual basis to the plan. ADC contributions for the fiscal year ending December 31, 2018 are set forth in the table below. See also Footnote 4 to the unaudited Combined Financial Statements of MTA for more information relating to the MTA Defined Benefit Pension Plan, as well as the Required Supplementary Information attached.

Plan	ADC Contribution for the Fiscal Year Ending December 31, 2018
MTA Long Island Rail Road Additional Plan	$ 59,195,693
MTA Defined Benefit Pension Plan:	
MTA Long Island Rail Road	$ 114,854,414
MTA Metro-North Railroad	$ 116,843,810
MTA Police Department	$ 36,206,992
MTA Staten Island Railway	$ 6,929,726
MTA Bus	$ 56,730,919
Manhattan and Bronx Surface Operating Authority (MaBSTOA) Pension Plan	$ 202,508,650

There are also 72 employees in the MTA Inspector General's office, none of whom are represented for collective bargaining.

MTA Capital Construction

The February Plan assumes approximately 181 full and part-time employees for MTA Capital Construction as of year-end 2019. As of December 31, 2018, MTA Capital Construction had 181 employees, none of whom are union-represented. All such employees are employees of MTA or other Related Entities.

MTA New York City Transit and MaBSTOA

The February Plan assumes approximately 50,148 full and part-time employees for MTA New York City Transit including MaBSTOA, as of year-end 2019. MTA New York City Transit is comprised of the New York City Transit Authority and its subsidiary, MaBSTOA. As of December 31, 2018, New York City Transit Authority including MaBSTOA had 50,783 employees (full and part-time). 40,570 New York City Transit Authority employees and 7,746 MaBSTOA employees are represented by 13 unions in 24 bargaining units.

Effective January 16, 2017, MTA New York City Transit, MaBSTOA, and MTA Bus entered into a 28-month labor contract agreement with TWU Local 100 which expires May 15, 2019. As of December 31, 2018, approximately 37,477 employees were covered by that agreement, 35,215 of whom were working at MTA New York City Transit or MaBSTOA and 2,262 of whom worked at MTA Bus. Also effective on January 16, 2017, MTA New York City Transit entered into separate 28 month labor agreements with Amalgamated Transit Union ("ATU") Locals 1056 and 726 which also expire May 15, 2019. The ATU Locals 1056 and 726 represent 3,505 employees. See "FINANCIAL PLANS AND CAPITAL PROGRAMS—Subsequent Developments" in Part 2 for more information.

The Subway Surface Supervisors Association ("SSSA") represents 4,097 employees whose contract expired on March 31, 2018. Negotiations for a successor agreement are continuing. The Transit Supervisors Organization ("TSO") TWU Local 106 Operating and Queens Divisions, represent 659 employees whose contracts expired on August 31, 2018, and the TSO Subways Station Supervisors Level II represents 27 employees whose contract expired on April 15, 2018. MTA New York City Transit, under specified terms of certain expired contracts whose terms and conditions, by law, remain in effect, has budgeted for wage increases to its clerical employees in line with the City-wide bargaining pattern for clerical employees up through July 2, 2017. See "FINANCIAL PLANS AND CAPITAL PROGRAMS—Subsequent Developments" in Part 2 for more information.

Certification petitions have been submitted to PERB by various unions seeking to represent certain MTA New York City Transit and MaBSTOA employees. Specifically:

- In November, 2017, United Transit Leadership Organization ("UTLO") was certified by PERB as the exclusive collective bargaining representative for MTA New York City Transit and MaBSTOA employees in the titles of Assistant General Superintendent and Superintendent in the Department of

Buses. An initial collective bargaining agreement was reached. That agreement expires June 30, 2019.

- The parties have partially resolved the UTLO's pending petition to represent the Deputy Superintendent, Superintendents and General Superintendents in the Department of Subways and the supporting departments. In December 2018, to facilitate the Stations reorganization, the Parties agreed to the inclusion of employees in the new Group Station Superintendent title (approximately 47 as of the date of settlement) and the exclusion of employees in the new Group Station Manager title. The parties are discussing settlement of the remainder of the petitions that would include the Deputy Superintendents and the majority of the Superintendents (approximately 442) and exclude from union representation superintendent and all the General Superintendent positions (approximately 134).

- TSO petitioned to represent certain MTA New York City Transit and MaBSTOA employees in the title of Maintenance Supervisor II. Following an election, PERB certified the TSO as the exclusive bargaining representative for this group of approximately 310 employees. Subsequently, the parties reached an agreement on an initial collective bargaining agreement covering the term August 1, 2017 to January 7, 2018. Negotiations for a successor agreement are continuing.

- TWU Local 100 represents approximately 500 MaBSTOA employees working in a number of titles in the Staff Analyst title series. Their collective bargaining agreement expires July 13, 2019.

- TWU Local 100 petitioned MaBSTOA to represent approximately 65 employees in the titles of Transportation Planner, Principal Transportation Planner, Assistant Transportation Planner and Senior Transportation Planner title series. On November 7, 2018, MaBSTOA and TWU Local 100 reached an agreement to place these titles into the existing TWU Local 100 Staff Analyst Unit. TWU Local 100 petitioned MaBSTOA to represent approximately 82 employees in the titles of Associate Transit Customer Service Specialist 1, Associate Transit Customer Service Specialist 2 and Scheduler title series. On April 25, 2018 TWU Local 100 was certified by PERB as the collective bargaining representative for employees of MaBSTOA in the titles of Associate Transit Customer Service Specialist 1 and Associate Transit Customer Service Specialist 2, thereby resolving this petition. By Agreement dated May 30, 2018, between MaBSTOA and TWU Local 100 these titles were placed into the existing TWU Local 100 Staff Analyst Unit. Most employees of MTA New York City Transit are members of the New York City Employees' Retirement System ("NYCERS"). Most employees of MaBSTOA participate in an MTA separately funded pension plan that offers benefits similar to NYCERS. As of January 1, 2018, 8,686 active employees and 5,780 retirees participated in the MaBSTOA Pension Plan. As of January 1, 2018 the plan's Net Pension Liability was $757.5 million and the funding ratio was 79.4%. MTA New York City Transit and MaBSTOA's policy is to contribute at least the ADC on an annual basis to the plan. See Footnote 6 to the Consolidated Financial Statements of MTA New York City Transit for more information. See also the Required Supplementary Information attached to the unaudited Combined Financial Statements.

- TWU Local 100 petitioned MaBSTOA to represent approximately 14 employees in the titles of Senior Training Development Specialist Levels I, II and II, Press Operator Levels I, II and III, Bookbinder and Supervising Bookbinder. On October 24, 2018 TWU Local 100 was certified by PERB as the collective bargaining representative for employees of MaBSTOA in these titles. The parties are in discussions regarding unit placement.

MTA Bus

The February Plan assumes approximately 3,915 full and part-time employees for MTA Bus, as of year-end 2019. As of December 31, 2018, MTA Bus had 3,981 employees (full and part-time), 3,832 of whom are represented by five unions in six bargaining units. MTA Bus has a contract with TWU Local 100 covering 2,262 of its represented employees effective through May 15, 2019.

Negotiations over the expired MTA Bus contract with ATU Local 1179 reached an impasse and proceeded to arbitration. On May 31, 2018, an Impasse Arbitration Award was issued covering the period from May 13, 2012 to October 31, 2019. On July 15, 2018, MTA ratified an agreement with ATU Local 1181 which also expires on October 31, 2019 and mirrors that award. Both are in line with the TWU pattern. Combined, these locals represent approximately 1,070 employees. Similarly, negotiations over the expired TWU Local 106 contract affecting 322 employees proceeded to impasse arbitration and an award covering the period up through August 31, 2018 was issued, also consistent with the TWU pattern.

On November 6, 2017 UTLO was certified as the exclusive bargaining representative by PERB for approximately 94 MTA Bus employees in the titles of Assistant General Superintendent and Superintendent assigned to the Department of Buses. An initial collective bargaining agreement was reached which expires June 30, 2019. The employees of the companies that formerly operated the City Bus Routes participated in a number of different pension plans. MTA, on behalf of MTA Bus, has amended the MTA Defined Benefit Pension Plan to include retirement programs which replicate the benefits provided by the prior plans. MTA Bus's policy is to contribute at least the ADC on an annual basis to the plan. See Footnote 4 to the unaudited Combined Financial Statements of MTA for more information relating to the MTA Defined Benefit Pension Plan, as well as the Required Supplementary Information attached. An arbitration decision dated November 17, 2016 awarded increases in the pension/credit multiplier for TWU represented employees from \$105 paid per month per year of creditable service to \$130 per month per year of creditable service, with subsequent increases tied to wage increases. The cost of that portion of the pension increase in excess of the TWU pattern (\$15 per month) must be funded as part of a consolidated MTA New York City Transit/MaBSTOA/MTA Bus labor contract with the TWU.

On June 21, 2017 the MTA Board voted to amend the MTA Defined Benefit Pension Plan to provide most MTA Bus non-represented employees with a pension consisting of a flat rate of \$115 per month per year of service up to January 1, 2017, plus a final average salary component with a formula based on job title and date of hire, for years of service commencing January 2, 2017. The final average salary component is similar to that provided to similarly situated MaBSTOA employees. Employees represented by the UTLO are covered by the program.

MTA Staten Island Railway

The February Plan assumes 336 full and part-time employees for MTA Staten Island Railway as of year-end 2019. As of December 31, 2018, MTA Staten Island Railway had 356 employees, 308 of whom are represented by four different unions. SIRTOA has contracts with the Sheet Metal, Air, Rail and Transportation Workers International Association, Local 1440 (formerly the United Transportation Union) covering 245 of its represented employees that expires on April 16, 2019; the American Train Dispatchers Association covering 11 represented employees whose contract expired on December 16, 2016; the TCU covering 27 represented employees whose contract expired on April 16, 2019; and the SSSA covering 17 represented employees whose contract expired on February 15, 2017. Negotiations for successor agreements, where applicable, are ongoing.

SSSA petitioned to represent MTA Staten Island Railway employees in the title of Supervisor Maintenance, Supervisor Car Equipment (mechanical), Supervisor Electrical Maintenance, Supervisor Electronic Maintenance, Supervisor Power/Signals, Supervisor Timekeeping, and Supervisor Operational Support. PERB has certified SSSA as the exclusive negotiating agent for this unit of 11 employees. An initial collective bargaining agreement was reached on February 25, 2017. Negotiations for a successor agreement are continuing.

SSSA petitioned to represent MTA Staten Island Railway employees in the titles of Assistant Transit Management Analyst Level I, Assistant Transit Management Analyst Level II, Transit Management Analyst Trainee and Associate Transit Management Analyst. It is anticipated that PERB will certify SSSA as the exclusive negotiating agent for this unit of 7 employees.

Employees of MTA Staten Island Railway are members of the MTA Defined Benefit Pension Plan, with benefits similar to that which NYSLERS offers to Tier 4 members. MTA Staten Island Railway's policy is to contribute at least the ADC on an annual basis to the plan. See Footnote 4 to the unaudited Combined Financial Statements of MTA for more information relating to the MTA Defined Benefit Pension Plan, as well as the Required Supplementary Information attached.

Commuter System

MTA Long Island Rail Road.

The February Plan assumes approximately 7,852 full-time employees for MTA Long Island Rail Road as of year-end 2019. As of December 31, 2018, MTA Long Island Rail Road had approximately 7,571 employees. Approximately 6,692 of the MTA Long Island Rail Road employees are represented by 10 different unions in 18 bargaining units. MTA Long Island Rail Road has reached agreement with all of its unions, those agreements becoming amendable effective April 16, 2019.

MTA Metro-North Railroad.

The February Plan assumes 7,135 full and part-time employees for MTA Metro-North Railroad as of year-end 2019. As of December 31, 2018, MTA Metro-North Railroad had 6,700 employees, 5,575 of whom were represented by 10 different unions in 25 bargaining units. MTA Metro-North Railroad has reached agreement with about 70% of the represented workforce during the 2017-2019 bargaining round. With the exception of one additional group of employees recently recognized as a sub-bargaining unit within an existing union, all contracts covering MTA Metro-North Railroad's remaining represented workforce, while now considered "amendable" under the Railway Labor Act, continue in effect.

Both MTA Long Island Rail Road and MTA Metro-North Railroad supplement benefits provided under the Federal Railroad Retirement Act through other pension plans. The post-1987 employees of MTA Long Island Rail Road and almost all of the employees of MTA Metro-North Railroad participate in the MTA Defined Benefit Pension Plan.

As of January 1, 2018, pre-1988 MTA Long Island Rail Road retired employees numbering 5,863 and current employees numbering 84 participated in The Long Island Rail Road Company Pension Plan and The Long Island Rail Road Company Plan for Additional Pensions. The Long Island Rail Road Company Pension Plan was merged into the MTA Defined Benefit Pension Plan in 2006 and consequently the Unfunded Actuarial Accrued Liability for that Plan is now reported under the MTA Defined Benefit Pension Plan. In the case of the Long Island Rail Road Plan for Additional Pensions, significant portions of the estimated obligations are currently unfunded. As of January 1, 2018, the total Net Pension Liability was $520.5 million and the funded ratio was 64.6%. Starting in 2004, MTA Long Island Rail Road has been amortizing these costs over 29 years.

As of January 1, 2018 the Net Pension Liability for the MTA Defined Benefit Plan was $1,021.3 million with a funded ratio of 79.9%. The cost of this Net Pension Liability is allocated to all participating MTA agencies, including MTA Long Island Rail Road and MTA Metro-North Railroad.

See Footnote 4 to the unaudited Combined Financial Statements of MTA for more information on the pension plans, as well as the Required Supplementary Information attached.

MTA Bridges and Tunnels

The February Plan assumes approximately 1,499 full and part-time employees for MTA Bridges and Tunnels as of year-end 2019. As of December 31, 2018, MTA Bridges and Tunnels had 1,497 employees, 947 of whom were represented by four different unions.

MTA Bridges and Tunnels' most recent contract with DC 37 Local 1931, representing 333 maintenance employees, expired January 14, 2018. Negotiations are underway for a new agreement.

The effective term of the Interest Arbitration Award issued July 17, 2014 for the Bridge and Tunnel Officers Benevolent Association representing 421 officers expired on May 17, 2012. Negotiations for a new agreement are in mediation.

The term of the agreement with the Superior Officers Benevolent Association ("SOBA") representing 153 supervisory officers expired March 14, 2012. Negotiations are underway for a new agreement.

The agreement with DC 37 Local 1655, which represents approximately 27 clerical employees expired July 2, 2017. The agreement is consistent with the pattern set by the DC 37 Citywide agreement for the same period. Negotiations for a successor agreement are underway.

Substantially all of MTA Bridges and Tunnels' employees are eligible to be members of NYCERS and MTA Bridges and Tunnels is required to make significant annual contributions on a current basis. See Footnote 7 to MTA Bridges and Tunnels' financial statements for more information.

Interrelationship of Various Pension Plans

The Related Entities sponsor and participate in a number of pension plans for their employees. The pension plans have separately issued financial statements that are publicly available and contain descriptions and supplemental information regarding their respective employee benefit plan. These statements may be obtained by contacting the administrative office listed for such pension plan in MTA's unaudited financial statements annexed hereto.

The following is a brief summary of the pension plans. More detailed information is set forth in Footnote 4 of, and the required supplementary information – schedules of pension funding progress attached to, MTA's unaudited financial statements annexed hereto:

- Single-Employer Pension Plans
    - MTA Long Island Rail Road Plan for Additional Pensions – provides retirement, disability and death benefits to plan members and beneficiaries for employees hired prior to January 1, 1988. No new participants can be covered by this plan. As of January 1, 2018, this plan was 64.6% funded.
    - The Metro-North Commuter Railroad Company Cash Balance Plan – covers non-collectively bargained employees, formerly employed by Conrail, who joined MTA Metro-North Railroad as management employees between January 1 and June 30, 1983, and were still employed as of December 31, 1988. Effective January 1, 1989, these management employees were covered under the Metro-North Commuter Railroad Defined Contribution Plan for Management Employees and the Cash Balance Plan was closed to new participants. As of January 1, 2018, this plan was 99.01% funded.
    - Manhattan and Bronx Surface Transit Operating Authority Plan – provides retirement, disability, cost-of-living adjustments and death benefits to plan members and beneficiaries that are similar to those benefits provided by NYCERS to similarly situated MTA New York City Transit employees. As of January 1, 2018, this plan was 79.4% funded.
- Cost-Sharing Multiple-Employer Plans
    - MTA Defined Benefit Plan – includes certain MTA Long Island Rail Road non-represented employees hired after December 31, 1987, MTA Metro-North Railroad non-represented employees, certain employees of the former MTA Long Island Bus hired prior to January 23, 1983, MTA Police, MTA Long-Island Rail Road represented employee's hired after December 1, 1987, certain MTA Metro-North Railroad represented employees, MTA Staten Island Railway represented and non-represented employees and certain employees of MTA Bus Company. As of January 1, 2018, this plan was 78.2% funded.
    - NYCERS – MTA New York City Transit and MTA Bridges and Tunnels contribute to NYCERS, a cost-sharing multiple-employer retirement system for employees of the City and certain other governmental units that provides pension benefits to retired employees based on

salary and length of service. MTA New York City Transit and MTA Bridges and Tunnels are current in their actuarially determined contributions.

- NYSLERS – a cost-sharing multiple-employer plan for employees of New York State and certain other governmental units that has as members certain employees of MTA Headquarters who were hired after January 23, 1983 and certain employees of MTA Capital Construction. MTA and MTA Capital Construction are current in their actuarially determined contributions.

- New York State Voluntary Defined Contribution Program – Certain employees may choose to participate in this multi-employer plan sponsored by the State University of New York instead of participating in NYCERS or NYSLERS. As of December 31, 2018, 147 employees opted to participate. Participating employers make annual contributions of 8% of eligible compensation and the employee is vested after one year of service.

- Deferred Compensation Plans - the Related Entities offer employees the ability to contribute to one or both of two defined contribution plans (an Internal Revenue Code Section 457 Plan and an Internal Revenue Code Section 401(k) Plan) that provide benefits based on the amount contributed to each participant's account, plus or minus any income, expenses and investment gains/losses. MTA Bus, on behalf of certain MTA Bus employees, MTA Metro-North Railroad, on behalf of certain MTA Metro-North Railroad employees who opted-out of participation in the MTA Defined Benefit Pension Plan and MTA, on behalf of certain represented MTA BSC employees and on behalf of certain MTA Police Officers and MTA Commanding Officers, make contributions to the 401(k) Plan. The rate for the employer contribution varies.

  - MTA Bus - Certain members who were employed by Queens Surface Corporation on February 26, 2005, and who became employees of MTA Bus on February 27, 2005, receive a matching contribution equal to 50% of a participating member's before-tax contributions, provided that the maximum matching contribution will not exceed 3% of such member's base pay. MTA Bus also makes a basic contribution equal to 2% of a participating member's compensation. Participating members shall vest in the amount in member's account attributable to the matching contributions and basic contributions as set forth in the following table:

Years of Service	Vested Percentage
Less than 2	0%
2	20
3	40
4	60
5	80
6 or more	100

    As of 2019, there are no employees eligible to receive employer contributions.

  - MTA Metro-North Railroad – Employees represented by certain unions who elected to opt-out of participation in the MTA Defined Benefit Pension Plan receive an annual employer contribution equal to 4% of such employee's compensation. Effective on the first full pay period following the nineteenth anniversary date of an eligible MTA Metro-North Railroad member's continuous employment, MTA Metro-North Railroad contributes an amount equal to 7% of such member's compensation. MTA Metro-North Railroad members vested in these employer contributions upon the completion of five years of service.

  - MTA Headquarters – Police – For each plan year, MTA makes contributions to the account of each eligible MTA Police Benevolent Association and Commanding Officers Association member in the amounts required by the relevant collective bargaining agreement and subject to the contribution limits set forth in such agreement. These monthly contributions shall be considered MTA Police Department contributions. Members are immediately 100% vested in these employer contributions.

- MTA Headquarters – Business Services – Effective January 1, 2011, all newly hired MTA Business Services Center employees represented by the TCU are eligible to receive a matching contribution, up to a maximum of 3% of the participant's compensation through March 30, 2017. Effective March 31, 2017, employees represented by the TCU are eligible to receive a matching contribution, up to a maximum of 4% of the participant's compensation. Effective March 31, 2018, employees represented by the TCU are eligible to receive a matching contribution, up to a maximum of 5% of the participant's compensation A participant's right to the balance of his or her matching contributions will vest upon the first of the following to occur: (1) completing five years of service, (2) attaining the retirement age of 62 while in continuous employment, or (3) death while in continuous employment.

OPEB

In addition to pensions, the MTA Retiree Welfare Benefits Plan (the "OPEB Plan") and the related Trust Fund were established effective January 1, 2009 for the exclusive benefit of the retirees of the Related Entities and certain retirees of the former Metropolitan Suburban Bus Authority ("MTA LI Bus") to fund some of the OPEB benefits provided in accordance with MTA's various collective bargaining agreements and MTA policies. The OPEB Plan adopted GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans* ("GASB 74"). GASB 74 establishes financial reporting standards of State and Local governmental OPEB plans. This statement replaces GASB Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. MTA's unaudited financial statements are in compliance with GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, which replaced GASB Statement No. 45, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. GASB 75 applies to state and local government employers that sponsor OPEB. Information relating to OPEB disclosure is set forth in Footnote 5 to the unaudited Combined Financial Statement of MTA.

As of December 31, 2017, the OPEB trust held $370.4 million in net assets.

INSURANCE

General

MTA's Department of Risk and Insurance Management ("MTA RIM") is responsible for administering the insurance programs for the Related Entities, including obtaining insurance. Marsh, USA serves as MTA's master insurance broker and Marsh Management Services, Inc. acts as the captive manager for FMTAC.

The insurance needs of the Related Entities vary. One of the biggest differences relates to how employees are covered for injuries on the job. The recovery by employees of the Related Entities other than the commuter railroads and the MTA Police Department who get injured on the job is limited by the State workers' compensation law. Recoveries by employees of the commuter railroads and the MTA Police Department are governed by federal law, and are not limited by State law, and, consequently, they can sue for damages under the Federal Employers Liability Act if they are injured on the job.

The Related Entities maintain insurance coverage through MTA's captive insurance company subsidiary, FMTAC, and through the commercial marketplace. MTA RIM, which also serves as the staff of FMTAC, sets the insurance premiums for the Related Entities at levels that are expected to be sufficient to purchase the commercial insurance or reinsurance, or permit FMTAC to pay the claims and costs for claims administration. Since its creation, FMTAC, with funding from the Related Entities, has assumed greater responsibility for the direct insurance and reinsurance risk of the Related Entities.

FMTAC is licensed in the State as both a direct insurer and as a reinsurer. When FMTAC is a direct insurer, it may reinsure all or a portion of its potential liabilities with commercial reinsurers. FMTAC retains independent entities to handle the claims administration process. FMTAC may deposit certain of its assets in trust with third parties in order to secure its insurance or reinsurance obligations under some of the insurance policies.

New York State Department of Financial Services ("NYSDFS") regulations require that every captive insurance company licensed in the State be audited by State regulators every three to five years for compliance with State regulations and generally accepted accounting standards. FMTAC's second audit covering the period from January 1, 2004 to December 31, 2010 was completed during 2012 and a favorable sign-off from the State Insurance Department was received on August 2, 2012. FMTAC's third audit covering the period from January 1, 2011 to December 31, 2015 was completed during 2017 and a favorable sign-off from the NYSDFS was received on January 29, 2019.

The major insurance policies are maintained for the benefit of the Related Entities, and the expiration dates of such policies are set forth in the following chart:

Insurance Program	Expiration Date
Property Insurance	May 1, 2019
Commuter Stations and Force Liability	December 15, 2019
FMTAC Excess Loss Fund	October 31, 2019
Commercial Excess Liability Policy	October 31, 2019
All Agency Protective Liability	June 1, 2019
Paratransit and Non-Revenue Vehicle Policies	March 1, 2020
Premises Liability	December 7, 2019
Builder's Risk	Various
Owner Controlled Insurance Programs	Various

Property Insurance Program

Property Insurance. Effective May 1, 2018, FMTAC renewed the all-agency property insurance program. For the annual period commencing May 1, 2018, FMTAC directly insures property damage claims of the Related Entities in excess of a $25 million per occurrence deductible, subject to an annual $75 million aggregate deductible. The total All Risk program annual limit is $675 million per occurrence and in the annual aggregate for Flood and Earthquake covering property of the Related Entities collectively. FMTAC is reinsured in the domestic, Asian, London, European and Bermuda reinsurance markets for this coverage. Losses occurring after exhaustion of the deductible aggregate are subject to a deductible of $7.5 million per occurrence. The property insurance policy provides replacement cost coverage for all risks (including Earthquake, Flood and Wind) of direct physical loss or damage to all real and personal property, with minor exceptions. The policy also provides extra expense and business interruption coverage.

Supplementing the $675 million per occurrence noted above, FMTAC's property insurance program has been expanded to include a further layer of $125 million of fully collateralized earthquake coverage for an event of a certain index value and for storm surge coverage for losses from storm surges that surpass specified trigger levels in the New York Harbor or Long Island Sound and are associated with named storms that occur at any point in the three-year period from May 23, 2017 to April 30, 2020. The expanded protection is reinsured by MetroCat Re Ltd. 2017-1, a Bermuda special purpose insurer independent from MTA and formed to provide FMTAC with capital markets based property reinsurance. The MetroCat Re Ltd. 2017-1 reinsurance policy is fully collateralized by a Regulation 114 trust invested in U.S. Treasury Money Market Funds. The additional coverage provided is parametric and available for storm surge losses resulting from a storm that causes water levels that reach the specified index values, and also for an earthquake event of a certain index value.

With respect to acts of terrorism, FMTAC provides direct coverage that is reinsured by the United States Government for 81% of "certified" losses in 2019 and 80% of "certified" losses in 2020, as covered by the Terrorism Risk Insurance Program Reauthorization Act ("TRIPRA") of 2015. The remaining 19% (2019) and 20% (2020) of the Related Entities' losses arising from an act of terrorism would be covered under the additional terrorism policy described below. No federal compensation will be paid unless the aggregate industry insured losses exceed a trigger of $180 million in 2019 and $200 million in 2020. The United States government's reinsurance is in place through December 31, 2020.

To supplement the reinsurance to FMTAC through the TRIPRA, MTA obtained an additional commercial reinsurance policy with various reinsurance carriers in the domestic, London and European marketplaces. That policy provides coverage for (1) 19% of any "certified" act of terrorism up to a maximum recovery of $204.3 million for any one occurrence and in the annual aggregate during 2019 and 20% of any "certified" act of terrorism up to a maximum recovery of $215 million for any one occurrence and in the annual aggregate during 2020, (2) the TRIPRA FMTAC captive deductible (per occurrence and on an aggregated basis) that applies when recovering under the "certified" acts of terrorism insurance or (3) 100% of any "certified" terrorism loss which exceeds $5 million and less than the $180 million TRIPRA trigger up to a maximum recovery of $180 million for any occurrence and in the annual aggregate during 2019 or 100% of any "certified" terrorism loss which exceeds $5 million and less than the $200 million TRIPRA trigger up to a maximum recovery of $200 million for any occurrence and in the annual aggregate during 2020.

Additionally, MTA purchases coverage for acts of terrorism which are not certified under TRIPRA to a maximum of $204.3 million in 2019, and $215 million in 2020. Recovery under the terrorism policy is subject to a deductible of $25 million per occurrence and $75 million in the annual aggregate in the event of multiple losses during the policy year. Should the Related Entities' deductible in any one year exceed $75 million future losses in that policy year are subject to a deductible of $7.5 million. The terrorism coverages expire at midnight on May 1, 2020.

Commuter Stations and Force Liability

- Commuter Station Liability Insurance. FMTAC directly insures MTA Long Island Rail Road and MTA Metro-North Railroad under the stations policy, which covers third party liability, bodily injury and property damage and personal injury at commuter rail passenger stations, including moving train hazards while confined to the station area, and includes elevators, escalators, platforms, appurtenances, land, approaches and parking lots, if they are owned by the Related Entities. These policies insure up to the Self-Insured Retention set forth in the table included under the caption "FMTAC Excess Loss Fund" below per occurrence with no aggregate stop loss protection.

- Commuter Force Account Insurance. FMTAC directly insures MTA Long Island Rail Road and MTA Metro-North Railroad under the force account policy, which covers third party liability, physical damage and medical payments on commuter rail force account work (i.e., employees of the commuter railroads in the course of doing work for the benefit of the Related Entities) reimbursed by others. These policies insure up to the Self-Insured Retention set forth in the table included under the caption "FMTAC Excess Loss Fund" below per occurrence with no aggregate stop loss protection.

- The cost of the stations insurance is factored into the level of station maintenance payments required to be paid by the City and the counties in the MTA Commuter Transportation District. See "REVENUES OF THE RELATED ENTITIES – Financial Assistance and Service Reimbursements from Local Municipalities – *Commuter System Station Maintenance Payments*" in Part 2.

On December 15, 2015, FMTAC increased the primary coverage on the Station Liability and Force Account liability policies from $10 million to $11 million for MTA Metro-North Railroad and MTA Long Island Rail Road.

FMTAC Excess Loss Fund

FMTAC operates an Excess Liability Fund ("ELF") insurance program that insures certain claims in excess of the self-insured retention limits of the agencies on both a retrospective (claims arising from incidents that occurred before October 31, 2003) and prospective (claims arising from incidents that occurred on or after October 31, 2003) basis. The self-insured retention limits, by agency, are set forth in the table below. The maximum amount of claims arising out of any one occurrence is the total assets of the ELF program available for claims, but in no event greater than $50 million. The retrospective portion contains the same insurance agreements, participant retentions, and limits as existed under the ELF for occurrences happening on or before October 30, 2003. On a prospective basis, FMTAC issues insurance policies indemnifying MTA and the other Related Entities above their specifically assigned self-insured retention with a limit of $50 million per occurrence and a $50 million annual aggregate. FMTAC charges appropriate annual premiums based on loss experience and exposure analysis to maintain the fiscal viability of the program. Based on actuarial review and analysis of agencies' underlying losses, the Excess Loss premium for the policy period October 31, 2018 – October 31, 2019 was $14 million. For the next renewal period, a similar analysis will be conducted and appropriate premium charges will be determined. On December 31, 2018, the balance of the assets in this program was $152 million.

	Self-Insured Retention (in millions of dollars)			
Related Entity	10/31/06 - 10/31/09	10/31/09 - 10/31/12	10/31/12 - 10/31/15	10/31/15 to Present
MTA New York City Transit MaBSTOA MTA Long Island Rail Road MTA Metro-North Railroad MTA Bus	$8	$9	$10	$11
MTA Staten Island Railway MTA Metropolitan Suburban Bus Authority *	$2.3	$2.6	$3	$3.2
MTA Bridges and Tunnels MTA Headquarters	$1.6	$1.9	$2.6	$3.2

MTA also maintains an All-Agency Excess Liability Insurance Policy that affords MTA and the other Related Entities additional coverage limits of $350 million, for a total limit of $400 million ($350 million in excess of $50 million). In certain circumstances, when the assets in the ELF program are exhausted due to payment of claims, the All-Agency Excess Liability Insurance Policy will assume the coverage position of $50 million.

During 2018 and to date, the ELF program has paid approximately $3.6 million, as the ELF's share of settlements exceeded MTA New York City Transit's self-insured retention for two losses, one on August 16, 2004 and the other on July 11, 2010.

The following are pending cases and claims that could result in payments under this liability policy in excess of agency retentions, as well as certain noted claims that closed in the past year without payment from the excess loss fund:

- *MTA Metro-North Railroad Valhalla*. An incident occurring on February 3, 2015, when a MTA Metro-North Railroad Harlem Line train struck an automobile in a highway-rail grade crossing between the Valhalla and Hawthorne stations, is also resulting in assertion of personal injury claims against the railroad. The driver of the automobile and five passengers on the train were killed. A number of passengers, and the train engineer, were injured. The National Transportation Safety Board ("NTSB") adopted its report on the causes of the accident on July 25, 2017, finding the probable cause of the accident was that the driver of the automobile, for undetermined reasons, moved the vehicle on to the tracks while the Commerce Street highway-railroad grade crossing warning system was activated, into the path of an MTA Metro-North Railroad train. Contributing to the accident was the automobile driver: (1) stopping beyond the stop line, within the boundary of the highway-railroad grade crossing, despite warning signs indicating the approach to the grade crossing and (2) reducing the available time to clear the grade crossing by exiting the vehicle after the grade crossing warning system activated because the driver's attention was diverted by the grade crossing warning system

* The MTA subsidiary Metropolitan Suburban Bus Authority discontinued its provision of transportation services at the end of 2011. Its activities are limited to the winding up of its affairs. FMTAC excess loss coverage remains in place only with respect to claims arising out of MTA LI Bus incidents which occurred on or before December 31, 2011.

crossing gate arm striking her vehicle. Contributing to the severity of the accident was the third rail penetrating the passenger compartment of the lead passenger railcar and the post-accident fire. While there is no indication from the NTSB's findings that MTA Metro-North Railroad was at fault in connection with this incident, 37 lawsuits have been filed to date against MTA Metro-North Railroad, many of which name other defendants as well. Notwithstanding MTA Metro-North Railroad's position that it has no responsibility for this incident, if plaintiffs are successful in their claims against MTA Metro-North Railroad, damages could exceed the self-insured retention and impact the FMTAC and excess layers of insurance.

- *MTA Long Island Rail Road - Atlantic Terminal Bumper Block Strike*. An incident occurred on January 4, 2017 when an MTA Long Island Rail Road Far Rockaway Line train struck a bumper block in the Atlantic Terminal-Brooklyn Station. This incident resulted in 173 injury claims to date, which include 11 employee FELA claims. To date, 122 claims have been put into suit. At this time, there does not appear to be any catastrophic injuries stemming from this incident, with the worst injuries seen so far are bone fractures and various trauma to the head/neck. The NTSB conducted an investigation and issued a Special Investigation Report at the NTSB Public Meeting of February 6, 2018. If plaintiffs are successful in their claims against MTA Long Island Rail Road, damages could impact FMTAC and excess layers of insurance. MTA Long Island Rail Road has paid $1.4 million in expenses and settlement payments to date, with $5.3 million in open reserves. Per MTA Long Island Rail Road's Safety Department, MTA Long Island Rail Road sustained damages of approximately $6 million.

- *MTA Long Island Rail Road—New Hyde Park Collision*. On October 8, 2016 while the MTA Long Island Rail Road was conducting track work east of the New Hyde Park Station on track placed out of service, a piece of track equipment derailed fouling live track and was struck by a train carrying passengers, causing the passenger train to derail. Numerous passengers and several employees were injured due to this accident. The FRA, along with MTA/MTA Long Island Rail Road, conducted investigations into this matter. There are a total of 72 claims to date related to this accident: 57 are passenger injuries, eight are employee injuries and the remaining are property damage claims. At this time only 32 lawsuits have been filed against MTA/ MTA Long Island Rail Road. The majority of the personal injury claims appear to be soft-tissue, with a few fractures and PTSD claims. The most seriously injured claimant allegedly sustained two fractured legs, requiring five surgeries to date. That claim has a reserve of $8 million. The current total outstanding claim reserves are $10.6 million. FMTAC has paid $6.1 million in settlements to date, including damage to MTA Long Island Rail Road property. The derailment caused damage to three passenger cars, the track area and the track equipment involved. That figure includes the damage to the train equipment and stabilizer, which will be decommissioned. The FRA has concluded its investigation and issued a report. Based on information available to date, if all of the injury claims are litigated, and were determined in a manner adverse to MTA Long Island Rail Road, the liability exposure, in the aggregate, could exceed the agency's Force Account insurance limit of $11 million and may impact the FMTAC excess loss fund.

- *Niurka Andino v. MTA New York City Transit*. The plaintiff, a New York City Police Department police officer, was injured on August 16, 2004 when the police vehicle in which she was a passenger collided with a MTA New York City Transit vehicle at an intersection. Plaintiff sustained knee injuries which have required multiple surgeries and a cervical disc bulge causing numbness on the right side. After the accident, plaintiff returned to work and alternated between full and restricted duty. She received 3/4 disability in 2009. On March 27, 2013, the jury found plaintiff met the serious injury threshold and awarded her $31 million. The ELF program is responsible for any amount in excess of MTA New York City Transit's $7 million SIR up to $50 million. In 2016, partial payment was made in the sum of $6,572,723.70. The ELF program paid $2,647,704.53. This matter will no longer be reported.

- *Thomas Choi a/k/a Kowk Kowngt Choi et al. v. Triborough Bridge and Tunnel Authority*. MTA Bridges and Tunnels was served with a Notice of Claim on behalf of Bridge and Tunnel Officer Thomas Choi and his wife regarding an incident on October 23, 2013, when Officer Choi was struck by a motorist who failed to heed the "closed" sign for the eastbound lower level of the Verrazzano

Narrows Bridge as he was removing orange traffic barrels in the course of his employment. Officer Choi died from his injuries on December 29, 2014. The matter was placed in suit in Supreme Court, Richmond County as a direct action on behalf of Officer Choi against MTA Bridges and Tunnels and MTA. MTA Bridges and Tunnels interposed an answer with appropriate affirmative defenses. Plaintiff's subsequent motion to serve an Amended Complaint alleging wrongful death was granted. The Amended Complaint was served on June 6, 2016, and MTA Bridges and Tunnels interposed an answer to the Amended Complaint with appropriate affirmative defenses and cross-claims. The Amended Complaint alleges wrongful death and invokes General Municipal Law §205-e, which permits actions against property owners by officers injured or killed in the line of duty. After pretrial discovery was completed, MTA Bridges and Tunnels moved for summary judgment based upon the inapplicability of General Municipal Law §205-e to Officer Choi, who was a peace officer, as well as governmental immunity and lack of *respondeat superior* as concerns MTA and oral argument on the motions made by MTA Bridges and Tunnels and the City was held on November 29, 2018 before Justice Marin. Plaintiff did not oppose dismissal of the direct action against MTA Bridges and Tunnels but simply attempted to assert that co-defendant Sanandres has a viable cross claim which has been converted to a third-party claim. Judge Marin rejected that argument and *sua sponte* converted the cross-claim to a third-party action and amended the caption, converting the action to: *Choi v. Sanandres; Sanandres as Third-Party Plaintiff v. TBTA, Third-Party Defendant*. Counsel advises that MTA Bridges and Tunnels' ultimate exposure would be capped at the $50,000 limit payable by co-defendant Sanandres under her policy, which was tendered since case law is clear that where the initial action by plaintiff against his employer was barred as a matter of law, plaintiff may not seek *Dole v. Dow* contribution from the employer through a third-party plaintiff. Additionally, the motion submitted by the City of New York has been granted and the City was dismissed from the action. The court appeared to understand the limitation of potential exposure against MTA Bridges and Tunnels. The settlement conference scheduled for February 1, 2019 has been adjourned without date pending reassignment of the case to another judge. The court may pressure MTA Bridges and Tunnels to waive its Workers' Compensation lien, which is roughly a net recoverable of $30,000.

The potential for total exposure on this claim may exceed $1 million. On the date of the accident, MTA Bridges and Tunnels' self-insured retention was $2.6 million. This case has been reported to ELF, which would be responsible for any amount in excess of the self-insured retention up to the $50 million limit. Ms. Sanandres' policy limit is $50,000. Unless the matter is settled in June, trial is anticipated to take place in mid to late 2019. On the date of the accident, MTA Bridges and Tunnels' self-insured retention was $2.6 million. This case has been reported to the ELF, which would be responsible for any amount in excess of the self-insured retention up to the $50 million limit.

- *DiRusso v Triborough Bridge and Tunnel Authority, et al.* Plaintiff, an employee of Tully Construction subcontractor Welsbach Electric Co., commenced this action in Supreme Court, Kings County, regarding an incident on May 16, 2017. Plaintiff was performing electrical work on a man lift in the Hugh Carey Tunnel when an MTA Bridges and Tunnels vehicle operated by MTA Bridges and Tunnels employee Sean Mullin struck the man lift causing the plaintiff to fall approximately 15' to 20' feet and sustain personal injuries. It is claimed that MTA Bridges and Tunnels was in violation of Labor Law §§200, 240 and 241(6) as well as relevant sections of the New York State Industrial Code and OSHA regulations. MTA Bridges and Tunnels answered the complaint and raised affirmative defenses relative to a Labor Law action and cross claims against Tully Construction and Welsbach Electric Co. The City submitted a motion for summary judgment and it was dismissed from the action via an order of Justice Levine dated August 10, 2018.

  This matter is in the discovery stage. Medical records were received that indicated that plaintiff, who has been out of work since the accident, is framing his damages claim to not only include significant cervical spinal injuries (cervical decompression and cervical fusion with fixative hardware including a spine cage at C5/C6), but a traumatic brain injury, as well, which has affected his cognitive abilities and memory. In addition, records received also indicate that the plaintiff has a lengthy employment history as an electrician with a number of fairly well-known local electrical subcontractors which, in turn, would lead to a significant economic loss claim which will be supported with an economist's expert at the appropriate time. MTA Bridges and Tunnels' tender requests to Arch Insurance

Company, the carrier for Tully Construction, and to CNA, the carrier for Welsbach Electric, have been denied.

MTA Bridges and Tunnels will most likely be found liable by operation of Labor Law §§240 & 241(6). There will also be significant questions as to whether MTA Bridges and Tunnels was the sole proximate cause of the occurrence by and through the operation of its vehicle which struck the man lift that the plaintiff was working on which, in turn, may adversely affect the prosecution of MTA Bridges and Tunnels' cross-claims against Tully Construction and Welsbach Electric Co. There will also be questions as to the responsibilities of Tully Construction and Welsbach Electric Co., given that an Investigative Report from Tully Construction indicates that Welsbach Electric Co., failed to set up the work zone in a proper fashion thereby being "a cause" of the occurrence.

On the date of the incident, MTA Bridges and Tunnels' self-insured retention was $3.2 million. The case has been reported to the ELF, which would be responsible for any amount in excess of the self-insured retention up to the $50 million limit.

- *Rooney v. LI Bus*. This matter involves a 49-year-old pedestrian who was struck by a bus of the MTA LI Bus on November 15, 2011 at the MTA LI Bus Hempstead Terminal. He sustained fractures to his pelvis, right leg, right hip and left clavicle, underwent multiple surgeries and will be required to use a colostomy bag permanently. An action was commenced in Supreme Court, Nassau County on May 16, 2012. The matter settled at mediation for $600,000 in May 2018 within the MTA LI Bus' self-insured retention. This matter will no longer be reported.

- *Cabassa v NYCTA*. The matter concerns a July 11, 2010 subway incident. The plaintiff sustained disfiguring injuries to both legs and multiple fractures when he was dragged along the platform in a Manhattan subway station after getting stuck in the gap between the train and platform. In June 2016, a jury found MTA New York City Transit liable and awarded plaintiff damages in the sum of $19 million. Motions to set aside the jury verdict were denied. MTA New York City Transit will appeal the judgment once entered. On the date of the accident, the MTA New York City Transit's self-insured retention was $9 million. The ELF program is responsible for amounts, in excess of the $9 million self-insured retention up to the $50 million limit. The case settled for $9,800,000, $5,000,000 was paid in 2018 and $4,800,000 was paid in January 2019. The ELF program paid $866,862.37. This matter will no longer be reported.

- *Dion v MTA, NYCTA*. In December 2010 plaintiff was injured when he stepped off the 14th Street platform before the metal gap fillers at the station had fully extended to meet the arriving downtown express train. A jury found MTA New York City Transit 100% at fault and awarded plaintiff $10 million. MTA New York City Transit's post-trial motion to set aside the verdict was partially granted in that the award to plaintiff was reduced from $10 million to $5 million and MTA New York City Transit's percentage of liability was reduced from 100% to 80%. Applying the 80% apportionment of liability to the $5 million award, MTA New York City Transit settled the case for $4,555,000 within the MTA New York City Transit's self-insured retention. This matter will no longer be reported.

- *Bakhayokho v NYCTA*. In June 2010 plaintiff was injured when the MTA New York City Transit bus he was traveling on made contact with the rear end of another vehicle. Plaintiff underwent a cervical fusion and has been recommended to undergo lumbar fusion in the future. MTA New York City Transit was found 100% liable for the accident during pre-trial motion practice. Following a trial on damages only, a jury awarded Plaintiff $27.5 million. The verdict was reduced to $3,500,000, within MTA New York City Transit's self-insured retention. This matter will no longer be reported.

- *Tate-Mitros v NYCTA*. In January 2008 plaintiff was injured when his right foot made contact with the tire of a MTA New York City Transit bus. Plaintiff sustained serious injuries. A jury found MTA New York City Transit 100% liable for the accident and awarded plaintiff $14 million. The verdict was reduced to $4,500,000 and is on appeal. The appeal will be argued in May 2019 and the decision is expected in June 2019. On the date of the accident, MTA New York City Transit's self-insured retention was $8 million.

- *Nickens, Syncire v. NYCTA*. On August 25, 2013, the 11 year-old plaintiff was struck by an MTA New York City Transit bus while riding a bicycle near the intersection of Weldon and Crescent Streets in Brooklyn. Plaintiff claims he was struck after the bus mounted the curb; however, the bus operator denied mounting the curb, and the forensic evidence supports MTA New York City Transit's contention that the contact between the boy and the bus took place in the roadway.

  The plaintiff suffered significant injuries, and will require medical care for the rest of his life. A life-care planner retained by MTA New York City Transit has estimated the cost of future care to amount to $3,196,289.11. Plaintiff's projections are approximately twice as high. The case is now being tried in Supreme Court, Kings County, Justice Wavny Tousaint presiding. MTA New York City Transit believes its liability defense is strong, particularly given the forensic evidence. Nevertheless, the plaintiff plans to call an expert who is willing to testify that plaintiff's account can be reconciled with the physical facts.

  The injuries suffered by the plaintiff are disfiguring, have a significant impact on his ability to function, and are likely to have an impact on any jury.

  Given the potential for a high jury award, the case has been reserved at $8.5 million. Ultimately, the award could exceed the MTA New York City Transit's $10 million self-insured retention and may impact the FMTAC excess loss fund.

- *Robert Liciaga v. NYCTA*. On April 10, 2016, Robert Liciaga, then 23 years old, rode his bike through a cordoned-off construction site beneath the elevated subway line on Broadway in Bushwick, Brooklyn. MTA New York City Transit was removing rotted cross ties and lowering them into a designated "drop zone." Plaintiff was hit by a discarded tie that was dropped from the elevated subway line to the ground, per MTA New York City Transit work protocol. Plaintiff alleges that a MTA New York City Transit worker waved him into the construction site. Plaintiff also alleged that MTA New York City Transit inadequately secured the worksite, allowing him entry into the area where rail ties were being lowered and dropped to the ground.

  Plaintiff sustained severe and permanent injuries, including paraplegia, and is now confined to the Coler long term care facility on Roosevelt Island. According to the plaintiff's experts, he will require life-long care at a more expensive facility.

  A Kings County jury found MTA New York City Transit 100% at fault, and returned the following damage award: $9 million for past pain and suffering, $60 million for future pain and suffering, $1,174,972.32 for past medical expenses, and $40 million for future medical expenses.

  MTA New York City Transit has a number of credible legal challenges to both the liability and damages verdict, and believes it has a reasonable chance of persuading the trial court to order a new trial. If the case is not settled, litigation is likely to continue for at least the next three years. The case has been reported to the ELF which would be responsible for any amount in excess of the $11 million self-insured retention up to $40 million.

- *Infrassure Ltd v. First Mutual Transportation Assurance Company*. MTA and its affiliates and subsidiaries suffered billions of dollars of property damage as a result of Superstorm Sandy. MTA submitted a claim to FMTAC, which in turn submitted a claim to its reinsurers. Over the period November 2012 through May 2017, FMTAC settled its Superstorm Sandy reinsurance claims with every reinsurer except one. The basis of the foregoing reinsurance settlements was the allowance of a claim (i.e., recognized loss of MTA) in the amount of $720 million in excess of the self-insured retention. Accordingly, as of May 2017, FMTAC had collected 100% of the limits of all of the reinsurance it had placed with respect to the first $720 million of coverage under MTA's property policy, but with one exception: FMTAC had not collected any of the reinsurance issued by Infrassure Ltd., a Swiss reinsurer ("Infrassure") that reinsured $20 million of the $720 million allowed claim. The amount of reinsurance collected as of that date totaled approximately $674 million, which fell short of the $720 million allowed claim amount because (a) FMTAC had not purchased reinsurance for certain portions of the property policy, totaling about $26 million with respect to the allowed claim, and (b) Infrassure had not paid the $20 million limit of its policy.

Infrassure ceased issuing insurance in 2014, when it stated that it had commenced runoff status and had become subject to the supervision of the Swiss financial regulatory authority. In 2015, when FMTAC asserted that all of the $20 million limit of Infrassure's reinsurance certificate was due and payable, Infrassure refused to pay any portion of that claim. In 2016, following the conclusion of federal litigation over which of two possible venues for arbitration was applicable to this reinsurance dispute, FMTAC instituted New York-seated arbitration against Infrassure to recover the unpaid $20 million. This arbitration was settled in January 2018 for payment of an undisclosed amount by Infrassure. In addition, MTA and FMTAC entered a final settlement with each other in August, 2017 with respect to all of MTA's claims for insurance from FMTAC arising from Superstorm Sandy. The settlement amount was approximately $694 million, representing 100% of the reinsurance limits that FMTAC had procured with respect to the first $720 million of MTA's property policy for the Superstorm Sandy period. As a result of the August 2017 settlement with MTA and FMTAC's settlements with its reinsurers described in the foregoing, all insurance- and reinsurance-related claims involving FMTAC have been resolved as of this date. In January 2018, FMTAC received the agreed upon settlement payment. This matter will no longer be reported.

- *Fayaz Khan, as Administrator for Rukhasana Khan v MTA Bus.* On September 21, 2015, a female pedestrian was struck by an MTA Bus, causing her to be fatally injured. Suit was commenced in Supreme Court, New York County in December 2016. Discovery is proceeding. MTA Bus intends to vigorously defend this action and cannot predict the outcome of the litigation at this time. On the date of the accident, MTA Bus's self-insured retention was $11 million. This case has been reported to the ELF, which would be responsible for any amount in excess of the self-insured retention up to the $50 million limit.

- *Kang Ying Lin v MTA Bus.* Plaintiff, a pedestrian, claims that she sustained injuries when she was struck by MTA Bus on November 15, 2016. Suit commenced in Supreme Court, Queens County in July 2017. Discovery is proceeding. MTA Bus intends to vigorously defend this action and cannot predict the outcome of the litigation at this time. On the date of the accident, MTA Bus's self-insured retention was $11 million. This case has been reported to the ELF, which would be responsible for any amount in excess of the self-insured retention up to the $50 million limit.

All Agency Protective Liability

- *FMTAC All-Agency Protective Liability Program*. Under the All-Agency Protective Liability Program ("AAPL"), FMTAC directly insures the Related Entities against claims arising out of work performed by independent contractors on capital projects. The policy provides coverage of $2 million per occurrence.

- *FMTAC All-Agency Protective Excess Liability Program*. FMTAC directly insures the Related Entities to provide excess coverage on top of the AAPL. The policy provides coverage of $9 million in excess of $2 million per occurrence, with an $18 million annual aggregate. Any excess is covered by the ELF program.

Paratransit and Non-Revenue Vehicle Policies

- *MTA New York City Transit Paratransit Program*. FMTAC maintains a commercial policy that provides automobile liability coverage for all vendors hired to perform services on behalf of MTA New York City Transit's Access-A-Ride program with policy limits of liability of $2 million per occurrence, excess of a $1 million self-insured retention. On March 1, 2019, the "Access-A-Ride" automobile liability policy program was renewed.

- *MTA Non-Revenue Auto Liability*. This program covers non-revenue vehicles (i.e., administrative and other vehicles not used for the generation of passenger revenues) of MTA Long Island Rail Road, MTA Metro-North Railroad, MTA Staten Island Railway, MTA Police Department, the MTA Inspector General, and MTA Headquarters. FMTAC obtained a commercial policy that provides coverage to the above entities with an $11 million per occurrence combined single limit and a

$500,000 deductible for each accident. On March 1, 2019, the non-revenue fleet automobile liability policy program was renewed with an $11 million per occurrence combined single limit. FMTAC also renewed its $500,000 deductible buy back policy, where it assumes the liability of the agencies for their deductible.

- The paratransit program and non-revenue auto liability policies are currently issued by the same commercial vendor.

- Claims and claims administration are funded out of the General Operating Account.

Premises Liability

Premises Liability insurance covers liability arising out of the ownership, maintenance and use of various MTA locations, including 341/345/347 Madison Avenue, 2 Broadway, and the MTA Inspector General's lease of 2 Penn Plaza. The program provides the Related Entities with coverage of up to $1 million per occurrence with a $2 million aggregate.

Owner Controlled Insurance Program

In an owner controlled insurance program ("OCIP"), MTA RIM arranges for the insurance coverage for all of the construction activity covered by the OCIP, rather than reimbursing the individual contractors and subcontractors for obtaining their own insurance. OCIPs have historically been regarded as more economical than requiring the contractors and subcontractors to obtain the insurance directly. Economies arise from, among other things, the risk pooling nature of the program (i.e., the risks relating to insuring each individual project separately is generally considered greater than the risks associated with collectively insuring many projects) and that MTA, due to its financial strength and successful operation of safety management programs at the job sites, is generally better able to procure insurance at favorable rates than individual smaller contractors and subcontractors. In addition, an OCIP provides the same level of insurance coverage at each project, which was not always possible when the individual contractors and subcontractors were required to obtain the insurance.

Generally, commercial insurance policies are obtained for the OCIP, but FMTAC will typically retain a significant portion of each insured loss which ranges from the first $250,000 to $10,000,000 of each insured workers' compensation or general liability loss and up to the first $50 million of a builders risk loss on a network expansion project. FMTAC holds deposit moneys and/or collateral in trust with a commercial bank as security for its reimbursement obligation to the commercial insurance carrier for any losses. Unexpended funds are retained by FMTAC and used to discount future OCIP programs. The following are active MTA OCIPs:

- MTA New York City Transit Line Structures, Shops, Yards and Depots (2000-2004 MTA Capital Program)

- MTA Long Island Rail Road East Side Access

- MTA Long Island Rail Road and MTA Metro-North Railroad 2000-2004 MTA Capital Programs

- MTA New York City Transit 2005-2009 MTA Capital Program

- MTA New York City Transit Second Avenue Subway

- MTA Long Island Rail Road and MTA Metro-North Railroad 2005-2009 MTA Capital Programs

- MTA New York City Transit, MTA Long Island Rail Road, MTA Metro-North Railroad, SBMP 2010-2014 Capital Programs.

- MTA New York City Transit, MTA Long Island Rail Road, MTA Metro-North Railroad, SBDP 2015-2019 Capital Programs.

Builder's Risk

- Builder's Risk insurance is a type of property insurance that provides coverage for physical damage to the insured structure during the course of construction. Builder's Risk insurance is not liability insurance.

- Builder's Risk for the Capital Program OCIPs covers a project for the full project value up to a limit of \$50 million. The East Side Access Project has a limit of \$300 million and Second Avenue Subway has a limit of \$500 million.

- Claims and claims administration are funded out of the FMTAC General Operating Account.

LITIGATION

General

The Related Entities maintain extensive property, liability, station liability, force account, construction, and other insurance as generally described above in this Part 6 under "INSURANCE." Claims for money damages described below may be fully or substantially covered by insurance, subject to the individual agency retention set forth under "INSURANCE – FMTAC Excess Loss Fund," where applicable. Each of the Related Entities additionally annually budgets an amount that it projects will be sufficient to pay for judgments and claims during that year.

The Related Entities also provide accruals in their financial statements for their estimated liability for claims by third parties for personal injury arising from, among other things, bodily injury (including death), false arrest, malicious prosecution, and libel and slander, for property damage for which they may be liable as a result of their operations, and advertising offense, including defamation, invasion of right of privacy, piracy, unfair competition, and idea misappropriation. The estimated liabilities are based upon independent actuarial advice obtained by the Related Entities. However, except in special circumstances and except for the annual judgments and claims budgeted amounts, additional cash reserves are not generally established in an amount equal to the full amount of the accrual.

For the Related Entities on a consolidated basis, a summary of activity in estimated liability as computed by actuaries arising from injuries to persons, including employees, and damage to third-party property, for the year ended December 31, 2018, is contained in Footnote 10 ("Estimated Liability Arising from Injuries to Persons") of the MTA Consolidated Financial Statements for the years ended December 31, 2018 and 2017.

MTA

Lockheed Martin Transportation Security Solutions v. MTA Capital Construction and MTA. MTA is a defendant, along with MTA Capital Construction, in an action brought in April 2009 by Lockheed Martin Transportation Security Solutions ("Lockheed") in the U.S. District Court for the Southern District of New York. Lockheed initially sought a judgment declaring that MTA and MTA Capital Construction were in breach of its contract for furnishing and installing an integrated electronic security program and an order terminating Lockheed's obligations. Following MTA's termination of its contract, Lockheed amended its complaint to seek damages for delay and disputed work items (\$80 million, later revised to \$93 million) or, alternatively, for the alleged "reasonable value of work performed" by Lockheed (\$137 million, later revised to \$149 million), exclusive of pre-judgment interest, based on its claim that MTA wrongfully terminated the contract. MTA and MTA Capital Construction are vigorously contesting Lockheed's claims for money damages and counterclaimed, alleging that Lockheed materially breached the contract and seeking damages which are estimated to be \$205,909,468, exclusive of prejudgment interest. Following the completion of discovery, in July 2013, both MTA and Lockheed moved for partial summary judgment in connection with various claims.

By decision dated September 16, 2014, the court granted in part and otherwise denied each party's motion. With respect to MTA's motion, the court dismissed Lockheed's *quantum meruit* claim, thereby reducing MTA's exposure by roughly \$50 million, to approximately \$94 million (exclusive of pre-judgment interest). The trial commenced on October 6, 2014, and concluded on November 14, 2014. Based on the trial record, MTA reduced its damages claim to $189 million, exclusive of pre-judgment interest. Lockheed's claim for damages remained the same. Post-trial papers were submitted on November 24, 2014 and the final reply papers were submitted on December 5, 2014. The parties now await the decision of the court. MTA cannot determine the final outcome of the litigation at this time.

In July 2009, Lockheed's performance bond sureties on the contract commenced a related action in the U.S. District Court for the Southern District of New York against Lockheed and the MTA defendants, alleging that they are unable to conclude that the conditions to their obligations under the bond have been satisfied. They seek a declaration of the rights and obligations of the parties under the bond. (*Travelers Casualty and Surety Company, et al. v. MTA, MTA Capital Construction, MTA New York City Transit, et al.*) MTA and MTA Capital Construction answered and counterclaimed against the sureties, seeking damages in connection with the sureties' violation of their bond obligations in an amount to be determined at trial. The matter was consolidated with the *Lockheed* action. In October 2013, the sureties moved for partial summary judgment on their exposure, seeking a reduction of their potential obligation by $5.4 million to account for a progress payment issued by MTA to Lockheed post-default. By decision dated September 15, 2014, the Court denied that motion. The final outcome of this action must await the outcome of the underlying action (*Lockheed v. MTA*, discussed above), and cannot be determined at this time.

Actions for Personal Injuries/Property Damage/Workers' Compensation. As of December 31, 2018, there were approximately 40 actions and tort claims pending against the MTA. These include claims for damages for personal injuries sustained while on duty, including actions under the FELA, no-fault cases, and other torts. Additionally, as of that date, there were approximately 241 pending Workers' Compensation cases.

Transit System

Actions for Personal Injuries/Property Damage. As of December 31, 2018, MTA New York City Transit and MaBSTOA had an active inventory of 9,215 personal injury claims and lawsuits (excluding workers' compensation and no-fault cases) and 1,663 property damage matters arising out of the operation and administration of the Transit System. In addition, with respect to the Access-A-Ride (Paratransit) program, as of December 31, 2018, there was an active inventory of approximately 1,045 personal injury cases and approximately 182 property damage cases arising out of the operation of vehicles leased to outside vendors that provide Access-A-Ride service. Such Access-A-Ride claims are covered by a commercial automobile policy which, in 2018, had policy limits of $3 million per occurrence, subject to a $1 million deductible. As of December 31, 2018, MTA Staten Island Railway had a pending inventory of 19 claims and lawsuits relating to personal injury and property damage arising from the operations of MTA Staten Island Railway.

Workers' Compensation and No-Fault. As of December 31, 2018, MTA New York City Transit and MaBSTOA had an active inventory of approximately 13,836 Workers' Compensation cases and approximately 2,169 no-fault cases. As of December 31, 2018, there were 29 Workers' Compensation cases for MTA Staten Island Railway, 16 of which involved employees who had been classified as permanently disabled, entitling the claimants to continuing monthly benefits and payment of future related medical expenses, as well as two death cases.

Other Litigation. As of December 31, 2018, the MTA's General Law and Contracts Division had an inventory of approximately 539 cases, consisting of federal and state court plenary litigation actions and special proceedings as well as administrative matters pending before various state, federal and local administrative agencies.

In May 2017, an environmental lawsuit (*Dudley Stewart, et al. v. MTA, et al.*) was commenced in the U.S. District Court for the Eastern District of New York against MTA and MTA New York City Transit by plaintiffs seeking injunctive relief and attorney's fees based upon claims that defendants have failed to inspect and adequately maintain the elevated structures of the Flushing Line in Queens, allegedly resulting in a public health hazard caused by lead paint, other toxins, and noise being released from or caused by the elevated structures. The MTA and MTA New York City Transit are vigorously defending the lawsuit. The MTA New York City Transit elevated structures in question were repainted during 2002-2012, and re-painting of the outstanding sections is included in the 2015-2019 Capital Program. In January 2018, the court heard oral argument on defendants' motion to dismiss the case, and thereafter issued a decision granting the motion with respect to plaintiffs' equal protection, inverse condemnation, Clean Air Act, and FELA claims. The parties have yet to make their initial disclosures or appear before the Magistrate Judge for the initial discovery conference on the balance of plaintiffs' claims. The outcome of this matter cannot be determined at this time.

In September 2017, a putative class action complaint (*DeJesus v. MTA, et. al.*) was filed in the U.S. District Court for the Southern District of New York against MTA New York City Transit and MTA on behalf of deaf and hearing impaired subway customers, alleging that providing on-board notification of unplanned subway service changes only through audio announcements violates Title II of the Americans with Disabilities Act, the Rehabilitation Act, the New York State Human Rights Law and the New York City Human Rights Law. The complaint sought declaratory relief, damages, and an injunction requiring the installation of thousands of subway car screens to provide visual messaging corresponding to audio service change announcements. Plaintiff, Ms. DeJesus, seeking to represent a class of deaf and hearing impaired subway customers, pleaded that more than $5 million in damages was at issue and invoked federal jurisdiction over the state and city law claims under the Class Action Fairness Act. The court, on March 6, 2019, granted MTA New York City Transit and MTA's motion to dismiss the complaint, reasoning that the subway system is in full compliance with federal regulations concerning service announcements for passengers with disabilities and that there was no jurisdiction over the state and city law claims.

Actions Relating to the Transit Capital Program. MTA New York City Transit has received claims from various contractors engaged in work on various Transit Capital Program projects. In addition, claims which concern Transit Capital Program projects on occasion may be commenced against MTA New York City Transit by non-contractors. The aggregate amount demanded by all such claimants (or the expense associated with remedies related to such claims), if incurred in full, could result in an increase in the cost of the capital projects that are the subject of such disputes. The Transit Capital Program contemplates the payments associated with such contractor and non-contractor claims from project-specific and general program contingency funds, as well as other available monies pledged for capital purposes. The following matters commenced by non-contractors relating to the Transit Capital Program are noted below:

In 2016, a lawsuit was filed in the U.S. District Court for the Southern District of New York (*Bronx Independent Living Services, et al. v. MTA, et al.*) challenging the lack of elevator accessibility at Middletown Road subway station located in the Bronx. MTA and MTA New York City Transit were sued by two disabled rights advocacy organizations and two individuals who allege violations of the Americans with Disabilities Act and other legislation, for proceeding with certain construction work at the station without including, in the scope of such work, the installation of elevators or ramps. The complaint seeks declaratory and injunctive relief; no claim for monetary relief is asserted. MTA and MTA New York City Transit answered the complaint in September, 2016, and denied any asserted violation of applicable law. In March 2018, the federal government was granted leave to join the action and filed an intervenor-complaint, which defendants answered in April 2018. Fact discovery has been conducted and plaintiffs' motion for partial summary judgment was granted by the court in March 2019. The court held that the alterations made at the Middletown Road station affected the "usability" of the station, thereby triggering the application of the U.S. Department of Transportation regulation set forth in 49 C.F.R. Section 37.43(a)(1). Expert discovery will now proceed on the defendants' principal defense in the action—that installation of an elevator or ramp at the Middletown Road station as part of a larger renewal project was "technically infeasible" within the meaning of the U.S. Department of Transportation regulations and hence not required. The outcome of the litigation cannot be determined at this time. It should be noted that were plaintiffs to prevail in obtaining an injunction requiring installation of an elevator or ramp at the Middletown Road station, the costs associated with such an injunction would fall within the coverage of the MTA New York City Transit capital plan, which, as noted above, contemplates the utilization of project and program contingency funds, as well as other available monies pledged exclusively for capital purposes under bond resolutions, as the means of addressing such claims and related expenses.

In late April 2017, two purported class actions relating to subway system accessibility were filed against MTA New York City Transit and the MTA by individuals and advocacy organizations on behalf of persons with disabilities that prevent them from using the stairs in the subway system. The plaintiffs in both cases seek declaratory and injunctive relief, not money damages. The City of New York was also named as a defendant in both cases but was voluntarily dismissed, with a tolling agreement, from the federal class action. In the federal law suit, filed in the U.S. District Court for the Southern District of New York, plaintiffs allege, among other things, that defendants inadequately maintain the existing elevators in the subway system, provide insufficient notice to elevator users about outages, and provide insufficient alternative transportation during elevator outages. These alleged deficiencies, are claimed to constitute discrimination in violation of Title II of the Americans with Disabilities Act, Section 504 of the Rehabilitation Act, and the New York City Human Rights Law. Fact discovery is completed and the period for expert discovery will close in March 2019. There is no trial date set. The same plaintiffs have also sued in state court (Supreme Court, New York County). That lawsuit asserts that defendants, by not having installed elevators in all subway stations in the system, have discriminated against plaintiffs on the basis of their disabilities in violation of the New York City Human Rights Law. Plaintiffs seek injunctive relief that would require implementation of a program to make all subway stations accessible to people who cannot use the stairs due to a disability. Defendants have moved to dismiss the state court case on the grounds that plaintiffs' claims are preempted by New York Public Authorities Law §1266(8) and Transportation Law § 15-B, non-justiciable and time-barred. That motion was argued in March 2018. The court has not yet decided the motion and indicated at oral argument that it would prefer for the parties to resolve the matter by mutual agreement. The parties are scheduled to appear at a court-ordered settlement conference on May 10, 2018. The court deferred a decision on the motion to dismiss while undertaking court-ordered settlement conferences. The negotiations have not resulted in a resolution and the parties have now asked the court to decide the motion. The outcome of these two matters cannot be determined at this time.

Commuter System

Actions for Personal Injuries/Property Damage. As of December 31, 2018, MTA Metro-North Railroad had an active inventory of approximately 543 personal injury claims and lawsuits arising out of the operation and administration of the MTA Metro-North Railroad, of which 304 were the result of claims filed by employees pursuant to the FELA, and approximately 239 were claims filed by third parties. Also, as of that date, there were five pending property damage cases. With respect to claims for personal injury arising from the December 1, 2013 derailment of a southbound MTA Metro-North Railroad train north of the Spuyten Duyvil station in the Bronx, MTA Metro-North Railroad has exhausted its self-insured retention of $10 million and FMTAC has reimbursed MTA Metro-North Railroad $50 million as of January 2017, reflecting the exhaustion of the per occurrence all-agency ELF Program limit with respect to this incident. Additionally, MTA maintains $350 million in liability coverage through the commercial insurance markets that is in excess of the $50 million coverage layer provided by FMTAC, and settlements and expenses above the ELF Program limit will be paid out of the excess coverage layers.

An incident occurring on February 3, 2015, when a MTA Metro-North Railroad Harlem Line train struck an automobile in a highway-rail grade crossing between the Valhalla and Hawthorne stations, is also resulting in assertion of personal injury claims against the railroad. The driver of the automobile and five passengers on the train were killed. A number of passengers and the train engineer were injured. The NTSB adopted its report on the causes of the accident on July 25, 2017, finding the probable cause of the accident was that the driver, for undetermined reasons, moved the vehicle on to the tracks while the Commerce Street highway-railroad grade crossing warning system was activated, into the path of an MTA Metro-North Railroad train. Contributing to the accident was the driver: (1) stopping beyond the stop line, within the boundary of the highway-railroad grade crossing, despite warning signs indicating the approach to the grade crossing, and (2) reducing the available time to clear the grade crossing by exiting the automobile after the grade crossing warning system activated because the driver's attention was diverted by the grade crossing warning system crossing gate arm striking her automobile. Contributing to the severity of the accident was the third rail penetrating the passenger compartment of the lead passenger railcar and the post-accident fire. While there is no indication from the NTSB's findings that the MTA Metro-North Railroad was at fault in connection with this incident, 37 lawsuits have been filed to date against MTA Metro-North Railroad, many of which name other defendants as well. Notwithstanding MTA Metro-North Railroad's position that it has no responsibility for this incident, if plaintiffs are successful in their claims against MTA Metro-North Railroad, damages could exceed the self-insured retention and impact the FMTAC and excess layers of insurance.

As of December 31, 2018, MTA Long Island Rail Road had an active inventory of approximately 2,077 personal injury claims and lawsuits arising out of the operation and administration of the MTA Long Island Rail Road, of which 1,507 were the result of claims filed by employees pursuant to the FELA, and approximately 570 were claims filed by third parties. Also, there were approximately 43 pending property damage matters.

MTA Long Island Rail Road - Atlantic Terminal Bumper Block Strike. An incident occurred on January 4, 2017 when an MTA Long Island Rail Road Far Rockaway Line train struck a bumper block in the Atlantic

Terminal-Brooklyn Station. This incident resulted in 173 injury claims to date, which include 11 employee FELA claims. To date, 122 claims have been put into suit. At this time, there does not appear to be any catastrophic injuries stemming from this incident, with the worst injuries seen so far are bone fractures and various trauma to the head/neck. The NTSB conducted an investigation and issued a Special Investigation Report at the NTSB Public Meeting of February 6, 2018. If plaintiffs are successful in their claims against MTA Long Island Rail Road, damages could impact FMTAC and excess layers of insurance. MTA Long Island Rail Road has paid $1.4 million in expenses and settlement payments to date, with $5.3 million in open reserves. Per MTA Long Island Rail Road's Safety Department, MTA Long Island Rail Road sustained damages of approximately $6 million.

MTA Long Island Rail Road - New Hyde Park Collision. On October 8, 2016, while MTA Long Island Rail Road was conducting track work east of the New Hyde Park Station on track placed out of service, a piece of track equipment derailed, fouling live track and was struck by a train carrying passengers causing the passenger train to derail. Numerous passengers and several employees were injured due to this accident. The FRA, along with MTA/MTA Long Island Rail Road, conducted investigations into this matter. There are a total of 72 claims to date related to this accident: 57 are passenger injuries, eight are employee injuries and the remaining are property damage claims. At this time 32 lawsuits have been filed against the MTA/MTA Long Island Rail Road. The majority of the personal injury claims appear to be soft-tissue, with a few fractures and PTSD claims. The most seriously injured claimant allegedly sustained two fractured legs, requiring five surgeries to date. That claim has a reserve of $8 million. The current outstanding claim reserves are $10.6 million. FMTAC paid $6.1 million in settlements to date, including damage to MTA Long Island Rail Road property. The derailment caused damage to three passenger cars, the track area and the track equipment involved. That figure includes the damage to the train equipment and stabilizer, which have been decommissioned. The FRA has concluded its investigation and issued a report. Based on information available to date, if all of the injury claims are litigated, and were determined in a manner adverse to MTA Long Island Rail Road, the liability exposure, in the aggregate, could exceed the agency's Force Account insurance limit of $11 million and may impact the FMTAC excess loss fund.

Martens v. MTA Long Island Rail Road; Town of Brookhaven v. MTA, et al. The MTA Long Island Rail Road previously reported that in October 1992, MTA Long Island Rail Road employees discovered a suspected contamination site at the Yaphank Yard in the Town of Brookhaven while attempting to install a switch for freight operations. In 2002, the MTA Long Island Rail Road and the NYSDEC entered into a Voluntary Compliance Agreement with respect to the site, and in 2014 NYSDEC approved a Remedial Action Work Plan under which MTA Long Island Rail Road would progress a Capital Project to remediate the site by creation of a cap and other measures, at a cost estimated at $8.8 million. In July 2014, MTA received from the Town of Brookhaven a Ninety-Day Notice of Intent to commence an action against MTA Long Island Rail Road under the Resource Conservation and Recovery Act, to compel a full remediation and removal of contaminated soils and hazardous materials at Yaphank Yard. This resulted in two actions being filed in March 2015; one by NYSDEC against MTA Long Island Rail Road, filed in Supreme Court, Queens County, and a second one, a hybrid Article 78 proceeding and plenary action brought by the Town of Brookhaven against MTA, MTA Long Island Rail Road, and NYSDEC, in Supreme Court, Suffolk County. In August 2015, the Supreme Court, Queens County, decided motions to consolidate the two lawsuits and ordered their consolidation for purposes of trial in Suffolk County. Argument on the Article 78 portion of the Suffolk County action occurred on October 22, 2015 and February 10, 2016. On May 18, 2016, a partial judgment was entered by the Clerk of Suffolk County. The partial judgment included a statement on the plaintiff's proffered proposed judgment allowing NYSDEC to enter into a Brownfield Cleanup Agreement with MTA Long Island Rail Road.

In compliance with the partial order, NYSDEC placed Yaphank Yard on its "Registry of Hazardous Waste Sites" pursuant to ECL Section 27-1305(1) and as a Class 3 site (a site that does not present a significant threat to public health or the environment) and MTA Long Island Rail Road submitted its application into the Brownfield Cleanup Program ("BCP") on November 22, 2016. In February 2019, the MTA Long Island Rail Road received an acceptance letter from the NYSDEC for its BCP application. MTA Long Island Rail Road submitted the MTA Long Island Rail Road signed BCP to NYSDEC on March 19, 2019, for their signature, to finalize the BCP. On November 29, 2016, the Town of Brookhaven filed an Article 78 petition against MTA Long Island Rail Road and NYSDEC, requesting the court to overturn NYSDEC's classification on the Registry of Inactive Waste Sites, assign a Classification of 1 or 2, and require a complete remediation and removal of all contaminated soils as demanded in the Town of Brookhaven's original Article 78 petition. On February 13, 2017, the MTA Long Island Rail Road and the NYSDEC submitted answers and memoranda of law, and on March 3, 2017 the Town of Brookhaven submitted its reply. On October 23, 2017, the Town of Brookhaven moved by order to show cause to amend its Article 78 petition, and sought a temporary restraining order and a preliminary injunction to enjoin and restrain NYSDEC from granting the BCP application and from approving a remediation plan. On December 14, 2017, the Supreme Court denied the temporary restraining order application and set a briefing schedule on the motion for a preliminary injunction and the motion to amend the petition. NYSDEC and MTA Long Island Rail Road submitted their opposition on January 16, 2018. The Town of Brookhaven's reply was submitted on January 29, 2018. On July 24, 2018, Supreme Court Justice Luft denied the Town of Brookhaven's motion for a preliminary injunction and motion to amend the petition. On August 16, 2018, the Town of Brookhaven filed a notice of appeal with the Appellate Division. The Town of Brookhaven withdrew its appeal on March 1, 2019. The case is now closed.

Actions Relating to the Commuter Capital Program. From time to time, MTA Long Island Rail Road and MTA Metro-North Railroad receive claims relating to various Commuter Capital Program projects. In general, the aggregate amount demanded by all such claimants, if recovered in full, could result in a material increase in the cost of the capital projects that are the subject of such disputes. The capital program contemplates the payment of such claims from project-specific and general program contingency funds, as well as other available moneys pledged for capital purposes.

MTA Bridges and Tunnels

Farina, et al. v. MTA, TBTA, et al. – A putative class action lawsuit (*Farina v. MTA, TBTA, Transworld Systems, Inc., and Conduent, Inc.*) was filed in the U.S. District Court for the Southern District of New York on February 16, 2018 and assigned to U.S. District Judge Naomi Reice Buchwald. MTA Bridges and Tunnels and MTA were served on February 21, 2018. The representative plaintiff in the *Farina* case alleged that the $100 violation fee allegedly imposed for each toll violation at MTA Bridges and Tunnels is excessive and that the fee policies, practices, and collection methods are illegal and unconstitutional. Putative class action lawsuits were also filed by the same plaintiffs' counsel in the same court on February 20, 2018 (*Gardner v. MTA, TBTA, The Port Authority of New York and New Jersey, AllianceOne Receivables Management, Inc. and Conduent*) and on March 5, 2018 (*Troiano v. MTA, TBTA, The Port Authority of New York and New Jersey, New York State Thruway Authority, Transworld Systems, Inc., AllianceOne Receivables Management, Inc. and Conduent*). MTA Bridges and Tunnels and MTA were served in *Gardner* on March 6, 2018 and in *Troiano* on April 6, 2018. The allegations regarding MTA Bridges and Tunnels and MTA were substantially the same in all three actions, except that *Gardner* and *Troiano* also alleged that $50 violation fees are excessive and improper. On April 16, 2018, the court consolidated the three cases and on April 30, 2018 plaintiffs filed a consolidated complaint (*Farina, Gardner, Troiano, Ritchie, and Rojas v. MTA, TBTA, The Port Authority of New York and New Jersey, New York State Thruway Authority, Transworld Systems, Inc., AllianceOne Receivables Management, Inc., Linebarger Goggan Blair & Sampson, LLP and Conduent, Inc.*). The consolidated complaint includes plaintiffs Farina, Gardner, and Troiano as well as two additional plaintiffs, whose claims also arise from the assessment of $50 and $100 violation fees.

On July 26, 2018, Judge Buchwald granted the defendants' request seeking leave to move to dismiss plaintiffs' consolidated amended class action complaint. On September 13, 2018, the court approved a stipulation between plaintiffs and Conduent, Inc. substituting Conduent, Inc. for the correct party, Conduent State & Local Solutions, Inc. On August 30, 2018, plaintiffs dismissed their claims against Transworld Systems, Inc., AllianceOne Receivables Management, Inc., and Linebarger Goggan Blair & Sampson, LLP, as well as certain causes of action against the remaining defendants. On September 14, 2018, MTA Bridges and Tunnels and MTA filed their motion to dismiss; in their October 22, 2018 opposition, plaintiffs voluntarily dismissed all claims against MTA. The remaining defendants have also filed motions to dismiss and briefing on the motions was completed on November 16, 2018. In early January 2019, the case was reassigned from Judge Buchwald to Judge P. Kevin Castel. The motions to dismiss remain pending before the Court, the Court has not scheduled oral argument, and there are no pending deadlines. MTA Bridges and Tunnels is vigorously defending the consolidated action.

Vincent Feliciano, et al. v. MTA and TBTA - This putative class action, alleging violations of the Fair Labor Standards Act ("FLSA") was filed in the U.S. District Court for the Southern District of New York by MTA Bridges and Tunnels and MTA, was brought by Bridge and Tunnel Sergeants and Lieutenants Vincent Feliciano, Diana Longa, Greg Devaney, Peter Roness, and Carlo Tagliavia, on behalf of themselves and others similarly situated. They allege that they perform pre-shift and post-shift work without compensation; that there is a time-shaving policy that automatically rounds officers' check-in times up to their scheduled tour; that supplemental pay, including differentials and bonuses, are not included in the regular rate of pay when calculating overtime; and that payment of overtime and other wages is delayed. MTA Bridges and Tunnels has filed an answer with affirmative defenses. On July 3, 2018, MTA Bridges and Tunnels participated in a mandatory settlement conference before Magistrate Judge Barbara Moses. The parties were unable to reach a settlement but agreed to exchange limited information regarding damages calculations for one of the claims and to continue discussions. On July 11, 2018, MTA Bridges and Tunnels sent its understanding of damages calculations to plaintiffs' counsel. On August 17, 2018, Judge Vernon Broderick certified a collective of all current and former MTA Bridges and Tunnels Sergeants and Lieutenants from three years prior. Fact depositions must be completed by March 31, 2019, and the deadline to complete all fact discovery is June 28, 2019. All discovery, including expert discovery, must be completed by August 30, 2019. MTA Bridges and Tunnels and MTA are vigorously defending this action.

Actions for Personal Injuries/Property Damage. As of December 31, 2018, MTA Bridges and Tunnels had an active inventory of approximately 139 personal injury claims and lawsuits (including intentional torts such as false arrest) and approximately 20 property damage matters arising out of the operation and administration of the MTA Bridges and Tunnels facilities (including construction).

Workers' Compensation and No-Fault. As of December 31, 2018, MTA Bridges and Tunnels had an active inventory of approximately 485 Workers' Compensation cases and no no-fault cases.

Actions Relating to MTA Bridges and Tunnels' Capital Program. From time to time, MTA Bridges and Tunnels receives claims relating to various MTA Bridges and Tunnels' Capital Program projects. In general, the aggregate amount demanded by all such claimants, if recovered in full, could result in a material increase in the cost of the capital projects that are the subject of such disputes. The capital program contemplates the payment of such claims from project-specific and general program contingency funds, as well as other available moneys pledged for capital purposes.

MTA Bus

As of December 31, 2018, MTA Bus had an active inventory of approximately 820 personal injury claims and lawsuits, approximately 923 property damage matters, approximately 421 no-fault cases arising out of the operation and administration of the MTA Bus System, and approximately 917 Workers' Compensation cases.

Metropolitan Suburban Bus Company*

Matter of Adams v. MTA et al. Two hundred former MTA LI Bus employees who were members of TWU Local 252 filed an Article 75 petition to compel arbitration pursuant to various "Section 13(c) agreements" attached to grants that were used for MTA LI Bus. The petition, which was filed in June 2013, names MTA, MTA LI Bus, Nassau County, and Veolia Transportation, which is now running bus service for Nassau County, as respondents and claims that the petitioners were either dismissed on the termination of the Lease and Operating Agreement between MTA LI Bus and Nassau County or hired by Veolia at lower pay and therefore are entitled to arbitrate their claims and to Section 13(c) displacement benefits, which extend for six years from the time of displacement. MTA and MTA LI Bus answered the petition, asserting various defenses. By decision filed October 27, 2014, the court granted petitioners' motion to compel final and binding arbitration before the American Arbitration Association and Martin F. Scheinman was selected to serve as arbitrator. This matter is now before the arbitrator. MTA cannot determine the final outcome of the matter at this time.

Actions for Personal Injuries/Property Damage. As of December 31, 2018, MTA LI Bus had an active inventory of 17 personal injury claims and lawsuits and no property damage matters arising out of the operation and administration of MTA LI Bus.

Workers' Compensation and No-Fault. As of December 31, 2018, MTA LI Bus had approximately 34 Workers' Compensation cases and one open no-fault claim.

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* The MTA subsidiary, Metropolitan Suburban Bus Authority, discontinued its provision of transportation services at the end of 2011. Its activities are limited to the winding up of its affairs.

INDEX OF DEFINED TERMS

2010-2014 Capital Program....65
2015-2019 Capital Program....5, 48
2015-2019 Commuter Capital Program....5, 47
2015-2019 MTA Bridges and Tunnels Capital Program....5, 47
2015-2019 MTA Capital Program....5, 47
2015-2019 Proposed Capital Program....47
2015-2019 Transit Capital Program....5, 47
2019 Adopted Budget....42
2019 Real Estate Transfer Tax....13
2019-2020 Enacted Budget....10
AAPL....202
ADC....187
AFC....16
AFO....150
April 2018 Legislation....28
ARSA....150
ATU....188
BCP....208
BSC....3
C3RS....152
Capital Program....5
Capitalized Interest Fund....138
Cashless Tolling....48
CBD....11
CBD Tolling Capital Lockbox Fund....11
CBD Tolling Program....10
CBI....76
CBI Programmatic Approach Certification....77
CBTC....51
CDOT....16
CEO....3
CIG....48
City....2
City Bus Routes....148
Clean Air Amendments....182
Climate Criteria....76
COA....187
Commuter Capital Program....5
Commuter System....4
Completion Guaranties....142
Congestion Zone....28
Congestion Zone Surcharges....28
Connecticut....4
COO....150
CPI....165
CPRB....4
December 2011 Legislation....25
Dedicated Deposit Account....139
Dedicated Tax Fund....22
Dedicated Tax Fund Bond Anticipation Notes....84
Dedicated Tax Fund Bonds....84
Dedicated Taxes....118
Depositary....140
DMV....118
DTF Resolution....84
EAM....53
East Side Access....5
EBT....170
ELF....196
EMMA....5
ERY....75
Executive Budget....42
E-ZPass....17
FCC....52
February Plan....7, 42
Fee Conversion Option....140
Fee Mortgages....139
Fee Purchase Payments....138
Financing Agreement....139
Fitch....83
FLSA....209
FMTAC....2
FOMC....45
For-Hire Transportation Surcharge....28
FRA....59
FTA....47
GASB 74....194
General Revenue Bond Anticipation Notes....85
General Revenue Bonds....84
Ground Lease....139
Ground Lease Payment Event of Default....139
Ground Lease Tenants....138
Ground Leased Property....139
Help Points....52
Hudson Rail Yards....138
HY Related Transportation Entities....139
HY Trust Agreement....85
HY Trust Estate....138
HY Trust Obligations....76
HY Trust Obligations....85
HY Trustee....85
HYDC....159
IAG....156
IBT....187
Interest Components....139
Interest Reserve Advance....140
Internet Sales Tax....13
Investment Guidelines....78
JPMorgan Chase Agreement....86
JSA....86
July Plan....7
Legislature....10
Lockheed....204
May 2009 Legislation....25
MDBF....166
MEM....170
MetroCard....170

MFT....130
MMTOA....24
MMTOA Account....118
MMTOA Receipts....22
MMTOA Taxes....118
Monthly Ground Rent....138
Moody's....83
MOU....11
MRT Receipts....36
MRT-1 Receipts....36
MRT-1 Tax....36
MRT-2 Receipts....36
MRT-2 Tax....36
MTA....2
MTA Act....2
MTA Aid Trust Account Receipts....26
MTA Bridges and Tunnels Act....2
MTA Bridges and Tunnels Capital Program....5
MTA Bridges and Tunnels Combined Surplus....31
MTA Bridges and Tunnels Facilities....4
MTA Bridges and Tunnels Operating Surplus....30
MTA Bridges and Tunnels Senior Resolution....84
MTA Bridges and Tunnels Subordinate Resolution....85
MTA Bridges and Tunnels Surplus Investment Income....31
MTA Bus Capital Program....8
MTA Bus System....4
MTA Capital Program....5
MTA Commuter Transportation District....2
MTA Dedicated Tax Fund Revenues....121
MTA Headquarters....3
MTA Headquarters Expenses....37
MTA JSA Release Date....86
MTA LI Bus....194
MTA Long Island Rail Road Commuter Service....149
MTA Metro-North Commuter Service....149
MTA New York City Transit Act....2
MTA Police Department....4
MTA RIM....194
MTOA Fund....21
MTTF....118
MTTF Receipts....22
MVMs....170
Necessary Reconstruction Reserve....30
NJ Transit....4
November Plan....7, 42
NTSB....197
NYCDOT....11
NYCERS....189
NYCP....65
NYCSC....178
NYSDEC....185
NYSDFS....195
NYSDOT....59
NYSLERS....187
OCIP....203
OPEB....107
OPEB Plan....194
OTP....174
Outer Borough Transportation Account....28
PANYNJ....9
PATH....9
PAYGO....46
Payment Default....83
Payment Guaranties....142
Payroll Mobility Tax....25
PBA....187
PBT....22
PILOTs....86
PMT....25
PMT Revenue Offset....25
PPI....126
Principal Components....139
Proposed 2010-2014 Capital Program....65
Proposed 2015-2019 MTA Capital Program....47
PTC....56
PTOA Account....133
Rapid Transit Lane Fines....28
Ratings Downgrade....83
Related Entities....2
Related-Oxford....76
Rent Payment Fund....139
Revenue Passengers....163
Revised Proposed 2010-2014 Capital Program....65
RRIF....83
RRIF Bond....83
RRIF Financing Agreement....83
RRIF Loan....83
S&P....83
SBDP....55
SCADA....61
Scheduled Maintenance System....168
Section 18-b Program....20
Severed Parcel Ground Lease....139
SIR....178
SOBA....192
SOBs....137
SROs....132
SSPP....153
SSSA....188
Stantec....177
Stantec Report....177
State....2
State Service Contract....137
State Service Contract Bonds....85
State Service Contract Resolution....85
Subordinate Revenue Bonds....85
Tax Law....36
TBTA Facilities....155
TCU....187
TIFIA Debt Service Reserve Account....86

TIFIA Loan....85
TMRB....12
Train Hall....85
Train Hall Mortgage....86
Transit Capital Program....5
Transit System....4
Transportation District Account....21
Transportation Resolution....82
Transportation Revenue Bond Anticipation Notes....82
Transportation Revenue Bonds....82
TRIPRA....195
TSO....188
Urban Taxes....38
UTLO....188
VIS....58
VMT....166
VNB....64
VNB Commercial Rebate Program....178
West of Hudson....149
West Side Yard....75
WRY....75
WTC....157
Yard....208

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